FLUCTUATIONS
OF
GLACIERS
2005–2010
(Vol. X)

A contribution to the
Global Terrestrial Network for Glaciers (GTN-G)
as part of the Global Terrestrial/Climate Observing System (GTOS/GCOS),

the Division of Early Warning and Assessment and the Global Environment Outlook
as part of the United Nations Environment Programme (DEWA and GEO, UNEP),

and the International Hydrological Programme (IHP, UNESCO)

Prepared by the
World Glacier Monitoring Service (WGMS)

ICSU (WDS) – IUGG (IACS) – UNEP – UNESCO – WMO

2012

FLUCTUATIONS OF GLACIERS 2005–2010
with addenda from earlier years

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recent volume in the series:

FLUCTUATIONS OF GLACIERS 1959–1965
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FLUCTUATIONS OF GLACIERS 1965–1970
Paris, IAHS (ICSI) – UNESCO, 1973

FLUCTUATIONS OF GLACIERS 1970–1975
Paris, IAHS (ICSI) – UNESCO, 1977

FLUCTUATIONS OF GLACIERS 1975–1980
Paris, IAHS (ICSI) – UNESCO, 1985

FLUCTUATIONS OF GLACIERS 1980–1985
Paris, IAHS (ICSI) – UNEP – UNESCO, 1988

FLUCTUATIONS OF GLACIERS 1985–1990
Paris, IAHS (ICSI) – UNEP – UNESCO, 1993

FLUCTUATIONS OF GLACIERS 1990–1995
Paris, IAHS (ICSI) – UNEP – UNESCO, 1998

FLUCTUATIONS OF GLACIERS 1995–2000
Zurich, IUGG (CCS) – UNEP – UNESCO, 2005

FLUCTUATIONS OF GLACIERS 2000–2005
Zurich, ICSU (FAGS) – IUGG (IACS) – UNEP – UNESCO – WMO, 2008

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Compiled for the
World Glacier Monitoring Service
by Michael Zemp, Holger Frey,
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PREFACE by UNEP

Climate change and its impacts on ecosystems and human well-being is one of the biggest challenges for mankind in the 21st century. Consistent trends in glacier changes are key indicators of ongoing climate change. Moreover, glaciers are an important component of the Earth's hydrological system and the current accelerated melting has significant impacts on the environment and human activities, including natural hazards, water and energy supply, and global sea level rise. The long-term monitoring of glaciers is therefore a basic requirement for a scientific assessment of global glacier distribution, changes and related impacts.

The standardized compilation and free dissemination of glacier data from all over the world, as undertaken by the *World Glacier Monitoring Service* and its predecessor organizations, is a major contribution in support of the work of organizations such as the *United Nations Framework Convention on Climate Change* (UNFCCC) and the *Intergovernmental Panel on Climate Change* (IPCC). Glacier changes are also among the most prominent indicators used by the *United Nations Environment Programme* (UNEP) in assessment reports such as the *Global Environment Outlook* (GEO), the UNEP Yearbook series, or various editions of *Global Environmental Alert Service* (GEAS) bulletins.

The tenth volume of the Fluctuations of Glaciers, covering the observation period between 2005 and 2010, continues the series of detailed reports on measurements of glacier fluctuations reaching back to the late 19th century. It presents the latest compilation of scientific data on glacier changes in length, area, volume and mass from more than 800 glaciers around the globe. The report points out a continued overall ice loss at high rates which is consistent with ongoing global warming and corresponding energy fluxes towards the surface of the earth.

The comprehensive *Fluctuations of Glaciers* reports represent the backbone of the scientific data compilation which comes with full meta-information on principal investigators, national correspondents, their sponsoring agencies and publication related to the reported data series. These five-yearly reports are complemented by the bi-annual *Glacier Mass Balance Bulletin* which presents the data in summary form for non-specialists through the use of graphic presentations rather than as purely numerical data. Together these series built the scientific background for concise and illustrated UNEP publications such as the *Global Outlook for Ice and Snow* (2007), *Global Glacier Changes: facts and figures* (2008), or *Measuring Glacier Change in the Himalayas* (2012) which were published for a wide range of audiences.

UNEP commends the work of the WGMS and partners on this very important global issue and is grateful to all those who have supported and contributed to this long-term, global effort.

Peter Gilruth, Dr.
Director, Division of Early Warning and Assessment

PREFACE by GCOS

In 2012 the *Global Climate Observing System* (GCOS) celebrated its 20th anniversary. In 1992, when it was founded upon recommendation of the *Second World Climate Conference* (WCC-2), certain fundamental climate records were already in place. The establishment of the GCOS was a response to the need to improve the understanding of the climate system observations in all its domains, i.e., atmosphere, ocean and land, in a coordinated and standardized way. Together the intergovernmental and international organizations most involved in observing the climate system, namely the WMO, the I*ntergovernmental Oceanographic Organization* (IOC) of UNESCO, the *United Nations Environment Programme* (UNEP) and the *International Council for Science* (ICSU) joined forces to establish the GCOS as a co-sponsored program coordinating a system of observing systems for climate.

A similar process followed in the terrestrial domain, as the need increased for a deeper understanding of global change in the Earth System. This led to the establishment of the *Global Terrestrial Observing System* (GTOS) jointly sponsored by UNEP, UNESCO, FAO, ICSU and WMO which is a program for observations, modelling, and analysis of terrestrial ecosystems to support sustainable development. GTOS facilitates access to information on terrestrial ecosystems so that researchers and policymakers can detect and manage global and regional environmental change.

As of today five *Global Terrestrial Networks* (GTNs) have been defined for mountains, permafrost (GTN-P), glaciers (GTN-G), hydrology (GTN-H), and river discharge (GTN-R) to better structure some of the terrestrial observations and to improve networking among the contributing and responsible institutions. Each of these terrestrial networks is a joint, multi-institution effort.

Through GCOS' strong partnerships with users and providers of climate-related observations, a list of internationally agreed-upon GCOS *Essential Climate Variables* (ECVs) was established, which today serves as a guideline for managers of observing systems for climate, which can be ground-based or space-based, i.e., observed from satellites. These ECVs also include a number of cryospheric variables, like snow cover, glaciers, permafrost, ice caps, and ice sheets. These terrestrial observations needed for a climate observation system are discussed at the GCOS-GTOS *Terrestrial Observation Panel for Climate*, or TOPC, at which the WGMS is represented actively.

GCOS is providing the Parties to the *United Nations Framework Convention on Climate Change* regularly with information related to observing systems for climate. The GCOS reported already twice on the *Adequacy of the Global Observing Systems for Climate in Support of the UNFCCC*, on the *Progress on the Implementation of the Global Observing System for Climate in support of the UNFCCC 2004–2008* and published an update of its *Implementation Plan for the Global Observing System for Climate in Support of the UNFCCC* in 2010, which are all widely recognized and serve as resources for network management and planning. All these reports will be updated over the next four to five years.

While GCOS provides global overviews, it always stresses that the responsibility for the operation of the global observing systems for climate that form the GCOS remains at the individual institutional, and thus national, levels.

The *World Glacier Monitoring Service* (WGMS) is the international renowned center that provides highly relevant climate information to a broad user community, being one example of a nationally funded activity that benefits many.

The GCOS secretariat appreciates the efforts the WGMS staff puts into providing these services and the sustained support of the Swiss government for this unique undertaking. We look forward to continuing our fruitful and excellent cooperation.

Carolin Richter, Dr.
Director, GCOS Secretariat

PREFACE by ICSU (WDS)

Over the last decade, a consensus has developed in the scientific community – and is now increasingly popularized in society – that humankind is making a considerable and global impact on the Earth system. Worldwide scientific observations from various disciplines show a clear impact of human activities on our planet. Climate scientists are recording a global warming of the atmosphere, biologists are reporting a dramatic loss of biodiversity, oceanographers are observing the acidification of the oceans, and hydrologists are documenting changes in water cycles. All of these phenomena have adverse effects on our society and are already affecting food security, health, and even political stability. Scientific acknowledgment of these anthropogenic human-driven changes culminated recently when earth scientists even considered the introduction of a new geological epoch following the Holocene: the Anthropocene. More than ever, with such dramatic changes occurring in our environment, scientists have a responsibility to ensure preservation and availability of underlying scientific data that enable the understanding of these changes and possible mitigation of their negative effects.

The ICSU *World Data System* (ICSU (WDS)) builds on a more than a half-century legacy of geophysical data preservation and dissemination through its predecessor bodies, the *World Data Centres and Federation of Astronomical and Geophysical data* analysis Services, the latter of which the *World Glacier Monitoring Service* (WGMS) was a member. ICSU (WDS) is a growing international federated system, consisting today of 40 member organizations – including the WGMS, in addition to a dozen more supporting members – dealing directly with data curation and data analysis services. The primary goals of ICSU (WDS) are to ensure long-term stewardship of quality-assessed data for research and education, and provision of such data and related data services to the international scientific community and other stakeholders. Adoption of state-of-the-art data management, curation, and online distribution of multidisciplinary datasets make these goals achievable. Although our main focus is long-term stewardship of scientific data, member organizations share overarching principles – such as full and open access to metadata and data, development and adoption of standards, quality control practices, analysis and metadata services, and data publication services across domain boundaries – that facilitate collaboration and interdisciplinary data activities on an equitable basis worldwide.

WGMS plays a key role in the observation, collection, standardization, and dissemination of data documenting global-scale changes that occur in glaciers. These activities are an important contribution to, and unique building block of, ICSU (WDS). The series *Fluctuations of Glaciers* – prepared by the WGMS every 5 years – includes the present Volume X, which covers the 2005–2010 period and contains more than 10,000 data records from 800 glaciers. It is a unique data publication initiative and an important tool for researchers in critical fields such as climatology, glaciology, and hydrology. Thus, this WGMS activity should be strengthened and encouraged since it provides significant scientific input for better understanding and accurate assessment of the state of our planet.

Mustapha Mokrane, Dr.
Executive Director, ICSU (WDS) International Programme Office

Jean-Bernard Minster, Prof. Dr.
Chair, ICSU (WDS) Scientific Committee

FOREWORD by IACS (IUGG)

Long-term observations of glacier fluctuations as a climate indicator have increasing societal and academic value. Internationally coordinated systematic measurements of glacier fluctuations started as early as in 1894, and this work has been continued until present. Ice sheets, mountain glaciers, ice caps and other perennial ice masses form an important part of the hydrological cycle, and have a major influence on global sea level. The impact of variations in melt-water discharge from mountain glaciers affects downstream domestic water supply, irrigation, and hydro power production. In the arid high-mountain ranges of central Asia, glacier runoff can be the sole source of water for communities, which are particularly vulnerable to impacts from retreating glaciers.

In 2007, the *International Union of Geodesy and Geophysics* (IUGG) recognized the importance of the cryosphere in the climate system and established the *International Association of Cryospheric Sciences* (IACS). Field and satellite monitoring of glaciers is an important activity for IACS, which initiated and advises the *Global Terrestrial Network for Glaciers* (GTN-G). The GTN-G promotes monitoring and archiving of glacier data. The *World Glacier Monitoring Service* (WGMS) is part of this network, and contributes with substantial high-quality archiving and publishing of systematic data.

The current Volume X of the WGMS's publication series *Fluctuation of Glaciers* covers the observation period from 2005 to 2010, and includes more than 10,000 data records from 800 glaciers around the world. All previous volumes in the publication series also cover five year periods, except Volume I from 1959–1965. The current Volume X contains all data types as provided in previous volumes, and new data such as single point measurements from mass balance programs, and geodetic volume changes from space-borne sensors. Inclusion of the new data types are welcomed and are seen as an important contribution to climate research. Terms in the publication are based on the *Glossary of Mass Balance and Related Terms* (Cogley et al. 2011) promoted by IACS.

The IACS whishes to thank the Director of the WGMS, Dr. Michael Zemp, and his staff their excellent work in publishing this latest volume of the series. The IACS extends a vote of thanks also to the scientists and fieldworkers, and encourages them to continue their efforts to provide and share high-quality observations.

Cecilie Rolstad Denby, Prof. Dr.
Head, Division of Glaciers and Ice Sheets, IACS/IUGG

PRELIMINARY REMARKS AND THANKS

The present issue of the *Fluctuations of Glaciers* (FoG) focuses primarily on the time period from 2005 to 2010 and marks the tenth volume of this publication series (PSFG 1967, 1973, 1977, 1985; WGMS 1988, 1993, 1998, 2005, 2008). It was prepared by the *World Glacier Monitoring Service* (WGMS) and is the most recent addition to the continuing series of publications containing standardized data on current changes in glaciers throughout the world extending back to the initiation of the internationally coordinated glacier monitoring (Forel 1895).

The FoG Volume X marks both a continuation and a change at the same time. It continues the tradition of periodical publication of standardized data and information on glacier changes. This is still the main driver of the active international data collection and should be regarded as working tool for the scientific community, especially with regard to the fields of glaciology, climatology, hydrology, and quaternary geology. In this context, the printing and shipment of the volumes to several hundred libraries and institutions all over the world represents a core element in securing the long-term availability of the collected data and published maps. The present volume includes some mild but significant improvements in the reported data. For the first time, reconstructed front variation series are reported in order to extend the observation series back into the *Little Ice Age* and beyond (cf. Zemp et al. 2011b). Also, glacier mass balance data are complemented with results from point measurements, which represent the basic observations of every mass balance program and might be of special value for climatic interpretation and model validation. Furthermore, a great effort was made to extend the reported data on geodetic volume changes with results from an extensive literature search. The terms used in this publication follow the *Glossary of Glacier Mass Balance and Related Terms* by Cogley et al. (2011). This new glossary aims to update and revise Anonymous (1969) which has long been the actual standard of mass balance terminology.

The WGMS was formed in 1986 by the merger of predecessor services to maintain and continue the internationally coordinated collection of standardized data on glacier distribution and changes (Haeberli et al. 2007, 2008). Today, the WGMS is a permanent service of the *World Data System* of the *International Council for Science* (ICSU/WDS) as well as the *International Association of Cryospheric Sciences* of the *International Union of Geodesy and Geophysics* (IUGG/IACS), and works under the auspices of the *United Nations Environment Programme* (UNEP), the *United Nations Educational, Scientific and Cultural Organization* (UNESCO), and the *World Meteorological Organization* (WMO). Over the past years, the organization of the WGMS has been professionalized and the funding of the central office at the *Department of Geography* of the *University of Zurich* (GIUZ/UZH), Switzerland, has been secured through long-term funds from the *Swiss GCOS Office* at the *Federal Office of Meteorology and Climatology* (MeteoSwiss). Since the publication of the last FoG volume, the cooperation with partner and auspice organizations has been formalized and intensified in the framework of the *Global Terrestrial Network for Glaciers* (GTN-G; cf. Chapter 6)

The objective of the FoG publication series at 5-yearly intervals is to reproduce a global set of data which

- affords a general view of glacier changes,
- encourages more extensive measurements,
- invites further processing of results,
- facilitates consultation with other data sources, and
- serves as a basis for research.

The FoG publication series builds on periodic calls-for-data and a series of original guidelines and instructions (Forel 1895, Østrem and Stanley 1969, UNESCO 1969, 1970, UNESCO/IAHS 1970, 1973, Østrem and Brugman 1991, Kaser et al. 2003) which have in part been superseded and made more specific by instructions for the submission of data for the FoG Vol. X (2005–2010), the last time issued by the WGMS in September 2011 for this volume (cf. the Appendix in the present volume). The data published in the present volume are also available in digital form. The guidelines for data submission and order as well as metadata on the available fluctuations series are available on the homepage of the WGMS (http://www.wgms.ch).

The present volume was successfully completed thanks to the cooperation and efforts of the *National Correspondents* of the WGMS, the *Principal Investigators* of the various glaciers, and their *Sponsoring Agencies* as listed in Chapters 2 and 3. In addition to the contributions from this international scientific collaboration network, the main work was performed by the staff members of the central office of the WGMS at GIUZ/UZH. Mustapha Mokrane and Jean-Bernard Minster (ICSU/WDS), Julian Dowdeswell and Cecilie Rolstad Denby (IUGG/IACS), Jaap van Woerden (UNEP), Siegfried Demuth (UNESCO), and Vladimir Ryabinin (WMO) assisted in ensuring proper international administration and coordination. Special thanks are due to Andrea Barrueto, Ursina Gloor, Barbara Naegeli, Kathrin Naegeli, Amelie Paszkowski, Deborah Raulin, Mike Stainsby, Dorothea Stumm, and Sara Würmli for their assistance with data collection, and to Susan Braun-Clarke for editing the English.

Since the establishment of the *GTN-G Advisory Board* chaired by IUGG/IACS, Liss M. Andreassen (Norway), Anthony Arendt (U.S.A.), Graham Cogley (Canada), Julian Dowdeswell (United Kingdom), Cecilie Rolstad Denby (Norway), and Vladimir Ryabinin (Switzerland) have accompanied our work as scientific consultants.

The printing of this volume was made possible by generous grants from the *Swiss GCOS Office* at the *Federal Office of Meteorology and Climatology* (MeteoSwiss) and the *Department of Geography* of the *University of Zurich*, Switzerland, with contributions by the *Cryospheric Commission of the Swiss Academy of Sciences*.

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CHAPTER 1 **INTRODUCTION**

1.1 Preparation of Volume X of *Fluctuations of Glaciers*

The data compilation for this volume is based on annual calls-for-data for the observation periods 2005/06 to 2009/10, including revised guidelines and Excel-based data submission forms. The calls-for-data were sent out to *National Correspondents* (NCs) in September, one year after each of the respective observation periods, in order to enable the investigators to properly analyse and publish their data before making it available to the scientific community and wider public. In addition to the new data submitted by the NCs, existing series were completed, revised and updated with the help of the PIs. Additional material was collected from the literature, where special focus was placed on extending the dataset of geodetic thickness and volume changes (cf. Table D). Within a new initiative, reconstructions of worldwide glacier front variations based on well-dated historical or geomorphological evidence were integrated into the WGMS database. The reconstruction of palaeo-glacier front positions and their dating is usually more complex and based on multiple sources. The metadata stored ensures a standardized description of the data including the most relevant information on methods and uncertainties of the data, but also provides space for individual remarks.

A press proof of this volume was sent out to the NCs and PIs for double-checking and commenting in September 2012, followed by the correction and update of the data series and meta data according to the received feedback, as well as by the final compilation of the annex maps, prefaces and foreword by the overarching organizations. Printing and shipment of the FoG Vol. X was done in December 2012.

Besides the improvements mentioned in the Preliminary Remarks, only minor changes were introduced relating to the format and content of Volume X in order to ensure maximum continuity and comparability with the published data series. The received metadata pertaining to the submitted glacier fluctuation data are summarised in one chapter for all data tables. The digital information in the WGMS database is the most complete and up-to-date of all, more so even than the data printed in the tables of this volume. Updated information and available data can be found and browsed on the WGMS website (http://www.wgms.ch). Open access to the related Fluctuations of Glaciers database is provided with the newly introduced Digital Object Identifier (DOI) for scientific datasets: http://dx.doi.org/10.5904/wgms-fog-2012-11.

The present FoG Volume X contains information on 800 glaciers from 33 countries/regions, consisting of more than 10,000 observations (cf. Table 1.1). Chapter 4 contains 9 sections on index measurements from six countries as well as information on 20 special events in eleven countries/regions. Following a well-established tradition, eleven special glacier maps from six countries are included in the back pocket of this volume with brief comments on each map given in Chapter 5. The WGMS is again grateful for the donation of all these maps and will make them available in digital format on its website.

Table 1.1 Observations contained in this volume

	No. of glaciers	*No. of data records*	*No. of countries/ regions*
Variations in the position of the glacier fronts	644	2130	27
Reconstructed front variations series	36	1,770	10
Summary data on mass balance study results	128	2,020	23
Addenda of mass balance results (earlier years)	4	590	3
Mass balance versus altitude	72	510*	19
Point mass balance data	34	2,010	11
Changes in area, volume, and thickness	58	180**	17
Index measurements	9	1,000	6
Special events	20	20	11
Total information contained in this volume	803	10,230	33

* 1 count per glacier and year
** 1 count per glacier and year for each area change, volume/thickness change, and elevation information

1.2 Organization of the Present Volume

The following types of data are presented in this volume:

Table A	General Information on the Observed Glaciers
Table B	Variations in the Position of Glacier Fronts, 2005–2010
Table BB	Variations in the Position of Glacier Fronts, Addenda from Earlier Years (including reconstructed frontal variation series)
Table C	Mass Balance Summary Data, 2005–2010
Table CC	Mass Balance Summary Data, Addenda from Earlier Years
Table CCC	Mass Balance versus Altitude for Selected Glaciers, 2005–2010
Table CCCC	Point Mass Balance Data, 2005–2010
Table D	Changes in Area, Volume and Thickness, 2005–2010
Table F	Index Measurements and Special Events presented in Chapter 4

Sources of data and related comments can be found in Chapter 2. Within each data table, the glaciers are organized according to the country where they are situated. Table A provides the user with general information on the glaciers of a particular country or region, and also lists which data are available for these glaciers in related tables. An ALPHABETIC INDEX of glaciers in given at the end of this Volume to allow easy location of the data for any glacier name within the various tables.

Originally, the identification system for glaciers consists of:
(1) a name of up to 15 (recently extended to 30) alphabetical and numerical characters,
(2) a PSFG number of five digits with an alphabetical prefix denoting the country.

Although in some cases it was necessary to abbreviate the names of glaciers, it should always be possible to compare data for any particular glacier in the present volume with data in previous volumes. The PSFG number, as provided by the National Correspondents, shall help to identify glaciers with the same, unknown or changing names. The number is inteded to remain the same for every glacier through all the volumes of the FoG. In most cases the numbers were given to glaciers in some historical sequence and may therefore appear to be somewhat unsystematic. Already in the last volume, the alphabetical prefix denoting the country was adapted from a historically evolved one- or two-digit code to the ISO 2-digit-country code (ISO 3166-1-alpha-2), as proposed by the *International Organization for Standardization* (ISO). However, the abbreviation SU has been maintained for C.I.S. in order to facilitate comparison with former FoG volumes. In order to ensure unambiguity in our database, a numeric WGMS_ID has been introduced and is listed together with glacier name and PSFG number in the ALPHABETIC INDEX.

It is strongly recommended that all data tabulated in Tables A to D are used in consultation with the relevant sections in the text; in the case of Table F, the data are given within the text of Chapter 4. Furthermore, when using or citing data from this volume (as WGMS 2012), we strongly suggest to also check and refer to the original sources/references of the data – given in the relevant chapters of the text – for full details on measurement methodologies and background.

Starting with Volume VIII of the FoG series, the data have been arranged alphabetically according to (i) country/region name and (ii) glacier name.

Country/Region	**Prefix**	**Country/Region**	**Prefix**
Antarctica	AQ	Italy	IT
Argentina	AR	Japan	JP
Austria	AT	Kenya	KE
Bolivia	BO	Mexico	MX
C.I.S.	SU	Nepal	NP
Canada	CA	New Zealand	NZ
Chile	CL	Norway	NO
China	CN	Pakistan	PK
Colombia	CO	Peru	PE
Ecuador	EC	Poland	PL
France	FR	Slovenia	SI
Germany	DE	Spain	ES
Greenland	GL	Sweden	SE
Iceland	IS	Switzerland	CH
India	IN	Turkey	TR
Indonesia	ID	U.S.A.	US
Iran	IR		

CHAPTER 2 **INFORMATION ON THE OBSERVED GLACIERS AND SUBMITTED DATA**

The following sections provide an overview on the submitted metadata, principal investigators, national correspondents, and their sponsoring agencies, as well as publications related to glacier data presented in Tables A–F. Full addresses of the sponsoring agencies and organizations holding original data are given in Chapter 3. The information in this chapter is listed by country/region.

Additional and clearly illustrated information can be found in the report on *Global Glacier Changes: facts and figures* (WGMS 2008) jointly published by WGMS and UNEP. The report provides a review of the available data up to 2005, the global distribution of glaciers and ice caps, and their changes since the maximum extents were reached in the so-called *Little Ice Age*. The report is out of print but still available online at: http://www.grid.unep.ch/glaciers/

2.1 Antarctica (AQ)

Data were submitted by P. Skvarca (IAA-DNA) and F.J. Navarro (UPM).

Reported investigators of glacier front variations are P. Skvarca, E. Ermolin, and S. Marinsek (IAA-DNA) for Bahía del Diablo.

Reported investigators of glacier mass balances are P. Skvarca, E. Ermolin, and S. Marinsek (IAA-DNA) for Bahía del Diablo; F.J. Navarro (UPM) for Hurd and Johnsons.

A selected recent publication is Molina et al. (2007).

2.2 Argentina (AR)

Data submission was coordinated by L. Espizua (IANIGLA) with contributions by J. Strelin (IAA-DNA, DNA-UNC, CITERRA) and R. Iturraspe (UNTDF, DGRH).

Reported investigators of glacier front variations are L. Espizua, P. Pitte, G. Maldonado, F. Díaz, P. Lizana, L. Ferri Hidalgo, and H. Gargantini (IANIGLA) for Azufre, Barroso, Canon Hispano, Güssfeldt, Horcones Inferior, Peñon, Salinillas, San Jose, Tupungato 01/02/03/04, and Vacas; P. Leclercq (IMAU) based on Le Quesne et al. (2009) for Humo.

Reconstructed frontal variation series for Ameghino, Lago del Desierto I–III, Narváez Grande, Piedras Blancas, and Torre were reported by M.H. Masiokas (IANIGLA) based on Masiokas et al. (2009a, b). Frontal variations for Esperanza Norte was reported by L. Ruiz (IANIGLA) based on Ruiz et al. (2012). The series for Frías was reported by M.H. Masiokas, P. Pitte, and R. Villalba (IANIGLA) based on Villalba et al. (1990) and Masiokas et al. (2009b).

Reported investigators of glacier mass balances are R. Iturraspe (UNTDF, DGRH) and J. Strelin (IAA-DNA, DNA-UNC, CITERRA) for Martial Este.

Selected recent publications are Strelin and Iturraspe (2006), Leiva et al. (2007), Milana (2007), Espizua and Pitte (2009), Masiokas et al. (2009b), and Iturraspe (2011).

2.3 Austria (AT)
Data submission was coordinated by A. Fischer (IMGI) with contributions by G. Patzelt (OEAV), B. Hynek (ZAMG), and H. Slupetzky (DGGS).

Front variations were measured by the Austrian Alpine Club (OEAV) on behalf of G. Patzelt and A. Fischer (OEAV). Complete information on investigators of glacier front variations for the observation period 2005–2010 are given in Patzelt (2007, 2008, 2009) and Fischer (2010, 2011). Further investigators of glacier front variations are B. Hynek, R. Böhm, G. Weyss, C. Kroisleitner, M. Dragosics, S. Reisenhofer, and R. Unger (ZAMG) for Goldbergkees, Kleinfleisskees, and Wurtenkees.

Reported investigators of glacier mass balances are A. Fischer, G. Markl, and M. Kuhn (IMGI) for Hintereisferner, Jamtalferner, and Kesselwandferner; H. Slupetzky (DGGS) for Stubacher Sonnblickkees; L.N. Braun and C. Mayer (CGGBAS) for Vernagtferner; B. Hynek, S. Reisenhofer, R. Unger, W. Schöner, and the late R. Böhm (ZAMG) for Goldbergkees, Kleinfleisskees, Pasterzenkees, and Wurtenkees. Note that the mass balance of Wurtenkees is influenced by artificial snow production and snow management around the ski slope on the upper part of the glacier.

Information on geodetic glacier changes for Hintereisferner, Jamtalferner, Kesselwandferner, and Vernagtferner is based on Fischer (2011).

The results of the glacier investigations carried out by OEAV are published in their annual reports (Patzelt 2007, 2008, 2009, Fischer 2010, 2011). Selected recent publications related to Austrian glacier fluctuations are from Lambrecht and Kuhn (2007), Escher-Vetter et al. (2009), and Fischer (2009, 2011b).

2.4 Bolivia (BO)
Data submission was coordinated by A. Soruco (IGEMA).

Reported investigators of glacier front variations are J.C. Mendoza Rodríguez (IRD, IHH) for Chacaltaya; various staff from IRD, IHH, and SENAMHI for Charquini Sur and Zongo.

Reconstructed frontal variation series for Charquini Norte, Oeste, Sur, Sureste, Jankhu Uyu, Wila Lluxita, and Zongo were reported by P. Leclercq (IMAU) based on Leclercq (2012) and Rabatel et al. (2006, 2008).

Reported investigators of glacier mass balances are E. Perroy (IRD), J.C. Mendoza Rodríguez (IHH, SENAMHI), B. Francou (CNRS), and A. Soruco (IGEMA) for Chacaltaya, Charquini Sur, and Zongo.

Information on geodetic glacier changes for Zongo is based mainly on Soruco et al. (2009).

2.5 C.I.S. (SU)
Data submission was coordinated by V.V. Popovnin (MGU) in coordination with I. Severskiy (IGNANKaz) and A. Yakovlev (UZ-HydroMet).

Reported investigators for glacier front variations are A.A. Aleynikov, Y.A. Zolotaryov, and V.V. Popovnin (MGU) for Djankuat; Y.K. Narozhniy (TGU) for Dzhelo, Korumdu, Leviy Aktru, Leviy Karagemsk, Maliy Aktru, No. 125 (Vodopadniy), and Praviy Karagemskiy; N.E. Kasatkin (IGNANKaz) for Ts. Tuyuksuyskiy; P. Leclercq (IMAU) based on Kutuzov and Shahgedanova (2009), Zolotarev (2009) and Petrakov, D. (personal communication) for glaciers No. 211, 324, 392, 393, 394, Ashu-tor South (326), Birdzhalychiran, Bituktube, Bolshoy Azau, Bolshoy Chontor, Chungurchatchir, Garabashi, Gregoriev, Irik, Irikchat, Karachaul, Kolpakovsky, Kyukyurtlyu, Maliy Azau, Mikelchiran, Popov, Terskol, Ulluchiran, Ullukol, and Ullumalienderku.

Reported investigators of glacier mass balances are N.E. Kasatkin and K.G. Makarevich (IGNANKaz) for Ts. Tuyuksuyskiy; O.V. Rototayeva, A.M. Kerimov and G. A.Nosenko (IGRAN) for Garabashi; V.V. Popovnin (MGU) for Djankuat (for the period 2007–2010 mass balance data for Djankuat are preliminary, approved data are in preparation); Y.K. Narozhniy (TGU) for Leviy Aktru, Maliy Aktru, and No. 125 (Vodopadniy).

2.6 Canada (CA)
Data submission was coordinated by M.N. Demuth (GSC) with contributions by M. Beedle (UNBC) and J.G. Cogley (TU/G).

Reported investigator for glacier front variation is M. Beedle (UNBC) for Castle Creek.

Reported investigators of glacier mass balances are the late R.M. Koerner and D.O. Burgess (GSC) for Devon Ice Cap NW and Meighen Ice Cap; J.G. Cogley and M.A. Ecclestone (TU/G) for Baby Glacier and White; M.N. Demuth (GSC) for Helm, Peyto, and Place.

Information on geodetic glacier changes for Kaskawulsh is based mainly on Foy et al. (2011); for Place on Menounos and Schiefer (2008); and for Tweedsmuir on Arendt et al. (2008).

2.7 Chile (CL)
Data submission was coordinated by G. Casassa (CECS) with contributions by F. Escobar Caceres (DGA).

Glacier front variations for Noroeste, Oeste M, Oeste N, Oeste S L, and Oeste S R were reported by P. Leclercq (IMAU) based on Schneider et al. (2007) and Dickmann (2008).

Reconstructed frontal variation series for Cipreses was reported by P. Leclercq (IMAU) based on Leclercq (2012), Araneda et al. (2009) and Le Quesne et al. (2009).

Reported investigators of glacier mass balance are F. Escobar Caceres and C. Garin (DGA) for Echaurren Norte.

Information on geodetic glacier changes for Juncal Norte is based mainly on Bown et al. (2008); for Mocho SE on Rivera et al. (2002); and for Pichillancahue and Turbido on Rivera et al. (2008).

2.8 China (CN)
Data submission was coordinated by Z. Li (CAREERI).

Reported investigators of glacier front variations are Z. Jin, Z. Zhou, and M. Cao (CAREERI) for Urumqi Glacier No. 1; and Z. Jin (CAREERI) for Lapate No. 51; P. Leclercq (IMAU) based on Liu et al. (2010) for Hailuogou.

Reported investigators for glacier mass balances are H. Li, H. Yang, Z. Zhou, and W. Wang (CAREERI) for Urumqi Glacier No. 1.

Information on geodetic glacier changes of Hailuogou is based mainly on Liu et al. (2010); for Kangwure on Ma et al. (2010); for Lalong, Panu, Tangse No. 2, Xibu, and Zhadang on Bolch et al. (2010).

2.9 Colombia (CO)
Data submission was coordinated by J. Ramirez Cadenas (INGEOMINAS) with contributions by J.L. Ceballos Lievano (IDEAM).

Reported investigator for glacier length changes and mass balances is J.L. Ceballos Lievano (IDEAM).

Selected recent publications are Ceballos et al. (2006) and Poveda and Pineda (2009).

2.10 Ecuador (EC)
Data were submitted by B. Cáceres Correa (INAMHI).

Reported investigators are B. Cáceres Correa (INAMHI) and B. Francou (CNRS, IRD) for Antizana 15 Alpha.

2.11 France (FR)
Data and information were submitted by C. Vincent (CNRS).

Reported investigators are E. Thibert and D. Richard (CEMAGREF) for Blanc and Sarennes; C. Vincent, M. Vallon and L. Reynaud (CNRS) for Argentière, Bossons, Gébroulaz, Mer de Glace and Saint Sorlin; P. René (AM) for Ossoue (Pyrénées).

Reconstructed front variations for Mer de Glace and Bossons were reported by S.U. Nussbaumer (GIUZ) based on Nussbaumer et al. (2007) and Nussbaumer and Zumbühl (2012). Reconstructed frontal variation series for Argentière was reported by P. Leclercq (IMAU) based on Leclercq (2012), Bouverot (1958), Vivian (1975), and Huybrechts et al. (1989), originally based on Mougin (1912).

Six glaciers were measured in the framework of the French program GLACIOCLIM:

Saint Sorlin, Sarennes, Argentière, Mer de Glace, Gebroulaz and Ossoue. Mass balances are observed on the whole area of these glaciers. Mass balance data are regularly checked with geodetic methods using photogrammetric techniques. Moreover, thickness variations and ice flow velocities are measured on selected cross sections. Meteorological stations have been set up close to Saint Sorlin and Argentière in order to study the relationships between climate change and mass balance fluctuations (Six et al. 2009). Mass balance of Sarennes, the longest glacier mass balance series in the Alps, have been thoroughly studied (Thibert et al. 2008, Thibert and Vincent 2009) in order to extract the temporal signal of winter and summer mass balance (Eckert et al. 2011).

Dynamic behavior of Saint Sorlin has been studied using numerical modeling (Gerbaux et al. 2005, Le Meur et al. 2007). This study shows that this glacier could disappear before the end of the 21st century. Dynamic behaviour of Argentière has been studied from long-term observations (five decades) of ice flow velocities and thickness variations (Vincent et al. 2009). Velocity fluctuations are synchronous over the entire area studied. In the largest part of the glacier, no compressing/extending flow change has been observed over the last 30 years and thickness changes have been driven solely by surface mass balance changes. However, on the tongue of the glacier, thickness changes do not depend on surface mass balance but are driven mainly by changes in the longitudinal strain rate.

Satellite imagery was used to study the ice flow velocities and volume changes of Mer de Glace (Berthier et al. 2005, 2006) and the *Equilibrium Line Altitude* of several glaciers in the French Alps (Rabatel et al. 2005, 2008). This study allowed the reconstruction of annual mass balances of these glaciers.

2.12 Germany (DE)
Data submission was coordinated by L.N. Braun (CGGBAS).

Reported investigator is W. Hagg (LMU) for Höllental, Schneeferner N., and Schneeferner S.

2.13 Greenland (GL)
Data submission was coordinated by A.P. Alstrøm (GEUS) with contributions by B. Hynek (ZAMG).

Glacier front variations for Akulliit, Assakaat, Freya, Kangiusaq, Mittivakkat, Motzfeldt E, Motzfeldt W, Napasorsuaq, Narssaq Bræ, Qingua Kujalleq, Saarloq, Saqqaq, Sermiarsuit, Sermikassak, Serminnguaq, Sissarissut, Soqqaap, Tunorsuaq, and Umiartorfiup were reported by P. Leclercq (IMAU) based on Weidick (1968), Citterio et al. (2009), and Leclercq et al. (2012).

Reconstructed frontal variation series for Lyngmarksbræ and Tunorsuaq were reported by P. Leclercq (IMAU) based on Yde and Knudsen (2007), and Leclercq et al. (2012).

Reported investigators of glacier mass balances are B. Hynek (ZAMG) for Freya; N.T. Knudsen (DESA), B. Hasholt (DGGC), and S. Mernild (CPM-LA) for Mittivakkat.

Information on geodetic glacier changes for the Flade Isblink Ice Cap is based mainly on Rinne et al. (2011), ambiguous results for the period 2004 to 2008 stem from different sensors: i.e., 680 mm are calculated based on the GLAS sensor (onborad ICESat), 400 mm come from RA-2 measurements (onboard EnviSAT); the value for the period 2002 to 2009 (210 mm) as well are based on RA-2 measurements.

2.14 Iceland (IS)
Data submission was coordinated by O. Sigurðsson (IMO) with contributions by F. Pálsson (IES) and Þ. Þorsteinsson (IMO).

Reported investigators for glacier front variations are Á. Hjartarson (IGS, ISOR) for Gljúfurárjökull; Á. Sólbergsson (IGS) for Leirufjarðarjökull; B. Pálsson (IGS) for Brókarjökull and Fláajökull; B. Kristinsson for Geitlandsjökull; B. Oddsson (IGS, IES) for Kvíslajökull; B. Skúlason (IGS) for Sátujökull; E. Gunnlaugsson (IGS) for Sólheimajökull.; E.H. Haraldsson (IGS) for Blágnípujökull, Kirkjujökull, and Loðmundarjökull; E.R. Sigurðsson and J.K. Þórhallsdóttir (IGS) for Hagafellsjökull E and W; E. Guðmundsson (IGS) for Heinabergsjökull; G. Gunnarsson and S.B. Þorláksdóttir (IGS and IMO) for Svínafellsjökull, Falljökull, and Virkisjökull; S. Hilmarsson (IGS) for Tungnárjökull; H. Haraldsson (IGS) for Hyrningsjökull; H. Jónsson (IGS) for Síðujökull, Skeiðarárjökull W, and Skeiðarárjökull. M; H. Björnsson (IGS) for Breiðamerkurjökull. W. C, Breiðamerkurjökull. W. A, Fjallsjökull. BRMFJ, Fjallsjökull. G-SEL, Hrútárjökull, and Kvíárjökull; I. Aðalsteinsson (IGS) for Kaldalónsjökull; I. Kaldal (IGS, ISOR) for Sléttjökull; J. Gissurarson (IGS) for Öldufellsjökull;; K.G. Eyþórsdóttir (IGS, IMO) for Jökulkrókur; L. Jónsson (IGS, NEA) for Múlajökull S. and Nauthagajökull; O. Sigurðsson (IGS, IMO) for Kötlujökull and Kverkjökull; R.F. Kristjánsson (IGS) for Morsarjökull, Skaftafellsjökull, and Skeidararjökull E1, E2, and E3; S.M. Hreinsdóttir (IGS) for Skálafellsjökull; S. Sigurðsson (IGS) for Rjúpnabrekkujökull; T. Theodórsson (IGS) for Gígjökull; Þ. Jóhannesson (IGS) for Reykjarfjarðarjökull.

Reconstructed frontal variation series for Sólheimajökull W. was reported by P. Leclercq (IMAU) based on Sigurðsson (1998), Mackintosh et al. (2002), and Leclercq (2012).

Reported investigators for glacier mass balances are F. Pálsson , H. Björnsson (IES), and H.H. Haraldsson (NPC) for Breiðamerkurjökull, Brúarjökull, Dyngjujökull, Eyjabakkajökull, Köldukvíslarjökull, Tungnárjökull, and Langjökull Southern Dome,; Þ. Þorsteinsson (IMO) for Hofsjökull E, Hofsjökull N, and Hofsjökull SW.

Selected recent publications are Aðalgeirsdóttir et al. (2006), and Sigurðsson et al. (2007).

2.15 India (IN)
Data submission was coordinated by C.V. Sangewar (GSI) with contributions by M.F. Azam (CNRS).

Glacier front variations were reported by GSI and are based on Kaup et al. (2011) as well as Leclercq (2012) based on Raina and Srivastava (2008), Bhambri and Bolch (2009), Raj (2011), Bhambri et al. (2012).

Reported investigators for glacier mass balances are A. Ramanathan (SES) and M.F. Azam (CNRS) for Chhota Shigri; C.V. Sangewar (GSI) for Hamtah.

Information on geodetic glacier changes for Chhota Shigri is based mainly on Azam et al. (2012).

2.16 Indonesia (ID)
A. Ruddell (A.R.) reported that there are no current in-situ measurements available from Indonesia.

Selected recent publications are Klein and Kincaid (2006) and Kincaid (2007).

2.17 Iran (IR)
Data was submitted by N. Karimi (WRI)

Information on geodetic glacier changes for Alamkouh is based on Karimi et al. (2012).

2.18 Italy (IT)
Data submission was coordinated by C. Baroni (DST-UPi).

Reported investigators of glacier front variations are A. Fusinaz (CGI) for Pré de Bar and Toules; A. Borghi (SGL) for Dosegu; A. Galluccio (SGL) for Castelli Or.; A. Viotti (CGI) for Estellette; A. Gusmeroli for Campo Sett; A. Mazza (CGI) for Aurona, Belvedere (Macugnaga), and Locce Set.; A. Almasio (SGL) for Sissone; A. Proh (SGL) for Disgrazia; A. Salvetti (SGL) for Scerscen Inferiore; A. Tamburini (SGL) for Campo Sett and Suretta Merid; A. Toffaletti (SGL) for Venerocolo; A. Cerutti (CGI) for Brenva; A. Giorcelli (CGI) for Valtournanche; C. Iulita (SGL) for Cedec and Gran Zebru; C. Smiraglia (CGI) for Sforzellina and Ventina; C. Voltolini (CGI) for Vedretta de la Mare; D. Godone (CGI) for Belvedere (Macugnaga) and Locce Sett.; D. Colombarolli (SGL) for Cedec and Campo Sett; E. Congiu (SGL) for Pizzo Ferre; E. Massa Micon (CGI) for Monciair; F. Villa (SGL) for Campo Sett and Suretta Merid.; F. Pollicini (CGI) for Fond Occid. and Or., Gliairetta Vaudet, Goletta, Lavassey, Soches Tsanteleina, and Torrent; F. Rovedo (SGL) for Pisgana Occ.; F. Cambieri (SGL) for Ventina; F. Marchetti (SAT) Amola, Care Alto Or., Lares, Lobbia, Mandrone, Nardis Occ., and Niscli; F. Rogliardo (CGI) for Bessanese, Ciamarella, Collerin D'arnas, Martelot, Mulinet Merid. and Sett., and Sea; F. Fornengo (CGI) for Basei; G. Casartelli (CGI) for Forni and Pizzo Scalino; G. Gotta (CGI) for Aouille; G. L. Gadin (CGI) for Gruetta Orient.; G. Franchi (SGI) for Gran Pilastro/Gliederferner, Malavalle/Übeltalferner, Neves Or./Östl. Növesferner, Pendente/Hangenderferner, and Quaira Bianca/Weisskarferner; G. Taufer (SAT) for Travignolo; G. Cibin (CGI) for Collalto/Hochgallferner, and Gigante Centr. and Occ.; G. Bracotto (CGI) for Lauson; G. Mortara (CGI) for Piode; G. Alberti (SAT) for Lares; G. Barison for Rosim/Rosimferner; G. Cola (CGI) for Forni and Palon della Mare Lobo Or.; G. Fontana (SGL) for Dosegu; G. Perini (CGI) for Antelao Inferiore (Occ.) and Sup., Cevedale Forcola/Fürkeleferner and Cevedale Principale/Zufallferner, Cristallo, Vedretta Alta/Höhenferner, and Vedretta Lunga/Langenferner; G. Stella (CGI) for Ventina; S. Sartori and L. Pastori (SGAA) for Gran Vedretta Occidentale/Hochferner and Gran Vedretta Orientale/Griessferner; L. Carturan (SAT) for Caresèr (Occidentale, Centrale, and Orientale); L. Farinella (SGL) for Palon Della Mare Lobo Centr. and Or.; L. Lorenzetti (SGL) for Col Della Mare I; L. Mercalli, D. Cat Berro, and F. Fornengo (SMI, CGI) for Ciardoney and Basei; L. Rosso (CGI) for Clapier and Peirabroc; L. Motta and M. Motta (CGI) for Jumeaux; M. Bettio (CGI) for Morion Or.; M. Cesco Cancian (CGI) for Fradusta and Travignolo; M. Moccagatta (CGI) for Brenva; M. Tesoro (CGI) for Grandes Murailles and Tza De Tzan; M. Bizel (CGI) for Gran Val and Lauson; M. Butti (SGL) for Marovin and Lupo; M. Nicolino (CGI) for Aouille; M. Pecci, A. Barbolla, P. D'Aquila, L. Lombardi, T. Zanoner, and S. Pignotti (IMONT) for Calderone; M. Urso (SGL) for Predarossa; M. Fioletti (SGL) for Gran Zebru; M. Tron (CGI) for Agnello Mer. and Fourneaux; M. Palomba (CGI) for Grade di Verra; M. Varotto (CGI) for Marmolada Centr.; P. Pagliardi (SGL) for Disgrazia and Venerocolo; P. Piccini (CGI) for Indren Occ.; P.P. Degli Esposti (SGAA) for Neves Or./Östl. Növesferner; P. Borre (CGI) for Gran Val and Lauson; P. Bruschi (SGAA, UI/HA) for Fontana Bianca/Weissbrunnferner; R. Miravalle (CGI) for Nel Centrale); R. Ossola (CGI) for Hohsand Sett. (Sabbione Sett.); R. Scotti (SGL) for Campo Sett, Cassandra Or., Fellaria Occ., Lupo, and Suretta Merid; R. Garino (CGI) for Rutor; R. Sinibaldi (SGAA) for Vedretta di Solda/Suldenferner; R. Serandrei Barbero (CGI) for Lana/Äusseres Lahner Kees, Rosso Destro, and Valle del Vento; S. Rossi (CGI) for Sforzellina; S. Alberti (SGL) for Caspoggio; S. Borney (CGI) for Vaudaletta; S. Cerise (CGI) for Lavacciu, Monciair, and Montandeyne; S. D'Adda (SGL) for Lupo; S. Ratti (SGL) for Val Viola Occ.; U. Guichardaz (CGI) for Montandeyne; U. Ferrari (CGI) for Rosim/Rosimferner, Zai di Dentro/Innerer Zay Ferner, Zai di Fuori/Äusserer Zay Ferner, Zai di Mezzo/Mittlerer Zay Ferner, and Vedretta di Solda; V. Bertoglio (CGI) for Coupe de Money, Dzasset, Grand Croux Centr., Grand Etret, Lauson, Lavacciu, Moncorve, Money, and Tribolazione; V. Paneri (SGL) for Scerscen Inferiore; W. Monterin (CGI) for Indren Occ., Lys, and Piode.

Reconstructed frontal variation series for Pré de Bar was reported by P. Imhof (GIUB) based on Imhof (2010) and Imhof et al. (2012).

Reported investigators of glacier mass balances are G.L. Franchi, G.C. Rossi (GCI), and UI/HA for Malavalle/Übeltalferner and Pendente/Hangenderferner; M. Meneghel and L. Carturan (SAT) for Caresèr (Occidentale, Centrale, and Orientale); L. Mercalli, D. Cat Berro, and F. Fornengo (SMI) for Ciardoney; V. Bertoglio, and S. Cerise (CGI) for Grand Etret; M. Pecci, P. D'Aquila, and S. Pignotti (IMONT) for Calderone; R. Prinz, S. Galos (IMGI, UI/HA) for Vedretta Lunga/Langenferner; R. Dinale and A. Di Lullo (UI/HA) for Fontana Bianca and Vedretta Occ. di Ries/Westl. Rieserferner.

Selected recent publications are Pecci et al. (2008), Bocchiola and Diolaiuti (2009), Carturan et al. (2009), Citterio et al. (2009), and Knoll and Kerschner (2010).

2.19 Japan (JP)

Data were submitted by K. Fujita (DHAS).

Reported investigator for mass balance is K. Fujita (DHAS) for Hamaguri Yuki.

The mass balance series of Hamaguri Yuki glacieret was re-analized by K. Fujita (DHAS) and A. Ohmura (IAC). More details are found in Chapter 4.1 (Index Measurements), and the revised data series are given in Tables B and BB.

2.20 Kenya (KE)

Data and information were submitted by R. Prinz (IMGI).

Reported investigator for glacier front variation is R. Prinz (IMGI) for Lewis.

Reported investigators for glacier mass balances are R. Prinz, L. Nicholson, and G. Kaser (IMGI).

As part of a broader glaciological-climatological research project funded by the Austrian Science Fund (FWF, grant P21288-N21), the Lewis Glacier monitoring program was revived in 2010, to continue the comprehensive glaciological studies on Mount Kenya of Stefan Hastenrath (UWAOS) and colleagues, which were abandoned in 1996 (direct measurements) and 2004 (mapping). The glacier outline and surface topography were mapped in March 2010 using a differential global positioning system (GPS) and ice thickness was measured using ground-penetrating radar. Mean mass balance rates in decadal intervals were derived from seven historical maps (1934–2004) using a geodetic approach (Prinz et al. 2011).

2.21 Mexico (MX)

H. Delgado-Granados (UNAM) reported that there are no current in-situ observations.

A selected recent publication is Andrés et al. (2007).

2.22 Nepal (NP)

Data were submitted by S. Bajracharya, S. Joshi, and D. Stumm (ICIMOD), T. Bolch (DUT/GIUZ), and K. Fujita (DHAS).

Reported investigators of glacier mass balances are S. Joshi, P. Maskey, and P. Mool (ICIMOD) for Thulagi, Tsho Rolpa, and Imja.

Information on geodetic glacier changes for AX010, Rikha Samba, and Yala are based mainly on Fujita and Nuimura (2011); for Ama Dablam, Amphu Laptse, Changri Nup/Shar, Chukhung, Duwo, Khumbu, Lhotse, Lhotse Nup, Lhotse Shar/Imja, and Nuptse on Bolch et al. (2008, 2011)

2.23 New Zealand (NZ)

Data and information were submitted by B. Anderson (ARC) with contributions by T.J. Chinn (APPC).

Reported investigators of glacier front variations are T.J. Chinn (APPC) for Adams, Almer/Salisbury, Andy, Ashburton, Axius, Balfour, Butler, Cameron, Classen, Colin Campell, Crow, Dart, Dispute, Donne, Douglas (Kar.), Evans, Fitzgerald, Fox, Freshfield, Godley, Grey and Maud, Gunn, Hooker, Horace Walker, Ivory, Kahutea, La Perouse, Lambert, Lawrence, Leeb-Lornty, Lyell, Marion, Marmaduke Dixon, Mathias, Mueller, Murchison, Park Pass, Ramsay, Reischek, Sale, Siege, Snow White, Snowball, South Cameron, St. James, Strauchon, Tasman, Tewaewae, Thurneyson, Victoria, Whataroa, Whitbourne, White, Whymper, Wilkinson and Zora; B. Anderson (ARC) for Franz Josef and Brewster; H. Purdie (DGUC) for Fox; T. Kerr (NIWA) for Rolleston.

Reconstructed frontal variation series for Franz Josef was reported by P. Leclercq (IMAU) based on Leclercq (2012), McKinzey et al. (2004) and Fitzharris, B. (personal communication).

Reported principle investigators of glacier mass balances are B. Anderson (ARC), N.J. Cullen (DGUO-NZ) and D. Stumm (DGUO-NZ, UZIG) for Brewster; T. Kerr (NIWA) for Rolleston.

Qualitative glacier front variations are given in Table B. The assessments have been made from oblique aerial photographs taken on annual light aircraft flights made at about 3,000 m a.s.l. for annual end-of-summer snowline (EOSS) surveys on a set of 50 selected glaciers. The full EOSS data series 1977–2005 was given in FoG Vol. IX (WGMS 2008) and the 2005–2010 data are in Chapter 4 'Index Measurements and Special Events' of the present volume. Full details on these observations are published in Chinn (1996) and Chinn et al. (2005).

Over the survey period (2005–2010), mass balance at Brewster Glacier was negative overall (c. -2.0 m w.e.) with very negative years in 2007/08 and 2009/10, but there were positive years in 2005/06 and 2006/07. The EOSS record shows a similar but not identical pattern (cf. also Stumm 2011), with high snowlines in 2005/06, 2007/08 and 2008/09 and near-neutral conditions in 2006/07 and 2009/10.

Positive mass balances during certain years in the last few decades led to glacier advance, but this advance is now over. For example Franz Josef reached its maximum length during the most recent phase of the advance in 2008 and has been steadily retreating and thinning since then. Proglacial lake growth has continued on many of the large debris-covered glaciers, each with its own characteristic behavior. Tasman Glacier, the largest in New Zealand, has shown an increase in calving velocity since 2006 (Dykes et al. 2011) as the glacier retreats into deeper water.

Current work on New Zealand glaciers is concentrated on direct mass balance measurements, monitoring changes in glacier size by remote sensing, and GPS measurements and glacier modeling. In 2004, a new mass balance monitoring program was started with on-site support by the WGMS on Brewster Glacier (Anderson et al. 2010; Gillet and Cullen 2011). Recent publications related to glacier fluctuations in New Zealand have increased in number and diversity, ranging from direct measurements of accumulation and ablation (Anderson et al. 2006; Purdie et al. 2008, 2011b, 2011a), remote sensing of glacier size (Quincey and Glasser 2009, Dykes et al. 2011, Gjermundsen et al. 2011) and velocity (Quincey and Glasser 2009, Herman et al. 2011).

2.24 Norway (NO)

Data submission was coordinated by J.O. Hagen (DGUO-NO) with contributions by B. Gadek (SUP), H. Elvehøy (NVE), B. Kjøllmoen (NVE), J. Kohler (NPI), and I. Sobota (NCU).

Reported investigators for glacier front variations are L. Kolondra (SUP), J. Jania (SUP) and A. Adamek (WUT) for Hansbreen; A. Nesje (DES) for Midtdalsbreen; B. Kjøllmoen and J.E. Haugsberg (NVE) for Langfjordjøkelen; B. Øyre (SUNK) for Blomstølskardsbreen and Svelgjabreen; C. Nyheim and F. Hansen (NVE) for Koppangsbreen and Steindalsbreen; E. Briksdal (NVE) for Bødalsbreen and Briksdalsbreen; G. Knutsen (STAK, NVE) for Bondhusbrea, Botnabrea, Breidablikkbrea, and Gråfjellsbrea; H. Elvehøy (STAK, NVE) for Engabreen, Leirbreen, Rembesdalsskåka, and Stegaholtbreen; H. Berg (NVE) for Sydbreen; I. Sobota (NCU) for Irenebreen and Waldemarbreen; J.-K. Sommerset (NVE) for Storsteinsfjellbreen; K.-H. Nessengmo (NVE) for Austre Okstindbreen and Corneliussenbreen; K. Åsen (NVE) for Bergsetbreen, Fåbergtølsbreen, Stegholtbreen, and Tuftebreen; L. Vedaa, T. Boee, and T. Snøtun (NBF) for Bøyabreen and Store Supphellebreen; L.M. Andreassen (NVE) for Bøverbreen, Hellstugubreen, Leirbreen, Storbreen, and Storjuvbreen; M.B. Buer (NVE) for Buerbreen; M. Jackson (NVE) for Langfjordjøkelen and Stegaholtbreen; N. Haakensen (NVE) for Hellstugubreen, Leirbreen, Nigardsbreen, and Styggedalsbreen; O.M. Tønsberg (STAK, NVE) for Breidablikkbrea, Gråfjellsbrea, and Langfjordjøkelen; P. Solnes (NVE) for Austerdalsbreen; S. Åsen (NVE) for Tuftebreen; S. Winkler (IGUW) for Bødalsbreen, Bøverbreen, Brenndalsbreen, Kjenndalsbreen, and Storjuvbreen; S. Villmones (STAK) for Rembesdalsskåka; T. Klokk (NVE) for Trollkyrkjebreen; P. Leclercq (IMAU) based on Lavrentiev (2008) for Aldegondabreen and Tavlebreen.

Reconstructed frontal variation series for Bergsetbreen, Bøyabreen, Bondhusbrea, Buerbreen, Lodalsbreen, and Nigardsbreen were reported by S.U. Nussbaumer (GIUZ) based on Nussbaumer et al. (2011).

Reported investigators for glacier mass balances are B. Kjøllmoen (NVE) for Ålfotbreen, Blomstølskardsbreen, Breidablikkbrea, Gråfjellsbrea, Hansebreen, Langfjordjøkelen, Nigardsbreen, and Svelgjabreen; H. Elvehøy (NVE) for Austdalsbreen, Engabreen, and Rembesdalsskåka; L.M. Andreassen (NVE) for Gråsubreen, Hellstugubreen, and Storbreen; J. Kohler (NPI) for Austre Brøggerbreen, Kongsvegen, and Midtre Lovénbreen; R. Engeset (NVE) for Ålfotbreen, Austdalsbreen, Breidablikkbrea, Engabreen, Gråfjellsbrea, Gråsubreen, Hansebreen, Hardangerjøkulen, Hellstugubreen, Langfjordjøkelen, Nigardsbreen, Rundvassbreen, Storbreen, and Storglombreen; P. Glowacki and D. Puczko (PAS) for Hansbreen; and I. Sobota (NCU) for Elisebreen, Irenebreen, and Waldemarbreen.

Information on geodetic glacier changes for Åsgårdfonna Ice Cap, Abrahamsenbreen, Aldousbreen, Balderfonna Ice Cap, Barentsjøkulen, Bodleybreen, Borebreen, Chydeniusbreen, Digerfonna Ice Cap, Edgeoeyjøkulen, Franklinbreen N+S, Frazerbreen, Glimlebreen, Hinlopenbreen, Hochstetterbreen, Holmstrømbreen, Idunbreen, Isachsenfonna, Kongsvegen, Kronebreen, Maudbreen, Negribreen, Osbornebreen, Rijpbreen, Sabinebreen, Storskavlen Ice Cap, Svalbreen, Sveabreen, and Tunabreen are based mainly on Nuth et al. (2010); for Midtre Lovénbreen on Kohler et al. (2007), Cogley (2009), and Barrand et al. (2010).

In 2012, H. Elvehøy (NVE) checked, revised and updated the entire front variation dataset available at the WGMS. The data for the observation period 2005–2010 is published in Table D of the present volume; earlier data can be ordered digitally from NVE and the WGMS. For the glaciological mass balance series of Engabreen, large deviations from the geodetic mass balances have been found (cf. Haug et al. 2009).

The results of the glacier investigations carried out by NVE are published in their annual reports (e.g. Kjøllmoen et al. 2007, 2008, 2009). Selected recent publications related to Norwegian glacier fluctuations are from Grabiec et al. (2006, 2011), Migala et al. (2006), Glowacki (2007), Andreassen et al. (2008, 2009), Nesje et al. (2008), Baumann et al. (2009), Blaszczyk et al. (2009), Elvehøy et al. (2009), Giesen et al. (2009), Paul and Andreassen (2009), Winkler et al. (2009), Oerlemans et al. (2011), and Sobota (2011).

2.25 Pakistan (PK)

Information about glacier-related research was submitted by A. Ghazanfar (GCISC).

Currently no continuous glacier front variation or mass balance studies are carried out by institutions in Pakistan. In the past, a few studies were conducted: In a first phase (1985–1989), WAPDA carried out mass balance studies on selected glaciers of Karakoram jointly with Canadian universities and the Snow and Ice Hydrology Project (SIHP). In the second phase of the SIHP, WAPDA installed 20 high-altitude automatic data collection platforms in the elevation zone of 2,200 to 5,000 m a.s.l. The hourly/daily data including temperature (max-min), relative humidity, precipitation, wind gust, wind speed are available from the Hydrological Research Directorate of WAPDA. In collaboration with ICIMOD, WRRI prepared an inventory of glaciers and glacial lakes for the identification of potentially hazardous glacial lakes in the Hindu Kush Himalaya region of Pakistan using Landsat ETM+ data supplemented with topographic maps (ICIMOD 2007). GCISC measured temporal changes in the lateral dimensions of Biafo, Barpu, Bualtar, Mohmil, Mulangatti, Passu, Gulkin and Gulmit using Landsat images of 30 m spatial resolution for various years. PMD measured debris depth in the ablation zone of Baltoro glacier during July and August 2011 using ground-penetrating radar.

2.26 Peru (PE)

Data submission was coordinated by C.A. Portocarrero Rodríguez (INRENA) with contributions by J. Gómez (INRENA).

Reported investigators of glacier front variations are J. Gómez and A. Cochachin (INRENA) for Incachiriasca and Alpamayo; J. Gómez, A. Cochachin, and M. Zapata (INRENA) for Artesonraju, Gajap-Yanacarco, Pastoruri, Shallap, Uruashraju, and Yanamarey; J. Gómez, A. Cochachin, R. Gallaire, and M. Zapata (INRENA) for Shullcon.

Reported investigators of glacier mass balances are J. Gómez and L. Davila (INRENA) for Artesonraju and Yanamarey.

Information on geodetic glacier changes for Coropuna is based mainly on Peduzzi et al. (2010).

2.27 Poland (PL)

Data and information of the glacierets in the Tatra Mountains were submitted by B. Gadek (SUP).

Reported investigators of glacierets in the Tatra Mountains are Z. Kijkowska-Wislinska, M. Wislinski and A. Wislinski (MPG) for Pod Cubryna and Pod Bula.

Recent related publications are from Gadek (2008, 2011) and Adamowski and Wislinski (2010).

2.28 Slovenia (SI)
Data from Triglav glacieret were submitted by M. Gabrovec (ZRC-SAZU).

A recent related publication is from Gabrovec (2008).

2.29 Spain (ES)
Data submission was coordinated by M. Arenillas (I75SA), E. Martinez de Pisón (UAM), and F. Pastor (MMA).

Reported investigator of glacier front variations is G. Cobos Campos (UPV) for Aneto, Barrancs, Clot De Hount, Coronas, Infierno E, Infierno W, La Paul, Las Frondellas, Llardana, Los Gemelos, Maladeta, Marborecilindro, Perdido Inf., Perdido Sup, Posets, Punta Zarra, and Tempestades.

Reported investigators of glacier mass balances are A. Pedrero Muñoz, M. Arenillas (I75SA), and G. Cobos Campos (UPV) for Maladeta.

2.30 Sweden (SE)
Data submission was coordinated by P. Holmlund (INK) with contributions by P. Jansson (INK).

Reported investigators of glacier front variations are A. Mercer (INK) for Mikkajekna, Partejekna, Ruopsokjekna, Ruotesjekna, Salajekna, Storglaciären, and Suottasjekna; P. Holmlund (INK) for Isfallsglaciären, Karsojietna, Mikkajekna, Passusjietna E., Rabots glaciär, Riukojietna, Storglaciären, and Vartasjekna; P. Holmlund and H. Grudd (INK) for Sydöstra Kaskasatjåkkaglaciären.

Reported investigators for glacier mass balances are P. Holmlund and P. Jansson (INK) for Mårmaglaciären, Rabots glaciär, Riukojietna, Storglaciären, and Tarfalaglaciären.

Multi-temporal aerial images of Storglaciären (1959-69-80-90-99) were re-analyzed and new geodetic changes calculated by Koblet et al. (2010). Based on the latter study, Zemp et al. (2010) checked the glaciological mass balance series including a detailed assessment of related uncertainties.

2.31 Switzerland (CH)
Data and information were submitted by M. Hoelzle (DGUF).

The program of front variation observations is largely supported by the CC (Cryospheric Commission of the Swiss Academy of Sciences) and operated by the VAW, in collaboration with many Cantonal Forestry Services, hydroelectric power companies, private persons and universities. The individual observers and their sponsoring agencies involved in this program are: VAW – A. Bauder (Gries, Silvretta, Rhône, Giétro, Corbassière, Grosser Aletsch, Findelen, Trift (Gadmen)); VAW – H. Bösch (Schwarzberg, Allalin, Kessjen, Seewjinen); Forestry Service of Canton Valais – U. Andenmatten (Fee), L. Jörger (Gorner), M. Schmidhalter (Kaltwasser), F. Pfammatter (Rossboden), H. Henzen (Lang), M. Barmaz (Zinal, Moiry), J. Medico (Valsorey, Tseudet, Boveyre, Saleina), O. Bourdin (Cheillon, En Darrey), F. Vouillamoz (Grand Dèsert, Mt. Fort), J.D. Brodard (Tsanfleuron), F. Pralong (Ferpècle, Mt. Miné, Arolla, Tsidjiore Nouve); Forestry Service of Canton Vaud – J. Binggeli (Sex Rouge, Prapio), J.P. Marlètaz (Paneyrosse, Grand Plan Névé); Forestry Service of Canton Bern – R. Straub (Gauli, Stein, Steinlimmi), C. von Grünigen (Lämmern), E. Coleman Brantschen (Schwarz), R. Descloux (Gamchi), U. Fuhrer (Alpetli, Blümlisalp), R. Zumstein (Eiger, Tschingel); Forestry Service of Canton Glarus – J. Walcher (Sulz); Forestry Service of Canton Obwalden – S. Flury (Firnalpeli, Griessen); Forestry Service of Canton St. Gallen – A. Hartmann (Pizol), T. Brandes (Sardona); Forestry Service of Canton Graubünden – C. Barandun (Porchabella), G. Berchier (Palü, Paradisino, Cambrena), J. Brunold (Vorab), C. Fisler (Paradies, Suretta), M. Frei (Punteglias), C. Mengelt (Forno), G. Bott (Calderas, Roseg, Tschierva, Morteratsch, Tiatsch), B. Riedi (Lenta), G.-C. Feuerstein (Sesvenna, Lischana), R. Lutz (Lavaz), M. Maikoff (Verstankla); Forestry Service of Canton Ticino – C. Valeggia (Basòdino, Val Torta, Cavagnoli, Corno, Croslina, Bresciana, Valleggia); Forestry Service of Canton Uri – M. Planzer (Kehlen, Rotfirn), P. Kläger (Wallenbur), B. Annen (Griess), J. Marx (Brunni, Damma, Tiefen, St. Anna), A. Arnold (Hüfi); private investigators – Flotron AG (Oberaar, Unteraar), J.L. Chabloz (Otemma, Mt. Durand, Breney), H. Boss jun. (Oberer Grindelwald, Unterer Grindelwald), E. Hodel (Ammerten), J. Ehinger (Trient), H.P. Klauser (Biferten, Glärnisch), U. Steinegger (Limmern, Plattalva), A. Wipf (Dungel, Gelten), P. Aschilier (Fiescher), P. Rovina (Ried), B. Teufen (Scaletta), U. Wittdorf (Mutt), C. Theler (Oberaletsch). Glaciers of the front variation program that were not observed during the observation period are Bella Tola, Brunegg, Mittelaletsch, Moming, Rätzli, Turtmann and Zmutt.

Reconstructed frontal variation series for Unterer Grindelwald, Oberer Grindelwald, Rhône, Rosenlaui, and Unteraar were reported by H.J. Zumbühl (GIUB) based on Zumbühl (1980), Zumbühl et al. (1983), Zumbühl and Holzhauser (1988), and Zumbühl et al. (2008).

The investigators and their sponsoring agencies of glaciers with mass balance series are as follows: A. Bauder and M. Funk (VAW) for Gries and Silvretta; G. Kappenberger (G.K.) and G. Casartelli (G.C.) for Basòdino; A. Linsbauer (GIUZ), H. Machguth (GIUZ) and N. Salzmann (GIUZ/DGUF) for Findelen and M. Huss (DGUF) for Pizol.

The most recent Swiss glacier monitoring data are published in Bauder and Rüegg (2009) and Bauder and Ryser (2011). All data and information on Swiss Cryospheric Monitoring can be found on www.cryosphere.ch for the front variations or directly at http://glaciology.ethz.ch/swiss-glaciers. Note that Swiss glacier monitoring observes several additional variables in comparison to international monitoring. The monitoring of englacial temperatures (Bauder and Rüegg 2009) is probably the most important as well as exceptional one (Hoelzle et al. 2011). The current monitoring program in Switzerland is described in Bauder and Rüegg (2009).

Since the publication of the last FoG (Vol. IX, 2000–2005), Findelengletscher has now a measurement series of six years and efforts are currently underway to produce geodetic calibration within several individual research projects. In addition, a new mass balance series was started on Pizolgletscher (Huss 2010). For Gries and Silvretta, mass balance series were homogenized by Huss et al. (2009a) and are given in Tables C, CC and CCC. Differences between geodetic ice volume changes (Bauder et al. 2007) and the direct glaciological method were corrected. Subtraction of two digital elevation models acquired in February 2000 and around 1985 provide geodetic volume changes for most Swiss glaciers over the 1985–1999 period (Paul and Haeberli 2008). It was confirmed in this study that the mean of the cumulative mass changes from all measured glaciers in the Alps provide indeed a good approximation of the mass changes for all Swiss glaciers.

Analyses of satellite data indicate a continuation of the mass and area loss also from large glaciers, with lakes appearing in several glacier forefields (Paul et al. 2007, Frey et al. 2010). Automated glacier mapping using multispectral satellite data (Paul and Hendriks 2010, Seiz et al. 2011) has been used in combination with digital elevation models to create a new glacier inventory for the entire European Alps including all Swiss glaciers (Paul et al. 2011). Thus, complete inventory information for Switzerland is now available for the years 1850, 1973, 1998/1999 and 2003. The new dataset was already used to evaluate different extrapolation schemes for mass balance as measured in the field for the entire Alps (Huss 2012).

Several new estimates of the total ice volume of the Swiss glaciers are available. Farinotti et al. (2009a) estimated the total Swiss glacier ice volume using an approach called ITEM based on the principles of ice flow mechanics (Farinotti et al. 2009b) and direct ice thickness observations for about 20 Swiss glaciers for the year 1999 as 74 ± 9 km^3, which is similar to the previous estimates of Müller et al. (1976) and Maisch et al. (2000) for the year 1973 with 67 km^3 and 74 km^3, respectively. Linsbauer et al. (2012) calculated a total volume with another approach called GlabTop as 72–79 km^3 for 1973 and 61–68 km^3 for 1999. Hence, an uncertainty range of about 20 to 30% exist for the estimated values.

2.32 TURKEY (TR)
Data and frontal variations for Erciyes were submitted by P. Leclercq (IMAU) based on Sarıkaya et al. (2009).

2.33 U.S.A. (US)
Data and information were submitted by W. Bidlake (USGS-T).

Reported investigators of glacier fronts are M. Pelto (NCD) for Boulder, Columbia (2057), Daniels, Deming, Easton, Foss, Ice Worm, Lower Curtis, Lynch, Rainbow, Watson and Yawning; W. Bidlake (USGS-T) for South Cascade; P. Leclercq (IMAU) based on Barclay et al. (2009), Kienholz (2010), Le Bris et al. (2011), Leclercq (2012) and Weeks (2011) for Bear, Dinglestadt, Excelsior, Exit, Grewingk, McCarty, Northwestern, Nuka, Okpilak, Tebenkof, Valdez, Wolverine, and Yalik.

Reported investigators of glacier mass balances are R. March and S. O'Neel (USGS-F) for Wolverine and Gulkana; J. Riedel (NPNC) for Emmons, Nisqually, Noisy Creek, North Klawatti, Sandalee and Silver; M. Pelto (NCD) for Columbia (2057), Daniels, Easton, Foss, Ice Worm, Lower Curtis, Lynch, Rainbow, Sholes and Yawning; M. Pelto (JIRP) for

Lemon Creek, Taku; W. Bidlake (USGS-T) for South Cascade.
Information on geodetic glacier changes for Barnard, Bering, Guyot North and South Branch, Hidden, Hubbard, Klutlan, Logan, Malaspina, Novatak, Steller, Tana, Walsh, West Nunatak, Yahtse, and Yakutat are based mainly on Arendt et al. (2008).

Selected recent publications related to glacier fluctuations in the U.S.A. are from Anslow, et al. (2008), Harrison et al. (2009), Pelto (2009), Rasmussen (2009), Bidlake et al. (2010), Van Beusekom et al. (2010), and March and O'Neel (2011).

CHAPTER 3 SPONSORING AGENCIES AND NATIONAL CORRESPONDENTS FOR THE GLACIER FLUCTUATIONS

3.1 General Remarks

The information about sponsoring agencies and sources of data for the various countries were supplied by NCs of the WGMS and individual glaciological workers. For operational and efficiency reasons, the number of correspondents per country must be limited to one person. The main tasks of the NCs are to nationally (i) coordinate and represent all institutions and groups involved in glacier monitoring within the WGMS network, (ii) be the central communication node for the WGMS staff, (iii) be responsible for the annual data collections and submission to the WGMS.

The succession plan for the position of the NCs includes the following steps:

- In countries with existent NCs, they are asked to initiate the procedure for the naming of their successor in a timely manner.
- Glaciological groups in each country are encouraged to jointly nominate a (new) candidate for the position of WGMS NC.
- The Director of the WGMS accepts the nomination from within a country and confirms the naming of the (new) NC by an official letter.

3.2 Sponsoring Agencies and Sources of Data for the Various Countries
(for observation periods 2005/06 to 2009/10)

Antarctica (AQ)

IAA-DNA — see IAA-DNA – Argentina (AR)

UPM — see UPM – Spain (SP)

Argentina (AR)

CICTERRA
Centro de Investigaciones en Ciencias de la Tierra (CICTERRA)
Facultad de Ciencias Exactas
Físicas y Naturales - UNC
Av. Vélez Sarsfield 1611
X5016GCA Córdoba – Argentina

DGRH
Dirección General de Recursos Hídricos
Secretaría de Desarrollo sustentable y Ambiente
Gobierno de Tierra del Fuego
San Martín 1401
9410 Ushuaia – Argentina
Tierra del Fuego

DNA-UNC	Convenio DNA – UNC Departamento de Geología Básica Facultad de Ciencias Exactas Físicas y Naturales Universidad Nacional de Córdoba Avda. Vélez Sarsfield 1611 X5016 GCA Córdoba – Argentina
IAA-DNA	Instituto Antártico Argentino – Dirección Nacional del Antártico Cerrito 1248 1010 Buenos Aires – Argentina
IANIGLA	Instituto Argentino de Nivología, Glaciología y Ciencias Ambientales CONICET Casilla de Correo 330 5500 Mendoza – Argentina
UNTDF	Universidad Nacional de Tierra del Fuego Onas 450 9410 Ushuaia – Argentina Tierra del Fuego

Austria (AT)

CGGBAS	see CGGBAS – Germany
DGGS	Department of Geography and Geology University of Salzburg Hellbrunnerstrasse 34 / III 5020 Salzburg – Austria
IMGI	Institute for Meteorology and Geophysics University of Innsbruck Innrain 52 6020 Innsbruck – Austria
OEAV	Österreichischer Alpenverein (Austrian Alpine Club) Wilhelm Greil Strasse 15 6020 Innsbruck – Austria
ZAMG	Zentralanstalt für Meteorologie und Geodynamik Hohe Warte 38 1190 Vienna – Austria

Bolivia (BO)

CNRS	see CNRS – France
IHH	Instituto de Hidráulica e Hidrología Universidad Mayor de San Andrés Calle 30, Cota-Cota – P.O. Box 699 La Paz – Bolivia
IGEMA	Instituto de Investigaciones Geológicas y del Medio Ambiente Carrera de Ingeniería Geológica Universidad Mayor de San Andrés Calle 27, Cota Cota – P.O. 35140 La Paz – Bolivia
IRD	see IRD – France
SENAMHI	Servicio Nacional de Meteorología e Hidrología P.O. Box 10993 La Paz – Bolivia

C.I.S. (SU)

IGNANKaz	Institute of Geography National Academy of Sciences of the Kazakh Republic Pushkin Str. 99 480100 Almaty – Kazakhstan
IGRAN	Institute of Geography Russian Academy of Sciences Staromonetny, 29 119017 Moscow – Russia
MGU	Moscow State University Geographical Faculty Leninskiye Gory 119992 Moscow – Russia
TGU	Tomsk State University Laboratory of Glacioclimatology Lenin Str., 36 634050 Tomsk – Russia
UZ-HydroMet	The Center of Hydrometeorological Service (UzHydromet) 72, K.Makhsumov str. 100052 Tashkent – Uzbekistan

Canada (CA)

GSC	Natural Resources Canada Geological Survey of Canada Terrain Sciences Division 601 Booth Street Ottawa, ON, K1A 0E8 – Canada
TU/G	Trent University Geography Department P.O. Box 4800 Peterborough, ON, K9J 7B8 – Canada
UNBC	University of Northern British Columbia 3333 University Way Prince George, BC V8G 0B9 – Canada

Chile (CL)

CECS	Centro de Estudios Científicos Avda. Prat 514 Valdivia – Chile
DGA	Dirección General de Aguas Morandé 59 Santiago – Chile

China (CN)

CAREERI	Cold and Arid Regions Environment and Engineering Research Institute Chinese Academy of Sciences (CAS) 260 West Donggang Road 730 000 Lanzhou – P. R. China

Colombia (CO)

IDEAM	Instituto de Hidrología, Meteorología y Estudios Ambientales Subdirección de Geomorfología y Suelos Diagonal 97 No. 17–60, Piso 3 Bogotá – Colombia
INGEOMINAS	Instituto Colombiano de Geología y Minería Observatorio Vulcanológico y Sismológico de Manizales Grupo de Glaciología Av. 12 de Octubre No. 15–47 Manizales – Colombia

Ecuador (EC)

INAMHI	Instituto Nacional de Meteorología y Hidrología P.O. Box 16 310 Quito – Ecuador
IRD	see IRD – France
CNRS	see CNRS – France

France (FR)

AM	Association Moraine Village 31110 Poubeau – France
CEMAGREF	Snow Division – ETNA Ministry of Agriculture Domaine Universitaire, BP 76 38402 Saint Martin d'Hères, Cedex – France
CNRS	Laboratory of Glaciology and Environmental Geophysics (LGGE) Domaine Universitaire, BP 96 38402 Saint Martin d'Hères, Cedex – France
IRD	Institut de Recherche pour le Développement P.O. Box 96 38402 St-Martin d'Hères, Cedex – France

Germany (DE)

CGGBAS	Commission for Geodesy and Glaciology Bavarian Academy of Sciences Alfons-Goppel-Str.11 80539 Munich – Germany
DUT	Technische Universität Dresden Institut für Geographie 01062 Dresden – Germany
IGUW	Institut für Geographie Universität Würzburg Am Hubland 97074 Würzburg – Germany

LMU	Ludwig-Maximilians-Universität Department für Geographie Luisenstrasse 37 80333 München – Germany

Greenland (GL)

CPM-LA	see CPM-LA – U.S.A
DESA	Department of Earth Science Ny Munkegarde Bg. 1520 8000 Århus – Denmark
DGGC	Department of Geography and Geology University of Copenhagen Øster Voldgade 10 1350 Copenhagen K – Denmark
GEUS	The Geological Survey of Denmark and Greenland (GEUS) Øster Voldgade 10 1350 Copenhagen K – Denmark
ZAMG	See ZAMG – Austria

Iceland (IS)

IES	Institute of Earth Sciences University of Iceland Sturlugata 7, Askja 101 Reykjavík – Iceland
IGS	Iceland Glaciological Society National Energy Authority Grensásvegi 9 108 Reykjavík – Iceland
IMO	Icelandic Meteorological Office Grensásvegi 9 108 Reykjavík – Iceland
ISOR	Iceland GeoSurvey (ÍSOR) Grensásvegur 9 108 Reykjavík – Iceland

NEA	National Energy Authority Hydrological Service Orkustofnun Grensasvegi 9 108 Reykjavík – Iceland
NPC	National Power Company Háleitisbraut 68 103 Reykjavík – Iceland

India (IN)

CNRS	see CNRS – France
GSI	Glaciology Division Geological Survey of India Vasundara Complex, Sector E, Aliganj 226024 Lucknow – India
SES	School of Environmental Sciences Jawaharlal Nehru University New Dehli 110067 – India

Indonesia (ID)

A.R.	see National Correspondent for Australia

Iran (IR)

WRI	Water Research Institute Ministry of Energy Shahied Abbaspour Blvd. East Vafadar Blvd., 4th Tahranpars Sq. P.O. Box 16765-313 Tehran – Iran

Italy (IT)

CGI	Comitato Glaciologico Italiano Via Valperga Caluso 35 10125 Torino – Italy

DST-UPi	Dipartimento di Scienze della Terra Universita di Pisa Via S. Maria 53 56126 Pisa – Italy
G.C.	Giacomo Casartelli 22032 Albese – Italy
GIUB	See GIUB – Switzerland
IMGI	See IMGI – Austria
IMONT	Italian Mountain Institute Piazza dei Caprettari 70 00186 Roma – Italy
SAT	Società degli Alpinisti Tridentini Comitato Glaciologico Trentino via Manci, 57 38100 Trento – Italy
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This chapter includes information which does not fit into the standard format. The intention is to document:

- index measurements on glacier fluctuations in cases where more complex observations are not possible, especially in relation to remote glaciers and glaciers which are systematically studied using reduced stake networks in combination with statistical considerations or flow calculations.

- information on special events which exhibit extraordinary processes or may pose risks to human activities, such as glacier surges, outbursts of ice-dammed lakes, ice avalanches, drastic retreat of tidal glaciers due to calving instabilities or eruptions of ice-clad volcanoes.

4.1 Index Measurements

It is not without hesitation that WGMS publishes isolated point measurements, because they do not directly relate to the other components (mass balance, length change, inventories) of the integrated and coherent approach used in modern international glacier monitoring strategies. Furthermore, they are often not calibrated with independent methods such as repeated mapping. Experience shows that – over longer time periods – index measurements tend to disappear without leading to results of major scientific interest or significance. The WGMS is a service to collect standardized information for a coherent observation program at highest possible scientific levels and – as a consequence – strongly encourages the principal investigators and sponsoring agencies of index measurements to develop a clear concept that relates to the central monitoring strategy and can integrate in particular the long-term index observation series. For the same reason, index measurements are published in the "Fluctuations of Glaciers" but usually not stored in the WGMS database.

JAPAN (JP)

Hamagury Yuki (JP1)

K. Fujita (DHAS) and A. Ohmura (IAC)

An inventory of perennial snow in central Japan was published by Higuchi et al. (1980). For one of these glacierets, glaciological mass balance measurements are available. The Hamaguri-yuki snow patch is located at 2730 m a.s.l. in the northern Japan Alps, central Japan. The snow patch is formed by the accumulation of a large amount of surplus snow on the northeast-facing lee slope of a mountain under a northwesterly monsoon during winter. The patch has been surveyed twice a year since 1967 (Ohata et al. 1993). A surface profile between two benchmarks, which is set close to Tsurugi-Gozen Logde along the centerline of the valley in north-eastern direction, is surveyed each year at the beginning of the melting season (late May to early June) and again at the end (late September to early October). The surface profile is surveyed at 10 to 30 m horizontal intervals by tachymetry, trigonometric leveling, and theodolite with laser distance finder, and differential GPS. Details from past surveys and data are summarized by Ohata et al. (1993). Snow depths are reported as average values over sections between 50 and 100 m points along the profile line, as snow has tended to survive along this section at the end of the melting season for the past 40 years. The basal profile of this section was measured when the snow patch disappeared completely in the autumn of 1998.

Recently Fujita et al. (2010) showed that the annual ablation depth through the melting season significantly correlated with the initial depth at the beginning of the melting season, whereas a less significant correlation was found with a temperature index that was generally believed to correlate well with ablation. Fujita et al. (2010) examined and concluded that the scale effect of the snow patch, which appeared to modify the wind speed over the patch, had a more significant effect on snow ablation than did the radiation shadowing effect of surrounding mountains. In the case of a thinner and therefore smaller initial springtime snow patch, the speed of the local wind might be reduced over the snow surface, thereby suppressing ablation, whereas wind speed is not reduced (and ablation was not suppressed) in the case of a thicker snow patch.

The data series (1967–2010) was re-analyzed by Fujita and Ohmura (this volume) based on homogenized density assumptions for the conversion of the snow depths to mass balance water equivalent. For this purpose, all seasonal and annual differences of snow patch thicknesses were calculated first. Then, a firn density of 750 kg m^{-3} was used to obtain annual balance and a snow density of 450 kg m^{-3} was used to obtain winter balance. Summer balance was subsequently calculated as the difference between winter and annual balance. For 1967 and 1990, summer balance cannot be calculated with the above method due to lack of observational records. Therefore, a snow density of 450 kg m^{-3} was used, which is not winter snow density but average density of summer ablated snow.

The revised data series are given in Tables C and CC.

NEW ZEALAND (NZ)

End-of-summer snowline (EOSS) surveys

T.J. Chinn (APPC)

Since 1977, the end-of-summer snowline (EOSS) has been surveyed on 50 index glaciers distributed over New Zealand's Southern Alps. The surveys are carried out by hand-held oblique photography taken from a light aircraft (since 2001 also in digital form), where the position of the glacier snowline is recorded at the end of the summer season from a similar viewpoint each year. The flights are generally flown in March at an altitude between 2,700 and 3,000 m a.s.l. (9,000–10,000 ft). Back in the office, the snowlines visible on the photographs are sketched onto a map of each glacier and the accumulation and ablation areas are mapped and measured by digitiser. The elevation of the snowline is then accurately read from the glacier area-altitude curve. The data is reported as deviations from a balanced-budget equilibrium line altitude (ELA_0) which is calculated from the area-altitude curve for each glacier, assuming a balanced-budget accumulation area ratio

(AAR_0) of 0.6. The most recently started mass balance monitoring program at Brewster Glacier will help to better link the EOSS data series to on-site measured glacier mass balance (cf. Stumm 2011). Methods, data and more details are given in Chinn (1995) and Chinn et al. (2005); Clare et al. (2002) and Stumm (2011) investigated the inter-annual EOSS in response to patterns of atmospheric circulation and sea surface temperature.

Table 4.1 Annual EOSS deviations (in m) from an assumed ELA_0 (with AAR_0 = 0.6). Number of observations (No. Obs.) and average are EOSS values given for each year.

GLACIER	GL.IN. No	ELA_0	2006	2007	2008	2009	2010
KAIKOURA RA	621/001	2490		14	50	5	13
MT. ELLA	932B/012	2142	17	27	38	30	38
MT FAERIE QUEENE	646/006	2030	-48	-33	55	45	-47
MT. WILSON		1912	93	40	93	88	11
MT. FRANKLIN	911A/002	1814	126	-23	126	124	106
ROLLESTON GL.	911A/004	1763	37	32	52	51	5
MT. CARRINGTON	646C/027	1715	135	-45	155	155	-90
MT. AVOCA	685F/004	1965	35	3	85	10	5
MARMADUKE GL.	664C/012	1830	145	13	160	140	-20
RETREAT GL	906A/004	1742	48	-22	68	63	18
BROWNING RA	906A/001	1598	12	21	27	22	2
DOUGLAS GL	685B/001	2040	240	-44	340	243	245
MT. BUTLER	685C/060	1840	75	-2	120	85	-33
DAINTY GL.	897/019	1954	-9	-12	116	41	-34
KEA GL.	897/007	1820	78	-36	150	200	-83
JASPUR GL.	897/003	1725	35	-41		195	40
SIEGE GL.	893A/006	1736	-72	-18	394	224	-72
VERTEBRAE #12	893A/012	1864	-34	-8	166	60	-24
VERTEBRAE #25	893A/025	1840	-6	-16	110	19	-6
RIDGE GL.	711L/024	2226	84	30	99	79	54
LANGDALE GL.	711I/035	2186	109	74	394	129	76
TASMAN GL.	711I/012	1790	60	6	235	175	-20
SALISBURY GL.	888B/003	1810	40	0	140	140	-30
JALF GL	886/002	1790	-5	2	260	250	-35
CHANCEL. DOME	882A/007	1756	94	43	109	109	-6
GLENMARY GL.	711F/006	2175	30	15	105	35	5
BLAIR GL.	711D/038	1938	22	34	132	34	15
MT McKENZIE	711D/021	1904	6	15	111	31	-2
JACKSON GL.	868B/094	2070	15	14	93	12	2
JACK GL.	875/015	1907	28	16	83	73	-9
MT. ST. MARY	711B/039	1926	-31	-16	194	74	-41
THURNEYSON GL.	711B/012	1970	10	-7	140	130	5

Table 4.1 continued

GLACIER	GL.IN. No	ELA_0	2006	2007	2008	2009	2010
BREWSTER GL.	868C/020	1935	-65	-120	335	55	-5
MT. STUART	752I/104	1673	52	-66	127	117	4
LINDSAY GL.	867/002	1730	50	-30	130	80	-20
FOG PK	752E/051	1987	45	13	118	45	45
SNOWY CK	752C/103	2092	68	-2	66	64	64
MT. CARIA	863B/001	1472	43	-17	48	48	-74
FINDLAY GL.	859/009	1693	-3	-32	139	112	-61
PARK PASS GL.	752B/048	1824	76	26	86	86	56
MT. LARKINS	752E/002	1945	125	145	245	244	235
BRYANT GL.	752B/025	1783	17	-8	167	-8	-28
AILSA MTS.	752B/013	1648	-3	-35	22	27	-33
MT. GUNN	851B/057	1593	17	-43	52	197	-78
MT. GENDARME	797G/033	1616	32	-40	33	34	-46
LLAWRENNY PKS.	846/035	1476	9	-37	104	124	-68
BARRIER PK.	797f/004	1596	104	-17	119	194	-41
MT. IRENE	797D/001	1563	70	-85	50	68	-90
MERRIE RA.	797B/010	1515	150	-56	155	160	-75
CAROLINE PK.	803/001	1380	30	-44	50	40	0
No. Obs.		*50*	*49*	*50*	*49*	*50*	*50*
Average		*1836*	*45*	*-7*	*132*	*95*	*-3*

POLAND (PL)

Pod Bula (PL1617) and **Pod Cubryna** (PL902)

Z. Kijkowska-Wislinska, M. Wislinski and A. Wislinski (MPG), and B. Gadek (SUP)

Currently, four firn-and-ice patches (glacierets) are being monitored in the Tatra Mountains: Medeny, Mięguszowiecki, Pod Bula, and Pod Cubryna. The observations from the latter two are shown in Tables A, B and D. The annual measurements of their length and area are taken between September and October. In the previous decade, until 2003, all the glacierets were in recession, then at the beginning of the 21^{th} century they rapidly reached their current dimensions. In the period 2005–2010 the dimensions of the glacierets varied significantly from year to year, with a slight trend towards increase.

Recent related publications are from Adamowski and Wislinski (2010), Gadek (2008, 2011).

SLOVENIA (SI)

Triglav

M. Gabrovec (ZRC-SAZU)

In the Slovenian Alps, two glacierets are currently being under observation: Triglav in the Julian Alps (Julijske Alpe) and Skuta in the Kamnik and Savinja Alps (Kamniško-Savinjske Alpe). Annual results from Triglav were recently published by Gabrovec (2008) and are summarized in the table below.

Table 4.2 Observed changes in Triglav

Year	Area (km²)	Area Change (1,000 m²)	Volume Change (1,000 m³)
1946	0.144	-	-
1952	0.126	-18	n.a.
1992	0.043	-83	-1823
1999	0.011	-32	-336
2005	0.007	-4	-46
2008	0.006	-1	-9

SWITZERLAND (CH)

Clariden (CH0141), **Grosser Aletsch** (CH0005), **Silvretta** (CH0090)

A. Bauder (VAW), M. Huss (DGUF), and G. Kappenberger (G.K.)

Long-term seasonal snow water equivalent observations have been carried out at two individual stakes on Claridenfirn (upper and lower) since 1914 and 1915, at one stake on Grosser Aletschgletscher (P3) since 1918, and at one stake on Silvrettagletscher (BU) since 1915. Results from all four sites were reported in the Swiss Glaciological Reports (2009, and earlier issues) and from Claridenfirn also in the FoG Vol. VIII (WGMS 2005). All measurement sites are located at or above the long-term equilibrium line in locally flat terrain. The monitoring program included readings at the stake, snow probing and measurements in snow pits or by drilling to a marked horizon. The measurement interval was consistent at all sites with two field surveys at the end of the winter between April and June and again in September. Density information was not systematically reported before 1960 (Firnberichte 1914–1978; Müller and Kappenberger 1991; Glaciological reports 1881–2009). The measurement series have few data gaps. The stakes are annually moved back to their initial positions, which remained unchanged, except for the stake on Silvretta that was moved about 200 m to the north without significant change in elevation in 1987. Lowering in surface elevation due to the general glacier mass loss since 1914 is between 10 m at Aletsch (P3) and 21 m at Clariden (lower). In order to obtain comparable point mass balance series based on the winter and late summer field surveys performed on varying dates, the original observation series were homogenized by Huss and Bauder (2009) using a daily mass balance model. Based on meteorological data, point mass balance was temporally interpolated between the exact dates of the field visits and data gaps could be filled. Source: Glaciological Report (2011).

Table 4.3 Summary of the homogenized long-term mass balance series of individual stake measurements for 1914–2007, as available from the Swiss Glaciological Reports published until present. Winter and annual balances are given for fixed date periods 1 OCT to 30 APR (BW) and 1 OCT to 30 SEP (BA). Source: Glaciological Report (2011).

period	**Aletsch (P3)**		**Clariden (lower)**		**Clariden (upper)**		**Silvretta (BU)**	
	BW	**BA**	**BW**	**BA**	**BW**	**BA**	**BW**	**BA**
	(mm w.e)		**(mm w.e)**		**(mm w.e)**		**(mm w.e)**	
1914/15	1923	3100	2104	1426	2171	2584	2184	1363
1915/16	1992	3316	2011	2009	2027	2629	2034	510.0
1916/17	1791	2241	2080	-461	1772	1201	1400	-1011
1917/18	1961	3104	1894	1129	1937	2226	850	686
1918/19	1519	1441	2128	1021	2150	1912	1541	355
1919/20	2327	2636	2350	642	2421	1546	2219	585
1920/21	731	387	692	-1613	754	-371	762	-2266
1921/22	2317	2962	2113	1021	2258	1905	940	399
1922/23	1865	1757	2181	852	2203	1831	1269	62
1923/24	1962	2732	2200	1122	2296	2061	1470	382
1924/25	1185	2142	1768	751	2483	2063	1227	393
1925/26	1143	1397	1542	341	1701	2079	1665	464
1926/27	1985	2528	2541	1482	2682	2273	1644	778
1927/28	1481	1409	1422	-1360	1555	-207	182	-100
1928/29	2341	2213	2070	-603	2105	652	1283	-709
1929/30	1282	2007	1473	590	1603	1424	931	-314
1930/31	1777	2453	4039	960	2894	2133	1431	574
1931/32	959	1414	1843	-279	1663	637	1006	-696
1932/33	1438	2858	1566	1198	1563	1733	1042	427
1933/34	1183	1626	872	-1190	1284	393	821	-340
1934/35	2329	2257	2489	306	2566	1630	2330	432
1935/36	2369	3637	2278	484	2380	1416	1620	358
1936/37	2455	2976	2391	969	2401	1651	1563	348
1937/38	1848	3420	1644	169	1801	977	1201	-263
1938/39	1353	2472	2167	230	2039	1399	1402	-165
1939/40	1941	3848	2501	1696	2608	2248	1688	966
1940/41	1746	2272	1814	621	1865	1786	1260	525
1941/42	1341	1731	1418	-545	1760	970	1171	-672
1942/43	1718	2285	1450	-531	1590	1077	1206	-58
1943/44	1202	1328	1319	8	1421	926	1685	-229
1944/45	2216	2616	2631	946	2708	1849	2476	238
1945/46	1435	2404	2051	-49	2095	1118	1296	9
1946/47	1798	1212	1335	-278	1483	-867	1104	-204

Table 4.3 continued

period	Aletsch (P3)		Clariden (lower)		Clariden (upper)		Silvretta (BU)	
	BW	BA	BW	BA	BW	BA	BW	BA
	(mm w.e)		(mm w.e)		(mm w.e)		(mm w.e)	
1947/48	2540	4256	2410	1126	2548	2463	2313	1125
1948/49	1424	1067	1330	-1490	1638	-148	1039	-1150
1949/50	1665	1496	1772	-1890	1767	71	1256	-1105
1950/51	2029	2534	2414	320	2809	1562	1571	-46
1951/52	1993	1669	2197	-152	2286	1145	1238	-444
1952/53	1823	2297	2683	427	2312	1346	1613	-173
1953/54	1607	2795	1156	498	1487	1775	1190	145
1954/55	1340	1899	2579	1361	2667	2234	1945	692
1955/56	1559	2562	1848	307	1843	1457	1616	323
1956/57	1563	1210	1846	973	1840	1849	1432	493
1957/58	1685	1588	2110	-336	2214	692	1493	-621
1958/59	1751	1656	1602	-524	1703	578	1205	-1210
1959/60	1679	2710	1655	951	1845	2152	1060	834
1960/61	1968	2124	2062	55	2137	1550	1339	89
1961/62	1610	1546	2029	494	2239	1179	1375	-537
1962/63	1667	1772	1215	-529	1546	790	1014	-910
1963/64	1470	1366	1240	-1097	1548	569	1077	-1425
1964/65	1671	2929	2115	1502	2107	2457	1547	1156
1965/66	1900	2412	2759	1685	2539	2232	1503	1335
1966/67	2135	2717	2589	771	2437	1673	1658	348
1967/68	1790	2537	1913	1782	2035	2688	1464	351
1968/69	1919	2244	1466	398	1397	1280	899	-302
1969/70	1793	2060	2578	1059	2435	1342	1424	136
1970/71	1073	1207	1390	-190	1651	1069	997	-767
1971/72	1450	1678	932	203	1097	951	692	88
1972/73	1334	1441	1835	-102	1638	347	1068	-1209
1973/74	1196	2115	1983	1407	2090	2177	1332	516
1974/75	2015	2493	3427	1469	3016	2250	1635	439
1975/76	1592	1890	1331	385	1304	960	906	396
1976/77	2561	3234	2195	981	2707	2327	1511	250
1977/78	2212	2885	2278	1511	2287	2281	1281	850
1978/79	1941	1639	1621	436	1643	1006	1101	-10
1979/80	2376	3140	2531	1628	2436	2517	1590	868
1980/81	1681	2231	2142	1156	1965	1574	1607	531
1981/82	1734	1905	2659	154	2310	688	1699	-525

Table 4.3 continued

period	Aletsch (P3)		Clariden (lower)		Clariden (upper)		Silvretta (BU)	
	BW	BA	BW	BA	BW	BA	BW	BA
	(mm w.e)		(mm w.e)		(mm w.e)		(mm w.e)	
1982/83	2201	1796	1969	508	1877	866	1412	-342
1983/84	1660	2855	1702	1565	1923	2265	1184	677
1984/85	1212	1673	1397	-311	1541	687	1195	1138
1985/86	1952	2516	1681	-179	1987	781	1162	-910
1986/87	2115	3067	1806	1641	1743	2062	1079	-581
1987/88	1823	2235	2709	787	2437	1217	1393	-495
1988/89	1708	2665	1860	733	2084	843	1252	-412
1989/90	1362	1800	1839	-343	1917	481	1179	-769
1990/91	1500	1835	1031	-1182	1338	352	763	-1769
1991/92	1168	1061	2163	-557	2178	468	1879	-1095
1992/93	2028	2952	1739	273	1987	1103	1607	-326
1993/94	1805	2233	2123	-129	2277	1157	1528	-857
1994/95	2306	2781	2187	1155	2389	1784	1554	94
1995/96	1036	1993	799	-17	1072	942	646	482
1996/97	1862	2056	2217	222	2069	937	1490	51
1997/98	1554	1752	1776	-648	1799	460	1013	-1056
1998/99	1371	1744	2855	969	2818	1532	2118	-274
1999/00	1858	2385	2236	743	2106	1126	1885	283
2000/01	3009	4553	1934	797	2421	1545	1693	985
2001/02	1009	2802	1361	-143	1353	572	891	-858
2002/03	1840	920	2164	-1478	2267	-365	1350	-2425
2003/04	1678	2391	1730	321	1997	1308	1567	131
2004/05	1536	1906	1286	-626	1268	347	1038	-1003
2005/06	1277	1527	1160	-905	1391	278	1214	-1345
2006/07	1150	1988	501	-1050	1098	768	762	-865

U.S.A. (US)

Taku Glacier (US1805)

M. Pelto (JIRP)

Taku Glacier is a temperate, maritime valley glacier in the Coast Mountains of Alaska. With an area of 671 km^2, it is the principal outlet glacier of the Juneau Icefield. It attracts special attention because of its continuing, century-long advance (Pelto and Miller 1990; Post and Motyka 1995), its positive mass balance from 1946 to 1988 (Pelto and Miller 1990), and its fjord extending 38 to 48 km upglacier from its terminus (Nolan et al. 1995).

The Juneau Icefield Research Program (JIRP) has conducted fieldwork annually on the Taku Glacier since 1946 (Miller 1963; Pelto and Miller 1990). Due to the large extent of Taku Glacier, the mass balance is not determined by the classical glaciological approach (cf. Østrem and Brugman 1991) but with a combination of (i) snow pit measurements in the accumulation area, (ii) ablation stake measurements along a survey profile, and (iii) observations of the transient snowline (TSL) and the equilibrium line altitude (ELA). JIRP has relied on applying this method in a consistent way since 1946 (Pelto and Miller 1990; Miller and Pelto 1999). Snow water equivalent measurements are carried out at 17 test pits at fixed locations ranging in elevation from 950 to 1,800 m a.s.l. These snow pit measurements are completed during late July and August and are adjusted to end-of-the-balance-year values based on variations in the TSL, observed ablation and the measured balance gradient. Ablation during the field season is observed at stakes along survey lines where repeat surveys are completed and through migration of the TSL. Prior to the availability of consistent annual summer satellite imagery in 1984, the TSL was determined by field observations by JIRP in early July, late July, mid-August and in early September with this last observation assumed to be the ELA. From 1984 to 1997 remote sensing images supplemented the field observations. After 1998 remote sensing imagery has provided many of the TSL and ELA observations and since 2004 the majority. Results from these observations (cf. Pelto et al. 2008) indicate a positive mass balance from 1946 zo 1988, averaging 0.42 m w.e. a^{-1}, which led to a glacier thickening. From 1988 to 2006 an important change occurred and the mean annual balance became negative, averaging -0.14 m w.e. a^{-1}, and the glacier thickness ceased increasing along the survey profile. In the present volume, the mass balance data series of Taku Glacier is given in Tables C and CC.

Sources: Pelto et al. (2008), Pelto (2011).

4.2 Special Events

ARGENTINA (AR)

Grande del Nevado del Plomo (AR3304) **glacier surge**

L. Ferri Hidalgo, L. E. Espizua and P. Pitte (IANIGLA)

The Grande del Nevado glacier had a new surge event during 2007. Between the satellite images of 25 September 2006 and 20 March 2007, after 23 years of a quiescent phase, the glacier started to move and advanced 400 m. In the autumn of 2007 it flowed down the valley about 600 m in 16 days, with a maximum velocity of 34 m d^{-1}. Between 23 May 2007 and 28 September 2007, there were no satellite images available for monitoring the glacier due to the presence of clouds and snow, but the main advance occurred during this period. The glacier moved 1.8 km, reaching the outcrop named Roca Pulida, and its front broadened around it. The difference between this new surge event and those occurring in 1934 and 1984 (cf. Helbling 1935, Espizua 1986, Espizua and Bengochea 1990) is that in this case an ice-dammed lake was not formed upstream of the glacier front. Nowadays the Plomo river flows through a subglacial tunnel of the Grande del Nevado glacier front.

The total volume of displaced ice and debris during the whole event is estimated to be about 83 x 10^6 m^3.

Information on earlier surge events of this glacier can be found in Helbling (1935), Espizua (1986), Espizua and Bengochea (1990), and WGMS (1993).

CANADA (CA)

Steele (CA3331) **rock/ice avalanche**

D. Schneider (GIUZ)

On 24 July 2007, a very large rock/ice avalanche of 27 x 10^6 m^3 rock, debris and ice from Mt. Steele traveled 6 km across Steele Glacier. The main event was anteceded by the opening of a crevasse on the steep glacier 9 days before the main event. A small debris flow occurred around 21 July 2007, followed by a larger ice avalanche on 22 July 2007 and the main event on 24 July 2007 which had the failure plane within bedrock. The distal part of the mass moved up an opposite ridge then slid back again over an extended zone.

More information can be found in Lipovsky et al. (2008) and Schneider et al. (2011).

COLOMBIA (CO)

Nevado del Huila (CO2689) **flood / lahar / volcanic eruption**

C. Huggel (GIUZ)

Nevado del Huila is an active volcano located in the southern part of Colombia's Cordillera Central, with a maximum elevation of 5364 m a.s.l. The volcano is covered by close to 10 km^2 of glacier ice. In February 2007 seismicity significantly increased and for the first time in recent history the volcano erupted. Two comparably small phreatic eruptions (Volcanic Explosivity Index VEI = 2) were recorded on 19 February and 18 April 2008. The erupted material, mixed with snow and ice, produced lahars that traveled down the Páez River as far as 150 km. Yet only the second and bigger event caused severe damage to infrastructure, but no lives were claimed thanks to early warning systems in place. Each eruptive event was accompanied by the formation of large fissures in the summit region with a length of 2 km, widths of 50 to 80 m, and continued strong fumarolic activity following the eruptions. Although the origin of the released water that formed the lahars is not completely understood, it is clear that it was expelled to a significant extent from the arising fissures, as it cannot have been from snow- and icemelting alone. It is suspected that the expelled water was linked to hydrothermal water reservoirs. In November 2008 a phreatomagmatic eruption occurred, creating a crater from which a dome subsequently formed. Again a large lahar formed during this eruption. The sizes of the lahars are highly remarkable, with 30 to 50 x 10^6 and 300 x 10^6 m^3 in 2007 and 2008, respectively. The minimum loss of lives considering the magnitude of the events, underlines the remarkable success of the early warning system and other prevention activities.

More information can be found in Worni et al. (2012).

FRANCE (FR)

Glacier des Drus (FR3696) **rockfall**

Text compiled from Ravanel and Deline (2008)

The whole Bonatti Pillar of the Aiguille Verte - Les Drus collapsed in 2005 in four events over several hours, involving a total volume of 0.265 ±10 x 10^6 m^3. The 2005 debris covers c. 0.095 x 10^6 m^3 on the small Glacier des Drus as well as part of the large moraine complex, over previous supraglacial rockfall deposits. The debris cover and the large moraine suggest that the large 2005 rockfall is the last in a series that affected the west face of Le Petit Dru during the Holocene. The sequence of rockfalls, which have affected the west face of Les Drus since 1950, is an example of instability that develops upwards from the foot of a rock slope. Such a retrogressive erosion probably started more than a century before, as indicated by the visible scar on photographs of the 1850s, and was activated in 1950, before acceleration in the last decade

Glacier de Rochemelon (FR) **flood prevention**

C. Vincent (CNRS)

Supraglacial Lac de Rochemelon was formed 50 years ago behind an ice dam and grew steadily until 2004. In October 2004, the volume of the Rochemelon lake reached 0.65 x 10^6 m^3, bringing its surface within 0.2 m of the top of the ice dam. To eliminate the threat to towns located below in the event of an overflow, public authorities were alerted and the lake was drained artificially in October 2004 and during the summer of 2005 (Vincent et al. 2010).

Tête Rousse (FR) **flood prevention**

C. Vincent (CNRS)

Extensive geophysical surveys were performed between 2007 and 2010 in order to reassess the risk of an outburst flood from the Tête Rousse glacier, where outburst flooding from an intraglacial lake caused 175 fatalities in 1892. Our geophysical survey combined ground-penetrating radar measurements and nuclear magnetic resonance imaging. We found a subglacial water-filled reservoir with a volume of 0.055 x 10^6 m^3. Artesian outpourings occurred when the subglacial cavity was reached by two borehole drillings, indicating that the hydrostatic water pressure exceeded the ice pressure at the bottom of the cavity. On the basis of these geophysical and glaciological findings, we warned the public authorities in July 2010 of the risk facing the 3,000 inhabitants downstream of the glacier. The subglacial reservoir was drained artificially (Vincent et al. 2010; Legchenko et al. 2011).

GREENLAND (GL)

Petermann (GL3667) **calving instability**

On 4 August 2010, about one-fifth of the floating ice tongue of Petermann Glacier calved. The resulting gigantic iceberg had an area of about 253±17 km^2.

More details can be found in Falkner et al. (2011)

ICELAND (IS)

Eyjafjallajökull (IS3353) **volcanic eruption / jökulhlaup (flood)**

Oddur Sigurðsson (IMO)

On 14 April 2010 the volcano which lies directly beneath Eyjafjallajökull erupted. Due to contact with ice the lava was chilled quickly and fragmented into small glass particles which were carried into the eruption plume. Additionally, the meltwater caused several floods and filled the proglacial lagoon at Gígjökull with debris. It may take decades for the glacier to recover the lost mass and, therefore, an unusually rapid retreat is to be expected at the terminus of Gígjökull for an extended period. The huge eruption plume which originated from the event on 14 April 2010, caused severe air travel disruption in Europe. The event was preceded by an eruption which had begun on 20 March, 2010 but which did not affect the glacier. It was located on the mountain pass between the Eyjafjallajökull and Mýrdalsjökull ice caps.

ITALY (IT)

Belvedere (Macugnaga) (IT618) **rockfall**

Text compiled from Fischer et al. (2006, 2011).

Since about 1990, new slope instabilities have developed in the Monte Rosa east face within the altitudinal permafrost belt in bedrock areas and in relation to hanging glaciers. Frequent small-scale as well as several large-scale rock and ice avalanches and debris flow events have led to significant topographic change. A major rock/ice avalanche was reported in the summer of 1990 and several rock and ice avalanche events followed, detaching large parts of a hanging glacier and underlying bedrock. In August 2005, an ice avalanche with a volume of about 1.1 x 10^6 m^3 occurred (also reported in WGMS, 2008), and in April 2007 a rock avalanche of 0.2×10^6 m^3 detached from the uppermost part of the face where continuous permafrost is expected. The volume of the 2005 ice avalanche is among the largest documented in the European Alps over the past 100 years. Such slope failures can trigger far-reaching chain reactions, especially in combination with the temporary supraglacial lake 'Effimero' which developed in connection with a surge-type behavior of the Belvedere Glacier in September 2001 and reached a maximum volume of 3×10^6 m^3 in the following two summers. Rock and ice avalanches from the Monte Rosa east face into the full lake could have triggered a catastrophic outburst with an extended range of destruction downstream. In view of the ongoing or even enhanced atmospheric warming, it is very likely that slope failures from bedrock and hanging glaciers on the Monte Rosa east face will continue to be a source of hazards for the populated down-valley region.

More information on these and other events at the Monte Rosa east face, above Belvedere Glacier, can be found in Fischer et al. (2006) and Fischer et al. (2011).

Calderone (IT1107) **thunderstorm / earthquake**

M. Pecci (IMONT)

During the night of 5 to 6 April 2009, an earthquake with a magnitude of 6.3 occurred in the region at 03:32 a.m. local time and resulted in 309 casualties. A secondary effect of the earthquake was a series of avalanches and rock/debris instabilities accumulating on the surface of Calderone during the summer of 2009, continuing into summer 2010.

NORWAY (NO)

Comfortlessbreen (NO3348) **glacier surge**

Reported by J. Alean via Cryolist (20. August 2009)

Comfortlessbreen is a large valley glacier in Svalbard that began a major surge event in April 2008, following many decades of recession. Despite 16 years of continued recession between 1992 and the onset of the surge, the glacier is now more advanced than in 1992.

PERU (PE)

Chicon (PE3614) **flood / ice avalanche**

C. Portocarrero (INRENA)

On 17 October 2010, at around 11 p.m., a flood event started from the Chicon Mountain of the Urubama Mountain Range in Cusco, probably triggered by an ice avalanche into a periglacial lake. The flood affected the center (principal avenue) of the town of Urubamba.

Hualcan (CH3615) **flood / ice avalanche**

A. Cochachin, O. Vilca, C. Portocarrero (INRENA), and C. Huggel (GIUZ). Text partly compiled from Carey et al. (2012)

At approximately 8 a.m. on 11 April 2010 a rock/ice avalanche detached from the steep SW slope of Mount Hualcán (6,104 m a.s.l.), starting from warm permafrost at an altitude of about 5,400 m a.s.l.. The initial volume is estimated between 0.2 x 10^6 m^3 and 0.4 x 10^6 m^3, which probably increased along the flow path. The avalanche travelled over the steep surface of Glacier 513 into Lake 513 at 4,400 m a.s.l. The lake was impacted by the avalanche along its longitudinal axes. Despite the 20 m freeboard at the bedrock dam in April 2010 avalanche, the impact of the avalanche caused an overtopping. The overflowing volume of water may have been on the order of 1 x 10^6 m^3. Strong erosion started below the lake, but most sediments were deposited in the upper part of the plane of Pampa de Shonquil at about 3,650 m a.s.l. The flood traveled further, and in the once again steeper part of the Rio Chucchún catchment a debris flow formed again, travelling down to the provincial capital of Carhuaz. Fortunately, no lives were lost, but damage to land and infrastructure was considerable. It is clear that without the prevention measures installed at the Laguna 513, completed in the 1990’s – tunnels in the bedrock sill that lowered the lake level by over 20 m – a much larger disaster would have resulted.

More information on this event can be found in Haeberli et al. (2010), Valderama and Vilca (2010), and Carey et al. (2012)

Matara (PE3616) **flood**

M. Zapata (INRENA)

On 22 December 2006 an outburst flood of the periglacial Lago Matara, Huari Province, Ancash Department, originated from the collapse of a reservoir dam built in the same year. The flood caused infrastucture damage to roads, bridges, and footpaths.

SWITZERLAND (CH)

Fee North (CH0392) **ice avalanche**

In the early evening of 15 September 2009, an ice avalanche of about 0.05 x 10^6 m^3 broke off of Fee Glacier, above the village of Saas Fee. Over the weekend (19-20 September 2009) another approx. 0.1 x 10^6 m^3 detached from the same ridge. Elevation difference and run-off distance are not reported. For safety reasons, hiking trails, aerial cableways and a restaurant in the region of Spielboden had to be closed for several days.

Unterer Grindelwald (CH0058) **rockfall / flood**

On 10 June 2006, rockfalls of several hundred cubic meters were observed together with initial slope movements and two steep 250-m-long valley-parallel open cracks. On the northern front block, frequent rockfalls were recorded with rockfall volumes of 2,530 m^3 between 11 and 12 July and 450 m^3 in the following 24 h. On 13 July, a column showed significantly higher movement rates, up to 1.25 m d^{-1}, which led to its collapse and finally to a partial collapse of the northern block with an estimated volume of 0.169 x 10^6 m^3. Finally, about 2 x 10^6 m^3 of rock detached, deposited on the glacier tongue, and collapsed in August 2008. The rockfall was most probably caused by the retreat of the glacier tongue since 1860 (which was about 200 m thick at this location) and the subsequent relaxation of the side walls.

Above the rockfall location and the debris-covered tongue, a supraglacial lake formed and repeatedly drained, sometimes continuously (e.g., July 2008), sometimes in outburst floods (e.g., May 2008). Between January 2009 and spring 2010, a tunnel was drilled through the bedrock in order to drain the lake and to limit the maximum lake level to 500,000 m^3. The tunnel is 2 km long and cost about 15 million Swiss Francs. For this glacier, at least five historical glacier outburst floods are known from written sources since about 1600 (Raymond et al. 2003). The last of these events happened on 2 July 1951. According to the local newspaper, the event happened at 4:30 a.m. and caused a five-meter-high flood wave in the gorge of Lütschine. The water, ice and debris flood destroyed two bridges and flooded the region around the train station of Grindelwald Grund.

More information about these latest events is found in Oppikofer et al. (2008), Werder et al. (2010), Fischer et al. (2012) and on the website http://www.gletschersee.ch. Earlier events are summarized in Raymond et al. (2003).

U.S.A. (US)

Bagley Ice Field (US) **rock/ice avalanche**

D. Schneider (GIUZ)

In July 2008, two rock avalanches of approx. 1.5 x 10^6 m^3 descended approximately 2 km over the Bagley Ice Field, 8 km northeast of Mt. Steller. The mass included some ice from overlying glaciers and eroded further snow, firn and ice from the underlying ground. On 6 August 2008, a large rock/ice avalanche of 22 x 10^6 m^3 from Mt. Miller ran 4.5 km across the Bagley Ice Field. The mass included a lot of ice from higher lying glaciers.

More information can be found in Huggel et al. (2010) and Schneider et al. (2011).

Hubbard (US87) **glacier surge**

Reported by L. Copland and B. Molnia via Cryolist (July 2009)

Three tributaries of Hubbard Glacier started surging in winter 2009 (likely around January to March). The surges are centred around Mt. Queen Mary (60°33'N, 139°50'W), and are in three parallel valleys. Dramatic crevassing, surface drawdown and strand lines were observed. Furthermore, a significant amount of sediment was exposed, several 100 meters west of Gilbert Point. Surges of Hubbard Glacier in the past dammed the water in the Russell Fjord, leading to the formation of the ice-dammed Russell Lake, which burst out in 2002 (cf. WGMS 2008). In 2009 the distance from the glacier front to Gilbert Point was reported to be 200 m.

Malaspina (US3347) **glacier surge**

Reported by B. Molnia via Cryolist (July 2009)

A USGS aerial survey on 3 July 2009 revealed that the eastern side of the Malaspina Glacier was surging. Multiple fractures, blue-water lakes, and large open crevasses were some of the features observed.

Red (US3335) **ice avalanche**

D. Schneider (GIUZ)

On 25 September 2008, an ice avalanche of approx. 11 x 10^6 m^3 detached in the uppermost part of Red Glacier and traveled for 7.5 km onto the debris-covered part of the glacier. The avalanche was almost entirely composed of glacier ice and snow, having very low debris content. The event was one in a series of very large ice avalanches on Red Glacier which seem to occur every 3 to 4 years. Confirmed previous events of comparable size or even larger and with higher rock/debris contents, took place in the years 1960, 1978, 1980, 1994, 1997, 2000 and 2003. A relation between glacier stability and local geothermal activity of the volcano at the failure zone is therefore very likely.

More information can be found in Caplan-Auerbach et al. (2004), Caplan-Auerbach and Huggel (2007), Huggel et al. (2007), and Schneider et al. (2011).

CHAPTER 5 **THE ANNEXED MAPS**

The following eleven maps can be found in the pocket at the back of this volume. A brief description of the maps with information regarding the purpose of the particular map, its accuracy, and details on the surveying, cartography and reproduction, is included in this chapter. The maps and glaciers concerned are:

1. Glacial and Periglacial Inventory of the Río Mendoza Basin, Argentina (1:250,000)
2. The glaciers of Goldberggruppe, 1850–1931–1969–1998–2009, Hohe Tauern, Austria (1:50,000)
3. Stereo-photogrammetric map of Goldbergkees, 1909, Hohe Tauern, Austria (1:10,000)
4. Urumqi Glacier No. 1, 1962–2006, China
5. Blaueis, 1989–2007, Germany (1:5,000)
6. Höllentalferner, 1999–2006, Germany (1:5,000)
7. Nördlicher Schneeferner, 1999–2006, Germany (1:5,000)
8. Südlicher Schneeferner, 1999–2006, Germany (1:5,000)
9. Watzmanngletscher, 1989–2007, Germany (1:5,000)
10. Lewis Glacier, Mount Kenya, 2010 (1:2,500)
11. Topographic Change of Findelengletscher, Valais, Switzerland, 2005–2010 (1:15,000)

In a joint project with the library of the Department of Geography, University of Zurich, Switzerland, the WGMS scanned all maps published in earlier FoG volumes. These maps and accompanying texts are now available in digital formats from our website: http://www.wgms.ch.

AN UPDATED GLACIAL AND PERIGLACIAL INVENTORY OF THE RIO MENDOZA BASIN IN THE CENTRAL ANDES OF ARGENTINA (1:250,000)

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We present an updated glacial and periglacial inventory of the Río Mendoza Basin in the Andes of central Western Argentina based on ASTER and ALOS scenes from 2009, 2010 and 2011. Clean ice and perennial snowfields were identified by an automatic extraction technique whereas debris-covered glaciers and rock glaciers were manually digitized on the screen. We identified 1,611 glacial and periglacial landforms that cover a total area of 570.67 km^2 distributed between 2,958 m a.s.l. and 6,900 m a.s.l.. The results were validated through several field campaigns performed in different sectors of the basin in the summer of 2012. Different glaciers and rock glaciers were surveyed in order to check their location, current state, and primary classification. The field surveys were complemented with photographs and GPS data. A comparison with a previous inventory of this basin based on aerial photographs from 1963 (Corte and Espizua 1981) shows an important recession of clean-ice glaciers, which is not as evident on debris-covered glaciers and rock glaciers. This new inventory of the Río Mendoza Basin will be part of the National Glacial and Periglacial Inventory of Argentina which is currently under way under the coordination of IANIGLA.

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THE GLACIERS OF GOLDBERGGRUPPE, HOHE TAUERN, AUSTRIA: 1850 – 1931 – 1969 – 1998 – 2009 (1:50,000)

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The map illustrates the glacier area change in 32 glaciers of Goldberggruppe in Austria's Hohe Tauern. The analysis covers the period from the maximum glacial extension of the Little Ice Age (LIA, ~1850) until 2009.

The Goldberggruppe is situated on the Alpine main ridge, which separates 18 north-facing glaciers from 14 south-facing glaciers (1850). By 2009 these numbers decreased to 12 glaciers on the northern and 5 on the southern side.

Figure 1 (see corresponding map) gives a short glimpse of the impressive glacier area loss of Goldberggruppe. Compared to 1850, almost 77 % of the total glacier area was lost by 2009. In absolute numbers, the overall glacier area decreased from 34.19 km^2 (1850) to 7.91 km^2 (2009). South of the Alpine main ridge, 19% of the 1850 glacier extent was still left in 2009 and 25% of the glacierized terrain north of the main ridge (see Table 5.1).

In order to compare the rate of glacier retreat between the two main aspects of Goldberggruppe, mean annual area changes were calculated. In this way, mean relative annual changes (in %) were determined with respect to the earlier extent of the specific period (i.e. for changes between 1969 and 1998, 100% equals the area in 1969).

From 1998 to 2009 annual rates of area change were the highest for all periods (about -1.7% per year). That was also the only period for which the rate of the north-facing glaciers exceeded the rate of the south-facing ones. In all other periods the south-facing glaciers diminished faster, particularly from 1850 to 1931 and 1969 to 1998. The smallest rate of area loss was found for both the north-facing and the south-facing glaciers during the earliest period 1850–1931 (-0.29% y^{-1} and -0.64% y^{-1}). The mean annual area change for all glaciers during the entire period 1850–2009 was -0.48% y^{-1}.

Plots of the data are illustrated in the appended map.

Table 5.1 Characteristic numbers for glacier area changes of Goldberggruppe

			Area [10^3 m^3]					Area change (rel. to 1850) [%]			
Code	**Location**	**Glacier Name**	**1850**	**1931**	**1969**	**1998**	**2009**	**1931**	**1969**	**1998**	**2009**
N1	N	No name	512	120	121	67	38	-77	-76	-87	-93
N2	N	Weißenbachkees	3142	1989	1243	866	523	-37	-60	-72	-83
N3	N	No name	590	252	220	207	156	-57	-63	-65	-74
N4	N	Krummlkees	2031	1321	1143	898	622	-35	-44	-56	-69
N5	N	No name	148	0	0	0	0	-100	-100	-100	-100
N6	N	No name	1016	334	146	114	75	-67	-86	-89	-93

Table 5.1 continued

Code	Location	Glacier Name	Area [10^3 m^3]					Area change (rel. to 1850) [%]			
			1850	**1931**	**1969**	**1998**	**2009**	**1931**	**1969**	**1998**	**2009**
N7	N	No name	216	131	0	0	0	-39	-100	-100	-100
N8	N	Hocharnkees + Pilatuskees	3141	2187	1600	1546	1363	-30	-49	-51	-57
N9	N	No name	52	27	0	0	0	-48	-100	-100	-100
N10	N	Goldbergkees + dead ice, Kleines Sonnblickkees	4104	2827	1929	1656	1474	-31	-53	-60	-64
N11	N	No name	289	0	0	0	0	-100	-100	-100	-100
N12	N	Schareckkees	1851	1003	1020	600	491	-46	-45	-68	-73
N13	N	No name	247	0	0	0	0	-100	-100	-100	-100
N14	N	No name	546	101	53	35	41	-82	-90	-94	-92
N15	N	Schlapperebenkees	1628	1230	917	759	619	-24	-44	-53	-62
N16	N	Sparangerkees	1362	360	250	167	143	-74	-82	-88	-90
N17	N	No name	1232	0	0	0	0	-100	-100	-100	-100
N18	N	No name	303	207	182	99	115	-32	-40	-67	-62
S1	S	No name	360	49	0	0	0	-86	-100	-100	-100
S2	S	Großes Fleißkees	1633	392	397	347	273	-76	-76	-79	-83
S3	S	Goldzechkees	907	267	155	113	102	-71	-83	-88	-89
S4	S	Kleinfleißkees	2080	1600	1266	958	831	-23	-39	-54	-60
S5	S	No name	204	0	0	0	0	-100	-100	-100	-100
S6	S	No name	119	0	0	0	0	-100	-100	-100	-100
S7	S	Zirknitzkees	865	48	103	108	89	-94	-88	-88	-90
S8	S	Wurtenkees + dead ice	3587	322	2129	1174	917	-91	-41	-67	-74
S9	S	Kleines Zirknitzkees	355	29	0	0	0	-92	-100	-100	-100
S10	S	No name	266	28	0	0	0	-89	-100	-100	-100
S11	S	No name	52	0	0	0	0	-100	-100	-100	-100
S12	S	No name	407	0	0	0	0	-100	-100	-100	-100
S13	S	No name	314	0	0	0	0	-100	-100	-100	-100
S14	S	No name	631	0	0	0	0	-100	-100	-100	-100
		All glaciers [km^2]	**34.2**	**17.7**	**12.9**	**9.7**	**7.9**	**-48.2**	**-62.3**	**-71.6**	**-76.9**

THE STEREO-PHOTOGRAMMETRIC MAP OF GOLDBERGKEES, 1909, HOHE TAUERN, AUSTRIA (1:10,000)

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Reprint of the original map published by the Sonnblickverein in 1911: Die stereophotogrammetrische Aufnahme des Goldberggletschers im August des Jahres 1909. In: Neunzehnter Jahresbericht des Sonnblickvereins für das Jahr 1910, Vol. 19. Wien: Selbstverlag des Sonnblickvereins.

Goldbergkees (also known as Vogelmaier-Ochsenkar-Kees or Goldberggletscher), adjacent to the meteorological observatory (built in 1886) on top of Hoher Sonnblick (3,105 m a.s.l.), has been the focus of scientific research since the late 19th century.

This particular map of Goldbergkees, drawn in August 1909, can be seen as a milestone in the development of cartography and alpine glaciology. It was the first time that a brand new method – the terrestrial stereo-photogrammetry – was implemented to map a glacier with a yet unknown speed and accuracy (Böhm et al. 2011).

In 1904 the *Imperial Academy of Science* in Vienna, Austria decided to fund the mapping of Goldbergkees at a scale of 1:10,000 to establish "*a fundament to explore the impact of climatic conditions on changes in the Goldberggletscher*". The *Sonnblickverein,* owner and sustainer of the Sonnblick Observatory, commissioned Artur Freiherr von Hübl, *Generalmajor* of the Austro-Hungarian Empire who already had gained some reputation for his 1899/1900 photogrammetric surveying of the Karls-Eisfeld, a glacier of the Dachstein massive, with the task of making this map. The stereo-photogrammetric map of the Goldbergkees subsequently became the most accurate basis for various glaciological studies in the Sonnblick area for many decades. The fieldwork was carried out during the summer of 1909 by Karl Wollen under the guidance of Artur Freiherr von Hübl. In the following winter this beautiful little piece of art was completed.

Photogrammetric surveying as the method for mapping the Goldbergkees was chosen in the first place because it was understood that a direct surveying using plane table and tachymeter was unfeasible due to "*mostly bad weather*" and the poor accessibility of the glacier, as well as the lack of natural objects to use as measurement markers for the positioning on the plane.

Only few years earlier, Dr. Carl Pulfrich, a German physicist, had developed the first stereo comparator for the Carl Zeiss Company in Jena, Germany. Artur Freiherr von Hübl soon realized its compatibility for photogrammetric glacier surveying, adapted the procedure and the first terrestrial stereo-photogrammetric surveying of a glacier ever was carried out – the 1909 map of Goldbergkees.

The trigonometric ground control points were defined by the 1st and 2nd order triangulation of the Austrian Military Institute in the year 1906. In doing so the surveying network was consolidated around the glacier in order to facilitate the forthcoming photogrammetric surveying.

For map construction Karl Wollen and his associates used, besides the control points, another 1200 detail points. The differences generated by the determination of terrain points from different survey points lead to a mean horizontal accuracy of ±3 m. The mean elevation error was specified as ±0.3 m. The equidistance on rocky areas is 100 m, on the glacier 20 m and on more gentle slopes 10 m.

Goldbergkees was predestined for stereo-photogrammetric surveying because of a 2,800 m high ridge between the summits of Neuner Kogel and Herzog Ernst that afforded an overview of the entire glacier. On that ridge the most important camera station for the surveying was established. Today it still serves as a photo-point to observe the glacier retreat in its full areal dimension. To catch all the topographic details another 9 photo-points around Goldbergkees were established. The summit of Hoher Sonnblick (3,105 m a.s.l.) served as a control point, from which 3 photos were taken consecutively at an angle of 45° to each other, to check the correct position of terrain points. The camera used had a focal length of 245 mm. To measure the angles, a small theodolite was placed on the camera tripod.

The final product – originally published by the Sonnblickverein in 1911 – is that stunnig historic map of Goldbergkees, the first stereo-photogrammetric map of a glacier ever made and a small work of art in itself.

URUMQI GLACIER NO. 1, 1962–2006, CHINA

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Urumqi Glacier No.1, located in the eastern Tianshan, at the core area of central Asia, is considered to be the best-monitored glacier in China. Observations of the glacier were initiated in 1959, implemented by the Tianshan Glaciological Station, Chinese Academy of Sciences (CAS) (Li et al. 2003). The photograph shown in this map was taken by Li Zhongqin in 2007, indicating that Urumqi Glacier No.1 is a northeast-facing valley glacier with two branches, East Branch and West Branch, which were separated in 1993.

The map shows the changes in Urumqi Glacier No.1 from 1962 to 2006. The glacier boundary and contours of 1962 and 2006 are determined by ground survey using plane table and a total station, respectively; elevation errors are estimated to be ±0.1 m after accounting for the instruments' settings and the network of total station benchmarks. Contour lines on the glacier are at 25 m intervals, with the area retreated displayed in yellow. The map is presented in a Universal Transverse Mercator (UTM) coordinate system referenced to the World Geodetic System of 1984 (WGS84).

Since the 1950s, independent campaigns measuring ice thickness have been carried out systematically three times on the glacier (Li et al. 2012; Wang et al. 2011). The ice thickness shown in this map was obtained in 2006 by the pulse EKKO 100A enhancement radar system, made by Sensors and Software Inc., Mississauga, Canada, which had a reported uncertainty of less than 2% (Sun et al. 2003). Two longitudinal profiles and sixteen transversal profiles were established (one longitudinal profile and eight transversal profiles in the East Branch; others in the West Branch). In all cases a velocity of 169 m μs^{-1} (Kovacs et al. 1995) was used. The interpolation algorithm was then used to determine the ice thickness distribution.

BAVARIAN GLACIERS 1989/90–2006/07 (1:5,000)

(5 Glaciological Maps)

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The maps show the areal extent and the contour lines of the five existing glaciers in the Bavarian Alps, covering different time periods: Nördlicher Schneeferner 1999–2006 (Map 1), Südlicher Schneeferner 1999–2006 (Map 2), Höllentalferner 1999–2006 (Map 3), Blaueis 1989–2007 (Map 4), and Watzmanngletscher 1989–2007 (Map 5). Except for Höllentalferner, the ice thicknesses derived by radio echo sounding are also displayed. The three "-ferners" are located around Zugspitze in the Wetterstein group, whereas Blaueis and Watzmanngletscher are situated in the Berchtesgaden Alps.

Aerial images from the Bavarian State Office for Surveying and Geoinformation (LVG) in 1989 and 1999 were analyzed by photogrammetric processing on a ZEISS Planicomp P1 and subsequently digital elevation models (DEM) were generated using the HIFI software (Ebner et al. 1980). The images from Zugspitze, taken on 15 September 1999, showed almost snow-free glacier surfaces with good contrast. The Berchtesgaden Alps were captured on 5 July 1999, when both glaciers were still snow-covered. We assessed the thickness of the snow pack by comparing the elevations of flat rock areas between the 1989 and the 1999 stereo models. The results of 2 m for Blaueis and 2.5 m for Watzmanngletscher were subtracted from the glacierized area of the 1999 DEM, which was then regarded as the 1998 autumn surface. Since the snow cover in the Berchtesgaden Alps did not allow glacier boundaries to be detected, those from the previous survey in 1989 are included in maps 4 and 5.

An airborne laser scanning survey of the Wetterstein group was conducted by the LVG on several flight profiles during the first half of November 2006. According to snow observations of the skiing resort, a constant value of 0.75 m was subtracted from the original elevation. Recent glacier outlines have been retrieved from digital orthoimages taken in June 2006 by LVG.

While taking into consideration the scale of the images and local conditions on Bavarian glaciers, Finsterwalder and Rentsch (1973) estimated the mean vertical error of terrestrial and airborne photogrammetry to be within a range of few decimeters. The maximum error is 1 m (H. Rentsch, pers. comm. 2003). The accuracy of airborne laser scanning was tested by differential GPS profiling on Engabreen in Norway, where mean discrepancies of 0.1 ±0.1 m standard deviation were observed (Geist et al. 2005).

The parallel shifts in the contour lines outside the glacierized areas in maps 4 and 5 are artefacts from the reprojection of the 1999 elevation model from Gauss-Krüger into UTM coordinates.

In November 2006 (Nördlicher and Südlicher Schneeferner) and October 2007 (Watzmanngletscher and Blaueis), ice thicknesses were determined using a ground-penetrating radar system (GPR) with 200 MHz antennas. To locate the profiles, kinematic GPS tracking using a differential system was carried out. On the radargrams, the bedrock could for the most part be identified clearly. To convert time into depth, a mean radar wave velocity of 0.15 m ns^{-1} was assumed. In a Geographic Information System, point shapefiles containing ice thicknesses along the profiles have been created and the glacier outlines were determined on the 2006 orthoimages by LVG. In glacier parts without information on ice depth, some reasonable thickness estimates have been introduced, e.g. by extrapolating slopes of ice free surroundings, to avoid linear gradients and to create a concave shape of the bedrock. All points were then interpolated into a raster, using a spline function.

From 1989/90 to 2006/2007, all glaciers reduced their areal extent. The strongest relative reduction of -44 % was observed on Watzmanngletscher, which has lost all its protuberances and is restricted to its most central part (see Map 5). Given the fact that this glacier was considered as diminished in the 1940s and that it showed the largest mass and area gains from 1960 to 1980, Watzmanngletscher seems to be the most sensitive and vulnerable to climate fluctuations of all Bavarian glaciers. The changes in area, thickness and volume for the periods 1989/90 to 1998/99 and for 1999 to 2006 were presented by Hagg et al. (2008). Changes versus altitude for 20 m elevation bands can be found on www.bayerische-gletscher.de.

Nördlicher Schneeferner is by far the thickest glacier according to the radio sounding data, its maximum depth reaches approximately 50 m. The radio sounding of Höllentalferner yielded no results during the 2006 field campaign. A new survey showed that it has a maximum thickness comparable to Nördlicher Schneeferner, but a significantly lower mean thickness and volume (Hagg et al. 2012).

The work was funded by the German Research Foundation (DFG project HA5061/1–1) and supported by the Bavarian Academy of Sciences and Humanities. Sebastian Rudolph and Astrid Lambrecht greatly supported the radar field campaigns. The University of Greifswald (Prof. Sixten Bussemer and Dr. Grit Büttner) and the AWI Bremerhaven (Andreas Frenzel) supplied radar equipment. The Bayerische Zugspitzbahn AG and the National Park Office in Berchtesgaden offered logistic help.

LEWIS GLACIER, MOUNT KENYA, 2010 (1:2,500)

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The map presents the glacier surface topography, the ice thickness, the glacier areal change since 2004, and the network of ablation stakes including an automatic weather station as the baseline for ongoing glaciological field studies on Lewis Glacier, Mount Kenya. Lewis Glacier (0°9' S, 37°18' E) is amongst the best-documented tropical glaciers and this work serves as a continuation of monitoring one of the few tropical reference glaciers. Surveying was accomplished on 2 and 3 March 2010. The glacier margin and numerous transects of the glacier surface were surveyed using differential global positioning receivers (Trimble Pathfinder ProXH and ProXT rovers and a second ProXH as a local base station with external Zephyr antennas). Glacier surface topography was interpolated to a digital elevation model with 5 m grid point spacing. Ice thickness was measured at the same dates with ground-penetrating radar at a central frequency of 6.4 MHz. Refer to Prinz et al. (2011) for information about the ice thickness measurement, its accuracy and ice volume changes since 1934. Full documentation of the map is contained in Prinz et al. (2012). Surface mass balance measurements for 2010/2011 and 2011/2012 are reported as -1.54 m w.e. and -1.03 m w.e., respecitvely. These values are as negative as the minima measured between 1978 and 1996, and show a strong dependence on duration and depth of snow cover, which cause an impact on accumulation as mass input and ablation via the surface albedo. From 1934 to 2010, Lewis Glacier lost 90% of its volume and 79% of its area, with the highest rates of ice volume loss occurring around the turn of the century (Prinz et al. 2012).

TOPOGRAPHIC CHANGE OF FINDELENGLETSCHER, VALAIS, SWITZERLAND, 2005–2010 (1:15,000)

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In 2004, Findelengletscher (and its former tributary Adlergletscher) in the Canton of Valais, Switzerland, were chosen as a validation site for a research project (Machguth et al. 2006a, 2006b). For this purpose, a network of stakes and snow pits was installed to derive the mass balance with the direct glaciological method for both glaciers. Based on this preparatory work, it was decided to continue the mass balance measurements on Findelengletscher to add an additional glacier to the Swiss Glacier Monitoring Network (Glaciological Reports 1881–2010). Today, the mass balance network is maintained jointly by the Department of Geosciences, University of Fribourg, and the Department of Geography, University of Zurich.

Following the decision to maintain use of the traditional measurements, the need arose for verification and calibration based on a geodetic method arose. We decided to use data from airborne laser scanning (ALS), as this method has repeatedly demonstrated its ability to provide accurate topographic information on glaciers (e.g., Favey et al. 1999, Geist 2005). The annex map shows the elevation change in the period between October 2005 and September 2010. To enhance the visual information content in the accumulation area and at values close to zero meters change, the color bar changes to a finer scale. The map uses the Swiss grid coordinate system (CH1903) and levelled heights (LN02). Therefore, the map shows a kilometer grid and elevations are meters above sea level. The raster resolution of the map information is 1 by 1 m, the background map shows the shaded relief of 2005 in the same spatial resolution.

In the period covered, Findelengletscher lost c. 2% of its area (to 13.03 km^2 in 2010) and the corresponding length change at the tongue was about -200 m. The average thickness change was -1.76 m for Adlergletscher and -3.18 m (-0.64 m y^{-1}) for Findelengletscher with maximum ice losses of up to -35 m close to the terminus. Only few regions with increased elevation are present in the map, many caused by the downvalley flow of crevasses, altering the elevation values locally but not increasing the glacier volume.

In Joerg et al. (2012), the accuracy of the ALS method in preparation of the comparison to the direct measurements is assessed: Assuming a density of 850 ± 60 kg m^{-3}, the observed thickness change results in a geodetic mass balance of -2.70 ± 0.19 m w.e. for the five year period covered. This is more negative than the glaciological balance for the corresponding period (-2.07 m w.e.) and shows the need for a re-analysis of the mass balance series.

We express our appreciation to the Findelengletscher teams of the Universities of Fribourg and Zurich for great cooperation during fieldwork. Thanks are due to BSF Swissphoto for the acquisition of the airborne laser scanning data and the continuous collaboration. The project *Glacier Laser Scanning Experiment Oberwallis* was supported by the Swiss energy company Axpo.

CHAPTER 6 THE GLOBAL TERRESTRIAL NETWORK FOR GLACIERS (GTN-G)

The series of *World Climate Conferences*, organized by the WMO, can be regarded as a starting point for putting the climate change issue on the political agenda. The first conference was held in 1979 in Geneva, Switzerland, and was one of the first major international meetings on climate change. This mainly scientific conference led to the establishment of WMO's *World Climate Program* (WCP) and *World Climate Research Program* (WCRP), and to the creation of the IPCC by WMO and UNEP in 1988 (UN 1988). The *Second World Climate Conference* in 1990 called for the urgent establishment of a coordinated climate system monitoring. As a consequence, the *Global Climate Observing System* (GCOS) and the *Global Terrestrial Observing System* (GTOS) were established in 1992 and 1996, respectively, under the auspices of FAO, ICSU, UNEP, UNESCO, and WMO. Within GCOS/GTOS the *Terrestrial Observation Panel for Climate* (TOPC) was created to design a global observing strategy and set in place a *Global Terrestrial Network* (GTN) for all *Essential Climate Variables* (ECV) in the terrestrial domain in support of the *United Nations Framework Convention on Climate Change* (UNFCCC). The GTN is a system of networks that provides an umbrella for existing and operational monitoring services. It aims to facilitate the exchange of information and address issues such as data access and availability as well as the standardization of measurement methods. The third, and so far latest, *World Climate Conference* was held in Geneva in 2009, and proposed the establishment of a *Global Framework for Climate Services* to develop an interface between the providers and users of climate services (WMO 2009).

In close collaboration with the *US National Snow and Ice Data Center* in Boulder (NSIDC) and the *Global Land Ice Measurements from Space* (GLIMS) initiative, the WGMS has been in charge of the GTN-G since its creation in 1998 (Haeberli et al. 2000). The GTN-G monitoring strategy is designed to provide quantitative and comprehensive information in connection with questions about process understanding, change detection, model validation and environmental impacts in an interdisciplinary knowledge transfer to the scientific community as well as to policymakers, the media and the public. In order to link scientific process studies on the one hand with global coverage by satellite imagery and digital terrain information on the other, GTN-G follows an integrative and multi-level strategy (cf. Haeberli 1998, 2004) that provides observations at the following levels:

- extensive glacier mass balance and flow studies within major climatic zones for improved process understanding and calibration of numerical models;
- determination of glacier mass balance using cost-saving methodologies within major mountain systems in order to assess the regional variability;
- long-term observations of glacier length changes and remotely sensed volume changes for large glacier samples within major mountain ranges for assessing the representativeness of mass balance measurements;
- glacier inventories repeated at time intervals of a few decades by using remotely sensed data.

This multi-level monitoring system across environmental gradients provides the basic datasets required for integrative studies and assessments of the distribution and changes in glaciers and ice caps by combining in-situ, remote sensing, and numerical modeling components.

Since its creation in 1998, the GTN-G has been run by the WGMS in a rather informal cooperation with NSIDC and GLIMS (Haeberli personal comm., Barry 1998). Among the three bodies, key expertise for in-situ measurements is generally in the domain of the WGMS, while GLIMS and NSIDC have focused mainly on remote sensing and data management of glaciers, respectively. In 2008, a *Memorandum of Understanding* was drawn up between the WGMS and NSDIC regarding cooperation in the exchange and distribution of glacier data and standards, and interoperability between the two data archives (Haeberli and Barry, 2008). One of the specific tasks was to establish a common *GTN-G Steering Committee* to support and advise the two organizations in scientific questions of overal importance concerning the monitoring of glaciers and ice caps. In the same year, the WGMS submitted an official proposal for the establishment of a *Steering Committee for the GTN-G* and included supporting letters on behalf of NSIDC and GLIMS to the *IACS Bureau* (Zemp and Haeberli, 2008). The *GTN-G Steering Committee* was approved in 2009 by the *IACS Bureau* and consists of:

- an *Executive Board* that is responsible for (i) developing and implementing the international observation strategy for glaciers and ice caps, (ii) providing standards for the monitoring of glacier fluctuations (e.g., length change, mass balance) and inventories, and (iii) compiling and distributing such information in a standardized form.
- an *Advisory Board* under the leadership of the IACS that will (i) support, (ii) consult, and (iii) periodically evaluate the work of the *Executive Board* and its three operational bodies regarding the monitoring of glaciers and ice caps.

The continuity of GTN-G can be guaranteed – at moderate staffing level – through the three operational bodies (i.e. WGMS, NSIDC, and GLIMS). Its ultimate success, however, depends on the glacier monitoring efforts from research projects and the scientific community as well as on their willingness to share data and results. Since the publication of the last FoG volume, major contributions to GTN-G have been made by the *European Space Agency* funded GlobGlacier project (2007-2010; cf. Chapter 7 in WGMS 2008) and its follow-up project the Glaciers_cci (2010-2013, Paul et al. 2012), by the ice2sea project within the *Seventh Framework Program for Research of the European Commission* (e.g., Rastner et al. 2012), as well as by efforts from within the glacier research community towards a complete world glacier inventory (Cogley 2008, Arendt et al. 2012).

More detailed information about GTN-G is found in Zemp (2012) and on the GTN-G website: http://www.gtn-g.org.

CHAPTER 7 **GENERAL COMMENTS AND PERSPECTIVES FOR THE FUTURE**

The principal aim of the FoG series is to compile and disseminate observational data in order to quantify changes in glacier extent, volume and mass. The centennial retreat of glaciers from the moraines and trimlines, formed during the *Little Ice Age* advances, is found in mountain ranges all over the world. It is a clear indicator of global climate changes as can be seen from annual front variation measurements and reconstructions as well as on aerial photographs and satellite images. From the available front variation series, 90% are reported to have retreated over the reporting period with absolute cumulative values between several decameters to a few hundred meters.

The second five-year period (2005/06–2009/10) of the 21^{st} century is once more dominated by results from melting glaciers around the globe. The 37 'reference' glaciers with long-term glaciological mass balance series in ten mountain ranges (cf. Zemp et al. 2009, WGMS 2011) show average mass balances between -0.5 m w.e. a^{-1} (in 2008) and -1.2 m w.e. a^{-1} (in 2006). The corresponding pentadal average of -0.75 m w.e. a^{-1} is about the same as in the previous pentad (2000/01-2004/05). Comparing these two periods together with earlier results shows a doubling of the decadal mass loss rates since the 1970s. The mean of these 37 long-term series is influenced by the large proportion of Alpine and Scandinavian glaciers. However, in general trend and magnitude, these results are in good agreement with the results from other regional and moving-sample averaging of all available data from roughly 300 glaciers (cf. Kaser et al. 2006, Zemp et al. 2009, WGMS 2011). Also, the results of the direct glaciological method are comparable with the pentadal average thickness loss of the geodetic measurements (-0.85 m ice a^{-1}) which are available for 56 glaciers for the reporting period. For the 37 'reference' glaciers, the percentage of positive mass balances decreased from 33% in the 1980s, to 26% in the 1990s, to 20% in the past decade. This indicates that glacier mass loss not only becomes faster but also more spatially uniform. Further analysis requires detailed consideration of characteristic aspects such as glacier sensitivity and feedback mechanisms. The cumulative mass budgets reported for individual glaciers not only reflect regional climatic variability, but also marked differences in the sensitivity of the observed glaciers.

With the dynamic response of glaciers to changes in climatic conditions – growth/reduction in area mainly through the advance/retreat of glacier tongues – glaciers readjust to equilibrium conditions of ice geometry with a zero mass balance. Recorded mass balances document the degree of imbalance between glaciers and climate due to the delay in dynamic response caused by the characteristics of ice flow (deformation and sliding); over longer time intervals they depend on the rate of climatic forcing. With constant climatic conditions (no forcing), balances would tend towards and finally become zero. Long-term non-zero balances are, therefore, an expression of ongoing climate change and sustained forcing. Trends towards increasing non-zero balances are caused by accelerated forcing. In the same way, comparison between present-day and past values of mass balance must take the changes of glacier area into account, which have occurred in the meantime (Elsberg et al. 2001, Huss et al. 2012). Many of the relatively small glaciers, measured within the framework of the present mass balance observation network, have lost large percentages of their area during the past decades. The recent increase in the rates of ice loss over diminishing glacier surface areas, as compared with earlier losses related to larger surface areas, becomes even more pronounced and leaves no doubt about the accelerating change in climatic conditions, even if a part of the observed acceleration trend is likely to be caused by positive feedback processes.

The glacier data and information compiled and disseminated through the WGMS are widely used. The WGMS website registers a few thousand visits per month and the WGMS staff deals with about 200 user requests per year. In addition, most of the key publications about recent regional (e.g., Bolch et al. 2012) or global (e.g., Cogley 2009, Zemp et al. 2009, Dyurgerov 2010, Ohmura 2011) glacier changes and related secondary impacts, such as on global sea level rise (e.g., Kaser et al. 2006, Raper and Braithwaite 2006, Meier et al. 2007, Leclercq et al. 2011, Radić and Hock 2011) or regional run-off changes (e.g., Casassa et al. 2009, Sorg et al. 2012), are using data provided by WGMS. In order to reflect and improve its strategy and work, the WGMS periodically undergoes evaluation by its scientific auspice organizations (cf. IACS/IUGG 2006, WDS/ICSU 2012) and organizes decadal meetings with its National Correspondents (cf. WGMS 1998, 2010).

The latest *WGMS General Assembly* was held in September 2010 at Riffelberg Zermatt, and brought together the staff members of the central service, National Correspondents or their deputies representing 28 countries of its worldwide scientific collaboration network, as well as special guests from the GLIMS community, NVE, ESA, and from GCOS Switzerland. Besides the strengthening of the personal contacts within this network, the main goals of the meeting were to present and discuss (i) the international organization, its strategy, and datasets of the *Global Terrestrial Network for Glaciers*, (ii) its implementation in the participating countries, (iii) the current status and challenges of glacier monitoring, (iv) measures to improve our service to the community, and (v) the definition of key tasks for the glacier monitoring of the coming decade (WGMS 2010, Zemp et al. 2011a). Based on the global and national overviews presented and on the discussion during the different workshops, the following key tasks for glacier monitoring of the coming decade have been developed. They are to:

- Improve the organizational structure and funding situation of the national monitoring programs through WGMS network collaborations and contacts to international organizations,
- use the WGMS network for capacity building,
- adjust monitoring strategies for disintegrating and vanishing glaciers,
- strongly facilitate homogenization, validation, and calibration of long-term mass balance series,
- strengthen integration of and improve cooperation between in-situ and remote sensing communities investigating glaciers,
- initiate (small) scientific workshops focused on specific monitoring-related aspects, and
- improve the visibility of WGMS datasets.

Over the past two years, several projects have been launched by or with contributions from the WGMS in order to tackle these tasks. As such, the WGMS (i) jointly with

NSIDC updated and revised the World Glacier Inventory (WGMS and NSIDC 1989, updated 2012), (ii) contributed to the new glossary of glacier mass balance and related terms (Cogley et al. 2011), (iii) wrote letters of support for glacier mass balance programs (e.g. at Bahia del Diablo, AQ; Stubacher Sonnblickkees, AT; Freya, GL; Storglaciären, SE; Wolverine, Gulkana and South Cascade, USA), (iv) revived the mass balance measurements at Abramov Glacier, KG, and fostered new geodetic surveys at Nevado Santa Isabel, CO, and Antizana, EC, within the Capacity Building and Twinning for Climate Observing System project which is led by MeteoSwiss and funded by the Swiss Agency for Development and Cooperation, and (v) held a workshop on measurement and uncertainty assessment of glacier mass balance at Stockholm University, Tarfala Research Station, Sweden (Nussbaumer et al. 2012).

While the main focus for the WGMS will remain on the monitoring of glacier changes in length, area, volume, and mass, there are related issues to be addressed such the generic differences between the glaciological and the geodetic balance (cf. Cogley et al. 2011) as well as the re-analysis of glacier mass balance series (e.g., Thibert et al. 2008, Huss et al. 2009, Zemp et al. 2010), the extension of the limited in-situ dataset using remote sensing (e.g., Arendt et al. 2008, Rabatel et al. 2008, Bolch et al. 2012) and modelling studies (e.g., Huss 2012, Marzeion et al. 2012), and the integration of firn temperature monitoring (e.g., Vincent et al. 2007, Hoelzle et al. 2011) or of glacier calving activities (Benn et al. 2007).

The present FoG volume marks the latest milestone in more than a century of internationally coordinated glacier monitoring. It continues the well-established tradition of building up a strong data basis for scientific assessments of global glacier changes and related impacts, and solidly documents the joint efforts to improve and extend the long-term monitoring of an essential climate variable. At the same time, increasing data streams from satellite remote sensing open new opportunities for the monitoring of glacier changes over large regions or even globally (e.g., Gardner et al. 2011, Jacob et al. 2012, Kääb et al. 2012) as well as new challenges such as due to limited spatial resolution (e.g., Jacob et al. 2012), limited spatial integration (e.g., Kääb et al. 2012), and due to the lack of operational capacities for required processing and analysing. In a research environment with limited funding for long-term monitoring, joint efforts by the operational bodies, their partners, and the scientific community continue to be needed in order to face the challenges of the 21st century.

Special thanks are extended to all those who have helped over many decades to build up this database which, despite its limitations, nevertheless remains an indispensable treasury of international snow and ice research, readily available to the scientific community as well as to a vast public.

LITERATURE

This chapter lists literature, cited, collected and submitted by principal investigators and national correspondents.

Adamowski, A. and Wiśliński, A. (2010). Próba wydzielenia typów płatów firnu i lodu w Tatrach Polskich. Pryzroda Tatrzanskiego Parku Narodowegu a Czlowiek, 1: p. 11–16.

Anderson, B., Lawson, W., Owens, I. and Goodsell, B. (2006). Past and future mass balance of "Ka Roimata o Hine Hukatere" Franz Josef Glacier, New Zealand. Journal of Glaciology, 52(179): p. 597–607.

Anderson, B., Mackintosh, A., Stumm, D., George, L., Kerr, T., Winter-Billington, A. and Fitzsimons, S. (2010). Climate sensitivity of a high-precipitation glacier in New Zealand. Journal of Glaciology, 56(195): p. 114–128.

Andreassen, L. M., Elvehøy, H., Kjøllmoen, B., Jackson, M. and Engeset, R. (2008). Long-term observations of glaciers in Norway. In: Orlove, B., Wiegandt, E. and Luckman, B. H. (eds.). Darkening peaks: glacier retreat, science, and society. University of California Press, Berkeley: p. 100–110.

Andreassen, L. M. and Oerlemans, J. (2009). Modelling long-term summer and winter balances and the climate sensitivity of Storbreen, Norway. Geografiska Annaler, 91A(4): p. 233–251.

Aðalgeirsdóttir, G., Jóhannesson, T., Björnsson, H., Pálsson, F. and Sigurðsson, O. (2006). Response of Hofsjökull and southern Vatnajökull, Iceland, to climate change. Journal of Geophysical Research, 111(F3): F03001, doi:10.1029/2005JF000388

Andrés, N., Zamorano, J. J., Sanjosé, J. J., Atkinson, A., and Palacios, D. (2007). Glacier retreat during the recent eruptive period of Popocatépetl volcano, Mexico. Annals of Glaciology, 45: p. 73–82.

Anonymous. (1969). Mass balance terms. Journal of Glaciology, 8(52): p. 3–7.

Anslow, F. S., Hostetler, S., Bidlake, W. R. and Clark, P. U. (2008). Distributed energy balance modeling of South Cascade Glacier, Washington and assessment of model uncertainty. Journal of Geophysical Research, 113(F2): F02019, doi:10.1029/2007JF000850.

Araneda, A., Torrejón, F., Aguayo, M., Alvial, I., Mendoza, C. and Urrutia, R. (2009). Historical records of Cipreses glacier (34 °S): combining documentary-inferred "Little Ice Age" evidence from Southern and Central Chile. The Holocene, 19(8): p. 1173–1183.

Arendt, A. A., Luthcke, S. B., Larsen, C. F., Abdalati, W., Krabill, W. B. and Beedle, M. J. (2008). Validation of high-resolution GRACE mascon estimates of glacier mass changes in the St Elias Mountains, Alaska, USA, using aircraft laser altimetry. Journal of Glaciology, 54(188): p. 778–787.

Arendt, A., Bolch, T., Cogley, J. G., Gardner, A., Hagen, J.-O., Hock, R., Kaser, G., Pfeffer, W. T., Moholdt, G., Paul, F., Radić, V., Andreassen, L., Bajracharya, S., Beedle, M., Berthier, E., Bhambri, R., Bliss, A., Brown, I., Burgess, E., Burgess, D., Cawkwell, F., Chinn, T., Copland, L., Davies, B., De Angelis, H., Dolgova, E., Filbert, K., Forester, R., Fountain, A., Frey, H., Giffen, B., Glasser, N., Gurney, S., Hagg, W., Hall, D., Haritashya, U. K., Hartmann, G., Helm, C., Herreid, S., Howat, I., Kapustin, G., Khromova, T., Kienholz, C., Koenig, M., Kohler, J., Kriegel, D., Kutuzov, S., Lavrentiev, I., Le Bris, R., Lund, J., Manley, W., Mayer, C., Miles, E., Li, X., Menounos, B., Mercer, A., Moelg, N., Mool, P., Nosenko, G., Negrete, A., Nuth, C., Pettersson, R., Racoviteanu, A., Ranzi, R., Rastner, P., Rau, F., Rich, J., Rott, H., Schneider, C., Seliverstov, Y., Sharp, M., Sigurðsson, O., Stokes, C., Wheate, R., Winsvold, S., Wolken, G., Wyatt, F., Zheltyhina, N. (2012). Randolph Glacier Inventory: a dataset of global glacier outlines. Global Land Ice Measurements from Space, Boulder Colorado, USA. Digital media.

Azam, M. F., Wagnon, P., Ramanathan, A., Vincent, C., Sharma, P., Arnaud, Y., Linda, A., Pottakkal, J. G., Chevallier, P., Singh, V. B. and Berthier, E. (2012). From balance to imbalance: a shift in the dynamic behaviour of Chhota Shigri glacier, western Himalaya, India. Journal of Glaciology, 58(208): p. 315–324.

Barclay, D. J., Wiles, G. C. and Calkin, P. E. (2009). Tree-ring crossdates for a First Millennium AD advance of Tebenkof Glacier, southern Alaska. Quaternary Research, 71(1): p. 22–26.

Barrand, N. E., James, T. D. and Murray, T. (2010). Spatio-temporal variability in elevation changes of two high-Arctic valley glaciers. Journal of Glaciology, 56(199): p. 771–780.

Barry, R. G. (1998). Letter from the World Data Center A Glaciology / National Snow and Ice Data to the World Glacier Monitoring Service, 24 April 1998.

Bauder, A., Funk, M. and Huss, M. (2007). Ice-volume changes of selected glaciers in the Swiss Alps since the end of the 19th century. Annals of Glaciology, 46: p. 145–149.

Bauder, A. and Rüegg, R. (eds.) (2009). The Swiss Glaciers 2003/04 and 2004/05. Glaciological Report (Glacier) No. 125/126. Publication of the Cryospheric Commission (EKK) of the Swiss Academy of Science (SCNAT). Laboratory of Hydraulics, Hydrology and Glaciology (VAW) at the Swiss Federal Institute of Technology Zurich (ETH Zurich).

Bauder, A. and Ryser, C. (eds.) (2011). The Swiss Glaciers 2005/06 and 2006/07. Glaciological Report (Glacier) No. 127/128. Publication of the Cryospheric Commission (EKK) of the Swiss Academy of Science (SCNAT). Laboratory of Hydraulics, Hydrology and Glaciology (VAW) at the Swiss Federal Institute of Technology Zurich (ETH Zurich).

Baumann, S., Winkler, S. and Andreassen, L. M. (2009). Mapping glaciers in Jotunheimen, South-Norway, during the "Little Ice Age" maximum. The Cryosphere, 3(2): p. 231–243.

Benn, D. I., Warren, C. R. and Mottram, R. H. (2007). Calving processes and the dynamics of calving glaciers. Earth-Science Reviews, 82(3–4): p. 143–179.

Berthier, E., Arnaud, Y., Vincent. C. and Rémy, F. (2006). Biases of SRTM in high-mountain areas: implications for the monitoring of glacier volume changes. Geophysical Research Letters, 33(8): L08502, doi:10.1029/2006GL025862.

Berthier, E., Vadon, H., Baratoux, D., Arnaud, Y., Vincent, C., Feigl, K.L., Rémy, F. and Legrésy, B. (2005). Surface motion of mountain glaciers derived from satellite optical imagery. Remote Sensing of Environment, 95(1): p. 14–28.

Bhambri, R. and Bolch, T. (2009). Glacier mapping: a review with special reference to the Indian Himalayas. Progress in Physical Geography, 33(5): p. 672–704.

Bhambri, R., Bolch, T. and Chaujar, R. K. (2012). Frontal recession of Gangotri Glacier, Garhwal Himalayas, from 1965 to 2006, measured through high-resolution remote sensing data. Current Science, 102(3): p. 489–494.

Bidlake, W. R., Josberger, E. G. and Savoca, M. E. (2010). Modeled and measured glacier change and related glaciological, hydrological, and meteorological conditions at

South Cascade Glacier, Washington, balance and water years 2006 and 2007. U.S. Geological Survey Scientific Investigations Report 2010-5143: 82 pp.

Blaszcyk, M., Jania, J. and Hagen, J. O. (2009). Tidewater glaciers of Svalbard: recent changes and estimates of calving fluxes. Polish Polar Research, 30(2): p. 85–142.

Bocchiola, D. and Diolaiuti, G. (2009). Evidence of climate change within the Adamello Glacier of Italy. Theoretical and Applied Climatology, 100(3-4): p. 351–369.

Böhm, R., Auer, I. and Schöner, W. (2011). Labor über den Wolken: die Geschichte des Sonnblick-Observatoriums. Zentralanstalt für Meteorologie und Geodynamik (ZAMG). Böhlau, Wien: 381 pp.

Bolch, T., Buchroithner, M., Pieczonka, T. and Kunert, A. (2008). Planimetric and volumetric glacier changes in the Khumbu Himal, Nepal, since 1962 using Corona, Landsat TM and ASTER data. Journal of Glaciology, 54(187): p. 592–600.

Bolch, T., Kulkarni, A., Kääb, A., Huggel, C., Paul, F., Cogley, J. G., Frey, H., Kargel, J. S., Fujita, K., Scheel, M., Bajracharya, S. and Stoffel, M. (2012). The state and fate of Himalayan glaciers. Science, 336(6079): p. 310–314.

Bolch, T., Menounos, B. and Wheate, R. (2010). Landsat-based inventory of glaciers in western Canada, 1985–2005. Remote Sensing of Environment, 114(1): p. 127–137.

Bolch, T., Pieczonka, T. and Benn, D. I. (2011). Multi-decadal mass loss of glaciers in the Everest area (Nepal Himalaya) derived from stereo imagery. The Cryosphere, 5(2): p. 349–358.

Bolch, T., Yao, T., Kang, S., Buchroithner, M. F., Scherer, D., Maussion, F., Huintjes, E. and Schneider, C. (2010). A glacier inventory for the western Nyainqentanglha Range and the Nam Co Basin, Tibet, and glacier changes 1976–2009. The Cryosphere, 4(3): p. 419–433.

Bouverot, M. (1958). Notice sur les variations des glaciers du Mont Blanc. IAHS Publications, 46: p. 331–343.

Bown, F., Rivera, A. and Acuña, C. (2008). Recent glacier variations at the Aconcagua basin, central Chilean Andes. Annals of Glaciology, 48: p. 43–48.

Caplan-Auerbach, J. and Huggel, C. (2007). Precursory seismicity associated with frequent, large ice avalanches on Iliamna volcano, Alaska, USA. Journal of Glaciology, 53(180): p. 128–140.

Caplan-Auerbach, J., Prejean, S. and Power, J. A. (2004). Seismic recordings of ice and debris avalanches of Iliamna Volcano, Alaska. Acta Vulcanologica, 16(1-2): p. 9–20.

Carey, M., Huggel, C., Bury, J., Portocarrero, C. and Haeberli, W. (2012). An integrated socio-environmental framework for glacier hazard management and climate change adaptation: lessons from Lake 513, Cordillera Blanca, Peru. Climatic Change, 112(3-4): p. 733–767.

Carturan, L., Cazorzi, F. and Dalla Fontana, G. (2009). Enhanced estimation of glacier mass balance in unsampled areas by means of topographic data. Annals of Glaciology, 50(50): p. 37–46.

Casassa, G., López, P., Pouyaud, B. and Escobar, F. (2009). Detection of changes in glacial run-off in alpine basins: examples from North America, the Alps, central Asia and the Andes. Hydrological Processes, 23(1): p. 31–41.

Ceballos, J. L., Euscátegui, C., Ramírez, J., Cañon, M., Huggel, C., Haeberli, W. and Machguth, H. (2006). Fast shrinkage of tropical glaciers in Colombia. Annals of Glaciology, 43: p. 194–201.

Chinn, T. J. H. (1995). Glacier fluctuations in the Southern Alps of New Zealand determined from snowline elevations. Arctic and Alpine Research, 27(2): p. 187–198.

Chinn, T. J. H. (1996). New Zealand glacier responses to climate change of the past century. New Zealand Journal of Geology and Geophysics, 39(3): p. 415–428.

Chinn, T. J. H., Heydenrych, C. and Salinger, M. J. (2005). Use of the ELA as a practical method of monitoring glacier response to climate in New Zealand's Southern Alps. Journal of Glaciology, 51(172): p. 85–95.

Citterio, M., Paul, F., Ahlstrøm, A. P., Jepsen, H. F., and Weidick, A. (2009). Remote sensing of glacier change in West Greenland: accounting for the occurrence of surge-type glaciers. Annals of Glaciology, 50(53): p. 70–80.

Clare, G. R., Fitzharris, B. B., Chinn, T. J. H. and Salinger, M. J. (2002). Interannual variation in end-of-summer snowlines of the Southern Alps of New Zealand, and relationships with Southern Hemisphere atmospheric circulation and sea surface temperature patterns. International Journal of Climatology, 22(1): p. 107–120.

Cogley, J. G. (2008). Extended format for the World Glacier Inventory. Trent University Technical Note: 17 pp.

Cogley, J. G. (2009a). A more complete version of the World Glacier Inventory. Annals of Glaciology, 50(53): p. 32–38.

Cogley, J. G. (2009b). Geodetic and direct mass-balance measurements: comparison and joint analysis. Annals of Glaciology 50(50): p. 96–100.

Cogley, J. G, Hock, R., Rasmussen, L. A., Arendt, A. A., Bauder, A., Braithwaite, R. J., Jansson, P., G., Möller, M., Nicholson, L. and Zemp, M. (2011). Glossary of glacier mass balance and related terms. IHP-VII Technical Documents in Hydrology No. 86, IACS Contribution No. 2 Paris, UNESCO / IHP: 114 pp.

Corte, A. E. and Espizua, L. E. (1981). Inventario de glaciares de la cuenca del río Mendoza. IANIGLA-CONICET, Mendoza: 64 pp.

Dickmann, N. (2008). GIS-basiertes Gletscherinventar des Gran Campo, Nevado, Patagonien, im internationalen Projekt GLIMS. Master's Thesis, Department of Geography, RWTH Aachen University.

Dykes, R., Brook, M., Robertson, C. and Fuller, I. (2011). Twenty-first century calving retreat of Tasman glacier, Southern Alps, New Zealand. Arctic, Antarctic, and Alpine Research, 43(1): p. 1–10.

Dyurgerov, M. B. (2010). Reanalysis of glacier changes: from the IGY to the IPY, 1960–2008. Data of Glaciological Studies, 108: p. 1–116.

Ebner, H., Hofmann-Wellenhof, B., Reiss, P. and Steidler, F. (1980). HIFI – a minicomputer program package for height interpolation by finite elements. Presented Paper, Commission IV, Hamburg, ISP Congress 1980. International Archives of Photogrammetry, 23(B4): p. 202-215.

Eckert, N., Baya, H., Thibert, E. and Vincent, C. (2011). Extracting the temporal signal from a winter and summer mass-balance series: application to a six-decade record at Glacier de Sarennes, French Alps. Journal of Glaciology, 57(201): p. 134–150.

Elsberg, D. H., Harrison, W. D., Echelmeyer, K. A. and Krimmel, R. M. (2001). Quantifying the effects of climate and surface change on glacier mass balance. Journal of Glaciology, 47(159): p. 649–658.

Elvehøy, H., Jackson, M. and Andreassen, L. M. (2009). The influence of drainage boundaries on specific mass-balance results: a case study of Engabreen, Norway. Annals of Glaciology, 50(50): p. 135–140.

Escher-Vetter, H., Kuhn, M. and Weber, M. (2009). Four decades of winter mass balance of Vernagtferner and Hintereisferner, Austria: methodology and results. Annals of Glaciology, 50(50), 87–95.

Espizúa, L. E. (1986). Fluctuations of the Río del Plomo glaciers. Geografiska Annaler, 68A(4): p. 317–327.

Espizua, L. E. and Bengochea, J. D. (1990). Surge of Grande del Nevado Glacier (Mendoza, Argentina) in 1984: its evolution through satellite images. Geografiska Annaler, 72A(3-4): p. 255–259.

Espizua, L. E. and Pitte, P. (2009). The Little Ice Age glacier advance in the Central Andes (35°S), Argentina. Palaeogeography, Palaeoclimatology, Palaeoecology, 281(3-4): p. 345–350.

Falkner, K. K., Melling, H., Münchow, A. M., Box, J. E., Wohlleben, T., Johnson, H. L., Gudmandsen, P., Samelson, R., Copland, L., Steffen, K., Rignot, E. and Higgins, A. K. (2011). Context for the recent massive Petermann Glacier calving event. Eos, Transactions American Geophysical Union, 92(14): doi:10.1029/2011EO140001.

Farinotti, D., Huss, M., Bauder, A. and Funk, M. (2009a). An estimate of the glacier ice volume in the Swiss Alps. Global and Planetary Change, 68(3): p. 225–231.

Farinotti, D., Huss, M., Bauder, A., Funk, M. and Truffer, M. (2009b). A method to estimate the ice volume and ice-thickness distribution of alpine glaciers. Journal of Glaciology, 55(191): p. 422–430.

Favey, E., Geiger, A., Gudmundsson, G. H. and Wehr, A. (1999). Evaluating the potential of an airborne laser-scanning system for measuring volume changes of glaciers. Geografiska Annaler, 81A(4): p. 555–561.

Finsterwalder, R. and Rentsch, H. (1973). Das Verhalten der bayerischen Gletscher in den letzten zwei Jahrzehnten. Zeitschrift für Gletscherkunde und Glazialgeologie, 9(1-2): p. 59–72.

Firnberichte (1914–78). Der Firnzuwachs 1913/14–1976/77 in einigen schweizerischen Firngebieten. Bericht der Gletscherkommission der Physikalischen Gesellschaft Zürich. Vierteljahrsschrift der Naturforschenden Gesellschaft in Zürich: p .1–64.

Fischer, A. (2009). Calculation of glacier volume from sparse ice-thickness data, applied to Schaufelferner, Austria. Journal of Glaciology, 55(191); p. 453–460.

Fischer, A. (2010). Gletscherbericht 2008/2009. Sammelbericht über die Gletschermessungen des Österreichischen Alpenvereins im Jahre 2009. Bergauf 02/2010, Jg. 65 (135): p. 24–30.

Fischer, A. (2011). Gletscherbericht 2009/2010. Sammelbericht über die Gletschermessungen des Österreichischen Alpenvereins im Jahre 2010. Bergauf 02/2011, Jg. 66 (136): p. 34–40.

Fischer, A. (2011). Comparison of direct and geodetic mass balances on a multi-annual time scale. The Cryosphere, 5(1): p. 107–124.

Fischer, L., Eisenbeiss, H., Kääb, A., Huggel, C. and Haeberli, W. (2011). Monitoring topographic changes in a periglacial high-mountain face using high-resolution DTMs, Monte Rosa East Face, Italian Alps. Permafrost and Periglacial Processes, 22(2): 140–152.

Fischer, L., Kääb, A., Huggel, C. and Noetzli, J. (2006). Geology, glacier retreat and permafrost degradation as controlling factors of slope instabilities in a high-mountain rock wall: the Monte Rosa East Face. Natural Hazards and Earth System Science, 6(5): p. 761–772.

Fischer, L., Purves, R. S., Huggel, C., Noetzli, J. and Haeberli, W. (2012). On the influence of topographic, geological and cryospheric factors on rock avalanches and rockfalls in high-mountain areas. Natural Hazards and Earth System Science, 12(1): p. 241–254.

Forel, F. A. (1895). Les variations périodiques des glaciers. Discours préliminaire. Extrait des Archives des Sciences physiques et naturelles XXXIV: 209–229.

Foy, N., Copland, L., Zdanowicz, C., Demuth, M. and Hopkinson, C. (2011). Recent volume and area changes of Kaskawulsh Glacier, Yukon, Canada. Journal of Glaciology, 57(203): p. 515–525.

Frey, H., Haeberli, W., Huggel, C. and Linsbauer, A. (2010). A multi-level strategy for anticipating future glacier lake formation and associated hazard potentials. Natural Hazards and Earth System Science, 10(2): p. 339–352.

Fujita, K., Hiyama, K., Iida, H. and Ageta, Y. (2010). Self-regulated fluctuations in the ablation of a snow patch over four decades. Water Resources Research, 46(11): W11541, doi:10.1029/2009WR008383.

Fujita, K. and Nuimura, T. (2011). Spatially heterogeneous wastage of Himalayan glaciers. Proceedings of the National Academy of Sciences, 108(34): p. 14011–14014.

Gabrovec, M. (2008). The Triglav glacier (Slovenia). Terra Glacialis, Special Issue: p. 75–87.

Gadek, B. (2008). The problem of firn-ice patches in the Polish Tatras as an indicator of climatic fluctuations. Geographia Polonica, 81(1): p. 10–25.

Gadek, B. (2011). Wieloletnia zmienność kriosfery Tatr. Czasopismo Geograficzne, 82(4): p. 371–385.

Gardner, A. S., Moholdt, G., Wouters, B., Wolken, G. J., Burgess, D. O., Sharp, M. J., Cogley, J. G., Braun, C. and Labine, C. (2011). Sharply increased mass loss from glaciers and ice caps in the Canadian Arctic Archipelago. Nature, 473(7347): p. 357–60.

Geist, T. (2005). Application of airborne laser scanner technology in glacier research. PhD Thesis, University of Innsbruck: 127 pp.

Geist, T., Elvehøy, H., Jackson, M. and Stötter, J. (2005). Investigations on intra-annual elevation changes using multi-temporal airborne laser scanning data: case study Engabreen, Norway. Annals of Glaciology, 42: p. 195–201.

Gerbaux, M., Genthon, C., Etchevers, P., Vincent, C. and Dedieu, J. P. (2005). Surface mass balance of glaciers in the French Alps: distributed modeling and sensitivity to climate change. Journal of Glaciology, 51(175): p. 561–572.

Giesen, R. H., Andreassen, L. M., van den Broeke, M. R. and Oerlemans, J. (2009). Comparison of the meteorology and surface energy balance at Storbreen and Midtdalsbreen, two glaciers in southern Norway. The Cryosphere, 3(1): p. 57–74.

Gillett, S. and Cullen, N. J. (2011). Atmospheric controls on summer ablation over Brewster Glacier, New Zealand. International Journal of Climatology, 31(13): p. 2033–2048.

Gjermundsen, E. F., Mathieu, R., Kääb, A., Chinn, T., Fitzharris, B. and Hagen, J. O. (2011). Assessment of multispectral glacier mapping methods and derivation of glacier area changes, 1978–2002, in the central Southern Alps, New Zealand, from ASTER satellite data, field survey and existing inventory data. Journal of Glaciology, 57(204): p. 667–683.

Glaciological reports (1881–2009). The Swiss Glaciers. Yearbooks of the Cryospheric Commission of the Swiss Academy of Sciences (SCNAT) published since 1964 by the Labratory of Hydraulics, Hydrology and Glaciology (VAW) of ETH Zürich, No. 1–126, http://glaciology.ethz.ch/swissglaciers/.

Głowacki, P. (2007). Rola procesów fizyczno-chemicznych w kształtowaniu struktury wewnętrznej i obiegu masy lodowców Spitsbergenu. Publications of the Institute of Geophysics, Polish Academy of Science, 30(400): p. 147.

Grabiec, M., Leszkiewicz, J., Głowacki, P. and Jania, J. (2006). Distribution of snow accumulation on some glaciers of Spitsbergen. Polish Polar Research, 27(4): p. 309–326.

Grabiec, M., Puczko, D., Budzik, T. and Gajek, G. (2011). The snow distribution patterns on Svalbard glaciers of different types derived from radio-echo soundings. Polish Polar Research, 32(4): p. 375–403.

Haeberli, W. (1998). Historical evolution and operational aspects of worldwide glacier monitoring. In: Haeberli, W., Hoelzle, M. and Suter, S. (eds.), Into the second century of worldwide glacier monitoring: prospects and strategies. UNESCO-IHP, Paris: p. 35–51.

Haeberli, W. (2004). Glaciers and ice caps: historical background and strategies of worldwide monitoring. In: Bamber, J. L. and Payne, A. J. (eds.), Mass balance of the cryosphere. Cambridge University Press, Cambridge: p. 559–578.

Haeberli, W. and Barry, R. G. (2008). Memorandum of Understanding between the World Glacier Monitoring Service (WGMS), University of Zurich, Switzerland, and the National Snow and Ice Data Center (NSIDC) / Global Land Ice Measurements from Space (GLIMS) Project, University of Colorado, USA, c. WGMS, NSIDC, March 2008.

Haeberli, W., Cihlar, J. and Barry, R. G. (2000). Glacier monitoring within the Global Climate Observing System. Annals of Glaciology, 31: p. 241–246.

Haeberli, W., Hoelzle, M., Paul, F. and Zemp, M. (2007). Integrated monitoring of mountain glaciers as key indicators of global climate change: the European Alps. Annals of Glaciology, 46: p. 150–160.

Haeberli, W., Hoelzle, M., Paul, F. and Zemp, M. (2008). Integrated glacier monitoring strategies: comments on a recent correspondence. Journal of Glaciology, 54(188): p. 947–948.

Haeberli, W., Portocarrero, C. and Evans, S. (2010). Nevado Hualcán, Laguna 513 y Carhuaz 2010 – Observaciones, evaluación y recomendaciones. (Un corto informe técnico luego de las reuniones y visita de campo en Julio 2010). Huaraz.

Hagg, W., Mayer, C., Mayr, E. and Heilig, A. (2012). Climate and glacier fluctuations in the Bavarian Alps during the past 120 years. Erdkunde, 66(2): p. 121–142.

Hagg, W., Mayer, C. and Steglich, C. (2008). Glacier changes in the Bavarian Alps from 1989/90 to 2006/07. Zeitschrift für Gletscherkunde und Glazialgeologie, 42(1): p. 37–46.

Harrison, W. D., Cox, L., Hock, R., March, R. S. and Pettit, E. C. (2009). Implications for the dynamic health of a glacier from comparison of conventional and reference-surface balances. Annals of Glaciology, 50(50): p. 25–30.

Haug, T., Rolstad, C., Elvehøy, H., Jackson, M. and Maalen-Johansen, I. (2009). Geodetic mass balance of the western Svartisen ice cap, Norway, in the periods 1968–1985 and 1985–2002. Annals of Glaciology, 50(50): p. 119–125.

Helbling, R. (1935). The origin of the Rio Plomo ice-dam. The Geographical Journal, 85(1): p. 41–49.

Herman, F., Anderson, B. and Leprince, S. (2011). Mountain glacier velocity variation during a retreat/advance cycle quantified using sub-pixel analysis of ASTER images. Journal of Glaciology, 57(202): p. 197–207.

Higuchi, K., Iozawa, T., Fujii, Y. and Kodama, H. (1980). Inventory of perennial snow patches in Central Japan. GeoJournal, 4(4): p. 303–311.

Hoelzle, M., Darms, G., Lüthi, M. P. and Suter, S. (2011). Evidence of accelerated englacial warming in the Monte Rosa area, Switzerland/Italy. The Cryosphere, 5: p. 231–243.

Huggel, C., Caplan-Auerbach, J., Waythomas, C. F. and Wessels, R. L. (2007). Monitoring and modeling ice-rock avalanches from ice-capped volcanoes: a case study of frequent large avalanches on Iliamna Volcano, Alaska. Journal of Volcanology and Geothermal Research, 168(1–4): p. 114–136.

Huggel, C., Salzmann, N., Allen, S. Caplan-Auerbach, J., Fischer, L., Haeberli, W., Larsen C., Schneider, D. and Wessels, R. (2010). Recent and future warm extreme events and high mountain slope stability. Philosophical Transactions of the Royal Society A, 368(1919): p. 2435–2459.

Huss, M. (2010). Mass balance of Pizolgletscher. Geographica Helvetica (Swiss Journal of Geography), 65(2): p. 80–91.

Huss, M. (2012). Extrapolating glacier mass balance to the mountain-range scale: the European Alps 1900–2100. The Cryosphere, 6(4): p. 713–727.

Huss, M. and Bauder, A. (2009). 20th-century climate change inferred from four long-term point observations of seasonal mass balance. Annals of Glaciology, 50(50): p. 207–214.

Huss, M., Bauder, A. and Funk, M. (2009). Homogenization of long-term mass-balance time series. Annals of Glaciology, 50(50): p. 198–206.

Huss, M., Hock, R., Bauder, A. and Funk, M. (2012). Conventional versus reference-surface mass balance. Journal of Glaciology, 58(208): p. 278–286.

Huybrechts, P., de Nooze, P. and Decleir H. (1989). Numerical modelling of Glacier d'Argentière and its historic front variations. In J. Oerlemans (Ed.), Glacier fluctuations and climatic change. Proceedings of the Symposium on Glacier Fluctuations and Climatic Change. Amsterdam, the Netherlands, 1–5 June 1987. Kluwer Academic Publishers, Dordrecht: p. 373–389.

IACS (2006). Evaluation report of the World Glacier Monitoring Service (WGMS).

ICIMOD (2007). Inventory of Glaciers, Glacial Lakes and Identification of Potential Glacial Lake Outburst Floods (GLOFs) Affected by Global Warming in the Mountains of Himalayan Region. DVD-ROM.

Imhof, P. (2010). Glacier fluctuations in the Italian Mont Blanc massif from the Little Ice Age until the present: historical reconstructions for the Miage, Brenva and Pré-de-Bard Glaciers. Master's Thesis, University of Bern: 133 pp.

Imhof, P., Nesje, A. and Nussbaumer, S. U. (2012). Climate and glacier fluctuations at Jostedalsbreen and Folgefonna, southwestern Norway and in the western Alps from the 'Little Ice Age' until the present: The influence of the North Atlantic Oscillation. Holocene, 22: p. 235–247.

Iturraspe, R. J. (2011). Glaciares de Tierra del Fuego. Dunken, Buenos Aires: 184 pp.

Jacob, T., Wahr, J., Pfeffer, W. T. and Swenson, S. (2012). Recent contributions of glaciers and ice caps to sea level rise. Nature, 482(7386): p. 514–518.

Joerg, P. C., Morsdorf, F. and Zemp, M. (2012). Uncertainty assessment of multi-temporal airborne laser scanning data: A case study on an Alpine glacier. Remote Sensing of Environment, 127: p. 118–129.

Kääb, A., Berthier, E., Nuth, C., Gardelle, J. and Arnaud, Y. (2012). Contrasting patterns of early twenty-first-century glacier mass change in the Himalayas. Nature, 488(7412): p. 495–498.

Kamp, U., Byrne, M. and Bolch, T. (2011). Glacier fluctuations between 1975 and 2008 in the Greater Himalaya Range of Zanskar, southern Ladakh. Journal of Mountain Science, 8(3): p. 374–389.

Kaser, G., Cogley, J. G., Dyurgerov, M. B., Meier, M. F. and Ohmura, A. (2006). Mass balance of glaciers and ice caps: Consensus estimates for 1961–2004. Geophysical Research Letters, 33(19): L19501, doi:10.1029/2006GL027511.

Kaser, G., Fountain, A. and Jansson, P. (2003). A manual for monitoring the mass balance of mountain glaciers with particular attention to low latitude characteristics. A contribution from the International Commision on Snow and Ice (ICSI) to the UNESCO HKH-Friend programme. Paris, IHP-VI, Technical Documents in Hydrology, No.59: 107 pp.

Kienholz, C. (2010). Shrinkage of selected south-central Alaskan glaciers AD 1900–2010: a spatio-temporal analysis applying photogrammetric, GIS based and historical methods. Master's Thesis, University of Bern: 189 pp.

Kincaid, J. L. (2007). An assessment of regional climate trends and changes to the Mt. Jaya glaciers of Irian Jaya. Master's Thesis, Texas A&M University: 87 pp.

Kjøllmoen, B. (ed.) (2007). Glaciological investigations in Norway in 2006. Report No 1 (Andreassen, L. M., H. Elvehøy, M. Jackson, B. Kjøllmoen, A. M. Tvede, T. Laumann, and R. H. Giesen). Norwegian Water Resources and Energy Directorate (NVE), Oslo: 99 pp.

Kjøllmoen, B. (ed.) (2008). Glaciological investigations in Norway in 2007. Report No 3 (Andreassen, L. M., H. Elvehøy, M. Jackson, B. Kjøllmoen, R. H. Giesen, and S. Winkler). Norwegian Water Resources and Energy Directorate (NVE), Oslo: 91 pp.

Kjøllmoen, B. (ed.) (2009). Glaciological investigations in Norway in 2008. Report No 2 (Andreassen, L. M., H. Elvehøy, M. Jackson, B. Kjøllmoen, R. H. Giesen, and A. M. Tvede). Norwegian Water Resources and Energy Directorate (NVE), Oslo: 80 pp.

Klein, A. G. and Kincaid, J. L. (2006). Retreat of glaciers on Puncak Jaya, Irian Jaya, determined from 2000 and 2002 IKONOS satellite images. Journal of Glaciology, 52(176): p. 65–79.

Knoll, C. and Kerschner, H. (2010). A glacier inventory for South Tyrol, Italy, based on airborne laser-scanner data. Annals of Glaciology, 50(53): p. 46–52.

Koblet, T., Gärtner-Roer, I., Zemp, M., Jansson, P., Thee, P., Haeberli, W. and Holmlund, P. (2010). Reanalysis of multi-temporal aerial images of Storglaciären, Sweden (1959–99) Part 1: Determination of length, area, and volume changes. The Cryosphere, 4(3): p. 333–343.

Kohler, J., James, T. D., Murray, T., Nuth, C., Brandt, O., Barrand, N. E., Aas, H. F. and Luckman, A. (2007). Acceleration in thinning rate on western Svalbard glaciers. Geophysical Research Letters, 34(18): L18502, doi:10.1029/2007GL030681.

Kovacs, A., Gow, A. J. and Morey, R. M. (1995). The in-situ dielectric constant of polar firn revisited. Cold Regions Science and Technology, 23(3): p. 245–256.

Kutuzov, S. and Shahgedanova, M. (2009). Glacier retreat and climatic variability in the eastern Terskey-Alatoo, inner Tien Shan between the middle of the 19th century and beginning of the 21st century. Global and Planetary Change, 69(1–2): p. 59–70.

Lambrecht, A. and Kuhn, M. (2007). Glacier changes in the Austrian Alps during the last three decades, derived from the new Austrian glacier inventory. Annals of Glaciology, 46: p. 177–184.

Lavrentiev, I. (2008). Structure and regime of Nordenskiold glaciers (Svalbard) from remote sensing data. Moscow State University.

Le Bris, R., Paul, F., Frey, H. and Bolch, T. (2011). A new satellite-derived glacier inventory for western Alaska. Annals of Glaciology, 52(59): p. 135–143.

Le Meur, E., Gerbaux, M., Schäfer, M. and Vincent, C. (2007). Disappearance of an Alpine glacier over the 21st Century simulated from modeling its future surface mass balance. Earth and Planetary Science Letters, 261(3–4): p. 367–374.

Le Quesne, C., Acuña, C., Boninsegna, J. A., Rivera, A. and Barichivich, J. (2009). Long-term glacier variations in the Central Andes of Argentina and Chile, inferred from historical records and tree-ring reconstructed precipitation. Palaeogeography, Palaeoclimatology, Palaeoecology, 281(3–4): p. 334–344.

Leclercq, P. W. (2012). Glacier fluctuations, global temperature and sea-level change. PhD Thesis, Universiteit Utrecht: 170 pp.

Leclercq, P. W., Oerlemans, J. and Cogley, J. G. (2011). Estimating the glacier contribution to sea-level rise for the period 1800–2005. Surveys in Geophysics, 32(4–5): p. 519–535.

Leclercq, P. W., Weidick, A., Paul, F., Bolch, T., Citterio, M. and Oerlemans, J. (2012). Brief communication "Historical glacier length changes in West Greenland." The Cryosphere, 6(6): p. 1339–1343.

Legchenko, A., Descloitres, M., Vincent, C., Guyard, H., Garambois, S., Chalikakis, K. and Ezersky, M. (2011). Three-dimensional magnetic resonance imaging for groundwater. New Journal of Physics, 13(2): doi:10.1088/1367-2630/13/2/025022.

Leiva, J. C., Cabrera, G. A. and Lenzano, L. E. (2007). 20 years of mass balances on the Piloto glacier, Las Cuevas river basin, Mendoza, Argentina. Global and Planetary Change, 59(1–4): p. 10–16.

Li, H., Ng, F., Li, Z., Qin, D. and Cheng, G. (2012). An extended "perfect-plasticity" method for estimating ice thickness along the flow line of mountain glaciers. Journal of Geophysical Research, 117(F1): F01020, doi:10.1029/2011JF002104.

Li, Z. Q., Han, T. D., Jing, Z. F. and Jio, K. Q. (2003). A summary of 40-year observed variation facts of climate and glacier No. 1 at headwater of Urumqi River, Tianshan, China. Journal of Glaciology and Geocryology, 25(2): p. 117–123.

Linsbauer, A., Paul, F. and Haeberli, W. (2012). Modeling glacier thickness distribution and bed topography over entire mountain ranges with GlabTop: application of a fast and robust approach. Journal of Geophysical Research, 117(F3): F03007, doi:10.1029/2011JF002313.

Lipovsky, P. S., Evans, S. G., Clague, J. J., Hopkinson, C., Couture, R., Bobrowsky, P., Ekström, G., Demuth, M. N., Delaney, K. B., Roberts, N. J., Clarke, G. and Schaeffer, A. (2008). The July 2007 rock and ice avalanches at Mount Steele, St. Elias Mountains, Yukon, Canada. Landslides, 5(4): p. 445–455.

Liu, Q., Liu, S., Zhang, Y., Wang, X., Zhang, Y., Guo, W. and Xu, J. (2010). Recent shrinkage and hydrological response of Hailuogou glacier, a monsoon temperate glacier on the east slope of Mount Gongga, China. Journal of Glaciology, 56(196): p. 215–224.

Ma, L., Tian, L., Pu, J. and Wang, P. (2010). Recent area and ice volume change of Kangwure Glacier in the middle of Himalayas. Chinese Science Bulletin, 55(20): p. 2088–2096.

Machguth, H., Eisen, O., Paul, F. and Hoelzle, M. (2006a). Strong spatial variability of snow accumulation observed with helicopter-borne GPR on two adjacent Alpine glaciers. Geophysical Research Letters, 33(13): L13503, doi:10.1029/2006GL026576.

Machguth, H., Paul, F., Hoelzle, M. and Haeberli, W. (2006b). Distributed glacier mass-balance modelling as an important component of modern multi-level glacier monitoring. Annals of Glaciology, 43: p. 335–343.

Mackintosh, A. N., Dugmore, A. J. and Hubbard, A. L. (2002). Holocene climatic changes in Iceland: evidence from modelling glacier length fluctuations at Sólheimajökull. Quaternary International, 91(1): p. 39–52.

Maisch, M., Wipf, A., Denneler, B., Battaglia, J. and Benz, C. (2000). Die Gletscher der Schweizer Alpen: Gletscherhochstand 1850, Aktuelle Vergletscherung, Gletscherschwund-Szenarien. Schlussbericht NFP 31, 2. Auflage. vdf Hochschulverlag an der ETH Zürich: 373 pp.

March, R. S. and O'Neel, S. (2011). Gulkana Glacier, Alaska – mass balance, meteorology, and water measurements, 1997–2001. U.S. Geological Survey Scientific Investigations Report 2011-5046: 72 pp.

Marzeion, B., Jarosch, A. H. and Hofer, M. (2012). Past and future sea-level change from the surface mass balance of glaciers. The Cryosphere, 6(6): p. 1295–1322.

Masiokas, M. H., Luckman, B. H., Villalba, R., Delgado, S., Skvarca, P. and Ripalta, A. (2009a). Little Ice Age fluctuations of small glaciers in the Monte Fitz Roy and Lago del Desierto areas, south Patagonian Andes, Argentina. Palaeogeography, Palaeoclimatology, Palaeoecology, 281(3-4): p. 351–362.

Masiokas, M. H., Rivera, A., Espizua, L. E., Villalba, R., Delgado, S. and Aravena, J. C. (2009b). Glacier fluctuations in extratropical South America during the past 1000 years. Palaeogeography, Palaeoclimatology, Palaeoecology, 281(3-4): p. 242–268.

Mayo, L. R., Meier, M. F. and Tangborn, W. V. (1972). A system to combine stratigraphic and annual mass-balance systems: a contribution to the International Hydrological Decade. Journal of Glaciology, 11(61): p. 3–14.

McKinzey, K. M., Lawson, W., Kelly, D. and Hubbard, A. (2004). A revised Little Ice Age chronology of the Franz Josef Glacier, Westland, New Zealand. Journal of the Royal Society of New Zealand, 34(4): p. 381–394.

Meier, M. F., Dyurgerov, M. B., Rick, U. K., O'Neel, S., Pfeffer, W. T., Anderson, R. S., Anderson, S. P. and Glazovsky, A. F. (2007). Glaciers dominate eustatic sea-level rise in the 21st century. Science, 317(5841): p. 1064–1067.

Menounos, B. and Schiefer, E. (2008). Geodetic constraints on the glacier mass balance record of Place Glacier, British Columbia, Canada. EOS Transactions – American Geophysical Union, 90(52): Fall Meeting Supplement. Abstract C13A-0568.

Migala, K., Piwowar, B. A. and Puczko, D. (2006). A meteorological study of ablation process on Hans Glacier, SW Spitsbergen. Polish Polar Research, 27(3): p. 243–258.

Milana, J. P. (2007). A model of Glaciar Horcones Inferior surge, Aconcagua region, Argentina. Journal of Glaciology, 53(183): p. 565–572.

Miller, M. M. (1963). Taku Glacier Evaluation Report. Alaska. Dept. of Highways and

Bureau of Public Roads, US Dept. of Commerce.

Miller, M. M., & Pelto, M. S. (1999). Mass balance measurements on the Lemon Creek Glacier, Juneau Icefield, Alaska 1953–1998. Geografiska Annaler, 81A(4): p. 671–681.

Molina, C., Navarro, F. J., Calvet, J., García-Sellés, D. and Lapazaran, J. J. (2007). Hurd Peninsula glaciers, Livingston Island, Antarctica, as indicators of regional warming: ice-volume changes during the period 1956–2000. Annals of Glaciology, 46: p. 43–49.

Mougin, P. (1912). Etudes glaciologiques: Savoie - Pyrénées. Imprimerie Nationale, Paris: 166 pp.

Müller, F. (1978). Instructions for compilation and assemblage of data for a world glacier inventory. Supplement; identification/glacier number: Temporary Technical Secretariat for World Glacier Inventory, International Commission on Snow and Ice, Department of Geography, Swiss Federal Institute of Technology (ETH), Zürich: 7 pp. plus appendix.

Müller, F., Caflisch, T. and Müller, G. (1976). Firn und Eis der Schweizer Alpen (Gletscherinventar). Publ. Nr. 57/57a. Geographisches Institut, ETH Zürich: 2 Vols.

Müller, H. and Kappenberger, G. (1991). Claridenfirn-Messungen 1914–1984: Daten und Ergebnisse eines gemeinschaftlichen Forschungsprojektes. Geographisches Institut, ETH Zürich: 79 pp.

Nesje, A., Bakke, J., Dahl, S. O., Lie, Ø. and Matthews, J. A. (2008). Norwegian mountain glaciers in the past, present and future. Global and Planetary Change, 60(1-2): p. 10–27.

Nolan, M., Motyka, R. J., Echelmeyer, K. A. and Trabant, D. C. (1995). Ice thickness measurements of Taku Glacier, Alaska, and their relevance to its recent behavior, Journal of Glaciology, 41(139): p. 541–553.

Nussbaumer, S. U., Nesje, A. and Zumbühl, H. J. (2011). Historical glacier fluctuations of Jostedalsbreen and Folgefonna (southern Norway) reassessed by new pictorial and written evidence. The Holocene, 21(3): p. 455–471.

Nussbaumer, S., Zemp, M. and Jansson, P. (2012). Summary report on the Workshop on Measurement and Uncertainty Assessment of Glacier Mass Balance, 9–11 July 2012, Tarfala, Sweden. World Glacier Monitoring Service, Zurich: 11 pp.

Nussbaumer, S. U. and Zumbühl, H. J. (2012). The Little Ice Age history of the Glacier des Bossons (Mont Blanc massif, France): a new high-resolution glacier length curve based on historical documents. Climatic Change, 111(2): p. 301–334.

Nussbaumer, S. U., Zumbühl, H. J. and Steiner, D. (2007). Fluctuations of the Mer de Glace (Mont Blanc area, France) AD 1500–2050: an interdisciplinary approach using new historical data and neural network simulations. Zeitschrift für Gletscherkunde und Glazialgeologie, 40(2005/2006): p. 1–183.

Nuth, C., Moholdt, G., Kohler, J., Hagen, J. O. and Kääb, A. (2010). Svalbard glacier elevation changes and contribution to sea level rise. Journal of Geophysical Research, 115(F1): F01008, doi:10.1029/2008JF001223.

Oerlemans, J., Jania. J. and Kolondra, L. (2011). Application of a minimal glacier model to Hansbreen, Svalbard. The Cryosphere, 5(1): p. 1–11.

Ohata, T., Yabuki, H., Higuchi, K., Watanabe, O., Takenaka, H. I. and Takahara, H. (1993). Variation of perennial snowpatch "Hamaguri-yuki" from 1967 to 1991. Research Report of IHAS, Institute for Hydrospheric-Atmospheric Sciences, Nagoya University: 43 pp.

Ohmura, A. (2011). Observed mass balance of mountain glaciers and Greenland ice sheet in the 20th century and the present trends. Surveys in Geophysics, 32(4–5): p. 537–554.

Oppikofer, T., Jaboyedoff, M. and Keusen, H. R. (2008). Collapse at the eastern Eiger flank in the Swiss Alps. Nature Geoscience, 1(8): p. 531–535.

Østrem, G. and Brugman, M. M. (1991). Glacier mass-balance measurements: a manual for field and office work. National Hydrology Research Institute, NHRI Science Report No. 4: 224 pp.

Østrem, G. and Stanley, A. (1969). Glacier mass balance measurements. A manual for field and office work. Canadian Department of Energy, Mines and Resources / Norwegian Water Resources and Electricity Board: 125 pp.

Patzelt, G. (2007). Gletscherbericht 2005/2006. Sammelbericht über die Gletschermessungen des Österreichischen Alpenvereins im Jahre 2006. Bergauf 02/2007, Jg. 62 (132): p. 20–25.

Patzelt, G. (2008). Gletscherbericht 2006/2007. Sammelbericht über die Gletschermessungen des Österreichischen Alpenvereins im Jahre 2007. Bergauf 02/2008, Jg. 63 (133): p. 26–32

Patzelt, G. (2009). Gletscherbericht 2007/2008. Sammelbericht über die Gletschermessungen des Österreichischen Alpenvereins im Jahre 2008. Bergauf 02/2009, Jg. 64 (134): p. 18–25.

Paul, F. and Andreassen, L. M. (2009). A new glacier inventory for the Svartisen region, Norway, from Landsat ETM+ data: challenges and change assessment. Journal of Glaciology, 55(192): p. 607–618.

Paul, F., Bolch, T., Kääb, A., Nagler, T., Shepherd, A. and Strozzi, T. (2012). Satellite-based glacier monitoring in the ESA project Glacier_cci. Proceedings of the Geoscience and Remote Sensing Symposium (IGARSS): p. 3222–3225.

Paul, F., Frey, H. and Le Bris, R. (2011). A new glacier inventory for the European Alps from Landsat TM scenes of 2003: challenges and results. Annals of Glaciology, 52(59): p. 144–152.

Paul, F. and Haeberli, W. (2008). Spatial variability of glacier elevation changes in the Swiss Alps obtained from two digital elevation models. Geophysical Research Letters, 35(21): L21502, doi: 10.1029/2008GL034718.

Paul, F. and Hendriks, J. (2010). Optical remote sensing of glaciers. In: Pellikka, P. and Rees, G. W. (eds.) Remote sensing of glaciers – techniques for topographic, spatial and thematic mapping of glaciers. Taylor and Francis, Leiden: p. 137–152.

Paul, F., Kääb, A. and Haeberli, W. (2007). Recent glacier changes in the Alps observed by satellite: consequences for future monitoring strategies. Global and Planetary Change, 56(1–2): p. 111–122.

Pecci, M., D'Agata, C. and Smiraglia, C. (2008). Ghiacciaio del Calderone (Apennines, Italy): the mass balance of a shrinking Mediterranean glacier. Geografia Fisica e Dinamica Quaternaria, 31(1): p. 55–62.

Peduzzi, P., Herold, C. and Silverio, W. (2010). Assessing high altitude glacier thickness, volume and area changes using field, GIS and remote sensing techniques: the case of Nevado Coropuna (Peru). The Cryosphere, 4(3): p. 313–323.

Pelto, M. S. (2011). Utility of late summer transient snowline migration rate on Taku Glacier, Alaska. The Cryosphere, 5(4): p. 1127–1133.

Pelto, M. and Miller, M. M. (1990). Mass balance of the Taku Glacier, Alaska from 1946 to 1986. Northwest Science, 64(3): p. 121–130.

Pelto, M. S., Miller, M. M., Adema, G. W., Beedle, M. J., McGee, S. R., Sprenke, S. R. and Lang, M. (2008). The equilibrium flow and mass balance of the Taku Glacier, Alaska (1950–2006). The Cryosphere, 2(2): p. 147–157.

Post, A. and Motyka, R. J. (1995). Taku and Le Conte glaciers, Alaska: calving-speed control of late-Holocene asynchronous advances and retreats. Physical Geography, 16: p. 59–82.

Poveda, G. and Pineda, K. (2009). Reassessment of Colombia's tropical glaciers retreat rates: are they bound to disappear during the 2010–2020 decade? Advances in Geosciences, 22: p. 107–116.

Prinz, R., Fischer, A., Nicholson, L. and Kaser, G. (2011). Seventy-six years of mean mass balance rates derived from recent and re-evaluated ice volume measurements on tropical Lewis Glacier, Mount Kenya. Geophysical Research Letters, 38(20): L20502, doi:10.1029/2011GL049208.

Prinz, R., Nicholson, L. and Kaser, G. (2012). Variations of the Lewis Glacier, Mount Kenya, 2004–2012. Erdkunde, 66(3): p. 255–262.

PSFG (1967). Fluctuations of Glaciers 1959–1965 (Vol. I): P. Kasser (ed.), IAHS (ICSI) / UNESCO, Permanent Service on Fluctuations on Glaciers, Zurich, Switzerland: 52 pp.

PSFG (1973). Fluctuations of Glaciers 1965–1970 (Vol. II). P. Kasser (ed.), IAHS (ICSI) / UNESCO, Permanent Service on Fluctuations on Glaciers, Zurich, Switzerland: 357 pp.

PSFG (1977). Fluctuations of Glaciers 1970–1975 (Vol. III). F. Müller (ed.), IAHS (ICSI) / UNESCO, Permanent Service on Fluctuations on Glaciers, Zurich, Switzerland: 269 pp.

PSFG (1985). Fluctuations on Glaciers 1975–1980 (Vol. IV). W. Haeberli (ed.), IAHS (ICSI) / UNSESCO, Permanent Service on Fluctuations on Glaciers, Zurich, Switzerland: 265 pp.

Purdie, H., Anderson, B., Lawson, W. and Mackintosh, A. (2011a). Controls on spatial variability in snow accumulation on glaciers in the Southern Alps, New Zealand; as revealed by crevasse stratigraphy. Hydrological Processes, 25(1): p. 54–63.

Purdie, H, Brook, M. and Fuller, I. (2008). Seasonal variation in ablation and surface velocity on a temperate maritime glacier: Fox Glacier, New Zealand. Arctic, Antarctic, and Alpine Research, 40(1): p. 140–147.

Purdie, H., Mackintosh, A., Lawson, W. and Anderson, B. (2011b). Synoptic influences on snow accumulation on glaciers east and west of a topographic divide: Southern Alps, New Zealand. Arctic, Antarctic, and Alpine Research, 43(1): p. 82–94.

Quincey, D. J. and Glasser, N. F. (2009). Morphological and ice-dynamical changes on the Tasman Glacier, New Zealand, 1990–2007. Global and Planetary Change, 68(3): p. 185–197.

Rabatel, A., Dedieu, J. P., Thibert, E., Letréguilly, A. and Vincent, C. (2008). 25 years (1981–2005) of equilibrium-line altitude and mass-balance reconstruction on Glacier Blanc, French Alps, using remote-sensing methods and meteorological data. Journal of Glaciology, 54(185): p. 307–314.

Rabatel, A., Dedieu, J. P. and Vincent, C. (2005). Using remote-sensing data to determine equilibrium-line altitude and mass-balance time series: validation on three French glaciers, 1994–2002. Journal of Glaciology, 51(175), 539–546.

Rabatel, A., Francou, B., Jomelli, V., Naveau, P. and Grancher, D. (2008). A chronology of the Little Ice Age in the tropical Andes of Bolivia (16°S) and its implications for climate reconstruction. Quaternary Research, 70(2), 198–212.

Rabatel, A., Machaca, A., Francou, B. and Jomelli, V. (2006). Glacier recession on Cerro Charquini (16°S), Bolivia, since the maximum of the Little Ice Age (17th century). Journal of Glaciology, 52(176): p. 110–118.

Raina, V. K. and Srivastava, D. (2008). Glacier Atlas of India. Geological Society of India, Bangalore: 316 pp.

Radić, V., and Hock, R. (2011). Regionally differentiated contribution of mountain glaciers and ice caps to future sea-level rise. Nature Geoscience, 4(2): p. 91–94.

Raj, K. B. G. (2011). Recession and reconstruction of Milam Glacier, Kumaon Himalaya, observed with satellite imagery. Current Science, 100(9): p. 1420–1425.

Raper, S. C. B. and Braithwaite, R. J. (2006). Low sea level rise projections from mountain glaciers and icecaps under global warming. Nature, 439(7074): p. 311–313.

Rasmussen, L. A. (2009). South Cascade Glacier mass balance, 1935–2006. Annals of Glaciology, 50(50): p. 215–220.

Rastner, P., Bolch, T., Mölg, N., Machguth, H. and Paul, F. (2012). The first complete glacier inventory for the whole of Greenland. The Cryosphere Discussions, 6(4): p. 2399–2436.

Ravanel, L. and Deline, P. (2008). La face ouest des Drus (massif du Mont-Blanc) : évolution de l'instabilité d'une paroi rocheuse dans la haute montagne alpine depuis la fin du petit âge glaciaire. Géomorphologie: relief, processus, environnement, 4: p. 261–272.

Raymond, M., Wegmann, M. and Funk, M. (2003). Inventar gefährlicher Gletscher in der Schweiz. Versuchsanstalt für Wasserbau, Hydrologie und Glaziologie an der Eidgenössischen Technischen Hochschule Zürich, Zürich: 368 pp.

Rinne, E. J., Shepherd, A., Palmer, S., van den Broeke, M. R., Muir, A., Ettema, J. and Wingham, D. (2011). On the recent elevation changes at the Flade Isblink Ice Cap, northern Greenland. Journal of Geophysical Research, 116(F3): F03024, doi:10.1029/2011JF001972.

Rivera, A., Corripio, J. G., Brock, B., Clavero, J. and Wendt, J. (2008). Monitoring ice capped active Volcán Villarrica in southern Chile by means of terrestrial photography combined with automatic weather stations and GPS. Journal of Glaciology, 53(188): p. 920–930.

Rivera, A., Acuña, C., Casassa, G. and Bown, F. (2002). Use of remotely sensed and field data to estimate the contribution of Chilean glaciers to eustatic sea-level rise. Annals of Glaciology, 34: p. 367–372.

Ruiz, L., Masiokas, M. H. and Villalba, R. (2012). Fluctuations of Glaciar Esperanza Norte in the north Patagonian Andes of Argentina during the past 400 years. Climate of the Past, 8(3): p. 1079–1090.

Sarıkaya, M. A., Zreda, M. and Çiner, A. (2009). Glaciations and paleoclimate of Mount Erciyes, central Turkey, since the Last Glacial Maximum, inferred from 36Cl cosmogenic dating and glacier modelling. Quaternary Science Reviews, 28(23–24): p. 2326–2341.

Schneider, D., Huggel, C., Haeberli, W. and Kaitna, R. (2011). Unraveling driving factors for large rock-ice avalanche mobility. Earth Surface Processes and Landforms, 36(14): p. 1948–1966.

Schneider, C., Schnirch, M., Acuña, C., Casassa, G. and Kilian, R. (2007). Glacier inventory of the Gran Campo Nevado Ice Cap in the Southern Andes and glacier changes observed during recent decades. Global and Planetary Change, 59(1–4): p. 87–100.

Seiz, G., Foppa, N., Meier, M. and Paul, F. (2011). The role of satellite data within GCOS Switzerland. Remote Sensing, 3(4): p. 767–780.

Sigurðsson, O. (1998). Glacier variations in Iceland 1930–1995. Jökull, 45: p. 3–26.

Sigurðsson, O., Jónsson, T. and Jóhannesson, T. (2007). Relation between glacier-termini variations and summer temperature in Iceland since 1930. Annals of Glaciology, 46: p. 170–176.

Six, D., Wagnon, P., Sicart, J. E. and Vincent, C. (2009). Meteorological controls on snow and ice ablation for two contrasting months on Glacier de Saint-Sorlin, France. Annals of Glaciology, 50(50): p. 66–72.

Sobota, I. (2011). Snow accumulation, melt, mass loss, and the near-surface ice temperature structure of Irenebreen, Svalbard. Polar Science, 5(3): p. 327–336.

Sorg, A., Bolch, T., Stoffel, M., Solomina, O. and Beniston, M. (2012). Climate change impacts on glaciers and runoff in Tien Shan (Central Asia). Nature Climate Change, 2(10): p. 725–731.

Soruco, A., Vincent, C., Francou, B., Ribstein, P., Berger, T., Sicart, J. E., Wagnon, P., Arnaud, Y., Favier, V. and Lejeune, Y. (2009). Mass balance of Glaciar Zongo, Bolivia, between 1956 and 2006, using glaciological, hydrological and geodetic methods. Annals of Glaciology, 50(50): p. 1–8.

Strelin, J. and Iturraspe, R. (2007). Recent evolution and mass balance of Cordón Martial glaciers, Cordillera Fueguina Oriental. Global and Planetary Change, 59(1-4), p. 17–26.

Stumm, D. (2011). The mass balance of selected glaciers of the Southern Alps in New Zealand. PhD Thesis, University of Otago: 303 pp.

Sun, B., He, M., Zhang, P., Jiao, K., Wen, J. and Li, Y. (2003). Determination of ice thickness, subice topography and ice volume at Glacier No. 1 in Tien Shan, China, by ground penetrating radar. Chinese Journal of Polar Research, 14(2): p. 35–44.

Thibert, E., Blanc, R., Vincent, C. and Eckert, N. (2008). Instruments and methods: glaciological and volumetric mass-balance measurements: error analysis over 51 years for Glacier de Sarennes, French Alps. Journal of Glaciology, 54(186): p. 522–532.

Thibert, E. and Vincent, C. (2009). Best possible estimation of mass balance combining glaciological and geodetic methods. Annals of Glaciology, 50(50): p. 112–118.

UN (1988). United Nations General Assembly Resolution, A/RES/43/53 of 6 December 1988. Retrieved from http://www.un.org/documents/ga/res/43/a43r053.htm.

UNEP (2007). Global Outlook for Ice and Snow. UNEP/GRID-Arendal, Norway: 235 pp.

UNEP (2012). Measuring glacier change in the Himalayas. UNEP – GEAS: 12 pp.

UNESCO (1969). Variations of existing glaciers. A guide to international practices for their measurement. Paris, United Nations Educational, Scientific and Cultural Organization / International Association of Scientific Hydrology / Technical Papers in Hydrology: 19 pp.

UNESCO (1970). Perennial snow and ice masses, a guide for compilation and assemblage of data for a world inventory. Paris.

UNESCO / IAHS (1970). Combined heat, ice and water balances at selected glacier basins, Part I: A guide for compilation and assemblage of data for glacier mass balance measurements. Paris.

UNESCO / IAHS (1973). Combined heat, ice and water balances at selected glacier basins, Part II: Specifications, standards and data exchange. Paris.

Valderama, P. and Vilcao, O. (2010). Dinamica del aluvion de la Laguna 513, Cordillera Blanca, Ancash Peru – primeros alcances. XV Congreso Peruano de Geologia: p. 336–341.

Van Beusekom, A. E., O'Neel, S. R., March, R. S., Sass, L. C. and Cox, L. H. (2010). Reanalysis of Alaskan benchmark glacier mass-balance data using the index method. U.S. Geological Survey Scientific Investigations Report 2010-5247: 16 pp.

Villalba, R., Leiva, J. C., Rubulls, S., Suarez, J. and Lenzano, L. (1990). Climate, tree-ring, and glacial fluctuations in the Rio Frias Valley, Rio Negro, Argentina. Arctic Alpine Research, 22(3): p. 215–232.

Vincent, C., Auclair, S. and Le Meur, E. (2010a). Outburst flood hazard for glacier-dammed Lac de Rochemelon, France. Journal of Glaciology, 56(195): p. 91–100.

Vincent, C., Garambois, S., Thibert, E., Lefèbvre, E. and Six, D. (2010b). Origin of the outburst flood from Glacier de Tête Rousse in 1892 (Mont Blanc area, France). Journal of Glaciology, 56(198): p. 688–698.

Vincent, C., Le Meur, E., Six, D., Possenti, P., Lefebvre, E. and Funk, M. (2007). Climate warming revealed by englacial temperatures at Col du Dôme (4250 m, Mont Blanc area). Geophysical Research Letters, 34(16): L16502, doi:10.1029/2007GL029933.

Vincent, C., Soruco, A., Six, D. and Le Meur, E. (2009). Glacier thickening and decay analysis from 50 years of glaciological observations performed on Glacier d'Argentière, Mont Blanc area, France. Annals of Glaciology, 50(50): p. 73–79.

Vivian, R. (1975). Les glaciers des Alpes occidentales. Imprimerie Allier, Grenoble: 513 pp.

Wang, P. Y., Li, Z. Q. and Li, H. L. (2011). Ice volume changes and their characteristics for representative glacier against the background of climatic warming – a case study of Urumqi Glacier No. 1, Tianshan, China. Journal of Natural Resources, 26(7): p. 1189–1198.

WDS (ICSU) (2011). World Glacier Monitoring Service (WGMS) as Regular Member of the ICU World Data System (WDS). (p. Letter from 13 DEC 2011).

Weeks, L. S. (2011). Tracking ice marginal changes in south-central Alaska using remote sensing and glacial geology. Master's Thesis, The College of Wooster.

Weidick, A. (1968). Observations on some Holocene glacier fluctuations in West Greenland. Meddelelser om Grønland, 165: p. 1–202.

Werder, M. A., Bauder, A., Funk, M. and Keusen, H. R. (2010). Hazard assessment investigations in connection with the formation of a lake on the tongue of Unterer Grindelwaldgletscher, Bernese Alps, Switzerland. Natural Hazards and Earth System Sciences, 10(2): p. 227–237.

WGMS (1988). Fluctuations of Glaciers 1980–1985 (Vol. V). Haeberli, W. and Müller. P. (eds.), IAHS (ICSI) / UNEP / UNESCO, World Glacier Monitoring Service, Zurich, Switzerland: 290 pp.

WGMS (1993). Fluctuations of Glaciers 1985–1990 (Vol. VI). Haeberli, W. and Hoelzle, M. (eds.), IAHS (ICSI) / UNEP / UNESCO, World Glacier Monitoring Service, Zurich, Switzerland: 322 pp.

WGMS (1998a). Fluctuations of Glaciers 1990–1995 (Vol. VII). Haeberli, W., Hoelzle, M., Suter, S. and Frauenfelder, R. (eds). IAHS (ICSI) / UNEP / UNESCO, World Glacier Monitoring Service, Zurich, Switzerland: 296 pp.

WGMS (1998b). Into the second century of worldwide glacier monitoring: prospects and strategies. Haeberli, W., Hoelzle, M. and Suter, S. (eds). UNESCO, Paris, France: 227 pp.

WGMS (2005). Fluctuations of Glaciers 1995–2000 (Vol. VIII). Haeberli, W., Zemp, M., Frauenfelder, R., Hoelzle, M. and Kääb, A. (eds.), IUGG (CCS) / UNEP / UNESCO, World Glacier Monitoring Service, Zurich, Switzerland: 288 pp.

WGMS (2008). Global Glacier Changes: facts and figures. Zemp, M., Roer, I., Kääb, A., Hoelzle, M., Paul, F. and Haeberli, W. (eds.), UNEP, World Glacier Monitoring Service, Zurich, Switzerland: 88 pp.

WGMS (2010). Summary report on the WGMS General Assembly of the National Correspondents 2010. Zemp, M., Gärtner-Roer, I., Nussbaumer, S. U., Paul, F., Hoelzle, M. and Haeberli, W. (eds). World Glacier Monitoring Service, Zurich, Switzerland: 48 pp.

WGMS (2011). Glacier Mass Balance Bulletin No. 11 (2008–2009). Zemp, M., Nussbaumer, S. U., Gärtner-Roer, I., Hoelzle, M., Paul, F. and Haeberli, W. (eds.), ICSU (WDS) / IUGG (IACS) / UNEP / UNESCO / WMO, World Glacier Monitoring Service, Zurich, Switzerland: 102 pp.

WGMS and NSIDC (1989, updated 2012). World Glacier Inventory. Compiled and made available by the World Glacier Monitoring Service, Zurich, Switzerland, and the National Snow and Ice Data Center, Boulder CO, U.S.A. doi:10.7265/N5/NSIDC-WGI-2012-02.

Winkler, S., Elvehøy, H. and Nesje, A. (2009). Glacier fluctuations of Jostedalsbreen, western Norway, during the past 20 years: the sensitive response of maritime mountain glaciers. The Holocene, 19(3): p. 395–414.

WMO (2009). Report of the World Climate Conference-3. Geneva, Switzerland.

Worni, R., Huggel, C., Stoffel, M. and Pulgarín, B. (2012). Challenges of modelling current very large lahars at Nevado del Huila Volcano, Colombia. Bulletin of Volcanology, 74(2): p. 309–324.

Yde, J. C. and Knudsen, N. T. (2007). 20th-century glacier fluctuations on Disko Island (Qeqertarsuaq), Greenland. Annals of Glaciology, 46: p. 209–214.

Zemp, M. (2012). The monitoring of glaciers at local, mountain, and global scale. Habilitationsschrift zur Erlangung der Venia Legendi, Faculty of Science, University of Zurich, Switzerland: 72 pp. plus appendix.

Zemp, M. and Haeberli, W. (2008). Proposal for the establishment of a Steering Committee for the Global Terrestrial Network for Glaciers (GTN-G) to the International Association of Cryospheric Sciences. Zurich, Switzerland.

Zemp, M., Hoelzle, M., and Haeberli, W. (2009). Six decades of glacier mass-balance observations: a review of the worldwide monitoring network. Annals of Glaciology, 50(50): p. 101–111.

Zemp, M, Jansson, P., Holmlund, P., Gärtner-Roer, I., Koblet, T., Thee, P. and Haeberli, W. (2010). Reanalysis of multi-temporal aerial images of Storglaciären, Sweden (1959–99) – Part 2: Comparison of glaciological and volumetric mass balances. The Cryosphere, 4(3): p. 345–357.

Zemp, M., Paul, F., Andreassen, L. M., Arino, O., Bippus, G., Bolch, T., Braithwaite, R., Braun, L., Cáceres, B. E., Casassa, G., Casey, K. A., Ceballos, J. L., Citterio, M., Delgado, H., Demuth, M., Espizua, L. E., Farokhnia, A., Fischer, A., Foppa, N., Frey, H., Fujita, K., Gärtner-Roer, I., Glowacki, P., Haeberli, W., Hagen, J. O., Hoelzle, M., Holmlund, P., Giesen, R. H., Kääb, A., Khromova, T., Kotlarski, S., Le Bris, R., Li, Z., Meier, M., Meneghel, M., Mool, P., Nussbaumer, S. U., Peduzzi, P., Plummer, S., Popovnin, V. V., Prinz, R., Rack, W., Rastner, P., Raup, B., Rinne, E., Seifert, F. M., Seiz, G., Severskiy, I., Shepherd, A., Sigurðsson, O., Strozzi, T., Vincent, C., Wheate, R. and Yakovlev, A. (2011a): Summary of international glacier monitoring summit. The Earth Observer, 23(4): p. 28–31.

Zemp, M., Zumbühl, H. J., Nussbaumer, S. U., Masiokas, M. H., Espizua, L. E. and Pitte, P. (2011b). Extending glacier monitoring into the Little Ice Age and beyond. PAGES News, 19(2): p. 67–69.

Zolotarev, E. A. (2009). Evolution of Elbrus glaciation Nauchnii mir, Moscow (in Russian).

Zumbühl, H. J. (1980). Die Schwankungen der Grindelwaldgletscher in den historischen Bild- und Schriftquellen des 12. bis 19. Jahrhunderts. Ein Beitrag zur Gletschergeschichte und Erforschung des Alpenraumes. Denkschriften der Schweizerischen Naturforschenden Gesellschaft (SNG), Band 92. Birkhäuser, Basel/Boston/Stuttgart: 279 pp.

Zumbühl, H. J. and H. Holzhauser (1988). Alpengletscher in der Kleinen Eiszeit. Sonderheft zum 125jährigen Jubiläum des SAC. Die Alpen, 64(3): p. 129–322.

Zumbühl, H. J., Messerli, B. and Pfister, C. (1983). Die Kleine Eiszeit: Gletschergeschichte im Spiegel der Kunst. Katalog zur Sonderausstellung des Schweizerischen Alpinen Museums Bern und des Gletschergarten-Museums Luzern vom 09.06.–14.08.1983 (Luzern), 24.08.–16.10.1983 (Bern): 60 pp.

Zumbühl, H. J., Steiner, D. and Nussbaumer, S. U. (2008). 19th century glacier representations and fluctuations in the central and western European Alps: an interdisciplinary approach. Global and Planetary Change, 60(1–2): p. 42–57.

APPENDIX **NOTES ON THE COMPLETION OF THE DATA SHEETS**

This appendix includes the explanatory notes on the completion of the Excel-based data submission forms, sent out with the calls-for-data for the observation period 2005–2010 (also valid for Addenda from earlier years):

- Notes on the completion of the data sheet "A GENERAL INFORMATION"
- Notes on the completion of the data sheet "B STATE"
- Notes on the completion of the data sheet "C FRONT VARIATION"
- Notes on the completion of the data sheet "D CHANGE"
- Notes on the completion of the data sheet "E MASS BALANCE OVERVIEW"
- Notes on the completion of the data sheet "EE MASS BALANCE"
- Notes on the completion of the data sheet "EEE MASS BALANCE POINT"
- Notes on the completion of the data sheet "F SPECIAL EVENT"

The notes on the completion of the data sheets A−F describe all attributes compiled during the call-for-data, whereas the Tables A, B, BB, C, CC, CCC and D in this Volume provide a summary of the collected data. The presentation of the data and the corresponding fields are consistent with the Volume IX of the *Fluctuations of Glaciers* series.

The WGMS website provides access to information on available data, to procedures for data order and data submission as well as to the addresses of national correspondents. The website can be accessed via:

http://www.wgms.ch

A - GENERAL INFORMATION

NOTES ON THE COMPLETION OF THE DATA SHEET

A1 - POLITCAL UNIT [alphabetic code; 2 digits]
Name of country or territory in which glacier is located (for 2 digit abbreviations, see ISO 3166 country code, available at www.iso.org).
Political unit is part of WGI key (positions 1 and 2).
Political unit is part of FoG and MBB key (positions 1 and 2).

A2 - GLACIER NAME [alpha-numeric code; up to 30 digits]
The name of the glacier, written in CAPITAL letters.
Format: max. 30 column positions.
If necessary, the name can be abbreviated; in this case, please give the full name under "A16 - REMARKS".

A3 - WGMS ID [numeric code; 5 digits]
5 digit key identifying glacier in the WGMS database.
For new glacier entries, this key is assigned by the WGMS.

A4 - HYDROLOGICAL CATCHMENT AREA [alpha-numeric code; 5 digits]
Part of WGI key: Position 3 denotes the continent. Positions 4 to 7 denote the drainage basin; cf. Müller (1978).

A5 - FREE POSITION [alpha-numeric code; 2 digits]
Part of WGI number: Positons 8 and 9 are freely chosen identification numbers; cf. Müller (1978).

A6 - LOCAL CODE [alpha-numeric code; 3 digits]
Part of WGI number: Positions 10 to 12; cf. Müller (1978).

A7 - LOCAL PSFG [alpha-numeric code; 5 digits]
The local PSFG number is part of FoG and MBB key (positions 3 to 7).
It consists of 4 or, as an exception, 5 numerical digits. Empty spaces should be filled with the digit 0.
The PSFG key is to be assigned by the National Correspondents of the WGMS in line with existing national glacier inventories or similar glacier numerations.

A8 - GEOGRAPHICAL LOCATION (GENERAL) [alpha-numeric code; up to 30 digits]
Refers to a large geographical entity (e.g., a large mountain range or large politcal subdivision) which gives a rough idea of the location of the glacier, without requiring the use of a map or an atlas.
Examples: Western Alps, Southern Norway, Polar Ural, Tien Shan, Himalayas.

A9 - GEOGRAPHICAL LOCATION (SPECIFIC) [alpha-numeric code; up to 30 digits]
Refers to a more specific geographical location (e.g., mountain group, drainage basin), which can be found easily on a small-scale map of the country concerned.
Examples: Rhone Basin, Jotunheimen

A10 - LATITUDE [decimal degree North or South; up to 6 digits]
The geographical coordinates should refer to a point in the upper ablation area; for small glaciers, this point may lie outside the glacier.
Latitude should be given in decimal degrees, positive values indicating the northern hemisphere and negative values indicating the southern hemisphere.
Latitude should be given to a maximum precision of 4 decimal places.

A11 - LONGITUDE [decimal degree East or West; up to 7 digits]
The geographical coordinates should refer to a point in the upper ablation area; for small glaciers, this point may lie outside the glacier.
Longitude should be given in decimal degrees, positive values indicating east of zero meridian and negative values indicating west of zero meridian.
Longitude should be given to a maximum precision of 4 decimal places.

A12 - CODE [numeric code; 3 digits]
Classification should be given in coded form, according to "Perennial Ice and Snow Masses" (Technical papers in hydrology, UNESCO/IAHS 1970). The following information should be given:

- Primary Classification — Digit 1
- Form — Digit 2
- Frontal Characteristics — Digit 3

A12a - PRIMARY CLASSIFICATION - Digit 1

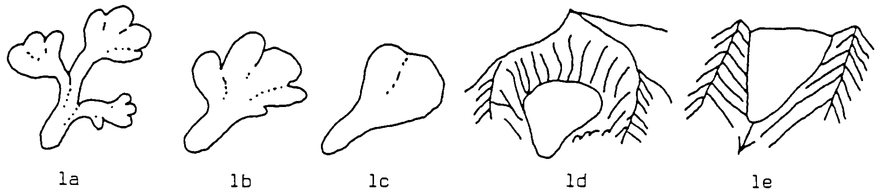
0	Miscellaneous	Any type not listed below (please explain)
1	Continental ice sheet	Inundates areas of continental size
2	Icefield	Ice masses of sheet or blanket type of a thickness that is in sufficient to obscure the subsurface topography
3	Ice cap	Dome-shaped ice masses with radial flow
4	Outlet glacier	Drains an ice sheet, icefield or ice cap, usually of valley glacier form; the catchment area may not be easily defined
5	Valley glacier	Flows down a valley; the catchment area is well defined
6	Mountain glacier	Cirque, niche or crater type, hanging glacier; includes ice aprons and groups of small units

7	Glacieret and snowfield	Small ice masses of indefinite shape in hollows, river beds and on protected slopes, which has developed from snow drifting, avalanching, and/or particularly heavy accumulation in certain years; usually no marked flow pattern is visible; in existence for at least two consecutive years.
8	Ice shelf	Floating ice sheet of considerable thickness attached to a coast nourished by a glacier(s); snow accumulation on its surface or bottom freezing
9	Rock glacier	Lava-stream-like debris mass containing ice in several possible forms and moving slowly downslope

Note: The parent glacier concept (cf. A15 - PARENT GLACIER) can be used for the classification of complex glacier systems (e.g., ice cap or icefield with outlet glaciers) or of disintegrating/coalescing glaciers over time.

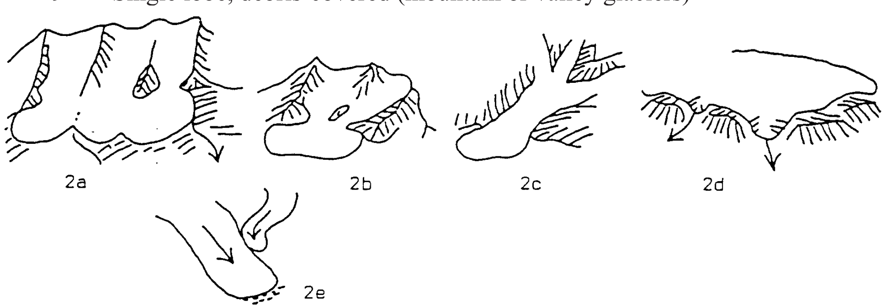
A12b - FORM – Digit 2

0	Miscellaneous	Any type not listed below (please explain)
1	Compound basins	Two or more individual valley glaciers issuing from tributary valleys and coalescing (Fig. 1a)
2	Compound basin	Two or more individual accumulation basins feeding one glacier system (Fig. 1b)
3	Simple basin	Single accumulation area (Fig. 1c)
4	Cirque	Occupies a separate, rounded , steep-walled recess which it has formed on a mountain side (Fig. 1d)
5	Niche	Small glacier in a V-shaped gulley or depression on a mountain slope (Fig. 1e); generally more common than genetically further-developed cirque glacier.
6	Crater	Occurring in extinct or dormant volcanic craters
7	Ice apron	Irregular, usually thin ice mass which adheres to mountain slope or ridge
8	Group	A number of similar ice masses occurring in close proximity and too small to be assessed individually
9	Remnant	Inactive, usually small ice masses left by a receding glacier



A12c - FRONTAL CHARACTERISTICS – Digit 3

0	Miscellaneous	Any type not listed below (please explain)
1	Piedmont	Icefield formed on a lowland area by lateral expansion of one or coalescence of several glaciers (Fig. 2a, 2b)
2	Expanded foot	Lobe or fan formed where the lower portion of the glacier leaves the confining wall of a valley amd extends on to a less restricted and more level surface (Fig. 2c)
3	Lobed	Part of an ice sheet or ice cap, disqualified as an outlet glacier (Fig. 2d)
4	Calving	Terminus of a glacier sufficiently extending into sea or lake water to produce icebergs; includes – for this inventory – dry land ice calving which would be recognizable from the “lowest glacier elevation”
5	Coalescing, non-contributing (Fig. 2e)	
6	Irregular, mainly clean ice (mountain or valley glaciers)	
7	Irregular, debris-covered (mountain or valley glaciers)	
8	Single lobe, mainly clean ice (mountain or valley glaciers)	
9	Single lobe, debris-covered (mountain or valley glaciers)	



A13 - EXPOSITION OF ACCUMULATION AREA [cardinal point; up to 2 digits]
The main orientation of the accumulation area using the 8 cardinal points (8-point compass).

A14 - EXPOSITION OF ABLATION AREA [cardinal point; up to 2 digits]
The main orientation of the accumulation area using the 8 cardinal points (8-point compass).

A15 - PARENT GLACIER [numeric code; 5 digits]
Links separated glacier parts with (former) parent glacier, using WGMS ID (see "A2 WGMS ID").

A16 - REMARKS [alpha-numeric]
Any important information or comments not included above may be given here. Comments about the accuracy of the numerical data may be made, including quantative comments. Only significant decimals should be given.

B - STATE

NOTES ON THE COMPLETION OF THE DATA SHEET

This data sheet should be completed in order to report length and elevation range of glaciers with available fluctuation data.

B1 - POLITCAL UNIT [alphabetic code; 2 digits]
Name of country or territory in which glacier is located (cf. “A1 - POLITICAL UNIT”).

B2 - GLACIER NAME [alpha-numeric code; up to 30 digits]
The name of the glacier, written in CAPITAL letters. Use the same spelling as in “A2 - GLACIER NAME”.

B3 - WGMS ID [numeric code; 5 digits]
5 digit key identifying glacier in the WGMS database (cf. “A3 - WGMS ID”).

B4 - YEAR [year]
Year of present survey.

B5 - MAXIMUM ELEVATION OF GLACIER [m a.s.l.]
Altitude of the highest point of the glacier.

B6 - MEDIAN ELEVATION OF GLACIER [m a.s.l.]
Altitude of the contour line which halves the area of the glacier.

B7 - MINIMUM ELEVATION OF GLACIER [m a.s.l.]
Altitude of the lowest point of the glacier.

B8 - ELEVATION ACCURACY [m]
Estimated maximum error of reported elevations.

B9 - LENGTH [km]
Maximum length of glacier measured along the most important flowline (in horizontal projection).

B10 - LENGTH ACCURACY [km]
Estimated maximum error, in length.

B11 - SURVEY DATE [numeric; 8 digits]
Date of present survey.
For each survey, please indicate the complete date in numeric format (YYYYMMDD).
Missing data: For unknown day or month, put “99” in the corresponding position(s) and make a note under “B15 - REMARKS”

B12 - SURVEY METHOD [alphabetic code; 1 digit]
The survey method should be given using the following alphabetic code:

A = Aerial photography
B = Terrestrial photogrammetry
C = Geodetic ground survey (theodolite, tape, etc.)
D = Combination of A, B or C (please explain under "B15 - REMARKS")
E = Other methods (please explain under "B15 - REMARKS")

B13 - INVESTIGATOR [alpha-numeric]
Name(s) of the person(s) or agency doing the fieldwork and/or the name(s) of the person(s) or agency processing the data.

B14 - SPONSORING AGENCY [alpha-numeric]
Full name, abbreviation and address of the agency where the data are held.

B15 - REMARKS [alpha-numeric]
Any important information or comments not included above may be given here. Comments about the accuracy of the numerical data may be made, including quantative comments. Only significant decimals should be given.

C - FRONT VARIATION

NOTES ON THE COMPLETION OF THE DATA SHEET

This data sheet should be completed in order to report glacier length change data.

C1 - POLITCAL UNIT [alphabetic code; 2 digits]
Name of country or territory in which glacier is located (cf. “A1 - POLITICAL UNIT”).

C2 - GLACIER NAME [alpha-numeric code; up to 30 digits]
The name of the glacier, written in CAPITAL letters. Use the same spelling as in “A2 - GLACIER NAME”.

C3 - WGMS ID [numeric code; 5 digits]
5 digit key identifying glacier in the WGMS database (cf. “A3 - WGMS ID”).

C4 - YEAR [year]
Year of present survey.

C5 - FRONT VARIATION [m]
Variation in the position of the glacier front (in horizontal projection) between the previous and present survey.

Positive values: advance
Negative values: retreat

C6 - FRONT VARIATION ACCURACY [m]
Estimated maximum error for front variation.

C7 - QUALITATIVE VARIATION [alphabetic code; 2 digits]
If no quantitative data are available for a particular year, but qualitative data are available, then the front variation should be denoted using the following symbols. They should be positioned to the far left of the data field.

+X : Glacier in advance
-X : Glacier in retreat
ST : Glacier stationary
SN : Glacier front covered by snow, making survey impossible.

Qualitative variations will be understood with reference to the previous survey data, whether this data is qualitative or quantitative.

C8 - SURVEY DATE [numeric; 8 digits]
Date of present survey.
For each survey, please indicate the complete date in numeric format (YYYYMMDD).
Missing data: For unknown day or month, put “99” in the corresponding position(s) and make a note under “C13 - REMARKS”

C9 - SURVEY METHOD [alphabetic code; 1 digit]
The survey method should be given using the following alphabetic code:

A = Aerial photography
B = Terrestrial photogrammetry
C = Geodetic ground survey (theodolite, tape etc.)
D = Combination of a, b or c (please explain under “C13 - REMARKS”)
E = Other direct methods or reconstructions such as based on historical sources, geomorphological evidence, dating of moraines (please explain under “C13 - REMARKS”)

C10 - REFERENCE DATE [numeric, 8 digits]
Date of previous survey
For each survey, please indicate the complete date in numeric format (YYYYMMDD). Missing data: For unknown day or month, put “99” in the corresponding position(s) and make a note under “C13 - REMARKS”

C11 - INVESTIGATOR [alpha-numeric]
Name(s) of the person(s) or agency doing the fieldwork and/or the name(s) of the person(s) or agency processing the data.

C12 - SPONSORING AGENCY [alpha-numeric]
Full name, abbreviation and address of the agency where the data are held.

C13 - REMARKS [alpha-numeric]
Any important information or comments not included above may be given here. Comments about the accuracy of the numerical data may be made, including quantative comments. Only significant decimals should be given.

D - CHANGE

NOTES ON THE COMPLETION OF THE DATA SHEET

This data sheet should be completed in order to report changes in thickness, area and volume from geodetic surveys and/or area data of glaciers with available fluctuation data.

D1 - POLITCAL UNIT [alphabetic code; 2 digits]
Name of country or territory in which glacier is located (cf. "A1 - POLITICAL UNIT").

D2 - GLACIER NAME [alpha-numeric code; up to 30 digits]
The name of the glacier, written in CAPITAL letters. Use the same spelling as in "A2 - GLACIER NAME".

D3 - WGMS ID [numeric code; 5 digits]
5 digit key identifying glacier in the WGMS database (cf. "A3 - WGMS ID").

D4 - YEAR [year]
Year of present survey.

D5 - LOWER BOUNDARY [m a.s.l.]
Lower boundary of altitude interval.
If refers to entire glacier, then lower bound = 9999.

D6 - UPPER BOUNDARY [m a.s.l.]
Upper boundary of altitude interval.
If refers to entire glacier, then upper bound = 9999.

D7 - AREA SURVEY YEAR[km^2]
Glacier area of each altitude interval (in horizontal projection) in the survey YEAR.

D8 - AREA CHANGE [1000 m^2]
Area change for each altitude interval.

D9 - AREA CHANGE ACCURACY [1000 m^2]
Estimated maximum error for area change.

D10 - THICKNESS CHANGE [mm]
Specific ice thickness change for each altitude interval.

D11 - THICKNESS CHANGE ACCURACY [mm]
Esitmated maximum error for thickness change.

D12 - VOLUME CHANGE [1000 m^3]
Ice volume change for each altitude interval.

D13 - VOLUME CHANGE ACCURACY [1000 m^3]
Esitmated maximum error for volume change.

D14 - SURVEY DATE [numeric; 8 digits]
Date of present survey.
For each survey, please indicate the complete date in numeric format (YYYYMMDD).
Missing data: For unknown day or month, put "99" in the corresponding position(s) and make a note under "D19 - REMARKS"

D15 - SURVEY METHOD [alphabetic code; 1 digit]
The survey method should be given using the following alphabetic code:

A = Aerial photography
B = Terrestrial photogrammetry
C = Geodetic ground survey (theodolite, tape etc.)
D = Combination of a, b or c (please explain under "D19 - REMARKS")
E = Other methods (e.g., LIDAR, map comparison; please explain and add at least one reference under "D19 - REMARKS")

D16 - REFERENCE DATE [numeric; 8 digits]
Date of previous survey.
For each survey, please indicate the complete date in numeric format (YYYYMMDD).
Missing data: For unknown day or month, put "99" in the corresponding position(s) and make a note under "D19 - REMARKS"

D17 - INVESTIGATOR [alpha-numeric]
Name(s) of the person(s) or agency doing the fieldwork and/or the name(s) of the person(s) or agency processing the data.

D18 - SPONSORING AGENCY [alpha-numeric]
Full name, abbreviation and address of the agency where the data are held.

D19 - REMARKS [alpha-numeric]
Any important information or comments not included above may be given here. Comments about the accuracy of the numerical data may be made, including quantative comments. Only significant decimals should be given.

E - MASS BALANCE OVERVIEW

NOTES ON THE COMPLETION OF THE DATA SHEET

This data sheet should be completed in order to report glacier mass balance data.

E1 - POLITCAL UNIT [alphabetic code; 2 digits]
Name of country or territory in which glacier is located (cf. “A1 - POLITICAL UNIT”).

E2 - GLACIER NAME [alpha-numeric code; up to 30 digits]
The name of the glacier, written in CAPITAL letters. Use the same spelling as in “A2 - GLACIER NAME”.

E3 - WGMS ID [numeric code; 5 digits]
5 digit key identifying glacier in the WGMS database (cf. “A3 - WGMS ID”).

E4 - YEAR [year]
Year of present survey.

E5 - TIME MEASUREMENT SYSTEM [alphabetic code; 3 digits]
The time measurement system should be given using the following 3 digit alphabetic code:

FLO = floating-date system
FXD = fixed-data system
STR = stratigraphic system
COM = combined system; usually of STR and FXD according to Mayo et al. (1972)
OTH = other

Please give floating survey dates in E6-E8 for all time systems and explain methodological details (e.g., fixed calendar dates and correction methods) under “E22 - REMARKS”.

Note that FLO was newly introduced in 2011 in order to reduce earlier ambiguities. Before that, mass balance results based on the floating-date system were (at least theoretically) reported as OTH. For definitions of the above time measurement systems and more details see Cogley et al. (2011).

E6 - BEGINNING OF SURVEY PERIOD [numeric; 8 digits]
Date on which survey period began.
For each survey, please indicate the complete date in numeric format (YYYYMMDD).
Missing data: For unknown day or month, put “99” in the corresponding position(s) and make a note under “E22 - REMARKS”

E7 - END OF WINTER SEASON [numeric; 8 digits]
Date of end of winter season.
If known, please indicate the complete date in numeric format (YYYYMMDD).

Missing data: For unknown day or month, put “99” in the corresponding position(s) and make a note under “E22 - REMARKS”

E8 - END OF SURVEY PERIOD [numeric; 8 digits]
Date on which survey period ended.
For each survey, please indicate the complete date in numeric format (YYYYMMDD).
Missing data: For unknown day or month, put “99” in the corresponding position(s) and make a note under “E22 - REMARKS”

E9a - ELA PREFIX [alphabetic code, 1 digit]
Prefix denoting if the equilibrium line was below (“<”) or above (“>”) the minimum or maximum elevation of the glacier, respectively. Leave this field empty if the mean altitude of the equilibrium line was within the glacier elevation range.

E9b - EQUILIBRIUM LINE ALTITUDE [m a.s.l.]
Mean alititude (averaged over the glacier) of the end-of-mass-balance-year equilibrium line (ELA). Give glacier minimum or maximum elevation if the ELA was below or above the elevation range of the glacier, respectively.

E10 - ELA ACCURACY [m]
Estimated maximum error of ELA.

E11 - MINIMUM NUMBER OF MEAS. SITES USED IN ACCUMULATION AREA [numeric]
The minimum number of different sites at which measurements were taken in the accumulation area. Repeat measurements may be taken for one site, in order to obtain an average value for that site, but the site is still only once counted.

E12 - MAXIMUM NUMBER OF MEAS. SITES USED IN ACCUMULATION AREA [numeric]
The maximum number of different sites at which measurements were taken in the accumulation area. Repeat measurements may be taken for one site, in order to obtain an average value for that site, but the site is still only once counted.

E13 - MINIMUM NUMBER OF MEAS. SITES USED IN ABLATION AREA [numeric]
The minimum number of different sites at which measurements were taken in the ablation area. Repeat measurements may be taken for one site, in order to obtain an average value for that site, but the site is still only once counted.

E14 - MAXIMUM NUMBER OF MEAS. SITES USED IN ABLATION AREA [numeric]
The maximum number of different sites at which measurements were taken in the ablation area. Repeat measurements may be taken for one site, in order to obtain an average value for that site, but the site is still only once counted.

E15 - ACCUMULATION AREA [km^2]
Accumulation area in horizontal projection.

E16 - ACCUMULATION AREA ACCURACY [km^2]
Estimated maximum error for accumulation area.

E17 - ABLATION AREA [km^2]
Ablation area in horizontal projection.

E18 - ABLATION AREA ACCURACY [km^2]
Estimated maximum error for ablation area.

E19 - ACCUMULATION AREA RATIO [%]
Accumulation area divided by the total area, multiplied by 100. Given in percent.

E20 - INVESTIGATOR [alpha-numeric]
Name(s) of the person(s) or agency doing the fieldwork and/or the name(s) of the person(s) or agency processing the data.

E21 - SPONSORING AGENCY [alpha-numeric]
Full name, abbreviation and address of the agency where the data are held.

E22 - REMARKS [alpha-numeric]
Any important information or comments not included above may be given here. Comments about the accuracy of the numerical data may be made, including quantative comments. Only significant decimals should be given.

EE - MASS BALANCE

NOTES ON THE COMPLETION OF THE DATA SHEET

This data sheet should be completed in order to report glacier mass balance data with values related to the data given in data sheet E.

EE1 - POLITCAL UNIT [alphabetic code; 2 digits]
Name of country or territory in which glacier is located (cf. “A1 - POLITICAL UNIT”).

EE2 - GLACIER NAME [alpha-numeric code; up to 30 digits]
The name of the glacier, written in CAPITAL letters. Use the same spelling as in “A2 - GLACIER NAME”.

EE3 - WGMS ID [numeric code; 5 digits]
5 digit key identifying glacier in the WGMS database (cf. “A3 - WGMS ID”).

EE4 - YEAR [year]
Year of present survey.

EE5 - LOWER BOUNDARY OF ALTITUDE INTERVAL [m a.s.l.]
If refers to entire glacier, then lower bound = 9999.

EE6 - UPPER BOUNDARY OF ALTITUDE INTERVAL [m a.s.l.]
If refers to entire glacier, then lower bound = 9999.

EE7 - ALTITUDE INTERVAL AREA [km^2]
Area of each altitude interval (in horizontal projection).

EE8 - SPECIFIC WINTER BALANCE [mm w.e.]
Specific means the total value divided by the total glacier area under investigation.
Specific winter balance equals the net winter balance divided by the total area of the glacier.

EE9 - SPECIFIC WINTER BALANCE ACCURACY [mm w.e.]
Estimated maximum error for specific winter balance.

EE10 - SPECIFIC SUMMER BALANCE [mm w.e.]
Specific means the total value divided by the total glacier area, in this case, it is the net summer balance divided by the total area of the glacier.

EE11 - SPECIFIC SUMMER BALANCE ACCURACY [mm w.e.]
Estimated maximum error for specific winter balance.

EE12 - SPECIFIC ANNUAL BALANCE [mm w.e.]
Annual mass balance of glacier divided by the area of the glacier.

EE13 - SPECIFIC ANNUAL BALANCE ACCURACY [mm w.e.]
Estimated maximum error for specific annual balance.

EE14 - REMARKS [alpha-numeric]
Any important information or comments not included above may be given here. Comments about the accuracy of the numerical data may be made, including quantitative comments. Only significant decimals should be given.

EEE - MASS BALANCE POINT

NOTES ON THE COMPLETION OF THE DATA SHEET

EEE1 - POLITCAL UNIT [alphabetic code; 2 digits]
Name of country or territory in which glacier is located (cf. “A1 - POLITICAL UNIT”).

EEE2 - GLACIER NAME [alpha-numeric code; up to 30 digits]
The name of the glacier, written in CAPITAL letters. Use the same spelling as in “A2 - GLACIER NAME”.

EEE3 - WGMS ID [numeric code; 5 digits]
5 digit key identifying glacier in the WGMS database (cf. “A3 - WGMS ID”).

EEE4 - YEAR [year]
Year of present survey.

EEE5 - POINT ID [alpha-numeric; 4 digits]
4 digit key indentifying the stake or pit.

EEE6 - POINT LATITUDE [decimal degree North or South; up to 6 digits]
Latitude of stake or pit given in decimal degrees, positive values indicating the northern hemisphere and negative values indicating the southern hemisphere.
Latitude should be given to a maximum precision of 4 decimal places.

EEE7 - POINT LONGITUDE [decimal degree East or West; up to 7 digits]
Longitude of stake or pit given in decimal degrees, positive values indicating east of zero meridian and negative values indicating west of zero meridian.
Longitude should be given to a maximum precision of 4 decimal places.

EEE8 - POINT ELEVATION [m a.s.l.]
Elevation above sea level of stake or pit.

EEE9 - POINT WINTER BALANCE [mm w.e.]
Winter mass balance at stake or pit.

EEE10 - POINT SUMMER BALANCE [mm w.e.]
Summer mass balance at stake or pit.

EEE11 - POINT ANNUAL BALANCE [mm w.e.]
Annual mass balance at stake or pit.

EEE12 - REMARKS [alpha-numeric]
Any important information or comments not included above, such as measured or estimated density of snow/firn/ice, may be given here.

F - SPECIAL EVENT

NOTES ON COMPLETION OF THE DATA SHEET

This data sheet should be completed in cases of extraordinary events, especially concerning glacier hazards and dramatic changes in glaciers.

F1 - POLITCAL UNIT [alphabetic code; 2 digits]
Name of country or territory in which glacier is located (cf. “A1 - POLITICAL UNIT”).

F2 - GLACIER NAME [alpha-numeric code; up to 30 digits]
The name of the glacier, written in CAPITAL letters. Use the same spelling as in “A2 - GLACIER NAME”.

F3 - WGMS ID [numeric code; 5 digits]
5 digit key identifying glacier in the WGMS database (cf. “A3 - WGMS ID”).

F4 - EVENT DATE [numeric; 8 digits]
Date of event.
For each event, please indicate the complete date in numeric format (YYYYMMDD).
Missing data: For unknown day or month, put “99” in the corresponding position(s) and make a note under “F6 - EVENT DESCRIPTION”.
For events lasting for several days, please indicate the date of the main event, and describe the sequence of the event under “F6 - EVENT DESCRIPTION”.

F5 - EVENT TYPE [binary code; 6 digits]
Indicate the involved event type(s) using 1 = event type involved and 0 = event type not involved for the following event types:

F5a - GLACIER SURGE
F5b - CALVING INSTABILITY
F5c - GLACIER FLOOD (including debris flow, mudflow)
F5d - ICE AVALANCHE
F5e - TECTONIC EVENT (earthquake, volcanic eruption)
F5f - OTHER

F6 - EVENT DESCRIPTION [alpha-numeric]
Please give quantitative information wherever possible, for example:

- Glacier surge: Date and location of onset, duration, flow or advance velocities, discharge anomalies and periodicity;

- Calving instability: Rate of retreat, iceberg discharge, ice flow velocity and water depth at calving front;

- Glacier flood (including debris flow, mudflow): Outburst volume, outburst mechanism, peak discharge, sediment load, sediment load, reach and propagation velocity of flood wave or front of debris flow / mudflow;

- Ice avalanche: Volume released, runout distance, overall slope (ratio of vertical drop height to horizontal travel distance) of avalanche path;

- Tectonic event: Volumes, runout distances and overall slopes (ratio of vertical drop height to horizontal travel distance) of rockslides on glacier surfaces, amount of geothermal melting in craters, etc.

F7 - DATA SOURCE [alpha-numeric]
Please indicate at least one reference or source which could help the reader to locate more detailed information, or give the name(s) of contact person(s) who would be able to supply additional information.

F8 - REMARKS [alpha-numeric]
Any important information or comments not included above may be given here. Comments about the accuracy of the numerical data may be made, including quantative comments. Only significant decimals should be given.

The amount and/or kind of possible destruction, particular technical measures taken against glacier hazards, or special studies carried out in connection with the event may be given.

Notes

WORLD GLACIER MONITORING SERVICE

GENERAL INFORMATION ON THE OBSERVED GLACIERS 2005–2010

TABLE A

NR	Record number
GLACIER NAME	15 alphabetic or numeric digits
PSFG NUMBER	5 digits identifying glacier with alphabetic prefix denoting country
LAT	Latitude in decimal degrees north or south
LON	Longitudes in decimal degrees east or west
CODE	3 digits giving "primary classification", "form" and "frontal characteristics", respectively
EXP AC	Exposition of accumulation area (cardinal points)
EXP AB	Exposition of ablation area (cardinal points)
ELEVATION MAX	Maximum elevation of glacier in meters
ELEVATION MED	Median elevation of glacier in meters*
ELEVATION MIN	Minimum elevation of glacier in meters*
AREA	Total area of glacier in square kilometers*
LEN	Length of glacier along a flowline from maximum to minimum elevation in kilometers*
TYPE OF DATA	B = Variations in the positions of glacier fronts 2005–2010 or Variations in the position of glacier fronts: addenda from earlier years
	C = Mass balance summary data 2005–2010 or Mass balance summary data: addenda from earlier years
	D = Changes in area, volume and thickness
	F = Index measurements or special events – see Chapter 4

* these are the last reported values which may not correspond to the same survey year

NR	GLACIER NAME	PSFG NR	LAT	LON	CODE	EXP AC	EXP AB	ELEVATION MAX	ELEVATION MED	ELEVATION MIN	AREA KM^2	LEN KM	TYPE OF DATA
	ANTARCTICA												
1	BAHIA D. DIABLO	AQ	63.82 S	57.43 W	4-3-8	NE	E	630	390	50	14.3	7.6	B C
2	HURD	AQ	62.69 S	60.40 W	4-3-3	W	W	334		4	4.034		C
3	JOHNSONS	AQ	62.67 S	60.35 W	4-2-4	NW	NW	356		0	5.358		C
	ARGENTINA												
4	AMEGHINO	AR	50.46 S	73.32 W	4-2-4	N	E						B
5	AZUFRE	AR	35.29 S	70.55 W	5-3-8	E	E	3700	3350	2850	3.87	3.5	B
6	BARROSO	AR	33.46 S	69.48 W	5-3-9	E	SE	5950	5300	3400		9.72	B
7	CAMISA	AR	33.47 S	69.50 W	5-2-8	S	SE	5950	5000	3950		6.69	B
8	CANON HISPANO	AR	33.47 S	69.51 W	5-2-8	NE	NE	5150	5000	3950		6.29	B
9	ESPERANZA N	AR	42.13 S	72.05 W				2400		1080	10.76	4.94	B
10	FRIAS	AR5004	41.15 S	71.83 W	5-3-8	NE	E	3550	2300	880	14.39	7.4	B
11	GR. NEV. D. PLOMO	AR	33.12 S	70.04 W		E	SE						F
12	GUSSFELDT	AR	32.61 S	70.03 W	5-2-6	E	E	5300	4950	4310	14.67	6.57	B
13	HORCONES INF	AR5006	32.68 S	69.98 W	5-3-9	SE	S	4825	4100	3475	6.17	12.15	B
14	HUMO	AR	34.55 S	70.13 W				4100		2700	15	7	B
15	LAGO DESIERTO I	AR	49.05 S	72.91 W	6-3-8	SE	SE	2032		1100	0.83	2.191	B
16	LAGO DESIERTO II	AR	49.06 S	72.92 W	6-3-8	SE	SE	1682		880	1.92	2.431	B
17	LAGO DESIERTO III	AR	49.07 S	72.93 W	6-3-8	SE	SE	1830		1170	0.95	1.592	B
18	MARTIAL ESTE	AR	54.78 S	68.40 W	6-4-6	SE	SE	1170	1070	970	0.093	0.33	C
19	NARVAEZ GRANDE	AR	48.47 S	72.34 W	5-2-4	E	E						B
20	PENON	AR	35.27 S	70.56 W	5-2-5	E	NE	4100	3650	3180	4.42	3.1	B
21	PIEDRAS BLANCAS	AR	49.26 S	73.01 W	5-3-4	E	E	2400		640	5.6	5.771	B
22	SALINILLAS	AR	33.51 S	69.52 W	5-2-9	SE	SE	5500	4300	3275		6.84	B
23	SAN JOSE	AR	33.50 S	69.51 W	5-3-8	SE	E	5700	4600	3500		5.59	B
24	SAN LORENZO SUR	AR	47.63 S	72.30 W	5-2-4	SE	S						B
25	TORRE	AR	49.33 S	73.07 W	1-3-4	E	E	2600		635	24.6	6.853	B
26	TUPUNGATO 01	AR	33.39 S	69.75 W	5-0-7	SE	NE	6600	5300	4380		8.06	B
27	TUPUNGATO 02	AR	33.38 S	69.75 W	5-0-7	SE	E	6100	5100	4600		3.34	B
28	TUPUNGATO 03	AR	33.36 S	69.75 W	5-0-7	E	NE	6400	5650	4625		2.99	B
29	TUPUNGATO 04	AR	33.34 S	69.75 W	5-0-7	NE	NE	6450	6050	4775		3.28	B
30	VACAS	AR	32.55 S	69.99 W	5-2-6	E	E	5400	4700	3730	18.23	6.08	B
	AUSTRIA												
31	ALPEINER F.	AT0307	47.05 N	11.13 E	5-2-8	N	NE	3340	2930	2310	3.94	4.6	B
32	BACHFALLEN F.	AT0304	47.08 N	11.08 E	6-0-8	N	N	3120	2850	2580	2.55	2.9	B
33	BAERENKOPF K.	AT0702	47.13 N	12.72 E	6-2-4	N	N	3400	3030	2270	2.5	3.1	B
34	BERGLAS F.	AT0308	47.07 N	11.12 E	6-0-8	E	NE	3290	2990	2490	1.47	2.5	B
35	BIELTAL F.	AT0105A	46.88 N	10.13 E	6-0-6	NW	NW	3000	2740	2544	0.73	1.1	B
36	BIELTAL F. W	AT0105B	46.87 N	10.13 E	6-4-6	NW	NW	2810	2680	2540	0.29	0.9	B
37	BIELTALFERNER M	AT	46.88 N	10.13 E									B
38	BRENNKOGL K.	AT0727	47.10 N	12.80 E	6-4-6	N	N	2960	2670	2430	0.59	1.2	B
39	DAUNKOGEL F.	AT0310A	47.00 N	11.10 E	6-0-8	NE	NE	3240	2880	2550	2.69	2.9	B
40	DIEM F.	AT0220	46.81 N	10.95 E	6-0-8	NW	NW	3540	3060	2710	3.5	3.4	B
41	EISKAR G.	AT1301	46.62 N	12.90 E	6-4-6	N	N	2390	2250	2160	0.151	0.4	B
42	FERNAU F.	AT0312	46.98 N	11.13 E	6-4-8	NW	N	3310	2850	2380	2.02	2.5	B
43	FREIGER F.	AT0320	46.97 N	11.20 E	6-0-6	NE	NE	3370	3090	2720	0.59	1.5	B
44	FREIWAND K.	AT0706	47.10 N	12.75 E	6-4-8	SE	SE	3130	2890	2690	0.35	1.1	B
45	FROSNITZ K.	AT0507	47.08 N	12.40 E	6-3-6	E	E	3330	2780	2400	4.19	4.4	B
46	FURTSCHAGL K.	AT0406	47.00 N	11.77 E	6-0-8	NW	NW	3480	2890	2542	1	1.6	B
47	GAISKAR F.	AT0325	46.97 N	11.12 E	6-4-8	SE	SE	3190	3070	2890	0.75	1.1	B
48	GAISSBERG F.	AT0225	46.83 N	11.07 E	5-2-8	NW	NW	3390	2850	2460	1.35	3.3	B
49	GEPATSCH F.	AT0202	46.85 N	10.77 E	5-2-8	NE	N	3536	3057	2060	17.346	8.2	B
50	GOESSNITZ K.	AT1201	46.97 N	12.75 E	6-4-7	NW	NW	3060	2690	2520	0.86	1.5	B
51	GOLDBERG K.	AT0802B	47.03 N	12.47 E	6-4-8	SE	NE	3080	2680	2310	1.316	2.8	B C
52	GR. GOSAU G.	AT1101	47.48 N	13.60 E	6-4-6	NW	NW	2810	2520	2250	1.48	2.2	B
53	GROSSELEND K.	AT1001	47.03 N	13.32 E	6-3-6	NW	NW	3140	2720	2410	2.76	2.4	B
54	GRUENAU F.	AT0315	46.98 N	11.20 E	6-4-8	N	N	3415	2941	2363	1.72	2.24	B
55	GURGLER F.	AT0222	46.80 N	10.98 E	5-2-8	NW	N	3420	2990	2270	11.865	8	B
56	GUSLAR F.	AT0210	46.85 N	10.80 E	6-4-8	E	SE	3480	3120	2780	2.63	2.5	B

NR	GLACIER NAME	PSFG NR	LAT	LON	CODE	EXP		ELEVATION			AREA	LEN	TYPE OF
						AC	AB	MAX	MED	MIN	KM^2	KM	DATA
57	HALLSTAETTER G.	AT1102	47.48 N	13.62 E	6-0-8	NE	NE	2910	2560	2080	3.3	2.3	B
58	HINTEREIS F.	AT0209	46.80 N	10.77 E	5-2-8	E	NE	3727	3011	2400	6.858	7.1	B C D
59	HOCHALM K.	AT1005	47.02 N	13.33 E	6-3-6	E	E	3350	2880	2540	3.16	2.4	B
60	HOCHJOCH F.	AT0208	46.78 N	10.82 E	5-2-6	N	NW	3500	3030	2580	7.13	3.8	B
61	HORN K.(SCHOB.)	AT1202	46.97 N	12.77 E	6-4-8	N	NW	3010	2780	2600	0.46	1.1	B
62	HORN K.(ZILLER)	AT0402	47.00 N	11.82 E	5-3-8	N	N	3213	2777	2089	3.417	3	B
63	INN.PIRCHLKAR	AT0228	47.00 N	10.92 E	6-5-6	E	NE	3340	2990	2720	0.62	1.8	B
64	JAMTAL F.	AT0106	46.87 N	10.17 E	5-2-8	N	N	3120	2780	2370	3.171	2.8	B C D
65	KAELBERSPITZ K.	AT1003	47.03 N	13.28 E	6-0-8	N	N	2890	2690	2450	0.82	2.2	B
66	KALS. BAEREN. K.	AT	47.11 N	13.60 E									B
67	KARLINGER K.	AT0701	47.13 N	12.70 E	6-2-4	NE	N	3340	2800	2060	4.04	3.6	B
68	KESSELWAND F.	AT0226	46.84 N	10.79 E	6-3-8	SE	E	3490	3180	2698	3.659	4.25	B C D
69	KLEINEISER K.	AT0717	47.15 N	12.67 E	6-4-6	NW	NW	2880	2730	2620	0.25	0.7	B
70	KLEINELEND K.	AT1002	47.07 N	13.25 E	6-3-4	NE	NE	3190	2750	2150	3.04	2.7	B
71	KLEINFLEISS K.	AT0801	47.05 N	12.95 E	6-0-6	W	W	3080	2840	2510	0.831	2.3	B C
72	KLOSTERTALER M	AT0102B	46.87 N	10.07 E	6-0-8	W	W	3220	2940	2640	0.45	1.6	B
73	KLOSTERTALER N	AT0102A	46.87 N	10.07 E	6-0-8	NW	NW	3220	2880	2600	2.59	1.7	B
74	KRIMMLER K.	AT0501A	47.08 N	12.25 E	6-2-6	NW	NW	3490	2550	1910	7.52	3.5	B
75	KRIMMLER K. E	AT0501B	47.08 N	12.25 E	6-3-6	W	W	3280	2550	2290	7.52	2.2	B
76	LAENGENTALER F.	AT0305	47.08 N	11.10 E	6-4-7	NE	N	3200	2820	2540	0.89	2.2	B
77	LANDECK K.	AT0604	47.13 N	12.58 E	6-4-6	N	N	2940	2600	2430	0.41	0.9	B
78	LANGTALER F.	AT0223	46.79 N	11.02 E	5-3-8	N	NW	3420	2910	2450	3.049	5.1	B
79	LITZNERGL.	AT0101	46.88 N	10.05 E	6-4-7	N	N	2970	2630	2450	0.71	1.2	B
80	MARZELL F.	AT0218	46.78 N	10.88 E	5-2-8	NW	N	3620	3160	2450	5.14	4.4	B
81	MAURER K.(GLO.)	AT0714	47.18 N	12.68 E	6-4-6	W	W	2890	2730	2610	0.49	1.4	B
82	MAURER K.(VEN.)	AT0510	47.08 N	12.30 E	6-0-8	S	S	3490	2840	2330	7.33	3.1	B
83	MITTERKAR F.	AT0214	46.88 N	10.87 E	6-4-6	SE	SE	3580	3230	2960	1.1	2.1	B
84	MUTMAL F.	AT0227	46.78 N	10.92 E	6-4-8	N	NW	3520	3080	2720	0.79	1.5	B
85	NIEDERJOCH F.	AT0217	46.78 N	10.87 E	5-2-8	N	N	3600	3100	2690	2.9	3	B
86	OBERSULZB.K.	AT0502	47.11 N	12.29 E	5-1-8	NW	NW	3600	2730	1990	15.3	5.7	B
87	OCHSENTALERGL.	AT0103	46.85 N	10.10 E	5-2-8	N	N	3160	2910	2290	2.59	2.8	B
88	OEDENWINKEL K.	AT0712	47.11 N	12.65 E	5-3-9	NW	NW	3180	2590	2130	2.22	3.8	B
89	PASTERZE	AT0704	47.10 N	12.70 E	5-2-8	SE	SE	3700	2990	2070	17.71	9.4	B C
90	PFAFFEN F.	AT0324	46.96 N	11.14 E	6-4-8	W	W	3470	3060	2770	1.21	1.8	B
91	PRAEGRAT K.	AT0603	47.12 N	12.59 E	6-0-6	W	W	3020	2800	2630	1.44	1.1	B
92	RETTENBACH F.	AT0212	46.93 N	10.93 E	6-4-6	N	N	3350	2920	2610	1.79	2.5	B
93	ROFENKAR F.	AT0215	46.88 N	10.88 E	6-4-4	SE	SE	3750	3290	2820	1.26	2.2	B
94	ROTER KNOPF K.	AT	46.97 N	12.75 E									B
95	ROTMOOS F.	AT0224	46.82 N	11.05 E	6-2-8	N	N	3410	2960	2370	3.17	3.3	B
96	SCHALF F.	AT0219	46.78 N	10.93 E	5-2-8	NW	NW	3500	3130	2500	8.47	5.6	B
97	SCHAUFEL F.	AT0311	46.98 N	11.12 E	6-0-8	NE	NE	3150	2850	2560	1.46	2.3	B
98	SCHLADMING. G.	AT1103	47.47 N	13.63 E	6-4-6	NE	NE	2700	2600	2420	0.81	0.9	B
99	SCHLATEN K.	AT0506	47.11 N	12.38 E	5-1-8	NE	NE	3670	2810	1940	11.27	6.3	B
100	SCHLEGEIS K.	AT0405	46.98 N	11.77 E	6-0-4	NW	NW	3480	2846	2446	4.085	1.7	B
101	SCHMIEDINGER K.	AT0726	47.18 N	12.68 E	6-0-6	NE	NE	3160	2750	2410	1.81	2	B
102	SCHNEEGLOCKEN	AT0109	46.87 N	10.10 E	6-4-6	NE	NE	3020	2770	2570	0.72	1.2	B
103	SCHNEELOCH G.	AT1104	47.50 N	13.60 E	6-4-8	NW	NW	2530	2300	2190	0.23	0.8	B
104	SCHWARZENB. F.	AT0303	47.05 N	11.12 E	6-3-8	SE	SW	3490	3030	2590	1.84	2.9	B
105	SCHWARZENSTEIN	AT0403	47.02 N	11.85 E	5-0-8	NW	NW	3320	2902	2319	4.118	2.5	B
106	SCHWARZKARL K.	AT0716	47.17 N	12.67 E	6-4-6	NW	NW	2970	2750	2560	0.47	1.2	B
107	SCHWARZK.K.	AT0710	47.15 N	12.72 E	6-4-8	N	NW	2860	2570	2340	0.54	1.2	B
108	SEXEGERTEN F.	AT0204	46.90 N	10.80 E	6-2-8	N	NE	3470	2950	2560	2.83	2.9	B
109	SIMILAUN F.	AT	46.78 N	10.88 E									B
110	SIMMING F.	AT0318	46.98 N	11.25 E	6-0-8	N	N	3170	2700	2340	2.52	2.3	B
111	SIMONY K.	AT0511	47.07 N	12.27 E	6-0-9	SE	SE	3490	2810	2230	4.16	3.5	B
112	SPIEGEL F.	AT0221	46.83 N	10.95 E	6-4-8	NW	NW	3430	3080	2780	1.11	1.7	B
113	ST. SONNBLICK K.	AT0601A	47.13 N	12.60 E	6-0-6	NE	E	3050	2780	2500	1.194	1.5	B C
114	SULZENAU F.	AT0314A	46.98 N	11.15 E	5-1-8	N	N	3501	3012	2468	4.473	3.64	B
115	SULZTAL F.	AT0301	47.00 N	11.08 E	5-2-8	N	N	3350	2860	2290	4.48	4.1	B
116	TASCHACH F.	AT0205	46.90 N	10.85 E	5-2-8	N	NW	3760	3130	2240	8.16	5.6	B
117	TOTENFELD	AT0110	46.88 N	10.15 E	6-4-8	NE	NE	3040	2790	2550	0.72	1.5	B

NR	GLACIER NAME	PSFG NR	LAT	LON	CODE	EXP AC	EXP AB	ELEVATION MAX	ELEVATION MED	ELEVATION MIN	AREA KM²	LEN KM	TYPE OF DATA
118	TOTENKOPF K.	AT	47.13 N	12.66 E									B
119	TRIEBENKAR. F.	AT0323	46.96 N	11.15 E	6-4-8	W	W	3460	3040	2760	1.79	2	B
120	UMBAL K.	AT0512	47.05 N	12.25 E	5-3-8	SW	SW	3440	2850	2230	7.33	5	B
121	UNT. RIFFL KEES	AT0713B	47.13 N	12.67 E	6-4-9	N	NW	2910	2530	2290	1.01	2	B
122	UNTERSULZB. K.	AT0503	47.13 N	12.35 E	5-2-8	N	NW	3670	2720	2070	5.92	6.3	B
123	VERBORGENB. F.	AT0322	47.07 N	11.12 E	6-4-6	E	E	3260	3000	2780	0.89	1.3	B
124	VERMUNTGL.	AT0104	46.85 N	10.13 E	6-2-8	NW	NW	3130	2790	2430	2.16	2.8	B
125	VERNAGT FERNER	AT0211	46.88 N	10.82 E	6-2-6	S	SE	3631	3150	2793	7.916	2.6	B C D
126	VILTRAGEN K.	AT0505	47.13 N	12.37 E	5-2-8	NE	E	3480	2660	2190	4.35	4.5	B
127	W.TRIPP K.	AT1004	47.02 N	13.32 E	6-4-6	SE	S	3230	2880	2780	0.6	1.5	B
128	WASSERFALLW.	AT0705	47.12 N	12.72 E	6-3-8	SE	S	3150	2870	2610	1.93	2.5	B
129	WAXEGG K.	AT0401	47.00 N	11.80 E	6-3-6	NE	N	3310	2852	2394	3.207	1.97	B
130	WEISSEE F.	AT0201	46.85 N	10.72 E	6-0-8	N	N	3530	2970	2540	3.48	3.4	B
131	W. GRUEBLER F. W	AT	46.96 N	11.18 E									B
132	WIELINGER K.	AT0725	47.15 N	12.75 E	6-0-4	N	NW	3560	2940	2180	0.98	2.4	B
133	WILDGERLOS	AT0404	47.15 N	12.11 E	6-0-8	N	N	3260	2650	2110	3.68	2.8	B
134	WINKL K.	AT1006	47.02 N	13.32 E	6-4-8	W	W	3100	2710	2390	0.66	1.5	B
135	WURTEN K.	AT0804	47.04 N	13.01 E	6-2-8	SW	S	3120	2680	2380	0.77	3	B C
136	ZETTALUNITZ K.	AT0508	47.08 N	12.38 E	6-3-8	SW	SW	3470	2980	2450	5.47	4.5	B
	<u>BOLIVIA</u>												
137	CHACALTAYA	BO5180	16.35 S	68.12 W	6-4-8	S	S	5330	5290	5230	0.001	0.206	B C D
138	CHARQUINI N	BO	16.36 S	68.12 W				5260		5070	0.23	0.6	B
139	CHARQUINI OESTE	BO	16.28 S	68.19 W				5150		4950	0.11	0.508	B
140	CHARQUINI SUR	BO	16.17 S	68.09 W		S	S	5334	5143	5030	0.319	0.46	B C D
141	CHARQUINI SE	BO	16.30 S	68.15 W				5350		4830	0.52	1.597	B
142	JANKHU UYU	BO	16.05 S	68.32 W				5450		5100	0.35	0.864	B
143	WILA LLUXITA	BO	16.05 S	68.30 W				5240		5000	0.34	0.847	B
144	ZONGO	BO5150	16.25 S	68.17 W	5-3-8	S	E	6000	5420	4915	1.91	2.75	B C D
	<u>CANADA</u>												
145	CASTLE CREEK	CA	53.04 N	120.46 W	5-3-8	N	N	2825	2425	1810		5.85	B
146	DEVON I C NW	CA0431	75.42 N	83.25 W	3-0-3	NW	NW	1890	1200	0	1667.6	50	C
147	HELM	CA0855	49.97 N	123.00 W	6-2-6	NW	NW	2150	1900	1770	2.5	2.4	C
148	KASKAWULSH	CA	60.72 N	138.80 W									D
149	MEIGHEN ICE CAP	CA1335	79.95 N	99.13 W	3-0-3			1267	600	70	85	56	C
150	PEYTO	CA1640	51.67 N	116.53 W	5-3-8	NE	NE	3190	2640	2130	13.35	5.3	C
151	PLACE	CA1660	50.43 N	122.60 W	5-3-8	NE	NW	2610	2089	1860		4.2	C
152	S MELVILLE I C	CA	75.40 N	115.00 W	3-0-0			697		543			C
153	STEELE	CA	60.00 N	130.00 W									F
154	TWEEDSMUIR	CA	59.81 N	138.15 W									D
155	WHITE	CA2340	79.45 N	90.67 W	5-1-5	SE	SE	1780	1160	80	38.9	15.4	C
	<u>CHILE</u>												
156	CIPRESES	CL0071	34.55 S	70.37 W	6-2-5	W	W	4450	3680	2600	39.4	11.8	B
157	ECHAURREN N	CL0001B	33.58 S	70.13 W	6-4-3	SW	SW	3880	3750	3650	0.4	1.2	C
158	LENGUA	CL1019	52.81 S	73.00 W		SE	SE	1013		98		4.09	B
159	NOROESTE	CL	52.73 S	73.12 W				1600		10	51.5	13.9	B
160	OESTE M	CL	52.82 S	73.17 W				1326		451	3.1	3.012	B
161	OESTE N	CL	52.80 S	73.15 W				1654		0	30.91	11.088	B
162	OESTE S L	CL	52.83 S	73.23 W				1606		118	15.06	9.514	B
163	OESTE S R	CL	52.83 S	73.20 W				1606		118	15.06	8.393	B
	<u>CHINA</u>												
164	HAILUOGOU	CN0031	29.58 N	101.93 E	5-2-8	SE	SE	7556	5100	2980		13.1	B
165	KANGWURE	CN	28.45 N	85.75 E	5-3-6	NE	NE	6100		5500	1.96	3.12	B D
166	URUMQI GL. NO. 1	CN0010	43.08 N	86.82 E	6-2-2	NE	NE	4484	4016	3743	1.645	2.028	B C
167	URUMQI 1 E-BR.	CN0001	43.08 N	86.82 E	6-2-8	NE	NE	4267	3978	3743	1.068	2.028	B C
168	URUMQI 1 W-BR.	CN0002	43.08 N	86.82 E	6-2-8	NE	NE	4484	4087	3845	0.577	1.714	B C

NR	GLACIER NAME	PSFG NR	LAT	LON	CODE	EXP		ELEVATION			AREA	LEN	TYPE OF
						AC	AB	MAX	MED	MIN	KM²	KM	DATA
	C.I.S.												
169	ASHU-TOR S (326)	SU	42.04 N	78.16 E				4472		3550	6	6.042	B
170	BIRDZHALYCHIR.	SU3026	43.37 N	42.53 E	0-0-6	NE	NE	5600	3650	3320	12.69	6.46	B
171	BITYUKTYUBE	SU3034	43.37 N	42.40 E	0-0-7	NW	NW	4670	4000	3325	2.22	3.34	B
172	BOLSHOY AZAU	SU3004	43.28 N	42.43 E	0-0-8	S	SE	5610	3900	2526	18.76	8.94	B
173	BOLSHOY CHON.	SU	41.97 N	77.90 E				4658		3900	6.6	4.38	B
174	CHUNGURCHAT.	SU3027	43.37 N	42.55 E	0-0-6	NE	NE	5600	3650	3182	12.5	6.72	B
175	DJANKUAT	SU3010	43.20 N	42.77 E	5-2-9	N	NW	3780	3250	2710	2.688	4.2	C
176	GARABASHI	SU3031	43.30 N	42.47 E	0-0-8	SE	S	5000	3880	3325	4.42	5.7	B C
177	GREGORIEV	SU	41.96 N	77.92 E				4585		4142	9.4	3.757	B
178	IRIK	SU3029	43.33 N	42.50 E	0-0-7	SE	SE	5600	3900	2623	10.1	8.51	B
179	IRIKCHAT	SU3028	43.33 N	42.53 E	0-0-7	SE	SE	3960	3650	3222	1.73	2.37	B
180	KARACHAUL	SU3022	43.38 N	42.45 E	0-0-6	N	N	5610	4000	3093	5.14	6.14	B
181	KOLPAKOVSKY	SU	42.08 N	78.28 E				4700		3550	26.2	13.043	B
182	KYUKYURTLYU	SU3033	43.35 N	42.38 E	0-0-7	W	W	5640	4250	2768	6.59	7.43	B
183	LEVIY AKTRU	SU7102	50.08 N	87.72 E	5-3-6	SE	SE	4043	3250	2575	5.95	5.84	B C
184	MALIY AKTRU	SU7100	50.08 N	87.75 E	5-3-8	E	N	3714	3200	2234	2.73	4.22	B C
185	MALIY AZAU	SU3032	43.28 N	42.45 E	0-0-6	S	S	5610	4000	3077	8.47	7	B
186	MIKELCHIRAN	SU3025	43.37 N	42.50 E	0-0-6	NE	NE	4900	3900	3262	4.44	4.65	B
187	NO. 125 (VODOP.)	SU7105	50.10 N	87.70 E	3-0-3	N	N	3552	3230	3038	0.75	1.38	B C
188	NO.211	SU	42.01 N	77.96 E				4659		3890	4.4	4.851	B
189	NO.324	SU	42.04 N	78.18 E				4530		3895	6.3	5.892	B
190	NO.392	SU	42.00 N	77.97 E				4588		3900	4.9	3.879	B
191	NO.393	SU	41.99 N	77.97 E				4567		3940	4.1	4.97	B
192	NO.394	SU	41.98 N	77.96 E				4614		4120	3.3	2.644	B
193	POPOV	SU	41.99 N	77.93 E				4765		3850	8.6	6.074	B
194	TERSKOL	SU3030	43.30 N	42.48 E	0-0-6	S	SE	5600	3900	2990	7.53	6.54	B
195	TS.TUYUKSUY.	SU5075	43.05 N	77.08 E	5-3-6	N	N	4219	3815	3458	2.446	2.777	B C D
196	ULLUCHIRAN	SU3021	43.38 N	42.43 E	0-0-7	N	N	5640	4100	3065	11.92	6.17	B
197	ULLUKOL	SU3023	43.38 N	42.47 E	0-0-6	N	N	5600	3750	3363	2.37	5.7	B
198	ULLUMALIENDER.	SU3024	43.38 N	42.48 E	0-0-6	N	N	5600	3750	3171	2.41	5.79	B
	COLOMBIA												
199	LA CONEJERA	CO0033	4.48 N	75.22 W	6-3-6	NW	NW	4958	4839	4721	0.22	1.1	B C D
200	LOS RITACUBAS	CO	6.45 N	72.30 W							7.347		C
201	VOL.NEV. D. HUILA	CO	2.92 N	76.05 W				5655		4250	12.95	6.5	F
	ECUADOR												
202	ANTIZ.15ALPHA	EC0001	0.47 S	78.15 W	4-7-8	NW	NW	5760	5309	4858	0.293	1.864	B C
	FRANCE												
203	ARGENTIERE	FR0002	45.95 N	6.98 E	5-1-9	NW	NW	3500	2600	1500	15.6	9	B C
204	BLANC	FR0031	44.94 N	6.39 E	5-2-8	E	S	4000	3000	2500		7	B
205	BOSSONS	FR0004	45.88 N	6.86 E	5-2-8	N	N	4800	3200	1190	10.53	7.2	B
206	DRUS, GLACIER DE	FR	45.94 N	6.96 E	6-3-9	E	E						F
207	GEBROULAZ	FR0009	45.30 N	6.63 E	5-2-9	N	N	3400	3000	2600	2.76	3	B C
208	MER DE GLACE	FR0003	45.88 N	6.93 E	5-1-9	N	N	3600	3000	1480	33	12	B F
209	OSSOUE	FR	42.77 N	0.14 W	5-2-9	E	E	3200	3000	2750		1.4	B C
210	ROCHEMELON	FR	45.22 N	6.07 E	5-3-8	NW	NW	3300		2950	1.6		F
211	SAINT SORLIN	FR0015	45.17 N	6.15 E	5-2-9	N	N	3400	2900	2600	3	3	B C
212	SARENNES	FR0029	45.14 N	6.14 E	5-4-8	S	S	3150	3000	2850		1	C
213	TETE ROUSSE	FR	45.85 N	6.82 E									F
	GERMANY												
214	HOELLENTAL	DE0003	47.42 N	10.99 E	5-4-8	NE	NE	2569	2356	2202	0.247	0.81	D
215	SCHNEEFERNER N	DE0001	47.41 N	10.97 E	6-4-8	E	E	2798	2635	2558	0.335	0.825	D
216	SCHNEEFERNER S	DE0002	47.40 N	10.97 E	6-4-8	NE	NE	2664	2587	2520	0.084	0.593	D
	GREENLAND												
217	AKULLIIT	GL	69.64 N	54.50 W				840		287	3.43	3.42	B
218	ASSAKAAT	GL	70.52 N	52.07 W				1726		316	13.2	8.142	B

NR	GLACIER NAME	PSFG NR	LAT	LON	CODE	EXP		ELEVATION			AREA	LEN	TYPE OF
						AC	AB	MAX	MED	MIN	KM^2	KM	DATA
219	FLADE ISBLINK IC	GL	81.20 N	16.90 W									D
220	FREYA	GL	74.23 N	20.50 W	5-2-8	N	NW	1250		330	5.599	6	B C
221	KANGIUSAQ	GL	65.85 N	52.09 W				1928		22	8.77	5.35	B
222	LYNGMARKSBRAE	GL	69.28 N	53.55 W				1000		600	1.7	2.186	B
223	MITTIVAKKAT	GL0019	65.67 N	37.83 W	2-2-3	SW	SW	899		130	30	7.5	B C
224	MOTZFELDT E	GL	61.15 N	45.03 W				1600		1100	1.43	2.91	B
225	MOTZFELDT W	GL	61.13 N	45.09 W				1680		1000	6.11	4.783	B
226	NAPASORSUAQ	GL	60.30 N	45.27 W				1050		500	1.97	2.97	B
227	NARSSAQ BRAE	GL0005	60.99 N	45.90 W	6-2-0	W	W	1300	1110	900	1.43	1.6	B
228	PETERMANN	GL	80.80 N	61.10 W									F
229	QINGUA KUJALLE.	GL	65.95 N	51.92 W				1785		0	57	15.421	B
230	SAARLOQ	GL	65.87 N	52.61 W				1815		177	4.27	3.85	B
231	SAQQAQ	GL	70.08 N	51.70 W				1131		281	8.83	6.778	B
232	SERMIARSUIT	GL	70.52 N	52.15 W				1954		77	20.33	11.55	B
233	SERMIKASSAK	GL	71.22 N	53.96 W				1840		39	22.46	15.095	B
234	SERMINNGUAQ	GL	66.28 N	52.40 W				1850		10	79.07	20.847	B
235	SERMITSIAQ	GL	60.54 N	44.16 W				1500		50	23.8	12.469	B
236	SISSARISSUT	GL	66.37 N	52.38 W				1782		62	19.08	8.578	B
237	SOQQAAP	GL	70.47 N	51.88 W				1633		394	15.46	9.644	B
238	TUNORSUAQ	GL	69.32 N	53.36 W				930		430	3.08	2.003	B
239	UMIARTORFIUP	GL	70.47 N	51.98 W				1729		97	39.9	15.817	B
	ICELAND												
240	BAEGISARJOEK.	IS0304	65.59 N	18.37 W	5-3-0	N	N	1300	1120	960	1.7	1.4	B
241	BLAGNIPUJOEK.	IS	64.72 N	19.13 W	4--3	SW	SW	1700		740	51.5	11	B
242	BREIDAMJ. W. A.	IS1125A	64.06 N	16.40 W	4-2-4	E	SE	1900		60	160	20	B
243	BREIDAMJ. W. C.	IS1125C	64.17 N	16.47 W	4-2-3	SE	SE	1730		40	210	30	B
244	BROKARJOEKULL	IS1427	64.25 N	16.12 W	4-3-3	S	SE	1200		200	5	3	B
245	BRUARJOEKULL	IS2400	64.67 N	16.17 W	4-3-3	N	N	1800	1260	590	1600	54	C
246	DYNGJUJOEKULL	IS2600	64.67 N	17.00 W	4-2-3	N	N	200	1440	720	1050	46	C
247	EYJABAKKAJOEK.	IS2300	64.65 N	15.58 W	4-2-3	N	NE	1565	1130	690	110	15	C
248	EYJAFJALLAJOEK.	IS0112	63.62 N	19.62 W	3-3-0								F
249	FALLJOEKULL	IS1021	63.98 N	16.75 W	4-3-3	W	W	2000		140	8	8	B
250	FJALLSJ. B. BREID.	IS1024A	64.04 N	16.40 W	4-3-4	SE	E	2040		40	45	15	B
251	FJALLSJ. B. GAML.	IS1024C	64.01 N	16.42 W	4-3-4	SE	E	2040		40	48	15	B
252	FLAAJOEK. E 148	IS1930C	64.34 N	15.54 W		SE	SE	1520		50	180	29	B
253	GEITLANDSJOEK.	IS	64.67 N	20.53 W	4--3	W	W	1420		800		8	B
254	GIGJOEKULL	IS0112	63.67 N	19.62 W	4-3-4	N	N	1640		200	7.5	7.5	B
255	GLJUFURARJOEK.	IS0103	65.72 N	18.65 W	5-4-8	N	N	1350		600	3	2.5	B
256	HAGAFELLSJOEK.	IS0306	64.49 N	20.26 W	4-3-3	SW	SW	1420		440	105	19	B
257	HEINABERGSJOEK.	IS1829A	64.29 N	15.67 W	4--4	SE	E	1520		60	85	25	B
258	HOFSJOEKULL E	IS0510B	64.80 N	18.58 W	4-3-3	E	E	1800	1185	640	250	19	C
259	HOFSJOEKULL N	IS0510A	64.95 N	18.92 W	4-3-3	N	N	1800	1250	860	90.6	19.9	C
260	HOFSJOEKULL SW	IS0510C	64.72 N	19.05 W	4-3-3	SW	SW	1750	1205	750	51	13	C
261	HYRNINGSJOEK.	IS0100	64.81 N	23.73 W	4-3-3	E	E	1445		700	2	2	B
262	JOEKULKROKUR	IS0007	64.81 N	19.81 W	4-3-3	NE	NE	1450		740	55	11	B
263	KALDALONSJOEK.	IS0102	66.12 N	22.29 W	4-3-3	SW	SW	900		140	37	6	B
264	KIRKJUJOEKULL	IS	64.73 N	19.85 W	4--3	SE	E	1450		700	30	8	B
265	KOELDUKVISLARJ.	IS2700	64.58 N	17.83 W	4-3-3	NW	NW	2000	1420	900	310	27	C
266	KOETLUJOEKULL	IS	63.55 N	18.82 W	4--3	SE	SE	1500		200	133	23	B
267	KVERKJOEKULL	IS2500	64.72 N	16.65 W	4-3-3	N	NW	1920		900	29	11	B
268	KVISLAJOEKULL	IS	64.85 N	19.16 W	4--3	W	W	1700		820	66	15	B
269	LANGJOEK.S. DO.	IS	64.62 N	20.30 W				1440	1110	430			C
270	LEIRUFJARDARJ.	IS0200	66.19 N	22.44 W	4-3-3	NW	NW	925		140	27	6	B
271	LODMUNDARJ.	IS0108	64.65 N	19.19 W		N	N	1170		900	1.9	2	B
272	MORSARJOEKULL	IS0318	64.09 N	16.94 W	4-3-3	SW	SW	1380		180	30	10	B
273	MULAJOEKULL S	IS0311A	64.67 N	18.66 W	4-3-2	SE	SE	1790		610	70	20	B F
274	NAUTHAGAJOEK.	IS0210	64.65 N	18.76 W	4-3-3	S	S	1780		630	25	18	B
275	OELDUFELLSJOEK.	IS0114	63.73 N	18.84 W	4-3-2	NE	E	1400		320	40	15	B
276	REYKJAFJARDARJ.	IS0300	66.20 N	22.18 W	4-3-3	NE	NE	925		100	22	7	B
277	RJUPNABREKKUJ.	IS	64.72 N	17.56 W	4--3	NW	NW	1940		1060		7	B

NR	GLACIER NAME	PSFG NR	LAT	LON	CODE	EXP AC	EXP AB	ELEVATION MAX	ELEVATION MED	ELEVATION MIN	AREA KM²	LEN KM	TYPE OF DATA
278	SATUJOEKULL	IS0530	64.92 N	18.83 W	4-3-3	N	N	1790		860	91	20	B
279	SIDUJOEK. E M 177	IS0015B	64.11 N	17.74 W	4-3-2	SW	S	1720		590	350	40	B
280	SKAFTAFELLSJ.	IS0419	64.02 N	16.90 W	4-2-3	SW	SW	1900		100	85	18	B
281	SKALAFELLSJOEK.	IS1728A	64.27 N	15.67 W	4-3-3	SE	E	1400		60	100	25	B
282	SKEIDARARJ. E1	IS0117A	64.03 N	17.09 W	4-3-2	S	S	1725		100	850	50	B
283	SKEIDARARJ. E2	IS0117B	64.01 N	17.11 W	4-3-2	S	S	1725		100	850	50	B
284	SKEIDARARJ. E3	IS0117C	64.01 N	17.14 W	4-3-2	S	S	1725		100	850	50	B
285	SKEIDARARJ. M	IS	63.99 N	17.22 W	4--3	S	S	1720		80	530	45	B
286	SKEIDARARJ. W	IS0116	64.01 N	17.37 W	4-3-2	S	S	1720		100	530	45	B
287	SLETTJOEKULL	IS	63.77 N	19.20 W	4--3	NW	NW	1380		640	100	11	B
288	SOLHEIMAJ. W	IS0113A	63.53 N	19.37 W	4-3-3	SW	SW	1500		110	44	15	B
289	SVINAFELLSJOEK.	IS0520A	63.99 N	16.88 W	4-2-3	W	SW	2110		120	24	12	B
290	TUNGNAARJOEK.	IS2214	64.32 N	18.07 W	4-3-3	SW	W	1680	1220	690	360	39	B C
	INDIA												
291	CHHOTA SHIGRI	IN	32.20 N	77.50 E	5-1-9	N	N	6263	5020	4050	16.888	9	C D
292	CHORABARI	IN	30.76 N	79.06 E									B
293	DRANG DRUNG	IN	33.75 N	76.29 E									B
294	GANGOTRI	IN0019	30.90 N	79.09 E									B
295	GANGSTANG	IN0077	32.20 N	77.30 E									B
296	GLACIER NO. 10	IN	33.82 N	76.29 E									B
297	GLACIER NO. 12	IN	33.71 N	76.35 E									B
298	GLACIER NO. 13	IN	33.63 N	76.32 E									B
299	GLACIER NO. 9	IN	33.81 N	76.22 E									B
300	HAMTAH	IN	32.24 N	77.37 E	5-3-0	NW	NW	4683	4452	4040	3.458	5.32	B C
301	MILAM	IN0037	30.52 N	80.08 E									B
302	MULKILA	IN0070	32.20 N	77.30 E						3825			B
303	PANCHI NALA I	IN0046	32.20 N	77.30 E						4550			B
304	PANCHI NALA II	IN0048	32.20 N	77.30 E						4315			B
305	PARKACHICK	IN	34.03 N	76.00 E									B
306	TINGAL GOH	IN0088	32.20 N	77.30 E									B
307	YOCHE LUNGPA	IN0079	32.20 N	77.30 E						3975			B
	IRAN												
308	ALMAKOUH	IR	36.40 N	50.98 E	5-2-9	NE	NE	4835		3197	3.7		D
	ITALY												
309	AGNELLO MER.	IT0029	45.15 N	6.90 E	6-4-0	NE	NE	3200	3010	3020	0.5	1.45	B
310	ALTA V. / HOHENF.	IT0730	46.46 N	10.68 E	5-3-8	NE	N	3350	3059	2690	1.75	2	B
311	AMOLA	IT0644	46.20 N	10.72 E	6-3-0	E	E	3120	2785	2510	0.86	1.8	B
312	ANTELAO IN. OCC.	IT0967	46.45 N	12.27 E	6-4-0	N	N	2800	2472	2340	0.2	0.85	B
313	ANTELAO SUP.	IT0966	46.45 N	12.27 E	6-3-0	N	NE	3130	2465	2510	0.37	1.3	B
314	AOUILLE	IT0138	45.52 N	7.15 E	6-4-			3350		3080	0.25	0.8	B
315	BASEI	IT0064	45.48 N	7.12 E	6-0-0	NE	NE	3320		2950	0.37	0.8	B
316	BELVEDERE (M.)	IT0325	45.95 N	7.91 E	5-2-5	NE	NE	4520		1780	5.58	6.05	B F
317	BESSANESE	IT0040	45.30 N	7.12 E	5-3-2	SE	SE	3210		2585	1.04	2.55	B
318	BRENVA	IT0219	45.83 N	6.90 E	5-2-8	SE	E	4810	3100	2450	8.06	7.64	B
319	CALDERONE	IT1006	42.47 N	13.62 E	6-4-0	NE	NE	2830	2730	2650	0.036	0.3	B C D F
320	CAMPO SETT.	IT0997	46.42 N	10.11 E				3180		2840	0.323	1	B C D
321	CARE ALTO OR.	IT0632	46.11 N	10.61 E	6-7-6			3220		3050	0.27	0.5	B
322	CARESER	IT0701	46.45 N	10.70 E	6-3-8	S	S	3278	3079	2881	1.886	1600	B C F
323	CARESER CENT.	IT	46.45 N	10.69 E	6-9-8	SE	SE	3112	3005	2921	0.241	1130	C
324	CARESER OCC.	IT	46.45 N	10.69 E	6-4-8	SE	SE	3278	3149	3094	0.194	670	C
325	CARESER OR.	IT	46.45 N	10.70 E	6-3-8	S	S	3267	3079	2881	1.432	1600	C
326	CASPOGGIO	IT0435	46.34 N	9.91 E	6-4-8	NW	NW	2985	2800	2725	0.84	1.1	B
327	CASSANDRA OR.	IT0411	46.26 N	9.76 E	5-2-			3100		2915	0.4	1.8	B
328	CASTELLI OR.	IT0493	46.45 N	10.55 E	6-4-			3050		2808	0.4	0.8	B
329	CEDEC	IT0503	46.45 N	10.60 E	5-2-			3780		2710	2.5	3	B
330	CEV.FORC./FUERK..	IT0731	46.45 N	10.65 E	5-3-8	E	NE	3750	3105	2670	2.52	3.5	B
331	CEV. PRINC./ZUF.F..	IT0732	46.46 N	10.63 E	5-3-8	E	E	3700	3078	2650	3.2	3.7	B
332	CIAMARELLA	IT0043	45.33 N	7.13 E	6-4-			3400		3095	0.7	0.9	B

NR	GLACIER NAME	PSFG NR	LAT	LON	CODE	EXP		ELEVATION			AREA	LEN	TYPE OF
						AC	AB	MAX	MED	MIN	KM^2	KM	DATA
333	CIARDONEY	IT0081	45.52 N	7.40 E	6-3-9	NE	E	3130		2870	0.833	1.7	B C
334	CLAPIER	IT0001	44.11 N	7.42 E	6-4-8			2750		2590	0.3	0.3	B
335	COL D.MARE I	IT0506A	46.42 N	10.61 E	5-3-			3700		2890	1	2.5	B
336	COLLALTO/H.GA F.	IT0927	46.93 N	12.15 E	6-3-8	NW	NW	3380	2955	2550	2.57	2.1	B
337	COLLER. D'ARNAS	IT0042	45.32 N	7.12 E				3400		2950			B
338	COUPE DE MONEY	IT0109	45.53 N	7.38 E	6-4-			3600		2725	1.54	2	B
339	CRISTALLO	IT0937	46.58 N	12.21 E	6-0-0	N	N	3000	2510	2330	0.32	1.05	B
340	DISGRAZIA	IT0419	46.28 N	9.74 E				3000		2620			B
341	DOSEGU	IT0512	46.37 N	10.55 E	5-2-6	SW	SW	3670	3260	2862	3.3	2.8	B
342	DZASSET	IT0113	45.54 N	7.27 E				3750		2950			B
343	ESTELLETTE	IT0208	45.77 N	6.82 E	6-3-9			3150		2550	0.54	1.3	B
344	FOND OCCID.	IT0146	45.48 N	7.07 E				3000		2710			B
345	FOND OR.	IT0145	45.47 N	7.08 E				3300		2720	1.15	2.1	B
346	FONT. BIANCA/W,.	IT0713	46.48 N	10.77 E	6-4-0	E	E	3360	3120	2867	0.437	1.151	B C
347	FORNI	IT0507	46.40 N	10.59 E	5-2-9	N	NW	3678	3150	2510	20	5	B
348	FOURNEAUX	IT0027	45.11 N	6.84 E				3050		2850	0.04	0.6	B
349	FRADUSTA	IT0950	46.25 N	11.87 E	6-0-0	N	N	2936	2730	2642	0.43	0.95	B
350	GLIAIRETTA VAUD.	IT0168	45.51 N	7.02 E	5--			3300		2700	3.6	3.6	B
351	GOLETTA	IT0148	45.50 N	7.05 E	5-2-0	N	N	3290	3055	2760	3.02	2.4	B
352	GRAN PIL./GLIED.F.	IT0893	46.97 N	11.72 E	5-3-8	SW	W	3370	2935	2500	2.62	3.7	B
353	GRAN VAL	IT0115	45.56 N	7.29 E									B
354	GR, VEDR, OCC./HF.	IT0884	46.98 N	11.71 E									B
355	GR, VEDR, OR./GF..	IT0883	46.98 N	11.72 E									B
356	GRAN ZEBRU	IT0502	46.47 N	10.57 E				3400		2930	1.02	1.8	B
357	GR, CROUX CENT,.	IT0111	45.52 N	7.31 E				3300		2560	2	2.1	B
358	GRAND ETRET	IT0134	45.48 N	7.22 E	5-2-			3100		2450	0.75	1.3	B C
359	GRUETTA ORIENT.	IT0232	45.90 N	7.03 E									B
360	INDREN OCC.	IT0306	45.89 N	7.86 E	5-3-			4100		3050	1.68	2.5	B
361	JUMEAUX	IT0280	45.94 N	7.60 E				2850		2680			B
362	LA MARE (VED.DE)	IT0699	46.43 N	10.63 E	5-2-5	E	E	3769	3260	2625	4.75	3.5	B
363	LANA/A. LAHN. K.	IT0913	47.07 N	12.21 E	5-2-9	NW	NW	3480	2720	2310	1.69	2.9	B
364	LARES	IT0634	46.13 N	10.60 E	6-7-6	E	NE	3463	3023	2600	6.24	3.7	B
365	LAUSON	IT0116	45.56 N	7.28 E	6-4-0	N	N	3370	3100	2965		1.05	B
366	LAVACCIU	IT0129	45.52 N	7.25 E	5-2-			3770		2810	1.83	2.6	B
367	LAVASSEY	IT0144	45.48 N	7.11 E	6-4-			3130		2700	1.5	1.9	B
368	LOBBIA	IT0637	46.16 N	10.58 E	5-3-0	N	N	3438	2968	2620	5.4	1.8	B
369	LOCCE SETT.	IT0321	45.93 N	7.92 E									B
370	LUNGA/LANGENF.	IT0733	46.47 N	10.62 E	5-2-9	NE	E	3390	3120	2670	1.776	2.7	B C
371	LUPO	IT0543	46.08 N	9.99 E	6-4-			2760		2435	0.202	0.7	B C D
372	LYS	IT0304	45.90 N	7.83 E	5-1-5	SW	SW	4530	3732	2355	11.83	5.6	B
373	MALAVALLE/U.T.F.	IT0875	46.95 N	11.12 E	5-1-5	E	E	3470	2950	2550	7.198	4.02	B C
374	MANDRONE	IT0639	46.17 N	10.55 E	5-2-0	NE	NE	3436	3022	2530	12.38	5.38	B
375	MARMOLADA C..	IT0941	46.44 N	11.87 E	6-0-6	N	N	3340	2825	2720	2.6	1.5	B
376	MAROVIN	IT0541	46.08 N	10.00 E				2450		2060			B
377	MARTELOT	IT0049	45.38 N	7.17 E	6-5-			2860		2450	0.23	0.8	B
378	MONCIAIR	IT0132	45.49 N	7.24 E	6-5-			3230		2850	0.53	0.7	B
379	MONCORVE	IT0131	45.50 N	7.25 E	6-2-2	NW	NW	3642	3158	2900	2.23	1.5	B
380	MONEY	IT0110	45.53 N	7.34 E	5-2-			3600		2515	1.86	2.6	B
381	MONTANDEYNE	IT0128	45.54 N	7.26 E	6-4-			3400		3100	1.22	1.3	B
382	MORION OR.	IT0180	45.63 N	7.03 E	5-3-			3250		2720	0.9	2.1	B
383	MULINET MERID.	IT0047	45.36 N	7.17 E				3010		2535			B
384	MULINET SETT.	IT0048	45.37 N	7.17 E	6-4-			2920		2690	0.18	0.5	B
385	NARDIS OCC.	IT0640	46.21 N	10.66 E	5-3-0	SE	SE	3500	3160	2790	1.67	2.55	B
386	NEL CENTRALE	IT0057	45.42 N	7.17 E	6-5-			3200		2600	1.06	1.5	B
387	NEVES OR./N-F. O.	IT0902	46.98 N	11.80 E	6-3-8	S	S	3300	2990	2655	2.27	2.2	B
388	NISCLI	IT0633	46.11 N	10.61 E	6-3-0	E	E	3200	2783	2590	0.66	1.5	B
389	PAL.D.MAR. LOB.C.	IT0506B	46.41 N	10.60 E				3704					B
390	PAL.D.MAR. LOB.O.	IT0506C	46.41 N	10.60 E									B
391	PEIRABROC	IT0002	44.12 N	7.41 E	6-4-			2700		2580	0.1	0.1	B
392	PENDENTE/HA.F.	IT0876	46.96 N	11.23 E	5-2-0	S	S	2950	2777	2630	0.852	1.35	B C
393	PIODE	IT0312	45.91 N	7.88 E	5-2-0	SE	SE	4436	3120	3470	2.55	2.65	B

NR	GLACIER NAME	PSFG NR	LAT	LON	CODE	EXP AC	EXP AB	ELEVATION MAX	ELEVATION MED	ELEVATION MIN	AREA KM²	LEN KM	TYPE OF DATA
394	PISGANA OCC.	IT0577	46.19 N	10.52 E	5-3-7	N	NE	3320	3000	2570	3.36	2.8	B
395	PIZZO FERRE	IT0365	46.47 N	9.28 E	5-3-			2990		2700	0.9	1.8	B
396	PIZZO SCALINO	IT0443	46.28 N	9.98 E	6-3-6	N	N	3100	2920	2585	1.94	2.1	B
397	PRE DE BAR	IT0235	45.91 N	7.04 E	5-2-0	SE	SE	3750	3095	2089	3.53	3.93	B
398	PREDAROSSA	IT0408	46.26 N	9.74 E	5-3-			3400		2625	0.88	2.5	B
399	QUAIRA B./ WKF.	IT0889	46.55 N	10.86 E	5-2-0	SW	SW	3509	3132	2605	1.41	2.8	B
400	RIES OCC./RF. W.	IT0930	46.90 N	12.10 E	6-3-6	N	N	3300	2955	2610	1.975	2.1	B C
401	RIES O.C./RF. O. Z.	IT0929	46.90 N	12.12 E	6-4-9	NW	N	3265	2816	2535	2.57	2.1	B
402	ROSIM / ROSIMF.	IT0754	46.53 N	10.64 E	6-3-0	NW	W	3405	3215	2940	0.78	1.5	B
403	ROSSO DESTRO	IT0920	47.03 N	12.20 E	5-3-6	W	W	3285	2838	2520	0.88	1.7	B
404	RUTOR	IT0189	45.50 N	7.00 E	5-2-0	N	NW	3460	2998	2480	9.54	4.8	B
405	SCERSCEN INF.	IT0432	46.35 N	9.85 E	5-2-			3400		2645	7	4.5	B
406	SEA	IT0046	45.34 N	7.14 E	5-3-			3020		2710	0.62	1.9	B
407	SFORZELLINA	IT0516	46.35 N	10.51 E	6-4-8	NW	NW	3120	2925	2795	0.4	0.7	B
408	SISSONE	IT0422	46.30 N	9.72 E				3100		2625			B
409	SOCHES TSANTEL.	IT0147	45.49 N	7.07 E	6-4-			3450		2720	3.4	3.5	B
410	SOLDA / SULDENF.	IT0762	46.49 N	10.57 E	5-2-7	NE	NE	3900	2908	2410	6.48	4.2	B
411	SURETTA MERID.	IT0371	46.51 N	9.36 E				2925		2685	0.181	0.8	B C D
412	TORRENT	IT0155	45.58 N	7.09 E				3100		2660			B
413	TOULES	IT0221	45.83 N	6.93 E	6-4-0	SE	SE	3500	3050	2679	0.93	1.65	B
414	TRAVIGNOLO	IT0947	46.29 N	11.82 E	6-4-7	N	N	2850	2520	2330	0.28	0.9	B
415	TRIBOLAZIONE	IT0112	45.52 N	7.28 E	6-4-			3870		2785	5.78	2.1	B
416	TZA DE TZAN	IT0259	45.98 N	7.57 E	5-2-0	SE	S	3810	3285	2530	3.95	3.7	B
417	VAL VIOLA OCC.	IT0477	46.39 N	10.17 E	6-5-			3260		2770	0.19	1.1	B
418	VALLE DEL VENTO	IT0919	47.04 N	12.20 E	5-3-8	NW	NW	3050	2710	2445	0.36	1.2	B
419	VALTOURNANCHE	IT0289	45.93 N	7.70 E	4-2-2	W	W	3695	3315	3000	1.68	2	B
420	VAUDALETTA	IT0142	45.52 N	7.14 E									B
421	VENEROCOLO	IT0581	46.16 N	10.51 E	5-3-9	NW	N	3280	2810	2570	1.5	2.2	B
422	VENTINA	IT0416	46.27 N	9.77 E	5-3-6	NE	N	3500	2790	2230	2.37	3.7	B
423	VERRA (GR. DI)	IT0297	45.92 N	7.75 E	5-2-			4000		2614	6.11	5.2	B
424	ZAI DI DEN./Z.F. I.	IT0749	46.56 N	10.64 E	6-5-0	NW	W	3314	3117	2960	0.45	1.1	B
425	ZAI DI FUO./Z.F. A.	IT0751	46.54 N	10.64 E	6-5-7	NW	NW	3475	2995	2830	0.61	1	B
426	ZAI DI MEZ./Z.F. M.	IT0750	46.55 N	10.64 E	6-0-0	NW	W	3520	3020	2880	0.72	1.4	B
	JAPAN												
427	HAMAGURI YUKI	JP0001	36.60 N	137.62 E	7-3-0	NE	NE	2720		2690	0.003	0.07	C F
	KENYA												
428	LEWIS	KE0008	0.15 S	37.30 E	5-3-3	SW	SW	4871	4804	4651	0.21	0.58	B D
	NEPAL												
429	AMA DABLAM	NP	27.88 N	86.88 E	5-2-7	N	W				2.2		D
430	AMPHU LAPTSE	NP	27.88 N	86.94 E	5-2-7	N	N				1.5		D
431	AX010	NP0005	27.70 N	86.57 E	6-3-6	E	SE	5302	5220	4968	0.42	1.5	D
432	CHANGRI NUP/SH.	NP	27.98 N	86.81 E	5-2-7	S	SE				13		D
433	CHUKHUNG	NP	27.88 N	86.90 E	6-8-6	NW	NW				3.8		D
434	DUWO	NP	27.88 N	86.86 E	5-2-7	NW	NW				1		D
435	KHUMBU	NP	27.95 N	86.82 E	5-2-7	W	SW				17		D
436	LHOTSE	NP	27.92 N	86.92 E	5-2-7	SW	W				6.5		D
437	LHOTSE NUP	NP	27.94 N	86.89 E	5-2-7	S	S				1.95		D
438	LHOTSE SH. / IMJA	NP	27.90 N	86.94 E	5-2-4	W	W	5800	5200	5055	10.7	8.4	B D
439	NUPTSE	NP	27.93 N	86.87 E	5-2-7	SW	S				4		D
440	RIKHA SAMBA	NP0012	28.83 N	83.50 E	5-3-8	S	SE	6229	5650	5346	4.8	6.2	D
441	ROLWALING (TRK.)	NP	27.86 N	86.54 E	5-2-9	S	NW	6200	5502	4548			B
442	THULAGI	NP0013	28.48 N	84.50 E	5-1-9	SW	W	6500	5000	4084		5.38	B
443	YALA	NP0004	28.25 N	85.62 E	6-3-6	SW	SW	5642	5400	5086	1.88	1.5	D
	NEW ZEALAND												
444	ADAMS	NZ	43.32 S	170.72 E	5-1-8	W	N	2470	1880	1295	9.96	6.6	B
445	AILSA	NZ	44.78 S	166.19 E	6-4-4	S	S	1830	1640	1555		0.7	F
446	ALMER/SALISB.	NZ	43.47 S	170.22 E	5-1-8	W	SW	2390	1865	1340	3.1	2.98	B F

NR	GLACIER NAME	PSFG NR	LAT	LON	CODE	EXP		ELEVATION			AREA	LEN	TYPE OF		
						AC	AB	MAX	MED	MIN	KM²	KM	DATA		
447	ANDY	NZ	44.43 S	168.37 E	4-1-8	N	N	2190	1750	840	10.49	7.1	B		
448	ASHBURTON	NZ	43.37 S	170.97 E	5-3-9	S	S	2590	2085	1575	1.69	2.5	B		
449	AVOCA	NZ	43.05 S	171.40 E	6-7-6	E	E	2080	1985	1890	0.12	0.36			F
450	AXIUS	NZ	44.17 S	168.98 E	6-4-8	W	W	2285	1920	1555	0.566	1.3	B		
451	BALFOUR	NZ	43.55 S	170.12 E	5-3-9	W	W	3305	1525	730	7	9.9	B		
452	BARLOW	NZ	43.30 S	170.63 E	6-2-9	W	W	2440	1705	1220	2.57	3.8	B		
453	BARRIER	NZ	44.42 S	168.36 E	6-2-8	S	W	2285	1860	1370	1.885	2.85	B		
454	BARRIER PK	NZ	44.83 S	167.77 E	6-7-6	E	E	1890	1706	1525	0.03	0.7	B		F
455	BLAIR	NZ	43.95 S	169.72 E	6-7-8	SE	SE	2240	2015	1790	0.38	0.63			F
456	BONAR	NZ	44.40 S	168.72 E	6-2-4	SW	W	3025	2090	1160	15.41	7.9	B		
457	BREWSTER	NZ	44.07 S	169.43 E	6-3-8	SW	SW	2390	2023	1655	2.541	2.69	B	C	F
458	BROWNING	NZ	42.92 S	171.27 E	6-4-8	S	S	1675	1630	1585		0.1			F
459	BRYANT	NZ	44.83 S	168.28 E	6-3-8	E	E	2225	1785	1675		1			F
460	BURTON	NZ	43.45 S	170.32 E	5-2-9	N	NW	3115	2120	1130	6.74	6.35	B		
461	BUTLER	NZ	43.25 S	170.93 E	6-2-6	E	SE	2040	1860	1680	0.76	0.66	B		F
462	CAMERON	NZ	43.33 S	171.00 E	6-2-9	SW	SE	2470	1980	1380	1.97	3.1	B		
463	CARIA	NZ	44.38 S	168.52 E	6-4-8	SE	SE	1525	1435	1400	0.3	0.2			F
464	CAROLINE	NZ	45.98 S	167.19 E	7-5-6	SE	SE	1675	1495	1265		0.35			F
465	CARRINGTON	NZ	42.92 S	171.48 E	6-4-8	S	S	1960	1778	1595	0.12	0.71			F
466	CHANCELLOR	NZ	43.51 S	170.13 E	6-4-8	SW	SW	1860	1750	1585		0.65			F
467	COLIN CAMPBELL	NZ	43.32 S	170.72 E	5-3-9	S	E	2500	1815	1130	3.94	3.65	B		
468	CROW	NZ	42.92 S	171.50 E	6-3-6	SE	S	2210	1940	1675	0.47	1.2	B		
469	DAINTY	NZ	43.23 S	170.89 E	6-4-8	W	W	2330	2040	1750	0.565	1.45	B		F
470	DART	NZ	44.45 S	168.60 E	5-3-9	SW	SW	2470	1770	1070	9.85	7.6	B		
471	DISPUTE	NZ	44.14 S	168.96 E	6-4-8	E	E	1720	1660	1600	0.296	0.85	B		
472	DONALD	NZ	44.24 S	168.87 E	6-2-8	SW	NW	2440	1980	1525	3.635	2.85	B		
473	DONNE	NZ	44.58 S	168.02 E	6-3-8	E	SE	2745	1615	1220	3.52	3.6	B		
474	DOUGLAS (KAR.)	NZ	43.68 S	170.00 E	5-2-4	SW	W	3160	1980	960	11.76	7.4	B		
475	ELLA	NZ	42.08 S	172.58 E	7-8-6	E	E	2190	2130	2060		0.1			F
476	FAERIE QUEENE	NZ	42.26 S	172.51 E	7-8-6	S	S	2160	2040	1860		0.25			F
477	FINDLAY	NZ	44.32 S	168.45 E	6-4-8	S	S	1900	1705	1435		0.9			F
478	FITZGERALD (G.)	NZ	43.47 S	170.57 E	6-3-8	W	SW	2530	2165	1660	1.057	1.8	B		
479	FOG	NZ	44.52 S	168.80 E	6-4-6	SE	S	2150	1995	1840	0.28	0.4			F
480	FORGOTTEN COL	NZ	44.44 S	168.36 E	5-2-9	S	W	2225	1800	1675	0.602	1.25	B		
481	FOX	NZ	43.53 S	170.15 E	5-2-8	NW	W	3500	1900	305	34.69	13.2	B		
482	FRANKLIN	NZ	42.87 S	171.67 E	6-4-8	E	E	2010	1845	1680	0.07	0.5			F
483	FRANZ JOSEF	NZ	43.50 S	170.22 E	5-2-8	NW	NW	2955	1690	425	32.59	10.25	B		
484	FRESHFIELD	NZ	43.58 S	170.19 E	5-2-9	E	E	2285	2010	1525	0.572	1.2	B		
485	GENDARME	NZ	44.78 S	167.94 E	6-7-6	S	S	1890	1705	1525		0.53			F
486	GLENMARY	NZ	44.00 S	169.88 E	6-4-8	S	S	2350	2180	2010	0.69	1.19	B		F
487	GUNN	NZ	44.76 S	168.09 E	6-3-8	SE	E	1860	1615	1495	0.77	1.25	B		F
488	HORACE WALKER	NZ	43.67 S	169.97 E	5-3-8	W	SW	2455	2075	945	5.99	6.6	B		
489	IRENE	NZ	45.18 S	167.36 E	6-4-8	E	SE	1735	1585	1480		0.55			F
490	IVORY	NZ	43.13 S	170.92 E	6-4-4	S	S	1730	1510	1390	0.8	1.35	B		
491	JACK	NZ	43.82 S	169.63 E	6-4-6	W	W	2040	1935	1860	0.14	0.34			F
492	JACKSON	NZ	43.88 S	169.78 E	6-2-6	NW	NW	2300	2110	1920	0.66	0.5			F
493	JALF	NZ	43.47 S	170.15 E	2-3-8	NW	W	1985	1783	1580	0.54	0.4			F
494	JASPUR	NZ	43.29 S	170.63 E	7-8-6	W	W	2375	2210	1830		0.45			F
495	KAHUTEA	NZ	43.02 S	171.38 E	6-3-8	S	SW	2300	2025	1740	0.75	1.6	B		
496	KAIKOURAS	NZ	42.02 S	173.63 E	9-3-9	S	SE	2690	2380	2160		1.4			F
497	KEA	NZ	43.18 S	170.80 E	6-4-8	S	S	2030	1840	1650	0.98	0.95			F
498	LA PEROUSE	NZ	43.57 S	170.12 E	5-3-9	NW	W	3320	1980	855	9.5	11.15	B		
499	LAMBERT	NZ	43.30 S	170.75 E	2-2-4	E	NW	2425	1810	1190	9.32	5.15	B		
500	LANGDALE	NZ	43.58 S	170.27 E	6-4-8	NW	NW	2560	2210	2075		0.95			F
501	LARKINS	NZ	44.88 S	168.48 E	6-4-6	SW	S	2210	2025	1710		1.45			F
502	LINDSAY	NZ	44.00 S	169.13 E	6-7-6	NW	NW	1880	1745	1610	0.02	0.57			F
503	LLAWRENNY	NZ	44.65 S	167.80 E	6-5-8	SW	S	1680	1495	1310	0.12	0.75			F
504	LYELL	NZ	43.28 S	170.83 E	5-2-9	S	E	2440	1720	1005	10.79	6.2	B		
505	MACAULAY	NZ	43.49 S	170.60 E	6-2-8	SE	E	2375	2040	1650	0.869	1.45	B		
506	MARION	NZ	44.47 S	168.48 E	6-2-8	W	N	2470	1905	1340	7.03	5.1	B		
507	MARMADUKE DIX.	NZ	42.98 S	171.38 E	6-4-8	E	SE	2100	1858	1615	0.77	1.7	B		F

NR	GLACIER NAME	PSFG NR	LAT	LON	CODE	EXP		ELEVATION			AREA	LEN	TYPE OF
						AC	AB	MAX	MED	MIN	KM²	KM	DATA
508	MATHAIAS	NZ	43.18 S	171.03 E	6-4-8	E	E	1740	1526	1340		1	B
509	MC COY	NZ	43.32 S	170.80 E	5-3-9	SW	SE	2135	1800	1250	1.05	2.6	B
510	McKENZIE	NZ	43.95 S	169.73 E	6-3-6	SE	SE	2105	1980	1830		0.5	F
511	MERRIE	NZ	45.62 S	167.19 E	7-8-6	E	E	1675	1525	1465		0.35	F
512	METALILLE	NZ	43.75 S	170.06 E	6-3-8	N	N	2375	2180	1800		2.3	B
513	MUELLER	NZ	43.75 S	170.02 E	5-2-4	SE	SE	2895	1330	760	18.54	13.65	B
514	MURCHISON	NZ	43.52 S	170.40 E	5-2-9	E	SW	3155	2080	1005	36.57	16.45	B
515	PARK PASS	NZ	44.58 S	168.23 E	6-3-8	S	S	2200	1850	1500	3.02	2.63	B F
516	REISCHEK	NZ	43.32 S	171.00 E	6-3-8	SW	SW	2440	2075	1615	1.72	2.65	B
517	RETREAT	NZ	42.97 S	171.30 E	6-4-9	SW	SW	1930	1750	1570	0.3	1.05	F
518	RICHARDSON	NZ	43.80 S	169.95 E	5-3-9	W	SW	2225	1525	1080	3.86	5.8	B
519	RIDGE	NZ	43.62 S	170.37 E	6-4-6	S	S	2490	2300	2110	0.84	1.04	F
520	ROLLESTON	NZ	42.88 S	171.52 E	6-4-6	SE	SE	1900	1795	1690	0.23	0.36	B F
521	SEPARATION	NZ	43.48 S	170.58 E	5-2-9	S	SW	2560	2025	1495	1.538	2.65	B
522	SIEGE	NZ	43.27 S	170.53 E	5-3-8	SE	SE	2130	1750	1435	1.19	3.19	B F
523	SLADDEN	NZ	43.76 S	170.02 E									B
524	SNOW WHITE	NZ	44.45 S	168.58 E	5-3-8	N	E	2425	1950	1220	5.54	5.5	B
525	SNOWBALL	NZ	44.45 S	168.52 E	6-3-8	NW	W	2345	1905	1465	3.31	2.7	B
526	SNOWY	NZ	44.56 S	168.60 E	7-8-6	W	W	2165	2055	1905		0.55	F
527	SOUTH CAMERON	NZ	43.35 S	170.99 E	6-3-8	NE	NE	2620	2285	1980		1.2	B
528	SPENCER	NZ	43.50 S	170.28 E	5-2-9	W	N	3045	1900	760	10.07	7.75	B
529	ST. JAMES	NZ	43.28 S	170.89 E	6-2-9	NE	E	2377	1645	1035	0.981	2.8	B
530	ST.MARY	NZ	44.26 S	169.66 E	9-3-9	SE	SE	2180	1830	1705		0.9	F
531	STOCKING (TEWA.)	NZ	43.68 S	170.07 E	6-3-8	SE	SE						B
532	STRAUCHON	NZ	43.62 S	170.08 E	5-3-4	W	SW	2530	1745	960	3.62	5.8	B
533	STUART	NZ	44.12 S	169.27 E	6-4-6	SE	SE	1860	1715	1570	0.67	0.54	F
534	TASMAN	NZ	43.52 S	170.32 E	5-2-4	S	S	3690	2210	730	98.34	28.5	B F
535	THURNEYSON	NZ	44.17 S	169.60 E	6-2-6	S	S	2425	2085	1720	1.79	1.23	B F
536	VERTEBRAE 12	NZ	43.32 S	170.61 E	6-4-8	S	W	2090	1890	1540		1.2	F
537	VERTEBRAE 20	NZ	43.33 S	170.59 E	4-3-8	S	S	1645	1450	1160		1.8	F
538	VICTORIA	NZ	43.50 S	170.17 E	5-3-9	W	W	2560	1890	1065	4.5	6.5	B
539	WHATAROA	NZ	43.40 S	170.53 E	6-3-8	W	SW	2180	1590	1005	2.973	3.35	B
540	WHITBOURNE	NZ	44.47 S	168.57 E	5-3-9	W	S	2575	1830	1080	9.47	6.7	B
541	WHITE	NZ	43.00 S	171.38 E	6-3-8	NE	NE	2320	2015	1710	0.6	1.8	B
542	WHYMPER	NZ	43.48 S	170.37 E	5-3-9	NW	NE	2775	1780	790	6.55	7.2	B
543	WILKINSON	NZ	43.20 S	170.93 E	6-2-4	NE	NE	2286	1615	945	3.95	3.8	B
544	WILSON	NZ	42.93 S	171.68 E	6-9-6	S	S						F
545	ZORA	NZ	43.75 S	169.83 E	6-2-8	S	S	2455	1920	1095	4.44	3.25	B
	NORWAY												
546	AALFOTBREEN	NO36204	61.75 N	5.65 E	4-3-6	NE	NE	1380	1230	890	3.98	2.9	C
547	ALDEGONDABR.	NO14108	77.97 N	14.09 E	5-3-0	NE	NE				7.624		B
548	AUSTDALSBREEN	NO37323	61.80 N	7.35 E	4-2-4	SE	SE	1630	1480	1160	10.63	5.7	C
549	AUSTERDALSBR.	NO31220	61.62 N	6.93 E	4-3-8	SE	SE	1920	1600	390	26.84	8.5	B
550	AU. BROEGGERB..	NO15504	78.88 N	11.83 E	5-2-9	NW	N	600	260	60	11.8	6	C
551	AU. OKSTINDBR.	NO	66.02 N	14.29 E		N	E	1710		750		6	B
552	BERGSETBREEN	NO31013	61.65 N	7.03 E	4-3-8	SE	E						B
553	BLOMSTOELSK.	NO	59.97 N	6.36 E		SW	SW	1636		1013	22.8		B C
554	BOEDALSBREEN	NO37219	61.77 N	7.12 E	4-3-8	NW	N						B
555	BOEVERBREEN	NO0548	61.55 N	8.09 E									B
556	BOEYABREEN	NO33014	61.53 N	6.76 E		S	S						B
557	BONDHUSBREA	NO20408	60.03 N	6.33 E	4-3-8	NW	NW	1660	1450	480	10.2	7.8	B
558	BOTNABREA	NO20515	60.20 N	6.43 E	4-3-8	W	W						B
559	BREIDABLIKKBR.	NO	60.09 N	6.40 E		NW	NW	1651		1234	3.37		B C
560	BRENNDALSBR.	NO37109	61.68 N	6.92 E	4-3-8	W	W						B
561	BRIKSDALSBREEN	NO37110	61.65 N	6.92 E	4-3-8	W	W	1910	1650	350	11.94	6	B
562	BUERBREEN	NO21307	60.02 N	6.40 E	4-3-8	E	NE	1640		620	15.48	7.5	B
563	COMFORTLESSBR.	NO	78.80 N	12.20 E									F
564	CORNELIUSSENBR.	NO	66.00 N	14.37 E	5-3-8	NE	E	1620		1080		2.3	B
565	ELISEBREEN	NO	78.64 N	12.25 E		W	SW				10.2		C
566	ENGABREEN	NO67011	66.65 N	13.85 E	4-3-8	N	NW	1594	1220	40	38.74	11.5	B C

NR	GLACIER NAME	PSFG NR	LAT	LON	CODE	EXP AC	EXP AB	ELEVATION MAX	ELEVATION MED	ELEVATION MIN	AREA KM²	LEN KM	TYPE OF DATA
567	FAABERGSTOELSB	NO31015	61.72 N	7.23 E	4-3-8	E	E	1810	1540	760	15	7	B
568	GRAAFJELLSBREA	NO	60.10 N	6.40 E		NW	NW	1651		1049	8.41		B C
569	GRAASUBREEN	NO0547	61.65 N	8.60 E	6-7-6	NE	E	2300	2060	1850	2.12	2.3	C
570	HANSBREEN	NO12419	77.08 N	15.67 E	4-2-4	S	S	510	255	0	56.742	15.875	B C
571	HANSEBREEN	NO36206	61.75 N	5.68 E		NE	N	1320	1160	925	2.75	2.5	C
572	HELLSTUGUBR.	NO0511	61.57 N	8.43 E	5-1-8	N	N	2130	1900	1470	2.9	3.4	B C
573	IRENEBREEN	NO15402	78.65 N	12.10 E		NW	SW	650	340	125	4.05	3.86	B C
574	JUVFONNE	NO	61.68 N	8.35 E				1998		1840	0.171		C
575	KJENNDALSBREEN	NO37223	61.70 N	7.02 E	4-3-8	N	N						B
576	KONGSVEGEN	NO15510	78.80 N	12.98 E	4-2-4	NW	NW	1050	500	0	180	27	C
577	KOPPANGSBREEN	NO	69.68 N	20.08 E									B
578	LANGFJORDJOEK.	NO85008	70.12 N	21.77 E	4-3-8	SE	E	1062	850	300	3.21	4	B C
579	LEIRBREEN	NO0548	61.57 N	8.10 E		NW	NW	2070		1530	4.87	3.8	B
580	LODALSBREEN	NO31019	61.78 N	7.24 E		E	SE						B
581	MIDTDALSBREEN	NO4302	60.57 N	7.47 E	4-3-8	NE	NE	1862		1380			B
582	MID. LOVENBREEN	NO15506	78.88 N	12.07 E	5-2-9	NE	N	650	330	50	5.2	4.8	C
583	NIGARDSBREEN	NO31014	61.72 N	7.13 E	4-3-8	SE	SE	1950	1618	355	47.16	9.6	B C
584	REMBESDALSKA.	NO22303	60.53 N	7.37 E	4-3-8	W	W	1850	1740	1050	17.26	8.1	B C
585	STEGHOLTBREEN	NO31021	61.80 N	7.32 E	4-3-8	S	S	1900	1480	880	15.34	7.7	B
586	STEINDALSBREEN	NO	69.39 N	18.87 E		E	E						B
587	STORBREEN	NO0541	61.57 N	8.13 E	5-2-6	NE	NE	1970	1770	1380	5.14	3	B C
588	ST. SUPPHELLEBR.	NO33014	61.52 N	6.80 E	4-0-8	S	S	1730		730	12	7	B
589	STORJUVBREEN	NO	61.65 N	8.29 E		N	N						B
590	STORSTEINSFJELL.	NO7381	68.22 N	17.92 E	5-2-8	E	SE	1850	1380	930	5.9	5.3	B
591	STYGGEDALSBR.	NO30720	61.48 N	7.88 E	5-2-6	N	N	2240	1650	1270	1.81	3.2	B
592	SVELGJABREEN	NO	59.98 N	6.28 E		SW	SW	1636		832	22.45		B C
593	SYDBREEN	NO	69.45 N	19.91 E	5-2-8	NE	E						B
594	TAVLEBREEN	NO	77.95 N	15.05 E				750		200	10.9	5.974	B
595	TROLLKYRKJEBR.	NO	62.28 N	7.46 E		NE	NE						B
596	TUFTEBREEN	NO	61.67 N	7.14 E	4-3-8	E	SE						B
597	WALDEMARBREEN	NO15403	78.67 N	12.00 E	5-3-8	NW	SW	570	320	150	2.47	3.3	B C
	PAKISTAN												
598	BATURA	PK0005	36.57 N	74.58 E	5-3-9	E	E	7858	5236	2615	330	59	B
599	GHULKIN	PK0008	36.45 N	74.58 E	5-3-9	E	E	7683	5072	2462			B
600	RAIKOT	PK	35.31 N	74.61 E									B
601	ALPAMAYO	PE	8.89 S	77.65 W	6-4-4	SE	SE	6026		4818			B
	PERU												
602	ARTESONRAJU	PE0003	8.95 S	77.62 W	5-3-4	W	W	5600	5070	4700	4.102	3.448	B C
603	CHICON	PE	13.22 S	72.06 W									F
604	GAJAP-YANACAR.	PE0009	9.83 S	77.17 W	6-3-4	SE	SE	5200	5033	4958	1.2	0.789	B
605	HUALCAN	PE	9.20 S	77.54 W									F
606	HUASCARAN NOR.	PE	9.10 S	77.62 W									F
607	HUASCARAN SE	PE	9.14 S	77.58 W									F
608	INCACHIRIASCA	PE	13.35 S	72.53 W	6-3-	S	SE	5125	4850	4625			B
609	MATARA	PE	9.21 S	76.82 W									F
610	PASTORURI	PE0008	9.90 S	77.17 W	6-3-0	NW	NW	5100	5095	5061	1.25	0.31	B
611	SHALLAP	PE0003	9.48 S	77.33 W	5-2-4	NW	NW	5974	4873	4765		2.86	B
612	URUASHRAJU	PE0005	9.58 S	77.32 W	5-3-0	SW	SW	5650	5006	4689	2.14	2.034	B
613	YANAMAREY	PE0004	9.65 S	77.27 W	5-2-0	SW	SW	5150	4875	4666	0.8	0.813	B C
	POLAND												
614	POD BULA	PL0111	49.19 N	20.08 E	7-5-6	NW	NW	1700		1650	0.002		B F
615	POD CUBRYNA	PL0180	49.19 N	20.05 E	7-8-0	N	N	2190	2125	2092	0.011	0.15	B F
	SLOVENIA												
616	TRIGLAVSKI LED.	SI	46.38 N	13.84 E	6-7-6	N	N	2510	2460	2410	0.006	0.16	D F
	SPAIN												
617	ANETO	ES9030	42.63 N	0.65 E	6-4-8	NE	NE	3300	3150	2920	0.69	0.68	B

NR	GLACIER NAME	PSFG NR	LAT	LON	CODE	EXP		ELEVATION			AREA	LEN	TYPE OF
						AC	AB	MAX	MED	MIN	KM²	KM	DATA
618	MALADETA	ES9020	42.65 N	0.64 E	6-4-8	NE	NE	3190	3090	2842	0.28	0.76	B C D
	SWEDEN												
619	ISFALLSGLAC.	SE0787	67.92 N	18.57 E	5-3-6	E	E	1700		1200	1.4	2.1	B
620	KARSOJIETNA	SE0798	68.35 N	18.32 E	5-3-8	NE	E	1500	1100	950	1.23	1.7	B
621	MARMAGLACI.	SE0799	68.83 N	18.67 E	5-2-1	E	E	1740		1340	3.965	3.5	C
622	MIKKAJEKNA	SE0766	67.40 N	17.70 E	5-1-8	S	S	1825		980	7.1	4.3	B
623	PARTEJEKNA	SE0763	67.17 N	17.67 E	5-2-8	E	E	1800		1090	9.913	5.1	B
624	PASSUSJIETNA E.	SE0797	68.05 N	18.43 E	5-3-8	NE	NW	1630		1270	1.7	1.8	B
625	RABOTS GLACI.	SE0785	67.89 N	18.53 E	5-2-8	NW	W	1930		1080	3.946	4.1	B C
626	RIUKOJIETNA	SE0790	68.08 N	18.08 E	3-0-3	E	E	1456		1130	4.651	3	B C
627	RUOPSOKJEKNA	SE0764	67.33 N	17.98 E	5-3-6	NE	N	1760		1150	3.5	3.7	B
628	RUOTESJEKNA	SE0767	67.42 N	17.47 E	5-3-8	NE	N	1600		1040	5.2	4.3	B
629	SALAJEKNA	SE0759	67.12 N	16.38 E	5-2-8	SE	S	1580		890	24.5	9.2	B
630	SE KASKASATJ GL	SE0789	67.93 N	18.60 E	5-3-6	SE	S	1890	1560	1440	0.6	1.4	B
631	STORGLACIAEREN	SE0788	67.90 N	18.57 E	5-2-8	E	E	1720		1140	3.211	3.7	B C
632	SUOTTASJEKNA	SE0768	67.47 N	17.58 E	5-2-8	NE	N	1800		1130	7.9	4.2	B
633	TARFALAGLACI.	SE0791	67.93 N	18.65 E	6-7-0	E	E	1710		1390	1.006	1	C
634	VARTASJEKNA	SE0765	67.45 N	17.67 E	5-3-8	NE	NE	1800		1300	3.6	3	B
	SWITZERLAND												
635	ADLER	CH0016B	46.01 N	7.87 E	6-2-8	W	W				2.47		D
636	ALBIGNA	CH0116	46.30 N	9.64 E		N	N	3140		2163	8.717	6.15	B
637	ALLALIN	CH0011	46.05 N	7.93 E	6-2-6	N	E	4190	3320	2601	9.68	6.5	B
638	ALPETLI(KANDER)	CH0109	46.48 N	7.80 E	5-3-6	NW	SW	3270	2800	2250	14.02	6.8	B
639	AMMERTEN	CH0111	46.42 N	7.53 E	6-0-7	NW	NW	3240	2720	2350	1.89	2.8	B
640	AROLLA (BAS)	CH0027	45.98 N	7.50 E	5-1-9	N	N	3720	3080	2135	6.3	5	B
641	BASODINO	CH0104	46.42 N	8.48 E	6-3-6	NE	NE	3230	2880	2539	2.28	1.6	B C
642	BIFERTEN	CH0077	46.82 N	8.95 E	5-3-8	E	NE	3610	2840	1961	2.86	4.2	B
643	BLUEMLISALP	CH0064	46.50 N	7.77 E	6-1-6	NW	NW	3660	2960	2250	2.98	2.9	B
644	BOVEYRE	CH0041	45.97 N	7.26 E	5-2-9	NW	NW	3660	3220	2620	1.99	2.5	B
645	BRENEY	CH0036	45.97 N	7.42 E	5-1-7	S	SW	3830	3240	2575	9.8	6.3	B
646	BRESCIANA	CH0103	46.50 N	9.03 E	6-3-6	W	W	3400	3080	2910	0.94	1.6	B
647	BRUNEGG	CH0020	46.15 N	7.70 E	5-3-0	NW	NW	4130	3160	2500	6.12	4.9	B
648	BRUNNI	CH0072	46.73 N	8.78 E	6-2-4	E	N	3300	2760	2560	2.99	2.9	B
649	CALDERAS	CH0095	46.53 N	9.71 E	6-1-7	N	NE	3360	3070	2745	1.2	2	B
650	CAMBRENA	CH0099	46.39 N	9.99 E	6-1-4	NE	NE	3500	2960	2520	1.72	2.5	B
651	CAVAGNOLI	CH0119	46.45 N	8.48 E	6-2-8	NE	E	2880	2720	2522	1.32	2.3	B
652	CHEILLON	CH0029	46.00 N	7.42 E	5-1-7	N	N	3830	2960	2689	4.73	4	B
653	CLARIDENFIRN	CH0141	46.85 N	8.90 E	6-0-0						5.127		F
654	CORBASSIERE	CH0038	45.98 N	7.30 E	5-1-9	N	N	4310	3200	2219	15.996	9.8	B
655	CORNO	CH0120	46.45 N	8.38 E	6-5-6	N	N	2880	2720	2570	0.27	0.7	B
656	CROSLINA	CH0121	46.43 N	8.73 E		NE	NE	3060	2860	2704	0.42	0.8	B
657	DUNGEL	CH0112	46.37 N	7.37 E	6-0-0	NE	N	3200	2800	2608	1.21	1.8	B
658	EIGER	CH0059	46.57 N	7.98 E	6-1-6	W	NW	4100	3100	2202	2.27	2.6	B
659	EN DARREY	CH0030	46.02 N	7.38 E	6-3-9	NE	NE	3700	3120	2445	1.86	2.4	B
660	FEE NORTH	CH0013	46.08 N	7.88 E	6-0-6	NE	NE	4360	3260	2135	16.66	5.1	B F
661	FERPECLE	CH0025	46.02 N	7.58 E	5-3-8	NW	N	3680	3300	2095	9.79	6	B
662	FIESCHER	CH0004	46.50 N	8.15 E	5-1-9	SE	S	4180	3140	1681	33.06	16	B
663	FINDELEN	CH0016	46.00 N	7.87 E	5-1-6	NW	W	3911	3284	2550	13.1	7.4	B C D
664	FIRNALPELI	CH0075	46.78 N	8.47 E	6-0-6	NW	N	2920	2680	2172	1.18	1.1	B
665	FORNO	CH0102	46.30 N	9.70 E	5-1-9	N	N	3360	2740	2232	8.77	6.8	B
666	GAMCHI	CH0061	46.51 N	7.79 E	6-1-9	N	N	2840	2260	1950	1.73	2.7	B
667	GAULI	CH0052	46.62 N	8.18 E	5-1-6	E	E	3630	2880	2110	13.7	6.8	B
668	GELTEN	CH0113	46.35 N	7.33 E	6-0-0	N	N	3060	2700	2440	1.17	0.8	B
669	GIETRO	CH0037	46.00 N	7.38 E	6-3-4	NW	W	3830	3240	2597	5.549	5.4	B
670	GLAERNISCH	CH0080	47.00 N	8.98 E	6-2-6	W	W	2910	2600	2330	2.09	2.3	B
671	GORNER	CH0014	45.97 N	7.80 E	5-1-9	N	NW	4610	3220	2240	38.247	14.1	B
672	GRAND DESERT	CH0031	46.07 N	7.34 E	6-3-6	NW	N	3340	2960	2760	1.85	2.3	B
673	GR. PLAN NEVE	CH0045	46.25 N	7.15 E	6-4-7	N	N	2560	2460	2350	0.2	0.4	B
674	GRIES	CH0003	46.44 N	8.34 E	5-3-4	NE	NE	3307	2920	2415	4.973	6.2	B C D

NR	GLACIER NAME	PSFG NR	LAT	LON	CODE	EXP		ELEVATION			AREA	LEN	TYPE OF
						AC	AB	MAX	MED	MIN	KM²	KM	DATA
675	GRIESS(KLAUSEN)	CH0074	46.83 N	8.83 E	6-1-7	N	NW	3080	2420	2223	2.48	1.3	B
676	GRIESSEN(OBWA.)	CH0076	46.85 N	8.50 E	6-2-6	W	NW	2890	2600	2515	1.27	1.3	B
677	GR, ALETSCH	CH0005	46.50 N	8.03 E	5-1-9	SE	S	4160	3140	1565	83.015	24.7	B F
678	HOHLAUB	CH	46.06 N	7.92 E							2.256		B
679	HUEFI	CH0073	46.82 N	8.85 E	5-1-8	S	SW	3240	2780	1700	13.73	7	B
680	KALTWASSER	CH0007	46.25 N	8.08 E	6-0-6	NW	W	3370	2940	2660	1.85	1.6	B
681	KEHLEN	CH0068	46.68 N	8.42 E	5-1-8	SE	SE	3418	2800	2200	3.15	3.3	B
682	KESSJEN	CH0012	46.07 N	7.93 E	6-5-6	NE	NE	3240	2980	2868	0.195	0.9	B
683	LAEMMERN	CH0063	46.40 N	7.55 E	6-1-6	E	E	3240	2900	2540	3.35	2.5	B
684	LANG	CH0018	46.46 N	7.93 E	5-1-9	SW	SW	3900	2960	2077	10.03	7.7	B
685	LAVAZ	CH0082	46.63 N	8.93 E	6-1-8	NE	N	3020	2580	2428	1.76	2.6	B
686	LENTA	CH0084	46.51 N	9.04 E	5-2-7	N	N	3400	2820	2360	1.4	2.6	B
687	LIMMERN	CH0078	46.82 N	8.98 E	6-2-7	NE	NE	3420	2760	2290	2.52	2.9	B
688	LISCHANA	CH0098	46.77 N	10.35 E	6-5-9	NW	NW	3030	2880	2800	0.21	0.6	B
689	MOIRY	CH0024	46.08 N	7.60 E	5-1-8	N	N	3850	3120	2410	6.11	5.6	B
690	MOMING	CH0023	46.08 N	7.67 E	6-0-9	N	NW	4070	3160	2580	5.77	3.8	B
691	MONT DURAND	CH0035	45.92 N	7.33 E	5-1-9	E	NE	4280	3060	2340	7.59	6	B
692	MONT FORT	CH0032	46.08 N	7.32 E	6-3-6	NW	N	3330	2900	2780	1.1	2	B
693	MONT MINE	CH0026	46.02 N	7.55 E	5-1-9	NW	N	3720	3220	1963	10.89	8.1	B
694	MORTERATSCH	CH0094	46.40 N	9.93 E	5-1-9	N	N	4020	3000	2085	17.15	7	B
695	MUTT	CH0002	46.55 N	8.42 E	6-5-6	NW	NW	3000	2780	2623	0.57	1.1	B
696	OB.GRINDELWALD	CH0057	46.62 N	8.10 E	5-1-8	NW	NW	3740	3000	1250	10.07	5.5	B
697	OBERALETSCH	CH0006	46.42 N	7.97 E	5-1-9	SE	SE	3890	2920	2144	21.71	9.1	B
698	OTEMMA	CH0034	45.95 N	7.45 E	5-1-7	SW	SW	3800	3020	2460	16.55	8.5	B
699	PALUE	CH0100	46.37 N	9.98 E	6-2-9	E	E	3870	3180	2640	6.62	4	B
700	PANEYROSSE	CH0044	46.27 N	7.17 E	6-4-6	N	N	2760	2560	2380	0.45	0.7	B
701	PARADIES	CH0086	46.50 N	9.07 E	6-0-6	N	NE	3400	2880	2688	4.6	3.6	B
702	PARADISINO	CH0101	46.42 N	10.11 E	6-3-9	NW	W	3250	2980	2830	0.55	1	B
703	PIZOL	CH0081	46.97 N	9.40 E	6-5-6	N	N	2786	2682	2611	0.081	0.4	B C
704	PLATTALVA	CH0114	46.83 N	8.98 E	6-5-6	E	E	2980	2740	2580	0.73	1.1	B
705	PORCHABELLA	CH0088	46.63 N	9.88 E	6-1-6	N	N	3390	2880	2645	2.59	2.5	B
706	PRAPIO	CH0048	46.32 N	7.20 E	6-5-7	NW	NW	3020	2780	2525	0.36	0.9	B
707	PUNTEGLIAS	CH0083	46.79 N	8.95 E	6-1-7	SE	S	3010	2520	2350	0.93	2	B
708	RAETZLI (PL.MOR.)	CH0065	46.38 N	7.52 E	6-2-6	N	NW	2970	2760	2450	9.8	4	C
709	RHONE	CH0001	46.62 N	8.40 E	5-1-4	S	S	3620	2940	2208	17.38	10.2	B
710	RIED	CH0017	46.13 N	7.85 E	5-3-9	NW	NW	4280	3460	2069	8.26	6.3	B
711	ROSEG	CH0092	46.38 N	9.84 E	5-1-7	N	N	3650	3060	2160	8.72	5.2	B
712	ROSENLAUI	CH0056	46.65 N	8.15 E	5-2-6	NE	N	3700	3000	1860	6.2	5.2	B
713	ROTFIRN NORD	CH0069	46.66 N	8.42 E	6-1-9	E	NE	3525	2680	2035	1.21	2.3	B
714	SALEINA	CH0042	45.98 N	7.07 E	5-1-8	E	NE	3900	2940	1788	5.03	6.4	B
715	SANKT ANNA	CH0067	46.60 N	8.60 E	6-3-6	N	N	2905	2720	2580	0.44	0.9	B
716	SARDONA	CH0091	46.92 N	9.27 E	6-4-6	E	E	2790	2580	2450	0.38	0.7	B
717	SCALETTA	CH0115	46.70 N	9.95 E	6-5-0	N	N	3100	2780	2580	0.66	1.1	B
718	SCHWARZBERG	CH0010	46.02 N	7.93 E	6-2-6	NE	NE	3650	3080	2660	5.332	4.3	B
719	SEEWJINEN	CH	46.00 N	7.95 E							1.538		B
720	SESVENNA	CH0097	46.71 N	10.41 E	6-5-6	NE	N	3150	2940	2735	0.67	1.2	B
721	SEX ROUGE	CH0047	46.33 N	7.21 E	6-5-6	N	NW	2890	2820	2650	0.72	1.2	B
722	SILVRETTA	CH0090	46.85 N	10.08 E	6-2-6	NW	W	3079	2780	2467	2.785	3.5	B C D F
723	STEIN	CH0053	46.70 N	8.43 E	5-2-8	N	N	3490	2880	1945	6.52	4.7	B
724	STEINLIMMI	CH0054	46.70 N	8.40 E	5-1-7	N	N	3300	2640	2100	2.21	2.7	B
725	SULZ	CH0079	46.88 N	9.05 E	6-5-8	N	N	2480	2000	1789	0.2	0.5	B
726	SURETTA	CH0087	46.52 N	9.38 E	6-1-7	NE	NE	3010	2720	2227	1.17	1.6	B
727	TIATSCHA	CH0096	46.83 N	10.09 E	6-3-4	S	S	3130	2900	2650	2.11	2.2	B
728	TIEFEN	CH0066	46.62 N	8.43 E	5-1-9	SE	SE	3530	2960	2520	3.17	3.4	B
729	TRIENT	CH0043	46.00 N	7.03 E	5-3-8	N	N	3490	3140	2030	6.58	5	B
730	TRIFT (GADMEN)	CH0055	46.67 N	8.37 E	5-1-8	N	N	3505	2900	1652	15.335	7.1	B
731	TSANFLEURON	CH0033	46.32 N	7.23 E	6-0-6	NE	E	2945	2768	2497	2.752	3	B C
732	TSCHIERVA	CH0093	46.40 N	9.88 E	5-1-8	NW	NW	4000	3060	2340	6.83	5	B
733	TSCHINGEL	CH0060	46.50 N	7.85 E	6-2-7	N	E	3510	2680	2269	6.18	3.8	B
734	TSEUDET	CH0040	45.90 N	7.25 E	6-1-7	N	N	3730	2900	2464	1.73	3	B
735	TSIDJIORE NOUVE	CH0028	46.00 N	7.45 E	5-2-8	N	NE	3800	3260	2205	3.12	5	B

NR	GLACIER NAME	PSFG NR	LAT	LON	CODE	EXP		ELEVATION			AREA	LEN	TYPE OF
						AC	AB	MAX	MED	MIN	KM²	KM	DATA
736	UNT. GRINDELW.	CH0058	46.58 N	8.09 E	5-1-9	N	N	4100	2780	1090	20.6	9	B F
737	UNTERAAR	CH0051	46.57 N	8.22 E	5-1-7	E	E	4090	2660	1930	22.727	13.5	B
738	VAL TORTA	CH0118	46.47 N	8.53 E	6-4-9	N	N	2740	2580	2512	0.17	0.6	B
739	VALLEGGIA	CH0117	46.47 N	8.51 E	6-4-8	NE	NE	2820	2560	2426	0.59	1.2	B
740	VALSOREY	CH0039	45.90 N	7.27 E	5-1-8	NE	NW	3730	3100	2399	2.34	4.1	B
741	VERSTANKLA	CH0089	46.84 N	10.07 E	6-1-7	NW	NW	3100	2680	2405	1.06	2	B
742	VORAB	CH0085	46.88 N	9.17 E	6-0-6	E	SE	2980	2720	2560	2.51	2	B
743	WALLENBUR	CH0071	46.71 N	8.47 E	6-1-9	E	SE	3280	2580	2250	1.7	2.2	B
744	ZINAL	CH0022	46.07 N	7.63 E	5-1-9	N	N	4260	3060	2040	16.24	8	B
	TURKEY												
745	ERCIYES	TR	38.53 N	35.45 E				3650		3300	0.05	0.55	B
	U.S.A.												
746	BAGLEY ICE FIELD	US	60.50 N	142.50 W									F
747	BARNARD	US0615	61.17 N	147.92 W	6-4-8	S	SE	1890		550		4	D
748	BEAR	US	59.93 N	149.53 W							217.9		B
749	BERING	US	60.40 N	143.00 W	2-1-2	W	S	3230		200			D
750	BOULDER	US2005	48.77 N	120.88 W	5-3-8	SE	E	3230	2230	1550		3.58	B
751	COLEMAN	US2011	48.80 N	120.82 W	6-3-8	NW	NW	3260		1230		4.5	B
752	COLUMBIA (2057)	US2057	47.97 N	121.35 W	6-4-8	S	S	1750	1600	1450	0.9	1.53	B C
753	COLUMBIA (627)	US0627	61.00 N	147.10 W	5-1-4	SE	S	3000	800	0	1075	61	B
754	DANIELS	US2052	47.57 N	121.17 W	6-3-6	NE	NE	2300	2200	1980	0.4	0.55	B C
755	DEMING	US2009	48.75 N	120.82 W	--0	SW	SW	3230	2250	1340		5.17	B
756	DINGLESTADT	US	59.70 N	150.42 W							67.2		B
757	EASTON	US2008	48.75 N	120.83 W	5-3-8	SW	S	2900	2200	1700	2.9	3.97	B C
758	EMMONS	US2022	46.85 N	121.72 W	5-3-9	NE	NE	4320		1485	11.17	2.8	C
759	EXCELSIOR	US	60.00 N	148.77 W				1622		242	129.59	25.331	B
760	EXIT	US0390	60.18 N	149.65 W	4-2-8	E	E	1000	600	157	39.5	3	B
761	FOSS	US2053	47.55 N	121.20 W	6-3-8	NE	NE	2125	2000	1840	0.4	0.54	B C
762	GREWINGK	US	59.58 N	150.98 W				1590		76	71.73	19.36	B
763	GULKANA	US0200	63.25 N	145.42 W	5-2-9	S	SW	2460	1840	1165	15.11	8.5	C
764	GUYOT N BRANCH	US	60.20 N	141.40 W									D
765	GUYOT S BRANCH	US	60.17 N	141.60 W									D
766	HIDDEN	US	59.72 N	139.10 W									D
767	HUBBARD	US1290	60.08 N	139.33 W	5-1-4	SE	SE	5800	1500	0		122	D F
768	ICE WORM	US2054	47.55 N	121.17 W	6-4-8	E	E	2100	2010	1900	0.1	0.46	B C
769	KLUTLAN	US	62.01 N	142.34 W									D
770	LEMON CREEK	US	58.38 N	134.36 W		N	NW	1400	1100	820	14	5.94	C
771	LOGAN	US	60.85 N	141.00 W									D
772	LOWER CURTIS	US2055	48.83 N	121.62 W	6-4-8	W	W	1850	1625	1470	0.8	0.74	B C
773	LYMAN	US	48.17 N	120.89 W	6-4-4	N	N	2040	1950	1830		0.51	B
774	LYNCH	US2056	47.57 N	121.18 W	6-5-4	N	N	2300	2185	1950	0.7	1.02	B C
775	MALASPINA	US	59.71 N	140.63 W		S	S						D F
776	MCCARTY	US	59.78 N	150.22 W									B
777	NISQUALLY	US2027	46.82 N	121.74 W	5-2-9	S	S	4380		1455	4.6	2.9	C
778	NOISY CREEK	US2078	48.67 N	121.53 W	6-4-8	N	N	1920	1791	1666	0.53	1.14	C
779	NORTH KLAWATTI	US2076	48.57 N	121.12 W	5-5-	SE	SE	2409	1729	1726	1.46	2.77	C
780	NORTHWESTERN	US	59.87 N	150.05 W				1923		0	161.54	29.651	B
781	NOVATAK	US	59.44 N	138.44 W									D
782	NUKA	US	59.66 N	150.73 W				1608		400	14.36	7.624	B
783	OKPILAK	US	69.15 N	144.18 W				2400		1430	9.12	8.765	B
784	RAINBOW	US2003	48.80 N	121.77 W	6-3-8	E	E	2040	1750	1340	1.6	1.92	B C
785	RED	US	60.02 N	153.02 W		SE	SE	3050		350			F
786	ROOSEVELT	US2012	48.80 N	120.82 W	6-3-8	N	NW	3260		1400		4	B
787	SANDALEE	US2079	48.42 N	120.80 W	6-4-5	N	N	2280	2154	1975	0.2	0.79	C
788	SHOLES	US	48.80 N	121.78 W		NE	NE	1960	1820	1690		0.94	B C
789	SILVER	US2077	48.98 N	121.25 W	6-4-8	N	NE	2700	2405	2100	0.48	0.925	C
790	SOUTH CASCADE	US2013	48.37 N	121.05 W	5-3-8	N	N	2150	1920	1634	1.72	2	B C
791	SQUAK	US2007	48.75 N	120.87 W	5-3-8	N	SE	2940	2250	1750		2.9	B
792	STELLER	US	60.36 N	143.65 W									D

NR	GLACIER NAME	PSFG NR	LAT	LON	CODE	EXP		ELEVATION			AREA	LEN	TYPE OF
						AC	AB	MAX	MED	MIN	KM²	KM	DATA
793	TAKU	US1805	58.55 N	134.13 W	4-2-2	SE	S	2000	1200	0	756.905	58.1	B C F
794	TANA	US	60.75 N	142.77 W									D
795	TEBENKOF	US0414A	60.72 N	148.48 W	5-3-8	NE	NE			15	28	13	B
796	VALDEZ	US0629	61.25 N	146.17 W	5-2-7	E	S	2300		104	164	34	B
797	WALSH	US	60.87 N	140.15 W									D
798	WEST NUNATAK	US	59.74 N	138.88 W									D
799	WOLVERINE	US0411	60.40 N	148.92 W	5-3-8	S	S	1700	1310	400	16.67	8	B C
800	YAHTSE	US	60.31 N	141.71 W									D
801	YAKUTAT	US1303	59.48 N	137.75 W	5-1-4			1520	610	0		27.3	D
802	YALIK	US	59.48 N	150.73 W				1570		43	50.05	15.143	B
803	YAWNING	US2050	48.45 N	121.03 W	6-5-8	NE	NE	2100	1970	1880	0.3	0.65	B C

WORLD GLACIER MONITORING SERVICE

VARIATIONS IN THE POSITION OF GLACIER FRONTS 2005–2010

TABLE B

NR	Record number
GLACIER NAME	15 alphabetic or numeric digits
PSFG NUMBER	5 digits identifying glacier with alphabetic prefix denoting country
METHOD	A = aerial photogrammetry B = terrestrial photogrammetry C = geodetic ground survey (theodolite, tape etc.) D = combination of A, B or C E = other methods _ = no information
1ST SURVEY	Year when first front variation data is available (at WGMS)
LAST SURVEY	Last survey before reported period
VARIATION IN METERS	Variation in the position of the glacier front in horizontal projection expressed as the change in length between the surveys
Key to Symbols	+X: Glacier in advance -X : Glacier in retreat ST : Glacier stationary SN : Glacier front covered by snow

NR	GLACIER NAME	PSFG NR	FIRST	LAST	METHOD	VARIATIONS IN METERS				
			SURVEY			2006	2007	2008	2009	2010
	ANTARCTICA									
1	BAHIA DEL DIABLO	AQ	2000	2005	E	ST	ST	ST	ST	ST
	ARGENTINA									
2	AZUFRE	AR	1963	2005	E		0			
3	BARROSO	AR	1963	2005	E		-68			
4	CAMISA	AR	1963	2005	E		-29			
5	CANON HISPANO	AR	1963	2005	E		-103			
6	GUSSFELDT	AR	1929	2005	E		-20			
7	HORCONES INFERIOR	AR5006	1976	2005	E	440				
8	HUMO	AR	1860	2000	D		-150			
9	PENON	AR	1720	2005	E		95			
10	SALINILLAS	AR	1963	2005	E		-527			
11	SAN JOSE	AR	1963	2005	E		-57			
12	TUPUNGATO 01	AR	1975	2005	E		-10			
13	TUPUNGATO 02	AR	1975	2005	E		0			
14	TUPUNGATO 03	AR	1975	2005	E		0			
15	TUPUNGATO 04	AR	1975	2005	E		0			
16	VACAS	AR	1929	2005	E		-400			
	AUSTRIA									
17	ALPEINER F.	AT0307	1848	2004	E	-X	-108	-34	-17	-7
18	BACHFALLEN F.	AT0304	1892	2005	C	-10	-17	-10	-16	-9
19	BAERENKOPF K.	AT0702	1915	2005	C	-10	-8	-5		
20	BERGLAS F.	AT0308	1892	2005	C	-12	-15	-10	-12	-16
21	BIELTAL F.	AT0105A	1924	2005	_	-8				
22	BIELTAL F. W	AT0105B	1970	2005	C	-14	-10			
23	BIELTALFERNER MITTE	AT	1997	2005	C	-8	-6	-42	-6	-5
24	BRENNKOGL K.	AT0727	1988	2005	C	-12	-8	-7	-2	-6
25	DAUNKOGEL F.	AT0310A	1891	2005	C	-13	-28	-11	-20	-5
26	DIEM F.	AT0220	1848	2005	C	-38	-44	-15	-36	-18
27	EISKAR G.	AT1301	1920	2005	C	-2	-3	0	SN	0
28	FERNAU F.	AT0312	1891	2004	C	-17	-6	-1	-5	-2
29	FREIGER F.	AT0320	1899	2005	C	2		-3	-3	-1
30	FREIWAND K.	AT0706	1929	2005	C	-10	-8	-2	-9	-4
31	FROSNITZ K.	AT0507	1860	2005	C	-28	-23	-12	-20	-8
32	FURTSCHAGL K.	AT0406	1897	2005	E	-X				
33	GAISKAR F.	AT0325	1984	2005	C	-24	-11	-8	-10	-9
34	GAISSBERG F.	AT0225	1856	2005	C	-70	-21	-20	-14	-14
35	GEPATSCH F.	AT0202	1803	2005	C	-28	-40	-33	-32	-40
36	GOESSNITZ K.	AT1201	1983	2005	C	-3	-4	-3	-2	-5
37	GOLDBERG K.	AT0802B	1850	2005	C	-7	-10	-4	-5	-13
38	GR. GOSAU G.	AT1101	1884	2005	C	-17	-12	1	-9	-10
39	GROSSELEND K.	AT1001	1900	2004	C	-7	-15	1	-5	-11
40	GRUENAU F.	AT0315	1892	2005	C	-21	-16	-1	-1	
41	GURGLER F.	AT0222	1896	2005	C	-41	-33	-17	-13	-3
42	GUSLAR F.	AT0210	1893	2005	C	-24	-37	-25	-27	-30
43	HALLSTAETTER G.	AT1102	1848	2005	C	-22	-14	-5	-6	-5
44	HINTEREIS FERNER	AT0209	1847	2005	C	-30	-39	-38	-36	-37
45	HOCHALM K.	AT1005	1900	2005	C	-7	-12	0	-9	-8
46	HOCHJOCH F.	AT0208	1856	2005	C	-23	-25	-30	-29	-27
47	HORN K.(SCHOB.)	AT1202	1984	2005	C	-24	-9	-18	-10	-6
48	HORN K.(ZILLER)	AT0402	1882	2005	C	-84	-33	-10	-8	-5
49	INN.PIRCHLKAR	AT0228	1982	2005	C	-10	-4	-13	-2	-9
50	JAMTAL F.	AT0106	1892	2005	C	-14	-14	-11	-9	-19
51	KAELBERSPITZ K.	AT1003	1927	2005	C	-13	-8	-6	-7	-6
52	KALSER BAERENKOPF K.	AT	1971	2005	C	0		0	-1	0
53	KARLINGER K.	AT0701	1860	2005	E	-X		SN		
54	KESSELWAND FERNER	AT0226	1900	2005	C	-18	-30	-29	-44	-35
55	KLEINEISER K.	AT0717	1963	2005	C	-7		-1	0	
56	KLEINELEND K.	AT1002	1900	2005	C	-8	-8	4	0	-9

NR	GLACIER NAME	PSFG NR	FIRST	LAST	METHOD	VARIATIONS IN METERS				
			SURVEY			2006	2007	2008	2009	2010
57	KLEINFLEISS K.	AT0801	1851	2005	C	-1	-8	5	5	-3
58	KLOSTERTALER M	AT0102B	1969	2005	C	-8	-27	2	-6	-16
59	KLOSTERTALER N	AT0102A	1969	2005	E	-X				
60	KRIMMLER K.	AT0501A	1897	2005	C	-9		-2	-18	-8
61	KRIMMLER K. EAST	AT0501B	1897	2005	_	-9				
62	LAENGENTALER F.	AT0305	1905	2004	C	-14	-31			
63	LANDECK K.	AT0604	1978	2005	C	-7		-5	0	-5
64	LANGTALER F.	AT0223	1846	2005	C	-17	-31	-16	-23	-22
65	LITZNERGL.	AT0101	1933	2005	C	-10	-9	-8	-17	-12
66	MARZELL F.	AT0218	1856	2005	C	-20		-39	-42	
67	MAURER K.(GLO.)	AT0714	1896	2005	C	-1		-3	-3	-3
68	MAURER K.(VEN.)	AT0510	1897	2003	E	-X				
69	MITTERKAR F.	AT0214	1892	2005	C	-4	-37	-4	-7	-9
70	MUTMAL F.	AT0227	1969	2005	C	-11	-18	-44	-2	-3
71	NIEDERJOCH F.	AT0217	1883	2005	C	-36	-84	-17	-46	-31
72	OBERSULZBACH K.	AT0502	1815	2005	C	-3	-48	-27	-22	-62
73	OCHSENTALERGL.	AT0103	1891	2005	C	-15	-14	-8	-25	-19
74	OEDENWINKEL K.	AT0712	1850	2005	C	-4	-10	-7	-6	-9
75	PASTERZE	AT0704	1807	2005	C	-26	-33	-13	-22	-25
76	PFAFFEN F.	AT0324	1981	2005	C	-8	-6	-5	-5	-1
77	PRAEGRAT K.	AT0603	1963	2005	C	-6		-7	-4	
78	RETTENBACH F.	AT0212	1889	2005	C	-15	-39	-15	-11	-13
79	ROFENKAR F.	AT0215	1892	2005	C	-10		-6	-5	-9
80	ROTER KNOPF K.	AT	2002	2005	C	-1	-1	-1	SN	0
81	ROTMOOS F.	AT0224	1847	2005	C	-23	-19	-8	-11	-8
82	SCHALF F.	AT0219	1925	2005	C	-52	-87	-49	-29	-17
83	SCHAUFEL F.	AT0311	1912	2004	C	-32				
84	SCHLADMINGER G.	AT1103	1884	2005	C	0		-2	-2	-1
85	SCHLATEN K.	AT0506	1857	2005	C	-15	-18	-16	-9	-11
86	SCHLEGEIS K.	AT0405	1897	2005	E	-X				
87	SCHMIEDINGER K.	AT0726	1952	2005	C	-70		-9	-22	-20
88	SCHNEEGLOCKEN	AT0109	1974	2005	C	-5	-9	-5	-6	-6
89	SCHNEELOCH G.	AT1104	1969	2005	C	-4		-8	0	-11
90	SCHWARZENBERG F.	AT0303	1891	2005	C	-14	-24	-20	-11	-4
91	SCHWARZENSTEIN	AT0403	1882	2005	C	-20	-15			
92	SCHWARZKARL K.	AT0716	1963	2005	C	-8	-11	-22	-14	-10
93	SCHWARZKOEPFL K.	AT0710	1955	2005	C	-6	-10			
94	SEXEGERTEN F.	AT0204	1883	2005	C	-16	-14	-18	-18	-19
95	SIMILAUN F.	AT	2003	2005	_		-48	-20	-17	-10
96	SIMMING F.	AT0318	1892	2005	C	-19	-10			
97	SIMONY K.	AT0511	1897	2005	C	-13	-30	-19	-5	-26
98	SPIEGEL F.	AT0221	1892	2005	C	-3	-12	-10	-24	-6
99	STUB. SONNBLICK KEES	AT0601A	1961	2005	C	-6	-8	-2	-15	-14
100	SULZENAU F.	AT0314A	1891	2005	C	-7	-10	-8	-21	-23
101	SULZTAL F.	AT0301	1898	2005	C	-28	-45	-42	-31	-4
102	TASCHACH F.	AT0205	1878	2005	C	-1	-14	-7	-13	-19
103	TOTENFELD	AT0110	1975	2005	C	-2	-31	-8	-11	-14
104	TOTENKOPF K.	AT	1971	2005	C	-1	-25	-14	-5	0
105	TRIEBENKARLAS F.	AT0323	1978	2005	C	-38	-22	-33	-38	-19
106	UMBAL K.	AT0512	1897	2005	C	-12	-26	-12	-27	-13
107	UNT. RIFFL KEES	AT0713B	1961	2005	C	-6	-8	-8	-4	-6
108	UNTERSULZBACH K.	AT0503	1829	2005	C	-19	-30	-10	-18	-27
109	VERBORGENBERG F.	AT0322	1977	2005	C	-3	-11	-8	-4	-4
110	VERMUNTGL.	AT0104	1903	2005	C	-16	-15	-9	-9	-27
111	VERNAGT FERNER	AT0211	1889	2005	C	-32	-37	-45	-30	-58
112	VILTRAGEN K.	AT0505	1892	2005	C	-6	-30	-42	-39	-40
113	W.TRIPP K.	AT1004	1928	2004	C	-8			-9	
114	WASSERFALLWINKL	AT0705	1944	2005	C	-6	-9	-17	-18	-72
115	WAXEGG K.	AT0401	1882	2005	C	-25	-24	-10	-34	-13
116	WEISSEE F.	AT0201	1891	2005	C	-17	-96	-20	-19	-24
117	WESTL. GRUEBLER F. W	AT	1975	2005	_	2	-2			

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			SURVEY			2006	2007	2008	2009	2010
118	WIELINGER K.	AT0725	1897	2005	E	-X		SN		
119	WILDGERLOS	AT0404	1913	2005	C	-10	-13	-9	-21	-18
120	WINKL K.	AT1006	1928	2004	_				-7	-1
121	WURTEN K.	AT0804	1850	2005	C	-14	-18	-8	-8	-13
122	ZETTALUNITZ K.	AT0508	1897	2005	C	-24	-14	-17	-16	-13
	BOLIVIA									
123	CHACALTAYA	BO5180	1983	2005	C	-14	-17	-18		
124	CHARQUINI SUR	BO	2006		C	-55	-76	-5		
125	ZONGO	BO5150	1992	2005	C	-12	-16	-11	-9	-9
	CANADA									
126	CASTLE CREEK	CA	1959	2005	E	-19	-11	-18	-17	-15
	CHILE									
127	LENGUA	CL1019	1870	1998	D		-450			
128	NOROESTE	CL	1984	2002	D		-368			
129	OESTE M	CL	1986	2002	D		-108			
130	OESTE N	CL	1986	2002	D		-250			
131	OESTE S L	CL	1986	2002	D		-81			
132	OESTE S R	CL	1986	2002	D		-157			
	CHINA									
133	HAILUOGOU	CN0031	1930	2004	D	-50	-56			
134	KANGWURE	CN	1991	2001	C	-16	-13	-12		
135	URUMQI GLACIER NO. 1	CN0010	1973	1995	C	-X	-X	-X	-4	-X
136	URUMQI NO. 1 E-BRANCH	CN0001	1996	2005	C	-X	-X	-X	-4	-X
137	URUMQI NO. 1 W-BRANCH	CN0002	1996	2005	C	-X	-X	-X	-7	-X
	C.I.S.									
138	ASHU-TOR SOUTH (326)	SU	1943	1990	D	-370				
139	BIRDZHALYCHIRAN	SU3026	1957	1997	D		-20			
140	BITYUKTYUBE	SU3034	1957	1997	D		4			
141	BOLSHOY AZAU	SU3004	1857	2002	D		-140			
142	BOLSHOY CHONTOR	SU	1956	1990	D	-310				
143	CHUNGURCHATCHIR	SU3027	1957	1997	D		-14			
144	GARABASHI	SU3031	1957	1997	D		-3			
145	GREGORIEV	SU	1956	1990	D	-200				
146	IRIK	SU3029	1957	1997	D		-11			
147	IRIKCHAT	SU3028	1957	1997	D		-11			
148	KARACHAUL	SU3022	1957	1997	D		-1			
149	KOLPAKOVSKY	SU	1943	1990	D	-510				
150	KYUKYURTLYU	SU3033	1957	1997	D		-1			
151	LEVIY AKTRU	SU7102	1976	2008	C				-6	
152	MALIY AKTRU	SU7100	1936	2008	C				-10	
153	MALIY AZAU	SU3032	1957	1997	D		-5			
154	MIKELCHIRAN	SU3025	1957	1997	D		-6			
155	NO. 125 (VODOPADNIY)	SU7105	1986	2008	C				-3	
156	NO.211	SU	1943	1990	D	-300				
157	NO.324	SU	1943	1990	D	-230				
158	NO.392	SU	1943	1990	D	-130				
159	NO.393	SU	1943	1990	D	-100				
160	NO.394	SU	1943	1990	D	-140				
161	POPOV	SU	1956	1990	D	-215				
162	TERSKOL	SU3030	1957	1997	D		0			
163	TS.TUYUKSUYSKIY	SU5075	1908	2005	C	-12	-46	-39		-26
164	ULLUCHIRAN	SU3021	1957	1997	D		-4			
165	ULLUKOL	SU3023	1957	1997	D		-7			
166	ULLUMALIENDERKU	SU3024	1957	1997	D		-1			

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			SURVEY			2006	2007	2008	2009	2010
	COLOMBIA									
167	LA CONEJERA	CO0033	2000	2000	C				-16	-30
	ECUADOR									
168	ANTIZANA15ALPHA	EC0001	1965	2005	C	-10	-7	8	19	7
	FRANCE									
169	ARGENTIERE	FR0002	1883	2005	C	-26	-27	-38		-71
170	BLANC	FR0031	1899	2005	_	-53	-27	-5	-64	-9
171	BOSSONS	FR0004	1874	2005	C	-48	-57	-18	-20	-42
172	GEBROULAZ	FR0009	1908	2005	C	-X	-8			
173	MER DE GLACE	FR0003	1866	2005	_	15	-24	-76	-56	-34
174	OSSOUE	FR	1874	2005	C	-17	-35	0	-12	0
175	SAINT SORLIN	FR0015	1923	2005	C	-48	-X			
	GREENLAND									
176	AKULLIIT	GL	1880	2001	D					-280
177	ASSAKAAT	GL	1875	2001	D					-45
178	FREYA	GL	1947	1985	D			-170		
179	KANGIUSAQ	GL	1884	2000	D				-84	
180	MITTIVAKKAT	GL0019	1931	2005	D				0	-15
181	MOTZFELDT E	GL	1920	2002	D			-40		
182	MOTZFELDT W	GL	1920	2002	D			-80		
183	NAPASORSUAQ	GL	1951	2002	D					-30
184	NARSSAQ BRAE	GL0005	1946	2000	D			-109		
185	QINGUA KUJALLEQ	GL	1884	2000	D				-42	
186	SAARLOQ	GL	1930	2000	D				-90	
187	SAQQAQ	GL	1869	2001	D					-117
188	SERMIARSUIT	GL	1850	2001	D					-30
189	SERMIKASSAK	GL	1879	2001	D					-100
190	SERMINNGUAQ	GL	1885	2000	D					-172
191	SERMITSIAQ	GL	1876	2002	D					-361
192	SISSARISSUT	GL	1884	2000	D					-115
193	SOQQAAP	GL	1875	2001	D					-58
194	TUNORSUAQ	GL	1893	2005	D					-30
195	UMIARTORFIUP	GL	1875	2001	D					-25
	ICELAND									
196	BAEGISARJOEKULL	IS0304	1957	2003	_		0			
197	BLAGNIPUJOEKULL	IS	1998	2005	A	-85		-36		-159
198	BREIDAMJOEKULL W. A.	IS1125A	1934	2005	A	-95	-50	-20		
199	BREIDAMJOEKULL W. C.	IS1125C	1933	2005	A	-50	-90	-60	-95	-30
200	BROKARJOEKULL	IS1427	1936	1994	C				-287	-87
201	FALLJOEKULL	IS1021	1958	2005	A	-34	-40	-40	-41	-64
202	FJALLSJOEK. BY BREID.	IS1024A	1934	2005	A	-10	-5	-5	-25	
203	FJALLSJOEK. BY GAMLAS.	IS1024C	1934	2005	A	-25	-26	-35	-25	-40
204	FLAAJOEKULL E 148	IS1930C	1931	2000	_				-355	-67
205	GEITLANDSJOEKULL	IS	2003	2005	A	-66	-63	-33	-37	-37
206	GIGJOEKULL	IS0112	1934	2005	A	-180	-80		-53	-85
207	GLJUFURARJOEKULL	IS0103	1933	2005	A	-51	-9	-12	-3	-16
208	HAGAFELLSJOEKULL E	IS0306	1902	2003	A		-270		-166	-79
209	HEINABERGSJOEKULL	IS1829A	1990	2004	A	65	-70	48	62	-1
210	HYRNINGSJOEKULL	IS0100	1933	2005	A	8	-45	-21	-12	-30
211	JOEKULKROKUR	IS0007	1936	2003	A	-43		-38	-20	
212	KALDALONSJOEKULL	IS0102	1931	2005	A	-8	-13	-58	SN	-32
213	KIRKJUJOEKULL	IS	1998	2005	A	-18		-66		-75
214	KOETLUJOEKULL	IS	1993	2005	A	-9	0	-46	-40	
215	KVERKJOEKULL	IS2500	1971	2000	_					-92
216	KVISLAJOEKULL	IS	2003	2005	A	-45	-11	-49		-52
217	LEIRUFJARDARJOEKULL	IS0200	1886	2003	A	-63	-5	-55	-35	-98
218	LODMUNDARJOEKULL	IS0108	1936	2005	A	-5		-50		

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			SURVEY			2006	2007	2008	2009	2010
219	MORSARJOEKULL	IS0318	1935	2004	A	-55		-50		-79
220	MULAJOEKULL S	IS0311A	1935	2004	A	-130	-25	-15	10	-26
221	NAUTHAGAJOEKULL	IS0210	1935	2005	A	-23	-32	-39	-13	-37
222	OELDUFELLSJOEKULL	IS0114	1967	2005	A				-310	
223	REYKJAFJARDARJOEKULL	IS0300	1914	2005	A	32	-1	4	-3	-5
224	RJUPNABREKKUJOEKULL	IS	2001	2005	A	-23	-26	-12	-19	-81
225	SATUJOEKULL	IS0530	1991	2004	A	-20	-12	-93		-75
226	SIDUJOEKULL E M 177	IS0015B	1934	2003	A		-300			
227	SKAFTAFELLSJOEKULL	IS0419	1934	2005	_	-27		-89	-82	-50
228	SKALAFELLSJOEKULL	IS1728A	1935	2005	A					-473
229	SKEIDARARJOEKULL E1	IS0117A	1951	2005	A	-6	-48	4	-86	-15
230	SKEIDARARJOEKULL E2	IS0117B	1932	2005	A	-6	-71	22	38	-26
231	SKEIDARARJOEKULL E3	IS0117C	1932	2005	A	6				
232	SKEIDARARJOEKULL M	IS	1991	2005	A	-60	-140	-60		
233	SKEIDARARJOEKULL W	IS0116	1932	2005	A	-200	0	-160	-155	-155
234	SLETTJOEKULL	IS	2002	2004	A	-150				-259
235	SOLHEIMAJOEKULL W	IS0113A	1931	2005	A	-62	-81	-134	-47	-55
236	SVINAFELLSJOEKULL	IS0520A	1951	2005	A	-4	-2	-12	8	-3
237	TUNGNAARJOEKULL	IS2214	1946	2005	A		-138	-50	-106	-106
	INDIA									
238	CHORABARI	IN	2003	2003	_			-49		
239	DRANG DRUNG	IN	1990	2005	E	-25		-47		
240	GANGOTRI	IN0019	1849	2004	D	0	-10			
241	GANGSTANG	IN0077	1978	1978	_			-485		
242	GLACIER NO. 10	IN	1990	2005	E	-16				
243	GLACIER NO. 12	IN	2000	2005	E	-45				
244	GLACIER NO. 13	IN	1992	2005	E	21				
245	GLACIER NO. 9	IN	1990	2005	E	-141				
246	HAMTAH	IN	1998	2005	_	-15				
247	MILAM	IN0037	1906	1999	D	-296				
248	MULKILA	IN0070	2006		C	-635				
249	PANCHI NALA I	IN0046	1979	1979	_		-325			
250	PANCHI NALA II	IN0048	1979	1979	_		-375			
251	PARKACHICK	IN	1990	2004	E			-7		
252	TINGAL GOH	IN0088	1978	1978	_			-315		
253	YOCHE LUNGPA	IN0079	2006		C	-840				
	ITALY									
254	AGNELLO MER.	IT0029	1927	2005	C	-7	-1	-1		
255	ALTA (VEDR.) / HOHENF.	IT0730	1924	2005	C	-20	-17	-14	-4	-6
256	AMOLA	IT0644	1949	2005	C	-8	-18	-2	-5	-16
257	ANTELAO INFER. (OCC.)	IT0967	1952	2005	C	-4	-2	0	SN	SN
258	ANTELAO SUP.	IT0966	1952	2005	C	-4	-10	-1	-2	-9
259	AOUILLE	IT0138	1972	2005	C	-4	2	2		-20
260	BASEI	IT0064	1961	2005	C	SN	-2	-3	-4	-14
261	BELVEDERE (MACUGNAGA)	IT0325	1922	2005	C	0	-4	0	-13	
262	BESSANESE	IT0040	1947	2005	C	-2	-2	0	0	3
263	BRENVA	IT0219	1925	2004	C			-X	-109	
264	CALDERONE	IT1006	1947	2005	C	ST	ST	ST		ST
265	CAMPO SETT.	IT0997	1949	2005	C	-X	-21	-18	-4	-10
266	CARE ALTO OR.	IT0632	1953	2001	C			-35		
267	CARESER	IT0701	1898	2005	E					-170
268	CASPOGGIO	IT0435	1927	2005	C				-13	-2
269	CASSANDRA OR.	IT0411	1927	2001	C	-47	-7	-22	-2	0
270	CASTELLI OR.	IT0493	1928	2001	C				-30	
271	CEDEC	IT0503	1926	1975	C	-19	-5	-9	-13	-9
272	CEV. FORCOLA/FUERKELEF.	IT0731	1899	2001	C	-53	-49	-20	-6	-37
273	CEV. PRINCIPALE/ZUFALLF.	IT0732	1899	2005	C	-39	-27	-21	-58	-99
274	CIAMARELLA	IT0043	1928	2001	C	-2	-3	-20	-8	-2
275	CIARDONEY	IT0081	1973	2005	C	-26	-10	-26	0	-5

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			SURVEY			2006	2007	2008	2009	2010
276	CLAPIER	IT0001	1924	1999	C	-26	-8			
277	COL DELLA MARE I	IT0506A	1925	2001	C				-95	
278	COLLALTO (V.. DI)/HOCHG..	IT0927	1974	2005	C	-11	-7		-77	
279	COLLERIN D'ARNAS	IT0042	1973	2001	C	-5	0	-1	0	0
280	COUPE DE MONEY	IT0109	1927	2001	C	-20	-17	-24	-17	-17
281	CRISTALLO	IT0937	1927	1998	C	-4	-181			
282	DISGRAZIA	IT0419	1926	2001	C	-32	-76	-2	-4	-12
283	DOSEGU	IT0512	1926	2005	C	-15	-15	-32	-12	-19
284	DZASSET	IT0113	1996	2001	C	-12	-4	-10	-5	-9
285	ESTELLETTE	IT0208	1953	2000	C	-10	-8			
286	FOND OCCID.	IT0146	1986	2001	C	-4	-2		-1	-15
287	FOND OR.	IT0145	1963	2001	C	-2	0	-1	0	-3
288	FONT. BIANCA / WEISSBF.	IT0713	1926	1993	C				SN	-16
289	FORNI	IT0507	1863	2005	C	-28	-10	-13	-7	-11
290	FOURNEAUX	IT0027	1905	2001	C	-1	-2			
291	FRADUSTA	IT0950	1948	2005	C			-30		
292	GLIAIRETTA VAUDET	IT0168	1948	2000	C	-18	-46	-20	-9	-6
293	GOLETTA	IT0148	1928	2005	C	-14	-10	-6	-3	
294	GRAN PILASTRO/GLIEDERF.	IT0893	1926	2005	C	-20	-23	-29	-32	-20
295	GRAN VAL	IT0115	1986	2000	C	-12	-10	-8		-40
296	GRAN VEDR. OCC. / HOCHF.	IT0884	2006		C	-19	-22	-28	2	-7
297	GRAN VEDR. OR. / GRIESSF.	IT0883	2006		C	-1	-14	-19	13	-11
298	GRAN ZEBRU	IT0502	1926	1975	C	-9	-12	-11	-13	
299	GRAND CROUX CENTR.	IT0111	1903	2001	C	-12	-10	-14	-163	-10
300	GRAND ETRET	IT0134	1951	2000	C	-20	-10			
301	GRUETTA ORIENT.	IT0232	1995	2001	C			-28	-10	0
302	INDREN OCC.	IT0306	1922	2000	C	-25	-9	-2		-9
303	JUMEAUX	IT0280	1928	2001	C			32	-2	-1
304	LA MARE (VEDRETTA DE)	IT0699	1897	2005	C			-25	-35	
305	LANA / AEUSS. LAHNER K.	IT0913	1977	2005	C			-104	-10	-29
306	LARES	IT0634	1920	2005	C	-38	-28	-49		
307	LAUSON	IT0116	1928	2005	C	-8	-8	-6	-9	-8
308	LAVACCIU	IT0129	1933	2001	C	-14	-40	-11	-2	-9
309	LAVASSEY	IT0144	1928	2001	C	-24	-24	-5	-12	-16
310	LOBBIA	IT0637	1899	2005	C	-1	-24		-22	
311	LOCCE SETT.	IT0321	1986	2001	C	-11	-12	-X		
312	LUNGA (VED.) / LANGENF.	IT0733	1901	2005	C	-46	-42	-44	-23	-58
313	LUPO	IT0543	1936	2005	C	-5	-4	0	SN	SN
314	LYS	IT0304	1902	2005	C	-30	-45	-6	-23	-19
315	MALAVALLE / UEBELTALF.	IT0875	1915	2005	C	-10	-13	-14	-8	-50
316	MANDRONE	IT0639	1911	2005	C	-12	-24	-5	-6	-21
317	MARMOLADA CENTR.	IT0941	1902	2005	C	4	-8	-17	-4	3
318	MAROVIN	IT0541	1953	2001	C	-11	-38	-6		
319	MARTELOT	IT0049	1928	2001	C	-2	-X	0	0	0
320	MONCIAIR	IT0132	1951	2001	C	-13	-72	-2	-16	-8
321	MONCORVE	IT0131	1928	2001	C	-12	-8	-4	-2	-6
322	MONEY	IT0110	1903	2001	C			-17	-4	-16
323	MONTANDEYNE	IT0128	1929	2000	C	-29	-6	-16	-17	-1
324	MORION OR.	IT0180	1938	1974	C	-3	-3	-12	-5	-3
325	MULINET MERID.	IT0047	1955	2001	C	-1	-X			
326	MULINET SETT.	IT0048	1907	2001	C	-2	-3	-X		-36
327	NARDIS OCC.	IT0640	1927	2004	C			-6		
328	NEL CENTRALE	IT0057	1959	2000	C	-86	-32	-6		-1
329	NEVES OR. / NOEFESF. OEST.	IT0902	1910	2004	C			-8	-55	
330	NISCLI	IT0633	1920	2005	C			-39		-12
331	PALON D. MARE LOBO C..	IT0506B	2008		C			-18	-6	-21
332	PALON D. MARE LOBO OR.	IT0506C	1990	2001	C	-14	-22	-8	-15	-10
333	PEIRABROC	IT0002	1924	1999	C	-5	-12			
334	PENDENTE / HANGENDERF.	IT0876	1923	2005	C	-2	-18	-8	-3	-3
335	PIODE	IT0312	1915	2005	C	-5	-9	-11	-11	-12
336	PISGANA OCC.	IT0577	1918	2005	C	-54	-19	-24	-34	-14

NR	GLACIER NAME	PSFG NR	FIRST	LAST	METHOD	VARIATIONS IN METERS				
			SURVEY			2006	2007	2008	2009	2010
337	PIZZO FERRE	IT0365	1927	2001	C			0	-2	-1
338	PIZZO SCALINO	IT0443	1899	2005	C	-37	-23	-7	-29	-9
339	PRE DE BAR	IT0235	1904	2005	C	-32	-15	-27	-30	-30
340	PREDAROSSA	IT0408	1916	2001	C		-21	-5	-20	2
341	QUAIRA BIANCA/WEISSK.F.	IT0889	1930	2005	C	-27	-27	-43	-19	-30
342	RIES OCC./RIESERF. WESTL.	IT0930	1973	2005	C	-5	-10	-19	-3	-21
343	RIES OR.C./RIESERF. OEST.Z.	IT0929	1974	2005	C	-28	-52	-23	-12	-11
344	ROSIM (VEDR. DI) / ROSIMF.	IT0754	1898	2005	C	-9	-38		-6	-X
345	ROSSO DESTRO	IT0920	1930	2005	C			-19	-6	3
346	RUTOR	IT0189	1927	2005	C	-12	-14	-3	-3	-3
347	SCERSCEN INFERIORE	IT0432	1897	2001	C	-125	-X	-5	-5	
348	SEA	IT0046	1928	2001	C	-18	-16	-62	0	-14
349	SFORZELLINA	IT0516	1926	2005	C	-2	-6		-3	-4
350	SISSONE	IT0422	1927	2001	C	-5	-16	-155	-170	-5
351	SOCHES TSANTELEINA	IT0147	1951	2001	C	-42	-10	-18	-15	-14
352	SOLDA (VED. DI) / SULDENF.	IT0762	1923	1995	C	-8	-10		-6	-X
353	SURETTA MERID.	IT0371	1927	2005	C	-1	-4	-23	0	0
354	TORRENT	IT0155	1962	2001	C	-4	-11	-9	-5	-15
355	TOULES	IT0221	1933	2004	C			-30	-17	-16
356	TRAVIGNOLO	IT0947	1953	2005	C			-10		
357	TRIBOLAZIONE	IT0112	1927	2001	C	-10	-6	-9	-124	-26
358	TZA DE TZAN	IT0259	1926	2001	_			-X		
359	VAL VIOLA OCC.	IT0477	1932	2000	C	-5	-3			
360	VALLE DEL VENTO	IT0919	1981	2005	C			-29	10	2
361	VALTOURNANCHE	IT0289	1927	2005	C	-6	-5	-5		-2
362	VAUDALETTA	IT0142	1973	1999	C	-1	-19	0		0
363	VENEROCOLO	IT0581	1920	2005	C	-16	-16	-12	-10	-14
364	VENTINA	IT0416	1907	2005	C	-16	-12	-6	-14	-17
365	VERRA (GRANDE DI)	IT0297	1914	2001	C			-12	-9	-19
366	ZAI DI DENTRO / ZAY F. INN.	IT0749	1930	2005	C	-4	-8			
367	ZAI DI FUORI / ZAY F. AEUSS.	IT0751	1899	2005	C	-3	-3			
368	ZAI DI MEZZO / ZAY F. MITT.	IT0750	1934	2005	C	-17	-12			
	KENYA									
369	LEWIS	KE0008	1899	2004	E					-79
	NEPAL									
370	LHOTSE SHAR / IMJA	NP	1992	1992	C				-730	
371	ROLWALING (TRAKARD.)	NP	1993	1993	C				-250	
372	THULAGI	NP0013	1972	1996	C				-506	
	NEW ZEALAND									
373	ADAMS	NZ	1892	2003	A			ST		
374	ALMER/SALISBURY	NZ	1993	2005	A	ST			-X	ST
375	ANDY	NZ	1993	2005	A			-X	-X	-X
376	ASHBURTON	NZ	1993	2005	A			ST	ST	-X
377	AXIUS	NZ	1998	2002	_			-X		ST
378	BALFOUR	NZ	1995	2005	A			-X	ST	ST
379	BARLOW	NZ	1992	2000	A			+X	-	-X
380	BARRIER	NZ	1998	1999	A			-X	-X	
381	BARRIER PK	NZ	1993	1995	_					-X
382	BONAR	NZ	1995	2000	A			+X	-X	-X
383	BREWSTER	NZ	1992	2005	C	-8	-12	-8	0	-7
384	BURTON	NZ	1993	2000	_					ST
385	BUTLER	NZ	1992	2005	A			ST	ST	ST
386	CAMERON	NZ	1993	2005	A			+X		
387	COLIN CAMPBELL	NZ	1995	2001	_			-X		
388	CROW	NZ	1995	2005	A			+X	ST	-X
389	DAINTY	NZ	1996	2000	A			+X	ST	-X
390	DART	NZ	1981	2005	A			-X	-X	-X
391	DISPUTE	NZ	1998	2002	A			-X		-X

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			SURVEY			2006	2007	2008	2009	2010
392	DONALD	NZ	2000	2000	_			ST		ST
393	DONNE	NZ	1995	2003	A				-X	
394	DOUGLAS (KAR.)	NZ	1993	2005	A			-X	-X	ST
395	FITZGERALD (GOD)	NZ	2000	2001	_					-X
396	FORGOTTEN COL	NZ	1998	1999	A			+X	+X	
397	FOX	NZ	1934	2005	C	87	0	0	-10	
398	FRANZ JOSEF	NZ	1894	2005	C			30	-10	-22
399	FRESHFIELD	NZ	1996	2002	A				+X	-X
400	GLENMARY	NZ	1994	2000	A			-X	-X	-X
401	GUNN	NZ	1993	2005	A			-X	-X	
402	HORACE WALKER	NZ	1995	2005	A			+X	ST	+X
403	IVORY	NZ	1981	2005	A			+X	+X	ST
404	KAHUTEA	NZ	1995	2004	A				-X	ST
405	LA PEROUSE	NZ	1995	2005	A			ST	ST	ST
406	LAMBERT	NZ	1992	2005	A			ST		-X
407	LYELL	NZ	1995	2004	A			-X		-X
408	MACAULAY	NZ	2000	2000	_					+X
409	MARION	NZ	1993	2005	A			ST	+X	-X
410	MARMADUKE DIXON	NZ	1993	2005	A				-X	-X
411	MATHAIAS	NZ	2000	2003	_					ST
412	MC COY	NZ	1995	2000	A			ST		
413	METALILLE	NZ	2009		A				-X	-X
414	MUELLER	NZ	1991	2005	A			-	-	-X
415	MURCHISON	NZ	1993	2005	A			-	-	
416	PARK PASS	NZ	1994	2005	A			-	-	-X
417	REISCHEK	NZ	1995	2005	A			-X		
418	RICHARDSON	NZ	1993	2000	A			+X		-X
419	ROLLESTON	NZ	1981	2005	D		SN			4
420	SEPARATION	NZ	1996	2000	_					+X
421	SIEGE	NZ	1992	2005	A			-X	-X	-X
422	SLADDEN	NZ	2009		A				ST	ST
423	SNOW WHITE	NZ	1993	2005	A			-X	-X	-X
424	SNOWBALL	NZ	1993	2003	A			ST	+X	ST
425	SOUTH CAMERON	NZ	2004	2004	A			-X	ST	-X
426	SPENCER	NZ	1992	2000	A			-X	+X	-X
427	ST. JAMES	NZ	1996	2003	_					+X
428	STOCKING (TEWAEWAE)	NZ	1875	2001	A				+X	-X
429	STRAUCHON	NZ	1994	2005	_					+X
430	TASMAN	NZ	1991	2005	A	-X			-X	-X
431	THURNEYSON	NZ	1992	2005	A			-X	-X	-X
432	VICTORIA	NZ	1995	2005	A	+X			+X	ST
433	WHATAROA	NZ	1999	2005	_			-X		-X
434	WHITBOURNE	NZ	1995	2001	_					ST
435	WHITE	NZ	1993	2005	_					ST
436	WHYMPER	NZ	1995	2005	A			-X		-X
437	WILKINSON	NZ	1995	2005	A				ST	
438	ZORA	NZ	1995	2005	A			+X	+X	+X
	NORWAY									
439	ALDEGONDABREEN	NO14108	1936	2004	D	-100				
440	AUSTERDALSBREEN	NO31220	1906	2005	C	-21	-20	-20	-5	-12
441	AUSTRE OKSTINDBREEN	NO	1909	1944	C		1	2		-32
442	BERGSETBREEN	NO31013	1903	2005	C	-122				
443	BLOMSTOELSKARDSBREEN	NO	1998	2005	C	-2	2	0		-8
444	BOEDALSBREEN	NO37219	1907	2005	C	-72	-13	-22	-52	-65
445	BOEVERBREEN	NO0548	1904	2005	C	-9	-2	-2	-6	-12
446	BOEYABREEN	NO33014	1903	2005	C	-37	-74	32	-29	-32
447	BONDHUSBREA	NO20408	1903	2005	C	-48	-49	-50	-10	-28
448	BOTNABREA	NO20515	1998	2005	C	-24		-9	-1	-10
449	BREIDABLIKKBREA	NO	2003	2005	C	-2				
450	BRENNDALSBREEN	NO37109	1901	2005	C	-160	-87	-56	-29	-22

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			SURVEY			2006	2007	2008	2009	2010
451	BRIKSDALSBREEN	NO37110	1872	2005	C	-145	-30	-12	-22	8
452	BUERBREEN	NO21307	1904	2005	C	-9	-79	3	-5	-28
453	CORNELIUSSENBREEN	NO	2007		C		-44	-46		7
454	ENGABREEN	NO67011	1750	2005	C	-5	-34	-29	-8	-11
455	FAABERGSTOELSBREEN	NO31015	1903	2005	C	-46	-14	-60	-59	-10
456	GRAAFJELLSBREA	NO	2003	2005	C	-97	-53	-19	-19	
457	HANSBREEN	NO12419	1918	2004	E		-90		-35	50
458	HELLSTUGUBREEN	NO0511	1902	2005	C	-15	-10	0	-10	-5
459	IRENEBREEN	NO15402	1995	2005	C			-12	-10	-124
460	KJENNDALSBREEN	NO37223	1907	2005	C	-161	-182	-4	-93	
461	KOPPANGSBREEN	NO	1999	2005	C	-38	-12	-4	-20	-18
462	LANGFJORDJOEKULEN	NO85008	1945	2005	C	-35	-51	-12	-53	-15
463	LEIRBREEN	NO0548	1908	2005	C	-16	6	33		-50
464	MIDTDALSBREEN	NO4302	1983	2005	C	-10	-31	-31	6	-34
465	NIGARDSBREEN	NO31014	1903	2005	C	-32	-4	-1	-24	-39
466	REMBESDALSKAAKA	NO22303	1918	2005	C	-34	-22	-35	-10	-14
467	STEGHOLTBREEN	NO31021	1907	2005	C	5	-39	-30	1	-6
468	STEINDALSBREEN	NO	1999	2005	C	-34	-30	-24	-10	-40
469	STORBREEN	NO0541	1888	2004	C	-16	-1	-7	-5	-14
470	STORE SUPPHELLEBREEN	NO33014	1901	2005	C	-8	-20	9	5	16
471	STORJUVBREEN	NO	1902	2005	C	-8	-3	-4	-8	-18
472	STORSTEINSFJELLBREEN	NO7381	2007		C		-3	-9		-22
473	STYGGEDALSBREEN	NO30720	1902	2005	C	-8	-19	9		-27
474	SVELGJABREEN	NO	2008		C			-1	1	1
475	SYDBREEN	NO	2008		C			-14	-10	-14
476	TAVLEBREEN	NO	1960	2003	D	-150				
477	TROLLKYRKJEBREEN	NO	1945	1974	C					-16
478	TUFTEBREEN	NO	2008		C			-12	-12	-15
479	WALDEMARBREEN	NO15403	1936	2005	C	-8	-12	-13	-10	-106
	PAKISTAN									
480	BATURA	PK0005	2010		_					-750
481	GHULKIN	PK0008	2008		_			120		
482	RAIKOT	PK	1954	2003	E	-15	4			
	PERU									
483	ALPAMAYO	PE	2006		_		-13	-11	-10	
484	ARTESONRAJU	PE0003	1948	2005	C		-12		-11	0
485	GAJAP-YANACARCO	PE0009	1981	2005	_	-17	-20	-29	-8	
486	INCACHIRIASCA	PE	2008		_			-10	-10	
487	PASTORURI	PE0008	1981	2005	_	-12	-11	-12	-8	
488	SHALLAP	PE0003	2005	2005	_			-11		
489	URUASHRAJU	PE0005	1968	2005	_	-20	-29	-18	-9	
490	YANAMAREY	PE0004	1972	2005	_	-18	-19	-40	-7	-37
	POLAND									
491	POD BULA	PL0111	1981	2005	ES	3	-32	19	11	-4
492	POD CUBRYNA	PL0180	1981	2005	C	1				+X
	SPAIN									
493	ANETO	ES9030	1946	2005	E			-20		
494	MALADETA	ES9020	1957	2005	C	-1	-8	0	0	0
	SWEDEN									
495	ISFALLSGLAC.	SE0787	1910	2005	C	-5				
496	KARSOJIETNA	SE0798	1909	2003	C		-33	-5		
497	MIKKAJEKNA	SE0766	1899	2002	C			-140		-50
498	PARTEJEKNA	SE0763	1970	2003	C			-121		
499	PASSUSJIETNA E.	SE0797	1969	2000	C	-53				-31
500	RABOTS GLACIAER	SE0785	1933	2003	C		-63			
501	RIUKOJIETNA	SE0790	1968	2002	C	-18				

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			SURVEY			2006	2007	2008	2009	2010
502	RUOPSOKJEKNA	SE0764	1967	2000	C			-101		
503	RUOTESJEKNA	SE0767	1967	2002	C			-97		
504	SALAJEKNA	SE0759	1908	2002	C			-100		
505	SE KASKASATJ GL	SE0789	1951	2005	C				10	
506	STORGLACIAEREN	SE0788	1908	2005	D	-14	SN	SN	SN	-6
507	SUOTTASJEKNA	SE0768	1901	2002	C			-63		
508	VARTASJEKNA	SE0765	1968	2003	D				SN	-12
	<u>SWITZERLAND</u>									
509	ALBIGNA	CH0116	1882	1991	C					-28
510	ALLALIN	CH0011	1884	2005	A	1	-14	14	-4	-1
511	ALPETLI(KANDER)	CH0109	1894	2005	C	-23	-25	-45	-28	-25
512	AMMERTEN	CH0111	1970	2005	C	-3	-1	-2	0	-1
513	AROLLA (BAS)	CH0027	1886	2005	C	-35	-25		-68	-25
514	BASODINO	CH0104	1894	2005	C	-11	-30	-12	-3	-7
515	BIFERTEN	CH0077	1884	2005	C	-6	-11	-9	-4	-11
516	BLUEMLISALP	CH0064	1894	2005	C	-35	-31	-34	-19	-15
517	BOVEYRE	CH0041	1890	2005	C	-23	-20	-15	-22	-19
518	BRENEY	CH0036	1882	2005	C	-26	-36	-23	-32	-35
519	BRESCIANA	CH0103	1898	2005	C	-14	-26	-7	-3	-6
520	BRUNEGG	CH0020	1941	2005	C					-99
521	BRUNNI	CH0072	1883	2003	C				-5	
522	CALDERAS	CH0095	1921	2005	C	-12	-20	-7	-121	-13
523	CAMBRENA	CH0099	1889	2005	C	-20	-33	-20		
524	CAVAGNOLI	CH0119	1894	2005	C	-17	-17	-21	-5	-9
525	CHEILLON	CH0029	1925	2005	C	2	-7	-3		-2
526	CORBASSIERE	CH0038	1890	2005	A	-36	-18	-21	-101	-40
527	CORNO	CH0120	1895	2005	C	-5	-8	-3	-1	-7
528	CROSLINA	CH0121	1990	2005	C	-10	-3	-3	-1	-1
529	DUNGEL	CH0112	1894	2005	C	-2	-5	-3	-3	-2
530	EIGER	CH0059	1883	2005	C	-21		-225		-8
531	EN DARREY	CH0030	1929	2005	C	-6	-1	-8		-33
532	FEE NORTH	CH0013	1884	2005	C	-4	-5	-20	-14	-6
533	FERPECLE	CH0025	1892	2005	C	-33	-16		-13	-23
534	FIESCHER	CH0004	1892	2001	C	-13	-49	-33	-11	-25
535	FINDELEN	CH0016	1886	2005	A	-2	-12	-1	-1	0
536	FIRNALPELI	CH0075	1895	2005	C	-33	-19	4	-7	-23
537	FORNO	CH0102	1864	2005	D	-24	-31	-28	-24	-28
538	GAMCHI	CH0061	1884	2005	C	-12	-18	-7	-8	-16
539	GAULI	CH0052	1886	2005	C	-78	-100	-75	-100	-196
540	GELTEN	CH0113	2003	2003	C	-5	-14	-8	-16	
541	GIETRO	CH0037	1890	2005	A	-31	-21	-22	-48	-33
542	GLAERNISCH	CH0080	1926	2005	C	-8	-14	-3	-13	-9
543	GORNER	CH0014	1883	2005	C	-4	-17	-290	-6	-11
544	GRAND DESERT	CH0031	1893	2005	C	-6	-41	-47	-16	-16
545	GRAND PLAN NEVE	CH0045	1894	2005	C	-8	-3	-1	-3	-8
546	GRIES	CH0003	1880	2005	A	-50	-39	-26	-16	-24
547	GRIESS(KLAUSEN)	CH0074	1930	2005	C	-11	-6	-4	-3	-2
548	GRIESSEN(OBWA.)	CH0076	1895	2005	C	-1	-8		-11	-4
549	GROSSER ALETSCH	CH0005	1881	2005	A	-115	-32	-68	-33	-21
550	HOHLAUB	CH	2006		A	-194	-12	-5	-4	-4
551	HUEFI	CH0073	1883	2005	C	-64	-4	-12	-9	0
552	KALTWASSER	CH0007	1892	2005	C	-30	-22	7	-6	5
553	KEHLEN	CH0068	1894	2005	C	-18	-27	-37	-24	-31
554	KESSJEN	CH0012	1931	2005	A	-17	-3	-12	-7	-5
555	LAEMMERN	CH0063	1919	2005	C	-9	-41	-15	-12	-12
556	LANG	CH0018	1889	2005	C	-17	-19	-19	-13	-28
557	LAVAZ	CH0082	1886	2005	C			-18		-14
558	LENTA	CH0084	1897	2005	C	-29	-36	-10	-13	-15
559	LIMMERN	CH0078	1886	2005	C	-2	-10	-6	-4	-2
560	LISCHANA	CH0098	1897	2005	C	-5		-7	-3	-12

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			SURVEY			2006	2007	2008	2009	2010
561	MOIRY	CH0024	1892	2005	C	-9	-18	-16		-33
562	MOMING	CH0023	1880	2001	C					-11
563	MONT DURAND	CH0035	1891	2005	C	-20	-17		-53	-24
564	MONT FORT	CH0032	1893	2005	C	-30	-3		-22	-7
565	MONT MINE	CH0026	1957	2005	C	-23	-10		-32	-21
566	MORTERATSCH	CH0094	1880	2005	C	-33	-19	-35	-33	-51
567	MUTT	CH0002	1919	2005	C	-30	-9	-18	-22	
568	OBERALETSCH	CH0006	1881	2005	C		-6			
569	OTEMMA	CH0034	1882	2005	C	-100	-61	-31	-51	-37
570	PALUE	CH0100	1895	2004	C	-37	-27	-8		0
571	PANEYROSSE	CH0044	1887	2004	C	-4	-2	-2	-5	-9
572	PARADIES	CH0086	1898	2005	C	-35	-6	2	2	0
573	PARADISINO	CH0101	1956	2005	C	-38	-2	-11		-40
574	PIZOL	CH0081	1894	2005	C	-9	-7	0	-2	-3
575	PLATTALVA	CH0114	1970	2005	C	-17	-14	-20	-21	-19
576	PORCHABELLA	CH0088	1894	2005	C	-17	-27	-22	-17	-16
577	PRAPIO	CH0048	1899	2005	C		-5	-4	-6	-9
578	PUNTEGLIAS	CH0083	1897	2005	C	-3	-7	-10		-13
579	RHONE	CH0001	1880	2005	A	-8	-12	-3	-4	-3
580	RIED	CH0017	1896	2005	C	-17	-9	-19	-500	
581	ROSEG	CH0092	1881	2005	C	-27	-27	-18	-32	0
582	ROTFIRN NORD	CH0069	1957	2005	C	-17	-14	-13	-12	-24
583	SALEINA	CH0042	1880	2005	C	-15	-24	-22	-16	-26
584	SANKT ANNA	CH0067	1882	2004	C	-27		-20	-6	-13
585	SARDONA	CH0091	1897	2005	C	-22	-37	-8	-2	2
586	SCALETTA	CH0115	1999	2005	C	-7	-20	-22	-6	-4
587	SCHWARZBERG	CH0010	1909	2005	A	-11	-11	-13	-17	-10
588	SEEWJINEN	CH	2006		A	-12	-4	-23	-2	-8
589	SESVENNA	CH0097	1957	2004	C	-21	-10	-8	-5	-8
590	SEX ROUGE	CH0047	1899	2005	C	-2	-1		-4	
591	SILVRETTA	CH0090	1957	2005	A	-7	-10	-6	-7	-8
592	STEIN	CH0053	1894	2005	C	-45	-14	-20	-28	-122
593	STEINLIMMI	CH0054	1962	2005	C	-27	-14	-23	-19	-51
594	SULZ	CH0079	1913	2005	C	-2	-7	-4	-8	-2
595	SURETTA	CH0087	1931	2005	C	-725	-20	-2	0	1
596	TIATSCHA	CH0096	1894	2003	C	-250	-12	-5	1	-7
597	TIEFEN	CH0066	1923	2005	C	-14	-19	-32	-16	-16
598	TRIENT	CH0043	1880	2005	C	-5	-18	-91	-151	14
599	TRIFT (GADMEN)	CH0055	1892	2005	A	-67	-71	-22	-34	-24
600	TSANFLEURON	CH0033	1885	2005	C			-126	-104	
601	TSCHIERVA	CH0093	1943	2005	C	-55	-51	-25	-25	-21
602	TSCHINGEL	CH0060	1894	2005	C	-7	-14	-1	-3	-16
603	TSEUDET	CH0040	1891	2005	C		7	11	-11	-8
604	TSIDJIORE NOUVE	CH0028	1882	2005	C	-40	-18		-26	-15
605	VAL TORTA	CH0118	1971	2005	C	-14	-4	-12	0	
606	VALLEGGIA	CH0117	1973	2005	C	-5	-6	-9	-1	-8
607	VALSOREY	CH0039	1890	2005	C		-51	-6	-28	-21
608	VERSTANKLA	CH0089	1927	2005	C	-21	-21	-9	-10	-10
609	VORAB	CH0085	1886	2005	C	-12	-24	-9	-14	-9
610	WALLENBUR	CH0071	1894	2005	C	-2	-5	-2	-9	-12
611	ZINAL	CH0022	1892	2005	C	-7	-15		-34	-9
	TURKEY									
612	ERCIYES	TR	1930	2001	D			-40		
	U.S.A.									
613	BEAR	US	1888	2004	D	-31	-45			
614	BOULDER	US2005	1965	2003	A	-80				
615	COLEMAN	US2011	1953	1968	A	-X				
616	COLUMBIA (2057)	US2057	1986	2005	D	-15	-6	SN	-8	-12
617	COLUMBIA (627)	US0627	1899	2000	_		-2000			

NR	GLACIER NAME	PSFG NR	FIRST	LAST	METHOD	VARIATIONS IN METERS				
			SURVEY			2006	2007	2008	2009	2010
618	DANIELS	US2052	1986	2005	D	-14	SN	SN	-50	-15
619	DEMING	US2009	1965	2005	C		-36			
620	DINGLESTADT	US	1878	2000	D	-145				
621	EASTON	US2008	1970	2005	D	-30	-20	-8	-15	-17
622	EXCELSIOR	US	1917	1994	D	-2010				
623	EXIT	US0390	1899	2004	D	-71				
624	FOSS	US2053	2005	2005	D	-16	SN	SN	-80	
625	GREWINGK	US	1904	1994	D	-475				
626	ICE WORM	US2054	2005	2005	D	-12	SN	SN	-20	
627	LOWER CURTIS	US2055	1986	2005	D	-14	-13	-17	-10	-7
628	LYMAN	US	2007		C		-12			
629	LYNCH	US2056	2005	2005	D	-6	SN	-6	-4	
630	MCCARTY	US	1909	2004	D	-32	-45			
631	NORTHWESTERN	US	1928	2000	D	-24				
632	NUKA	US	1736	2000	D	-55				
633	OKPILAK	US	1907	1981	D	-520				
634	RAINBOW	US2003	1970	2005	D	-22	SN	SN	0	
635	ROOSEVELT	US2012	1965	1968	A	-X				
636	SHOLES	US	2006		D	-7	SN	SN	-6	
637	SOUTH CASCADE	US2013	1900	2005	A	-13	-9			
638	SQUAK	US2007	1974	1974	A	-28				
639	TAKU	US1805	1968	1980	B			-15		
640	TEBENKOF	US0414A	1880	2003	D	-216			-15	
641	VALDEZ	US0629	1902	2004	D			-250		
642	WOLVERINE	US0411	1777	1994	D	-194				
643	YALIK	US	1909	2000	D	-239				
644	YAWNING	US2050	2005	2005	A	-7				

Notes

Notes

WORLD GLACIER MONITORING SERVICE

VARIATIONS IN THE POSITION OF GLACIER FRONTS

TABLE BB

ADDENDA FROM EARLIER YEARS (INCLUDING RECONSTRUCTIONS)

NR	Record number
GLACIER NAME	15 alphabetic or numeric digits
PSFG NUMBER	5 digits identifying glacier with alphabetic prefix denoting country
METHOD	A = aerial photogrammetry B = terrestrial photogrammetry C = geodetic ground survey (theodolite, tape etc.) D = combination of A, B or C E = other direct methods or reconstructions such as based on historical sources, geomorphological evidence, dating of moraines
1ST SURVEY	Day, month and year of survey
2ND SURVEY	Day, month and year of following survey
VARIATION IN METERS	Variation in the position of the glacier front in horizontal projection expressed as the change in length between the surveys
Key to Symbols	+X : Glacier in advance -X : Glacier in retreat ST : Glacier stationary SN : Glacier front covered by snow

NR	GLACIER NAME	PSFG NR	METHOD	1ST SURVEY D M Y	2ND SURVEY D M Y	VARIATIONS IN METERS
	ARGENTINA					
1	AMEGHINO	AR	E	1765	1947	-170
			E	1947	1970	-160
			E	1970	1986	-3600
			E	1986	2000	-500
			E	2000	2005	-390
2	ESPERANZA NORTE	AR	E	1652	1691	-130
			E	1691	1792	-210
			E	1792	1795	100
			E	1795	1807	-120
			E	1807	1830	10
			E	1830	1876	-280
			E	1876	1927	-610
			E	1927	1933	-350
			E	1933	1951	-650
			E	1951	1958	-100
			E	1958	1972	-200
			E	1972	1978	140
			E	1978	1987	-150
			E	1987	1996	-290
			E	1996	2001	-320
3	FRIAS	AR5004	E	1639	1727	-262
			E	1727	1752	-54
			E	1752	1884	-233
			E	1884	1916	-203
			E	1916	1944	-455
			E	1944	1970	-335
			E	1970	1976	402
			E	1976	1977	20
			E	1977	1978	-38
			E	1978	1979	-22
			E	1979	1980	-26
			E	1980	1981	-24
			E	1981	1982	-46
			E	1982	1983	-66
			E	1983	1984	-84
			E	1984	1985	-26
			E	1985	1986	-10
			E	1986	1987	-115
			E	1987	2003	-405
4	LAGO DEL DESIERTO I	AR	E	1740	1901	-180
			E	1901	1905	-20
			E	1905	1984	-480
			E	1984	2005	-20
5	LAGO DEL DESIERTO II	AR	E	1645	1743	-40
			E	1743	1900	-400
			E	1900	1936	-90
			E	1936	1964	-140
			E	1964	1984	-220
			E	1984	2005	-70
6	LAGO DEL DESIERTO III	AR	E	1655	1734	-80
			E	1734	1867	-300
			E	1867	1920	-50
			E	1920	1945	-450
			E	1945	1984	-230
			E	1984	2005	-30

NR	GLACIER NAME	PSFG NR	METHOD	1ST SURVEY D M Y	2ND SURVEY D M Y	VARIATIONS IN METERS
7	NARVAEZ GRANDE	AR	E	1896	1968	-3350
			E	1968	1981	-300
			E	1981	1984	-150
			E	1984	2002	-180
8	PIEDRAS BLANCAS	AR	E	1610	1744	-130
			E	1744	1899	-50
			E	1899	1931	-520
			E	1931	1952	-100
			E	1952	1968	-140
			E	1968	1981	140
			E	1981	1984	-10
			E	1984	2005	-510
9	SAN LORENZO SUR	AR	E	1665	1769	-240
			E	1769	1819	-570
			E	1819	1958	-1190
			E	1958	1969	-90
			E	1969	1981	-390
			E	1981	1984	-40
			E	1984	2000	-1000
			E	2000	2002	-190
			E	2002	2004	-160
10	TORRE	AR	E	1594	1727	-210
			E	1727	1799	-120
			E	1799	1866	-40
			E	1866	1900	-60
			E	1900	1931	-1760
			E	1931	1968	-50
			E	1968	1984	110
			E	1984	2005	-170
	BOLIVIA					
11	CHARQUINI NORTE	BO	E	1663	1706	-47
			E	1706	1740	-79
			E	1740	1755	-130
			E	1755	1769	-62
			E	1769	1794	-31
			E	1794	1817	-38
			E	1817	1847	-18
			E	1847	1870	-56
			E	1870	1910	-344
			E	1910	1940	-195
			E	1940	1956	-250
			E	1956	1963	-30
			E	1963	1974	-35
			E	1974	1983	-30
			E	1983	1997	-70
12	CHARQUINI OESTE	BO	E	1663	1700	-21
			E	1700	1739	-119
			E	1739	1755	-57
			E	1755	1763	-49
			E	1763	1791	-88
			E	1791	1815	-201
			E	1815	1852	-21
			E	1852	1873	-59
			E	1873	1907	-102
			E	1907	1940	-79
			E	1940	1956	-42
			E	1956	1963	-17

NR	GLACIER NAME	PSFG NR	METHOD	1ST SURVEY D M Y	2ND SURVEY D M Y	VARIATIONS IN METERS
			E	1963	1974	-45
			E	1974	1983	-22
			E	1983	1997	-28
13	CHARQUINI SUR	BO	E	1686	1703	-65
			E	1703	1734	-21
			E	1734	1765	-63
			E	1765	1808	-106
			E	1808	1825	-79
			E	1825	1843	-46
			E	1843	1871	-110
			E	1871	1912	-123
			E	1912	1940	-26
			E	1940	1956	-12
			E	1956	1963	-43
			E	1963	1974	-49
			E	1974	1983	-80
			E	1983	1997	-177
14	CHARQUINI SURESTE	BO	E	1664	1736	-95
			E	1736	1755	-49
			E	1755	1792	-153
			E	1792	1849	-38
			E	1849	1868	-26
			E	1868	1909	-282
			E	1909	1940	-196
			E	1940	1956	-17
			E	1956	1963	-37
			E	1963	1974	-21
			E	1974	1983	-45
			E	1983	1997	-87
15	JANKHU UYU	BO	E	1658	1704	-24
			E	1704	1734	-35
			E	1734	1756	-75
			E	1756	1775	-13
			E	1775	1805	-12
			E	1805	1817	-111
			E	1817	1869	-265
			E	1869	1908	-127
			E	1908	1997	-163
16	WILA LLUXITA	BO	E	1662	1703	-37
			E	1703	1732	-93
			E	1732	1755	-214
			E	1755	1775	-38
			E	1775	1800	-17
			E	1800	1818	-223
			E	1818	1849	-54
			E	1849	1870	-61
			E	1870	1909	-116
			E	1909	1997	-300
17	ZONGO	BO5150	E	1680	1732	-106
			E	1732	1766	-618
			E	1766	1781	-46
			E	1781	1811	-54
			E	1811	1822	-103
			E	1822	1852	-51
			E	1852	1871	-93
			E	1871	1911	-155

NR	GLACIER NAME	PSFG NR	METHOD	1ST SURVEY D M Y	2ND SURVEY D M Y	VARIATIONS IN METERS
			E	1911	1956	-48
			E	1956	1983	-25
			E	1983	1991	-84
			E	1991	1992	-12
			E	1992	1993	1
			E	1993	1994	-10
			E	1994	1995	6
			E	1995	1996	-12
			E	1996	1997	-16
			E	1997	1998	-25
			E	1998	1999	-27
			E	1999	2000	-12
			E	2000	2001	-5
			E	2001	2002	-18
			E	2002	2003	-35
			E	2003	2004	-5
			E	2004	2005	-29
	CHILE					
18	CIPRESES	CL0071	E	1842	1858	-129
			E	1858	1875	-703
			E	1875	1886	-407
			E	1886	1943	-1074
			E	1943	1955	-188
			E	1955	1968	-328
			E	1968	1987	-796
			E	1987	1997	-58
			E	1997	2000	-66
			E	2000	2004	-52
	FRANCE					
19	ARGENTIERE	FR0002	E	1600	1612	400
			E	1612	1625	-250
			E	1625	1654	300
			E	1654	1658	-240
			E	1658	1665	160
			E	1665	1700	-570
			E	1700	1713	550
			E	1713	1752	-500
			E	1752	1782	650
			E	1782	1808	-400
			E	1808	1819	500
			E	1819	1831	-200
			E	1831	1838	60
			E	1838	1847	-210
			E	1847	1857	-40
			E	1857	1882	-610
			E	1882	1893	260
			E	1893	1900	-30
			E	1900	1911	-280
			E	1911	1917	10
			E	1917	1921	150
			E	1921	1926	25
			E	1926	1936	-195
			E	1936	1946	-20
			E	1946	1958	-290
			E	1958	1961	-150
			E	1961	1970	-40
			E	1970	1974	100
			E	1974	1980	40
			E	1980	1985	100
			E	1985	1986	3
			E	1986	1987	25

NR	GLACIER NAME	PSFG NR	METHOD	1ST SURVEY D M Y	2ND SURVEY D M Y	VARIATIONS IN METERS
			E	1987	1988	15
			E	1988	1989	9
			E	1989	1990	4
			E	1990	1991	-11
			E	1991	1992	-13
			E	1992	1993	-25
			E	1993	1994	-10
			E	1994	1995	-22
			E	1995	1996	-41
			E	1996	1997	-40
			E	1997	1998	-52
			E	1998	1999	-39
			E	1999	2000	-15
			E	2000	2001	-21
			E	2001	2002	-43
			E	2002	2003	-33
			E	2003	2004	-42
			E	2004	2005	-60
20	BOSSONS	FR0004	E	1580	1605	200
			E	1605	1610	200
			E	1610	1616	-200
			E	1616	1643	272
			E	1643	1644	0
			E	1644	1664	-322
			E	1664	1669	100
			E	1669	1679	0
			E	1679	1685	100
			E	1685	1700	-350
			E	1700	1712	300
			E	1712	1730	-300
			E	1730	1742	-100
			E	1742	1760	100
			E	1760	1770	250
			E	1770	1777	200
			E	1777	1780	-25
			E	1780	1785	-275
			E	1785	1786	-100
			E	1786	1787	0
			E	1787	1790	50
			E	1790	1797	30
			E	1797	1798	20
			E	1798	1799	20
			E	1799	1802	10
			E	1802	1806	-180
			E	1806	1811	100
			E	1811	1812	50
			E	1812	1813	100
			E	1813	1815	160
			E	1815	1816	100
			E	1816	1817	40
			E	1817	1818	27
			E	1818	1823	-202
			E	1823	1825	0
			E	1825	1829	-125
			E	1829	1835	130
			E	1835	1840	-80
			E	1840	1842	25
			E	1842	1845	75
			E	1845	1850	-23
			E	1850	1854	50

NR	GLACIER NAME	PSFG NR	METHOD	1ST SURVEY D M Y	2ND SURVEY D M Y	VARIATIONS IN METERS
			E	1854	1856	-2
			E	1856	1857	-25
			E	1857	1859	-75
			E	1859	1861	-50
			E	1861	1862	25
			E	1862	1863	18
			E	1863	1865	-221
			E	1865	1866	-13
			E	1866	1867	-11
			E	1867	1868	-62
			E	1868	1869	-17
			E	1869	1870	-11
			E	1870	1871	-14
			E	1871	1873	-59
			E	1873	1874	-15
			E	1874	1875	0
			E	1875	1878	45
			E	1878	1879	12
			E	1879	1880	18
			E	1880	1881	40
			E	1881	1882	39
			E	1882	1883	39
			E	1883	1884	49
			E	1884	1885	59
			E	1885	1886	44
			E	1886	1887	-6
			E	1887	1888	-3
			E	1888	1889	10
			E	1889	1890	20
			E	1890	1891	-1
			E	1891	1892	46
			E	1892	1893	-27
			E	1893	1894	-46
			E	1894	1895	-102
			E	1895	1896	-31
			E	1896	1897	-20
			E	1897	1898	-10
			E	1898	1900	-20
			E	1900	1903	-50
			E	1903	1904	-13
			E	1904	1905	-7
			E	1905	1906	5
			E	1906	1907	-15
			E	1907	1908	-24
			E	1908	1909	6
			E	1909	1910	-10
			E	1910	1911	48
			E	1911	1912	0
			E	1912	1913	-6
			E	1913	1914	21
			E	1914	1915	23
			E	1915	1916	50
			E	1916	1917	51
			E	1917	1918	32
			E	1918	1919	24
			E	1919	1920	22
			E	1920	1921	10
			E	1921	1922	-18
			E	1922	1923	-14
			E	1923	1924	-64
			E	1924	1925	-56

NR	GLACIER NAME	PSFG NR	METHOD	1ST SURVEY D M Y	2ND SURVEY D M Y	VARIATIONS IN METERS
			E	1925	1926	-7
			E	1926	1927	-28
			E	1927	1928	-16
			E	1928	1929	-20
			E	1929	1930	-31
			E	1930	1931	-26
			E	1931	1932	-9
			E	1932	1933	-45
			E	1933	1934	63
			E	1934	1935	-1
			E	1935	1936	35
			E	1936	1937	-42
			E	1937	1938	-35
			E	1938	1941	77
			E	1941	1945	-29
			E	1945	1946	-100
			E	1946	1947	-53
			E	1947	1948	-67
			E	1948	1949	-80
			E	1949	1950	-159
			E	1950	1952	-117
			E	1952	1953	-103
			E	1953	1956	231
			E	1956	1959	95
			E	1959	1962	-60
			E	1962	1964	30
			E	1964	1966	40
			E	1966	1967	10
			E	1967	1969	15
			E	1969	1970	20
			E	1970	1973	46
			E	1973	1975	52
			E	1975	1976	-15
			E	1976	1977	-20
			E	1977	1978	-30
			E	1978	1979	25
			E	1979	1980	15
			E	1980	1981	30
			E	1981	1982	20
			E	1982	1983	0
			E	1983	1984	-10
			E	1984	1985	-4
			E	1985	1986	-10
			E	1986	1987	-46
			E	1987	1988	-39
			E	1988	1989	-35
			E	1989	1990	-77
			E	1990	1991	-110
			E	1991	1992	-66
			E	1992	1993	-81
			E	1993	1994	-74
			E	1994	1995	-18
			E	1995	1996	-22
			E	1996	1997	30
			E	1997	1998	22
			E	1998	1999	9
			E	1999	2000	-18
			E	2000	2001	-13
			E	2001	2002	-29
			E	2002	2003	0
			E	2003	2004	-6

NR	GLACIER NAME	PSFG NR	METHOD	1ST SURVEY D M Y	2ND SURVEY D M Y	VARIATIONS IN METERS
			E	2004	2005	-27
21	MER DE GLACE	FR0003	E	1570	1575	195
			E	1575	1580	36
			E	1580	1591	103
			E	1591	1601	725
			E	1601	1605	30
			E	1605	1610	36
			E	1610	1616	-41
			E	1616	1622	-261
			E	1622	1625	0
			E	1625	1641	163
			E	1641	1642	100
			E	1642	1643	100
			E	1643	1644	2
			E	1644	1660	-327
			E	1660	1664	250
			E	1664	1669	-50
			E	1669	1685	77
			E	1685	1690	-60
			E	1690	1697	-490
			E	1697	1707	-127
			E	1707	1716	600
			E	1716	1720	50
			E	1720	1723	-90
			E	1723	1725	40
			E	1725	1730	-23
			E	1730	1742	-118
			E	1742	1760	-414
			E	1760	1764	5
			E	1764	1770	-90
			E	1770	1772	165
			E	1772	1775	180
			E	1775	1777	190
			E	1777	1778	55
			E	1778	1779	-10
			E	1779	1781	-133
			E	1781	1784	-125
			E	1784	1787	-82
			E	1787	1795	-72
			E	1795	1799	26
			E	1799	1802	54
			E	1802	1810	57
			E	1810	1813	151
			E	1813	1815	49
			E	1815	1818	214
			E	1818	1820	4
			E	1820	1821	7
			E	1821	1823	-22
			E	1823	1825	12
			E	1825	1826	0
			E	1826	1830	-240
			E	1830	1835	60
			E	1835	1842	-169
			E	1842	1846	152
			E	1846	1852	142
			E	1852	1854	-20
			E	1854	1855	5
			E	1855	1856	-26
			E	1856	1857	0
			E	1857	1861	-191

NR	GLACIER NAME	PSFG NR	METHOD	1ST SURVEY D M Y	2ND SURVEY D M Y	VARIATIONS IN METERS
			E	1861	1862	-13
			E	1862	1863	-103
			E	1863	1864	3
			E	1864	1865	0
			E	1865	1866	7
			E	1866	1867	14
			E	1867	1868	-144
			E	1868	1869	-152
			E	1869	1870	-89
			E	1870	1874	-221
			E	1874	1878	-268
			E	1878	1879	2
			E	1879	1880	25
			E	1880	1881	64
			E	1881	1882	-89
			E	1882	1883	-35
			E	1883	1885	-30
			E	1885	1886	32
			E	1886	1887	0
			E	1887	1888	0
			E	1888	1889	6
			E	1889	1890	68
			E	1890	1891	19
			E	1891	1892	25
			E	1892	1893	9
			E	1893	1894	-9
			E	1894	1895	24
			E	1895	1896	-17
			E	1896	1897	-12
			E	1897	1898	-11
			E	1898	1899	-17
			E	1899	1900	-15
			E	1900	1906	-76
			E	1906	1911	-42
			E	1911	1912	-42
			E	1912	1913	-15
			E	1913	1914	-9
			E	1914	1915	26
			E	1915	1916	14
			E	1916	1917	0
			E	1917	1918	0
			E	1918	1919	-34
			E	1919	1920	0
			E	1920	1921	-50
			E	1921	1923	132
			E	1923	1924	47
			E	1924	1925	-52
			E	1925	1926	95
			E	1926	1927	0
			E	1927	1928	-96
			E	1928	1929	-7
			E	1929	1930	0
			E	1930	1931	118
			E	1931	1939	-288
			E	1939	1945	-50
			E	1945	1949	-40
			E	1949	1950	-30
			E	1950	1952	-60
			E	1952	1958	-160
			E	1958	1967	-180
			E	1967	1969	-10

NR	GLACIER NAME	PSFG NR	METHOD	1ST SURVEY D M Y	2ND SURVEY D M Y	VARIATIONS IN METERS
			E	1969	1970	20
			E	1970	1971	5
			E	1971	1972	5
			E	1972	1976	45
			E	1976	1977	25
			E	1977	1978	0
			E	1978	1979	2
			E	1979	1980	3
			E	1980	1981	5
			E	1981	1982	5
			E	1982	1983	3
			E	1983	1984	3
			E	1984	1985	1
			E	1985	1986	1
			E	1986	1987	0
			E	1987	1988	13
			E	1988	1989	0
			E	1989	1990	2
			E	1990	1991	5
			E	1991	1992	0
			E	1992	1993	0
			E	1993	1994	0
			E	1994	1995	0
			E	1995	1996	-55
			E	1996	1997	-33
			E	1997	1998	-5
			E	1998	1999	-30
			E	1999	2000	-39
			E	2000	2001	-36
			E	2001	2002	-82
			E	2002	2003	-20
	GREENLAND					
22	LYNGMARKSBRAE	GL	E	1812	1848	0
			E	1848	1894	400
			E	1894	1897	-20
			E	1897	1912	-70
			E	1912	1923	-150
			E	1923	1932	-500
			E	1932	1942	-200
			E	1942	1953	-140
			E	1953	1964	0
			E	1964	1985	0
			E	1985	2005	0
	ICELAND					
23	SOLHEIMAJOEKULL W	IS0113A	E	1705	1740	400
			E	1740	1783	-2000
			E	1783	1794	1600
			E	1794	1820	400
			E	1820	1860	0
			E	1860	1890	-100
			E	1890	1904	-300
			E	1904	1930	-66
	ITALY					
24	PRE DE BAR	IT0235	E	1781	1797	-275
			E	1797	1818	400
			E	1818	1820	-10
			E	1820	1821	-10
			E	1821	1842	-480
			E	1842	1851	420
			E	1851	1856	-20
			E	1856	1860	-115

NR	GLACIER NAME	PSFG NR	METHOD	1ST SURVEY D M Y	2ND SURVEY D M Y	VARIATIONS IN METERS
			E	1860	1861	0
			E	1861	1865	-135
			E	1865	1875	-430
			E	1875	1880	-220
			E	1880	1882	60
			E	1882	1890	172
			E	1890	1892	-10
			E	1892	1893	-5
			E	1893	1897	-29
			E	1897	1909	-48
			E	1909	1910	-17
			E	1910	1911	-5
			E	1911	1915	-140
			E	1915	1917	45
			E	1917	1922	165
			E	1922	1924	-14
			E	1924	1929	-14
			E	1929	1930	-14
			E	1930	1931	-5
			E	1931	1932	-7
			E	1932	1933	-36
			E	1933	1934	-33
			E	1934	1935	-34
			E	1935	1936	-18
			E	1936	1937	-23
			E	1937	1938	-22
			E	1938	1939	-24
			E	1939	1940	20
			E	1940	1941	6
			E	1941	1942	23
			E	1942	1943	-8
			E	1943	1945	-25
			E	1945	1946	-31
			E	1946	1947	-6
			E	1947	1948	-50
			E	1948	1949	-10
			E	1949	1950	-11
			E	1950	1951	-24
			E	1951	1952	-10
			E	1952	1953	-12
			E	1953	1954	-71
			E	1954	1955	-1
			E	1955	1956	-3
			E	1956	1957	-7
			E	1957	1958	-4
			E	1958	1959	-3
			E	1959	1960	-7
			E	1960	1961	-26
			E	1961	1962	-61
			E	1962	1963	2
			E	1963	1964	9
			E	1964	1965	5
			E	1965	1966	6
			E	1966	1967	20
			E	1967	1968	10
			E	1968	1969	15
			E	1969	1970	20
			E	1970	1971	12
			E	1971	1972	5
			E	1972	1973	25
			E	1973	1974	8

NR	GLACIER NAME	PSFG NR	METHOD	1ST SURVEY D M Y	2ND SURVEY D M Y	VARIATIONS IN METERS
			E	1974	1975	8
			E	1975	1976	3
			E	1976	1977	8
			E	1977	1978	2
			E	1978	1979	-1
			E	1979	1980	-37
			E	1980	1981	19
			E	1981	1982	12
			E	1982	1983	12
			E	1983	1984	12
			E	1984	1985	0
			E	1985	1986	14
			E	1986	1987	8
			E	1987	1988	6
			E	1988	1989	3
			E	1989	1990	-1
			E	1990	1991	-7
			E	1991	1992	-32
			E	1992	1993	-7
			E	1993	1994	-13
			E	1994	1995	-13
			E	1995	1996	-19
			E	1996	1997	-15
			E	1997	1998	-23
			E	1998	1999	-17
			E	1999	2000	-16
			E	2000	2001	-20
			E	2001	2002	-30
			E	2002	2003	-20
			E	2003	2004	-34
			E	2004	2005	-49
	NEW ZEALAND					
25	FRANZ JOSEF	NZ	E	1600	1780	-560
			E	1780	1820	141
			E	1820	1865	-240
			E	1865	1867	-21
			E	1867	1886	-29
			E	1886	1894	-351
	NORWAY					
26	BERGSETBREEN	NO31013	E	1743	1800	-156
			E	1800	1817	-253
			E	1817	1822	-220
			E	1822	1829	-167
			E	1829	1844	236
			E	1844	1845	-40
			E	1845	1851	-251
			E	1851	1857	127
			E	1857	1864	-360
			E	1864	1868	-90
			E	1868	1876	156
			E	1876	1878	-20
			E	1878	1884	-121
			E	1884	1890	-137
			E	1890	1896	-154
			E	1896	1899	-98
			C	1899	1903	-113
			C	1903	1907	61
			C	1907	1908	42
			C	1908	1909	18
			C	1909	1910	15
			C	1910	1911	-11

NR	GLACIER NAME	PSFG NR	METHOD	1ST SURVEY D M Y	2ND SURVEY D M Y	VARIATIONS IN METERS
			C	1911	1912	-20
			C	1912	1913	-5
			C	1913	1914	-13
			C	1914	1915	-25
			C	1915	1916	-21
			C	1916	1917	-21
			C	1917	1918	-25
			C	1918	1919	-27
			C	1919	1920	-6
			C	1920	1921	-20
			C	1921	1922	-12
			C	1922	1923	21
			C	1923	1924	31
			C	1924	1925	52
			C	1925	1926	-8
			C	1926	1927	2
			C	1927	1928	3
			C	1928	1929	8
			C	1929	1930	17
			C	1930	1931	2
			C	1931	1932	-6
			C	1932	1933	-6
			C	1933	1934	-29
			C	1934	1935	-14
			C	1935	1936	-40
			C	1936	1937	-44
			C	1937	1938	4
			C	1938	1939	-41
			C	1939	1940	-33
			C	1940	1941	-29
			C	1941	1942	-36
			C	1942	1943	-90
			C	1943	1944	-43
			C	1944	1945	-160
			E	1945	1966	-541
			C	1966	1967	10
			C	1967	1968	12
			E	1968	1993	390
			E	1993	1996	157
			C	1996	1997	18
			C	1997	1998	1
			C	1998	1999	-3
			C	1999	2000	9
			C	2000	2001	-13
			C	2001	2002	-17
			C	2002	2003	-19
			C	2003	2004	-45
			C	2004	2005	-15
27	BOEYABREEN	NO33014	E	1867	1868	20
			E	1868	1872	126
			E	1872	1874	-48
			E	1874	1880	-287
			E	1880	1884	34
			E	1884	1886	35
			E	1886	1888	60
			E	1888	1895	-75
			E	1895	1896	-37
			E	1896	1897	-38
			E	1897	1899	-80
			C	1899	1903	-81

NR	GLACIER NAME	PSFG NR	METHOD	1ST SURVEY D M Y	2ND SURVEY D M Y	VARIATIONS IN METERS
			C	1903	1904	-14
			C	1904	1906	84
			C	1906	1907	13
			C	1907	1908	36
			C	1908	1909	5
			C	1909	1910	-6
			C	1910	1911	2
			C	1911	1912	-4
			C	1912	1913	-12
			C	1913	1914	-40
			C	1914	1915	-57
			C	1915	1916	-7
			C	1916	1917	-3
			C	1917	1919	-10
			C	1919	1920	-11
			C	1920	1921	-37
			C	1921	1922	30
			C	1922	1923	15
			C	1923	1924	15
			C	1924	1925	45
			C	1925	1926	13
			C	1926	1927	13
			C	1927	1928	8
			C	1928	1929	3
			C	1929	1930	17
			C	1930	1931	5
			C	1931	1932	-11
			C	1932	1933	-10
			C	1933	1934	-10
			C	1934	1935	-18
			C	1935	1936	-35
			C	1936	1937	-45
			C	1937	1938	-50
			C	1938	1939	-30
			C	1939	1940	-50
			C	1940	1941	-90
			C	1941	1942	-15
			C	1942	1943	-115
			C	1943	1944	-55
			C	1944	1945	15
			C	1945	1946	-20
			C	1946	1949	-20
			C	1949	1950	-30
			C	1950	1951	-10
			C	1951	1952	-5
			C	1952	1953	10
			E	1953	1966	-268
			E	1966	2003	45
			C	2003	2004	-8
			C	2004	2005	-9
28	BONDHUSBREA	NO20408	E	1801	1807	15
			E	1807	1822	-21
			E	1822	1845	-155
			E	1845	1851	68
			E	1851	1853	5
			E	1853	1855	71
			E	1855	1858	-69
			E	1858	1859	-20
			E	1859	1860	20
			E	1860	1861	-25

NR	GLACIER NAME	PSFG NR	METHOD	1ST SURVEY D M Y	2ND SURVEY D M Y	VARIATIONS IN METERS
			E	1861	1863	25
			E	1863	1865	-75
			E	1865	1869	137
			E	1869	1875	71
			E	1875	1884	-67
			E	1884	1886	30
			E	1886	1888	14
			E	1888	1889	3
			E	1889	1890	0
			E	1890	1895	-30
			E	1895	1897	-72
			E	1897	1900	-35
			E	1900	1901	-1
			E	1901	1904	5
			C	1904	1905	17
			C	1905	1906	27
			C	1906	1907	7
			C	1907	1908	24
			C	1908	1909	13
			C	1909	1910	29
			C	1910	1911	7
			C	1911	1912	-6
			C	1912	1913	-26
			C	1913	1914	-8
			C	1914	1915	-20
			C	1915	1916	-6
			C	1916	1917	-7
			C	1917	1918	-12
			C	1918	1919	-4
			C	1919	1920	-16
			C	1920	1921	-16
			C	1921	1922	14
			C	1922	1923	9
			C	1923	1924	39
			C	1924	1925	14
			C	1925	1926	7
			C	1926	1927	3
			C	1927	1928	-7
			C	1928	1929	3
			C	1929	1930	15
			C	1930	1931	-11
			C	1931	1932	-12
			C	1932	1933	11
			C	1933	1934	-15
			C	1934	1935	-45
			C	1935	1936	-26
			C	1936	1937	-29
			C	1937	1938	-44
			C	1938	1939	-54
			C	1939	1940	-233
			C	1940	1942	-33
			C	1942	1943	-32
			C	1943	1951	-87
			C	1951	1953	6
			C	1953	1955	-13
			C	1955	1957	9
			C	1957	1958	14
			C	1958	1959	-16
			C	1959	1960	0
			C	1960	1961	3
			C	1961	1962	-8

NR	GLACIER NAME	PSFG NR	METHOD	1ST SURVEY D M Y	2ND SURVEY D M Y	VARIATIONS IN METERS
			C	1962	1964	-6
			C	1964	1966	5
			C	1966	1967	-1
			C	1967	1968	-1
			C	1968	1969	-3
			C	1969	1971	-16
			C	1971	1972	-7
			C	1972	1973	-5
			C	1973	1974	3
			C	1974	1976	5
			C	1976	1977	7
			C	1977	1979	10
			C	1979	1980	2
			C	1980	1982	5
			C	1982	1983	0
			E	1983	1996	198
			C	1996	1997	-43
			C	1997	1998	14
			C	1998	1999	-1
			C	1999	2000	-24
			C	2000	2001	-9
			C	2001	2002	-15
			C	2002	2003	-21
			C	2003	2004	-37
			C	2004	2005	-4
29	BUERBREEN	NO21307	E	1822	1830	-364
			E	1830	1846	41
			E	1846	1847	41
			E	1847	1852	272
			E	1852	1859	-191
			E	1859	1860	25
			E	1860	1864	-29
			E	1864	1869	263
			E	1869	1870	80
			E	1870	1871	33
			E	1871	1875	77
			E	1875	1878	30
			E	1878	1879	0
			E	1879	1884	-65
			E	1884	1885	9
			E	1885	1886	-21
			E	1886	1888	43
			E	1888	1889	-8
			E	1889	1890	20
			E	1890	1892	2
			E	1892	1893	0
			E	1893	1895	-83
			E	1895	1897	-22
			E	1897	1898	25
			E	1898	1900	-121
			C	1900	1904	-150
			C	1904	1905	-1
			C	1905	1907	37
			C	1907	1908	21
			C	1908	1909	7
			C	1909	1910	30
			C	1910	1911	20
			C	1911	1912	-18
			C	1912	1915	-57
			C	1915	1918	-6

NR	GLACIER NAME	PSFG NR	METHOD	1ST SURVEY D M Y	2ND SURVEY D M Y	VARIATIONS IN METERS
			C	1918	1919	-1
			C	1919	1920	-12
			C	1920	1921	-1
			C	1921	1922	8
			C	1922	1923	18
			C	1923	1924	43
			C	1924	1925	40
			C	1925	1926	34
			C	1926	1927	20
			C	1927	1928	20
			C	1928	1929	23
			C	1929	1930	12
			C	1930	1931	10
			C	1931	1932	7
			C	1932	1933	4
			C	1933	1934	-30
			C	1934	1935	-34
			C	1935	1936	-31
			C	1936	1937	-130
			C	1937	1938	-45
			C	1938	1939	-62
			C	1939	1940	-43
			C	1940	1953	-460
			C	1953	1959	-240
			C	1959	1962	-20
			C	1962	1970	0
			C	1970	1971	-2
			C	1971	1972	0
			C	1972	1973	0
			C	1973	1974	0
			C	1974	1976	2
			C	1976	1977	2
			C	1977	1978	2
			C	1978	1980	2
			C	1980	1982	2
			C	1982	1988	0
			C	1988	1995	125
			C	1995	1996	19
			C	1996	1997	9
			C	1997	1998	5
			C	1998	1999	-27
			C	1999	2000	-1
			C	2000	2001	-6
			C	2001	2002	-2
			C	2002	2003	-38
			C	2003	2004	-90
			C	2004	2005	27
30	LODALSBREEN	NO31019	E	1750	1819	-518
			E	1819	1822	-25
			E	1822	1845	-107
			E	1845	1864	-187
			E	1864	1869	0
			E	1869	1870	25
			E	1870	1899	-380
			C	1899	1903	-74
			C	1903	1907	-72
			C	1907	1908	-22
			C	1908	1909	-27
			C	1909	1910	-21
			C	1910	1911	-14

NR	GLACIER NAME	PSFG NR	METHOD	1ST SURVEY D M Y	2ND SURVEY D M Y	VARIATIONS IN METERS
			C	1911	1912	-15
			C	1912	1913	-22
			C	1913	1914	-23
			C	1914	1915	-21
			C	1915	1916	-14
			C	1916	1917	-20
			C	1917	1918	5
			C	1918	1919	-8
			C	1919	1920	-15
			C	1920	1921	-15
			C	1921	1922	-21
			C	1922	1923	-19
			C	1923	1924	-18
			C	1924	1925	-2
			C	1925	1926	9
			C	1926	1927	-33
			C	1927	1928	16
			C	1928	1929	7
			C	1929	1930	-28
			C	1930	1931	-21
			C	1931	1932	4
			C	1932	1933	-15
			C	1933	1934	-32
			C	1934	1935	-14
			C	1935	1936	-23
			C	1936	1937	-16
			C	1937	1938	12
			C	1938	1939	-52
			C	1939	1940	-22
			C	1940	1941	-22
			C	1941	1942	-35
			C	1942	1943	-34
			C	1943	1944	-15
			C	1944	1945	-29
			C	1945	1946	-65
			C	1946	1947	-34
			C	1947	1948	-32
			C	1948	1949	-52
			C	1949	1950	-46
			C	1950	1951	-31
			C	1951	1952	-29
			C	1952	1953	-35
			C	1953	1954	-30
			C	1954	1955	-54
			C	1955	1956	-52
			C	1956	1957	-27
			C	1957	1958	-47
			C	1958	1959	-48
			C	1959	1960	-56
			C	1960	1961	-51
			C	1961	1962	-7
			C	1962	1963	-35
			C	1963	1964	-50
			C	1964	1965	-120
			C	1965	1966	-145
			C	1966	1967	-93
			C	1967	1968	-131
			C	1968	1969	-127
			C	1969	1970	-116

NR	GLACIER NAME	PSFG NR	METHOD	1ST SURVEY D M Y	2ND SURVEY D M Y	VARIATIONS IN METERS
31	NIGARDSBREEN	NO31014	E	1675	1710	1150
			E	1710	1735	2800
			E	1735	1742	0
			E	1742	1743	100
			E	1743	1748	50
			E	1748	1819	-540
			E	1819	1822	-75
			E	1822	1830	27
			E	1830	1839	51
			E	1839	1843	-113
			E	1843	1845	-50
			E	1845	1863	-610
			E	1863	1867	-143
			E	1867	1868	15
			E	1868	1873	38
			E	1873	1874	-25
			E	1874	1890	-195
			E	1890	1896	-255
			E	1896	1899	-132
			C	1899	1903	-73
			C	1903	1907	8
			C	1907	1908	-10
			C	1908	1909	18
			C	1909	1910	-31
			C	1910	1911	5
			C	1911	1912	-40
			C	1912	1913	-11
			C	1913	1914	-13
			C	1914	1915	-25
			C	1915	1916	-20
			C	1916	1917	-19
			C	1917	1918	-16
			C	1918	1919	-21
			C	1919	1920	-14
			C	1920	1921	-16
			C	1921	1922	7
			C	1922	1923	-23
			C	1923	1924	-13
			C	1924	1925	10
			C	1925	1926	16
			C	1926	1927	-16
			C	1927	1928	12
			C	1928	1929	20
			C	1929	1930	6
			C	1930	1931	-9
			C	1931	1932	-15
			C	1932	1933	-15
			C	1933	1934	-45
			C	1934	1935	-25
			C	1935	1936	5
			C	1936	1937	-17
			C	1937	1938	-21
			C	1938	1939	-50
			C	1939	1940	-28
			C	1940	1941	-41
			C	1941	1942	-19
			C	1942	1943	-38
			C	1943	1944	-10
			C	1944	1945	-43
			C	1945	1946	-35
			C	1946	1947	-113

NR	GLACIER NAME	PSFG NR	METHOD	1ST SURVEY D M Y	2ND SURVEY D M Y	VARIATIONS IN METERS
			C	1947	1948	-145
			C	1948	1949	-92
			C	1949	1950	-47
			C	1950	1951	-56
			C	1951	1952	-87
			C	1952	1953	-60
			C	1953	1954	-41
			C	1954	1955	-72
			C	1955	1956	-53
			C	1956	1957	-34
			C	1957	1958	-49
			C	1958	1959	-66
			C	1959	1960	-87
			C	1960	1961	-55
			C	1961	1962	-30
			C	1962	1963	-65
			C	1963	1964	-65
			C	1964	1972	-515
			C	1972	1973	-65
			C	1973	1974	-46
			C	1974	1975	-16
			C	1975	1976	-1
			C	1976	1978	-14
			C	1978	1979	3
			C	1979	1980	1
			C	1980	1981	-11
			C	1981	1982	4
			C	1982	1983	-6
			C	1983	1984	-2
			C	1984	1985	-4
			C	1985	1986	-7
			C	1986	1987	11
			C	1987	1988	-18
			C	1988	1989	1
			C	1989	1990	7
			C	1990	1991	10
			C	1991	1992	21
			C	1992	1993	14
			C	1993	1994	36
			C	1994	1995	50
			C	1995	1996	40
			C	1996	1997	19
			C	1997	1998	23
			C	1998	1999	17
			C	1999	2000	23
			C	2000	2001	-4
			C	2001	2002	-1
			C	2002	2003	24
			C	2003	2004	-25
			C	2004	2005	-8
	SWITZERLAND					
32	OB.GRINDELWALD	CH0057	E	1590	1593	100
			E	1593	1600	0
			E	1600	1602	0
			E	1602	1620	0
			E	1620	1640	-100
			E	1640	1669	-450
			E	1669	1686	140
			E	1686	1700	0
			E	1700	1703	0
			E	1703	1706	80

NR	GLACIER NAME	PSFG NR	METHOD	1ST SURVEY D M Y	2ND SURVEY D M Y	VARIATIONS IN METERS
			E	1706	1720	220
			E	1720	1734	-350
			E	1734	1768	0
			E	1768	1773	250
			E	1773	1776	100
			E	1776	1777	50
			E	1777	1778	0
			E	1778	1786	-200
			E	1786	1792	-150
			E	1792	1803	-70
			E	1803	1810	140
			E	1810	1813	65
			E	1813	1815	75
			E	1815	1820	170
			E	1820	1822	0
			E	1822	1826	-10
			E	1826	1832	-90
			E	1832	1838	30
			E	1838	1840	30
			E	1840	1854	10
			E	1854	1855	0
			E	1855	1856	-10
			E	1856	1862	-225
			E	1862	1868	-175
			E	1868	1877	-290
			E	1877	1881	10
			E	1881	1893	-80
			E	1893	1894	51
			E	1894	1895	10
			E	1895	1896	-3
			E	1896	1897	24
			E	1897	1898	5
			E	1898	1899	-3
			E	1899	1900	12
			E	1900	1901	-6
			E	1901	1902	0
			E	1902	1903	18
			E	1903	1904	-12
			E	1904	1905	-32
			E	1905	1906	-13
			E	1906	1907	-43
			E	1907	1908	-34
			E	1908	1909	-16
			E	1909	1910	-11
			E	1910	1911	0
			E	1911	1912	20
			E	1912	1913	17
			E	1913	1914	38
			E	1914	1916	62
			E	1916	1917	30
			E	1917	1918	63
			E	1918	1919	20
			E	1919	1920	45
			E	1920	1921	13
			E	1921	1922	5
			E	1922	1923	2
			E	1923	1924	-2
			E	1924	1925	-15
			E	1925	1926	-10
			E	1926	1927	-6
			E	1927	1928	-10

NR	GLACIER NAME	PSFG NR	METHOD	1ST SURVEY D M Y	2ND SURVEY D M Y	VARIATIONS IN METERS
			E	1928	1929	-10
			E	1929	1930	-41
			E	1930	1931	-19
			E	1931	1932	-29
			E	1932	1933	-12
			E	1933	1935	-68
			E	1935	1936	-14
			E	1936	1937	-17
			E	1937	1938	-30
			E	1938	1942	-38
			E	1942	1943	-4
			E	1943	1945	-24
			E	1945	1946	-6
			E	1946	1947	-23
			E	1947	1948	-6
			E	1948	1950	-51
			E	1950	1951	0
			E	1951	1953	-67
			E	1953	1954	-11
			E	1954	1959	-142
			E	1959	1960	9
			E	1960	1961	16
			E	1961	1962	-4
			E	1962	1963	11
			E	1963	1964	4
			E	1964	1965	10
			E	1965	1966	15
			E	1966	1967	30
			E	1967	1968	30
			E	1968	1969	25
			E	1969	1970	40
			E	1970	1971	50
			E	1971	1972	68
			E	1972	1973	40
			E	1973	1974	35
			E	1974	1975	17
			E	1975	1976	0
			E	1976	1977	12
			E	1977	1978	6
			E	1978	1979	7
			E	1979	1980	7
33	RHONE	CH0001	E	1760	1770	-400
			E	1770	1772	190
			E	1772	1777	610
			E	1777	1781	65
			E	1781	1788	-290
			E	1788	1806	-105
			E	1806	1810	-140
			E	1810	1815	185
			E	1815	1817	140
			E	1817	1818	90
			E	1818	1824	-45
			E	1824	1826	-20
			E	1826	1830	-20
			E	1830	1833	30
			E	1833	1834	-5
			E	1834	1848	135
			E	1848	1849	-10
			E	1849	1851	5
			E	1851	1856	15

NR	GLACIER NAME	PSFG NR	METHOD	1ST SURVEY D M Y	2ND SURVEY D M Y	VARIATIONS IN METERS
			E	1856	1861	-85
			E	1861	1870	-235
			E	1870	1871	-20
			E	1871	1874	-278
			E	1874	1875	-82
			E	1875	1876	-50
			E	1876	1877	-70
			E	1877	1878	-5
			E	1878	1879	-15
			E	1879	1880	-55
			E	1880	1881	-68
			E	1881	1882	-77
			E	1882	1883	-20
			E	1883	1884	-90
			E	1884	1885	-5
			E	1885	1886	-15
			E	1886	1887	-28
			E	1887	1888	-32
			E	1888	1889	-20
			E	1889	1890	-12
			E	1890	1891	-10
			E	1891	1892	-3
			E	1892	1893	-5
			E	1893	1894	-20
			E	1894	1895	-21
			E	1895	1896	-9
			E	1896	1897	-15
			E	1897	1898	-5
			E	1898	1899	-10
			E	1899	1900	-10
			E	1900	1901	-16
			E	1901	1902	-13
			E	1902	1903	-12
			E	1903	1904	-8
			E	1904	1905	-22
			E	1905	1906	-16
			E	1906	1907	-25
			E	1907	1908	-29
			E	1908	1909	-21
			E	1909	1910	-13
			E	1910	1911	-10
			E	1911	1912	-11
			E	1912	1913	14
			E	1913	1915	22
			E	1915	1916	15
			E	1916	1917	4
			E	1917	1918	15
			E	1918	1919	33
			E	1919	1920	12
			E	1920	1921	22
			E	1921	1922	-28
			E	1922	1923	-9
			E	1923	1924	-3
			E	1924	1925	-12
			E	1925	1926	4
			E	1926	1927	6
			E	1927	1928	-6
			E	1928	1929	-5
			E	1929	1930	-20
			E	1930	1931	-16
			E	1931	1932	-16

NR	GLACIER NAME	PSFG NR	METHOD	1ST SURVEY D M Y	2ND SURVEY D M Y	VARIATIONS IN METERS
			E	1932	1933	-9
			E	1933	1934	-25
			E	1934	1935	-17
			E	1935	1936	-10
			E	1936	1937	0
			E	1937	1938	-5
			E	1938	1939	-7
			E	1939	1940	7
			E	1940	1941	14
			E	1941	1942	-10
			E	1942	1943	-10
			E	1943	1944	-135
			E	1944	1945	-15
			E	1945	1946	-30
			E	1946	1947	-80
			E	1947	1948	-30
			E	1948	1949	-22
			E	1949	1950	-20
			E	1950	1951	-7
			E	1951	1952	0
			E	1952	1953	0
			E	1953	1954	0
			E	1954	1955	0
			E	1955	1956	0
			E	1956	1957	-9
			E	1957	1958	-2
			E	1958	1959	-8
			E	1959	1960	-7
			E	1960	1961	-4
			E	1961	1962	-3
			E	1962	1963	-86
			E	1963	1964	-6
			E	1964	1965	-12
			E	1965	1966	11
			E	1966	1967	-5
			E	1967	1968	-11
			E	1968	1969	6
			E	1969	1970	0
			E	1970	1971	7
			E	1971	1972	-10
			E	1972	1973	-5
			E	1973	1974	3
			E	1974	1975	17
			E	1975	1976	-18
			E	1976	1977	15
			E	1977	1978	7
			E	1978	1979	-3
			E	1979	1980	16
			E	1980	1981	0
			E	1981	1982	-5
			E	1982	1983	-1
			E	1983	1984	-2
			E	1984	1985	-1
			E	1985	1986	1
			E	1986	1987	9
			E	1987	1988	-19
34	ROSENLAUI	CH0056	E	1760	1774	110
			E	1774	1777	30
			E	1777	1782	-130
			E	1782	1797	-220

NR	GLACIER NAME	PSFG NR	METHOD	1ST SURVEY D M Y	2ND SURVEY D M Y	VARIATIONS IN METERS
			E	1797	1800	140
			E	1800	1815	-80
			E	1815	1824	320
			E	1824	1827	0
			E	1827	1828	0
			E	1828	1833	-50
			E	1833	1835	-10
			E	1835	1846	20
			E	1846	1848	-40
			E	1848	1856	20
			E	1856	1857	0
			E	1857	1860	-50
			E	1860	1863	-110
			E	1863	1864	-20
			E	1864	1867	-60
			E	1867	1874	-190
			E	1874	1880	-30
			E	1880	1882	61
			E	1882	1883	24
			E	1883	1884	30
			E	1884	1886	45
			E	1886	1887	0
			E	1887	1888	0
			E	1888	1889	0
			E	1889	1890	0
			E	1890	1891	10
			E	1891	1893	-34
			E	1893	1894	-6
			E	1894	1895	-23
			E	1895	1896	-8
			E	1896	1897	25
			E	1897	1898	10
			E	1898	1899	-2
			E	1899	1900	-40
			E	1900	1915	-222
			E	1915	1918	-20
			E	1918	1923	130
			E	1923	1924	-10
			E	1924	1925	-6
			E	1925	1926	0
			E	1926	1927	-10
			E	1927	1928	-15
			E	1928	1929	-13
			E	1929	1930	-9
			E	1930	1931	-18
			E	1931	1932	-12
			E	1932	1933	-12
			E	1933	1934	-10
			E	1934	1935	-23
			E	1935	1936	-10
			E	1936	1937	-11
			E	1937	1938	-8
			E	1938	1960	-343
			E	1960	1961	9
			E	1961	1962	6
			E	1962	1963	12
			E	1963	1965	18
			E	1965	1966	25
			E	1966	1967	12
			E	1967	1968	1
			E	1968	1969	7

NR	GLACIER NAME	PSFG NR	METHOD	1ST SURVEY D M Y	2ND SURVEY D M Y	VARIATIONS IN METERS
			E	1969	1972	30
			E	1972	1973	-5
			E	1973	1974	-15
			E	1974	1978	0
			E	1978	1982	40
			E	1982	1983	-10
			E	1983	1986	30
			E	1986	1987	0
			E	1987	1988	-10
35	UNT.GRINDELWALD	CH0058	E	1535	1540	-200
			E	1540	1547	350
			E	1547	1552	-30
			E	1552	1565	-550
			E	1565	1577	0
			E	1577	1588	630
			E	1588	1593	200
			E	1593	1597	30
			E	1597	1600	20
			E	1600	1606	0
			E	1606	1611	-30
			E	1611	1628	-120
			E	1628	1636	150
			E	1636	1641	0
			E	1641	1645	0
			E	1645	1650	-30
			E	1650	1662	-360
			E	1662	1669	140
			E	1669	1670	20
			E	1670	1675	-30
			E	1675	1686	-330
			E	1686	1705	140
			E	1705	1708	0
			E	1708	1719	150
			E	1719	1724	-30
			E	1724	1732	-260
			E	1732	1743	190
			E	1743	1748	-200
			E	1748	1762	20
			E	1762	1766	-40
			E	1766	1768	20
			E	1768	1770	60
			E	1770	1774	140
			E	1774	1776	100
			E	1776	1777	120
			E	1777	1778	0
			E	1778	1783	-30
			E	1783	1785	-140
			E	1785	1786	-40
			E	1786	1788	-20
			E	1788	1794	-180
			E	1794	1802	30
			E	1802	1808	-80
			E	1808	1810	50
			E	1810	1814	-10
			E	1814	1815	20
			E	1815	1816	100
			E	1816	1819	170
			E	1819	1820	160
			E	1820	1826	0
			E	1826	1830	-20

NR	GLACIER NAME	PSFG NR	METHOD	1ST SURVEY D M Y	2ND SURVEY D M Y	VARIATIONS IN METERS
			E	1830	1835	20
			E	1835	1839	0
			E	1839	1841	0
			E	1841	1843	20
			E	1843	1855	100
			E	1855	1856	0
			E	1856	1860	-20
			E	1860	1867	-510
			E	1867	1868	-20
			E	1868	1869	-60
			E	1869	1871	-50
			E	1871	1879	-180
			E	1879	1880	-70
			E	1880	1882	-100
			E	1882	1883	20
			E	1883	1884	0
			E	1884	1886	0
			E	1886	1887	0
			E	1887	1890	0
			E	1890	1891	0
			E	1891	1892	0
			E	1892	1893	190
			E	1893	1894	-10
			E	1894	1895	0
			E	1895	1896	0
			E	1896	1897	0
			E	1897	1898	0
			E	1898	1899	-20
			E	1899	1900	-90
			E	1900	1901	-30
			E	1901	1902	0
			E	1902	1903	-30
			E	1903	1904	0
			E	1904	1905	-50
			E	1905	1906	-60
			E	1906	1907	20
			E	1907	1908	20
			E	1908	1909	10
			E	1909	1910	20
			E	1910	1911	-40
			E	1911	1912	20
			E	1912	1913	10
			E	1913	1914	10
			E	1914	1916	-40
			E	1916	1917	-75
			E	1917	1918	10
			E	1918	1919	10
			E	1919	1920	10
			E	1920	1921	25
			E	1921	1922	35
			E	1922	1923	25
			E	1923	1924	60
			E	1924	1925	75
			E	1925	1926	15
			E	1926	1927	-40
			E	1927	1928	-70
			E	1928	1929	-20
			E	1929	1930	-10
			E	1930	1931	5
			E	1931	1932	5
			E	1932	1933	0

NR	GLACIER NAME	PSFG NR	METHOD	1ST SURVEY D M Y	2ND SURVEY D M Y	VARIATIONS IN METERS
			E	1933	1935	-30
			E	1935	1936	5
			E	1936	1937	-5
			E	1937	1939	-30
			E	1939	1942	-45
			E	1942	1943	-10
			E	1943	1944	-10
			E	1944	1945	-15
			E	1945	1946	-25
			E	1946	1947	-35
			E	1947	1948	-25
			E	1948	1949	-15
			E	1949	1951	-45
			E	1951	1952	-15
			E	1952	1953	-70
			E	1953	1954	-45
			E	1954	1955	-30
			E	1955	1956	-15
			E	1956	1957	-15
			E	1957	1958	-20
			E	1958	1959	-40
			E	1959	1960	-5
			E	1960	1961	-10
			E	1961	1962	-55
			E	1962	1963	-45
			E	1963	1964	-25
			E	1964	1965	-10
			E	1965	1966	-20
			E	1966	1967	-20
			E	1967	1968	-10
			E	1968	1969	-5
			E	1969	1970	-20
			E	1970	1971	-30
			E	1971	1973	-30
			E	1973	1975	-35
			E	1975	1976	-5
			E	1976	1977	-10
			E	1977	1978	80
			E	1978	1979	0
			E	1979	1980	120
			E	1980	1981	50
			E	1981	1982	-60
			E	1982	1983	-65
			E	1983	2000	-25
			E	2000	2004	-50
36	UNTERAAR	CH0051	E	1719	1729	0
			E	1729	1758	150
			E	1758	1810	575
			E	1810	1824	185
			E	1824	1828	10
			E	1828	1829	10
			E	1829	1842	100
			E	1842	1851	30
			E	1851	1852	0
			E	1852	1854	20
			E	1854	1861	40
			E	1861	1871	30
			E	1871	1875	-25
			E	1875	1880	-35
			E	1880	1884	-45

NR	GLACIER NAME	PSFG NR	METHOD	1ST SURVEY D M Y	2ND SURVEY D M Y	VARIATIONS IN METERS
			E	1884	1886	23
			E	1886	1889	0
			E	1889	1890	-8
			E	1890	1893	-197
			E	1893	1894	-2
			E	1894	1895	-30
			E	1895	1896	-14
			E	1896	1897	-3
			E	1897	1898	-25
			E	1898	1899	-14
			E	1899	1900	-25
			E	1900	1901	-8
			E	1901	1902	-14
			E	1902	1903	-14
			E	1903	1904	-6
			E	1904	1905	-8
			E	1905	1906	-3
			E	1906	1907	-7
			E	1907	1908	-29
			E	1908	1909	-1
			E	1909	1910	-9
			E	1910	1911	-10
			E	1911	1912	4
			E	1912	1913	-14
			E	1913	1914	-8
			E	1914	1915	-12
			E	1915	1916	-11
			E	1916	1917	-7
			E	1917	1918	-7
			E	1918	1919	-8
			E	1919	1920	-8
			E	1920	1921	-14
			E	1921	1922	-14
			E	1922	1923	-14
			E	1923	1924	-14
			E	1924	1925	-7
			E	1925	1926	-7
			E	1926	1927	-16
			E	1927	1928	-10
			E	1928	1929	-12
			E	1929	1930	-14
			E	1930	1931	-13
			E	1931	1932	-12
			E	1932	1933	-54
			E	1933	1934	-67
			E	1934	1935	-43
			E	1935	1936	-41
			E	1936	1937	-40
			E	1937	1938	-30
			E	1938	1939	-26
			E	1939	1940	-14
			E	1940	1941	-26
			E	1941	1942	-11
			E	1942	1943	-29
			E	1943	1944	-26
			E	1944	1945	-10
			E	1945	1946	-11
			E	1946	1947	-17
			E	1947	1948	-23
			E	1948	1949	-23
			E	1949	1950	-12

NR	GLACIER NAME	PSFG NR	METHOD	1ST SURVEY D M Y	2ND SURVEY D M Y	VARIATIONS IN METERS
			E	1950	1951	-10
			E	1951	1952	-26
			E	1952	1953	-11
			E	1953	1954	-17
			E	1954	1955	-13
			E	1955	1956	0
			E	1956	1957	-5
			E	1957	1958	-2
			E	1958	1959	-6
			E	1959	1960	-15
			E	1960	1961	-10
			E	1961	1962	-11
			E	1962	1963	-18
			E	1963	1964	-13
			E	1964	1965	-19
			E	1965	1966	-17
			E	1966	1967	-21
			E	1967	1968	-15
			E	1968	1969	-13
			E	1969	1970	-7
			E	1970	1971	-7
			E	1971	1972	-13
			E	1972	1973	-11
			E	1973	1974	-14
			E	1974	1975	-14
			E	1975	1976	-17
			E	1976	1977	-9
			E	1977	1978	-33
			E	1978	1979	-14
			E	1979	1980	-8
			E	1980	1981	-27
			E	1981	1982	-12
			E	1982	1983	-27
			E	1983	1984	-18
			E	1984	1985	-17
			E	1985	1986	-24
			E	1986	1987	-11
			E	1987	1988	-10

Notes

WORLD GLACIER MONITORING SERVICE

MASS BALANCE STUDY RESULTS
SUMMARY DATA 2005–2010

TABLE C

NR	Record number
GLACIER NAME	15 alphabetic or numeric digits
PSFG NUMBER	5 digits identifying glacier with alphabetic prefix denoting country
SYS	System of measurement: FLO = floating-date system FXD = fixed-date system STR = stratigraphic system COM = combined system; usually of STR and FXD according to Mayo et al. (1972) OTH = Other System
FROM	Day, month and year of beginning of balance/measurement year
TO	Day, month and year of end of balance/measurement year
BW	Specific winter balance in mm water equivalent
BS	Specific summer balance in mm water equivalent
BA	Specific annual balance in mm water equivalent
ELA	Altitude of equilibrium line or annual equilibrium line in meters above sea level
AAR	Ratio of accumulation area to total area of the glacier in percent
AREA	Area (in square kilometers) of the glacier used for calculation of specific quantities

NR	GLACIER NAME	PSFG NR	SYS	FROM	TO	BW	BS	BA	ELA	AAR	AREA
				D M Y	D M Y	MM	MM	MM	M	%	KM^2
	ANTARCTICA										
1	BAHIA DEL DIABLO	AQ	COM	01.03.2005	28.02.2006			-580	445	31	14.3
			COM	01.03.2006	28.02.2007			-80	360	49	14.3
			COM	01.03.2007	29.02.2008			-530	430	33	14.3
			COM	01.03.2008	28.02.2009			-255	395	43	14.3
			COM	01.03.2009	28.02.2010			370	75	100	14.3
2	HURD	AQ	COM	18.02.2005	22.02.2006	560	-1420	-860	280	20	4.034
			COM	23.02.2006	23.02.2007	350	-890	-540	280	22	4.034
			COM	24.02.2007	20.02.2008	820	-630	190	185	69	4.034
			COM	21.02.2008	10.02.2009	510	-900	-390	250	34	4.034
			COM	11.02.2009	25.02.2010	740	-200	540	160	77	4.034
3	JOHNSONS	AQ	COM	18.02.2005	22.02.2006	850	-1180	-330	225	43	5.358
			COM	23.02.2006	23.02.2007	440	-730	-290	220	42	5.358
			COM	24.02.2007	20.02.2008	780	-690	90	180	67	5.358
			COM	21.02.2008	10.02.2009	640	-810	-170	210	37	5.358
			COM	11.02.2009	28.02.2010	740	-230	510	130	93	5.358
	ARGENTINA										
4	MARTIAL ESTE	AR	FXD	2005	2006	797	-1310	-513	1096	38	0.093
			FXD	2006	2007	1053	-954	99	1072	62	0.093
			FXD	2007	2008	1505	-1561	-56	1074	56	0.093
			FXD	2008	2009	1061	-1180	-119	1078	51	0.093
			FXD	2009	2010	1332	-402	930	1015	92	0.093
	AUSTRIA										
5	GOLDBERG K.	AT0802B	FXD	30.09.2005	01.10.2006	1577	-2655	-1077	3020	7	1.425
			FXD	01.10.2006	30.09.2007	1296	-2402	-1106	3000	24	1.425
			COM	01.10.2007	15.10.2008	2070	-2721	-651	>3050	20	1.42
			COM	15.10.2008	18.09.2009	1933	-2475	-542	2975	21	1.42
			COM	18.09.2009	29.08.2010	1572	-2330	-758	2950	27	1.316
6	HINTEREIS FERNER	AT0209	FXD	01.10.2005	30.09.2006			-1516	>3750	12	7.401
			FXD	01.10.2006	30.09.2007			-1798	>3750	0	7.206
			FXD	01.10.2007	30.09.2008			-1235	3276	22	7.102
			FXD	01.10.2008	30.09.2009			-1182	3257	25	6.96
			FXD	01.10.2009	30.09.2010			-820	3285	36	6.858
7	JAMTAL F.	AT0106	FXD	01.10.2005	30.09.2006	1030	-2430	-1290	>3200	8	3.479
			FXD	01.10.2006	30.09.2007	790	-2230	-1439		6	3.431
			FXD	01.10.2007	30.09.2008	1480	-2461	-981	>3200	9	3.314
			FXD	03.10.2008	30.09.2009	1348	-2301	-953	3113	10	3.251
			FXD	01.10.2009	30.09.2010	984	-1998	-1014	>3200	9	3.171
8	KESSELWAND F.	AT0226	FXD	01.10.2005	30.09.2006			-617	3233	33	3.851
			FXD	01.10.2006	30.09.2007			-836	3280	21	3.815
			FXD	01.10.2007	30.09.2008			-444	3224	42	3.777
			FXD	02.10.2008	30.09.2009			-795	3252	28	3.715
			FXD	01.10.2009	30.09.2010			-99	3158	65	3.659
9	KLEINFLEISS K.	AT0801	FXD	30.09.2005	01.10.2006	1234	-1889	-655	3070	10	0.849
			FXD	01.10.2006	30.09.2007	989	-1935	-946	3020	23	0.832
			COM	03.10.2007	14.10.2008	1534	-2157	-623	3020	24	0.831
			COM	14.10.2008	17.09.2009	1887	-2290	-403	2875	26	0.821
			COM	17.09.2009	29.08.2010	1371	-1587	-216	2950	48	0.831
10	PASTERZE	AT0704	FXD	30.09.2005	01.10.2006			-1232	3000	47	17.71
			FXD	01.10.2006	30.09.2007			-1355	3025	49	17.71
			COM	01.10.2007	26.09.2008			-1412	>3600	16	17.71
			COM	30.09.2008	02.10.2009			-1120	2960	45	17.71
			COM	02.10.2009	15.10.2010			-910	2925	47	17.71
11	STUB. SONNBLICK K.	AT0601A		01.10.2005	30.10.2006	88	-709	-621	2860	29	1.352
				31.10.2006	02.09.2007	4	-2171	-2175	2990	2	1.304
				03.09.2007	14.09.2008	65	-842	-777	2890	23	1.278
				15.09.2008	10.10.2009	178	-432	-254	2780	48	1.252
				11.10.2009	29.08.2010	63	-855	-792	2900	23	1.194
12	VERNAGT FERNER	AT0211	FXD	01.10.2005	30.09.2006	791	-1673	-882	3261	25	8.359

NR	GLACIER NAME	PSFG NR	SYS	FROM	TO	BW	BS	BA	ELA	AAR	AREA
				D M Y	D M Y	MM	MM	MM	M	%	KM^2
			FXD	01.10.2006	30.09.2007	491	-1457	-966	3281	19	8.172
			FXD	01.10.2007	30.09.2008	976	-1819	-843	3289	17	8.172
			FXD	01.10.2008	30.09.2009	1072	-2031	-959	3347	14	8.161
			FXD	01.10.2009	30.09.2010	146	-927	-680	3246	23	7.916
13	WURTEN K.	AT0804	FXD	30.09.2005	01.10.2006	1441	-2218	-778	3120	17	0.824
			FXD	01.10.2006	30.09.2007	936	-2136	-1201	>3150	4	0.824
			COM	24.09.2007	24.09.2008	1784	-2722	-938	>3100	15	0.82
			COM	24.09.2008	04.10.2009	2086	-2671	-584	2950	33	0.82
			COM	04.10.2009	30.08.2010	1366	-1885	-519	>3100	20	0.77
	BOLIVIA										
14	CHACALTAYA	BO5180	OTH	01.09.2005	31.08.2006			-1199	5383	0	0.007
			OTH	01.09.2006	31.08.2007			-1652	>5400	0	0.003
			OTH	01.09.2007	31.08.2008			-1549	>5374	0	0.001
15	CHARQUINI SUR	BO	FXD	01.09.2005	31.08.2006			-376	5132	39	0.363
			FXD	06.09.2006	31.08.2007			-482	5157	38	0.345
			FXD	07.09.2007	31.08.2008			161	5096	93	0.339
			FXD	01.09.2008	33.08.2009			-1617	5204	29	0.319
			FXD	01.09.2009	34.08.2010			-2921	5262	10	0.319
16	ZONGO	BO5150	FXD	01.09.2005	31.08.2006			-197	5191	71	1.881
			FXD	01.09.2006	31.08.2007			-173	5271	64	1.871
			FXD	01.09.2007	31.08.2008			257	5148	77	1.871
			FXD	01.09.2008	31.08.2009			-44	5364	65	1.926
			FXD	01.09.2009	32.08.2010			-64	5383	64	1.91
	CANADA										
17	DEVON ICE CAP NW	CA0431	STR	23.05.2005	27.04.2006	151	-386	-242	1230		1667.6
			STR	27.04.2006	11.05.2007	86	-385	-294	1320		1667.6
			STR	11.05.2007	21.05.2008	89	-665	-577	1570		1667.6
			STR	21.05.2008	09.05.2009	126	-649	-523	1520		1667.6
			STR	09.05.2009	28.04.2010	118	-534	-417	1465		1667.6
18	HELM	CA0855	COM	24.04.2006	21.09.2006			-2750	>2179	0	
			COM	20.04.2007	14.09.2007			-210	2007	12	
				2007	2008			-2300	2125	2	
				2008	2009			-510	2010	12	
				2009	2010			-190	1950	33	
19	MEIGHEN ICE CAP	CA1335	STR	16.04.2005	16.04.2006	172	-180	-8			75
			STR	16.04.2006	23.04.2007	146	-642	-518			75
			STR	23.04.2007	13.04.2008	106	-811	-705			75
			STR	13.04.2008	23.04.2009	137	-812	-676			75
			STR	23.04.2009	15.04.2010	154	-541	-387			75
20	PEYTO	CA1640	COM	18.04.2006	14.09.2006			-1650	3090	10	
			COM	13.05.2007	27.09.2007			-1850	3010	40	
				2007	2008			-230	2620	41	
				2008	2009			-1020	2750	18	
				2009	2010			-340	2675	44	
21	PLACE	CA1660	COM	22.04.2006	22.09.2006			-1900	>2610	0	
			COM	21.04.2007	15.09.2007			-150	2180	26	
				2007	2008			-490	2060	40	
				2008	2009			-1500	2340	5	
				2009	2010			80	2060	45	
22	S. MELVILLE ICE CAP	CA		21.04.2005	01.05.2006	271	-612	-360			51
				01.05.2006	21.04.2007	144	-1225	-1182			51
				21.04.2007	09.04.2008	93	-999	-905			51
				09.04.2008	18.04.2009	157	-512	-351			51
				18.04.2009	08.04.2010	170	-1102	-939			51
23	WHITE	CA2340	COM	2005	2006			-93	1097	61	39.38
			COM	2006	2007			-818	1347	25	39.38
				2007	2008			-817	1399	17	
				2008	2009			-580	1335	29	39.38
				2009	2010			-188			

NR	GLACIER NAME	PSFG NR	SYS	FROM	TO	BW	BS	BA	ELA	AAR	AREA
				D M Y	D M Y	MM	MM	MM	M	%	KM^2
	CHILE										
24	ECHAURREN NORTE	CL0001B		01.04.2005	31.03.2006	3590	-3110	480			
				01.04.2006	31.03.2007	2590	-2720	-130			
				01.04.2007	31.03.2008	1970	-2510	-540			
				01.04.2008	31.03.2009	3200	-3120	80			
				01.04.2009	31.03.2010	1900	-4010	-2110			
	CHINA										
25	URUMQI G. NO. 1	CN0010	FXD	01.09.2005	31.08.2006			-774	4087	28	1.677
			FXD	01.09.2006	31.08.2007			-642	4074	31	1.677
			FXD	30.08.2007	08.09.2008	121	-1052	-931	4168	17	1.677
			FXD	09.09.2008	17.09.2009	254	-191	63	3990	64	1.645
			FXD	17.09.2009	07.09.2010	102	-1429	-1327	>4484	0	1.645
26	URUMQI NO.1 E-BR.	CN0001	FXD	01.09.2005	31.08.2006			-920	4086	19	1.086
			FXD	01.09.2006	31.08.2007			-696	4060	28	1.086
			FXD	30.08.2007	08.09.2008	84	-1130	-1046	4152	10	1.086
			FXD	09.09.2008	17.09.2009	269	-326	-57	3975	56	1.068
			FXD	17.09.2009	07.09.2010	105	-1546	-1441	>4267	0	1.068
27	URUMQI NO.1 W-BR.	CN0002	FXD	01.09.2005	31.08.2006			-506	4089	43	0.591
			FXD	01.09.2006	31.08.2007			-542	4100	36	0.591
			FXD	30.08.2007	08.09.2008	190	-909	-719	4184	31	0.591
			FXD	09.09.2008	17.09.2009	236	53	289	4010	81	0.577
			FXD	17.09.2009	07.09.2010	97	-1213	-1116	>4484	0	0.577
	C.I.S.										
28	DJANKUAT	SU3010	COM	03.10.2005	12.10.2006	2290	-3090	-800	3290	42	2.737
			COM	12.10.2006	19.10.2007	1950	3960	-2010	3500	16	2.688
				2007	2008			100			
				2008	2009	2750	-2870	-120			
				2009	2010			-600			
29	GARABASHI	SU3031	STR	2005	2006	1230	-1890	-660	3950	40	4.422
			STR	2006	2007	940	-1570	-630	3910	42	4.422
			STR	2007	2008	1170	-1590	-420	3870	50	4.422
			STR	2008	2009	900	-1270	-370	3860	52	4.422
			STR	2009	2010	1160	-2400	-1240	3950	40	4.422
30	LEVIY AKTRU	SU7102	STR	2005	2006			-190	3230	58	
			STR	2006	2007			-320	3250	57	
			STR	2007	2008			-810	3340	48	
			STR	2008	2009			470	3050	67	
31	MALIY AKTRU	SU7100	STR	2005	2006			-140	3250	60	
			STR	2006	2007			-340	3270	55	
			STR	2007	2008			-870	3360	34	
			STR	2008	2009	1210	-620	590	3040	82	
32	NO. 125 (VODOPAD.)	SU7105	STR	2005	2006			-260	3240	67	
			STR	2006	2007			-280	3240	67	
			STR	2007	2008			-720		8	
			STR	2008	2009			380	3120	85	
33	TS.TUYUKSUYSKIY	SU5075	STR	18.09.2005	14.09.2006	687	-1656	-969	3980	22	2.513
			STR	14.09.2006	23.09.2007	538	-1453	-915	3885	34	2.472
			STR	23.09.2007	20.09.2008	411	-1768	-1357	3980	22	451
				2008	2009			206	3710	66	
				31.08.2009	02.10.2010	887	-855	32	3762	55	2.446
	COLOMBIA										
34	LA CONEJERA	CO0033	FXD	01.04.2006	31.12.2006			-1936	4914	12	
			FXD	01.01.2007	31.12.2007			-995	4816	23	
			FXD	01.01.2008	31.12.2008			1557	4741	42	
			FXD	01.01.2009	31.12.2009			-653	4858	23	0.221
			FXD	01.01.2010	31.12.2010			-757	4881	23	0.22
35	LOS RITACUBAS	CO		2006	2007			-2227			

NR	GLACIER NAME	PSFG NR	SYS	FROM D M Y	TO D M Y	BW MM	BS MM	BA MM	ELA M	AAR %	AREA KM²
				99.99.2008	99.99.2009			1884	4875	90	
				99.99.2009	99.99.2010			-98	4981	30	
	ECUADOR										
36	ANTIZANA15ALPHA	EC0001	FXD	31.12.2005	31.12.2006			-203	5150	54	0.292
			FXD	31.12.2006	31.12.2007			-66	5170	53	0.286
			FXD	31.12.2007	31.12.2008			337	4985	85	
			FXD	31.12.2008	31.12.2009			-828	5200	54	0.292
			FXD	31.12.2009	31.12.2010			-77	<5215	54	0.293
	FRANCE										
37	ARGENTIERE	FR0002	STR	30.09.2005	04.10.2006			-1420			
			STR	04.10.2006	21.10.2007			-590			
			STR	21.10.2007	10.10.2008			-1320			
			STR	10.10.2008	14.10.2009			-2650			
			STR	14.10.2009	06.10.2010			-540			
38	GEBROULAZ	FR0009	STR	20.09.2005	21.09.2006			-1000			
			STR	21.09.2006	05.10.2007			-910			
			STR	05.10.2007	12.10.2008			-1050			
			STR	12.10.2008	13.10.2009			-1970			
			STR	13.10.2009	06.10.2010			-340			
39	OSSOUE	FR	STR	25.09.2005	08.10.2006	1950	-4660	-2710	>3200	0	
			STR	08.10.2006	20.10.2007	2660	-4040	-1380	>3200	0	
			STR	20.10.2007	12.10.2008	3230	-3350	-120	3150	43	
			STR	12.10.2008	12.10.2009	3150	-4780	-1630	>3200	0	
			STR	12.10.2009	09.10.2010	3010	-3490	-480		35	
40	SAINT SORLIN	FR0015	STR	11.10.2005	28.09.2006			-1440			
			STR	28.09.2006	17.10.2007			-2250			
			STR	17.10.2007	14.10.2008			-1810			
			STR	14.10.2008	19.10.2009			-2650			
			STR	19.10.2009	01.10.2010			-1000			
41	SARENNES	FR0029	STR	24.10.2005	31.10.2006	1820	-4200	-2380			
			STR	31.10.2006	22.10.2007	1240	-3760	-2520			
			STR	22.10.2007	26.10.2008	1700	-4040	-2340			
			STR	26.10.2008	19.10.2009	1130	-5030	-3900			
			STR	19.10.2009	23.10.2010	1730	-3260	-1530			
	GREENLAND										
42	FREYA	GL	COM	11.08.2007	23.08.2008	686	-1196	-510	1030	14	5.599
			COM	23.08.2008	24.08.2009			-466	830	41	5.599
			COM	24.08.2009	21.08.2010			-795	1000	14	5.599
43	MITTIVAKKAT	GL0019		2005	2006	980	-1590	-580		18	17.6
				2006	2007			-1580	>899	0	
				2007	2008	1160	-1690	-520		41	17.6
				2008	2009			-1010		18	17.6
				2009	2010			-2160	>899	0	17.6
	ICELAND										
44	BRUARJOEKULL	IS2400		2005	2006			-790			1600
				2006	2007			-536			1600
				2007	2008			-503			
				2008	2009	1570	-1692	-122	1225	59	1600
				2009	2010	1450	-3020	-1570	1545	14	
45	DYNGJUJOEKULL	IS2600		2005	2006			-353			1050
				2006	2007			95			1050
				2007	2008			-24			
				2008	2009	1687	-1460	227	1315	64	1050
				2009	2010			-1540	1675	22	
46	EYJABAKKAJOEKULL	IS2300		2005	2006			-1425			110
				2006	2007			-636			110
				2007	2008			-1282			

NR	GLACIER NAME	PSFG NR	SYS	FROM	TO	BW	BS	BA	ELA	AAR	AREA
				D M Y	D M Y	MM	MM	MM	M	%	KM^2
				2008	2009	1995	-2502	-507	1140	42	110
				2009	2010	1780	-3530	-1750	1271	18	
47	HOFSJOEKULL E	IS0510B		2005	2006	1800	-2290	-490			
				2006	2007	1710	-2580	-870			
				2007	2008	1840	-2630	-790			
				2008	2009	1740	-1910	-170	1170	50	
				2009	2010	1060	-3890	-2830			
48	HOFSJOEKULL N	IS0510A		2005	2006	1380	-1890	-510	1325	41	
				2006	2007	1530	-1920	-390			
				2007	2008	1740	-2310	-570			
				2008	2009	1390	-1740	-350	1280	49	
				2009	2010	980	-3380	-2400			
49	HOFSJOEKULL SW	IS0510C		2005	2006	1580	-2190	-610	1330	50	
				2006	2007	1470	-2330	-860			
				2007	2008	1590	-2520	-930			
				2008	2009	1680	-2030	-350	1290	54	
				2009	2010	1010	-4500	-3490			
50	KOELDUKVISLARJ.	IS2700		2005	2006			-402			310
				2006	2007			-342			310
				2007	2008			-587			
				2008	2009	1715	-1849	-134	1360	57	310
				2009	2010	1360	-4230	-2870	1828	8	
51	LANGJOEK. S. DOME	IS		2005	2006			-1080			900
				2006	2007			-1412			900
				2007	2008			-1842			
				2008	2009	2024	-2386	-362	1050	50	900
				2009	2010	1110	-4910	-3800	>1440	0	
52	TUNGNAARJOEKULL	IS2214		2005	2006			-1569			360
				2006	2007			-997			360
				2007	2008			-1340			
				2008	2009	1650	-2459	-809	1225	48	360
				2009	2010	1080	-4590	-3510	>1680	0	
	INDIA										
53	CHHOTA SHIGRI	IN		03.10.2005	30.09.2006			-1410	5185	29	
				2006	2007			-980			
				2007	2008			-930			
				2008	2009			130			
				2009	2010			330			
54	HAMTAH	IN	FXD	01.08.2005	30.09.2006			-1391		12	3.458
	ITALY										
55	CALDERONE	IT1006	COM	30.09.2005	20.09.2006	2603	-1513	1090	<2630	100	0.036
			COM	20.09.2006	26.09.2007	1182	-3501	-2320	>2830	0	0.036
			COM	26.09.2007	18.09.2008	2695	-2420	275		75	0.036
				2008	2009	3593	-3192	401		86	0.036
			COM	10.09.2009	18.09.2010	2801	-2099	702		84	0.036
56	CAMPO SETT.	IT0997	FLO	06.09.2009	20.09.2010			-978	3070	18	0.323
57	CARESER	IT0701	FXD	01.10.2005	30.09.2006	841	-2934	-2093	>3279	0	2.399
			FXD	01.10.2006	30.09.2007	382	-3127	-2745	>3279	0	2.399
			OTH	07.10.2007	24.09.2008	744	-2596	-1851	>3277	0	1.925
			OTH	24.09.2008	27.09.2009	1347	-2583	-1236	3260	1	1.925
			FLO	27.09.2009	15.09.2010	1048	-1986	-939	3250	10	1.886
58	CARESER CENTRALE	IT	FLO	27.09.2009	15.09.2010	996	-2849	-1853	>3112	0	0.241
59	CARESER OCC.	IT	FXD	01.10.2005	30.09.2006	925	-2836	-1911	>3279	0	0.271
			FXD	01.10.2006	30.09.2007	405	-2964	-2558	>3279	0	0.271
			OTH	07.10.2007	24.09.2008	986	-2671	-1560	>3277	0	0.27
			OTH	24.09.2008	27.09.2009	1529	-2375	-846	3250	5	0.2
			FLO	27.09.2009	15.09.2010	1215	-2002	-787	3250	10	0.194
60	CARESER ORIENTALE	IT	FXD	01.10.2005	30.09.2006	830	-2947	-2117	>3277	0	2.128
			FXD	01.10.2006	30.09.2007	379	-3147	-2769	>3277	0	2.128

NR	GLACIER NAME	PSFG NR	SYS	FROM	TO	BW	BS	BA	ELA	AAR	AREA
				D M Y	D M Y	MM	MM	MM	M	%	KM²
			OTH	07.10.2007	24.09.2008	823	-2808	-1884	>3274	0	2.13
			OTH	24.09.2008	27.09.2009	1326	-2602	-1276	>3274	0	1.696
			FLO	27.09.2009	15.09.2010	1042	-1872	-830	3240	11	1.432
61	CIARDONEY	IT0081	COM	15.09.2005	05.09.2006	784	-2883	-2099	>3150	0	0.833
			COM	05.09.2006	10.09.2007	980	-2470	-1490	>3150	0	0.833
			COM	10.09.2007	09.09.2008	1160	-2670	-1510	>3150	0	0.833
			COM	09.09.2008	07.09.2009	1840	-2330	-490	3100	15	0.833
			COM	07.09.2009	06.09.2010	1040	-1870	-830	3120	10	0.833
62	FONT. BIANCA/W.B.F..	IT0713	FLO	30.09.2005	30.09.2006	929	-2682	-1753	>3355	0	0.538
			FLO	30.09.2006	12.10.2007	616	-2223	-1607	>3355	0	0.49
			FLO	12.10.2007	07.10.2008	862	-2108	-1246	>3355	0	0.437
			FLO	07.10.2008	30.09.2009	1587	-2209	-622	3250	9	0.437
			FLO	30.09.2009	21.09.2010	1316	-1511	-195	3200	44	0.437
63	GRAND ETRET	IT0134		99.99.2005	99.99.2006	334	-912	-578			0.553
			FXD	04.09.1999	16.09.2008	1322	-2685	-1363	3050	13	0.553
			FXD	2008	05.09.2009	2846	-2473	373		76	
64	LUNGA / LANGENF..	IT0733	FXD	01.10.2005	30.09.2006	642	-2259	-1460	3295	10	1.858
			FXD	01.10.2006	01.10.2007	642	-2259	-1616	>3390	0	1.858
			FXD	01.10.2007	30.09.2008	849	-2486	-1637	3320	8	
			FXD	01.10.2008	30.09.2009	1343	-2341	-998	3285	16	1.776
			FXD	30.09.2009	29.09.2010	1076	-1735	-659	3270	23	1.776
65	LUPO	IT0543	FLO	22.09.2009	22.09.2010	3898	-3551	347	2540	65	0.202
66	MALAVALLE /UEB.T..	IT0875	FLO	25.09.2005	23.09.2006	1170	-2578	-1408	3120	12	7.198
			FLO	23.09.2006	22.09.2007	728	-2066	-1338	3110	11	7.198
			FLO	22.09.2007	20.09.2008	1210	-2110	-900	3100	9	7.198
			FLO	20.09.2008	03.10.2009	1529	-2046	-517	3050	38	7.198
			FLO	03.10.2009	11.09.2010	1179	-1376	-197	3032	42	7.198
67	PENDENTE/HANGEN.	IT0876	FLO	26.09.2005	24.09.2006	1517	-3297	-1780	3075	42	1.033
			FLO	24.09.2006	23.09.2007	763	-2917	-2154	3110	0	0.993
			FLO	23.09.2007	21.09.2008	1539	-3023	-1484	3104	0	0.852
			FLO	21.09.2008	04.10.2009	2418	-3262	-844	2966	7	0.852
			FLO	04.10.2009	12.09.2010	1703	-1837	-134	2815	24	0.852
68	RIES OCC./RIESERF.W.	IT0930	FXD	01.10.2008	30.09.2009	1269	-1881	-612	3100	17	1.975
			FLO	24.09.2009	06.10.2010	1139	-1608	-469	3075	21	1.975
69	SURETTA MERID.	IT0371	FLO	20.09.2009	29.09.2010	2689	-2692	-3	2785	56	0.181
	JAPAN										
70	HAMAGURI YUKI	JP0001		03.10.2005	01.10.2006	10915	-6874	4041			
				01.10.2006	24.09.2007	10171	-10265	-94			
				24.09.2007	12.10.2008	5689	-3714	1975			
				12.10.2008	04.10.2009	6377	-10361	-3984			
				04.10.2009	06.10.2010	8493	-8598	-105			
	NEW ZEALAND										
71	BREWSTER	NZ	COM	21.03.2005	13.03.2006	2479	-2197	282	1893	72	2.542
			COM	13.03.2006	23.03.2007	2881	-2583	297	1899	67	2.542
			COM	23.03.2007	20.04.2008	2447	-4100	-1653	>2390	10	2.541
			COM	20.04.2008	18.03.2009	1914	-2741	-828	2034	26	2.541
	NORWAY										
72	AALFOTBREEN	NO36204		2005	2006	2690	-5880	-3190	>1382	0	4.5
				2006	2007	4490	-3220	1270	1000	97	4.5
				2007	2008	4040	-3350	680	1130	79	4.5
				2008	2009	3840	-4000	-160	1240	48	4.5
				2009	2010	2190	-4030	-1840	>1368	0	3.98
73	AUSTDALSBREEN	NO37323		2005	2006	1320	-3380	-2060	>1757	0	11.84
				2006	2007	2460	-2280	180	1405	75	11.84
				2007	2008	2550	-2620	-70	1420	71	11.84
				2008	2009	1920	-2620	-700	1475	56	10.63
				2009	2010	1030	-3030	-2000	>1747	0	10.63
74	AUST. BROEGGERBR.	NO15504	COM	07.05.2006	22.09.2006	619	-1344	-725	458	5	6.12

NR	GLACIER NAME	PSFG NR	SYS	FROM	TO	BW	BS	BA	ELA	AAR	AREA
				D M Y	D M Y	MM	MM	MM	M	%	KM^2
			COM	14.04.2007	19.09.2007	621	-1078	-457	427	10	6.12
			COM	06.05.2008	16.09.2008	719	-846	-127	341	25	6.12
			COM	29.04.2009	14.09.2009			-250	389	16	
				2009	2010			-440	403	13	
75	BLOMSTOELSK.BR.	NO		2006	2007	4170	-2300	1880	1230	89	22.8
				2007	2008	3440	-2140	1300	1265	85	22.45
				2008	2009	3590	-2520	1070	1290	84	22.77
				2009	2010	1850	-3070	-1230	>1636	0	22.8
76	BREIDABLIKKBREA	NO		2005	2006	1490	-4440	-2950	>1659	0	3.61
				2006	2007	3420	-3070	360	1400	70	3.6
				2007	2008	2660	-2960	-300	1515	44	3.37
				2008	2009	2470	-2980	-520	1565	30	3.37
				2009	2010	1600	-3530	-1940	>1651	0	3.37
77	ELISEBREEN	NO		2005	2006			-726			10.25
				2006	2007			-542			10.24
				2007	2008			-172	352	58	
				2008	2009			-579	385	42	10.2
78	ENGABREEN	NO67011		2005	2006	1720	-3160	-1430	1325	26	39.6
				2006	2007	3400	-2300	1110	1035	84	39.6
				2007	2008	2810	-2500	310	1093	77	38.74
				2008	2009	2870	-2900	-30	1170	63	38.7
				2009	2010	2040	-2560	-520	1240	47	38.74
79	GRAAFJELLSBREA	NO		2005	2006	1400	-4450	-3050	>1659	0	8.94
				2006	2007	3600	-2850	750	1375	80	8.9
				2007	2008	2660	-2800	-140	1490	56	8.41
				2008	2009	2340	-2880	-540	1540	31	8.41
				2009	2010	1510	-3350	-1840	>1651	0	8.41
80	GRAASUBREEN	NO0547		2005	2006	510	-2590	-2080	>2290	0	2.25
				2006	2007	610	-1320	-710	2265	1	2.3
				2007	2008	950	-860	90			2.25
				2008	2009	810	-1080	-280	2235	7	2.12
				2009	2010	540	-1600	-1060	2250	4	2.12
81	HANSBREEN	NO12419	FXD	07.09.2005	19.09.2006	1297	-1204	93	300	61	56.742
			FXD	19.09.2006	10.09.2007	1029	-1033	-4	330	54	56.742
			FXD	10.09.2007	24.09.2008	1225	-1076	149	300	66	56.742
			FXD	24.09.2008	17.09.2009	743	-1586	-844	400	25	56.742
			FXD	17.09.2009	22.09.2010	1063	-1078	-14	350	39	56.742
82	HANSEBREEN	NO36206		2005	2006	2450	-6430	-3980	>1327	0	3.1
				2006	2007	4070	-3230	840	1042	89	
				2007	2008	3900	-3650	260	1125	64	3.06
				2008	2009	3450	-4420	-970	>1327	0	3.06
				2009	2010	2100	-4310	-2220	>1310	0	2.75
83	HELLSTUGUBREEN	NO0511		2005	2006	730	-2740	-2010	>2210	0	3.03
				2006	2007	1030	-1700	-670	1975	25	3
				2007	2008	1410	-1470	-60	1880	57	3.03
				2008	2009	1300	-1530	-230	1920	42	2.9
				2009	2010	750	-2090	-1340	2230	0	2.9
84	IRENEBREEN	NO15402		2005	2006			-822	422	24	4.14
				2006	2007			-695	454	20	4.12
				2007	2008			-357	396	31	4.09
				2008	2009			-630	489	6	4.08
				2009	2010			-497			4.05
85	JUVFONNE	NO		2009	2010	670	-3910	-3240	>1998	0	0.171
86	KONGSVEGEN	NO15510	COM	26.04.2006	16.09.2006	990	-972	18	531	46	101.9
			COM	22.04.2007	16.09.2007	687	-777	-90	555	39	101.9
			COM	24.04.2008	12.09.2008	733	-315	418	434	67	101.9
			COM	23.04.2009	15.09.2009			-80	506	40	
				2009	2010			130	547	52	
87	LANGFJORDJOEK.	NO85008		2005	2006	1420	-3830	-2410	>1050	0	3.65
				2006	2007	2090	-2900	-810	870	42	3.7
				2007	2008	1670	-2020	-350	835	53	3.21

NR	GLACIER NAME	PSFG NR	SYS	FROM	TO	BW	BS	BA	ELA	AAR	AREA
				D M Y	D M Y	MM	MM	MM	M	%	KM^2
				2008	2009	1880	-3210	-1320	>1050	0	3.2
				2009	2010	1890	-2650	-760	1005	12	3.21
88	MID. LOVENBREEN	NO15506	COM	29.04.2006	20.09.2006	747	-1233	-486	415	14	5.45
			COM	16.04.2007	21.09.2007	728	-978	-251	376	26	5.45
			COM	04.05.2008	19.09.2008	748	-757	-9	331	38	5.45
			COM	03.05.2009	13.09.2009			-140	366	29	
				2009	2010			-200	364	29	
89	NIGARDSBREEN	NO31014		2005	2006	1747	-3146	-1399	1850	4	47.82
				2006	2007	3092	-2045	1047	1320	91	47.82
				2007	2008	3010	-1920	1100	1325	91	47.82
				2008	2009	2200	-1960	240	1465	80	47.16
				2009	2010	1470	-2270	-800	1770	14	47.16
90	REMBESDALSKAAKA	NO22303		2005	2006	900	-3120	-2220	>1860	0	17.1
				2006	2007	3100	-1930	1170	1570	85	17.1
				2007	2008	2610	-2160	450	1610	82	17.1
				2008	2009	2370	-2210	150	1655	79	17.1
				2009	2010	1280	-2780	-1490	>1854	0	17.26
91	STORBREEN	NO0541		2005	2006	860	-3010	-2150	>2100	0	5.35
				2006	2007	1350	-1740	-390	1835	30	5.4
				2007	2008	1990	-1880	110	1770	51	5.35
				2008	2009	1600	-1830	-220	1760	53	5.14
				2009	2010	790	-2550	-1760	1990	4	5.14
92	SVELGJABREEN	NO		2006	2007	3890	-2540	1350	1205	78	22.5
				2007	2008	3650	-2880	720	1235	74	22.45
				2008	2009	3330	-2970	360	1310	64	22.45
				2009	2010	1650	-3290	-1640	>1636	0	22.45
93	WALDEMARBREEN	NO15403		2005	2006			-747	425	16	2.57
				2006	2007			-771	428	13	
				2007	2008			-322	357	31	
				2008	2009			-649	412	16	2.5
				2009	2010			-577			2.47
	PERU										
94	ARTESONRAJU	PE0003		2005	2006			-1679			3.208
				2006	2007			-1522			3.223
				2007	2008			471			3.223
				2008	2009			-658			3.05
				03.06.2009	22.04.2010			49	5071	42	4.102
95	YANAMAREY	PE0004		2005	2006			-1712	4888	27	0.225
				2006	2007			-1532	4868	36	0.206
				2007	2008			89			0.34
				2008	2009			-525			0.137
				30.09.2009	27.08.2010			-182	4912	28	
	SPAIN										
96	MALADETA	ES9020	FXD	27.05.2006	17.09.2006	1405	-3192	-1787	>3200	51	0.313
			FXD	28.06.2007	22.10.2007	1221	-2168	-947	>3200	53	0.276
			FXD	22.10.2007	28.09.2008	2934	-2971	-38	3100	34	0.29
			FXD	28.09.2008	14.10.2009	1986	-3401	-1415	>3150	0	0.276
			FXD	14.10.2009	02.10.2010	2519	-2260	259	3000	80	0.28
	SWEDEN										
97	MARMAGLACIAEREN	SE0799		2005	2006	960	-2610	-1650	1655	11	3.965
				2006	2007	1000	-1530	-530	1640	13	3.965
				2007	2008	1210	-1090	120	1600	43	3.965
				2008	2009	1010	-2400	-1390	1640	15	3.965
				2009	2010	800	-1300	-500	1635	18	3.965
98	RABOTS GLACIAER	SE0785		2005	2006	890	-2520	-1630	1505	19	3.946
				2007	2008	1630	-1280	350	1380	43	3.946
				2008	2009	1450	-1950	-500	1430	36	3.946
				2009	2010	790	-1870	-1080	1670	13	3.946

NR	GLACIER NAME	PSFG NR	SYS	FROM	TO	BW	BS	BA	ELA	AAR	AREA
				D M Y	D M Y	MM	MM	MM	M	%	KM^2
99	RIUKOJIETNA	SE0790		2005	2006	810	-2210	-1400	1450	0	4.651
				2006	2007	1260	-2220	-960	1440	0	4.651
				2007	2008	860	-1460	-590	>1440	0	4.651
				2008	2009	1260	-1980	-720	1440	2	4.651
				2009	2010	640	-1600	-960	>1440	0	4.651
100	STORGLACIAEREN	SE0788		2005	2006	1100	-2820	-1720	1615	17	3.211
				2006	2007	1530	-1120	410	1480	50	3.211
				2007	2008	1930	-1350	580	1410	53	3.211
				2008	2009	1300	-1830	-530	1495	37	3.211
				2009	2010	960	-1650	-690	1570	28	3.211
101	TARFALAGLAC.	SE0791		2005	2006	910	-3440	-2530	1790	0	1.006
				2006	2007	1490	-1270	210	1475	73	1.006
				2007	2008	1280	-1470	-200	1590	30	1.006
				2008	2009	1150	-2860	-1710	>1790	0	1.006
				2009	2010	990	-2050	-1060	>1800	0	1.006
	SWITZERLAND										
102	BASODINO	CH0104		16.09.2005	14.11.2006	962		-2501	>3300	0	2.28
				14.11.2006	07.10.2007	800		-902	3100	5	2.28
			OTH	07.10.2007	11.09.2008	1145	-2313	-1168	3100	2	2.28
			OTH	11.09.2008	10.09.2009	2487	-2357	130	2750	70	2.28
			OTH	10.09.2009	20.09.2010	1557	-2141	-584	2990	30	2.28
103	FINDELEN	CH0016	COM	17.10.2005	11.10.2006			-1200	3330	42	15.3
			COM	11.10.2006	08.10.2007			-200	3175	64	15.3
			COM	08.10.2007	12.10.2008			-300	3240	62	15.3
			COM	12.10.2008	05.10.2009			100	3175	69	15.3
			COM	05.10.2009	29.09.2010			-470	3280	52	13.1
104	GRIES	CH0003	FXD	01.10.2005	30.09.2006	914	-2909	-1995	3325	2	5.084
			FXD	01.10.2006	30.09.2007	626	-2099	-1473	3324	2	4.973
			OTH	16.09.2007	10.09.2008	1139	-2740	-1601	3125	5	4.973
			OTH	10.09.2008	06.09.2009	2465	-3348	-883	3134	3	4.973
			OTH	06.09.2009	04.09.2010	1623	-2930	-1307	3085	11	4.973
105	PIZOL	CH0081	OTH	13.09.2006	03.09.2007	1142	-2979	-1837	>2786	0	0.081
			OTH	03.02.2007	25.09.2008	1447	-2179	-731	>2786	9	0.081
			OTH	25.09.2008	13.09.2009	1591	-2812	-1220	>2786	0	0.081
			FLO	13.09.2009	22.09.2010	1180	-2040	-860	>2786	0	0.081
106	RAETZLI (PL.MORTE)	CH0065		2009	2010			-874			
107	SILVRETTA	CH0090	FXD	01.10.2005	30.09.2006	1235	-2684	-1449	3071	2	2.814
			FXD	01.10.2006	30.09.2007	774	-1690	-916	2877	21	2.789
			OTH	16.09.2007	20.09.2008	1674	-2313	-639	2855	31	2.789
			OTH	20.09.2008	26.09.2009	1547	-2644	-1097	2995	6	2.785
			OTH	26.09.2009	99.09.2010	1325	-1593	-268	2814	44	2.785
108	TSANFLEURON	CH0033	FLO	11.10.2009	21.09.2010	1075	-1992	-917	>2945	1	2.752
	U.S.A.										
109	COLUMBIA (2057)	US2057	FXD	01.10.2005	01.10.2006			-980	1630	40	0.9
			FXD	01.10.2006	01.10.2007			-370	1575	60	0.9
			FXD	01.10.2007	03.10.2008			960	1630	86	
			FXD	01.10.2008	02.10.2009			-900	1640	37	
			FXD	02.10.2009	27.09.2010			-210	1615	63	
110	DANIELS	US2052	FXD	02.10.2005	30.09.2006			1250		34	0.4
			FXD	30.09.2006	30.09.2007			120		62	0.4
			FXD	30.09.2007	04.10.2008			410		76	
			FXD	30.09.2008	30.09.2009			-1350		28	
			FXD	30.09.2009	30.09.2010			-260		60	
111	EASTON	US2008	FXD	02.10.2005	02.10.2006			790	2125	50	2.9
			FXD	02.10.2006	30.09.2007			260	2075	70	2.9
			FXD	30.09.2007	05.10.2008			450	2125	74	
			FXD	03.10.2008	04.10.2009			-2060	2200	38	
			FXD	04.10.2009	04.10.2010			680	2030	77	
112	EMMONS	US2022	STR	05.10.2005	10.10.2006	2440	-3380	-940	2745	40	11.59

NR	GLACIER NAME	PSFG NR	SYS	FROM	TO	BW	BS	BA	ELA	AAR	AREA
				D M Y	D M Y	MM	MM	MM	M	%	KM²
			STR	10.10.2006	09.10.2007	2850	-3280	-430	2539	51	
			STR	09.10.2007	02.10.2008	2580	-3210	-630	2800	36	
			COM	02.10.2008	06.10.2009	1460	-3260	-1800	3770		
			COM	06.10.2009	07.10.2010	2550	-1530	1020	2615	47	
113	FOSS	US2053	FXD	02.10.2005	30.09.2006			-1020		36	0.3
			FXD	30.09.2006	30.09.2007			-380		54	0.3
			FXD	30.09.2007	04.10.2008			180		72	
			FXD	30.09.2008	30.09.2009			-2020		12	
			FXD	30.09.2009	01.10.2010			-110		62	
114	GULKANA	US0200		01.09.2005	01.09.2006	1310	-1660	-350	1732	64	15.805
				01.09.2006	01.09.2007	1280	-2680	-1390	1809	53	15.628
			COM	17.09.2007	08.09.2008	990	-1170	-180	1707		15.45
			COM	08.09.2008	07.09.2009	1220	-1940	-720	1789	64	15.28
			COM	16.09.2009	03.10.2010	731	-2563	-1832			15.11
115	ICE WORM	US2054	FXD	02.10.2005	30.09.2006			-1350		20	0.1
			FXD	30.09.2006	30.09.2007			-620		48	0.1
			FXD	30.09.2007	04.10.2008			-100		60	
			FXD	30.09.2008	30.09.2009			-1560		35	
			FXD	30.09.2009	30.09.2010			-380		60	
116	LEMON CREEK	US	COM	15.09.2005	15.09.2006			-170	1025	68	
			COM	15.09.2006	22.09.2007			150	1000	72	
			COM	22.09.2007	27.08.2008			778	900	80	11.6
			COM	22.09.2008	14.09.2009			-700	1060	64	
			COM	14.09.2009	20.09.2010			-580	1075	50	
117	LOWER CURTIS	US2055	FXD	01.10.2005	26.10.2006			-1060	1710	40	0.8
			FXD	02.10.2006	01.10.2007			-400	1650	60	0.8
			FXD	01.10.2007	03.10.2008			120	1710	66	
			FXD	01.10.2008	01.10.2009			-2150	1675	20	
			FXD	01.10.2009	04.10.2010			-440	1600	58	
118	LYNCH	US2056	FXD	02.10.2005	30.09.2006			-1050		42	0.6
			FXD	30.09.2006	30.09.2007			70		70	0.6
			FXD	30.09.2007	04.10.2008			510		76	
			FXD	30.09.2008	30.09.2009			-1820		25	
			FXD	30.09.2009	30.09.2010			-340		56	
119	NISQUALLY	US2027	STR	11.10.2005	12.10.2006	2990	-3750	-760	3000	31	6.76
			STR	12.10.2006	16.10.2007	2480	-3880	-1400	3000	29	
			STR	16.10.2007	01.10.2008	2450	-3530	-1080	3100	25	
			COM	01.10.2008	07.10.2009	2150	-3790	-1640	3110		
			COM	07.10.2009	06.10.2010	2940	-2930	20	2540	72	
120	NOISY CREEK	US2078	STR	26.09.2005	25.09.2006	3080	-3400	-320	1889	0	0.54
			STR	25.09.2006	13.10.2007	3030	-3400	-360	1825	1	
			STR	13.10.2007	25.09.2008	3130	-3420	-290	1830	20	
			COM	23.09.2008	21.09.2009	3140	-4330	-1190	>1920		
			COM	21.09.2009	21.09.2010	3130	-3310	-180	1815	34	
121	NORTH KLAWATTI	US2076	STR	26.09.2005	11.10.2006	2240	-3380	-1140	2300	19	1.46
			STR	10.11.2006	13.10.2007	2950	-3690	-740	2165	50	
			STR	13.10.2007	23.09.2008	2930	-3160	-220	2080	70	
			COM	23.09.2008	21.09.2009	2460	-4290	-1830	>2409		
			COM	21.09.2009	21.09.2010	2620	-2370	250	2065	74	
122	RAINBOW	US2003	FXD	01.10.2005	01.10.2006			-610	1730	46	1.6
			FXD	01.10.2006	29.09.2007			290	1650	76	1.6
			FXD	29.09.2007	05.10.2008			650	1730	80	
			FXD	29.09.2008	27.09.2009			-1980	1850	36	
			FXD	27.09.2009	27.09.2010			760	1650	80	
123	SANDALEE	US2079	STR	26.09.2005	25.09.2006	2700	-3100	-400	2210	4	0.2
			STR	25.09.2006	13.10.2007	2920	-2890	-60	2160	6	
			STR	13.10.2007	23.09.2008	2830	-2970	-140	2175	50	
			COM	23.09.2008	21.09.2009	2550	-3550	-650	>1975		
			COM	21.09.2009	21.09.2010	2400	-2160	240	2110	67	
124	SHOLES	US	FXD	01.10.2005	01.10.2006			-710		45	0.9
			FXD	01.10.2006	29.09.2007			-210		72	0.9

NR	GLACIER NAME	PSFG NR	SYS	FROM	TO	BW	BS	BA	ELA	AAR	AREA
				D M Y	D M Y	MM	MM	MM	M	%	KM^2
			FXD	29.09.2007	06.08.2008			200		75	
			FXD	29.09.2008	27.09.2009			-2680	1920	15	
			FXD	27.09.2009	27.09.2010			940		84	
125	SILVER	US2077	STR	26.09.2005	25.09.2006	2020	-3030	-1010	2565	6	0.49
			STR	25.09.2006	13.10.2007	2190	-2840	-650	2560	8	
			STR	13.10.2007	23.09.2008	2750	-2490	260	2370	40	
			COM	23.09.2008	21.09.2009	1430	-3410	-1990	2550		
			COM	21.09.2009	21.09.2010	2140	-1590	550	2220	15	
126	SOUTH CASCADE	US2013	COM	19.10.2005	14.10.2006	2610	-4190	-1580	>2125		1.74
			COM	14.10.2006	27.09.2007	3410	-3610	-200	1880	60	1.73
			COM	27.09.2007	04.10.2008	3220	-3510	-290	1870	60	1.73
			COM	04.10.2008	14.10.2009	3120	-4980	-1860	>2125		1.72
				2009	2010	2540		-810			
127	TAKU	US1805	COM	15.09.2005	15.09.2006			230	975	82	
			COM	15.09.2006	22.09.2007			480	930	84	
			COM	22.09.2007	27.08.2008			950	800	90	
			COM	22.09.2008	14.09.2009			-310	960		
			COM	14.09.2009	20.09.2010			-120	1000		
128	WOLVERINE	US0411		01.09.2005	01.09.2006	2720	-3540	-820	1188	62	16.711
				01.09.2006	01.09.2007	1880	-2660	-780	1199	61	16.702
			COM	18.10.2007	04.10.2008	3460	-2580	880	1050		16.69
			COM	04.10.2008	19.09.2009	1450	-3230	-1780	1290		16.68
			COM	21.10.2009	27.09.2010	2474	-2559	-85			16.67
129	YAWNING	US2050	FXD	01.10.2005	01.10.2006			-930		54	0.3
			FXD	01.10.2006	29.09.2007			-130		70	0.3
			FXD	29.09.2007	27.09.2008			480		70	
			FXD	29.09.2008	27.09.2009			-1620		30	
			FXD	27.09.2009	30.09.2010			170		70	

WORLD GLACIER MONITORING SERVICE

MASS BALANCE STUDY RESULTS SUMMARY DATA

TABLE CC

ADDENDA FROM EARLIER YEARS

NR	Record number
GLACIER NAME	15 alphabetic or numeric digits
PSFG NUMBER	5 digits identifying glacier with alphabetic prefix denoting country
SYS	System of measurement: FLO = floating-date system FXD = fixed-date system STR = stratigraphic system COM = combined system; usually of STR and FXD according to Mayo et al. (1972) OTH = Other System
FROM	Day, month and year of beginning of balance/measurement year
TO	Day, month and year of end of balance/measurement year
BW	Specific winter balance in mm water equivalent
BS	Specific summer balance in mm water equivalent
BA	Specific annual balance in mm water equivalent
ELA	Altitude of equilibrium line or annual equilibrium line in meters above sea level
AAR	Ratio of accumulation area to total area of the glacier in percent
AREA	Area (in square kilometers) of the glacier used for calculation of specific quantities

NR	GLACIER NAME	PSFG NR	SYS	FROM D M Y	TO D M Y	BW MM	BS MM	BA MM	ELA M	AAR %	AREA KM^2
	JAPAN										
1	HAMAGURI YUKI	JP0001		1966	07.10.1967		-7298				
				07.10.1967	28.09.1968	7658	-6220	1438			
				28.09.1968	03.10.1969	5835	-8285	-2450			
				03.10.1969	26.09.1970	6750	-7031	-281			
				26.09.1970	21.10.1971	6851	-7645	-794			
				21.10.1971	02.10.1972	8812	-8512	300			
				02.10.1972	12.10.1973	7403	-5728	1675			
				12.10.1973	14.10.1974	6375	-5837	538			
				14.10.1974	22.10.1975	7785	-7460	325			
				22.10.1975	06.10.1976	6180	-8367	-2187			
				06.10.1976	03.10.1977	6832	-7220	-388			
				03.10.1977	02.10.1978	8317	-6692	1625			
				02.10.1978	17.10.1979	6765	-8065	-1300			
				17.10.1979	23.09.1980	4508	-4771	-263			
				23.09.1980	06.10.1981	9323	-6885	2438			
				06.10.1981	33.10.1982	6443	-6080	363			
				33.10.1982	14.09.1983	5333	-5171	162			
				14.09.1983	30.09.1984	7447	-6034	1413			
				30.09.1984	18.10.1985	4163	-8951	-4788			
				18.10.1985	27.09.1986	8535	-6072	2463			
				27.09.1986	27.09.1987	5797	-6052	-255			
				27.09.1987	02.10.1988	4848	-6643	-1795			
				02.10.1988	1989	8580					
				1989	19.10.1990		-7305				
				19.10.1990	06.10.1991	6713	-7026	-313			
				06.10.1991	08.10.1992			2094			
				08.10.1992	01.10.1993	9682	-8369	1313			
				01.10.1993	03.10.1994			693			
				03.10.1994	09.10.1995			-765			
				09.10.1995	03.10.1996	7516	-4193	3323			
				03.10.1996	03.10.1997	5567	-8269	-2702			
				03.10.1997	11.10.1998	4189	-8376	-4187			
				11.10.1998	03.10.1999	9276	-7913	1363			
				03.10.1999	06.10.2000	9381	-5669	3712			
				06.10.2000	08.10.2001	6756	-9661	-2905			
				08.10.2001	13.10.2002	8440	-8951	-511			
				13.10.2002	14.10.2003	9087	-7933	1154			
				14.10.2003	30.09.2004	6185	-7680	-1495			
				30.09.2004	03.10.2005	8963	-9499	-536			
	SWITZERLAND										
2	GRIES	CH0003	FXD	01.10.1961	30.09.1962	1008	-1992	-984	3272	4	6.574
			FXD	01.10.1962	30.09.1963	1269	-1449	-180	2822	60	6.55
			FXD	01.10.1963	30.09.1964	1666	-2354	-688	2912	44	6.534
			FXD	01.10.1964	30.09.1965	846	-401	445	2662	70	6.515
			FXD	01.10.1965	30.09.1966	845	-1202	-357	2807	61	6.496
			FXD	01.10.1966	30.09.1967	1475	-1446	29	2757	68	6.422
			FXD	01.10.1967	30.09.1968	1124	-745	379	2667	74	6.434
			FXD	01.10.1968	30.09.1969	1503	-770	733	2622	80	6.42
			FXD	01.10.1969	30.09.1970	1471	-2229	-758	3072	23	6.415
			FXD	01.10.1970	30.09.1971	1449	-1976	-527	2892	45	6.403
			FXD	01.10.1971	30.09.1972	1283	-875	408	2657	74	6.396
			FXD	01.10.1972	30.09.1973	771	-1866	-1095	3127	8	6.388
			FXD	01.10.1973	30.09.1974	1509	-1687	-178	2812	61	6.379
			FXD	01.10.1974	30.09.1975	1565	-1187	378	2722	71	6.372
			FXD	01.10.1975	30.09.1976	684	-1705	-1021	3052	25	6.364
			FXD	01.10.1976	30.09.1977	1808	-642	1166	2522	94	6.356
			FXD	01.10.1977	30.09.1978	2165	-1109	1056	2617	81	6.348
			FXD	01.10.1978	30.09.1979	1128	-2013	-885	3087	16	6.364
			FXD	01.10.1979	30.09.1980	1449	-879	570	2662	75	6.261

NR	GLACIER NAME	PSFG NR	SYS	FROM	TO	BW	BS	BA	ELA	AAR	AREA
				D M Y	D M Y	MM	MM	MM	M	%	KM²
			FXD	01.10.1980	30.09.1981	952	-1276	-324	2917	54	6.237
			FXD	01.10.1981	30.09.1982	1205	-2509	-1304	3102	10	6.228
			FXD	01.10.1982	30.09.1983	1314	-2093	-779	3052	24	6.221
			FXD	01.10.1983	30.09.1984	875	-879	-4	2762	61	6.209
			FXD	01.10.1984	30.09.1985	1070	-1596	-526	3067	19	6.194
			FXD	01.10.1985	30.09.1986	1767	-2714	-947	3087	11	6.077
			FXD	01.10.1986	30.09.1987	883	-1616	-733	3057	21	5.991
			FXD	01.10.1987	30.09.1988	1244	-2168	-924	3042	25	5.963
			FXD	01.10.1988	30.09.1989	1439	-2510	-1071	3057	20	5.929
			FXD	01.10.1989	30.09.1990	1167	-3155	-1988	3326	0	5.891
			FXD	01.10.1990	30.09.1991	1186	-2530	-1344	3057	17	5.799
			FXD	01.10.1991	30.09.1992	1198	-2323	-1125	3047	25	5.933
			FXD	01.10.1992	30.09.1993	716	-1768	-1052	3087	12	5.879
			FXD	01.10.1993	30.09.1994	1587	-1796	-209	2947	51	5.822
			FXD	01.10.1994	30.09.1995	1185	-1463	-278	2962	49	5.781
			FXD	01.10.1995	30.09.1996	632	-1149	-517	2992	39	5.755
			FXD	01.10.1996	30.09.1997	1598	-2666	-1068	3137	9	5.734
			FXD	01.10.1997	30.09.1998	962	-3015	-2053	3326	0	5.767
			FXD	01.10.1998	30.09.1999	1676	-2240	-564	2952	46	5.324
			FXD	01.10.1999	30.09.2000	1392	-2377	-985	3037	23	5.314
			FXD	01.10.2000	30.09.2001	1802	-2031	-229	2947	48	5.309
			FXD	01.10.2001	30.09.2002	876	-1866	-990	3047	20	5.302
			FXD	01.10.2002	30.09.2003	1558	-4269	-2711	3326	0	5.274
			FXD	01.10.2003	30.09.2004	1343	-2489	-1146	3326	2	5.167
			FXD	01.10.2004	30.09.2005	1142	-2654	-1512	3325	1	5.133
3	SILVRETTA	CH0090	FXD	01.10.1959	30.09.1960	808	-522	286	2657	72	3.246
			FXD	01.10.1960	30.09.1961	1211	-1008	203	2667	73	3.243
			FXD	01.10.1961	30.09.1962	1334	-1738	-404	2872	30	3.236
			FXD	01.10.1962	30.09.1963	867	-1909	-1042	3007	5	3.229
			FXD	01.10.1963	30.09.1964	973	-2348	-1375	3084	0	3.223
			FXD	01.10.1964	30.09.1965	1323	-43	1280	2482	98	3.216
			FXD	01.10.1965	30.09.1966	1338	-60	1278	2527	96	3.202
			FXD	01.10.1966	30.09.1967	1452	-1076	376	2662	74	3.191
			FXD	01.10.1967	30.09.1968	1311	-680	631	2602	83	3.184
			FXD	01.10.1968	30.09.1969	769	-944	-175	2797	45	3.178
			FXD	01.10.1969	30.09.1970	1286	-1141	145	2697	72	3.174
			FXD	01.10.1970	30.09.1971	944	-1702	-758	3027	9	3.172
			FXD	01.10.1971	30.09.1972	424	-683	-259	2912	36	3.171
			FXD	01.10.1972	30.09.1973	969	-2071	-1102	3022	6	3.147
			FXD	01.10.1973	30.09.1974	1055	-292	763	2557	95	3.121
			FXD	01.10.1974	30.09.1975	1089	-767	322	2612	82	3.121
			FXD	01.10.1975	30.09.1976	820	-1038	-218	2757	49	3.122
			FXD	01.10.1976	30.09.1977	1191	-769	422	2677	75	3.123
			FXD	01.10.1977	30.09.1978	1137	-250	887	2562	94	3.125
			FXD	01.10.1978	30.09.1979	913	-1062	-149	2762	46	3.125
			FXD	01.10.1979	30.09.1980	1406	-671	735	2567	93	3.126
			FXD	01.10.1980	30.09.1981	1395	-916	479	2657	77	3.127
			FXD	01.10.1981	30.09.1982	1276	-1973	-697	3042	10	3.127
			FXD	01.10.1982	30.09.1983	1097	-1584	-487	2772	37	3.129
			FXD	01.10.1983	30.09.1984	1011	-294	717	2647	83	3.129
			FXD	01.10.1984	30.09.1985	1041	-834	207	2712	68	3.131
			FXD	01.10.1985	30.09.1986	1075	-1442	-367	2942	34	3.137
			FXD	01.10.1986	30.09.1987	484	-1428	-944	3091	2	3.109
			FXD	01.10.1987	30.09.1988	1047	-1460	-413	2827	32	3.099
			FXD	01.10.1988	30.09.1989	917	-1310	-393	2907	31	3.094
			FXD	01.10.1989	30.09.1990	1121	-1830	-709	3047	19	3.08
			FXD	01.10.1990	30.09.1991	870	-2108	-1238	3037	6	3.069
			FXD	01.10.1991	30.09.1992	1883	-3027	-1144	2987	11	3.049
			FXD	01.10.1992	30.09.1993	1781	-2025	-244	2817	43	3.036
			FXD	01.10.1993	30.09.1994	1609	-2317	-708	2862	33	3.007

NR	GLACIER NAME	PSFG NR	SYS	FROM D M Y	TO D M Y	BW MM	BS MM	BA MM	ELA M	AAR %	AREA KM²
			FXD	01.10.1994	30.09.1995	1213	-1342	-129	2797	46	2.975
			FXD	01.10.1995	30.09.1996	471	-614	-143	2777	46	2.968
			FXD	01.10.1996	30.09.1997	1500	-1763	-263	2792	43	2.961
			FXD	01.10.1997	30.09.1998	607	-2198	-1591	3076	0	2.957
			FXD	01.10.1998	30.09.1999	2073	-2269	-196	2782	45	2.953
			FXD	01.10.1999	30.09.2000	1752	-1740	12	2727	63	2.949
			FXD	01.10.2000	30.09.2001	1587	-914	673	2682	71	2.94
			FXD	01.10.2001	30.09.2002	1189	-1487	-298	2757	57	2.935
			FXD	01.10.2002	30.09.2003	1140	-3669	-2529	3073	0	2.889
			FXD	01.10.2003	30.09.2004	1396	-1516	-120	2757	53	2.837
			FXD	01.10.2004	30.09.2005	1101	-2151	-1050	2877	26	2.824
	U.S.A.										
4	TAKU	US1805		1945	1946			-40	980		
				1946	1947			360	900		
				1947	1948			510	870		
				1948	1949			930	800		
				1949	1950			-180	1010		
				1950	1951			-340	1160		
				1951	1952			160	950		
				1952	1953			-150	1010		
				1953	1954			-70	1160		
				1954	1955			970	950		
				1955	1956			-130	1010		
				1956	1957			-40	980		
				1957	1958			210	780		
				1958	1959			350	1000		
				1959	1960			160	1010		
				1960	1961			480	930		
				1961	1962			390	915		
				1962	1963			570	950		
				1963	1964			1130	885		
				1964	1965			790	900		
				1965	1966			80	875		
				1966	1967			250	750		
				1967	1968			460	810		
				1968	1969			1170	965		
				1969	1970			760	930		
				1970	1971			630	885		
				1971	1972			420	730		
				1972	1973			520	825		
				1973	1974			580	850		
				1974	1975			850	800		
				1975	1976			660	850		
				1976	1977			470	885		
				1977	1978			310	915		
				1978	1979			140	950		
				1979	1980			540	870		
				1980	1981			120	980		
				1981	1982			150	950		
				1982	1983			-420	1085		
				1983	1984			640	875		
				1984	1985			1400	600		
				1985	1986			1200	720		
				1986	1987			390	910		
				1987	1988			600	890		
				1988	1989			-810	1115		
				1989	1990			-450	1080		
				1990	1991			380	900		
				1991	1992			170	940		
				1992	1993			-40	980		

NR	GLACIER NAME	PSFG NR	SYS	FROM	TO	BW	BS	BA	ELA	AAR	AREA
				D M Y	D M Y	MM	MM	MM	M	%	KM²
				1993	1994			90	970		
				1994	1995			-760	1050		
				1995	1996			-960	1150		
				1996	1997			-1340	1225		
				1997	1998			-980	1120		
				1998	1999			400	900		
				1999	2000			1030	750		
				2000	2001			880	850		
				2001	2002			450	900		
				2002	2003			-900	1100		
				2003	2004			-230	975		
				2004	2005			20	950		

Notes

Notes

WORLD GLACIER MONITORING SERVICE

MASS BALANCE VERSUS ALTITUDE FOR SELECTED GLACIERS

TABLE CCC

NR	Record number			
GLACIER NAME	15 alphabetic or numeric digits			
PSFG NUMBER	5 digits identifying glacier with alphabetic prefix denoting country			
YEAR	Balance year or measurement year			
SYS	System of measurement:	FLO	=	floating-date system
		FXD	=	fixed-date system
		STR	=	stratigraphic system
		COM	=	combined system; usually of STR and FXD according to Mayo et al. (1972)
		OTH	=	Other System
ALTITUDE	Altitude interval in meters above sea level			
AREA	Area of altitude band and in square kilometers			
BW	Specific winter balance in mm water equivalent			
BS	Specific summer balance in mm water equivalent			
BA	Specific annual balance in mm water equivalent			
SUMMARY	Total and specific values computed from data for the individual altitude intervals			

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE		AREA	BW	BS	BA
					FROM	TO	KM^2	MM	MM	MM
	ANTARCTICA									
1.1	BAHIA DEL DIABLO	AQ	2006	COM	562	638	0			-50
					488	562	0			125
					412	488	0			50
					338	412	0			-350
					262	338	0			-550
					188	262	0			-850
					112	188	0			-1650
					38	112	0			-2300
					38	638	14.3			-580
1.2	BAHIA DEL DIABLO	AQ	2007	COM	562	638	0			200
					488	562	0			500
					412	488	0			150
					338	412	0			0
					262	338	0			-250
					188	262	0			-550
					112	188	0			-1000
					38	112	0			-1400
					38	638	14.3			-80
1.3	BAHIA DEL DIABLO	AQ	2008	COM	562	638	0			-40
					488	562	0			75
					412	488	0			50
					338	412	0			-250
					262	338	0			-400
					188	262	0			-650
					112	188	0			-1500
					38	112	0			-2300
					38	638	14.3			-530
1.4	BAHIA DEL DIABLO	AQ	2009	COM	562	638	0			325
					488	562	0			450
					412	488	0			300
					338	412	0			-100
					262	338	0			-600
					188	262	0			-1200
					112	188	0			-1700
					38	112	0			-2000
					38	638	14.3			-255
1.5	BAHIA DEL DIABLO	AQ	2010	COM	562	638	0			600
					488	562	0			400
					412	488	0			600
					338	412	0			400
					262	338	0			300
					188	262	0			100
					112	188	0			200
					38	112	0			0
					38	638	14.3			370
	ARGENTINA									
2.1	MARTIAL ESTE	AR	2008	FXD	1160	1180	0.002			400
					1140	1160	0.005			460
					1120	1140	0.007			540
					1100	1120	0.011			600
					1080	1100	0.015			480
					1060	1080	0.016			-90
					1040	1060	0.015			-530
					1020	1040	0.011			-920
					1000	1020	0.007			-1000

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE FROM	TO	AREA KM²	BW MM	BS MM	BA MM
					980	1000	0.002			-1130
					960	980	0.001			-1180
					960	1180	0.093	1505	-1561	-56
2.2	MARTIAL ESTE	AR	2009	FXD	1160	1180	0.002			175
					1140	1160	0.005			190
					1120	1140	0.007			230
					1100	1120	0.011			340
					1080	1100	0.015			210
					1060	1080	0.016			-100
					1040	1060	0.015			-280
					1020	1040	0.011			-780
					1000	1020	0.007			-840
					980	1000	0.002			-890
					960	980	0.001			-920
					960	1180	0.093	1061	-1180	-119
2.3	MARTIAL ESTE	AR	2010	FXD	1160	1180	0.002			1580
					1140	1160	0.005			1500
					1120	1140	0.007			1405
					1100	1120	0.011			1340
					1080	1100	0.015			1280
					1060	1080	0.016			1180
					1040	1060	0.015			660
					1020	1040	0.011			270
					1000	1020	0.007			-91
					980	1000	0.002			-235
					960	980	0.001			-350
					960	1180	0.093	1332	-402	930
	AUSTRIA									
3.1	GOLDBERG K.	AT0802B	2006	FXD	3050	3100	0.011	1206	-738	468
					3000	3050	0.053	1276	-1214	61
					2950	3000	0.093	1564	-1803	-238
					2900	2950	0.112	1480	-2086	-606
					2850	2900	0.072	1246	-2225	-979
					2800	2850	0.037	1286	-2186	-900
					2750	2800	0.026	1583	-1956	-373
					2700	2750	0.146	1860	-2154	-294
					2650	2700	0.469	1565	-2915	-1350
					2600	2650	0.171	1671	-3246	-1575
					2550	2600	0.025	1626	-3218	-1592
					2500	2550	0.021	1675	-2460	-785
					2450	2500	0.066	1787	-2712	-925
					2400	2450	0.111	1566	-3740	-2174
					2350	2400	0.012	1664	-4674	-3010
					2350	3100	1.425	1577	-2655	-1077
3.2	GOLDBERG K.	AT0802B	2007	FXD	3050	3100	0.011	1259	-948	311
					3000	3050	0.053	1071	-853	219
					2950	3000	0.093	1188	-1421	-233
					2900	2950	0.112	1083	-2182	-1098
					2850	2900	0.072	889	-2593	-1704
					2800	2850	0.037	1096	-2396	-1300
					2750	2800	0.026	1421	-1556	-134
					2700	2750	0.146	1576	-1467	108
					2650	2700	0.469	1325	-2775	-1450
					2600	2650	0.171	1336	-3011	-1675
					2550	2600	0.025	1321	-2412	-1091
					2500	2550	0.021	1832	-2396	-564
					2450	2500	0.066	1659	-2510	-851

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE FROM	ALTITUDE TO	AREA KM²	BW MM	BS MM	BA MM
					2400	2450	0.111	1175	-3009	-1834
					2350	2400	0.012	948	-2813	-1865
					2350	3100	1.425	1296	-2402	-1106
3.3	GOLDBERG K.	AT0802B	2008	COM	3050	3100	0.011	1637	-1674	-37
					3000	3050	0.053	1985	-2080	-94
					2950	3000	0.093	2023	-2219	-196
					2900	2950	0.112	1846	-2286	-440
					2850	2900	0.072	1747	-2518	-771
					2800	2850	0.037	1849	-2382	-533
					2750	2800	0.026	2484	-2360	124
					2700	2750	0.146	2651	-2450	201
					2650	2700	0.469	2011	-2760	-749
					2600	2650	0.171	1974	-3128	-1154
					2550	2600	0.025	1556	-2176	-620
					2500	2550	0.021	2191	-2199	-8
					2450	2500	0.066	2460	-2871	-411
					2400	2450	0.111	2143	-3856	-1713
					2350	2400	0.012	1633	-4160	-2527
					2350	3100	1.42	2070	-2721	-651
3.4	GOLDBERG K.	AT0802B	2009	COM	3050	3100	0.011	1520	-1449	71
					3000	3050	0.053	1744	-1714	30
					2950	3000	0.093	1688	-1705	-18
					2900	2950	0.112	1644	-2159	-515
					2850	2900	0.072	1503	-2433	-930
					2800	2850	0.037	1694	-2198	-504
					2750	2800	0.026	2381	-2222	159
					2700	2750	0.146	2611	-2414	197
					2650	2700	0.469	1893	-2577	-684
					2600	2650	0.171	1708	-2658	-950
					2550	2600	0.025	1384	-2019	-635
					2500	2550	0.021	2020	-2169	-149
					2450	2500	0.066	2444	-2657	-213
					2400	2450	0.111	2279	-3390	-1112
					2350	2400	0.012	1830	-3809	-1979
					2350	3100	1.42	1933	-2475	-542
3.5	GOLDBERG K.	AT0802B	2010	COM	3050	3100	0.008	1468	-1461	7
					3000	3050	0.045	1380	-1344	36
					2950	3000	0.088	1495	-1406	89
					2900	2950	0.103	1462	-1690	-228
					2850	2900	0.065	1330	-2000	-670
					2800	2850	0.036	1304	-1927	-623
					2750	2800	0.018	1816	-1850	-34
					2700	2750	0.105	1912	-1919	-7
					2650	2700	0.346	1590	-2194	-604
					2600	2650	0.284	1388	-2907	-1519
					2550	2600	0.031	1587	-3304	-1717
					2500	2550	0.014	1797	-3103	-1307
					2450	2500	0.044	1855	-2204	-349
					2400	2450	0.092	2043	-3237	-1194
					2350	2400	0.038	1567	-3660	-2094
					2350	3100	1.316	1572	-2330	-758
4.1	HINTEREIS FERNER	AT0209	2006	FXD	3700	3750	0.006			-250
					3650	3700	0.024			-250
					3600	3650	0.028			-250
					3550	3600	0.02			-250
					3500	3550	0.022			-250
					3450	3500	0.082			-212

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE FROM	ALTITUDE TO	AREA KM²	BW MM	BS MM	BA MM
					3400	3450	0.131			-145
					3350	3400	0.259			-40
					3300	3350	0.388			3
					3250	3300	0.422			-169
					3200	3250	0.467			-368
					3150	3200	0.598			-467
					3100	3150	0.701			-643
					3050	3100	0.701			-816
					3000	3050	0.541			-1398
					2950	3000	0.493			-1553
					2900	2950	0.493			-1926
					2850	2900	0.461			-2394
					2800	2850	0.249			-2658
					2750	2800	0.409			-2860
					2700	2750	0.277			-3865
					2650	2700	0.22			-4411
					2600	2650	0.215			-4906
					2550	2600	0.123			-5360
					2500	2550	0.055			-6042
					2450	2500	0.016			-6896
					2400	2450	0			0
					2400	3750	7.401			-1516
4.2	HINTEREIS FERNER	AT0209	2007	FXD	3700	3750	0.005			-1250
					3650	3700	0.023			-967
					3600	3650	0.028			-798
					3550	3600	0.019			-765
					3500	3550	0.021			-855
					3450	3500	0.081			-751
					3400	3450	0.129			-673
					3350	3400	0.258			-495
					3300	3350	0.388			-537
					3250	3300	0.422			-702
					3200	3250	0.467			-807
					3150	3200	0.595			-815
					3100	3150	0.695			-917
					3050	3100	0.696			-1164
					3000	3050	0.53			-1764
					2950	3000	0.465			-2014
					2900	2950	0.475			-2174
					2850	2900	0.447			-2495
					2800	2850	0.243			-2577
					2750	2800	0.402			-2883
					2700	2750	0.272			-3969
					2650	2700	0.21			-4826
					2600	2650	0.188			-5207
					2550	2600	0.102			-5796
					2500	2550	0.04			-6764
					2450	2500	0.005			-7750
					2400	2450	0			0
					2400	3750	7.206			-1798
4.3	HINTEREIS FERNER	AT0209	2008	FXD	3700	3750	0.005			22
					3650	3700	0.023			-9
					3600	3650	0.028			-51
					3550	3600	0.019			69
					3500	3550	0.021			100
					3450	3500	0.081			26
					3400	3450	0.129			17
					3350	3400	0.258			142
					3300	3350	0.387			163

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE FROM	ALTITUDE TO	AREA KM²	BW MM	BS MM	BA MM
					3250	3300	0.421			-1
					3200	3250	0.464			-53
					3150	3200	0.589			-169
					3100	3150	0.688			-298
					3050	3100	0.687			-566
					3000	3050	0.514			-1099
					2950	3000	0.457			-1536
					2900	2950	0.468			-1822
					2850	2900	0.438			-2210
					2800	2850	0.235			-2458
					2750	2800	0.395			-2680
					2700	2750	0.27			-3475
					2650	2700	0.205			-4471
					2600	2650	0.184			-4651
					2550	2600	0.1			-5157
					2500	2550	0.035			-5873
					2450	2500	0.001			-6250
					2400	2450	0			0
					2400	3750	7.102			-1235
4.4	HINTEREIS FERNER	AT0209	2009	FXD	3700	3750	0.032			63
					3650	3700	0.023			81
					3600	3650	0.025			29
					3550	3600	0.086			168
					3500	3550	0.162			230
					3450	3500	0.295			315
					3400	3450	0.425			485
					3350	3400	0.463			355
					3300	3350	0.516			228
					3250	3300	0.697			213
					3200	3250	0.859			69
					3150	3200	0.803			-178
					3100	3150	0.639			-456
					3050	3100	0.626			-748
					3000	3050	0.604			-1038
					2950	3000	0.507			-1435
					2900	2950	0.404			-1932
					2850	2900	0.609			-2377
					2800	2850	0.346			-3230
					2750	2800	0.37			-3759
					2700	2750	0.209			-4265
					2650	2700	0.118			-4934
					2600	2650	0.077			-5709
					2550	2600	0.037			-3944
					2500	2550	0.004			
					2500	3750	6.96			-1182
4.5	HINTEREIS FERNER	AT0209	2010	FXD	3700	3750	0.005	1087	-1337	-250
					3650	3700	0.023	1087	-1186	-99
					3600	3650	0.028	1443	-1370	73
					3550	3600	0.019	1173	-1048	125
					3500	3550	0.021	858	-760	98
					3450	3500	0.081	813	-802	11
					3400	3450	0.129	1066	-1037	29
					3350	3400	0.254	1346	-1229	117
					3300	3350	0.383	1472	-1289	183
					3250	3300	0.417	1465	-1515	-50
					3200	3250	0.46	1290	-1562	-272
					3150	3200	0.574	1157	-1491	-334
					3100	3150	0.675	1129	-1638	-509
					3050	3100	0.652	1052	-1887	-835

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE FROM	TO	AREA KM²	BW MM	BS MM	BA MM
					3000	3050	0.496	946	-2158	-1212
					2950	3000	0.445	907	-2418	-1511
					2900	2950	0.447	883	-2868	-1985
					2850	2900	0.416	833	-3383	-2550
					2800	2850	0.223	734	-3508	-2774
					2750	2800	0.378	593	-3778	-3185
					2700	2750	0.257	407	-4425	-4018
					2650	2700	0.199	226	-5089	-4863
					2600	2650	0.169	174	-5503	-5329
					2550	2600	0.087	0	-6136	-6136
					2500	2550	0.02	0	-6670	-6670
					2500	3750	6.858			-820
5.1	JAMTAL F.	AT0106	2006	FXD	3100	3200	0.01	1010	-1260	-250
					3000	3100	0.261	1010	-1280	-260
					2900	3000	0.766	1070	-1300	-230
					2800	2900	0.713	1030	-1870	-840
					2700	2800	0.71	1030	-2460	-1430
					2600	2700	0.58	1050	-3100	-2050
					2500	2600	0.344	970	-4060	-3090
					2400	2500	0.095	770	-4790	-4020
					2400	3200	3.479	1030	-2430	-1290
5.2	JAMTAL F.	AT0106	2007	FXD	3100	3200	0.01	760	-1510	-750
					3000	3100	0.26	760	-1330	-570
					2900	3000	0.764	770	-1390	-620
					2800	2900	0.705	800	-1890	-1090
					2700	2800	0.707	840	-2180	-1340
					2600	2700	0.573	800	-3010	-2210
					2500	2600	0.332	760	-3740	-2980
					2400	2500	0.08	790	-4950	-4160
					2400	3200	3.431	790	-2230	-1439
5.3	JAMTAL F.	AT0106	2008	FXD	3100	3200	0.004	1430	-1680	-250
					3000	3100	0.227	1430	-1690	-264
					2900	3000	0.714	1470	-1700	-236
					2800	2900	0.693	1410	-2140	-734
					2700	2800	0.685	1570	-2600	-1028
					2600	2700	0.565	1570	-2860	-1288
					2500	2600	0.343	1410	-3790	-2385
					2400	2500	0.083	1380	-4570	-3186
					2400	3200	3.314	1480	-2461	-981
5.4	JAMTAL F.	AT0106	2009	FXD	3100	3200	0.004	1399	-1289	110
					3000	3100	0.227	1124	-1289	-165
					2900	3000	0.711	1331	-1566	-235
					2800	2900	0.689	1362	-1775	-413
					2700	2800	0.673	1428	-2346	-918
					2600	2700	0.549	1502	-3239	-1737
					2500	2600	0.33	1350	-3807	-2457
					2400	2500	0.068	1241	-4629	-3388
					2400	3200	3.251	1348	-2301	-953
5.5	JAMTAL F.	AT0106	2010	FXD	3100	3200	0.004	796	-1075	-279
					3000	3100	0.223	948	-1477	-529
					2900	3000	0.705	974	-1641	-667
					2800	2900	0.677	853	-1908	-1055
					2700	2800	0.666	980	-2378	-1398
					2600	2700	0.531	961	-3086	-2125
					2500	2600	0.302	938	-4128	-3190

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE FROM	TO	AREA KM²	BW MM	BS MM	BA MM
					2400	2500	0.063	912	-4430	-3518
					2400	3200	3.171	984	-1998	-1014
6.1	KESSELWAND FERNER	AT0226	2006	FXD	3450	3500	0.021			-767
					3400	3450	0.026			-1190
					3350	3400	0.046			-503
					3300	3350	0.258			84
					3250	3300	0.521			313
					3200	3250	0.83			-56
					3150	3200	0.785			-324
					3100	3150	0.517			-730
					3050	3100	0.398			-1273
					3000	3050	0.151			-2065
					2950	3000	0.107			-2524
					2900	2950	0.068			-3141
					2850	2900	0.024			-4466
					2800	2850	0.071			-4183
					2750	2800	0.028			-3750
					2700	2750	0			-4250
					2700	3500	3.851			-617
6.2	KESSELWAND FERNER	AT0226	2007	FXD	3450	3500	0.021			-501
					3400	3450	0.026			-331
					3350	3400	0.046			-806
					3300	3350	0.258			-85
					3250	3300	0.602			-38
					3200	3250	0.83			-279
					3150	3200	0.7			-523
					3100	3150	0.516			-836
					3050	3100	0.399			-1277
					3000	3050	0.151			-2542
					2950	3000	0.106			-3402
					2900	2950	0.06			-4215
					2850	2900	0.023			-5128
					2800	2850	0.063			-5547
					2750	2800	0.014			-6250
					2750	3500	3.815			-836
6.3	KESSELWAND FERNER	AT0226	2008	FXD	3450	3500	0.021			74
					3400	3450	0.026			28
					3350	3400	0.044			-97
					3300	3350	0.256			170
					3250	3300	0.601			212
					3200	3250	0.827			4
					3150	3200	0.7			-156
					3100	3150	0.515			-325
					3050	3100	0.403			-696
					3000	3050	0.144			-1864
					2950	3000	0.104			-3566
					2900	2950	0.054			-4148
					2850	2900	0.021			-5274
					2800	2850	0.056			-5250
					2750	2800	0.005			-5250
					2750	3500	3.777			-444
6.4	KESSELWAND FERNER	AT0226	2009	FXD	3450	3500	0.021			-250
					3400	3450	0.026			-250
					3350	3400	0.044			-69
					3300	3350	0.256			34
					3250	3300	0.599			92
					3200	3250	0.827			-168

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE FROM	TO	AREA KM²	BW MM	BS MM	BA MM
					3150	3200	0.7			-562
					3100	3150	0.515			-1135
					3050	3100	0.4			-1604
					3000	3050	0.141			-2607
					2950	3000	0.099			-4260
					2900	2950	0.042			-5125
					2850	2900	0.01			-5448
					2800	2850	0.035			-5250
					2750	2800	0			-5250
					2750	3500	3.715			-795
6.5	KESSELWAND FERNER	AT0226	2010	FXD	3450	3500	0.021			-250
					3400	3450	0.026			-250
					3350	3400	0.044			-124
					3300	3350	0.256			17
					3250	3300	0.599			21
					3200	3250	0.827			-183
					3150	3200	0.7			-601
					3100	3150	0.515			-917
					3050	3100	0.397			-1204
					3000	3050	0.133			-2214
					2950	3000	0.077			-3796
					2900	2950	0.033			-5005
					2850	2900	0.008			-5749
					2800	2850	0.023			-5750
					2800	3500	3.659			-99
7.1	KLEINFLEISS K.	AT0801	2006	FXD	3050	3100	0.001	897	-896	1
					3000	3050	0.038	1066	-1483	-416
					2950	3000	0.102	1311	-1793	-482
					2900	2950	0.13	1415	-1722	-307
					2850	2900	0.243	1467	-1570	-103
					2800	2850	0.24	1144	-2161	-1017
					2750	2800	0.11	779	-2427	-1648
					2700	2750	0.008	-18	-1990	-2008
					2700	3100	0.849	1234	-1889	-655
7.2	KLEINFLEISS K.	AT0801	2007	FXD	3050	3100	0.001	758	-273	485
					3000	3050	0.038	856	-890	-34
					2950	3000	0.102	932	-1462	-529
					2900	2950	0.13	1116	-1604	-488
					2850	2900	0.243	1245	-1436	-191
					2800	2850	0.24	907	-2474	-1567
					2750	2800	0.11	595	-2983	-2388
					2700	2750	0.008	340	-3042	-2702
					2700	3100	0.832	989	-1935	-946
7.3	KLEINFLEISS K.	AT0801	2008	COM	3050	3100	0.001	1846	-1496	351
					3000	3050	0.038	2198	-2093	104
					2950	3000	0.102	2055	-2409	-354
					2900	2950	0.13	1823	-2193	-371
					2850	2900	0.243	2175	-1999	176
					2800	2850	0.24	1820	-2410	-590
					2750	2800	0.11	1280	-2745	-1464
					2700	2750	0.008	957	-2383	-1426
					2700	3100	0.831	1534	-2157	-623
7.4	KLEINFLEISS K.	AT0801	2009	COM	3050	3100	0.001	1846	-1496	351
					3000	3050	0.038	2198	-2093	104
					2950	3000	0.102	2055	-2409	-354
					2900	2950	0.13	1823	-2193	-371

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE FROM	ALTITUDE TO	AREA KM^2	BW MM	BS MM	BA MM
					2850	2900	0.243	2175	-1999	176
					2800	2850	0.24	1820	-2410	-590
					2750	2800	0.11	1280	-2745	-1464
					2700	2750	0.008	957	-2383	-1426
					2700	3100	0.821	1887	-2290	-403
7.5	KLEINFLEISS K.	AT0801	2010	COM	3050	3100	0	1030	-914	116
					3000	3050	0.033	1267	-1169	98
					2950	3000	0.089	1412	-1353	59
					2900	2950	0.111	1373	-1436	-63
					2850	2900	0.213	1605	-1398	206
					2800	2850	0.242	1364	-1497	-133
					2750	2800	0.124	1068	-2340	-1272
					2700	2750	0.018	755	-2731	-1975
					2700	3100	0.831	1371	-1587	-216
8.1	PASTERZE	AT0704	2006	FXD	3500	3600	0.003			62
					3400	3500	0.191			112
					3300	3400	0.704			196
					3200	3300	1.679			235
					3100	3200	2.868			307
					3000	3100	3.089			217
					2900	3000	2.383			-258
					2800	2900	1.372			-1650
					2700	2800	0.853			-1626
					2600	2700	0.583			-1954
					2500	2600	0.434			-3032
					2400	2500	0.543			-4515
					2300	2400	1.138			-4892
					2200	2300	1.242			-4629
					2100	2200	0.62			-5457
					2000	2100	0.007			-4039
					2000	3600	17.711			-1232
8.2	PASTERZE	AT0704	2007	FXD	3500	3600	0.003			226
					3400	3500	0.191			188
					3300	3400	0.704			267
					3200	3300	1.679			312
					3100	3200	2.868			290
					3000	3100	3.089			115
					2900	3000	2.383			-305
					2800	2900	1.372			-1621
					2700	2800	0.853			-1840
					2600	2700	0.583			-2527
					2500	2600	0.434			-3434
					2400	2500	0.543			-4751
					2300	2400	1.138			-5064
					2200	2300	1.242			-5179
					2100	2200	0.62			-5845
					2000	2100	0.007			-4115
					2000	3600	17.711			-1355
8.3	PASTERZE	AT0704	2008	COM	3500	3600	0.003			-87
					3400	3500	0.191			-111
					3300	3400	0.704			-102
					3200	3300	1.679			-168
					3100	3200	2.868			-122
					3000	3100	3.089			-229
					2900	3000	2.383			-438
					2800	2900	1.372			-1835
					2700	2800	0.853			-2274

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE FROM	ALTITUDE TO	AREA KM²	BW MM	BS MM	BA MM
					2600	2700	0.583			-2727
					2500	2600	0.434			-3051
					2400	2500	0.543			-3814
					2300	2400	1.138			-4266
					2200	2300	1.242			-4408
					2100	2200	0.62			-4662
					2000	2100	0.007			-2760
					2000	3600	17.711			-1412
8.4	PASTERZE	AT0704	2009	COM	3500	3600	0.003			-1
					3400	3500	0.191			51
					3300	3400	0.704			125
					3200	3300	1.679			223
					3100	3200	2.868			601
					3000	3100	3.089			690
					2900	3000	2.383			-69
					2800	2900	1.372			-1861
					2700	2800	0.853			-2360
					2600	2700	0.583			-2307
					2500	2600	0.434			-2737
					2400	2500	0.543			-4061
					2300	2400	1.138			-4644
					2200	2300	1.242			-4813
					2100	2200	0.62			-5489
					2000	2100	0.007			-3129
					2000	3600	17.711			-1120
8.5	PASTERZE	AT0704	2010	COM	3500	3600	0.003			56
					3400	3500	0.191			102
					3300	3400	0.704			176
					3200	3300	1.679			291
					3100	3200	2.868			474
					3000	3100	3.089			689
					2900	3000	2.383			202
					2800	2900	1.372			-1703
					2700	2800	0.853			-2294
					2600	2700	0.583			-2167
					2500	2600	0.434			-2781
					2400	2500	0.543			-3913
					2300	2400	1.138			-4156
					2200	2300	1.242			-3980
					2100	2200	0.62			-5041
					2000	2100	0.007			-3935
					2000	3600	17.711			-910
9.1	VERNAGT FERNER	AT0211	2006	FXD	3600	3650	0.002			3
					3550	3600	0.006			33
					3500	3550	0.014			94
					3450	3500	0.157			162
					3400	3450	0.186			45
					3350	3400	0.21			22
					3300	3350	0.374			12
					3250	3300	0.855			39
					3200	3250	0.928			-100
					3150	3200	1.139			-323
					3100	3150	1.248			-679
					3050	3100	1.072			-1247
					3000	3050	0.933			-1690
					2950	3000	0.566			-2256
					2900	2950	0.415			-2706
					2850	2900	0.171			-3080

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE FROM	TO	AREA KM²	BW MM	BS MM	BA MM
					2800	2850	0.075			-3647
					2750	2800	0.009			-3382
					2750	3650	8.359	791	-1673	-882
9.2	VERNAGT FERNER	AT0211	2007	FXD	3600	3650	0			0
					3550	3600	0.005			75
					3500	3550	0.013			-2
					3450	3500	0.153			148
					3400	3450	0.182			66
					3350	3400	0.214			18
					3300	3350	0.365			26
					3250	3300	0.843			-20
					3200	3250	0.901			-190
					3150	3200	1.121			-413
					3100	3150	1.207			-769
					3050	3100	1.068			-1312
					3000	3050	0.928			-1793
					2950	3000	0.572			-2500
					2900	2950	0.397			-3041
					2850	2900	0.137			-3083
					2800	2850	0.061			-3645
					2750	2800	0.005			-3938
					2750	3650	8.172	491	-1457	-966
9.3	VERNAGT FERNER	AT0211	2008	FXD	3550	3600	0.005			-20
					3500	3550	0.013			-4
					3450	3500	0.153			145
					3400	3450	0.182			67
					3350	3400	0.214			37
					3300	3350	0.365			18
					3250	3300	0.843			-7
					3200	3250	0.901			-136
					3150	3200	1.121			-352
					3100	3150	1.207			-601
					3050	3100	1.068			-1097
					3000	3050	0.928			-1588
					2950	3000	0.572			-2211
					2900	2950	0.397			-2792
					2850	2900	0.137			-3168
					2800	2850	0.061			-3549
					2750	2800	0.005			-3531
					2750	3600	8.172	976	-1819	-843
9.4	VERNAGT FERNER	AT0211	2009	FXD	3550	3600	0.005			-27
					3500	3550	0.013			-16
					3450	3500	0.153			166
					3400	3450	0.18			41
					3350	3400	0.206			24
					3300	3350	0.363			-25
					3250	3300	0.843			-81
					3200	3250	0.901			-273
					3150	3200	1.121			-511
					3100	3150	1.207			-811
					3050	3100	1.068			-1210
					3000	3050	0.928			-1662
					2950	3000	0.572			-2329
					2900	2950	0.397			-2868
					2850	2900	0.137			-3221
					2800	2850	0.061			-3602
					2750	2800	0.005			-3551
					2750	3600	8.161	1072	-2031	-959

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE FROM	TO	AREA KM²	BW MM	BS MM	BA MM
9.5	VERNAGT FERNER	AT0211	2010	FXD	3600	3650	0			0
					3550	3600	0.004			66
					3500	3550	0.011			103
					3450	3500	0.147			217
					3400	3450	0.174			127
					3350	3400	0.207			43
					3300	3350	0.34			48
					3250	3300	0.814			91
					3200	3250	0.891			-67
					3150	3200	1.111			-233
					3100	3150	1.159			-511
					3050	3100	1.034			-916
					3000	3050	0.911			-1376
					2950	3000	0.572			-1875
					2900	2950	0.389			-2333
					2850	2900	0.118			-2861
					2800	2850	0.035			-3143
					2750	2800	0			-3113
					2750	3650	7.916	146	-927	-680
10.1	WURTEN K.	AT0804	2006	FXD	3100	3150	0.003	1441	-1422	19
					3050	3100	0.032	1557	-1654	-97
					3000	3050	0.073	1420	-1636	-216
					2950	3000	0.096	1384	-1693	-309
					2900	2950	0.065	1423	-1811	-388
					2850	2900	0.081	1385	-1601	-216
					2800	2850	0.079	1270	-1536	-266
					2750	2800	0.008	1273	-1599	-326
					2700	2750	0.045	1749	-1998	-249
					2650	2700	0.157	1644	-2074	-430
					2600	2650	0.123	1372	-3330	-1958
					2550	2600	0.056	1194	-4498	-3304
					2500	2550	0.006	1471	-5253	-3782
					2500	3150	0.824	1441	-2218	-778
10.2	WURTEN K.	AT0804	2007	FXD	3100	3150	0.003	608	-1594	-986
					3050	3100	0.032	937	-1474	-537
					3000	3050	0.073	971	-1447	-475
					2950	3000	0.096	1073	-1641	-568
					2900	2950	0.065	1102	-1648	-546
					2850	2900	0.081	1079	-1577	-498
					2800	2850	0.079	1012	-1664	-652
					2750	2800	0.008	766	-1082	-316
					2700	2750	0.045	1147	-2242	-1096
					2650	2700	0.157	990	-2491	-1501
					2600	2650	0.123	677	-2985	-2308
					2550	2600	0.056	472	-3414	-2942
					2500	2550	0.005	574	-3388	-2814
					2500	3150	0.824	936	-2136	-1201
10.3	WURTEN K.	AT0804	2008	COM	3100	3150	0.003	1672	-2240	-568
					3050	3100	0.032	1728	-2291	-564
					3000	3050	0.073	1813	-2526	-713
					2950	3000	0.096	1952	-2521	-569
					2900	2950	0.065	1773	-2315	-541
					2850	2900	0.081	1681	-2485	-804
					2800	2850	0.079	1705	-2295	-591
					2750	2800	0.008	1843	-1528	315
					2700	2750	0.045	2170	-2053	116
					2650	2700	0.157	2094	-2707	-612
					2600	2650	0.123	1477	-3453	-1976

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE FROM	ALTITUDE TO	AREA KM²	BW MM	BS MM	BA MM
					2550	2600	0.056	1265	-3958	-2692
					2500	2550	0.006	1773	-4857	-3085
					2500	3150	0.82	1784	-2722	-938
10.4	WURTEN K.	AT0804	2009	COM	3100	3150	0.003	1535	-1735	-201
					3050	3100	0.032	1764	-2203	-439
					3000	3050	0.073	1813	-2175	-362
					2950	3000	0.096	1781	-2296	-515
					2900	2950	0.065	1924	-2248	-324
					2850	2900	0.081	1902	-2209	-307
					2800	2850	0.079	1852	-1854	-2
					2750	2800	0.008	2046	-1774	271
					2700	2750	0.045	2582	-2437	145
					2650	2700	0.157	2632	-2874	-242
					2600	2650	0.123	2133	-3508	-1374
					2550	2600	0.056	1930	-4267	-2338
					2500	2550	0.006	2233	-5024	-2791
					2500	3150	0.82	2086	-2671	-584
10.5	WURTEN K.	AT0804	2010	COM	3100	3150	0	774	-714	60
					3050	3100	0.033	851	-1441	-590
					3000	3050	0.064	1124	-1459	-335
					2950	3000	0.094	1316	-1734	-418
					2900	2950	0.066	1231	-1497	-266
					2850	2900	0.069	1240	-1426	-186
					2800	2850	0.085	1080	-1180	-101
					2750	2800	0.012	2312	-2169	143
					2700	2750	0.024	2376	-2324	52
					2650	2700	0.129	1669	-2023	-355
					2600	2650	0.121	1452	-2445	-993
					2550	2600	0.066	1244	-2812	-1568
					2500	2550	0.007	1622	-3840	-2218
					2500	3150	0.77	1366	-1885	-519
	BOLIVIA									
11.1	CHACALTAYA	BO5180	2006	OTH	5325	5350	0.002			-557
					5300	5325	0.003			-624
					5275	5300	0			-737
					5250	5275	0			-2215
					5225	5250	0.002			-1805
					5200	5225	0			-1254
					5200	5350	0.007			-1199
11.2	CHACALTAYA	BO5180	2007	OTH	5325	5350	0.001			-1185
					5300	5325	0.001			-1124
					5250	5275	0			-3198
					5225	5250	0.001			-2338
					5200	5225	0			-312
					5200	5350	0.003			-1652
11.3	CHACALTAYA	BO5180	2008	OTH	5325	5350	0.001			-971
					5300	5325	0			-808
					5225	5250	0			-2868
					5225	5350	0.001			-1549
12.1	CHARQUINI SUR	BO	2006	FXD	5200	5250	0.064			57
					5150	5200	0.077			16
					5100	5150	0.115			-8
					5050	5100	0.066			-126
					4950	5050	0.04			-315
					4950	5250	0.363			-376

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE		AREA	BW	BS	BA
					FROM	TO	KM²	MM	MM	MM
12.2	CHARQUINI SUR	BO	2007	FXD	5200	5250	0.064			64
					5150	5200	0.076			-50
					5100	5150	0.116			-113
					5050	5100	0.061			-245
					4950	5050	0.02			-138
					4950	5250	0.345			-482
12.3	CHARQUINI SUR	BO	2008	FXD	5200	5300	0.063			683
					5150	5200	0.076			516
					5100	5150	0.115			303
					5050	5100	0.06			-156
					4950	5050	0.025			-683
					4950	5300	0.339			161
12.4	CHARQUINI SUR	BO	2009	FXD	5200	5300	0.057			68
					5150	5200	0.072			-341
					5100	5150	0.111			-697
					5050	5100	0.056			-385
					4950	5050	0.023			-262
					4950	5300	0.319			-1617
12.5	CHARQUINI SUR	BO	2010	FXD	5200	5300	0.057			97
					5150	5200	0.072			-797
					5100	5150	0.111			-1122
					5050	5100	0.056			-737
					4950	5050	0.023			-361
					4950	5300	0.319			-2921
13.1	ZONGO	BO5150	2006	FXD	5900	6000	0.036			12
					5800	5900	0.078			27
					5700	5800	0.139			42
					5600	5700	0.235			61
					5500	5600	0.262			58
					5400	5500	0.234			50
					5300	5400	0.179			37
					5200	5300	0.159			32
					5100	5200	0.221			-64
					5000	5100	0.276			-268
					4900	5000	0.063			-183
					4900	6000	1.881			-197
13.2	ZONGO	BO5150	2007	FXD	5900	6000	0.036			23
					5800	5900	0.078			50
					5700	5800	0.139			89
					5600	5700	0.235			119
					5500	5600	0.262			111
					5400	5500	0.234			71
					5300	5400	0.179			33
					5200	5300	0.159			-8
					5100	5200	0.223			-61
					5000	5100	0.269			-390
					4900	5000	0.058			-210
					4900	6000	1.871			-173
13.3	ZONGO	BO5150	2008	FXD	5900	6000	0.036			934
					5800	5900	0.079			934
					5700	5800	0.139			934
					5600	5700	0.235			870
					5500	5600	0.262			856
					5400	5500	0.234			751
					5300	5400	0.179			647

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE		AREA	BW	BS	BA
					FROM	TO	KM²	MM	MM	MM
					5200	5300	0.159			437
					5100	5200	0.223			19
					5000	5100	0.269			-1200
					4900	5000	0.058			-4354
					4900	6000	1.871			257
13.4	ZONGO	BO5150	2009	FXD	5900	6000	0.062			15
					5800	5900	0.105			28
					5700	5800	0.187			51
					5600	5700	0.261			69
					5500	5600	0.296			77
					5400	5500	0.219			29
					5300	5400	0.156			-4
					5200	5300	0.138			-48
					5100	5200	0.264			-229
					5000	5100	0.198			-361
					4900	5000	0.04			-172
					4900	6000	1.926			-44
13.5	ZONGO	BO5150	2010	FXD	5900	6000	0.062			27
					5800	5900	0.105			46
					5700	5800	0.187			82
					5600	5700	0.261			115
					5500	5600	0.296			128
					5400	5500	0.219			38
					5300	5400	0.156			-13
					5200	5300	0.138			-83
					5100	5200	0.26			-428
					5000	5100	0.19			-471
					4900	5000	0.034			-179
					4900	6000	1.91			-64
	CANADA									
14.1	WHITE	CA2340	2006	COM	1700	1782	0.15			375
					1600	1700	0.46			375
					1500	1600	1.76			375
					1400	1500	4.25			336
					1300	1400	6.25			263
					1200	1300	5.85			172
					1100	1200	5.16			64
					1000	1100	3.59			-62
					900	1000	2.66			-204
					800	900	2.02			-361
					700	800	1.41			-532
					600	700	1.49			-718
					500	600	0.98			-917
					400	500	0.8			-1129
					300	400	1.1			-1352
					200	300	0.92			-1586
					100	200	0.52			-1826
					56	100	0.02			-1904
					56	1782	39.38			-93
14.2	WHITE	CA2340	2007	COM	1700	1782	0.15			378
					1600	1700	0.46			378
					1500	1600	1.76			375
					1400	1500	4.25			242
					1300	1400	6.25			7
					1200	1300	5.85			-272
					1100	1200	5.16			-585
					1000	1100	3.59			-924

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE		AREA	BW	BS	BA
					FROM	TO	KM²	MM	MM	MM
					900	1000	2.66			-1277
					800	900	2.02			-1636
					700	800	1.41			-1991
					600	700	1.49			-2332
					500	600	0.98			-2649
					400	500	0.8			-2932
					300	400	1.1			-3173
					200	300	0.92			-3360
					100	200	0.52			-3483
					56	100	0.02			-3507
					56	1782	39.38			-818
14.3	WHITE	CA2340	2008		1700	1782	0.15			365
					1600	1700	0.46			365
					1500	1600	1.76			359
					1400	1500	4.25			153
					1300	1400	6.25			-147
					1200	1300	5.85			-446
					1100	1200	5.16			-740
					1000	1100	3.59			-1027
					900	1000	2.66			-1301
					800	900	2.02			-1560
					700	800	1.41			-1800
					600	700	1.49			-2018
					500	600	0.98			-2209
					400	500	0.8			-2370
					300	400	1.1			-2497
					200	300	0.92			-2587
					100	200	0.52			-2636
					85	100	0.02			-2645
					85	1782	39.38			-817
14.4	WHITE	CA2340	2009		1700	1782	0.15			309
					1600	1700	0.46			309
					1500	1600	1.76			306
					1400	1500	4.25			204
					1300	1400	6.25			28
					1200	1300	5.85			-180
					1100	1200	5.16			-411
					1000	1100	3.59			-660
					900	1000	2.66			-920
					800	900	2.02			-1183
					700	800	1.41			-1443
					600	700	1.49			-1693
					500	600	0.98			-1927
					400	500	0.8			-2137
					300	400	1.1			-2318
					200	300	0.92			-2461
					100	200	0.52			-2560
					85	100	0.02			-2587
					89	1782	39.38			-580
14.5	WHITE	CA2340	2010		1700	1782	0.15			381
					1600	1700	0.46			381
					1500	1600	1.76			381
					1400	1500	4.25			352
					1300	1400	6.25			278
					1200	1300	5.85			167
					1100	1200	5.16			24
					1000	1100	3.59			-147
					900	1000	2.66			-342

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE		AREA	BW	BS	BA
					FROM	TO	KM^2	MM	MM	MM
					800	900	2.02			-557
					700	800	1.41			-788
					600	700	1.49			-1031
					500	600	0.98			-1281
					400	500	0.8			-1534
					300	400	1.1			-1786
					200	300	0.92			-2033
					100	200	0.52			-2270
					85	100	0.02			-2354
					85	1782	39.38			-188
	CHIINA									
15.1	URUMQI GLACIER NO. 1	CN0010	2006	FXD	4400	4484	0.031			251
					4350	4400	0.033			306
					4300	4350	0.044			324
					4250	4300	0.035			330
					4200	4267	0.067			356
					4150	4200	0.102			307
					4100	4150	0.133			112
					4050	4100	0.207			-179
					4000	4050	0.259			-520
					3950	4000	0.229			-983
					3900	3950	0.25			-1319
					3850	3900	0.143			-1964
					3800	3850	0.087			-2685
					3742	3800	0.057			-3392
					3742	4484	1.677			-774
15.2	URUMQI GLACIER NO. 1	CN0010	2007	FXD	4400	4484	0.031			234
					4350	4400	0.033			288
					4300	4350	0.044			324
					4250	4300	0.035			353
					4200	4267	0.067			370
					4150	4200	0.102			295
					4100	4150	0.133			119
					4050	4100	0.207			-222
					4000	4050	0.259			-350
					3950	4000	0.229			-767
					3900	3950	0.25			-1162
					3850	3900	0.143			-1661
					3800	3850	0.087			-2067
					3742	3800	0.057			-3305
					3742	4484	1.677			-642
15.3	URUMQI GLACIER NO. 1	CN0010	2008	FXD	4450	4484	0.008	201	-165	36
					4400	4450	0.021	224	-166	58
					4350	4400	0.033	251	-169	82
					4300	4350	0.043	280	-185	95
					4250	4300	0.035	312	-199	113
					4200	4250	0.063	293	-77	216
					4150	4200	0.112	276	-217	59
					4100	4150	0.129	284	-506	-222
					4050	4100	0.207	275	-836	-561
					4000	4050	0.261	239	-992	-753
					3950	4000	0.23	134	-1190	-1056
					3900	3950	0.25	49	-1444	-1395
					3850	3900	0.143	-99	-1795	-1894
					3800	3850	0.087	-328	-2180	-2508
					3742	3800	0.056	-793	-2634	-3427
					3742	4484	1.677	121	-1052	-931

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE		AREA	BW	BS	BA
					FROM	TO	KM²	MM	MM	MM
15.4	URUMQI GLACIER NO. 1	CN0010	2009	FXD	4400	4484	0.008	193	318	511
					4350	4400	0.025	214	346	560
					4300	4350	0.047	240	381	621
					4250	4300	0.04	266	415	681
					4200	4250	0.055	291	442	733
					4150	4200	0.129	286	357	643
					4100	4150	0.2	285	214	499
					4050	4100	0.241	280	165	445
					4000	4050	0.239	274	-41	233
					3950	4000	0.191	280	-424	-144
					3900	3950	0.202	254	-595	-341
					3850	3900	0.157	230	-829	-599
					3800	3850	0.077	151	-1383	-1232
					3743	3800	0.033	-279	-2033	-2312
					3743	4484	1.645	254	-191	63
15.5	URUMQI GLACIER NO. 1	CN0010	2010	FXD	4400	4484	0.008	115	-501	-386
					4350	4400	0.025	127	-517	-390
					4300	4350	0.047	142	-542	-400
					4250	4300	0.04	157	-569	-412
					4200	4250	0.055	172	-645	-473
					4150	4200	0.129	168	-843	-675
					4100	4150	0.2	168	-1033	-865
					4050	4100	0.241	162	-1252	-1090
					4000	4050	0.239	142	-1463	-1321
					3950	4000	0.191	120	-1612	-1492
					3900	3950	0.202	67	-1833	-1766
					3850	3900	0.157	-1	-2053	-2054
					3800	3850	0.077	-140	-2404	-2544
					3743	3800	0.033	-417	-2941	-3358
					3743	4484	1.645	102	-1429	-1327
16.1	URUMQI NO. 1 E-BRANCH	CN0001	2006	FXD	4150	4267	0.101			335
					4100	4150	0.081			124
					4050	4100	0.096			-71
					4000	4050	0.172			-381
					3950	4000	0.163			-691
					3900	3950	0.211			-1131
					3850	3900	0.118			-1800
					3800	3850	0.087			-2685
					3742	3800	0.057			-3392
					3742	4267	1.086			-920
16.2	URUMQI NO. 1 E-BRANCH	CN0001	2007	FXD	4150	4267	0.101			349
					4100	4150	0.081			250
					4050	4100	0.096			100
					4000	4050	0.172			-108
					3950	4000	0.163			-462
					3900	3950	0.211			-977
					3850	3900	0.118			-1427
					3800	3850	0.087			-2068
					3742	3800	0.057			-3305
					3742	4267	1.086			-696
16.3	URUMQI NO. 1 E-BRANCH	CN0001	2008	FXD	4200	4267	0.032	243	73	316
					4150	4200	0.077	244	-135	109
					4100	4150	0.077	248	-404	-156
					4050	4100	0.094	248	-650	-402
					4000	4050	0.171	225	-835	-610
					3950	4000	0.163	189	-1029	-840
					3900	3950	0.211	108	-1358	-1250

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE		AREA	BW	BS	BA
					FROM	TO	KM²	MM	MM	MM
					3850	3900	0.118	-1	-1716	-1717
					3800	3850	0.087	-328	-2180	-2508
					3742	3800	0.056	-793	-2634	-3427
					3742	4267	1.086	84	-1130	-1046
16.4	URUMQI NO. 1 E-BRANCH	CN0001	2009	FXD	4200	4267	0.022	286	432	718
					4150	4200	0.088	279	321	600
					4100	4150	0.127	281	182	463
					4050	4100	0.132	291	77	368
					4000	4050	0.141	290	-117	173
					3950	4000	0.137	320	-305	15
					3900	3950	0.166	306	-455	-149
					3850	3900	0.144	272	-741	-469
					3800	3850	0.077	151	-1383	-1232
					3743	3800	0.033	-279	-2033	-2312
					3743	4267	1.068	269	-326	-57
16.5	URUMQI NO. 1 E-BRANCH	CN0001	2010	FXD	4200	4267	0.022	169	-695	-526
					4150	4200	0.088	164	-880	-716
					4100	4150	0.127	165	-1056	-891
					4050	4100	0.132	171	-1208	-1037
					4000	4050	0.141	168	-1409	-1241
					3950	4000	0.137	184	-1498	-1314
					3900	3950	0.166	124	-1738	-1614
					3850	3900	0.144	31	-1999	-1968
					3800	3850	0.077	-140	-2404	-2544
					3743	3800	0.033	-417	-2941	-3358
					3743	4267	1.068	105	-1546	-1441
17.1	URUMQI NO. 1 W-BRANCH	CN0002	2006	FXD	4400	4484	0.031			251
					4350	4400	0.033			306
					4300	4350	0.044			324
					4250	4300	0.035			330
					4200	4250	0.032			339
					4150	4200	0.036			281
					4100	4150	0.052			94
					4050	4100	0.111			-269
					4000	4050	0.087			-785
					3950	4000	0.066			-1701
					3900	3950	0.039			-2356
					3845	3900	0.025			-2780
					3845	4484	0.591			-506
17.2	URUMQI NO. 1 W-BRANCH	CN0002	2007	FXD	4400	4484	0.031			234
					4350	4400	0.033			288
					4300	4350	0.044			324
					4250	4300	0.035			353
					4200	4250	0.032			372
					4150	4200	0.036			192
					4100	4150	0.052			-78
					4050	4100	0.111			-492
					4000	4050	0.087			-814
					3950	4000	0.066			-1522
					3900	3950	0.039			-2184
					3845	3900	0.025			-2835
					3845	4484	0.591			-542
17.3	URUMQI NO. 1 W-BRANCH	CN0002	2008	FXD	4450	4484	0.008	201	-165	36
					4400	4450	0.021	224	-166	58
					4350	4400	0.033	251	-169	82
					4300	4350	0.043	280	-185	95

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE FROM	ALTITUDE TO	AREA	BW	BS	BA
							KM²	MM	MM	MM
					4250	4300	0.035	312	-199	113
					4200	4250	0.031	344	-231	113
					4150	4200	0.035	347	-399	-52
					4100	4150	0.052	338	-657	-319
					4050	4100	0.113	298	-992	-694
					4000	4050	0.09	266	-1292	-1026
					3950	4000	0.067	0	-1583	-1583
					3900	3950	0.039	-269	-1913	-2182
					3845	3900	0.025	-562	-2170	-2732
					3845	4484	0.591	190	-909	-719
17.4	URUMQI NO. 1 W-BRANCH	CN0002	2009	FXD	4400	4484	0.008	193	318	511
					4350	4400	0.025	214	346	560
					4300	4350	0.047	240	381	621
					4250	4300	0.04	266	415	681
					4200	4250	0.032	295	449	744
					4150	4200	0.042	301	433	734
					4100	4150	0.073	294	269	563
					4050	4100	0.109	267	271	538
					4000	4050	0.098	250	72	322
					3950	4000	0.054	180	-729	-549
					3900	3950	0.036	11	-1240	-1229
					3845	3900	0.013	-223	-1776	-1999
					3845	4484	0.577	236	53	289
17.5	URUMQI NO. 1 W-BRANCH	CN0002	2010	FXD	4400	4484	0.008	115	-501	-386
					4350	4400	0.025	127	-517	-390
					4300	4350	0.047	142	-542	-400
					4250	4300	0.04	157	-569	-412
					4200	4250	0.032	174	-611	-437
					4150	4200	0.042	178	-768	-590
					4100	4150	0.073	173	-992	-819
					4050	4100	0.109	151	-1305	-1154
					4000	4050	0.098	104	-1540	-1436
					3950	4000	0.054	-41	-1902	-1943
					3900	3950	0.036	-197	-2272	-2469
					3845	3900	0.013	-352	-2636	-2988
					3845	4484	0.577	97	-1213	-1116
	C.I.S.									
18.1	DJANKUAT	SU3010	2006	COM	3600	3760	0.047	1530	-1270	260
					3500	3600	0.359	2370	-1660	710
					3400	3500	0.346	2030	-1990	40
					3300	3400	0.355	2340	-2270	70
					3200	3300	0.439	2870	-2930	-60
					3100	3200	0.359	2620	-3300	-680
					3000	3100	0.282	2450	-4050	-1600
					2900	3000	0.277	1880	-4970	-3090
					2800	2900	0.187	1550	-5130	-3580
					2700	2800	0.086	1260	-4620	-3360
					2700	3760	2.737	2290	-3090	-800
18.2	DJANKUAT	SU3010	2007	COM	3600	3780	0.077	1410	1310	100
					3500	3600	0.342	2180	1830	350
					3400	3500	0.331	1980	2310	-330
					3300	3400	0.351	1920	2940	-1020
					3200	3300	0.434	2240	3940	-1700
					3100	3200	0.355	1920	4280	-2360
					3000	3100	0.288	2000	5010	-3010
					2900	3000	0.261	1690	6430	-4740
					2800	2900	0.159	1570	6850	-5280

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE FROM	TO	AREA KM²	BW MM	BS MM	BA MM
					2710	2800	0.09	1610	8100	-6490
					2710	3780	2.688	1950	3960	-2010
19.1	GARABASHI	SU3031	2008	STR	4600	5000	0	280	-20	260
					4500	4600	0	380	-260	120
					4400	4500	0	430	-340	90
					4300	4400	0	470	-410	60
					4200	4300	0	630	-450	180
					4100	4200	0	950	-510	440
					4000	4100	0	1870	-620	1250
					3900	4000	0	2020	-1150	870
					3800	3900	0	1450	-2110	-660
					3700	3800	0	1090	-2640	-1550
					3600	3700	0	1050	-3200	-2150
					3500	3600	0	1290	-3730	-2440
					3400	3500	0	1250	-4350	-3100
					3300	3400	0	1110	-4890	-3780
					3300	5000	4.422	1230	-1890	-660
19.2	GARABASHI	SU3031	2009	STR	4600	5000	0	150	-10	140
					4500	4600	0	240	-120	120
					4400	4500	0	300	-190	110
					4300	4400	0	320	-240	80
					4200	4300	0	450	-290	160
					4100	4200	0	660	-330	330
					4000	4100	0	1100	-310	790
					3900	4000	0	1420	-830	590
					3800	3900	0	1090	-1670	-580
					3700	3800	0	1020	-2300	-1280
					3600	3700	0	1060	-2920	-1860
					3500	3600	0	1260	-3360	-2100
					3400	3500	0	1140	-3880	-2740
					3300	3400	0	810	-4290	-3480
					3300	5000	4.422	940	-1570	-630
19.3	GARABASHI	SU3031	2008	STR	4600	5000	0	280	0	280
					4500	4600	0	380	-120	260
					4400	4500	0	420	-180	240
					4300	4400	0	500	-240	260
					4200	4300	0	680	-300	380
					4100	4200	0	920	-350	570
					4000	4100	0	1530	-320	1210
					3900	4000	0	1920	-800	1120
					3800	3900	0	1410	-1670	-260
					3700	3800	0	1070	-2300	-1230
					3600	3700	0	1060	-3000	-1940
					3500	3600	0	1250	-3440	-2190
					3400	3500	0	1210	-3980	-2770
					3300	3400	0	1060	-4350	-3290
					3300	5000	4.422	1170	-1590	-420
19.4	GARABASHI	SU3031	2009	STR	4600	5000	0	140	0	140
					4500	4600	0	360	-80	280
					4400	4500	0	450	-140	310
					4300	4400	0	490	-210	280
					4200	4300	0	600	-240	360
					4100	4200	0	750	-290	460
					4000	4100	0	1140	-250	890
					3900	4000	0	1360	-610	750
					3800	3900	0	1020	-1280	-260
					3700	3800	0	860	-1850	-990

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE FROM	TO	AREA KM²	BW MM	BS MM	BA MM
					3600	3700	0	900	-2380	-1480
					3500	3600	0	1070	-2850	-1780
					3400	3500	0	1030	-3270	-2240
					3300	3400	0	730	-3530	-2800
					3300	5000	4.422	900	-1270	-370
19.5	GARABASHI	SU3031	2010	STR	4600	5000	0	230	0	230
					4500	4600	0	290	-170	120
					4400	4500	0	300	-310	-10
					4300	4400	0	300	-430	-130
					4200	4300	0	630	-500	130
					4100	4200	0	1220	-610	610
					4000	4100	0	1960	-880	1080
					3900	4000	0	1770	-1550	220
					3800	3900	0	1340	-2880	-1540
					3700	3800	0	1050	-3500	-2450
					3600	3700	0	950	-4100	-3150
					3500	3600	0	1150	-4660	-3510
					3400	3500	0	1200	-5260	-4060
					3300	3400	0	1070	-5720	-4650
					3300	5000	4.422	1160	-2400	-1240
20.1	MALIY AKTRU	SU7100	2006	STR	3600	3700	0			460
					3500	3600	0			630
					3400	3500	0			760
					3300	3400	0			680
					3200	3300	0			70
					3100	3200	0			-490
					3000	3100	0			-1010
					2900	3000	0			-1410
					2800	2900	0			-1990
					2700	2800	0			-2260
					2600	2700	0			-2690
					2500	2600	0			-3020
					2400	2500	0			-3510
					2300	2400	0			-3970
					2200	2300	0			-4610
					2200	3700	0			-140
20.2	MALIY AKTRU	SU7100	2007	STR	3600	3700	0			350
					3500	3600	0			440
					3400	3500	0			600
					3300	3400	0			630
					3200	3300	0			-250
					3100	3200	0			-770
					3000	3100	0			-1250
					2900	3000	0			-1630
					2800	2900	0			-2170
					2700	2800	0			-2540
					2600	2700	0			-2850
					2500	2600	0			-3190
					2400	2500	0			-3710
					2300	2400	0			-4050
					2200	2300	0			-4590
					2200	3700	0			-340
20.3	MALIY AKTRU	SU7100	2008	STR	3600	3700	0			240
					3500	3600	0			350
					3400	3500	0			510
					3300	3400	0			-250
					3200	3300	0			-950

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE FROM	ALTITUDE TO	AREA KM²	BW MM	BS MM	BA MM
					3100	3200	0			-1490
					3000	3100	0			-1750
					2900	3000	0			-2290
					2800	2900	0			-2750
					2700	2800	0			-3020
					2600	2700	0			-3480
					2500	2600	0			-3790
					2400	2500	0			-4100
					2300	2400	0			-4450
					2200	2300	0			-5050
					2200	3700	0			-870
20.4	MALIY AKTRU	SU7100	2009	STR	3600	3700	0			850
					3500	3600	0			1210
					3400	3500	0			1320
					3300	3400	0			1260
					3200	3300	0			850
					3100	3200	0			160
					3000	3100	0			50
					2900	3000	0			-230
					2800	2900	0			-870
					2700	2800	0			-130
					2600	2700	0			-1480
					2500	2600	0			-2190
					2400	2500	0			-2720
					2300	2400	0			-3150
					2200	2300	0			-3600
					2200	3700	0	1210	-620	590
21.1	TS.TUYUKSUYSKIY	SU5075	2006	STR	4100	4219	0.188	301	141	160
					4000	4100	0.317	557	367	190
					3900	4000	0.24	700	-840	-140
					3800	3900	0.348	836	-1486	-650
					3750	3800	0.411	772	-2083	-1311
					3700	3750	0.398	748	-2090	-1342
					3650	3700	0.218	688	-2336	-1648
					3600	3650	0.108	716	-2309	-1593
					3550	3600	0.118	667	-2487	-1820
					3500	3550	0.133	599	-2950	-2351
					3480	3500	0.053	657	-3219	-2562
					3480	4219	2.513	687	-1656	-969
21.2	TS.TUYUKSUYSKIY	SU5075	2007	STR	4100	4200	0.17	228	169	397
					4000	4100	0.312	422	66	488
					3900	4000	0.25	531	-113	418
					3800	3900	0.343	634	-884	-250
					3750	3800	0.411	571	-1918	-1347
					3700	3750	0.398	589	-2207	-1618
					3650	3700	0.218	552	-2189	-2637
					3600	3650	0.108	624	-2279	-1655
					3550	3600	0.118	627	-2801	-2174
					3500	3550	0.133	552	-3249	-2697
					3480	3500	0.011	570	-3629	-3059
					3480	4200	2.472	538	-1453	-915
21.3	TS.TUYUKSUYSKIY	SU5075	2008	STR	4100	4200	0.17	181	8	189
					4000	4100	0.313	335	-180	155
					3900	4000	0.25	421	-641	-220
					3800	3900	0.343	503	-1453	-950
					3750	3800	0.411	464	-2188	-1724
					3700	3750	0.398	442	-2521	-2079

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE FROM	TO	AREA KM²	BW MM	BS MM	BA MM
					3650	3700	0.218	406	-2643	-2237
					3600	3650	0.108	412	-2762	-2350
					3550	3600	0.118	433	-3291	-2858
					3500	3550	0.123	356	-3712	-3356
					3500	4200	451	411	-1768	-1357
21.4	TS.TUYUKSUYSKIY	SU5075	2010		4100	4200	0.172	381	537	919
					4000	4100	0.331	706	296	1002
					3900	4000	0.251	887	416	416
					3800	3900	0.333	1058	-252	806
					3750	3800	0.33	959	-1208	-249
					3700	3750	0.402	948	-1514	-582
					3650	3700	0.237	932	-1732	-800
					3600	3650	0.112	1071	-1869	-798
					3550	3600	0.142	998	-2178	-1180
					3500	3550	0.134	858	-2688	-1830
					3500	4200	2.446	887	-855	32
	COLOMBIA									
22.1	LA CONEJERA	CO0033	2009	FXD	4817	4958	0.013			281
					4799	4817	0.076			-653
					4754	4799	0.037			-405
					4717	4754	0.059			-931
					4710	4717	0.037			-775
					4710	4958	0.221			-653
22.2	LA CONEJERA	CO0033	2010	FXD	4817	4958	0.013			-81
					4799	4817	0.076			-888
					4754	4799	0.037			-354
					4721	4754	0.059			-967
					4715	4721	0.036			-785
					4715	4958	0.22			-757
	ECUADOR									
23.1	ANTIZANA15ALPHA	EC0001	2006	FXD	5600	5760	0.038			127
					5500	5600	0.024			79
					5400	5500	0.029			90
					5300	5400	0.034			98
					5200	5600	0.034			56
					5100	5200	0.06			-268
					5000	5100	0.02			-125
					4960	5000	0.02			-165
					4910	4960	0.021			-191
					4880	4910	0.009			-116
					4860	4880	0.003			-37
					4860	5760	0.292			-203
23.2	ANTIZANA15ALPHA	EC0001	2007	FXD	5600	5760	0.038			118
					5500	5600	0.024			66
					5400	5500	0.029			76
					5300	5400	0.034			66
					5200	5600	0.034			35
					5100	5200	0.057			-309
					5000	5100	0.019			-136
					4960	5000	0.02			-194
					4910	4960	0.021			-250
					4880	4910	0.009			-121
					4860	4880	0.001			-9
					4860	5760	0.286			-66

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE FROM	ALTITUDE TO	AREA KM²	BW MM	BS MM	BA MM
23.3	ANTIZANA15ALPHA	EC0001	2008	FXD	5600	5760	0.038			141
					5500	5600	0.024			88
					5400	5500	0.029			108
					5300	5400	0.034			40
					5200	5600	0.034			28
					5100	5200	0.057			29
					5000	5100	0.02			4
					4960	5000	0.021			-13
					4910	4960	0.022			-49
					4880	4910	0.009			-36
					4860	4880	0			-3
					4860	5760	0			337
23.4	ANTIZANA15ALPHA	EC0001	2009	FXD	5600	5760	0.038			106
					5500	5600	0.024			66
					5400	5500	0.029			82
					5300	5400	0.034			89
					5200	5300	0.034			59
					5100	5200	0.057			-291
					5000	5100	0.02			-155
					4960	5000	0.021			-281
					4910	4960	0.022			-302
					4860	4910	0.013			-201
					4860	5760	0.292			-828
23.5	ANTIZANA15ALPHA	EC0001	2010	FXD	5600	5760	0.038			184
					5500	5600	0.024			115
					5400	5500	0.029			141
					5300	5400	0.034			89
					5200	5300	0.034			59
					5100	5200	0.057			-291
					5000	5100	0.021			-293
					4960	5000	0.021			-311
					4910	4960	0.022			-392
					4860	4910	0.013			-240
					4860	5760	0.293			-77
	GREENLAND									
24.1	FREYA	GL	2008	COM	1200	1300	0.075	374	-172	202
					1100	1200	0.258	330	-165	165
					1000	1100	0.377	604	-565	38
					900	1000	0.684	768	-958	-190
					800	900	0.91	722	-828	-106
					700	800	1.156	678	-983	-305
					600	700	1.201	718	-1557	-839
					500	600	0.544	683	-1910	-1227
					400	500	0.329	747	-2355	-1608
					300	400	0.067	847	-3018	-2170
					300	1300	5.599	686	-1196	-510
24.2	FREYA	GL	2009	COM	1200	1300	0.075			198
					1100	1200	0.258			203
					1000	1100	0.377			198
					900	1000	0.684			111
					800	900	0.91			64
					700	800	1.156			-359
					600	700	1.201			-925
					500	600	0.544			-1311
					400	500	0.329			-1577
					300	400	0.067			-1936
					300	1300	5.599			-466

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE		AREA	BW	BS	BA
					FROM	TO	KM²	MM	MM	MM
24.3	FREYA	GL	2010	COM	1200	1300	0.075			208
					1100	1200	0.258			212
					1000	1100	0.377			172
					900	1000	0.684			-239
					800	900	0.91			-455
					700	800	1.156			-879
					600	700	1.201			-1222
					500	600	0.544			-1548
					400	500	0.329			-1640
					300	400	0.067			-2138
					300	1300	5.599			-795
25.1	MITTIVAKKAT	GL0019	2008		800	899	0.771	1500	-600	900
					700	800	2.647	1500	-900	600
					600	700	3.994	1400	-1150	250
					500	600	2.702	1200	-1450	-250
					400	500	3.16	900	-1800	-900
					300	400	2.351	850	-2500	-1650
					200	300	1.439	750	-3250	-2500
					130	200	0.536	900	-4000	-3100
					130	899	17.6	1160	-1690	-520
25.2	MITTIVAKKAT	GL0019	2009		800	899	0.771			1000
					700	800	2.647			370
					600	700	3.994			-270
					500	600	2.702			-900
					400	500	3.16			-1550
					300	400	2.351			-2200
					200	300	1.439			-2850
					130	200	0.536			-3300
					130	899	17.6			-1010
25.3	MITTIVAKKAT	GL0019	2010		800	899	0.771			-350
					700	800	2.647			-900
					600	700	3.994			-1500
					500	600	2.702			-2100
					400	500	3.16			-2650
					300	400	2.351			-3200
					200	300	1.439			-3800
					130	200	0.536			-4200
					130	899	17.6			-2160
	INDIA									
26.1	CHHOTA SHIGRI	IN	2006		5400	6250	1.425			800
					5250	5400	1.788			400
					5200	5250	0.953			-100
					5150	5200	1.123			-100
					5100	5150	1.047			-1059
					5050	5100	1.163			-795
					5000	5050	1.237			-1641
					4950	5000	1.219			-1625
					4900	4950	1.008			-1434
					4850	4900	0.613			-2296
					4800	4850	0.65			-2489
					4750	4800	0.93			-2894
					4700	4750	0.501			-3704
					4650	4700	0.495			-4010
					4600	4650	0.306			-4120
					4550	4600	0.309			-4351
					4500	4550	0.188			-4351
					4450	4500	0.248			-4452

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE FROM	ALTITUDE TO	AREA KM²	BW MM	BS MM	BA MM
					4400	4450	0.155			-4831
					4350	4400	0.116			-5323
					4300	4350	0.094			-3578
					4050	4300	0.153			-3843
					4050	6250	0			-1410
	ITALY									
27.1	CARESER	IT0701	2006	FXD	3250	3300	0.018	1117	-2449	-1332
					3200	3250	0.04	788	-2547	-1759
					3150	3200	0.148	901	-2638	-1737
					3100	3150	0.372	862	-2673	-1811
					3050	3100	0.851	887	-2690	-1803
					3000	3050	0.412	821	-3005	-2184
					2950	3000	0.35	800	-3343	-2543
					2900	2950	0.135	679	-3801	-3122
					2850	2900	0.074	641	-4062	-3421
					2850	3300	2.399	841	-2934	-2093
27.2	CARESER	IT0701	2007	FXD	3250	3300	0.018	646	-3052	-2405
					3200	3250	0.04	431	-2933	-2502
					3150	3200	0.148	326	-2790	-2464
					3100	3150	0.372	424	-2670	-2246
					3050	3100	0.851	442	-2827	-2384
					3000	3050	0.412	335	-3270	-2935
					2950	3000	0.35	327	-3656	-3329
					2900	2950	0.135	277	-4176	-3899
					2850	2900	0.074	196	-4453	-4257
					2850	3300	2.399	382	-3127	-2745
27.3	CARESER	IT0701	2008	OTH	3250	3300	0.017	1056	-2261	-1205
					3200	3250	0.034	770	-2316	-1545
					3150	3200	0.124	731	-2348	-1618
					3100	3150	0.333	725	-2299	-1573
					3050	3100	0.732	816	-2324	-1508
					3000	3050	0.298	687	-2853	-2166
					2950	3000	0.275	675	-3137	-2462
					2900	2950	0.074	636	-3560	-2924
					2850	2900	0.038	578	-3823	-3245
					2850	3300	1.925	744	-2596	-1851
27.4	CARESER	IT0701	2009	OTH	3250	3300	0.017	2142	-2087	55
					3200	3250	0.034	1370	-2166	-795
					3150	3200	0.124	1331	-2241	-910
					3100	3150	0.333	1291	-2357	-1066
					3050	3100	0.732	1387	-2324	-937
					3000	3050	0.298	1352	-2832	-1480
					2950	3000	0.275	1315	-3109	-1794
					2900	2950	0.074	1259	-3494	-2235
					2850	2900	0.038	1121	-3735	-2614
					2850	3300	1.925	1347	-2583	-1236
27.5	CARESER	IT0701	2010	FLO	3250	3300	0.016	1351	-1224	127
					3200	3250	0.031	1182	-1379	-197
					3150	3200	0.12	1067	-1576	-509
					3100	3150	0.353	1001	-1592	-591
					3050	3100	0.721	1114	-1651	-537
					3000	3050	0.299	1053	-2423	-1370
					2950	3000	0.274	987	-2945	-1957
					2900	2950	0.059	826	-3592	-2766
					2850	2900	0.014	864	-3991	-3127
					2850	3300	1.886	1048	-1986	-939

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE		AREA	BW	BS	BA
					FROM	TO	KM²	MM	MM	MM
28.1	CARESER CENTRALE	IT	2010	FLO	3100	3150	0.006	1216	-2075	-859
					3050	3100	0.05	998	-2314	-1315
					3000	3050	0.074	975	-2740	-1765
					2950	3000	0.097	1002	-3159	-2158
					2900	2950	0.013	957	-3622	-2665
					2900	3150	0.241	996	-2849	-1853
29.1	CARESER OCCIDENTALE	IT	2006	FXD	3250	3300	0.014	1240	-2404	-1164
					3200	3250	0.025	847	-2504	-1657
					3150	3200	0.085	918	-2650	-1731
					3100	3150	0.106	941	-2966	-2025
					3050	3100	0.041	836	-3236	-2400
					3000	3050	0	840	-3372	-2532
					3000	3300	0.271	925	-2836	-1911
29.2	CARESER OCCIDENTALE	IT	2007	FXD	3250	3300	0.014	614	-3118	-2504
					3200	3250	0.025	395	-3033	-2638
					3150	3200	0.085	366	-2856	-2490
					3100	3150	0.106	411	-2901	-2490
					3050	3100	0.041	406	-3250	-2844
					3000	3050	0	269	-3417	-3147
					3000	3300	0.271	405	-2964	-2558
29.3	CARESER OCCIDENTALE	IT	2008	OTH	3250	3300	0.013	1255	-2272	-1017
					3200	3250	0.019	906	-2342	-1436
					3150	3200	0.066	859	-2309	-1450
					3100	3150	0.099	754	-2472	-1718
					3050	3100	0.003	828	-2674	-1845
					3050	3300	0.27	986	-2671	-1560
29.4	CARESER OCCIDENTALE	IT	2009	OTH	3250	3300	0.013	2511	-2107	404
					3200	3250	0.019	1569	-2217	-647
					3150	3200	0.066	1557	-2203	-646
					3100	3150	0.099	1383	-2538	-1154
					3050	3100	0.003	1303	-2916	-1613
					3050	3300	0.2	1529	-2375	-846
29.5	CARESER OCCIDENTALE	IT	2010	FLO	3250	3300	0.013	1343	-1220	122
					3200	3250	0.017	1231	-1495	-264
					3150	3200	0.062	1385	-1833	-449
					3100	3150	0.099	1094	-2282	-1189
					3050	3100	0.002	1064	-2543	-1480
					3050	3300	0.194	1215	-2002	-787
30.1	CARESER ORIENTALE	IT	2006	FXD	3250	3300	0.004	679	-2611	-1932
					3200	3250	0.015	692	-2616	-1924
					3150	3200	0.063	878	-2621	-1743
					3100	3150	0.265	830	-2556	-1726
					3050	3100	0.81	890	-2663	-1773
					3000	3050	0.412	821	-3005	-2184
					2950	3000	0.35	800	-3343	-2543
					2900	2950	0.135	679	-3801	-3122
					2850	2900	0.074	641	-4062	-3421
					2850	3300	2.128	830	-2947	-2117
30.2	CARESER ORIENTALE	IT	2007	FXD	3250	3300	0.004	762	-2814	-2052
					3200	3250	0.015	491	-2771	-2280
					3150	3200	0.063	272	-2701	-2429
					3100	3150	0.265	430	-2578	-2148
					3050	3100	0.81	444	-2805	-2361
					3000	3050	0.412	335	-3270	-2934

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE		AREA	BW	BS	BA
					FROM	TO	KM²	MM	MM	MM
					2950	3000	0.35	327	-3656	-3329
					2900	2950	0.135	277	-4176	-3899
					2850	2900	0.074	196	-4453	-4257
					2850	3300	2.128	379	-3147	-2769
30.3	CARESER ORIENTALE	IT	2008	OTH	3250	3300	0.004	476	-2228	-1752
					3200	3250	0.015	598	-2282	-1684
					3150	3200	0.058	583	-2394	-1811
					3100	3150	0.234	713	-2225	-1512
					3050	3100	0.7	814	-2302	-1487
					3000	3050	0.298	687	-2853	-2166
					2950	3000	0.275	675	-3137	-2462
					2900	2950	0.074	636	-3560	-2924
					2850	2900	0.038	578	-3823	-3245
					2850	3300	2.13	823	-2808	-1884
30.4	CARESER ORIENTALE	IT	2009	OTH	3250	3300	0.004	1069	-2028	-959
					3200	3250	0.015	1117	-2100	-984
					3150	3200	0.058	1070	-2285	-1215
					3100	3150	0.234	1252	-2281	-1029
					3050	3100	0.7	1390	-2297	-907
					3000	3050	0.298	1352	-2832	-1480
					2950	3000	0.275	1315	-3109	-1794
					2900	2950	0.074	1259	-3494	-2235
					2850	2900	0.038	1121	-3735	-2614
					2850	3300	1.696	1326	-2602	-1276
30.5	CARESER ORIENTALE	IT	2010	FLO	3250	3300	0.003	1390	-1241	149
					3200	3250	0.014	1124	-1240	-116
					3150	3200	0.057	721	-1295	-574
					3100	3150	0.247	958	-1303	-345
					3050	3100	0.648	1124	-1573	-449
					3000	3050	0.225	1079	-2319	-1239
					2950	3000	0.177	980	-2827	-1848
					2900	2950	0.046	790	-3584	-2794
					2850	2900	0.014	864	-3991	-3127
					2850	3300	1.432	1042	-1872	-830
31.1	CIARDONEY	IT0081	2006	COM	3120	3160	0.182	894	-2164	-1270
					3080	3120	0.178	670	-2340	-1670
					3020	3080	0.225	825	-3026	-2201
					2910	3020	0.155	780	-3103	-2323
					2850	2910	0.093	780	-3320	-2540
					2850	3160	0.833	784	-2883	-2099
31.2	CIARDONEY	IT0081	2007	COM	3120	3160	0.182	1284	-1997	-713
					3080	3120	0.178	1126	-2153	-1027
					3020	3080	0.225	964	-2617	-1653
					2910	3020	0.155	964	-2704	-1740
					2850	2910	0.093	754	-2590	-1836
					2850	3160	0.833	980	-2470	-1490
31.3	CIARDONEY	IT0081	2008	COM	3120	3160	0.182	1695	-2217	-522
					3080	3120	0.178	1297	-2472	-1175
					3020	3080	0.225	1347	-2783	-1436
					2910	3020	0.155	997	-2885	-1888
					2850	2910	0.093	698	-2699	-2001
					2850	3160	0.833	1160	-2670	-1510
31.4	CIARDONEY	IT0081	2009	COM	3120	3160	0.182	2278	-2334	-56
					3080	3120	0.178	1916	-1997	-81

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE		AREA	BW	BS	BA
					FROM	TO	KM²	MM	MM	MM
					3020	3080	0.225	1720	-2253	-533
					2910	3020	0.155	1800	-2531	-731
					2850	2910	0.093	1760	-2543	-783
					2850	3160	0.833	1840	-2330	-490
31.5	CIARDONEY	IT0081	2010	COM	3120	3160	0.182	1208	-1058	150
					3080	3120	0.178	1152	-1413	-261
					3020	3080	0.225	1105	-1740	-635
					2910	3020	0.155	972	-2033	-1061
					2850	2910	0.093	852	-2679	-1827
					2850	3160	0.833	1040	-1870	-830
32.1	FONT. BIANCA / WEISSB.F.	IT0713	2006	FLO	3350	3400	0	1400	-3400	-2000
					3300	3350	0.008	1054	-3241	-2187
					3250	3300	0.008	985	-3685	-2700
					3200	3250	0.036	965	-3364	-2398
					3150	3200	0.058	973	-3126	-2153
					3100	3150	0.091	896	-2873	-1977
					3050	3100	0.124	901	-2436	-1535
					3000	3050	0.112	950	-2454	-1504
					2950	3000	0.056	972	-2496	-1524
					2900	2950	0.045	855	-2383	-1529
					2850	2900	0.001	800	-2396	-1596
					2850	3400	0.538	929	-2682	-1753
32.2	FONT. BIANCA / WEISSB.F.	IT0713	2007	FLO	3350	3400	0	1000	-2400	-1400
					3300	3350	0.005	961	-2361	-1400
					3250	3300	0.005	740	-3045	-2304
					3200	3250	0.031	611	-2996	-2385
					3150	3200	0.05	713	-2796	-2083
					3100	3150	0.08	542	-2433	-1891
					3050	3100	0.122	560	-2054	-1494
					3000	3050	0.104	669	-2029	-1361
					2950	3000	0.052	640	-1860	-1220
					2900	2950	0.039	592	-1859	-1267
					2850	2900	0.002	500	-1800	-1300
					2850	3400	0.49	616	-2223	-1607
32.3	FONT. BIANCA / WEISSB.F.	IT0713	2008	FLO	3300	3350	0.01			-1300
					3250	3300	0.027			-1224
					3200	3250	0.083			-1198
					3150	3200	0.121			-1089
					3100	3150	0.093			-1285
					3050	3100	0.049			-1380
					3000	3050	0.039			-1504
					2950	3000	0.008			-1599
					2900	2950	0.006			-1212
					2850	2900	0			-931
					2850	3350	0.437	862	-2108	-1246
32.4	FONT. BIANCA / WEISSB.F.	IT0713	2010	FLO	3300	3350	0.01	1674	-1589	85
					3250	3300	0.027	1778	-1701	77
					3200	3250	0.083	1556	-1533	23
					3150	3200	0.121	1392	-1444	-52
					3100	3150	0.093	1029	-1520	-491
					3050	3100	0.049	1044	-1506	-461
					3000	3050	0.039	1194	-1505	-310
					2950	3000	0.008	1293	-1414	-121
					2900	2950	0.006	1219	-1585	-366
					2850	2900	0	1300	-1800	-500
					2850	3350	0.437	1316	-1511	-195

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE FROM	ALTITUDE TO	AREA KM²	BW MM	BS MM	BA MM
33.1	GRAND ETRET	IT0134	2008	FXD	2940	3000	0.326	1310	-2418	-1108
					2880	2940	0.098	1682	-2961	-1279
					2820	2880	0.057	1170	-2910	-1740
					2760	2820	0.043	974	-3401	-2427
					2700	2760	0.029	1052	-3244	-2192
					2700	3000	0.553	1322	-2685	-1363
34.1	LUNGA (VEDR.) / LANGENF.	IT0733	2008	FXD	3350	3400	0.013			-350
					3300	3350	0.063			64
					3250	3300	0.263			-452
					3200	3250	0.311			-1131
					3150	3200	0.164			-1508
					3100	3150	0.193			-1366
					3050	3100	0.225			-1622
					3000	3050	0.106			-1818
					2950	3000	0.085			-1975
					2900	2950	0.081			-2651
					2850	2900	0.063			-2881
					2800	2850	0.058			-3385
					2750	2800	0.102			-3831
					2700	2750	0.044			-4483
					2650	2700	0.004			-4900
					2650	3400	0	849	-2486	-1637
34.2	LUNGA (VEDR.) / LANGENF.	IT0733	2009	FXD	3350	3400	0.013	1455	-1504	-49
					3300	3350	0.063	1605	-1387	218
					3250	3300	0.263	1468	-1555	-87
					3200	3250	0.311	1381	-2006	-625
					3150	3200	0.164	1328	-1834	-506
					3100	3150	0.193	1192	-1984	-792
					3050	3100	0.225	1208	-2180	-972
					3000	3050	0.106	1219	-2477	-1258
					2950	3000	0.085	1357	-2563	-1206
					2900	2950	0.081	1403	-2959	-1556
					2850	2900	0.063	1362	-3162	-1799
					2800	2850	0.058	1189	-3355	-2166
					2750	2800	0.102	1440	-4500	-3060
					2700	2750	0.044	1427	-5614	-4187
					2650	2700	0.004	1500	-5750	-4250
					2650	3400	1.776	1343	-2341	-998
34.3	LUNGA (VEDR.) / LANGENF.	IT0733	2010	FXD	3350	3400	0.013	1028	-903	124
					3300	3350	0.063	1136	-858	278
					3250	3300	0.263	1033	-984	49
					3200	3250	0.311	911	-1198	-286
					3150	3200	0.164	949	-1048	-99
					3100	3150	0.193	1126	-1475	-349
					3050	3100	0.225	1032	-1599	-567
					3000	3050	0.106	1192	-1937	-746
					2950	3000	0.085	1345	-2151	-805
					2900	2950	0.081	1183	-2344	-1161
					2850	2900	0.063	1246	-2424	-1178
					2800	2850	0.058	1288	-3124	-1836
					2750	2800	0.102	1168	-4094	-2925
					2700	2750	0.044	1172	-4969	-3797
					2650	2700	0.004	1150	-5024	-3874
					2650	3400	1.776	1076	-1735	-659
35.1	MALAVALLE / UEBELTALF.	IT0875	2006	FLO	3400	3450	0.088	1830	-2900	-1070
					3350	3400	0.116	1746	-2628	-882
					3300	3350	0.155	1626	-2239	-613

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE FROM	TO	AREA KM²	BW MM	BS MM	BA MM
					3250	3300	0.282	1431	-1585	-154
					3200	3250	0.352	1334	-1431	-97
					3150	3200	0.765	1296	-1578	-282
					3100	3150	0.417	1357	-1882	-525
					3050	3100	0.675	1316	-2064	-748
					3000	3050	0.564	1149	-2373	-1224
					2950	3000	0.617	1249	-2537	-1288
					2900	2950	0.769	1327	-2799	-1472
					2850	2900	0.69	1246	-3063	-1817
					2800	2850	0.491	1122	-3271	-2149
					2750	2800	0.399	840	-3441	-2601
					2700	2750	0.385	651	-3634	-2983
					2650	2700	0.156	260	-3917	-3657
					2600	2650	0.225	63	-4149	-4086
					2550	2600	0.053	-40	-4252	-4292
					2550	3450	7.198	1170	-2578	-1408
35.2	MALAVALLE / UEBELTALF.	IT0875	2007	FLO	3400	3540	0.088	893	-400	493
					3350	3400	0.116	890	-421	469
					3300	3350	0.155	861	-588	273
					3250	3300	0.282	862	-805	57
					3200	3250	0.352	907	-951	-44
					3150	3200	0.765	869	-1207	-338
					3100	3150	0.417	866	-1458	-593
					3050	3100	0.675	845	-1689	-844
					3000	3050	0.564	772	-1900	-1128
					2950	3000	0.617	722	-2157	-1435
					2900	2950	0.769	746	-2348	-1602
					2850	2900	0.69	686	-2576	-1890
					2800	2850	0.491	600	-2817	-2217
					2750	2800	0.399	539	-3048	-2509
					2700	2750	0.385	480	-3302	-2822
					2650	2700	0.156	401	-3540	-3139
					2600	2650	0.225	310	-3766	-3456
					2550	2600	0.053	232	-3942	-3710
					2550	3540	7.198	728	-2066	-1338
35.3	MALAVALLE / UEBELTALF..	IT0875	2008	FLO	3400	3450	0.08	950	-611	339
					3350	3400	0.1	989	-772	217
					3300	3350	0.154	1100	-923	177
					3250	3300	0.197	1269	-1032	237
					3200	3250	0.253	1346	-1190	156
					3150	3200	0.597	1302	-1465	-163
					3100	3150	0.538	1454	-1816	-362
					3050	3100	0.548	1438	-2060	-622
					3000	3050	0.63	1350	-2193	-843
					2950	3000	0.473	1225	-2290	-1065
					2900	2950	0.575	1198	-2286	-1088
					2850	2900	0.764	1142	-2450	-1308
					2800	2850	0.437	1121	-2625	-1504
					2750	2800	0.333	1009	-2806	-1797
					2700	2750	0.152	866	-2972	-2106
					2650	2700	0.222	744	-3130	-2386
					2600	2650	0.063	592	-3317	-2725
					2550	2600	0.048	487	-3456	-2969
					2550	3450	7.198	1210	-2110	-900
35.4	MALAVALLE / UEBELTALF..	IT0875	2009	FLO	3400	3450	0.08	1634	-1356	120
					3350	3400	0.1	1685	-1465	126
					3300	3350	0.154	1725	-1551	90
					3250	3300	0.197	1728	-1644	36

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE FROM	ALTITUDE TO	AREA KM²	BW MM	BS MM	BA MM
					3200	3250	0.253	1759	-1724	-40
					3150	3200	0.597	1711	-1820	-101
					3100	3150	0.538	1623	-1845	-179
					3050	3100	0.548	1614	-1787	-207
					3000	3050	0.63	1596	-1977	-405
					2950	3000	0.473	1535	-2016	-462
					2900	2950	0.575	1498	-2147	-652
					2850	2900	0.764	1449	-2107	-648
					2800	2850	0.437	1376	-2066	-655
					2750	2800	0.333	1305	-2398	-1058
					2700	2750	0.152	1248	-2941	-1670
					2650	2700	0.222	1167	-3441	-2226
					2600	2650	0.063	1105	-3269	-2132
					2550	2600	0.048	1050	-2830	-1775
					2550	3450	7.198	1529	-2046	-517
35.5	MALAVALLE / UEBELTALF..	IT0875	2010	FLO	3400	3450	0.08	1200	-787	412
					3350	3400	0.1	1249	-827	422
					3300	3350	0.154	1326	-682	644
					3250	3300	0.197	1370	-405	965
					3200	3250	0.253	1317	-569	749
					3150	3200	0.597	1192	-668	524
					3100	3150	0.538	1173	-973	199
					3050	3100	0.548	1247	-1065	182
					3000	3050	0.63	1254	-1232	22
					2950	3000	0.473	1245	-1538	-293
					2900	2950	0.575	1282	-1687	-406
					2850	2900	0.764	1283	-1830	-547
					2800	2850	0.437	1135	-1864	-730
					2750	2800	0.333	1045	-2002	-958
					2700	2750	0.152	943	-2120	-1176
					2650	2700	0.222	429	-2459	-2030
					2600	2600	0.048	269	-2521	-2252
					2600	2650	0.063	340	-2588	-2248
					2600	3450	7.198	1179	-1376	-197
36.1	PENDENTE / HANGENDERF..	IT0876	2006	FLO	2950	3000	0.036	1980	-2630	-650
					2900	2950	0.112	1932	-2692	-760
					2850	2900	0.194	1790	-3098	-1309
					2800	2850	0.142	1662	-3317	-1656
					2750	2800	0.235	1387	-3493	-2105
					2700	2750	0.22	1277	-3595	-2318
					2650	2700	0.087	945	-3474	-2529
					2600	2650	0.007	787	-3337	-2550
					2600	3000	1.033	1517	-3297	-1780
36.2	PENDENTE / HANGENDERF	IT0876	2007	FLO	2950	3000	0.022	1341	-2687	-1346
					2900	2950	0.112	1231	-2640	-1408
					2850	2900	0.145	1112	-2791	-1680
					2800	2850	0.146	833	-2948	-2115
					2750	2800	0.244	674	-2869	-2195
					2700	2750	0.221	528	-2979	-2451
					2650	2700	0.095	267	-3379	-3112
					2600	2650	0.007	7	-3495	-3488
					2600	3000	0.993	763	-2917	-2154
36.3	PENDENTE / HANGENDERF.	IT0876	2008	FLO	2950	3000	0.004	1906	-2640	-734
					2900	2950	0.048	1857	-2730	-873
					2850	2900	0.172	1730	-2786	-1056
					2800	2850	0.134	1600	-2932	-1332
					2750	2800	0.189	1502	-3111	-1609

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE FROM	TO	AREA KM²	BW MM	BS MM	BA MM
					2700	2750	0.214	1427	-3158	-1731
					2650	2700	0.086	1258	-3265	-2007
					2600	2650	0.006	1115	-3343	-2228
					2600	3000	0.852	1539	-3023	-1484
36.4	PENDENTE / HANGENDERF	IT0876	2009	FLO	2950	3000	0.004	2600	-2882	-282
					2900	2950	0.048	2600	-2733	-133
					2850	2900	0.172	2497	-2853	-356
					2800	2850	0.134	2480	-3333	-853
					2750	2800	0.189	2507	-3358	-851
					2700	2750	0.214	2493	-3565	-1072
					2650	2700	0.086	1762	-3335	-1573
					2600	2650	0.006	1242	-3129	-1887
					2600	3000	0.852	2418	-3262	-844
36.5	PENDENTE / HANGENDERF.	IT0876	2010	FLO	2950	3000	0.004	1606	-1237	369
					2900	2950	0.048	1839	-1457	382
					2850	2900	0.172	1836	-1738	99
					2800	2850	0.134	1710	-1840	-130
					2750	2800	0.189	1750	-1719	30
					2700	2750	0.214	1651	-1832	-182
					2650	2700	0.086	1408	-2463	-1055
					2600	2650	0.006	1284	-2940	-1656
					2600	3000	0.852	1703	-1837	-134
37.1	RIES OCC. / RIESERF. WESTL.	IT0930	2010	FLO	3200	3250	0.016	1423	-1288	135
					3150	3200	0.178	1296	-1185	112
					3100	3150	0.216	1193	-983	210
					3050	3100	0.257	1252	-1252	-1
					3000	3050	0.263	1230	-1385	-155
					2950	3000	0.244	1063	-1394	-331
					2900	2950	0.252	1068	-1706	-638
					2850	2900	0.201	1054	-1985	-930
					2800	2850	0.172	1042	-2168	-1126
					2750	2800	0.076	1099	-2815	-1716
					2700	2750	0.042	1008	-2808	-1800
					2650	2700	0.036	827	-2971	-2144
					2600	2650	0.02	800	-2950	-2150
					2550	2600	0.003	800	-2950	-2150
					2550	3250	1.975	1139	-1608	-469
	NEW ZEALAND									
38.1	BREWSTER	NZ	2006	COM	2400	2491	0.003	4021	-750	3271
					2300	2400	0.068	3753	-883	2869
					2200	2300	0.145	3465	-1316	2188
					2100	2200	0.19	3165	-1493	1672
					2000	2100	0.249	2809	-1798	1011
					1900	2000	1.046	2525	-2105	420
					1800	1900	0.582	2135	-2454	-319
					1700	1800	0.234	1418	-3654	-2236
					1656	1700	0.026	679	-4708	-4029
					1656	2491	2.542	2479	-2197	282
38.2	BREWSTER	NZ	2007	COM	2400	2480	0.002	4357	-500	3892
					2300	2400	0.065	4102	-506	3596
					2200	2300	0.146	3815	-1285	2530
					2100	2200	0.189	3514	-1743	1771
					2000	2100	0.246	3160	-1673	1486
					1900	2000	1.043	2873	-2382	491
					1800	1900	0.587	2566	-3033	-467
					1700	1800	0.238	2124	-4943	-2819

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE FROM	TO	AREA KM²	BW MM	BS MM	BA MM
					1657	1700	0.027	1670	-6250	-4580
					1657	2480	2.542	2881	-2583	297
38.3	BREWSTER	NZ	2008	COM	2400	2480	0.003	3250	-3776	-526
					2300	2400	0.066	3329	-3456	-127
					2200	2300	0.147	3179	-3671	-492
					2100	2200	0.19	2509	-3098	-589
					2000	2100	0.249	2772	-3378	-606
					1900	2000	1.044	2583	-3776	-1193
					1800	1900	0.581	2239	-4795	-2556
					1700	1800	0.234	1439	-5728	-4289
					1657	1700	0.027	750	-5250	-4500
					1657	2480	2.541	2447	-4100	-1653
38.4	BREWSTER	NZ	2009	COM	2400	2480	0.003	2375	-1362	1013
					2300	2400	0.066	2375	-1661	714
					2200	2300	0.147	2287	-1785	502
					2100	2200	0.19	2151	-1931	219
					2000	2100	0.249	2185	-2039	146
					1900	2000	1.044	2063	-2810	-746
					1800	1900	0.581	1737	-3134	-1397
					1700	1800	0.234	995	-3601	-2606
					1657	1700	0.027	511	-4373	-3863
					1657	2480	2.541	1914	-2741	-828
	NORWAY									
39.1	AALFOTBREEN	NO36204	2006		1350	1382	0.23	2700	-5150	-2450
					1300	1350	0.98	2800	-5300	-2500
					1250	1300	0.8	2750	-5500	-2750
					1200	1250	0.73	2700	-5750	-3050
					1150	1200	0.61	2600	-6050	-3450
					1100	1150	0.49	2550	-6400	-3850
					1050	1100	0.32	2600	-6800	-4200
					1000	1050	0.2	2650	-7150	-4500
					950	1000	0.11	2700	-7500	-4800
					903	950	0.03	2800	-7850	-5050
					903	1382	4.5	2690	-5880	-3190
39.2	AALFOTBREEN	NO36204	2007		1350	1382	0.23	4550	-2750	1800
					1300	1350	0.98	4650	-2750	1900
					1250	1300	0.8	4650	-3000	1650
					1200	1250	0.73	4600	-3130	1470
					1150	1200	0.61	4450	-3350	1100
					1100	1150	0.49	4300	-3550	750
					1050	1100	0.32	4150	-3750	400
					1000	1050	0.2	4050	-3930	120
					950	1000	0.11	4000	-4130	-130
					903	950	0.03	3950	-4350	-400
					903	1382	4.5	4490	-3220	1270
39.3	AALFOTBREEN	NO36204	2008		1350	1382	0.23	4150	-2350	1800
					1300	1350	0.98	4130	-2600	1530
					1250	1300	0.8	4100	-2900	1200
					1200	1250	0.73	4080	-3250	830
					1150	1200	0.61	4050	-3650	400
					1100	1150	0.49	4000	-4050	-50
					1050	1100	0.32	3800	-4400	-600
					1000	1050	0.2	3700	-4800	-1100
					950	1000	0.11	3750	-5150	-1400
					903	950	0.03	3850	-5500	-1650
					903	1382	4.5	4040	-3350	680

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE		AREA	BW	BS	BA
					FROM	TO	KM²	MM	MM	MM
39.4	AALFOTBREEN	NO36204	2009		1350	1382	0.23	4100	-3480	630
					1300	1350	0.98	4050	-3600	450
					1250	1300	0.8	3950	-3750	200
					1200	1250	0.73	3850	-3950	-100
					1150	1200	0.61	3750	-4130	-380
					1100	1150	0.49	3650	-4350	-700
					1050	1100	0.32	3550	-4580	-1030
					1000	1050	0.2	3450	-4850	-1400
					950	1000	0.11	3400	-5100	-1700
					903	950	0.03	3400	-5350	-1950
					903	1382	4.5	3840	-4000	-160
39.5	AALFOTBREEN	NO36204	2010		1300	1368	0.9	2330	-3530	-1200
					1250	1300	0.78	2280	-3800	-1530
					1200	1250	0.7	2200	-4000	-1800
					1150	1200	0.58	2130	-4200	-2080
					1100	1150	0.45	2130	-4400	-2280
					1050	1100	0.3	2050	-4600	-2550
					1000	1050	0.18	1880	-4800	-2930
					950	1000	0.07	1730	-4980	-3250
					890	950	0.01	1600	-5200	-3600
					890	1368	3.98	2190	-4030	-1840
40.1	AUSTDALSBREEN	NO37323	2006		1700	1757	0.16	1600	-3050	-1450
					1650	1700	0.13	1650	-2950	-1300
					1600	1650	0.38	1600	-2900	-1300
					1550	1600	2.45	1550	-2850	-1300
					1500	1550	2.54	1500	-2800	-1300
					1450	1500	1.92	1400	-2950	-1550
					1400	1450	1.36	1300	-3450	-2150
					1350	1400	1.01	1110	-3900	-2790
					1300	1350	0.79	950	-4200	-3250
					1250	1300	0.69	700	-4650	-3950
					1200	1250	0.44	500	-5100	-4600
					1200	1757	11.84	1320	-3380	-2060
40.2	AUSTDALSBREEN	NO37323	2007		1700	1757	0.16	1900	-1500	400
					1650	1700	0.13	2500	-1550	950
					1600	1650	0.38	2900	-1600	1300
					1550	1600	2.45	3000	-1700	1300
					1500	1550	2.54	3000	-1800	1200
					1450	1500	1.92	2600	-1900	700
					1400	1450	1.36	2200	-2000	200
					1350	1400	1.01	1850	-2200	-350
					1300	1350	0.79	1600	-2500	-900
					1250	1300	0.69	1300	-2900	-1600
					1200	1250	0.44	1000	-3800	-2800
					1200	1757	11.84	2460	-2280	180
40.3	AUSTDALSBREEN	NO37323	2008		1700	1757	0.16	2300	-1500	800
					1650	1700	0.13	3000	-1500	1500
					1600	1650	0.38	3100	-1600	1500
					1550	1600	2.45	3050	-1700	1350
					1500	1550	2.54	2950	-1900	1050
					1450	1500	1.92	2700	-2100	600
					1400	1450	1.36	2400	-2300	100
					1350	1400	1.01	2100	-2750	-650
					1300	1350	0.79	1800	-3350	-1550
					1250	1300	0.69	1300	-4000	-2700
					1200	1250	0.44	1000	-4700	-3700
					1200	1757	11.84	2550	-2620	-70

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE		AREA	BW	BS	BA
					FROM	TO	KM^2	MM	MM	MM
40.4	AUSTDALSBREEN	NO37323	2009		1700	1747	0.14	1500	-1800	-300
					1650	1700	0.13	1900	-1830	70
					1600	1650	0.2	2000	-1850	150
					1550	1600	2.31	2100	-1870	230
					1500	1550	2.37	2200	-1900	300
					1450	1500	1.69	2000	-2000	0
					1400	1450	1.38	1950	-2400	-450
					1350	1400	0.94	1400	-2800	-1400
					1300	1350	0.73	1600	-3250	-1650
					1250	1300	0.55	1300	-3900	-2600
					1200	1250	0.2	1000	-4750	-3750
					1200	1747	10.63	1920	-2620	-700
40.5	AUSTDALSBREEN	NO37323	2010		1700	1747	0.14	1000	-2100	-1100
					1650	1700	0.13	1100	-2150	-1050
					1600	1650	0.2	1350	-2170	-820
					1550	1600	2.31	1300	-2200	-900
					1500	1550	2.37	1200	-2250	-1050
					1450	1500	1.69	1100	-2600	-1500
					1400	1450	1.38	950	-3200	-2250
					1350	1400	0.94	650	-3550	-2900
					1300	1350	0.73	550	-3850	-3300
					1250	1300	0.55	500	-4150	-3650
					1200	1250	0.2	450	-4500	-4050
					1200	1747	10.63	1030	-3030	-2000
41.1	AUSTRE BROEGGERBREEN	NO15504	2006	COM	550	600	0.12	1028	-421	607
					500	550	0.25	950	-597	353
					450	500	0.46	872	-773	98
					400	450	0.56	794	-950	-156
					350	400	0.79	716	-1126	-410
					300	350	1.02	638	-1302	-664
					250	300	0.92	560	-1478	-919
					200	250	0.95	482	-1654	-1173
					150	200	0.71	404	-1831	-1427
					100	150	0.31	325	-2007	-1681
					50	100	0.03	247	-2183	-1936
					50	600	6.12	619	-1344	-725
41.2	AUSTRE BROEGGERBREEN	NO15504	2007	COM	550	600	0.12	811	-212	599
					500	550	0.25	775	-378	397
					450	500	0.46	739	-543	196
					400	450	0.56	702	-708	-6
					350	400	0.79	666	-873	-207
					300	350	1.02	630	-1038	-409
					250	300	0.92	593	-1204	-610
					200	250	0.95	557	-1369	-812
					150	200	0.71	521	-1534	-1014
					100	150	0.31	484	-1699	-1215
					50	100	0.03	448	-1865	-1417
					50	600	6.12	621	-1078	-457
41.3	AUSTRE BROEGGERBREEN	NO15504	2008	COM	550	600	0.12	996	199	1195
					500	550	0.25	943	0	943
					450	500	0.46	890	-200	690
					400	450	0.56	837	-399	438
					350	400	0.79	784	-599	185
					300	350	1.02	731	-798	-67
					250	300	0.92	678	-998	-320
					200	250	0.95	625	-1197	-572
					150	200	0.71	572	-1397	-825

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE FROM	ALTITUDE TO	AREA KM²	BW MM	BS MM	BA MM
					100	150	0.31	519	-1596	-1077
					50	100	0.03	466	-1796	-1329
					50	600	6.12	719	-846	-127
41.4	AUSTRE BROEGGERBREEN	NO15504	2009	COM	550	600	0.12	923	-279	643
					500	550	0.25	885	-411	473
					450	500	0.46	847	-544	304
					400	450	0.56	809	-676	134
					350	400	0.79	772	-808	-36
					300	350	1.02	734	-940	-206
					250	300	0.92	696	-1072	-376
					200	250	0.95	658	-1204	-546
					150	200	0.71	621	-1336	-715
					100	150	0.31	583	-1468	-885
					50	100	0.03	545	-1600	-1055
					50	600	0			-250
42.1	BLOMSTOELSKARDSBREEN	NO	2007		1600	1636	1.35	4850	-1600	3250
					1550	1600	6.49	4650	-1750	2900
					1500	1550	4.04	4450	-1950	2500
					1450	1500	2.11	4250	-2150	2100
					1400	1450	1.56	4100	-2400	1700
					1350	1400	1.92	3900	-2600	1300
					1300	1350	1.37	3700	-2850	850
					1250	1300	0.81	3500	-3100	400
					1200	1250	1.31	3330	-3350	-20
					1150	1200	1.02	3050	-3600	-550
					1100	1150	0.45	2800	-3900	-1100
					1013	1100	0.33	2550	-4150	-1600
					1013	1636	22.8	4170	-2300	1880
42.2	BLOMSTOELSKARDSBREEN	NO	2008		1600	1636	1.35	3900	-1450	2450
					1550	1600	6.49	3800	-1650	2150
					1500	1550	4.04	3650	-1850	1800
					1450	1500	2.11	3500	-2050	1450
					1400	1450	1.56	3300	-2250	1050
					1350	1400	1.92	3150	-2450	700
					1300	1350	1.37	3000	-2650	350
					1250	1300	0.81	2900	-2850	50
					1200	1250	1.31	2800	-3050	-250
					1150	1200	1.02	2750	-3250	-500
					1100	1150	0.45	2700	-3450	-750
					1013	1100	0.33	2650	-3750	-1100
					1013	1636	22.45	3440	-2140	1300
42.3	BLOMSTOELSKARDSBREEN	NO	2009		1600	1650	1.35	4050	-1900	2150
					1550	1600	6.49	3900	-2000	1900
					1500	1550	4.04	3780	-2150	1630
					1450	1500	2.11	3650	-2350	1300
					1400	1450	1.56	3550	-2600	950
					1350	1400	1.92	3450	-2850	600
					1300	1350	1.37	3350	-3100	250
					1250	1300	0.81	3200	-3330	-130
					1200	1250	1.31	3000	-3550	-550
					1150	1200	1.02	2750	-3780	-1030
					1100	1150	0.45	2500	-4000	-1500
					1013	1100	0.33	2300	-4300	-2000
					1013	1650	22.77	3590	-2520	1070
42.4	BLOMSTOELSKARDSBREEN	NO	2010		1600	1636	1.35	2130	-2500	-370
					1550	1600	6.49	2080	-2600	-520

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE		AREA	BW	BS	BA
					FROM	TO	KM²	MM	MM	MM
					1500	1550	4.04	2030	-2750	-720
					1450	1500	2.11	1950	-2900	-950
					1400	1450	1.56	1880	-3080	-1200
					1350	1400	1.92	1750	-3280	-1530
					1300	1350	1.37	1580	-3530	-1950
					1250	1300	0.81	1450	-3800	-2350
					1200	1250	1.31	1350	-4050	-2700
					1150	1200	1.02	1250	-4330	-3080
					1100	1150	0.45	1100	-4630	-3530
					1013	1100	0.33	800	-5050	-4250
					1013	1636	22.8	1850	-3070	-1230
43.1	BREIDABLIKKBREA	NO	2006		1600	1659	0.66	1650	-3800	-2150
					1550	1600	0.61	1500	-3950	-2450
					1500	1550	0.45	1450	-4150	-2700
					1450	1500	0.43	1400	-4400	-3000
					1400	1450	0.39	1400	-4650	-3250
					1350	1400	0.36	1400	-4900	-3500
					1300	1350	0.4	1450	-5150	-3700
					1236	1300	0.31	1550	-5400	-3850
					1236	1659	3.61	1490	-4440	-2950
43.2	BREIDABLIKKBREA	NO	2007		1600	1651	0.63	3750	-2250	1500
					1550	1600	0.58	3600	-2550	1050
					1500	1550	0.43	3500	-2800	700
					1450	1500	0.38	3450	-3050	400
					1400	1450	0.28	3400	-3300	100
					1350	1400	0.36	3250	-3550	-300
					1300	1350	0.34	3050	-3850	-800
					1234	1300	0.38	3000	-4200	-1200
					1234	1651	3.6	3420	-3070	360
43.3	BREIDABLIKKBREA	NO	2008		1600	1651	0.63	2650	-2000	650
					1550	1600	0.58	2700	-2300	400
					1500	1550	0.43	2750	-2700	50
					1450	1500	0.38	2800	-3050	-250
					1400	1450	0.28	2750	-3350	-600
					1350	1400	0.36	2650	-3600	-950
					1300	1350	0.34	2550	-3850	-1300
					1234	1300	0.38	2450	-4100	-1650
					1234	1651	3.37	2660	-2960	-300
43.4	BREIDABLIKKBREA	NO	2009		1600	1650	0.63	2600	-2380	220
					1550	1600	0.58	2550	-2500	50
					1500	1550	0.43	2450	-2680	-230
					1450	1500	0.38	2350	-2880	-530
					1400	1450	0.28	2300	-3100	-800
					1350	1400	0.36	2400	-3380	-980
					1300	1350	0.34	2500	-3700	-1200
					1234	1300	0.38	2400	-4100	-1700
					1234	1650	3.37	2470	-2980	-520
43.5	BREIDABLIKKBREA	NO	2010		1600	1651	0.63	1700	-3280	-1580
					1550	1600	0.58	1630	-3330	-1700
					1500	1550	0.43	1530	-3430	-1900
					1450	1500	0.38	1500	-3530	-2030
					1400	1450	0.28	1530	-3630	-2100
					1350	1400	0.36	1580	-3700	-2120
					1300	1350	0.34	1630	-3800	-2170
					1234	1300	0.38	1600	-3950	-2350
					1234	1651	3.37	1600	-3530	-1940

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE FROM	ALTITUDE TO	AREA KM²	BW MM	BS MM	BA MM
44.1	ENGABREEN	NO67011	2006		1500	1575	0.13	2200	-1900	300
					1400	1500	2.94	2500	-2000	500
					1300	1400	10.52	2450	-2300	150
					1200	1300	8.68	2200	-2700	-500
					1100	1200	7.47	1650	-3200	-1550
					1000	1100	4.52	1300	-3600	-2300
					900	1000	2.38	500	-4700	-4200
					800	900	0.87	0	-5550	-5550
					700	800	0.54	-500	-6000	-6500
					600	700	0.38	-1000	-6550	-7550
					500	600	0.28	1500	-7100	-5600
					400	500	0.2	-2000	-7650	-9650
					300	400	0.17	-2500	-8200	-10700
					200	300	0.26	-3100	-8800	-11900
					10	200	0.21	-3700	-9800	-13500
					10	1575	39.6	1720	-3160	-1430
44.2	ENGABREEN	NO67011	2007		1500	1575	0.13	4000	-1500	2500
					1400	1500	2.94	4200	-1600	2600
					1300	1400	10.52	4300	-1750	2550
					1200	1300	8.68	3800	-2050	1750
					1100	1200	7.47	3200	-2350	850
					1000	1100	4.52	2800	-2650	150
					900	1000	2.38	2000	-2900	-900
					800	900	0.87	1500	-3500	-2000
					700	800	0.54	1000	-4100	-3100
					600	700	0.38	500	-4800	-4300
					500	600	0.28	0	-5500	-5500
					400	500	0.2	-500	-6200	-6700
					300	400	0.17	-1000	-6900	-7900
					200	300	0.26	-1500	-7700	-9200
					10	200	0.21	-2000	-8800	-10800
					10	1575	39.6	3400	-2300	1110
44.3	ENGABREEN	NO67011	2008		1500	1574	0.1	3000	-1600	1400
					1400	1500	2.65	3400	-1700	1700
					1300	1400	10.49	3200	-1900	1300
					1200	1300	8.46	3200	-2100	1100
					1100	1200	7.56	2800	-2400	400
					1000	1100	4.57	2500	-2800	-300
					900	1000	2.38	1900	-3800	-1900
					800	900	0.84	1500	-4500	-3000
					700	800	0.51	1100	-5150	-4050
					600	700	0.35	700	-5800	-5100
					500	600	0.26	300	-6450	-6150
					400	500	0.17	-100	-7100	-7200
					300	400	0.13	-500	-7750	-8250
					200	300	0.18	-900	-8400	-9300
					100	200	0.09	-1300	-9050	-10350
					89	100	0	-1600	-9500	-11100
					89	1574	38.74	2810	-2500	310
44.4	ENGABREEN	NO67011	2009		1500	1574	0.1	3000	-1850	1150
					1400	1500	2.65	3500	-2000	1500
					1300	1400	10.49	3750	-2200	1550
					1200	1300	8.46	3000	-2500	500
					1100	1200	7.56	2800	-2900	-100
					1000	1100	4.57	2250	-3400	-1150
					900	1000	2.38	1800	-4000	-2200
					800	900	0.84	1400	-4700	-3300
					700	800	0.51	1000	-5400	-4400

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE FROM	ALTITUDE TO	AREA KM²	BW MM	BS MM	BA MM
					600	700	0.35	500	-6200	-5700
					500	600	0.26	0	-7000	-7000
					400	500	0.17	-500	-7850	-8350
					300	400	0.13	-1000	-8750	-9750
					200	300	0.18	-1500	-9700	-11200
					100	200	0.086	-2000	-10650	-12650
					89	100	0.001	-2270	-11200	-13470
					89	1574	38.7	2870	-2900	-30
44.5	ENGABREEN	NO67011	2010		1500	1574	0.1	2000	-1700	300
					1400	1500	2.65	2600	-1800	800
					1300	1400	10.49	2400	-2000	400
					1200	1300	8.46	2350	-2300	50
					1100	1200	7.56	2000	-2600	-600
					1000	1100	4.57	1700	-3000	-1300
					900	1000	2.38	1350	-3400	-2050
					800	900	0.84	1000	-3900	-2900
					700	800	0.51	650	-4400	-3750
					600	700	0.35	300	-4900	-4600
					500	600	0.26	0	-5400	-5400
					400	500	0.17	-300	-6000	-6300
					300	400	0.13	-600	-6600	-7200
					200	300	0.18	-900	-7200	-8100
					100	200	0.09	-1300	-7800	-9100
					89	100	0.001	-1550	-8200	-9750
					89	1574	38.74	2040	-2560	-520
45.1	GRAAFJELLSBREA	NO	2006		1600	1659	0.68	1550	-3700	-2150
					1550	1600	2.21	1650	-3800	-2150
					1500	1550	2.03	1600	-4000	-2400
					1450	1500	1.28	1450	-4350	-2900
					1400	1450	0.7	1250	-4750	-3500
					1350	1400	0.54	1100	-5150	-4050
					1300	1350	0.44	950	-5550	-4600
					1250	1300	0.38	850	-5850	-5000
					1200	1250	0.16	750	-6100	-5350
					1150	1200	0.18	700	-6350	-5650
					1100	1150	0.23	650	-6550	-5900
					1051	1100	0.11	700	-6700	-6000
					1051	1659	8.94	1400	-4450	-3050
45.2	GRAAFJELLSBREA	NO	2007		1600	1651	0.5	4000	-2150	1850
					1550	1600	1.72	3950	-2250	1700
					1500	1550	2.13	3850	-2400	1450
					1450	1500	1.49	3700	-2700	1000
					1400	1450	0.81	3500	-3100	400
					1350	1400	0.49	3300	-3550	-250
					1300	1350	0.41	3050	-3950	-900
					1250	1300	0.34	2800	-4300	-1500
					1200	1250	0.15	2550	-4600	-2050
					1150	1200	0.08	2300	-4850	-2550
					1100	1150	0.12	2050	-5050	-3000
					1049	1100	0.16	1850	-5250	-3400
					1049	1651	8.9	3600	-2850	750
45.3	GRAAFJELLSBREA	NO	2008		1600	1651	0.5	2850	-1900	950
					1550	1600	1.72	2050	-2050	1000
					1500	1550	2.13	2800	-2350	450
					1450	1500	1.49	2600	-2750	-150
					1400	1450	0.81	2450	-3150	-700
					1350	1400	0.49	2350	-3600	-1250

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE		AREA	BW	BS	BA
					FROM	TO	KM²	MM	MM	MM
					1300	1350	0.41	2250	-3950	-1700
					1250	1300	0.34	2150	-4300	-2150
					1200	1250	0.15	2080	-4550	-2480
					1150	1200	0.08	2000	-4800	-2800
					1100	1150	0.12	1950	-5000	-3050
					1049	1100	0.16	1900	-5200	-3300
					1049	1651	8.41	2660	-2800	-140
45.4	GRAAFJELLSBREA	NO	2009		1600	1651	0.5	2700	-2250	450
					1550	1600	1.72	2550	-2380	170
					1500	1550	2.13	2450	-2550	-100
					1450	1500	1.49	2350	-2800	-450
					1400	1450	0.81	2250	-3100	-850
					1350	1400	0.49	2150	-3400	-1250
					1300	1350	0.41	2050	-3700	-1650
					1250	1300	0.34	1950	-4000	-2050
					1200	1250	0.15	1830	-4250	-2420
					1150	1200	0.08	1700	-4480	-2780
					1100	1150	0.12	1600	-4700	-3100
					1049	1100	0.16	1480	-4900	-3420
					1049	1651	8.41	2340	-2880	-540
45.5	GRAAFJELLSBREA	NO	2010		1600	1651	0.5	1650	-2950	-1300
					1550	1600	1.72	1630	-3000	-1370
					1500	1550	2.13	1600	-3050	-1450
					1450	1500	1.49	1550	-3200	-1650
					1400	1450	0.81	1450	-3400	-1950
					1350	1400	0.49	1350	-3700	-2350
					1300	1350	0.41	1300	-4050	-2750
					1250	1300	0.34	1230	-4350	-3120
					1200	1250	0.15	1180	-4630	-3450
					1150	1200	0.08	1130	-4850	-3720
					1100	1150	0.12	1080	-5050	-3970
					1049	1100	0.16	1050	-5250	-4200
					1049	1651	8.41	1510	-3350	-1840
46.1	GRAASUBREEN	NO0547	2006		2250	2290	0.04	480	-2500	-2020
					2200	2250	0.17	310	-2550	-2240
					2150	2200	0.26	480	-2600	-2120
					2100	2150	0.34	330	-2550	-2220
					2050	2100	0.37	390	-2550	-2160
					2000	2050	0.42	570	-2550	-1980
					1950	2000	0.36	660	-2600	-1940
					1900	1950	0.14	730	-2700	-1970
					1830	1900	0.15	710	-2750	-2040
					1830	2290	2.25	510	-2590	-2080
46.2	GRAASUBREEN	NO0547	2007		2250	2290	0.04	740	-700	40
					2200	2250	0.17	340	-890	-550
					2150	2200	0.26	560	-1100	-540
					2100	2150	0.34	430	-1320	-890
					2050	2100	0.37	430	-1340	-910
					2000	2050	0.42	600	-1570	-970
					1950	2000	0.36	840	-1350	-510
					1900	1950	0.14	990	-1370	-380
					1830	1900	0.15	880	-1410	-530
					1830	2290	2.3	610	-1320	-710
46.3	GRAASUBREEN	NO0547	2008		2250	2290	0.04	850	-300	550
					2200	2250	0.17	690	-430	260
					2150	2200	0.26	1010	-560	450

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE FROM	TO	AREA KM²	BW MM	BS MM	BA MM
					2100	2150	0.34	790	-670	120
					2050	2100	0.37	730	-800	-70
					2000	2050	0.42	860	-970	-110
					1950	2000	0.36	1160	-1130	30
					1900	1950	0.14	1360	-1230	130
					1830	1900	0.15	1370	-1350	20
					1830	2290	2.25	950	-860	90
46.4	GRAASUBREEN	NO0547	2009		2250	2300	0.03	700	-520	180
					2200	2250	0.15	660	-700	-40
					2150	2200	0.26	840	-900	-60
					2100	2150	0.35	570	-980	-410
					2050	2100	0.36	710	-1220	-510
					2000	2050	0.41	810	-1150	-340
					1950	2000	0.32	980	-1150	-170
					1900	1950	0.13	1090	-1260	-170
					1833	1900	0.11	1150	-1400	-250
					1833	2300	2.12	810	-1080	-280
46.5	GRAASUBREEN	NO0547	2010		2250	2300	0.03	1190	-900	290
					2200	2250	0.15	680	-1000	-320
					2150	2200	0.26	570	-1150	-580
					2100	2150	0.35	480	-1300	-820
					2050	2100	0.36	410	-1500	-1090
					2000	2050	0.41	500	-1750	-1250
					1950	2000	0.32	590	-2000	-1410
					1900	1950	0.13	600	-2250	-1650
					1833	1900	0.11	650	-2500	-1850
					1833	2300	2.12	540	-1600	-1060
47.1	HANSBREEN	NO12419	2006	FXD	450	510	6.71	1684	-950	734
					400	450	7.39	1738	-688	1050
					350	400	8.103	1380	-840	540
					300	350	8.555	1228	-1123	105
					250	300	8.25	1168	-1420	-252
					200	250	6.578	1296	-1395	-99
					150	200	5.125	1116	-1764	-648
					100	150	3.817	672	-2004	-1332
					0	100	2.215	588	-1290	-702
					0	510	56.742	1297	-1204	93
47.2	HANSBREEN	NO12419	2007	FXD	450	510	6.71	1356	-203	1153
					400	450	7.39	1408	-448	960
					350	400	8.103	1144	-724	420
					300	350	8.555	1012	-1080	-68
					250	300	8.25	780	-1392	-612
					200	250	6.578	1000	-1423	-423
					150	200	5.125	812	-1226	-414
					100	150	3.817	728	-1565	-837
					0	100	2.215	460	-2602	-2142
					0	510	56.742	1029	-1033	-4
47.3	HANSBREEN	NO12419	2008	FXD	450	510	6.71	1576	-378	1198
					400	450	7.39	1580	-677	903
					350	400	8.103	1516	-646	870
					300	350	8.555	1140	-1065	75
					250	300	8.25	1000	-1315	-315
					200	250	6.578	1212	-1113	99
					150	200	5.125	844	-1663	-819
					100	150	3.817	860	-1850	-990

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE FROM	ALTITUDE TO	AREA KM²	BW MM	BS MM	BA MM
					0	100	2.215	632	-2450	-1818
					0	510	56.742	1225	-1076	149
47.4	HANSBREEN	NO12419	2009	FXD	450	510	6.71	982	-1203	-221
					400	450	7.39	1078	-826	252
					350	400	8.103	872	-1150	-278
					300	350	8.555	720	-1410	-690
					250	300	8.25	608	-2156	-1548
					200	250	6.578	604	-1990	-1386
					150	200	5.125	412	-2203	-1791
					100	150	3.817	632	-2018	-1386
					0	100	2.215	380	-2063	-1683
					0	510	56.742	743	-1586	-844
47.5	HANSBREEN	NO12419	2010	FXD	450	510	6.71	1540	-335	1205
					400	450	7.39	1615	-330	1285
					350	400	8.103	1388	-570	818
					300	350	8.555	1028	-1050	-22
					250	300	8.25	812	-1469	-657
					200	250	6.578	720	-1503	-783
					150	200	5.125	620	-1799	-1179
					100	150	3.817	676	-1783	-1107
					0	100	2.215	380	-2180	-1800
					0	510	56.742	1063	-1078	-14
48.1	HANSEBREEN	NO36206	2006		1300	1327	0.18	2500	-6100	-3600
					1250	1300	0.5	2550	-6250	-3700
					1200	1250	0.45	2600	-6450	-3850
					1150	1200	0.51	2600	-6600	-4000
					1100	1150	0.62	2100	-6650	-4550
					1050	1100	0.4	2300	-6500	-4200
					1000	1050	0.23	2500	-6250	-3750
					950	1000	0.13	2800	-6000	-3200
					930	950	0.03	3000	-5800	-2800
					930	1327	3.1	2450	-6430	-3980
48.2	HANSEBREEN	NO36206	2007		1300	1327	0.18	4200	-2900	1300
					1250	1300	0.5	4300	-2900	1400
					1200	1250	0.45	4350	-2950	1400
					1150	1200	0.51	4300	-3050	1250
					1100	1150	0.62	3850	-3200	650
					1050	1100	0.4	3700	-3500	200
					1000	1050	0.23	3750	-3850	-100
					950	1000	0.13	3950	-4350	-400
					930	950	0.03	4100	-4700	-600
					930	1327	0	4070	-3230	840
48.3	HANSEBREEN	NO36206	2008		1300	1327	0.18	4000	-2800	1200
					1250	1300	0.5	4050	-2900	1150
					1200	1250	0.45	4100	-3100	1000
					1150	1200	0.51	4050	-3400	650
					1100	1150	0.62	3800	-3800	0
					1050	1100	0.4	3650	-4250	-600
					1000	1050	0.23	3600	-4800	-1200
					950	1000	0.13	3800	-5350	-1550
					930	950	0.03	3950	-5750	-1800
					930	1327	3.06	3900	-3650	260
48.4	HANSEBREEN	NO36206	2009		1300	1350	0.18	3700	-3850	-150
					1250	1300	0.5	3900	-4000	-100
					1200	1250	0.45	4000	-4250	-250

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE		AREA	BW	BS	BA
					FROM	TO	KM²	MM	MM	MM
					1150	1200	0.51	3650	-4450	-800
					1100	1150	0.62	3100	-4600	-1500
					1050	1100	0.4	2900	-4700	-1800
					1000	1050	0.23	2950	-4750	-1800
					950	1000	0.13	3050	-4800	-1750
					930	950	0.03	3100	-4830	-1730
					930	1350	3.06	3450	-4420	-970
48.5	HANSEBREEN	NO36206	2010		1250	1310	0.5	2230	-3900	-1670
					1200	1250	0.42	2330	-4100	-1770
					1150	1200	0.47	2250	-4250	-2000
					1100	1150	0.54	2050	-4400	-2350
					1050	1100	0.5	1850	-4550	-2700
					1000	1050	0.21	1800	-4730	-2930
					950	1000	0.1	1850	-4880	-3030
					927	950	0.02	1930	-5000	-3070
					927	1310	2.75	2100	-4310	-2220
49.1	HELLSTUGUBREEN	NO0511	2006		2150	2210	0.02	850	-1000	-150
					2100	2150	0.09	860	-1300	-440
					2050	2100	0.28	880	-1300	-420
					2000	2050	0.18	880	-1600	-720
					1950	2000	0.38	890	-2100	-1210
					1900	1950	0.61	760	-2400	-1640
					1850	1900	0.35	800	-2700	-1900
					1800	1850	0.33	680	-3000	-2320
					1750	1800	0.13	540	-3300	-2760
					1700	1750	0.1	750	-3600	-2850
					1650	1700	0.17	530	-3900	-3370
					1600	1650	0.13	590	-4200	-3610
					1550	1600	0.16	380	-4500	-4120
					1500	1550	0.08	230	-4800	-4570
					1480	1500	0.02	210	-5150	-4940
					1480	2210	3.03	730	-2740	-2010
49.2	HELLSTUGUBREEN	NO0511	2007		2150	2210	0.02	1200	-600	600
					2100	2150	0.09	1240	-750	490
					2050	2100	0.28	1360	-920	440
					2000	2050	0.18	1490	-1050	440
					1950	2000	0.38	1220	-1220	0
					1900	1950	0.61	1150	-1400	-250
					1850	1900	0.35	920	-1700	-780
					1800	1850	0.33	1080	-1900	-820
					1750	1800	0.13	910	-2100	-1190
					1700	1750	0.1	850	-2300	-1450
					1650	1700	0.17	770	-2500	-1730
					1600	1650	0.13	610	-2700	-2090
					1550	1600	0.16	300	-3000	-2700
					1500	1550	0.08	170	-3250	-3080
					1480	1500	0.02	0	-3420	-3420
					1480	2210	3	1030	-1700	-670
49.3	HELLSTUGUBREEN	NO0511	2008		2150	2210	0.02	1800	-200	1600
					2100	2150	0.09	1720	-410	1310
					2050	2150	0.28	1890	-500	1390
					2000	2050	0.18	1950	-760	1190
					1950	2000	0.38	1570	-980	590
					1900	1950	0.61	1570	-1200	370
					1850	1900	0.35	1360	-1440	-80
					1800	1850	0.33	1360	-1700	-340
					1750	1800	0.13	1240	-1940	-700

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE		AREA	BW	BS	BA
					FROM	TO	KM²	MM	MM	MM
					1700	1750	0.1	1090	-2160	-1070
					1650	1700	0.17	1050	-2350	-1300
					1600	1650	0.13	900	-2600	-1700
					1550	1600	0.16	630	-2850	-2220
					1500	1550	0.08	490	-3130	-2640
					1480	1500	0.02	430	-3300	-2870
					1480	2210	3.03	1410	-1470	-60
49.4	HELLSTUGUBREEN	NO0511	2009		2150	2229	0.02	1600	-300	1300
					2100	2150	0.08	1440	-500	940
					2050	2100	0.29	1730	-600	1130
					2000	2050	0.18	1650	-920	730
					1950	2000	0.31	1420	-1180	240
					1900	1950	0.6	1380	-1350	30
					1850	1900	0.37	1260	-1500	-240
					1800	1850	0.33	1200	-1700	-500
					1750	1800	0.16	990	-1900	-910
					1700	1750	0.09	1250	-2050	-800
					1650	1700	0.14	980	-2250	-1270
					1600	1650	0.11	1170	-2600	-1430
					1550	1600	0.12	760	-3000	-2240
					1500	1550	0.08	640	-3250	-2610
					1482	1500	0.01	500	-3400	-2900
					1482	2229	2.9	1300	-1530	-230
49.5	HELLSTUGUBREEN	NO0511	2010		2150	2229	0.02	920	-950	-30
					2100	2150	0.08	850	-1150	-300
					2050	2100	0.29	1090	-1250	-160
					2000	2050	0.18	1100	-1550	-450
					1950	2000	0.31	840	-1750	-910
					1900	1950	0.6	810	-1900	-1090
					1850	1900	0.37	740	-2100	-1360
					1800	1850	0.33	690	-2250	-1560
					1750	1800	0.16	390	-2400	-2010
					1700	1750	0.09	430	-2550	-2120
					1650	1700	0.14	580	-2800	-2220
					1600	1650	0.11	390	-3060	-2670
					1550	1600	0.12	330	-3300	-2970
					1500	1550	0.08	520	-3550	-3030
					1482	1500	0.01	300	-3800	-3500
					1482	2229	2.9	750	-2090	-1340
50.1	JUVFONNE	NO	2010		1950	1998	0.02	570	-3200	-2630
					1900	1950	0.063	600	-3800	-3200
					1850	1900	0.082	730	-4160	-3430
					1840	1850	0.006	840	-4170	-3330
					1840	1998	0.171	670	-3910	-3240
51.1	KONGSVEGEN	NO15510	2006	COM	800	850	2	1556	118	1675
					750	800	3.6	1459	-70	1389
					700	750	8.1	1361	-258	1102
					650	700	14.5	1263	-447	816
					600	650	13.2	1165	-635	530
					550	600	13.3	1067	-824	243
					500	550	10.9	970	-1012	-43
					450	500	8.3	872	-1201	-329
					400	450	5.2	774	-1389	-616
					350	400	7.6	676	-1578	-902
					300	350	4.3	578	-1766	-1188
					250	300	4.3	480	-1955	-1474
					200	250	3.4	383	-2143	-1761

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE FROM	ALTITUDE TO	AREA KM²	BW MM	BS MM	BA MM
					150	200	2.4	285	-2332	-2047
					0	150	0.8	187	-2520	-2333
					0	850	101.9	990	-972	18
51.2	KONGSVEGEN	NO15510	2007	COM	800	850	2	997	111	1109
					750	800	3.6	944	-42	902
					700	750	8.1	890	-196	695
					650	700	14.5	837	-349	488
					600	650	13.2	783	-502	281
					550	600	13.3	730	-656	74
					500	550	10.9	676	-809	-133
					450	500	8.3	623	-963	-340
					400	450	5.2	569	-1116	-547
					350	400	7.6	516	-1270	-754
					300	350	4.3	462	-1423	-961
					250	300	4.3	409	-1577	-1168
					200	250	3.4	355	-1730	-1375
					150	200	2.4	302	-1884	-1582
					100	150	0.8	248	-2037	-1789
					0	150	0.05	195	-2191	-1996
					0	850	101.9	687	-777	-90
51.3	KONGSVEGEN	NO15510	2008	COM	800	850	2	1084	564	1648
					750	800	3.6	1023	412	1435
					700	750	8.1	963	260	1222
					650	700	14.5	902	108	1010
					600	650	13.2	841	-44	797
					550	600	13.3	781	-196	585
					500	550	10.9	720	-348	372
					450	500	8.3	659	-500	160
					400	450	5.2	598	-651	-53
					350	400	7.6	538	-803	-266
					300	350	4.3	477	-955	-478
					250	300	4.3	416	-1107	-691
					200	250	3.4	356	-1259	-903
					150	200	2.4	295	-1411	-1116
					0	150	0.8	234	-1563	-1328
					0	850	101.9	733	-315	418
51.4	KONGSVEGEN	NO15510	2009	COM	800	850	2	916	187	1103
					750	800	3.6	867	32	899
					700	750	8.1	818	-123	695
					650	700	14.5	769	-278	491
					600	650	13.2	719	-433	287
					550	600	13.3	670	-588	83
					500	550	10.9	621	-743	-121
					450	500	8.3	572	-898	-325
					400	450	5.2	523	-1052	-530
					350	400	7.6	474	-1207	-734
					300	350	4.3	425	-1362	-938
					250	300	4.3	376	-1517	-1142
					200	250	3.4	326	-1672	-1346
					150	200	2.4	277	-1827	-1550
					0	150	0.8	228	-1982	-1754
					0	850	0			-80
52.1	LANGFJORDJOEKULEN	NO85008	2006		1000	1050	0.55	1600	-2450	-850
					900	1000	0.81	1650	-2950	-1300
					800	900	0.61	1600	-3600	-2000
					700	800	0.56	1450	-4150	-2700
					600	700	0.39	1250	-4650	-3400

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE FROM	TO	AREA KM²	BW MM	BS MM	BA MM
					500	600	0.35	1050	-5050	-4000
					400	500	0.25	900	-5450	-4550
					280	400	0.14	800	-5900	-5100
					280	1050	3.65	1420	-3830	-2410
52.2	LANGFJORDJOEKULEN	NO85008	2007		1000	1050	0.55	2500	-1900	600
					900	1000	0.81	2450	-2100	350
					800	900	0.61	2350	-2450	-100
					700	800	0.56	2200	-2900	-700
					600	700	0.39	1800	-3500	-1700
					500	600	0.35	1450	-4100	-2650
					400	500	0.25	1150	-4750	-3600
					280	400	0.14	850	-5450	-4600
					280	1050	3.7	2090	-2900	-810
52.3	LANGFJORDJOEKULEN	NO85008	2008		1000	1050	0.42	1700	-1150	550
					950	1000	0.47	1800	-1300	500
					900	950	0.38	1850	-1500	350
					850	900	0.36	1900	-1700	200
					800	850	0.23	1850	-1900	-50
					750	800	0.22	1800	-2100	-300
					700	750	0.27	1700	-2350	-650
					650	700	0.2	1600	-2550	-950
					600	650	0.17	1500	-2800	-1300
					550	600	0.13	1400	-3000	-1600
					500	550	0.12	1250	-3200	-1950
					450	500	0.1	1100	-3400	-2300
					400	450	0.1	1000	-3650	-2650
					350	400	0.05	850	-3850	-3000
					302	350	0.02	700	-4100	-3400
					302	1050	3.21	1670	-2020	-350
52.4	LANGFJORDJOEKULEN	NO85008	2009		1000	1050	0.42	2350	-2500	-150
					950	1000	0.47	2300	-2600	-300
					900	950	0.38	2200	-2700	-500
					850	900	0.36	2000	-2800	-800
					800	850	0.23	1850	-2950	-1100
					750	800	0.22	1750	-3100	-1350
					700	750	0.27	1700	-3300	-1600
					650	700	0.2	1600	-3550	-1950
					600	650	0.17	1500	-3850	-2350
					550	600	0.13	1400	-4150	-2750
					500	550	0.12	1250	-4500	-3250
					450	500	0.1	1150	-4900	-3750
					400	450	0.1	1110	-5250	-4140
					350	400	0.05	1050	-5650	-4600
					302	350	0.02	1110	-6000	-4890
					302	1050	3.2	1880	-3210	-1320
52.5	LANGFJORDJOEKULEN	NO85008	2010		1000	1050	0.42	2250	-2180	70
					950	1000	0.47	2130	-2230	-100
					900	950	0.38	2080	-2300	-220
					850	900	0.36	2080	-2400	-320
					800	850	0.23	2080	-2500	-420
					750	800	0.22	2000	-2630	-630
					700	750	0.27	1880	-2750	-870
					650	700	0.2	1720	-2930	-1210
					600	650	0.17	1580	-3080	-1500
					550	600	0.13	1380	-3250	-1870
					500	550	0.12	1200	-3480	-2280
					450	500	0.1	1050	-3680	-2630

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE FROM	TO	AREA KM²	BW MM	BS MM	BA MM
					400	450	0.1	1000	-3880	-2880
					350	400	0.05	1000	-4100	-3100
					302	350	0.02	1050	-4330	-3280
					302	1050	3.21	1890	-2650	-760
53.1	MIDTRE LOVENBREEN	NO15506	2006	COM	550	600	0.08	1168	-288	881
					500	550	0.25	1083	-479	604
					450	500	0.67	998	-671	327
					400	450	0.81	912	-863	49
					350	400	0.69	827	-1055	-228
					300	350	0.76	741	-1246	-505
					250	300	0.7	656	-1438	-782
					200	250	0.47	570	-1630	-1059
					150	200	0.43	485	-1822	-1337
					100	150	0.53	400	-2013	-1614
					50	100	0.06	314	-2205	-1891
					50	600	5.45	747	-1233	-486
53.2	MIDTRE LOVENBREEN	NO15506	2007	COM	550	600	0.08	1051	7	1058
					500	550	0.25	985	-193	793
					450	500	0.67	920	-392	527
					400	450	0.81	854	-592	262
					350	400	0.69	789	-792	-3
					300	350	0.76	723	-992	-269
					250	300	0.7	658	-1191	-534
					200	250	0.47	592	-1391	-799
					150	200	0.43	527	-1591	-1065
					100	150	0.53	461	-1791	-1330
					50	100	0.06	395	-1991	-1595
					50	600	5.45	728	-978	-251
53.3	MIDTRE LOVENBREEN	NO15506	2008	COM	550	600	0.08	1064	-1	1063
					500	550	0.25	1000	-154	846
					450	500	0.67	936	-307	628
					400	450	0.81	872	-461	411
					350	400	0.69	808	-614	194
					300	350	0.76	744	-767	-23
					250	300	0.7	680	-921	-241
					200	250	0.47	616	-1074	-458
					150	200	0.43	552	-1227	-675
					100	150	0.53	488	-1380	-893
					50	100	0.06	424	-1534	-1110
					50	600	5.45	748	-757	-9
53.4	MIDTRE LOVENBREEN	NO15506	2009	COM	550	600	0.08	1029	-249	780
					500	550	0.25	973	-379	594
					450	500	0.67	916	-508	408
					400	450	0.81	859	-638	222
					350	400	0.69	803	-767	35
					300	350	0.76	746	-897	-151
					250	300	0.7	690	-1027	-337
					200	250	0.47	633	-1156	-523
					150	200	0.43	577	-1286	-709
					100	150	0.53	520	-1415	-895
					50	100	0.06	464	-1545	-1081
					50	600	0			-140
54.1	NIGARDSBREEN	NO31014	2006		1900	1960	0.38	2000	-1900	100
					1800	1900	3.92	2100	-2100	0
					1700	1800	9.39	2000	-2350	-350
					1600	1700	12.88	1850	-2650	-800
					1500	1600	9.18	1750	-3000	-1250

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE		AREA	BW	BS	BA
					FROM	TO	KM²	MM	MM	MM
					1400	1500	5.82	1600	-3500	-1900
					1300	1400	2.28	1450	-4150	-2700
					1200	1300	0.9	1300	-4850	-3550
					1100	1200	0.45	1150	-5650	-4500
					1000	1100	0.58	1000	-6350	-5350
					900	1000	0.47	850	-7100	-6250
					800	900	0.44	700	-7850	-7150
					700	800	0.33	500	-8500	-8000
					600	700	0.39	300	-9150	-8850
					500	600	0.24	100	-9800	-9700
					400	500	0.12	-100	-10450	-10550
					320	400	0.05	-300	-11000	-11300
					320	1960	47.82	1747	-3146	-1399
54.2	NIGARDSBREEN	NO31014	2007		1900	1960	0.38	3790	-1300	2490
					1800	1900	3.92	3820	-1450	2370
					1700	1800	9.39	3500	-1600	1900
					1600	1700	12.88	3300	-1750	1550
					1500	1600	9.18	3100	-1900	1200
					1400	1500	5.82	2950	-2150	800
					1300	1400	2.28	2750	-2500	250
					1200	1300	0.9	2350	-2950	-600
					1100	1200	0.45	1850	-3450	-1600
					1000	1100	0.58	1350	-4000	-2650
					900	1000	0.47	850	-4600	-3750
					800	900	0.44	500	-5200	-4700
					700	800	0.33	200	-5800	-5600
					600	700	0.39	-50	-6400	-6450
					500	600	0.24	-350	-7050	-7400
					400	500	0.12	-600	-7600	-8200
					320	400	0.05	-850	-8150	-9000
					320	1960	47.82	3092	-2045	1047
54.3	NIGARDSBREEN	NO31014	2008		1900	1960	0.38	3400	-1000	2400
					1800	1900	3.92	3300	-1100	2200
					1700	1800	9.39	3200	-1250	1950
					1600	1700	12.88	3180	-1500	1680
					1500	1600	9.18	3150	-1800	1350
					1400	1500	5.82	3050	-2150	900
					1300	1400	2.28	2750	-2550	200
					1200	1300	0.9	2400	-3050	-650
					1100	1200	0.45	2050	-3600	-1550
					1000	1100	0.58	1750	-4200	-2450
					900	1000	0.47	1450	-4900	-3450
					800	900	0.44	1200	-5800	-4600
					700	800	0.33	950	-6850	-5900
					600	700	0.39	700	-8000	-7300
					500	600	0.24	450	-9250	-8800
					400	500	0.12	200	-10450	-10250
					320	400	0.05	50	-11550	-11500
					320	1960	47.82	3010	-1920	1100
54.4	NIGARDSBREEN	NO31014	2009		1900	1957	0.31	2150	-950	1200
					1800	1900	4.06	2580	-1110	1470
					1700	1800	9.19	2400	-1330	1070
					1600	1700	12.74	2380	-1550	830
					1500	1600	8.94	2230	-1800	430
					1400	1500	5.92	2080	-2150	-70
					1300	1400	2.08	1900	-2550	-650
					1200	1300	0.79	1800	-3080	-1280
					1100	1200	0.39	1700	-3700	-2000

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE FROM	ALTITUDE TO	AREA KM²	BW MM	BS MM	BA MM
					1000	1100	0.58	1550	-4350	-2800
					900	1000	0.46	1330	-5130	-3800
					800	900	0.47	1080	-5950	-4870
					700	800	0.32	750	-6850	-6100
					600	700	0.41	350	-7750	-7400
					500	600	0.26	-50	-8650	-8700
					400	500	0.16	-550	-9650	-10200
					315	400	0.09	-1050	-10550	-11600
					315	1957	47.16	2200	-1960	240
54.5	NIGARDSBREEN	NO31014	2010		1900	1957	0.31	1780	-1500	280
					1800	1900	4.06	1800	-1600	200
					1700	1800	9.19	1700	-1750	-50
					1600	1700	12.74	1600	-1930	-330
					1500	1600	8.94	1450	-2200	-750
					1400	1500	5.92	1350	-2530	-1180
					1300	1400	2.08	1280	-2900	-1620
					1200	1300	0.79	1150	-3300	-2150
					1100	1200	0.39	1000	-3750	-2750
					1000	1100	0.58	830	-4200	-3370
					900	1000	0.46	600	-4700	-4100
					800	900	0.47	400	-5180	-4780
					700	800	0.32	150	-5680	-5530
					600	700	0.41	-80	-6180	-6260
					500	600	0.26	-330	-6700	-7030
					400	500	0.16	-580	-7250	-7830
					315	400	0.09	-800	-7780	-8580
					315	1957	47.16	1470	-2270	-800
55.1	REMBESDALSKAAKA	NO22303	2006		1850	1865	0.09	950	-2450	-1500
					1800	1850	3.93	1180	-2500	-1320
					1750	1800	4.03	1200	-2550	-1350
					1700	1750	3.46	1020	-2650	-1630
					1650	1700	1.94	840	-3000	-2160
					1600	1650	0.75	710	-3500	-2790
					1550	1600	0.59	430	-4100	-3670
					1500	1550	0.57	300	-4600	-4300
					1450	1500	0.29	220	-4900	-4680
					1400	1450	0.19	130	-5250	-5120
					1350	1400	0.1	30	-5500	-5470
					1300	1350	0.1	-70	-5750	-5820
					1250	1300	0.27	-180	-6000	-6180
					1200	1250	0.36	-300	-6300	-6600
					1150	1200	0.28	-420	-6600	-7020
					1100	1150	0.11	-540	-7000	-7540
					1020	1100	0.05	-700	-7500	-8200
					1020	1865	17.1	900	-3120	-2220
55.2	REMBESDALSKAAKA	NO22303	2007		1850	1865	0.09	2700	-1450	1250
					1800	1850	3.93	3450	-1500	1950
					1750	1800	4.03	3600	-1600	2000
					1700	1750	3.46	3500	-1750	1750
					1650	1700	1.94	3200	-1900	1300
					1600	1650	0.75	2700	-2100	600
					1550	1600	0.59	2350	-2300	50
					1500	1550	0.57	1950	-2500	-550
					1450	1500	0.29	1730	-2700	-970
					1400	1450	0.19	1560	-2950	-1390
					1350	1400	0.1	1390	-3200	-1810
					1300	1350	0.1	1220	-3450	-2230
					1250	1300	0.27	1050	-3700	-2650

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE FROM	TO	AREA KM²	BW MM	BS MM	BA MM
					1200	1250	0.36	800	-3950	-3150
					1150	1200	0.28	550	-4250	-3700
					1100	1150	0.11	300	-4550	-4250
					1020	1100	0.05	-50	-4900	-4950
					1020	1865	17.1	3100	-1930	1170
55.3	REMBESDALSKAAKA	NO22303	2008		1850	1865	0.09	2250	-1600	650
					1800	1850	3.93	2900	-1650	1250
					1750	1800	4.03	3050	-1700	1350
					1700	1750	3.46	2900	-1750	1150
					1650	1700	1.94	2700	-1800	900
					1600	1650	0.75	2500	-2200	300
					1550	1600	0.59	2000	-2600	-600
					1500	1550	0.57	1500	-3050	-1550
					1450	1500	0.29	1300	-3500	-2200
					1400	1450	0.19	1200	-3950	-2750
					1350	1400	0.1	1050	-4400	-3350
					1300	1350	0.1	900	-4850	-3950
					1250	1300	0.27	800	-5300	-4500
					1200	1250	0.36	750	-5750	-5000
					1150	1200	0.28	700	-6200	-5500
					1100	1150	0.11	650	-6650	-6000
					1020	1100	0.05	500	-7200	-6700
					1020	1865	17.1	2610	-2160	450
55.4	REMBESDALSKAAKA	NO22303	2009		1850	1865	0.09	2400	-1600	800
					1800	1850	3.93	2600	-1650	950
					1750	1800	4.03	2900	-1800	1100
					1700	1750	3.46	2650	-1950	700
					1650	1700	1.94	2300	-2100	200
					1600	1650	0.75	2100	-2400	-300
					1550	1600	0.59	1800	-2700	-900
					1500	1550	0.57	1500	-3000	-1500
					1450	1500	0.29	1300	-3300	-2000
					1400	1450	0.19	1150	-3600	-2450
					1350	1400	0.1	1000	-3900	-2900
					1300	1350	0.1	850	-4300	-3450
					1250	1300	0.27	700	-4700	-4000
					1200	1250	0.36	500	-5100	-4600
					1150	1200	0.28	300	-5500	-5200
					1100	1150	0.11	100	-5900	-5800
					1020	1100	0.05	-100	-6500	-6600
					1020	1865	17.1	2370	-2210	150
55.5	REMBESDALSKAAKA	NO22303	2010		1850	1854	0.03	1450	-2200	-750
					1800	1850	3.21	1500	-2250	-750
					1750	1800	3.99	1550	-2300	-750
					1700	1750	4.05	1400	-2500	-1100
					1650	1700	2.28	1300	-2900	-1600
					1600	1650	0.96	1050	-3200	-2150
					1550	1600	0.55	850	-3400	-2550
					1500	1550	0.53	650	-3600	-2950
					1450	1500	0.34	550	-3800	-3250
					1400	1450	0.2	500	-4050	-3550
					1350	1400	0.11	450	-4300	-3850
					1300	1350	0.07	400	-4550	-4150
					1250	1300	0.2	350	-4800	-4450
					1200	1250	0.26	300	-5100	-4800
					1150	1200	0.33	250	-5400	-5150
					1100	1150	0.14	200	-5750	-5550

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE FROM	ALTITUDE TO	AREA KM²	BW MM	BS MM	BA MM
					1066	1100	0.01	150	-6200	-6050
					1066	1854	17.26	1280	-2780	-1490
56.1	STORBREEN	NO0541	2006		2050	2100	0.04	1300	-2000	-700
					2000	2050	0.15	1300	-2200	-900
					1950	2000	0.23	1320	-2400	-1080
					1900	1950	0.36	1340	-2600	-1260
					1850	1900	0.57	1090	-2700	-1610
					1800	1850	0.92	900	-2900	-2000
					1750	1800	0.75	930	-3000	-2070
					1700	1750	0.64	760	-3150	-2390
					1650	1700	0.4	820	-3200	-2380
					1600	1650	0.49	820	-3300	-2480
					1550	1600	0.35	550	-3400	-2850
					1500	1550	0.21	170	-3600	-3430
					1450	1500	0.18	0	-3700	-3700
					1390	1450	0.06	0	-3800	-3800
					1390	2100	5.35	860	-3010	-2150
56.2	STORBREEN	NO0541	2007		2050	2100	0.04	1690	-780	910
					2000	2050	0.15	1690	-980	710
					1950	2000	0.23	1700	-1150	550
					1900	1950	0.36	1720	-1300	420
					1850	1900	0.57	1710	-1440	270
					1800	1850	0.92	1490	-1570	-80
					1750	1800	0.75	1670	-1720	-50
					1700	1750	0.64	1160	-1870	-710
					1650	1700	0.4	1070	-1990	-920
					1600	1650	0.49	1010	-2100	-1090
					1550	1600	0.35	860	-2200	-1340
					1500	1550	0.21	670	-2300	-1630
					1450	1500	0.18	720	-2400	-1680
					1390	1450	0.06	1100	-2500	-1400
					1390	2100	5.4	1350	-1740	-390
56.3	STORBREEN	NO0541	2008		2050	2100	0.04	2600	-500	2100
					2000	2050	0.15	2670	-650	2020
					1950	2000	0.23	2750	-800	1950
					1900	1950	0.36	2830	-1000	1830
					1850	1900	0.57	2450	-1250	1200
					1800	1850	0.92	2030	-1650	380
					1750	1800	0.75	2970	1900	70
					1700	1750	0.64	1720	-2200	-480
					1650	1700	0.4	2000	-2300	-300
					1600	1650	0.49	1770	-2380	-610
					1550	1600	0.35	1400	-2550	-1150
					1500	1550	0.21	1080	-2800	-1720
					1450	1500	0.18	1100	-3100	-2000
					1390	1450	0.06	1090	-3390	-2300
					1390	2100	5.35	1990	-1880	110
56.4	STORBREEN	NO0541	2009		2050	2102	0	3000	-200	2800
					2000	2050	0.09	2850	-300	2550
					1950	2000	0.18	2730	-400	2330
					1900	1950	0.29	2680	-500	2180
					1850	1900	0.34	2030	-650	1380
					1800	1850	0.75	1540	-800	740
					1750	1800	0.87	1510	-1200	310
					1700	1750	0.68	1410	-2300	-890
					1650	1700	0.55	1440	-2600	-1160
					1600	1650	0.31	1560	-2800	-1240

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE		AREA	BW	BS	BA
					FROM	TO	KM²	MM	MM	MM
					1550	1600	0.49	1350	-3000	-1650
					1500	1550	0.26	1140	-3200	-2060
					1450	1500	0.18	960	-3400	-2440
					1400	1450	0.13	1090	-3600	-2510
					1400	2102	5.14	1600	-1830	-220
56.5	STORBREEN	NO0541	2010		2050	2102	0	10	-1100	-1090
					2000	2050	0.09	140	-1200	-1060
					1950	2000	0.18	220	-1350	-1130
					1900	1950	0.29	380	-1500	-1120
					1850	1900	0.34	370	-1700	-1330
					1800	1850	0.75	610	-2050	-1440
					1750	1800	0.87	650	-2420	-1770
					1700	1750	0.68	470	-2600	-2130
					1650	1700	0.55	400	-2800	-2400
					1600	1650	0.31	240	-3100	-2860
					1550	1600	0.49	320	-3350	-3030
					1500	1550	0.26	140	-3550	-3410
					1450	1500	0.18	70	-3850	-3780
					1400	1450	0.13	50	-4200	-4150
					1400	2102	5.14	790	-2550	-1760
57.1	SVELGJABREEN	NO	2007		1600	1636	1.3	4750	-1800	2950
					1550	1600	1.87	4800	-1850	2950
					1500	1550	2.89	4750	-1950	2800
					1450	1500	2.13	4600	-2050	2550
					1400	1450	1.75	4400	-2200	2200
					1350	1400	2.73	4100	-2350	1750
					1300	1350	1.99	3800	-2550	1250
					1250	1300	1.47	3450	-2750	700
					1200	1250	1.57	3150	-2950	200
					1150	1200	1.47	2850	-3200	-350
					1100	1150	1	2650	-3450	-800
					1050	1100	1.16	2450	-3750	-1300
					1000	1050	0.59	2300	-4000	-1700
					950	1000	0.32	2150	-4300	-2150
					900	950	0.14	2050	-4600	-2550
					832	900	0.06	1950	-5000	-3050
					832	1636	22.5	3890	-2540	1350
57.2	SVELGJABREEN	NO	2008		1600	1636	1.3	4050	-1550	2500
					1550	1600	1.87	3850	-1700	2150
					1500	1550	2.89	3750	-1900	1850
					1450	1500	2.13	3700	-2100	1600
					1400	1450	1.75	3650	-2300	1350
					1350	1400	2.73	3650	-2500	1150
					1300	1350	1.99	3500	-2700	800
					1250	1300	1.47	3350	-2900	450
					1200	1250	1.57	3050	-3150	-100
					1150	1200	1.47	2750	-3450	-700
					1100	1150	1	2550	-3750	-1200
					1050	1100	1.16	2350	-4100	-1750
					1000	1050	0.59	2150	-4500	-2350
					950	1000	0.32	1950	-4950	-3000
					900	950	0.14	1750	-5350	-3600
					832	900	0.06	1500	-5850	-4350
					832	1636	22.45	3650	-2880	720
57.3	SVELGJABREEN	NO	2009		1600	1650	1.3	4450	-1850	2600
					1550	1600	1.87	4350	-2000	2350
					1500	1550	2.89	4200	-2150	2050

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE		AREA	BW	BS	BA
					FROM	TO	KM²	MM	MM	MM
					1450	1500	2.13	4000	-2350	1650
					1400	1450	1.75	3750	-2550	1200
					1350	1400	2.73	3450	-2780	670
					1300	1350	1.99	3150	-3000	150
					1250	1300	1.47	2850	-3250	-400
					1200	1250	1.57	2600	-3530	-930
					1150	1200	1.47	2350	-3800	-1450
					1100	1150	1	2150	-4150	-2000
					1050	1100	1.16	1950	-4550	-2600
					1000	1050	0.59	1750	-5000	-3250
					950	1000	0.32	1600	-5500	-3900
					900	950	0.14	1400	-6030	-4630
					832	900	0.06	1200	-6650	-5450
					832	1650	22.45	3330	-2970	360
57.4	SVELGJABREEN	NO	2010		1600	1636	1.3	1830	-2530	-700
					1550	1600	1.87	1880	-2650	-770
					1500	1550	2.89	1880	-2800	-920
					1450	1500	2.13	1880	-2950	-1070
					1400	1450	1.75	1850	-3050	-1200
					1350	1400	2.73	1800	-3200	-1400
					1300	1350	1.99	1680	-3380	-1700
					1250	1300	1.47	1580	-3550	-1970
					1200	1250	1.57	1450	-3730	-2280
					1150	1200	1.47	1350	-3880	-2530
					1100	1150	1	1250	-4030	-2780
					1050	1100	1.16	1150	-4150	-3000
					1000	1050	0.59	1100	-4300	-3200
					950	1000	0.32	1000	-4450	-3450
					900	950	0.14	780	-4600	-3820
					832	900	0.06	500	-4750	-4250
					832	1636	22.45	1650	-3290	-1640
58.1	WALDEMARBREEN	NO15403	2008		500	550	0			593
					450	500	0			518
					400	450	0			168
					350	400	0			98
					300	350	0			-185
					250	300	0			-401
					200	250	0			-831
					150	200	0			-1263
					150	550	0			-322
58.2	WALDEMARBREEN	NO15403	2009		500	550	0			635
					450	500	0			519
					400	450	0			73
					350	400	0			-352
					300	350	0			-574
					250	300	0			-767
					200	250	0			-1198
					150	200	0			-2094
					150	550	2.5			-649
	PERU									
59.1	ARTESONRAJU	PE0003	2006		4900	5600	2.308			7
					4875	4900	0.076			-64
					4850	4875	0.088			-87
					4825	4850	0.167			-265
					4800	4825	0.134			-248
					4775	4800	0.185			-396
					4750	4775	0.134			-316

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE FROM	TO	AREA KM²	BW MM	BS MM	BA MM
					4725	4750	0.095			-246
					4700	4725	0.021			-62
					4700	5600	3.208			-1679
59.2	ARTESONRAJU	PE0003	2007		4925	5600	2.156			235
					4900	4925	0.103			-60
					4875	4900	0.116			-86
					4850	4875	0.117			-117
					4825	4850	0.174			-243
					4800	4825	0.151			-272
					4775	4800	0.154			-328
					4750	4775	0.123			-295
					4725	4750	0.096			-258
					4700	4725	0.033			-99
					4700	5600	3.223			-1522
59.3	ARTESONRAJU	PE0003	2008		5075	5600	1.506			1169
					5000	5075	0.434			270
					4975	5000	0.088			34
					4950	4975	0.09			17
					4925	4950	0.078			-4
					4900	4925	0.089			-24
					4875	4900	0.1			-29
					4850	4875	0.111			-56
					4825	4850	0.173			-125
					4800	4825	0.15			-138
					4775	4800	0.154			-182
					4750	4775	0.123			-218
					4725	4750	0.096			-177
					4700	4725	0.033			-67
					4700	5600	3.223			471
59.4	ARTESONRAJU	PE0003	2009		5200	5500	1.047			305
					5100	5200	0.39			12
					5000	5100	0.357			-48
					4950	5000	0.179			-34
					4900	4950	0.168			-27
					4850	4900	0.207			-84
					4800	4850	0.295			-191
					4750	4800	0.293			-397
					4710	4750	0.112			-194
					4710	5500	3.05			-658
59.5	ARTESONRAJU	PE0003	2010		5300	5350	0.216			61
					5250	5300	0.456			187
					5200	5250	0.492			192
					5150	5200	0.326			150
					5100	5150	0.367			140
					5050	5100	0.451			145
					5000	5050	0.289			51
					4950	5000	0.304			34
					4900	4950	0.252			-19
					4850	4900	0.274			-99
					4800	4850	0.271			-189
					4750	4800	0.266			-275
					4710	4750	0.138			-182
					4710	5350	4.102			49
60.1	YANAMAREY	PE0004	2006		4950	4975	0.003			23
					4925	4950	0.013			63
					4900	4925	0.021			40

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE FROM	TO	AREA KM²	BW MM	BS MM	BA MM
					4875	4900	0.025			6
					4850	4875	0.023			-34
					4825	4850	0.019			-74
					4800	4825	0.025			-165
					4775	4800	0.024			-245
					4750	4775	0.021			-281
					4725	4750	0.02			-366
					4700	4725	0.016			-330
					4675	4700	0.01			-239
					4650	4675	0.004			-100
					4625	4650	0			-9
					4625	4975	0.225			-1712
60.2	YANAMAREY	PE0004	2007		4975	5150	0.002			11
					4950	4975	0.01			41
					4925	4950	0.021			18
					4900	4925	0.026			-4
					4875	4900	0.021			13
					4850	4875	0.02			5
					4825	4850	0.017			-55
					4800	4825	0.021			-167
					4775	4800	0.017			-216
					4750	4775	0.011			-214
					4725	4750	0.014			-314
					4700	4725	0.015			-334
					4675	4700	0.009			-231
					4650	4675	0.003			-79
					4625	4650	0			-6
					4625	5150	0.206			-1532
60.3	YANAMAREY	PE0004	2008		4883	5150	0.16			556
					4825	4883	0.09			139
					4800	4825	0.02			-36
					4775	4800	0.019			-84
					4750	4775	0.013			-71
					4725	4750	0.014			-94
					4700	4725	0.015			-176
					4675	4700	0.009			-107
					4640	4675	0.003			-38
					4640	5150	0.34			89
60.4	YANAMAREY	PE0004	2009		4925	4950	0.007			72
					4900	4925	0.007			29
					4875	4900	0.007			29
					4850	4875	0.016			60
					4825	4850	0.017			15
					4800	4825	0.021			-17
					4775	4800	0.019			-63
					4750	4775	0.013			-97
					4725	4750	0.014			-185
					4700	4725	0.01			-196
					4675	4700	0.005			-125
					4650	4675	0.002			-47
					4650	4950	0.137			-525
	SPAIN									
61.1	MALADETA	ES9020	2006	FXD	3125	3190	0.01	1553	-1553	0
					3050	3125	0.01	1446	-3765	-2319
					2950	3050	0.083	1319	-3456	-2137
					2875	2950	0.024	1131	-4528	-3397

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE FROM	ALTITUDE TO	AREA KM²	BW MM	BS MM	BA MM
					2775	2875	0.003	855	-4959	-4104
					2775	3190	0.313	1405	-3192	-1787
61.2	MALADETA	ES9020	2007	FXD	3125	3190	0.093	1881	-2364	-483
					3050	3125	0.093	807	-1326	-519
					2950	3050	0.064	1248	-2746	-1498
					2875	2950	0.023	711	-3180	-2469
					2775	2875	0.003	518	-3290	-2772
					2775	3190	0.276	1221	-2168	-947
61.3	MALADETA	ES9020	2008	FXD	3088	3213	0.137	4633	-3875	758
					3063	3088	0.037	2325	-2490	-165
					3038	3063	0.037	2363	-2586	-223
					3013	3038	0.021	2401	-2681	-280
					2988	3013	0.016	2438	-2776	-338
					2963	2988	0.012	2301	-2861	-560
					2938	2963	0.01	2163	-2946	-783
					2913	2938	0.009	2026	-3031	-1005
					2888	2913	0.007	1888	-3116	-1227
					2863	2888	0.005	1925	-3256	-1331
					2838	2863	0.001	1961	-3397	-1436
					2838	3213	0.29	2934	-2971	-38
61.4	MALADETA	ES9020	2009	FXD	3188	3213	0.003	2639	-3047	-407
					3163	3188	0.018	2639	-3047	-407
					3138	3163	0.038	2639	-3047	-407
					3113	3138	0.037	2113	-2942	-829
					3088	3113	0.037	1587	-2838	-1251
					3063	3088	0.037	1689	-3190	-1501
					3038	3063	0.034	1790	-3541	-1751
					3013	3038	0.018	1892	-3893	-2001
					2988	3013	0.014	1994	-4245	-2251
					2963	2988	0.011	1909	-4328	-2419
					2938	2963	0.008	1825	-4412	-2587
					2913	2938	0.008	1741	-4495	-2755
					2888	2913	0.008	1656	-4579	-2923
					2863	2888	0.003	1511	-4422	-2910
					2838	2863	0.001	1367	-4265	-2898
					2838	3213	0.276	1986	-3401	-1415
61.5	MALADETA	ES9020	2010	FXD	3188	3213	0.003	3116	-2756	360
					3163	3188	0.018	3116	-2756	360
					3138	3163	0.04	3116	-2756	360
					3113	3138	0.037	2648	-2128	519
					3088	3113	0.037	2179	-1500	679
					3063	3088	0.036	2249	-1723	525
					3038	3063	0.034	2318	-1946	372
					3013	3038	0.017	2388	-2169	218
					2988	3013	0.014	2457	-2392	65
					2963	2988	0.012	2404	-2704	-300
					2938	2963	0.008	2352	-3016	-664
					2913	2938	0.007	2299	-3328	-1029
					2888	2913	0.008	2246	-3640	-1394
					2863	2888	0.004	2088	-2886	-798
					2838	2863	0.001	1929	-2132	-203
					2838	3213	0.28	2519	-2260	259
	SWEDEN									
62.1	MARMAGLACIAEREN	SE0799	2006		1780	1800	0	2560	-1460	1100
					1760	1780	0.004	2740	-1390	1350
					1740	1760	0.018	2820	-1380	1440

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE FROM	TO	AREA KM²	BW MM	BS MM	BA MM
					1720	1740	0.03	2760	-1370	1400
					1700	1720	0.042	2570	-1360	1210
					1680	1700	0.104	2260	-1450	810
					1660	1680	0.206	1900	-1360	540
					1640	1660	0.192	1310	-1430	-120
					1620	1640	0.315	910	-1570	-660
					1600	1620	0.322	780	-1910	-1130
					1580	1600	0.191	830	-2280	-1450
					1560	1580	0.229	820	-2500	-1680
					1540	1560	0.345	800	-2650	-1850
					1520	1540	0.365	810	-2770	-1970
					1500	1520	0.186	910	-2930	-2020
					1480	1500	0.198	820	-3010	-2200
					1460	1480	0.252	680	-3160	-2470
					1440	1460	0.218	660	-3360	-2710
					1420	1440	0.16	670	-3570	-2890
					1400	1420	0.15	700	-3690	-2990
					1380	1400	0.147	790	-3760	-2970
					1360	1380	0.144	880	-3790	-2910
					1340	1360	0.097	880	-3800	-2920
					1320	1340	0.051	890	-3830	-2940
					1320	1800	3.965	960	-2610	-1650
62.2	MARMAGLACIAEREN	SE0799	2007		1780	1800	0	1690	-920	770
					1760	1780	0.004	2020	-960	1060
					1740	1760	0.018	1910	-1000	910
					1720	1740	0.03	1860	-1050	810
					1700	1720	0.042	1910	-1100	810
					1680	1700	0.104	1990	-1150	830
					1660	1680	0.206	1930	-1200	730
					1640	1660	0.192	1460	-1250	210
					1620	1640	0.315	990	-1300	-310
					1600	1620	0.322	640	-1340	-710
					1580	1600	0.191	630	-1390	-760
					1560	1580	0.229	680	-1450	-760
					1540	1560	0.345	780	-1490	-710
					1520	1540	0.365	870	-1540	-670
					1500	1520	0.186	890	-1590	-700
					1480	1500	0.198	780	-1640	-870
					1460	1480	0.252	680	-1690	-1010
					1440	1460	0.218	740	-1740	-990
					1420	1440	0.16	840	-1790	-950
					1400	1420	0.15	940	-1840	-890
					1380	1400	0.147	1090	-1890	-800
					1360	1380	0.144	1340	-1930	-600
					1340	1360	0.097	1480	-1980	-500
					1320	1340	0.051	1560	-2020	-460
					1320	1800	3.965	1000	-1530	-530
62.3	MARMAGLACIAEREN	SE0799	2008		1780	1800	0	2200	90	2290
					1760	1780	0.004	2520	30	2550
					1740	1760	0.018	2430	-60	2370
					1720	1740	0.03	2390	-160	2230
					1700	1720	0.042	2440	-250	2190
					1680	1700	0.104	2430	-360	2070
					1660	1680	0.206	2360	-450	1910
					1640	1660	0.192	2090	-540	1550
					1620	1640	0.315	1600	-640	960
					1600	1620	0.322	930	-730	200
					1580	1600	0.191	750	-830	-80
					1560	1580	0.229	800	-930	-140

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE FROM	TO	AREA KM²	BW MM	BS MM	BA MM
					1540	1560	0.345	930	-1030	-100
					1520	1540	0.365	1090	-1120	-20
					1500	1520	0.186	1300	-1220	80
					1480	1500	0.198	1150	-1320	-170
					1460	1480	0.252	940	-1410	-470
					1440	1460	0.218	910	-1500	-590
					1420	1440	0.16	970	-1610	-640
					1400	1420	0.15	910	-1700	-790
					1380	1400	0.147	880	-1800	-920
					1360	1380	0.144	890	-1890	-1010
					1340	1360	0.097	870	-1990	-1120
					1320	1340	0.051	870	-2060	-1190
					1320	1800	3.965	1210	-1090	120
62.4	MARMAGLACIAEREN	SE0799	2009		1780	1800	0	3480	360	3840
					1760	1780	0.004	4170	200	4370
					1740	1760	0.018	3630	-10	3620
					1720	1740	0.03	3350	-230	3130
					1700	1720	0.042	3380	-450	2930
					1680	1700	0.104	2860	-690	2170
					1660	1680	0.206	2150	-900	1240
					1640	1660	0.192	1540	-1120	420
					1620	1640	0.315	920	-1350	-430
					1600	1620	0.322	630	-1550	-930
					1580	1600	0.191	660	-1780	-1120
					1560	1580	0.229	640	-2020	-1380
					1540	1560	0.345	660	-2240	-1580
					1520	1540	0.365	660	-2440	-1780
					1500	1520	0.186	770	-2680	-1910
					1480	1500	0.198	800	-2910	-2110
					1460	1480	0.252	730	-3140	-2400
					1440	1460	0.218	690	-3340	-2650
					1420	1440	0.16	790	-3580	-2790
					1400	1420	0.15	880	-3810	-2930
					1380	1400	0.147	980	-4030	-3050
					1360	1380	0.144	1130	-4250	-3120
					1340	1360	0.097	1320	-4470	-3140
					1320	1340	0.051	1430	-4640	-3210
					1320	1800	3.965	1010	-2400	-1390
62.5	MARMAGLACIAEREN	SE0799	2010		1780	1800	0	1420	-650	770
					1760	1780	0.004	1460	-690	770
					1740	1760	0.018	1420	-740	670
					1720	1740	0.03	1390	-790	600
					1700	1720	0.042	1390	-840	550
					1680	1700	0.104	1440	-900	540
					1660	1680	0.206	1330	-950	380
					1640	1660	0.192	1190	-1000	190
					1620	1640	0.315	970	-1060	-80
					1600	1620	0.322	870	-1100	-240
					1580	1600	0.191	800	-1160	-360
					1560	1580	0.229	770	-1210	-440
					1540	1560	0.345	730	-1270	-530
					1520	1540	0.365	710	-1310	-600
					1500	1520	0.186	720	-1370	-650
					1480	1500	0.198	640	-1420	-790
					1460	1480	0.252	520	-1480	-960
					1440	1460	0.218	510	-1530	-1020
					1420	1440	0.16	540	-1580	-1040
					1400	1420	0.15	540	-1640	-1100
					1380	1400	0.147	590	-1690	-1100

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE FROM	TO	AREA KM²	BW MM	BS MM	BA MM
					1360	1380	0.144	700	-1740	-1040
					1340	1360	0.097	750	-1790	-1040
					1320	1340	0.051	760	-1830	-1070
					1320	1800	3.965	800	-1300	-500
63.1	RABOTS GLACIAER	SE0785	2006		1920	1940	0	2040	1380	3410
					1900	1920	0.005	1810	1290	3100
					1880	1900	0.005	1770	1150	2920
					1860	1880	0.006	2080	1010	3080
					1840	1860	0.005	2150	860	3010
					1820	1840	0.004	2190	720	2910
					1800	1820	0.004	2150	570	2720
					1780	1800	0.005	1620	420	2040
					1760	1780	0.011	1500	280	1780
					1740	1760	0.015	1660	130	1790
					1720	1740	0.018	1620	-10	1610
					1700	1720	0.02	1600	-150	1450
					1680	1700	0.023	1640	-290	1340
					1660	1680	0.027	1880	-450	1430
					1640	1660	0.037	1960	-590	1370
					1620	1640	0.046	1820	-730	1090
					1600	1620	0.058	1830	-880	960
					1580	1600	0.069	1650	-1020	630
					1560	1580	0.084	1750	-1170	580
					1540	1560	0.1	1780	-1310	470
					1520	1540	0.156	1930	-1460	470
					1500	1520	0.216	1700	-1600	110
					1480	1500	0.189	1340	-1740	-400
					1460	1480	0.15	1070	-1880	-820
					1440	1460	0.127	920	-2030	-1110
					1420	1440	0.115	860	-2170	-1310
					1400	1420	0.102	830	-2320	-1490
					1380	1400	0.227	800	-2470	-1680
					1360	1380	0.272	740	-2610	-1870
					1340	1360	0.243	680	-2750	-2060
					1320	1340	0.142	560	-2900	-2330
					1300	1320	0.131	500	-3050	-2550
					1280	1300	0.219	460	-3200	-2750
					1260	1280	0.227	380	-3330	-2950
					1240	1260	0.198	350	-3480	-3130
					1220	1240	0.17	340	-3620	-3280
					1200	1220	0.129	350	-3770	-3410
					1180	1200	0.092	340	-3910	-3570
					1160	1180	0.091	330	-4050	-3720
					1140	1160	0.067	320	-4200	-3880
					1120	1140	0.053	310	-4340	-4030
					1100	1120	0.045	320	-4490	-4170
					1080	1100	0.034	330	-4630	-4300
					1060	1080	0.01	330	-4750	-4410
					1060	1940	3.946	890	-2520	-1630
63.2	RABOTS GLACIAER	SE0785	2008		1920	1940	0	1580	1300	2880
					1900	1920	0.005	1560	1240	2800
					1880	1900	0.005	1570	1150	2720
					1860	1880	0.006	1600	1050	2660
					1840	1860	0.005	1620	960	2580
					1820	1840	0.004	1620	860	2490
					1800	1820	0.004	1650	770	2410
					1780	1800	0.005	1560	670	2230
					1760	1780	0.011	1570	570	2140
					1740	1760	0.015	1710	470	2180

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE		AREA	BW	BS	BA
					FROM	TO	KM²	MM	MM	MM
					1720	1740	0.018	1740	380	2120
					1700	1720	0.02	1840	290	2130
					1680	1700	0.023	2070	190	2260
					1660	1680	0.027	2550	90	2640
					1640	1660	0.037	2780	0	2780
					1620	1640	0.046	2700	-100	2600
					1600	1620	0.058	2810	-190	2620
					1580	1600	0.069	2610	-290	2320
					1560	1580	0.084	2890	-390	2500
					1540	1560	0.1	3030	-480	2550
					1520	1540	0.156	3580	-580	3000
					1500	1520	0.216	3650	-670	2980
					1480	1500	0.189	3500	-760	2730
					1460	1480	0.15	3290	-860	2430
					1440	1460	0.127	2830	-960	1870
					1420	1440	0.115	2340	-1050	1280
					1400	1420	0.102	1870	-1150	720
					1380	1400	0.227	1420	-1250	170
					1360	1380	0.272	1190	-1340	-150
					1340	1360	0.243	970	-1430	-470
					1320	1340	0.142	800	-1530	-730
					1300	1320	0.131	710	-1630	-920
					1280	1300	0.219	600	-1730	-1130
					1260	1280	0.227	580	-1820	-1240
					1240	1260	0.198	500	-1920	-1410
					1220	1240	0.17	430	-2010	-1580
					1200	1220	0.129	420	-2110	-1680
					1180	1200	0.092	400	-2200	-1800
					1160	1180	0.091	400	-2300	-1900
					1140	1160	0.067	390	-2390	-2010
					1120	1140	0.053	380	-2490	-2110
					1100	1120	0.045	380	-2580	-2210
					1080	1100	0.034	370	-2680	-2310
					1060	1080	0.01	360	-2760	-2400
					1060	1940	3.946	1630	-1280	350
63.3	RABOTS GLACIAER	SE0785	2009		1920	1940	0	3360	540	3890
					1900	1920	0.005	3300	480	3780
					1880	1900	0.005	3280	390	3670
					1860	1880	0.006	3330	300	3630
					1840	1860	0.005	3330	210	3530
					1820	1840	0.004	3320	120	3430
					1800	1820	0.004	3090	20	3120
					1780	1800	0.005	2580	-70	2510
					1760	1780	0.011	2340	-160	2170
					1740	1760	0.015	2490	-260	2230
					1720	1740	0.018	2490	-350	2150
					1700	1720	0.02	2500	-440	2060
					1680	1700	0.023	2540	-530	2010
					1660	1680	0.027	2770	-630	2140
					1640	1660	0.037	2840	-720	2120
					1620	1640	0.046	2720	-810	1910
					1600	1620	0.058	2730	-900	1830
					1580	1600	0.069	2460	-990	1470
					1560	1580	0.084	2580	-1090	1500
					1540	1560	0.1	2560	-1180	1390
					1520	1540	0.156	2800	-1270	1530
					1500	1520	0.216	2710	-1360	1350
					1480	1500	0.189	2440	-1450	990
					1460	1480	0.15	2190	-1540	650
					1440	1460	0.127	1900	-1640	260

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE		AREA	BW	BS	BA
					FROM	TO	KM²	MM	MM	MM
					1420	1440	0.115	1750	-1730	20
					1400	1420	0.102	1620	-1820	-200
					1380	1400	0.227	1590	-1920	-330
					1360	1380	0.272	1310	-2010	-700
					1340	1360	0.243	970	-2090	-1130
					1320	1340	0.142	780	-2190	-1410
					1300	1320	0.131	670	-2290	-1620
					1280	1300	0.219	630	-2380	-1750
					1260	1280	0.227	580	-2470	-1890
					1240	1260	0.198	530	-2560	-2030
					1220	1240	0.17	500	-2650	-2150
					1200	1220	0.129	490	-2740	-2250
					1180	1200	0.092	490	-2840	-2350
					1160	1180	0.091	510	-2930	-2420
					1140	1160	0.067	530	-3020	-2490
					1120	1140	0.053	550	-3110	-2560
					1100	1120	0.045	560	-3200	-2640
					1080	1100	0.034	560	-3290	-2730
					1060	1080	0.01	570	-3370	-2800
					1060	1940	3.946	1450	-1950	-500
63.4	RABOTS GLACIAER	SE0785	2010		1920	1940	0	1160	-770	390
					1900	1920	0.005	1140	-800	340
					1880	1900	0.005	1130	-840	300
					1860	1880	0.006	1160	-880	280
					1840	1860	0.005	1160	-920	240
					1820	1840	0.004	1150	-960	200
					1800	1820	0.004	1110	-1000	120
					1780	1800	0.005	980	-1040	-60
					1760	1780	0.011	930	-1080	-150
					1740	1760	0.015	1020	-1120	-100
					1720	1740	0.018	1040	-1160	-120
					1700	1720	0.02	1080	-1200	-120
					1680	1700	0.023	1130	-1240	-110
					1660	1680	0.027	1280	-1290	0
					1640	1660	0.037	1330	-1330	10
					1620	1640	0.046	1270	-1370	-90
					1600	1620	0.058	1300	-1410	-100
					1580	1600	0.069	1190	-1450	-250
					1560	1580	0.084	1290	-1490	-200
					1540	1560	0.1	1310	-1530	-220
					1520	1540	0.156	1450	-1570	-120
					1500	1520	0.216	1440	-1610	-170
					1480	1500	0.189	1340	-1650	-310
					1460	1480	0.15	1220	-1690	-470
					1440	1460	0.127	1070	-1730	-670
					1420	1440	0.115	960	-1770	-810
					1400	1420	0.102	870	-1810	-940
					1380	1400	0.227	820	-1860	-1030
					1360	1380	0.272	730	-1900	-1170
					1340	1360	0.243	600	-1930	-1340
					1320	1340	0.142	490	-1980	-1480
					1300	1320	0.131	450	-2020	-1570
					1280	1300	0.219	440	-2060	-1620
					1260	1280	0.227	390	-2100	-1710
					1240	1260	0.198	360	-2140	-1780
					1220	1240	0.17	350	-2180	-1830
					1200	1220	0.129	340	-2220	-1880
					1180	1200	0.092	330	-2260	-1930
					1160	1180	0.091	330	-2300	-1980
					1140	1160	0.067	320	-2340	-2020

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE FROM	TO	AREA KM²	BW MM	BS MM	BA MM
					1120	1140	0.053	320	-2380	-2070
					1100	1120	0.045	310	-2420	-2110
					1080	1100	0.034	310	-2460	-2160
					1060	1080	0.01	310	-2500	-2190
					1060	1940	3.946	790	-1870	-1080
64.1	RIUKOJIETNA	SE0790	2006		1440	1460	0.516	800	-1780	-970
					1420	1440	0.675	790	-1850	-1070
					1400	1420	0.383	830	-1960	-1130
					1380	1400	0.41	840	-2050	-1220
					1360	1380	0.433	820	-2150	-1330
					1340	1360	0.428	780	-2240	-1460
					1320	1340	0.51	800	-2340	-1540
					1300	1320	0.393	820	-2430	-1610
					1280	1300	0.264	830	-2520	-1690
					1260	1280	0.189	830	-2610	-1780
					1240	1260	0.13	840	-2710	-1870
					1220	1240	0.098	850	-2800	-1960
					1200	1220	0.064	800	-2900	-2110
					1180	1200	0.06	800	-3000	-2200
					1160	1180	0.054	810	-3090	-2280
					1140	1160	0.029	820	-3180	-2360
					1120	1140	0.016	810	-3260	-2450
					1120	1460	4.651	810	-2210	-1400
64.2	RIUKOJIETNA	SE0790	2007		1440	1460	0.516	1190	-1690	-500
					1420	1440	0.675	1320	-1790	-470
					1400	1420	0.383	1250	-1920	-670
					1380	1400	0.41	1290	-2030	-750
					1360	1380	0.433	1270	-2150	-870
					1340	1360	0.428	1260	-2270	-1010
					1320	1340	0.51	1290	-2380	-1090
					1300	1320	0.393	1250	-2500	-1250
					1280	1300	0.264	1230	-2610	-1380
					1260	1280	0.189	1220	-2720	-1500
					1240	1260	0.13	1220	-2850	-1620
					1220	1240	0.098	1220	-2960	-1740
					1200	1220	0.064	1200	-3080	-1890
					1180	1200	0.06	1210	-3200	-2000
					1160	1180	0.054	1220	-3310	-2090
					1140	1160	0.029	1230	-3430	-2200
					1120	1140	0.016	1250	-3520	-2280
					1120	1460	4.651	1260	-2220	-960
64.3	RIUKOJIETNA	SE0790	2008		1440	1460	0.516	830	-1200	-360
					1420	1440	0.675	870	-1250	-380
					1400	1420	0.383	850	-1310	-460
					1380	1400	0.41	870	-1370	-490
					1360	1380	0.433	860	-1420	-560
					1340	1360	0.428	840	-1480	-640
					1320	1340	0.51	870	-1540	-670
					1300	1320	0.393	870	-1590	-730
					1280	1300	0.264	880	-1650	-770
					1260	1280	0.189	890	-1700	-810
					1240	1260	0.13	900	-1760	-860
					1220	1240	0.098	900	-1820	-920
					1200	1220	0.064	870	-1880	-1010
					1180	1200	0.06	870	-1940	-1070
					1160	1180	0.054	890	-1990	-1110
					1140	1160	0.029	900	-2050	-1150

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE FROM	ALTITUDE TO	AREA KM²	BW MM	BS MM	BA MM
					1120	1140	0.016	910	-2100	-1190
					1120	1460	4.651	860	-1460	-590
64.4	RIUKOJIETNA	SE0790	2009		1440	1460	0.516	1370	-1640	-270
					1420	1440	0.675	1420	-1700	-280
					1400	1420	0.383	1330	-1780	-450
					1380	1400	0.41	1330	-1860	-520
					1360	1380	0.433	1340	-1930	-590
					1340	1360	0.428	1340	-2010	-670
					1320	1340	0.51	1290	-2080	-790
					1300	1320	0.393	1060	-2150	-1090
					1280	1300	0.264	930	-2230	-1300
					1260	1280	0.189	890	-2300	-1410
					1240	1260	0.13	880	-2380	-1500
					1220	1240	0.098	890	-2450	-1550
					1200	1220	0.064	1290	-2530	-1240
					1180	1200	0.06	1340	-2600	-1260
					1160	1180	0.054	1350	-2670	-1320
					1140	1160	0.029	1360	-2750	-1380
					1120	1140	0.016	1370	-2810	-1440
					1120	1460	4.651	1260	-1980	-720
64.5	RIUKOJIETNA	SE0790	2010		1440	1460	0.516	630	-1580	-950
					1420	1440	0.675	690	-1580	-890
					1400	1420	0.383	660	-1590	-930
					1380	1400	0.41	640	-1590	-960
					1360	1380	0.433	610	-1600	-990
					1340	1360	0.428	590	-1600	-1010
					1320	1340	0.51	590	-1610	-1010
					1300	1320	0.393	610	-1610	-1000
					1280	1300	0.264	660	-1620	-960
					1260	1280	0.189	680	-1620	-940
					1240	1260	0.13	690	-1630	-930
					1220	1240	0.098	710	-1630	-930
					1200	1220	0.064	730	-1640	-910
					1180	1200	0.06	740	-1640	-900
					1160	1180	0.054	750	-1650	-900
					1140	1160	0.029	760	-1650	-890
					1120	1140	0.016	770	-1660	-890
					1120	1460	4.651	640	-1600	-960
65.1	STORGLACIAEREN	SE0788	2006		1720	1740	0.007	4530	-1570	1590
					1700	1720	0.039	3160	-1670	1210
					1680	1700	0.07	2880	-1560	1380
					1660	1680	0.102	2940	-1470	1380
					1640	1660	0.149	2850	-1490	500
					1620	1640	0.156	1990	-1670	-70
					1600	1620	0.123	1600	-1900	-560
					1580	1600	0.125	1330	-2230	-1080
					1560	1580	0.08	1150	-2320	-1250
					1540	1560	0.096	1070	-2370	-1200
					1520	1540	0.107	1160	-2400	-1200
					1500	1520	0.225	1190	-2850	-1960
					1480	1500	0.152	890	-3090	-2360
					1460	1480	0.084	730	-3090	-2290
					1440	1460	0.068	800	-3090	-2220
					1420	1440	0.072	880	-3210	-2470
					1400	1420	0.12	740	-3290	-2680
					1380	1400	0.252	600	-3190	-2630
					1360	1380	0.324	560	-3360	-2890
					1340	1360	0.268	470	-3490	-3020

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE FROM	TO	AREA KM²	BW MM	BS MM	BA MM
					1320	1340	0.151	470	-3760	-3140
					1300	1320	0.096	620	-3900	-3300
					1280	1300	0.081	590	-3980	-3510
					1260	1280	0.083	470	-4240	-3650
					1240	1260	0.064	590	-4500	-3860
					1220	1240	0.053	640	-4760	-4120
					1200	1220	0.037	650	-4910	-4080
					1180	1200	0.017	830	-4980	-3900
					1160	1180	0.008	1080	-5000	-3810
					1140	1160	0.003	1190		
					1140	1740	3.211	1100	-2820	-1720
65.2	STORGLACIAEREN	SE0788	2007		1720	1740	0.007	4250	-220	4030
					1700	1720	0.039	3420	-330	3080
					1680	1700	0.07	3290	-340	2950
					1660	1680	0.102	3010	-340	2660
					1640	1660	0.149	2810	-320	2490
					1620	1640	0.156	2440	-350	2090
					1600	1620	0.123	2220	-540	1680
					1580	1600	0.125	2010	-750	1260
					1560	1580	0.08	1880	-800	1080
					1540	1560	0.096	1840	-910	940
					1520	1540	0.107	2050	-870	1180
					1500	1520	0.225	2000	-800	1200
					1480	1500	0.152	1330	-1040	300
					1460	1480	0.084	1100	-1160	-60
					1440	1460	0.068	1370	-1220	160
					1420	1440	0.072	1570	-1230	340
					1400	1420	0.12	1360	-1290	80
					1380	1400	0.252	980	-1470	-490
					1360	1380	0.324	850	-1290	-440
					1340	1360	0.268	730	-1450	-720
					1320	1340	0.151	680	-1780	-1100
					1300	1320	0.096	1050	-1700	-650
					1280	1300	0.081	970	-1670	-700
					1260	1280	0.083	540	-1940	-1400
					1240	1260	0.064	860	-2060	-1200
					1220	1240	0.053	1100	-1900	-810
					1200	1220	0.037	990	-1680	-690
					1180	1200	0.017	1010	-1580	-560
					1160	1180	0.008	1140	-1540	-400
					1140	1160	0.003	1280	-1550	-270
					1140	1740	3.211	1530	-1120	410
65.3	STORGLACIAEREN	SE0788	2008		1720	1740	0.007	4680	-660	4020
					1700	1720	0.039	4230	-730	3500
					1680	1700	0.07	4090	-740	3350
					1660	1680	0.102	3800	-730	3070
					1640	1660	0.149	3480	-720	2760
					1620	1640	0.156	3210	-730	2480
					1600	1620	0.123	2910	-790	2120
					1580	1600	0.125	2730	-850	1880
					1560	1580	0.08	2810	-890	1920
					1540	1560	0.096	2570	-920	1640
					1520	1540	0.107	2720	-940	1790
					1500	1520	0.225	2850	-950	1900
					1480	1500	0.152	1910	-1190	720
					1460	1480	0.084	1550	-1370	170
					1440	1460	0.068	1670	-1420	240
					1420	1440	0.072	1780	-1430	350
					1400	1420	0.12	1530	-1490	30

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE FROM	TO	AREA KM²	BW MM	BS MM	BA MM
					1380	1400	0.252	1000	-1630	-630
					1360	1380	0.324	950	-1530	-580
					1340	1360	0.268	750	-1690	-950
					1320	1340	0.151	920	-1930	-1010
					1300	1320	0.096	1130	-1870	-740
					1280	1300	0.081	1070	-2030	-960
					1260	1280	0.083	760	-2200	-1450
					1240	1260	0.064	1030	-2250	-1220
					1220	1240	0.053	1210	-2300	-1080
					1200	1220	0.037	1270	-2450	-1180
					1180	1200	0.017	1430	-2560	-1130
					1160	1180	0.008	1430	-2610	-1180
					1140	1160	0.003	1160	-2600	-1440
					1140	1740	3.211	1930	-1350	580
65.4	STORGLACIAEREN	SE0788	2009		1720	1740	0.007	2830	-580	2250
					1700	1720	0.039	2500	-640	1860
					1680	1700	0.07	2420	-630	1790
					1660	1680	0.102	2470	-690	1780
					1640	1660	0.149	2470	-680	1790
					1620	1640	0.156	2310	-750	1560
					1600	1620	0.123	2060	-880	1180
					1580	1600	0.125	1780	-1030	740
					1560	1580	0.08	1680	-1020	650
					1540	1560	0.096	1620	-1120	500
					1520	1540	0.107	1690	-1170	520
					1500	1520	0.225	1780	-1100	680
					1480	1500	0.152	1330	-1450	-130
					1460	1480	0.084	1040	-1750	-710
					1440	1460	0.068	1170	-1890	-720
					1420	1440	0.072	1250	-1990	-740
					1400	1420	0.12	1150	-2120	-970
					1380	1400	0.252	850	-2250	-1410
					1360	1380	0.324	650	-2380	-1730
					1340	1360	0.268	450	-2610	-2160
					1320	1340	0.151	360	-2850	-2490
					1300	1320	0.096	830	-2880	-2040
					1280	1300	0.081	900	-2970	-2070
					1260	1280	0.083	540	-3130	-2580
					1240	1260	0.064	700	-3200	-2500
					1220	1240	0.053	870	-3230	-2350
					1200	1220	0.037	930	-3280	-2350
					1180	1200	0.017	1310	-3310	-2000
					1160	1180	0.008	1610	-3300	-1680
					1140	1160	0.003	1390	-3270	-1880
					1140	1740	3.211	1300	-1830	-530
65.5	STORGLACIAEREN	SE0788	2010		1720	1740	0.007	3140	-500	2650
					1700	1720	0.039	2680	-630	2050
					1680	1700	0.07	2370	-650	1720
					1660	1680	0.102	2260	-660	1600
					1640	1660	0.149	1960	-680	1280
					1620	1640	0.156	1550	-790	760
					1600	1620	0.123	1400	-930	470
					1580	1600	0.125	1260	-1130	130
					1560	1580	0.08	1200	-1210	0
					1540	1560	0.096	1150	-1310	-160
					1520	1540	0.107	1170	-1290	-130
					1500	1520	0.225	1170	-1290	-120
					1480	1500	0.152	860	-1690	-830
					1460	1480	0.084	660	-1870	-1210

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE FROM	TO	AREA KM²	BW MM	BS MM	BA MM
					1440	1460	0.068	760	-1950	-1190
					1420	1440	0.072	860	-1980	-1120
					1400	1420	0.12	780	-2030	-1240
					1380	1400	0.252	600	-1990	-1390
					1360	1380	0.324	490	-1990	-1510
					1340	1360	0.268	370	-2100	-1720
					1320	1340	0.151	340	-2190	-1850
					1300	1320	0.096	570	-2190	-1610
					1280	1300	0.081	590	-2320	-1720
					1260	1280	0.083	420	-2460	-2040
					1240	1260	0.064	570	-2460	-1900
					1220	1240	0.053	630	-2480	-1850
					1200	1220	0.037	680	-2600	-1920
					1180	1200	0.017	900	-2670	-1780
					1160	1180	0.008	1270	-2710	-1440
					1140	1160	0.003	1490	-2700	-1220
					1140	1740	3.211	960	-1650	-690
66.1	TARFALAGLACIAEREN	SE0791	2006		1780	1800	0.001	790	-2900	-2110
					1760	1780	0.007	790	-2930	-2140
					1740	1760	0.005	820	-2980	-2150
					1720	1740	0.017	900	-3020	-2120
					1700	1720	0.026	920	-3060	-2140
					1680	1700	0.028	920	-3110	-2190
					1660	1680	0.031	960	-3150	-2190
					1640	1660	0.036	980	-3200	-2220
					1620	1640	0.045	1000	-3240	-2240
					1600	1620	0.06	1020	-3280	-2260
					1580	1600	0.06	1020	-3330	-2310
					1560	1580	0.063	1020	-3370	-2350
					1540	1560	0.068	1000	-3420	-2410
					1520	1540	0.07	970	-3460	-2490
					1500	1520	0.082	910	-3500	-2590
					1480	1500	0.083	830	-3550	-2720
					1460	1480	0.087	800	-3590	-2790
					1440	1460	0.083	860	-3640	-2780
					1420	1440	0.08	860	-3680	-2820
					1400	1420	0.065	790	-3720	-2930
					1380	1400	0.009	540	-3750	-3220
					1380	1800	1.006	910	-3440	-2530
66.2	TARFALAGLACIAEREN	SE0791	2007		1780	1800	0.001	1730	-970	760
					1760	1780	0.007	1730	-980	750
					1740	1760	0.005	1730	-1010	720
					1720	1740	0.017	1720	-1030	690
					1700	1720	0.026	1710	-1060	650
					1680	1700	0.028	1710	-1080	620
					1660	1680	0.031	1690	-1110	590
					1640	1660	0.036	1680	-1130	550
					1620	1640	0.045	1660	-1160	500
					1600	1620	0.06	1610	-1180	430
					1580	1600	0.06	1580	-1210	370
					1560	1580	0.063	1540	-1230	310
					1540	1560	0.068	1500	-1260	240
					1520	1540	0.07	1450	-1280	160
					1500	1520	0.082	1400	-1310	100
					1480	1500	0.083	1370	-1340	30
					1460	1480	0.087	1350	-1360	-10
					1440	1460	0.083	1370	-1380	-10
					1420	1440	0.08	1400	-1410	-10
					1400	1420	0.065	1400	-1430	-30

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE FROM	TO	AREA KM²	BW MM	BS MM	BA MM
					1380	1400	0.009	1330	-1450	-120
					1380	1800	1.006	1490	-1270	210
66.3	TARFALAGLACIAEREN	SE0791	2008		1780	1800	0.001	1300	-450	850
					1760	1780	0.007	1300	-500	800
					1740	1760	0.005	1300	-590	710
					1720	1740	0.017	1300	-670	630
					1700	1720	0.026	1300	-760	540
					1680	1700	0.028	1290	-840	450
					1660	1680	0.031	1290	-920	370
					1640	1660	0.036	1280	-1000	280
					1620	1640	0.045	1270	-1090	190
					1600	1620	0.06	1280	-1170	110
					1580	1600	0.06	1260	-1250	10
					1560	1580	0.063	1260	-1330	-80
					1540	1560	0.068	1270	-1420	-150
					1520	1540	0.07	1290	-1500	-210
					1500	1520	0.082	1310	-1580	-270
					1480	1500	0.083	1330	-1670	-340
					1460	1480	0.087	1320	-1750	-430
					1440	1460	0.083	1260	-1830	-580
					1420	1440	0.08	1180	-1920	-740
					1400	1420	0.065	1210	-1990	-790
					1380	1400	0.009	1470	-2050	-580
					1380	1800	1.006	1280	-1470	-200
66.4	TARFALAGLACIAEREN	SE0791	2009		1780	1800	0.001	1520	-1830	-310
					1760	1780	0.007	1510	-1890	-380
					1740	1760	0.005	1490	-1970	-480
					1720	1740	0.017	1480	-2060	-580
					1700	1720	0.026	1460	-2140	-680
					1680	1700	0.028	1440	-2220	-780
					1660	1680	0.031	1430	-2300	-870
					1640	1660	0.036	1410	-2390	-980
					1620	1640	0.045	1400	-2470	-1070
					1600	1620	0.06	1400	-2560	-1160
					1580	1600	0.06	1340	-2640	-1300
					1560	1580	0.063	1270	-2720	-1450
					1540	1560	0.068	1150	-2810	-1660
					1520	1540	0.07	1030	-2890	-1860
					1500	1520	0.082	1040	-2980	-1930
					1480	1500	0.083	1080	-3060	-1980
					1460	1480	0.087	1090	-3140	-2060
					1440	1460	0.083	1030	-3230	-2200
					1420	1440	0.08	860	-3310	-2450
					1400	1420	0.065	710	-3390	-2680
					1380	1400	0.009	860	-3450	-2590
					1380	1800	1.006	1150	-2860	-1710
66.5	TARFALAGLACIAEREN	SE0791	2010		1780	1800	0.001	1120	-1690	-570
					1760	1780	0.007	1110	-1710	-600
					1740	1760	0.005	1090	-1740	-650
					1720	1740	0.017	1070	-1770	-700
					1700	1720	0.026	1060	-1800	-740
					1680	1700	0.028	1040	-1830	-780
					1660	1680	0.031	1030	-1850	-820
					1640	1660	0.036	1020	-1880	-860
					1620	1640	0.045	1020	-1910	-900
					1600	1620	0.06	1000	-1940	-940
					1580	1600	0.06	990	-1970	-980
					1560	1580	0.063	980	-2000	-1020

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE FROM	TO	AREA KM²	BW MM	BS MM	BA MM
					1540	1560	0.068	960	-2030	-1070
					1520	1540	0.07	970	-2060	-1090
					1500	1520	0.082	1000	-2090	-1090
					1480	1500	0.083	990	-2120	-1130
					1460	1480	0.087	950	-2150	-1190
					1440	1460	0.083	940	-2170	-1240
					1420	1440	0.08	960	-2200	-1240
					1400	1420	0.065	980	-2230	-1250
					1380	1400	0.009	980	-2250	-1270
					1380	1800	1.006	990	-2050	-1060
	SWITZERLAND									
67.1	BASODINO	CH0104	2006		3000	3100	0.48	1000		-1500
					2900	3000	0.56	1000		-2100
					2800	2900	0.55	960		-2600
					2700	2800	0.45	920		-3200
					2600	2700	0.24	880		-3900
					2600	3100	2.28	962		-2501
67.2	BASODINO	CH0104	2007		3000	3100	0.48	924		-140
					2900	3000	0.56	840		-560
					2800	2900	0.55	760		-960
					2700	2800	0.45	756		-1440
					2600	2700	0.24	630		-2080
					2600	3100	2.28	800		-902
67.3	BASODINO	CH0104	2010	OTH	3000	3100	0.48	1490		-100
					2900	3000	0.56	1595		100
					2800	2900	0.55	1521		-800
					2700	2800	0.45	1521		-1200
					2600	2700	0.24	1755		-1500
					2600	3100	2.28	1557	-2141	-584
68.1	GRIES	CH0003	2006	FXD	3300	3400	0.004	1133		604
					3200	3300	0.081	1127		171
					3100	3200	0.287	1095		-325
					3000	3100	1.454	1093		-805
					2900	3000	0.945	1005		-1440
					2800	2900	0.609	941		-1961
					2700	2800	0.364	895		-2451
					2600	2700	0.367	725		-3416
					2500	2600	0.769	558		-4300
					2400	2500	0.172	401		-4994
					2300	2400	0			
					2300	3400	5.084	914	-2909	-1995
68.2	GRIES	CH0003	2007	FXD	3300	3400	0.004	800		622
					3200	3300	0.082	799		242
					3100	3200	0.261	787		-174
					3000	3100	1.454	817		-549
					2900	3000	0.953	715		-1047
					2800	2900	0.609	640		-1438
					2700	2800	0.342	596		-1786
					2600	2700	0.318	428		-2586
					2500	2600	0.765	254		-3370
					2425	3324	4.973	626	-2099	-1473
					2400	2500	0.154	143		-3906
					2300	2400	0			
					2300	3400	4.973	626	-2099	-1473

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE FROM	ALTITUDE TO	AREA KM²	BW MM	BS MM	BA MM
69.1	PIZOL	CH0081	2007	OTH	2750	2800	0.005	1175	-2411	-1235
					2700	2750	0.021	1223	-2610	-1386
					2650	2700	0.034	1188	-2971	-1783
					2600	2650	0.02	967	-3538	-2570
					2600	2800	0.081	1142	-2979	-1837
69.2	PIZOL	CH0081	2008	OTH	2750	2800	0.005	1424	-1666	-242
					2700	2750	0.021	1527	-1786	-258
					2650	2700	0.034	1451	-2242	-790
					2600	2650	0.02	1358	-2623	-1265
					2600	2800	0.081	1447	-2179	-731
69.3	PIZOL	CH0081	2009	OTH	2750	2800	0.005	1912	-2316	-403
					2700	2750	0.021	1757	-2571	-813
					2650	2700	0.034	1590	-2851	-1261
					2600	2650	0.02	1330	-3129	-1798
					2600	2800	0.081	1591	-2812	-1220
69.4	PIZOL	CH0081	2010	FLO	2750	2800	0.005	1375	-1629	-254
					2700	2750	0.021	1351	-1759	-408
					2650	2700	0.034	1110	-2131	-1021
					2600	2650	0.02	1068	-2290	-1222
					2600	2800	0.081	1180	-2040	-860
70.1	SILVRETTA	CH0090	2006	FXD	3000	3100	0.132	1135		-804
					2900	3000	0.579	1364		-589
					2800	2900	0.588	1509		-610
					2700	2800	0.705	1299		-1498
					2600	2700	0.414	1049		-2227
					2500	2600	0.363	772		-3256
					2400	2500	0.021	117		-4719
					2400	3100	2.814	1235	-2684	-1449
70.2	SILVRETTA	CH0090	2007	FXD	3000	3100	0.126	756		-320
					2900	3000	0.579	1015		48
					2800	2900	0.583	972		-257
					2700	2800	0.698	773		-1026
					2600	2700	0.406	580		-1666
					2500	2600	0.362	363		-2491
					2467	3069	2.789	774	-1690	-916
					2400	2500	0.023	-257		-4038
					2400	3100	2.789	774	-1690	-916
70.3	SILVRETTA	CH0090	2010	OTH	3000	3100	0.135	1409		871
					2900	3000	0.584	1238		579
					2800	2900	0.588	1303		174
					2700	2800	0.69	1299		-344
					2600	2700	0.41	1438		-975
					2500	2600	0.36	1381		-1718
					2400	2500	0.018	1492		-2574
					2400	3100	2.785	1325	-1593	-268
71.1	TSANFLEURON	CH0033	2010	FLO	2900	3000	0.05	954	-1334	-380
					2800	2900	0.964	1075	-1622	-547
					2700	2800	1.143	1084	-2039	-955
					2600	2700	0.498	1062	-2497	-1435
					2500	2600	0.098	1090	-2844	-1754
					2500	3000	2.752	1075	-1992	-917

NR	GLACIER NAME	PSFG NR	YEAR	SYS	ALTITUDE FROM	ALTITUDE TO	AREA KM²	BW MM	BS MM	BA MM
	U.S.A.									
72.1	LEMON CREEK	US	2008	COM	1200	1400	2.1			1800
					1150	1200	2.3			1700
					1100	1150	1.2			1200
					1050	1100	1.6			1100
					1000	1050	1.2			600
					950	1000	0.7			400
					900	950	0.8			-500
					850	900	1			-1200
					750	850	0.7			-1800
					750	1400	11.6			778
72.2	LEMON CREEK	US	2009	COM	1200	1400	2.1			600
					1150	1200	2.3			400
					1100	1150	1.2			300
					1050	1100	1.6			-300
					1000	1050	1.2			-900
					950	1000	0.7			-1800
					900	950	0.8			-2400
					850	900	1			-3200
					750	850	0.7			-3800
					750	1400	0			-700

Notes

WORLD GLACIER MONITORING SERVICE

MASS BALANCE POINT MEASUREMENTS FOR SELECTED GLACIERS

TABLE CCCC

NR	Record number
GLACIER NAME	15 alphabetic or numeric digits
PSFG NUMBER	5 digits identifying glacier with alphabetic prefix denoting country
YEAR	Balance year or measurement year
POINT-ID	Key identifying the stake or pit
COORDINATES	Position of the stake or pit in decimal degrees
ELEV	Elevation above sea level of stake or pit
BW	Winter balance in mm water equivalent
BS	Summer balance in mm water equivalent
BA	Annual balance in mm water equivalent

NR	GLACIER NAME	PSFG NR	YEAR	POINT-ID	COORINATES		ELEV	BW	BS	BA
					LAT	LON	M	MM	MM	MM
	ARGENTINA									
1.1	MARTIAL ESTE	AR	2006	Zona01			1039			-1278
				Zona02			1040			-1188
				Zona03			1034			-1688
				Zona04			1061			-280
				Zona05			1100			157
				Zona06			1110			70
				Zona07			1112			98
				Zona08			1082			114
				Zona09			1086			-412
				Zona10			1085			-688
1.2	MARTIAL ESTE	AR	2007	Zona01			1038			-482
				Zona02			1039			-486
				Zona03			1032			-495
				Zona04			1060			296
				Zona05			1096			545
				Zona06			1100			345
				Zona07			1096			388
				Zona08			1078			624
				Zona09			1075			288
				Zona10			1073			-63
1.3	MARTIAL ESTE	AR	2009	Zona-01	54.78136 S	68.40169 W	1038	1015	-644	371
				Zona-02	54.78182 S	68.40249 W	1036	947	-540	406
				Zona-03	54.78223 S	68.40298 W	1032	911	-557	354
				Zona-04	54.78207 S	68.40411 W	1059	1496	-360	1136
				Zona-05	54.78197 S	68.40530 W	1090	1777	-85	1692
				Zona-06	54.78140 S	68.40497 W	1093	1598	-90	1507
				Zona-07	54.78097 S	68.40418 W	1095	1596	-61	1535
				Zona-08	54.78125 S	68.40379 W	1077	1580	-46	1534
				Zona-09	54.78078 S	68.40273 W	1084	1560	-318	1242
				Zona-10	54.78048 S	68.40172 W	1071	1548	-428	1120
	BOLIVIA									
2.1	CHARQUINI SUR	BO	2006	10D	16.30320 S	68.10800 W	5053			-958
				15D[a]	16.30250 S	68.10830 W	5056			-1385
				16D	16.30240 S	68.10950 W	5012			-3940
				17D	16.30240 S	68.11030 W	5000			-1740
				19D	16.30040 S	68.10910 W	5106			165
				21C	16.30090 S	68.10920 W	5091			188
				2Acc	16.30210 S	68.10340 W	5215			324
				2D	16.30290 S	68.10590 W	5124			-315
				3A	16.30330 S	68.10540 W	5127			-328
				4D	16.30350 S	68.10720 W	5065			-446
				5A	16.30200 S	68.10440 W	5181			344
				6A	16.30250 S	68.10530 W	5146			-182
				6D	16.30240 S	68.10500 W	5153			-191
				7A	16.30170 S	68.10670 W	5120			530
2.2	CHARQUINI SUR	BO	2007	10D	16.30320 S	68.10800 W	5050			-188
				10E	16.30350 S	68.10660 W	5079			-180
				15D	16.30250 S	68.10830 W	5053			-168
				15E	16.30240 S	68.10780 W	5070			-74
				16D	16.30240 S	68.10950 W	5010			-164
				16E	16.30220 S	68.10950 W	5017			-130
				17D	16.30240 S	68.11030 W	4996			-228
				20D	16.30290 S	68.10670 W	5093			-133
				2A	16.30330 S	68.10460 W	5153			-59
				2D	16.30300 S	68.10590 W	5123			-77
				2DD	16.30220 S	68.10330 W	5216			61

NR	GLACIER NAME	PSFG NR	YEAR	POINT-ID	COORINATES		ELEV	BW	BS	BA
					LAT	LON	M	MM	MM	MM
				2E	16.30310 S	68.10460 W	5153			-13
				3A	16.30340 S	68.10540 W	5127			-29
				3D	16.30290 S	68.10350 W	5200			8
				4D	16.30350 S	68.10720 W	5065			-118
				6D	16.30260 S	68.10500 W	5153			4
				7A	16.30180 S	68.10670 W	5120			-59
				7E	16.30140 S	68.10630 W	5132			30
2.3	CHARQUINI SUR	BO	2008	10D	16.30324 S	68.10797 W	5048			-421
				10E	16.30353 S	68.10663 W	5077			-454
				15D	16.30253 S	68.10826 W	5051			-271
				15E	16.30236 S	68.10786 W	5068			135
				17D	16.30239 S	68.11031 W	4994			-946
				1A	16.30314 S	68.10468 W	5192			422
				20D	16.30293 S	68.10647 W	5091			-156
				2A	16.30328 S	68.10461 W	5152			493
				2D	16.30297 S	68.10587 W	5121			-183
				2E	16.30314 S	68.10468 W	5152			595
				3A	16.30344 S	68.10535 W	5126			537
				4D			5062			-247
				7A	16.30181 S	68.10672 W	5119			554
				9C	16.30254 S	68.10760 W	5071			55
				D3	16.30289 S	68.10345 W	5199			683
2.4	CHARQUINI SUR	BO	2009	10D			5048			-250
				10E			5077			-259
				15D			5051			-266
				16D			5007			-474
				1A			5192			-151
				20D			5091			-200
				2D			5121			-202
				4D			5062			-226
				4F			5094			-185
				9C			5071			-182
				PICO1			5232			44
				PICO2			5238			36
				PICO3			5222			32
2.5	CHARQUINI SUR	BO	2010	15H			5057			-464
				16E			5017			-430
				18H			4993			-575
				1H			5193			-344
				20D			5091			-403
				20E			5113			-317
				20F			5131			-343
				2D			5121			-308
				6D			5152			-358
				9C			5071			-401
				PICO1			5232			54
3.1	ZONGO	BO5150	2006	10N	16.28040 S	68.13720 W	4995			-4938
				11N	16.27990 S	68.13660 W	4976			-4267
				12N	16.27950 S	68.13610 W	4963			-6108
				13N	16.27940 S	68.13520 W	4931			-5351
				14N	16.27920 S	68.13460 W	4917			-5971
				15N	16.27780 S	68.14560 W	5146			-896
				17N	16.27840 S	68.14520 W	5145			108
				18N	16.27840 S	68.14350 W	5097			-543
				1H	16.27840 S	68.14540 W	5143			-540
				1N	16.27740 S	68.14440 W	5125			305
				2N	16.28000 S	68.14300 W	5066			-2041

NR	GLACIER NAME	PSFG NR	YEAR	POINT-ID	COORINATES		ELEV	BW	BS	BA
					LAT	LON	M	MM	MM	MM
				3N	16.27830 S	68.14120 W	5065			-1177
				5N	16.27980 S	68.14040 W	5043			-3670
				6K	16.27910 S	68.14260 W	5070			-588
				6N	16.27880 S	68.13910 W	5029			-1405
				9N	16.28080 S	68.13780 W	5004			-4007
				x1	16.27770 S	68.14390 W	5172			382
				x2	16.27670 S	68.14590 W	5228			370
3.2	ZONGO	BO5150	2007	10O	16.28050 S	68.13730 W	4995			-5727
				11O	16.28010 S	68.13690 W	4970			-6291
				13O	16.27950 S	68.13550 W	4920			-7507
				14O	16.27930 S	68.13500 W	4911			-6634
				15N	16.27800 S	68.14580 W	5145			-942
				1N	16.27770 S	68.14450 W	5121			-14
				3N	16.27850 S	68.14130 W	5055			-2121
				5D	16.27980 S	68.14080 W	5041			-2471
				5O	16.27910 S	68.14200 W	5043			-1615
				6K	16.27930 S	68.14270 W	5067			-1594
				6N	16.27900 S	68.13920 W	5026			-2454
				6O	16.27990 S	68.14060 W	5039			-2482
				7N	16.28000 S	68.13920 W	5023			-4804
				8N	16.28100 S	68.13900 W	5015			-3926
				Pit1	16.26680 S	68.15090 W	5795			1202
				Pit2	16.26910 S	68.14900 W	5606			705
				Pit3	16.26770 S	68.14760 W	5600			880
				x1	16.27670 S	68.14590 W	5172			-231
				x2	16.27670 S	68.14650 W	5188			40
				XXI	16.27800 S	68.14400 W	5108			-389
3.3	ZONGO	BO5150	2008	10P	16.28033 S	68.13638 W	4987			-3825
				11P	16.27977 S	68.13597 W	4972			-3876
				12P	16.27939 S	68.13536 W	4960			-5033
				13P	16.27938 S	68.13449 W	4922			-4354
				14P	16.27928 S	68.13407 W	4914			-4683
				15N	16.27838 S	68.14532 W	5145			-476
				16N			5145			5
				17P	16.27907 S	68.14513 W	5139			-274
				19N			5048			-1067
				1G	16.27933 S	68.14574 W	5141			-360
				1N	16.27835 S	68.14378 W	5121			623
				1P	16.28007 S	68.14343 W	5079			-1027
				20P	16.27984 S	68.14194 W	5067			-667
				21P	16.27915 S	68.14136 W	5074			-861
				2N	16.28045 S	68.14281 W	5065			-3560
				2P	16.28046 S	68.14291 W	5065			-1135
				3N	16.27894 S	68.14042 W	5055			-983
				3P	16.27880 S	68.14008 W	5045			-534
				4P	16.28106 S	68.13966 W	5040			-1010
				5D	16.28017 S	68.13997 W	5041			-881
				5J			5005			-1770
				5O			5055			-649
				6K	16.27983 S	68.14194 W	5067			-505
				6P	16.27909 S	68.13840 W	5026			-820
				7P	16.28017 S	68.13836 W	5023			-1892
				8P	16.28111 S	68.13836 W	5015			-1846
				X2	16.27749 S	68.14587 W	5188			108
				XX1	16.27874 S	68.14326 W	5107			504
3.4	ZONGO	BO5150	2009	10P			4983			-725
				11P			4964			-693
				12P			4947			-860

NR	GLACIER NAME	PSFG NR	YEAR	POINT-ID	COORINATES		ELEV	BW	BS	BA
					LAT	LON	M	MM	MM	MM
				13P			4909			-770
				15N	16.27810 S	68.14560 W	5142			-210
				16N-1			5144			-162
				16P			5149			-175
				17P	68.14531 S	16.27895 W	5180			-214
				18P	68.14298 S	16.27903 W	5113			-196
				1N	16.27790 S	68.14420 W	5112			-112
				1P	16.27980 S	68.14370 W	5069			-291
				21P	68.14185 S	16.27877 W	5106			-238
				2P	16.28030 S	68.14310 W	5062			-367
				3P	68.14050 S	16.27860 W	5078			-243
				4P	16.28090 S	68.14060 W	5034			-377
				5O	16.27950 S	68.14180 W	5053			-295
				6P	16.27890 S	68.13890 W	5021			-325
				8P	16.28100 S	68.13880 W	5007			-461
3.5	ZONGO	BO5150	2010	10S						-862
				11S						-885
				12S						-925
				13S						-1023
				14S						-929
				16N-2						-291
				17P	68.14526 S	16.27899 W	5176			-395
				18P	68.14287 S	16.27913 W	5108			-391
				1S	68.14346 S	16.27961 W	5108			-401
				21P	68.14171 S	16.27885 W	5099			-416
				21S	68.14204 S	16.27835 W	5113			-436
				2S	68.14303 S	16.27991 W	5104			-417
				3P	68.14038 S	16.27865 W	5073			-405
				4S	68.14045 S	16.28001 W	5075			-565
				5S	68.13911 S	16.28100 W	5052			-667
				6S	68.13913 S	16.27879 W	5066			-497
				Pit1	68.15096 S	16.26673 W	5793			836
				Pit2	68.14890 S	16.26919 W	5641			856
				Pit3	68.14709 S	16.26685 W	5634			818
				X1	68.14578 S	16.27727 W	5186			-346
				X4	68.14627 S	16.27683 W	5213			-222
	CANADA									
4.1	WHITE	CA2340	2006	BLUE	79.51280 N	90.88720 W	1165			270
				BLUE2	79.51310 N	90.88358 W	1160			175
				CJA1	79.53390 N	91.02873 W	1489			206
				CWGA	79.43121 N	90.64647 W	136			-2529
				CWGS	79.43121 N	90.64647 W	648			-706
				CWGT			690			-486
				CWGX	79.47504 N	90.75035 W	643			-594
				DCP1	79.53003 N	91.10122 W	1423			273
				EXTRA	79.52554 N	90.96930 W	1348			307
				JGC1	79.53780 N	90.99017 W	1518			422
				JGC2	79.52357 N	90.95935 W	1317			204
				L1	79.51990 N	90.93007 W	1266			266
				L16A	79.50590 N	90.85202 W	1070			135
				L17	79.50188 N	90.83994 W	1018			-72
				L18	79.49883 N	90.82777 W	950			-94
				L19D	79.49657 N	90.82066 W	934			45
				L20	79.52900 N	90.8016 0W	900			-225
				L21	79.52955 N	90.80468 W	877			-306
				L22	79.49149 N	90.80296 W	869			-900
				LP10A	79.43540 N	90.62880 W	190			-1575
				LP2	79.53235 N	91.02012 W	1468			316
				LP4	79.52772 N	90.98106 W	1384			187

NR	GLACIER NAME	PSFG NR	YEAR	POINT-ID	COORINATES		ELEV	BW	BS	BA
					LAT	LON	M	MM	MM	MM
				LP5	79.48395 N	90.78350 W	750			-540
				LP6	79.46730 N	90.74638 W	570			-1008
				LP8	79.45901 N	90.71532 W	462			-1129
				LP9	79.45115 N	90.69373 W	372			-1224
				M2A			1120			36
				QUERY	79.51700 N	90.90290 W	1192			246
				ST4			251			-1386
				ST6	79.44560 N	90.67043 W	315			-1287
				WG0			152			-1993
				WG1	79.43205 N	90.65123 W	121			-2232
				WG2			127			-2277
				WG3B	79.43475 N	90.65888 W	171			-1984
				WG4	79.43615 N	90.64967 W	192			-1507
				WG5	79.43950 N	90.62825 W	228			-1435
				WG6	79.45400 N	90.70355 W	421			-1107
				WG7A	79.46993 N	90.75578 W	614			-756
				WG8	79.48092 N	90.77268 W	698			-648
				WG9	79.48780 N	90.79002 W	793			-621
				WG9A	79.48780 N	90.79002 W	793			-540
				WPA1	79.53620 N	90.93177 W	1455			186
				WPA2	79.53305 N	90.93573 W	1421			175
				WPA3	79.52890 N	90.94511 W	1355			266
				WPA4	79.52180 N	90.94770 W	1292			200
				WPA5	79.51898 N	90.96077 W	1278			204
4.2	WHITE	CA2340	2007	BLUE	79.51280 N	90.88720 W	1140			-749
				BLUE2	79.51310 N	90.88358 W	1139			-503
				CJA1	79.53390 N	91.02873 W	1492			184
				CWGA	79.43121 N	90.64647 W	132			-4644
				CWGD	79.43598 N	90.63883 W	184			-3663
				CWGS	79.43121 N	90.64647 W	620			-2007
				CWGT			679			-2142
				CWGX	79.47504 N	90.75035 W	615			-2038
				DCP1	79.53003 N	91.10122 W	1418			191
				EXTRA	79.52554 N	90.96930 W	1329			184
				JGC1	79.53780 N	90.99017 W	1521			248
				JGC2	79.52357 N	90.95935 W	1302			111
				L1	79.51990 N	90.93007 W	1243			97
				L16A	79.50590 N	90.85202 W	1018			-1100
				L17	79.50188 N	90.83994 W	949			-1280
				L18	79.49883 N	90.82777 W	892			-1030
				L19	79.49657 N	90.82066 W	859			-1745
				L20	79.52900 N	90.80160 W	843			-1785
				L21	79.52955 N	90.80468 W	838			-2000
				L22	79.49149 N	90.80296 W	839			-2510
				LP10	79.43540 N	90.62880 W	183			-3253
				LP2	79.53235 N	91.02012 W	1467			178
				LP4	79.52772 N	90.98106 W	1372			148
				LP5	79.48395 N	90.78350 W	703			-2480
				LP6	79.46730 N	90.74638 W	568			-2770
				LP8	79.45901 N	90.71532 W	490			-2835
				LP9A	79.45115 N	90.69373 W	398			-2480
				QUERY	79.51700 N	90.90290 W	1171			-555
				ST6	79.44560 N	90.67043 W	299			-3042
				WG1	79.43205 N	90.65123 W	127			-3862
				WG3	79.43475 N	90.65888 W	168			-3630
				WG4	79.43615 N	90.64967 W	196			-3220
				WG5	79.43950 N	90.62825 W	195			-3549
				WG6	79.45400 N	90.70355 W	422			-3110
				WG7	79.46993 N	90.75578 W	587			-2560
				WG8	79.48092 N	90.77268 W	686			-2380

NR	GLACIER NAME	PSFG NR	YEAR	POINT-ID	COORINATES		ELEV	BW	BS	BA
					LAT	LON	M	MM	MM	MM
				WG9	79.48780 N	90.79002 W	740			-2500
				WPA1	79.53620 N	90.93177 W	1458			110
				WPA2	79.53305 N	90.93573 W	1419			72
				WPA3	79.52890 N	90.94511 W	1348			80
				WPA4	79.52180 N	90.94770 W	1275			100
				WPA5	79.51898 N	90.96077 W	1260			113
	CHINA									
5.1	URUMQI NO. 1 E-BRANCH	CN0001	2006	A	43.11650 N	86.81620 E	3796			-3138
				B1	43.11670 N	86.81470 E	3828			-3005
				B2	43.11630 N	86.81530 E	3838			-2587
				B3	43.11650 N	86.81580 E	3832			-2655
				C1	43.11630 N	86.81150 E	3888			-1618
				C2	43.11570 N	86.81310 E	3886			-2229
				C3	43.11480 N	86.81410 E	3900			-1287
				D1	43.11440 N	86.80950 E	3925			-765
				D2	43.11390 N	86.81110 E	3936			-508
				D3	43.11330 N	86.81270 E	3956			-879
				E1	43.11120 N	86.80770 E	3950			-756
				E2	43.11110 N	86.80910 E	3954			-921
				E3	43.11080 N	86.81080 E	3960			-750
				F1	43.10960 N	86.80700 E	3976			-745
				F2	43.10940 N	86.80850 E	3977			-672
				F3	43.10900 N	86.81040 E	4004			-336
				G1	43.10820 N	86.80640 E	3996			-705
				G2	43.10780 N	86.80730 E	3996			-700
				G3	43.10740 N	86.80910 E	4007			2
				H1	43.10600 N	86.80460 E	4046			-757
				H2	43.10580 N	86.80630 E	4046			-262
				H3	43.10560 N	86.80740 E	4055			-188
				I			4060			-92
				J			4120			130
				K			4150			230
				L			4175			316
5.2	URUMQI NO. 1 E-BRANCH	CN0001	2007	A	43.11650 N	86.81620 E	3796			-2268
				B1	43.11670 N	86.81470 E	3828			-2106
				B2	43.11630 N	86.81530 E	3838			-2054
				B3	43.11650 N	86.81580 E	3832			-3525
				C1	43.11630 N	86.81150 E	3888			-1598
				C2	43.11570 N	86.81310 E	3886			-1869
				C3	43.11480 N	86.81410 E	3900			-1227
				D1	43.11440 N	86.80950 E	3925			-1018
				D2	43.11390 N	86.81110 E	3936			-1915
				D3	43.11330 N	86.81270 E	3956			-852
				E1	43.11120 N	86.80770 E	3950			-828
				E2	43.11110 N	86.80910 E	3954			-801
				E3	43.11080 N	86.81080 E	3960			-753
				F1	43.10960 N	86.80700 E	3976			-903
				F2	43.10940 N	86.80850 E	3977			-517
				F3	43.10900 N	86.81040 E	4004			-129
				G1	43.10820 N	86.80640 E	3996			-603
				G2	43.10780 N	86.80730 E	3996			-639
				G3	43.10740 N	86.80910 E	4007			5
				H1	43.10600 N	86.80460 E	4046			-722
				H2	43.10580 N	86.80630 E	4046			193
				J			4120			130
				K			4150			230
				L			4175			316

NR	GLACIER NAME	PSFG NR	YEAR	POINT-ID	COORINATES		ELEV	BW	BS	BA
					LAT	LON	M	MM	MM	MM
5.3	URUMQI NO. 1 E-BRANCH	CN0001	2008	A			3776			-3580
				B1			3801			-2952
				B2			3801			-3222
				B3			3801			-3132
				C1			3849			-2156
				C2			3852			-2483
				C3			3847			-1324
				D1			3894			-1754
				D2			3890			-1829
				D3			3892			-818
				E1			3922			-1365
				E2			3923			-1140
				E3			3923			-1179
				F1			3971			-1506
				F2			3965			-797
				F3			3966			-1020
				G1			4008			-887
				G2			4004			-910
				G3			4003			-213
				H1			4058			-350
				H2			4043			-340
				H3			4058			-455
5.4	URUMQI NO. 1 E-BRANCH	CN0001	2009	A			3776			-2013
				B1			3801			-2085
				B2			3801			-1305
				B3			3801			-2163
				C2			3852			-825
				C3			3847			-402
				D2			3890			-978
				D3			3892			89
				E1			3922			-36
				E2			3923			-205
				E3			3923			-9
				F2			3965			-19
				F3			3966			-2
				G1			4008			-24
				G2			4004			-28
				G3			4003			309
				H1			4058			-246
				H2			4043			173
				H3			4058			120
5.5	URUMQI NO. 1 E-BRANCH	CN0001	2010	A			3796	20	-3719	-3699
				B1			3828	99	-2565	-2466
				B2			3838	-20	-2608	-2628
				B3			3832	40	-2488	-2448
				C1			3888	225	-1791	-1566
				C2			3886	-120	-1380	-1500
				C3			3900	100	-1603	-1503
				D1			3925	219	-1974	-1755
				D2			3936	18	-2412	-2394
				D3			3956	7	-1375	-1368
				E1			3950	82	-1168	-1086
				E2			3954	91	-953	-862
				E3			3960	-33	-1152	-1185
				F1			3976	338	-1691	-1353
				F2			3977	176	-1860	-1684
				F3			4004	297	-1006	-709
				G1			3996	60	-1612	-1552
				G2			3996	143	-1705	-1562

NR	GLACIER NAME	PSFG NR	YEAR	POINT-ID	COORINATES		ELEV	BW	BS	BA
					LAT	LON	M	MM	MM	MM
				G3			4007	195	-1236	-1041
				H1			4046	151	-1392	-1241
				H2			4046	71	-1320	-1249
				H3			4055	300	-1242	-942
				I			4055	320	-1220	-900
6.1	URUMQI NO. 1 W-BRANCH	CN0002	2006	A			3875			-3172
				BC			3900			-2253
				D1			3953			-2128
				D2			3953			-1875
				D3			3953			2701
				E1			3964			-2664
				E2			3966			-2879
				E3			3980			-860
				F1			4000			-1195
				F2			4000			-1420
				F3			4019			-1524
				G1			4026			-476
				G2			4044			-367
				G3			4044			-690
				H1			4050			-804
				H2			4052			-564
				H3			4054			-246
				L1			4130			332
				L2			4250			316
				L3			4300			298
6.2	URUMQI NO. 1 W-BRANCH	CN0002	2007	A			3854			-2889
				BC			3900			-2037
				D1			3953			-3094
				D2			3953			-1590
				D3			3953			-1355
				E2			3966			-337
				E3			3980			-1300
				F1			4000			-2507
				F2			4000			-3492
				F3			4019			-1525
				G1			4026			-881
				G2			4044			-588
				G3			4044			1371
				H1			4050			-470
				H2			4052			-1086
				I			4070			-1623
6.3	URUMQI NO. 1 W-BRANCH	CN0002	2008	A			3875			-3328
				BC			3900			-2385
				D1			3953			-2396
				D2			3953			-1872
				E1			3964			-896
				E2			3966			-2337
				E3			3980			-1389
				F1			4000			-2408
				F2			4000			-1353
				F3			4019			-1112
				G1			4026			-822
				G2			4026			-1023
				H1			4050			-1218
				H2			4052			-1029
				H3			4054			-783
				I			4100			1356

NR	GLACIER NAME	PSFG NR	YEAR	POINT-ID	COORINATES		ELEV	BW	BS	BA
					LAT	LON	M	MM	MM	MM
6.4	URUMQI NO. 1 W-BRANCH	CN0002	2009	A			3875			-2964
				BC			3900			-1591
				D1			3953			-1018
				D2			3953			-1420
				D3			3953			-258
				E1			3964			-787
				E2			3966			-1350
				E3			3980			7
				F1			4000			-1121
				F2			4000			303
				F3			4019			909
				G1			4026			1254
				G2			4026			874
				G3			4044			-589
				H1			4050			1288
				H2			4052			-114
				I			4070			-1238
6.5	URUMQI NO. 1 W-BRANCH	CN0002	2010	A			3854	-309	-3822	-4131
				BC			3900	-12	-2604	-2616
				D1			3953	1038	-3522	-2484
				D2			3953	1603	-4717	-3114
				D3			3953	-810	-3089	-3899
				E1			3964	-165	-1689	-1854
				E2			3966	675	-3325	-2650
				E3			3980	-1106	-960	-2066
				F1			4000	180	-2865	-2685
				F2			4000	1345	-3800	-2455
				F3			4019	1784	-1584	200
				G1			4026	-786	-951	-1737
				G2			4026	327	-3351	-3024
				G3			4044	146	-3228	-3082
				H1			4050	528	-1599	-1071
				H2			4052	456	-1230	-774
				H3			4054	67	-792	-725
				I			4070	961	-1650	-689
	COLOMBIA									
7.1	LA CONEJERA	CO0033	2009	1	4.81442 N	75.37338 W	4716			-5484
				10	4.80948 N	75.37164 W	4810			-2229
				11	4.80790 N	75.37136 W	4817			-2786
				12	4.81325 N	75.36977 W	4823			-916
				13	4.81615 N	75.37317 W	4857			-634
				14	4.81591 N	75.37336 W	4920			4037
				2	4.81478 N	75.37287 W	4717			-6026
				3	4.81554 N	75.37374 W	4721			-6070
				4	4.81387 N	75.37137 W	4754			-4019
				5	4.81475 N	75.37094 W	4755			-3992
				6	4.81524 N	75.37225 W	4757			-3695
				7	4.81275 N	75.37246 W	4789			-3201
				8	4.81105 N	75.37186 W	4792			-2672
				9	4.81202 N	75.37065 W	4799			-1625
7.2	LA CONEJERA	CO0033	2010	1	4.81442 N	75.37338 W	4716			-4133
				10	4.80948 N	75.37164 W	4810			-3233
				11	4.80790 N	75.37136 W	4817			-2485
				12	4.81325 N	75.36977 W	4823			-2056
				13	4.81615 N	75.37317 W	4857			-2023
				14	4.81591 N	75.37336 W	4920			-793
				2	4.81478 N	75.37287 W	4717			-3884
				3	4.81554 N	75.37374 W	4721			-6181

NR	GLACIER NAME	PSFG NR	YEAR	POINT-ID	COORINATES		ELEV	BW	BS	BA
					LAT	LON	M	MM	MM	MM
				4	4.81387 N	75.37137 W	4754			-3988
				5	4.81475 N	75.37094 W	4755			-3570
				6	4.81524 N	75.37225 W	4757			-3267
				7	4.81275 N	75.37246 W	4789			-2781
				8	4.81105 N	75.37186 W	4792			-2408
				9	4.81202 N	75.37065 W	4799			-786
	<u>GREENLAND</u>									
8.1	FREYA	GL	2008	1	74.40657 N	20.89771 W	340			-2142
				10	74.36696 N	20.80684 W	915			-666
				11	74.37025 N	20.82663 W	920			-45
				12	74.36990 N	20.84039 W	980			-540
				2	74.40324 N	20.88462 W	435			-1521
				3	74.39815 N	20.86697 W	535			-1197
				4	74.39140 N	20.85815 W	640			-954
				5	74.39266 N	20.84622 W	650			-972
				6	74.39436 N	20.83925 W	650			-729
				7	74.38650 N	20.82915 W	720			-558
				8	74.37930 N	20.81545 W	800			-180
				9	74.37141 N	20.81308 W	877			-45
				S1	74.36411 N	20.80833 W	1050			10
				S2	74.36137 N	20.81144 W	1070			65
8.2	FREYA	GL	2009	1	74.40657 N	20.89771 W	340			-1953
				10	74.36696 N	20.80684 W	915			103
				11	74.37025 N	20.82663 W	920			15
				12	74.36990 N	20.84039 W	980			130
				2	74.40324 N	20.88462 W	435			-1431
				3	74.39815 N	20.86697 W	535			-1305
				4	74.39140 N	20.85815 W	640			-369
				5	74.39266 N	20.84622 W	650			-1193
				6	74.39436 N	20.83925 W	650			-873
				7	74.38650 N	20.82915 W	720			-765
				8	74.37930 N	20.81545 W	800			-45
				9	74.37141 N	20.81308 W	877			116
				S1	74.36411 N	20.80833 W	1050			168
				S2	74.36137 N	20.81144 W	1070			221
8.3	FREYA	GL	2010	10	74.36696 N	20.80684 W	915			-1026
				11	74.37025 N	20.82663 W	920			-405
				12	74.36990 N	20.84039 W	980			-450
				13	74.36867 N	20.81673 W	856			-99
				14	74.40574 N	20.89022 W	358			-2187
				15	74.37563 N	20.80950 W	793			-837
				S1	74.36411 N	20.80833 W	1050			495
	<u>ITALY</u>									
9.1	CALDERONE	IT1006	2006	1	42.47372 N	13.56833 E	2658			585
				2	42.47197 N	13.56651 E	2798			1452
9.2	CALDERONE	IT1006	2007	1	42.47372 N	13.56833 E	2658			1620
				2	42.47197 N	13.56651 E	2798			1800
9.3	CALDERONE	IT1006	2008	1	42.47372 N	13.56833 E	2658			357
				2	42.47197 N	13.56651 E	2798			-82
10.1	CARESER OCCIDENTALE	IT	2006	10A	46.45032 N	10.68920 E	3161			-1881
				10B	46.45186 N	10.68770 E	3249			-1706
				4L	46.44783 N	10.69012 E	3108			-2156
				9C	46.44858 N	10.68783 E	3138			-1737

NR	GLACIER NAME	PSFG NR	YEAR	POINT-ID	COORINATES		ELEV	BW	BS	BA
					LAT	LON	M	MM	MM	MM
10.2	CARESER OCCIDENTALE	IT	2007	10A	46.45032 N	10.68920 E	3161			-2585
				10B	46.45186 N	10.68770 E	3249			-2615
				4L	46.44783 N	10.69012 E	3108			-2590
				9C	46.44858 N	10.68783 E	3138			-2187
10.3	CARESER OCCIDENTALE	IT	2008	10A	46.45028 N	10.68917 E	3160			-1782
				4L	46.44790 N	10.69010 E	3107			-1938
				9C	46.44858 N	10.68780 E	3139			-1490
10.4	CARESER OCCIDENTALE	IT	2009	10A	46.45028 N	10.68917 E	3160			-1144
				10C	46.45230 N	10.68772 E	3266			477
				4L	46.44790 N	10.69010 E	3107			-1549
				9C	46.44858 N	10.68780 E	3139			-660
10.5	CARESER OCCIDENTALE	IT	2010	10A			3160	1238	-2049	-811
				4L			3107	1087	-2467	-1380
11.1	CARESER ORIENTALE	IT	2006	13	46.45377 N	10.69845 E	3083			-1984
				13A	46.45444 N	10.70224 E	3070			-2403
				1B	46.44671 N	10.70381 E	2932			-3424
				2B	46.45014 N	10.70844 E	2963			-2516
				3A	46.45403 N	10.71292 E	3072			-1827
				3L	46.45105 N	10.69843 E	3027			-2412
				5	46.45792 N	10.70800 E	3174			-1800
				5L	46.45543 N	10.71533 E	3103			-1962
				6A	46.45392 N	10.72106 E	3086			-1832
				6L	46.45128 N	10.72149 E	3077			-1498
				7A	46.44873 N	10.71856 E	3049			-1926
				7B	46.44925 N	10.72333 E	3089			-1206
				8D	46.44955 N	10.71398 E	3002			-2030
				8L	46.44684 N	10.70914 E	2899			-3316
				9B	46.44855 N	10.69953 E	2989			-2853
11.2	CARESER ORIENTALE	IT	2007	13	46.45377 N	10.69845 E	3083			-2812
				13A	46.45444 N	10.70224 E	3070			-3046
				1B	46.44671 N	10.70381 E	2932			-4104
				2B	46.45014 N	10.70844 E	2963			-3452
				3A	46.45403 N	10.71292 E	3072			-2632
				3L	46.45105 N	10.69843 E	3027			-3123
				5	46.45792 N	10.70800 E	3174			-2498
				5L	46.45543 N	10.71533 E	3103			-2277
				6A	46.45392 N	10.72106 E	3086			-2290
				6L	46.45128 N	10.72149 E	3077			-2290
				7A	46.44873 N	10.71856 E	3049			-2516
				7B	46.44925 N	10.72333 E	3089			-1710
				8D	46.44955 N	10.71398 E	3002			-3100
				8L	46.44684 N	10.70914 E	2899			-4262
				9B	46.44855 N	10.69953 E	2989			-3388
11.3	CARESER ORIENTALE	IT	2008	13B	46.45329 N	10.69812 E	3074			-2008
				1C	46.44670 N	10.70381 E	2931			-2743
				2C	46.45017 N	10.70995 E	2971			-2642
				3L	46.45107 N	10.69847 E	3027			-2718
				5B	46.45792 N	10.70800 E	3173			-1822
				5L	46.45545 N	10.71536 E	3103			-1688
				6A	46.45394 N	10.72106 E	3087			-1590
				7A	46.44874 N	10.71856 E	3048			-1609
				7B	46.44926 N	10.72334 E	3091			-1006
				8D	46.44959 N	10.71398 E	3002			-2286
				8M	46.44686 N	10.70910 E	2898			-3307
				9B	46.44857 N	10.69955 E	2989			-2477

NR	GLACIER NAME	PSFG NR	YEAR	POINT-ID	COORINATES		ELEV	BW	BS	BA
					LAT	LON	M	MM	MM	MM
11.4	CARESER ORIENTALE	IT	2009	13B	46.45329 N	10.69812 E	3074			-1367
				1C	46.44670 N	10.70381 E	2931			-2581
				2C	46.45017 N	10.70995 E	2971			-1682
				3B	46.45200 N	10.71688 E	3063			-911
				3L	46.45107 N	10.69847 E	3027			-2282
				5L	46.45545 N	10.71536 E	3103			-1386
				6A	46.45394 N	10.72106 E	3087			-1118
				7A	46.44874 N	10.71856 E	3048			-957
				7B	46.44926 N	10.72334 E	3091			-412
				8D	46.44959 N	10.71398 E	3002			-1650
				8M	46.44686 N	10.70910 E	2898			-2530
				9B	46.44857 N	10.69955 E	2989			-2010
11.5	CARESER ORIENTALE	IT	2010	2C			2971	873	-2940	-2067
				5B			3173	599	-1294	-695
				5L			3103	1002	-1788	-787
				6A			3087	1063	-1352	-289
				6L			3077	1200	-1661	-461
				7B			3091	1200	-1118	82
				8D			3002	950	-2706	-1756
				8M			2898	847	-3943	-3096
12.1	FONT. BIANCA / WEISSB.F.	IT0713	2006	1/00	46.48289 N	10.76970 E	3212			-1530
				10/00	46.48570 N	10.77387 E	3078			-2160
				11/05	46.48187 N	10.77707 E	3006			-3078
				12/05	46.48574 N	10.77605 E	3009			-1953
				13/06	46.48500 N	10.77571 E	3051			-1620
				14/03	46.48219 N	10.77888 E	2946			-3015
				15/06	46.48215 N	10.78005 E	2911			-2034
				16/99	46.48492 N	10.77048 E	3068			-1485
				2/03	46.48583 N	10.76853 E	3206			-1494
				20/03	46.48124 N	10.77507 E	2960			-1935
				3/99	46.48786 N	10.76832 E	3217			-1584
				4/04	46.48476 N	10.76624 E	3316			-1458
				6/06	46.48202 N	10.77458 E	3084			-2448
				7/06	46.48445 N	10.77279 E	3127			-2187
				8/06	46.48289 N	10.77195 E	3156			-1539
				9/06	46.48557 N	10.77172 E	3115			-2142
12.2	FONT. BIANCA / WEISSB.F.	IT0713	2007	01/07	46.48283 N	10.76948 E	3222			-916
				02/07	46.48592 N	10.76851 E	3199			-1532
				03/07	46.48795 N	10.76841 E	3212			-1997
				04/04	46.48476 N	10.76624 E	3316			-1205
				06/06	46.48202 N	10.77458 E	3084			-2201
				07/06	46.48445 N	10.77279 E	3120			-1764
				08/06	46.48289 N	10.77195 E	3161			-1306
				09/06	46.48557 N	10.77172 E	3116			-1739
				10/00	46.48570 N	10.77387 E	3068			-1874
				11/07	46.48206 N	10.77694 E	3009			-2992
				12/05	46.48574 N	10.77605 E	3009			-1689
				13/06	46.48500 N	10.77571 E	3037			-1844
				14/07	46.48216 N	10.77849 E	2950			-2570
				15/06	46.48215 N	10.78005 E	2911			-1400
				16/07	46.48475 N	10.77053 E	3162			-1181
				20/07	46.48124 N	10.77507 E	2960			-2092
12.3	FONT. BIANCA / WEISSB.F.	IT0713	2010	41068	46.48288 N	10.77199 E	3160	1400	-1480	-80
				41069	46.48561 N	10.77179 E	3116	1200	-1317	-117
				41073	46.48503 N	10.77554 E	3037	1200	-1588	-388
				41075	46.48252 N	10.78020 E	2907	1300	-1813	-513
				41091	46.48286 N	10.76956 E	3222	1900	-1815	85

NR	GLACIER NAME	PSFG NR	YEAR	POINT-ID	COORINATES		ELEV	BW	BS	BA
					LAT	LON	M	MM	MM	MM
				41092	46.48580 N	10.76859 E	3199	1500	-1537	-37
				41093	46.48805 N	10.76848 E	3212	1300	-1571	-271
				41101	46.48212 N	10.77691 E	3009	1300	-2767	-1467
				41104	46.48231 N	10.77849 E	2948	1300	-2461	-1161
				41106	46.48464 N	10.77061 E	3161	1400	-1406	-6
				41110	46.48190 N	10.77634 E	3027	1500	-3174	-1674
				41111	46.48153 N	10.77359 E	3125	1300	-1703	-403
				41133	46.48574 N	10.77605 E	3019	1200	-1849	-649
				41158	46.48196 N	10.77460 E	3085	900	-2143	-1243
				41159	46.48443 N	10.77276 E	3120	1200	-1667	-467
				41162	46.48569 N	10.77387 E	3067	1200	-2064	-864
13.1	GRAND ETRET	IT0134	2008	11	45.48230 N	7.22050 E	2725			-2192
				1bis			2725			-2192
				3			2780			-2427
				30	45.48080 N	7.22000 E	2780			-2427
				31	45.47880 N	7.22050 E	2840			-1740
				32	45.47750 N	7.21910 E	2880			-1279
				3bis			2840			-1740
				3ter			2880			-1279
				4			2955			-1244
				40	45.47630 N	7.22170 E	2955			-1244
				41	45.47450 N	7.22170 E	3035			-783
				4bis			3035			-783
				5			3035			-1522
				50	45.47710 N	7.22580 E	3035			-1522
13.2	GRAND ETRET	IT0134	2009	1bis			2725			85
				3			2780			230
				3bis			2840			-183
				3ter			2880			1332
				4			2955			270
				4bis			3035			780
				5			3035			-609
14.1	LUNGA (VED.) / LANGENF.	IT0733	2009	10	46.47308 N	10.61973 E	2792			-3216
				11	46.47010 N	10.61685 E	2905			-3238
				12	46.47107 N	10.61492 E	2929			-2730
				13	46.47182 N	10.61104 E	3040			-2004
				14	46.47335 N	10.61339 E	2969			-1913
				15	46.47285 N	10.60946 E	3053			-1021
				16	46.46993 N	10.60842 E	3090			-1873
				17	46.46878 N	10.61114 E	3069			-2610
				18	46.47127 N	10.60730 E	3092			-923
				19	46.47150 N	10.60470 E	3156			-1696
				2	46.47198 N	10.62525 E	2729			-4338
				20	46.46692 N	10.60525 E	3179			-1899
				21	46.46498 N	10.60854 E	3232			-1288
				22	46.46420 N	10.60503 E	3227			-834
				27	46.47301 N	10.61128 E	3017			-1752
				28	46.47197 N	10.61656 E	2897			-2226
				3	46.47268 N	10.62597 E	2722			-4653
				4	46.47240 N	10.62433 E	2748			-4050
				5	46.47168 N	10.62288 E	2775			-4923
				6	46.47318 N	10.62343 E	2759			-4149
				7	46.47259 N	10.62192 E	2782			-3924
				8	46.47126 N	10.62073 E	2821			-3742
				9	46.47124 N	10.61863 E	2861			-2738
14.2	LUNGA (VED.) / LANGENF.	IT0733	2010	10	46.47301 N	10.61970 E	2786	1300	-3637	-2337
				11	46.47010 N	10.61687 E	2887	1500	-2381	-881

NR	GLACIER NAME	PSFG NR	YEAR	POINT-ID	COORINATES		ELEV	BW	BS	BA
					LAT	LON	M	MM	MM	MM
				12	46.47090 N	10.61492 E	2933	1050	-3039	-1989
				13	46.47182 N	10.61102 E	3040	1450	-2361	-911
				14	46.47342 N	10.61314 E	2967	1500	-2712	-1212
				15	46.47284 N	10.60943 E	3052	1100	-1430	-330
				16	46.46993 N	10.60842 E	3089	1000	-1854	-854
				17	46.46878 N	10.61114 E	3069	900	-1529	-629
				18	46.47127 N	10.60730 E	3088	1100	-1435	-335
				19	46.47161 N	10.60462 E	3155	1250	-870	380
				20	46.46692 N	10.60525 E	3180			5
				21	46.46498 N	10.60854 E	3234			-979
				22	46.46420 N	10.60487 E	3216	800	-1113	-313
				23	46.46246 N	10.61337 E	3291	1100	-1058	43
				24	46.46241 N	10.60842 E	3263	1150	-261	889
				27	46.47259 N	10.61133 E	3010	1500	-2091	-591
				28	46.47198 N	10.61657 E	2904	900	-1785	-885
				29	46.46949 N	10.60572 E	3115	1100	-1711	-611
				30	46.46416 N	10.61162 E	3267	1000	-950	50
				33	46.47299 N	10.60632 E	3144	1300	-1489	-189
				4	46.47264 N	10.62460 E	2735	1200	-4833	-3633
				5	46.47169 N	10.62287 E	2762	1150	-4588	-3438
				6	46.47329 N	10.62333 E	2725	1100	-4238	-3138
				7	46.47256 N	10.62175 E	2772	900	-3759	-2859
				8	46.47114 N	10.62057 E	2817	1450	-3373	-1923
				9	46.47124 N	10.61863 E	2857	1250	-2937	-1687
15.1	MALAVALLE / UEBELTALF.	IT0875	2006	P01	46.95030 N	11.20230 E	2675			-2979
				P02	46.94680 N	11.19850 E	2729			-2556
				P03	46.94630 N	11.19330 E	2784			-2295
				P04	46.94880 N	11.18810 E	2827			-2439
				P05	46.95020 N	11.18480 E	2874			-4442
				P06	46.95190 N	11.18410 E	2927			-2070
				P07	46.95680 N	11.18380 E	3006			-1575
				P08	46.95840 N	11.18250 E	3036			-702
				P09	46.95920 N	11.18140 E	3068			-234
				P10	46.96290 N	11.17780 E	3141			-1723
				P11	46.94340 N	11.19500 E	2775			-2268
				P12	46.94010 N	11.19360 E	2833			-4850
				P13	46.93700 N	11.19190 E	2873			-1350
				P14	46.96310 N	11.18730 E	3142			-520
				P15	46.96490 N	11.18530 E	3195			-364
				P16	46.96720 N	11.18780 E	3252			-208
				P17	46.94470 N	11.18290 E	2891			-1170
				P18	46.94200 N	11.18320 E	2948			-882
				P19	46.93960 N	11.18340 E	2997			-741
				P20	46.95350 N	11.16580 E	3411			-1285
				P21	46.95160 N	11.16570 E	3367			-1118
				P22	46.95740 N	11.17170 E	3170			287
				P23	46.95410 N	11.17540 E	3134			443
				ST01	46.95030 N	11.20230 E	2675	198	-3177	-2979
				ST02	46.94680 N	11.19850 E	2729	903	-3459	-2556
				ST03	46.94630 N	11.19330 E	2784	1018	-3313	-2295
				ST04	46.94880 N	11.18810 E	2827	951	-3390	-2439
				ST05	46.95020 N	11.18480 E	2874	1202	-5644	-4442
				ST06	46.95190 N	11.18410 E	2927	843	-2913	-2070
				ST07	46.95680 N	11.18380 E	3006	1066	-2641	-1575
				ST08	46.95840 N	11.18250 E	3036	1530	-2232	-702
				ST09	46.95920 N	11.18140 E	3068	1786	-2020	-234
				ST10	46.96290 N	11.17780 E	3141	1328	-3051	-1723
				ST11	46.94340 N	11.19500 E	2775	684	-2952	-2268
				ST12	46.94010 N	11.19360 E	2833	1106	-5956	-4850
				ST13	46.93700 N	11.19190 E	2873	1288	-2638	-1350

NR	GLACIER NAME	PSFG NR	YEAR	POINT-ID	COORINATES		ELEV	BW	BS	BA
					LAT	LON	M	MM	MM	MM
				ST14	46.96310 N	11.18730 E	3142	1334	-1854	-520
				ST15	46.96490 N	11.18530 E	3195	1579	-1943	-364
				ST16	46.96720 N	11.18780 E	3252	1499	-1707	-208
				ST17	46.94470 N	11.18290 E	2891	1207	-2377	-1170
				ST18	46.94200 N	11.18320 E	2948	1359	-2241	-882
				ST19	46.93960 N	11.18340 E	2997	1382	-2123	-741
				ST20	46.95350 N	11.16580 E	3411	1683	-2968	-1285
				ST21	46.95160 N	11.16570 E	3367	1751	-2869	-1118
				ST22	46.95740 N	11.17170 E	3170	1188	-901	287
				ST23	46.95410 N	11.17540 E	3134	1663	-1220	443
15.2	MALAVALLE / UEBELTALF.	IT0875	2007	P01	46.95030 N	11.20230 E	2675			-3177
				P02	46.94680 N	11.19850 E	2729			-2376
				P03	46.94630 N	11.19330 E	2784			-2338
				P04	46.94880 N	11.18810 E	2827			-1877
				P05	46.95020 N	11.18480 E	2874			-1257
				P06	46.95190 N	11.18410 E	2927			-2042
				P07	46.95680 N	11.18380 E	3006			-1670
				P08	46.95840 N	11.18250 E	3036			-448
				P09	46.95920 N	11.18140 E	3068			-29
				P10	46.96290 N	11.17780 E	3141			-470
				P11	46.94340 N	11.19500 E	2775			-1931
				P12	46.94010 N	11.19360 E	2833			-1859
				P13	46.93700 N	11.19190 E	2873			-985
				P14	46.96310 N	11.18730 E	3142			-466
				P15	46.96490 N	11.18530 E	3195			-738
				P16	46.96720 N	11.18780 E	3252			14
				P17	46.94470 N	11.18290 E	2891			-1490
				P18	46.94200 N	11.18320 E	2948			-1220
				P19	46.93960 N	11.18340 E	2997			-481
				P20	46.95350 N	11.16580 E	3411			-834
				P21	46.95160 N	11.16570 E	3367			-460
				P22	46.95740 N	11.17170 E	3170			377
				P23	46.95410 N	11.17540 E	3134			-267
				P24	46.96240 N	11.17520 E	3155			-330
				ST01	46.95030 N	11.20230 E	2675	131	-3308	-3177
				ST02	46.94680 N	11.19850 E	2729	518	-2894	-2376
				ST03	46.94630 N	11.19330 E	2784	435	-2773	-2338
				ST04	46.94880 N	11.18810 E	2827	514	-2391	-1877
				ST05	46.95020 N	11.18480 E	2874	545	-1802	-1257
				ST06	46.95190 N	11.18410 E	2927	263	-2305	-2042
				ST07	46.95680 N	11.18380 E	3006	405	-2075	-1670
				ST08	46.95840 N	11.18250 E	3036	854	-1302	-448
				ST09	46.95920 N	11.18140 E	3068	992	-1021	-29
				ST10	46.96290 N	11.17780 E	3141	119	-589	-470
				ST11	46.94340 N	11.19500 E	2775	711	-2642	-1931
				ST12	46.94010 N	11.19360 E	2833	687	-2546	-1859
				ST13	46.93700 N	11.19190 E	2873	936	-1921	-985
				ST14	46.96310 N	11.18730 E	3142	943	-1409	-466
				ST15	46.96490 N	11.18530 E	3195	903	-1641	-738
				ST16	46.96720 N	11.18780 E	3252	992	-978	14
				ST17	46.94470 N	11.18290 E	2891	699	-2189	-1490
				ST18	46.94200 N	11.18320 E	2948	829	-2049	-1220
				ST19	46.93960 N	11.18340 E	2997	979	-1460	-481
				ST20	46.95350 N	11.16580 E	3411	821	-1655	-835
				ST21	46.95160 N	11.16570 E	3367	943	-1403	-460
				ST22	46.95740 N	11.17170 E	3170	842	-465	377
				ST23	46.95410 N	11.17540 E	3134	926	-1193	-267
				ST24	46.96240 N	11.17520 E	3155	434	-764	-330

NR	GLACIER NAME	PSFG NR	YEAR	POINT-ID	COORINATES		ELEV	BW	BS	BA
					LAT	LON	M	MM	MM	MM
15.3	MALAVALLE / UEBELTALF..	IT0875	2008	ST01	46.95030 N	11.20230 E	2675	439	-3400	-2925
				ST02	46.94680 N	11.19850 E	2729	996	-2554	-1539
				ST03	46.94630 N	11.19330 E	2784	1112	-2680	-1549
				ST04	46.94880 N	11.18810 E	2827	1104	-2710	-1586
				ST05	46.95020 N	11.18480 E	2874	1095	-2303	-1193
				ST06	46.95190 N	11.18410 E	2927	875	-2181	-1290
				ST07	46.95680 N	11.18380 E	3006	1019	-2670	-1631
				ST08	46.95840 N	11.18250 E	3036	1803	-2541	-729
				ST09	46.95920 N	11.18140 E	3068	1926	-2790	-853
				ST10	46.96290 N	11.17780 E	3141	1164	-2878	-1693
				ST11	46.94340 N	11.19500 E	2775	1191	-2644	-1435
				ST12	46.94010 N	11.19360 E	2833	1168	-2307	-1125
				ST13	46.93700 N	11.19190 E	2873	1215	-2066	-840
				ST14	46.96310 N	11.18730 E	3142	1213	-2346	-1119
				ST15	46.96490 N	11.18530 E	3195	1046	-741	25
				ST16	46.96720 N	11.18780 E	3252	1201	-2699	-1480
				ST17	46.94470 N	11.18290 E	2891	1128	-2482	-1337
				ST18	46.94200 N	11.18320 E	2948	1191	-1803	-605
				ST19	46.93960 N	11.18340 E	2997	595	-484	110
				ST20	46.95350 N	11.16580 E	3411	1059	-946	112
				ST21	46.95160 N	11.16570 E	3367	1173	-1015	156
				ST22	46.95740 N	11.17170 E	3170	1224	-1289	-64
				ST23	46.95410 N	11.17540 E	3134	1743	-1736	7
				ST24	46.96240 N	11.17520 E	3155	1427	-2152	-716
15.4	MALAVALLE / UEBELTALF..	IT0875	2009	ST01	46.95030 N	11.20230 E	2675	1146	-3738	-2592
				ST02	46.94680 N	11.19850 E	2729	1275	-2418	-1143
				ST03	46.94630 N	11.19330 E	2784	1381	-2587	-1206
				ST04	46.94880 N	11.18810 E	2827	1532	-2468	-936
				ST05	46.95020 N	11.18480 E	2874	1288	-2161	-873
				ST06	46.95190 N	11.18410 E	2927	1393	-2312	-919
				ST07	46.95680 N	11.18380 E	3006	1540	-2395	-855
				ST08	46.95840 N	11.18250 E	3036	1451	-1950	-499
				ST09	46.95920 N	11.18140 E	3068	1708	-900	808
				ST10	46.96290 N	11.17780 E	3141	1298	-1829	-531
				ST11	46.94340 N	11.19500 E	2775	1272	-2046	-774
				ST12	46.94010 N	11.19360 E	2833	1487	-2117	-630
				ST13	46.93700 N	11.19190 E	2873	1419	-1545	-126
				ST14	46.96310 N	11.18730 E	3142	1421	-1467	-46
				ST15	46.96490 N	11.18530 E	3195	1503	-1900	-397
				ST16	46.96720 N	11.18780 E	3252	1713	-1173	540
				ST17	46.94470 N	11.18290 E	2891	1439	-2150	-711
				ST18	46.94200 N	11.18320 E	2948	1544	-2056	-512
				ST19	46.93960 N	11.18340 E	2997	1801	-1778	23
				ST20	46.95350 N	11.16580 E	3411	1575	-1612	-37
				ST21	46.95160 N	11.16570 E	3367	1575	-1621	-46
				ST22	46.95740 N	11.17170 E	3170	1785	-1180	605
				ST23	46.95410 N	11.17540 E	3134	1680	-1142	538
				ST24	46.96240 N	11.17520 E	3155	1420	-1314	106
15.5	MALAVALLE / UEBELTALF..	IT0875	2010	ST01	46.95030 N	11.20230 E	2675	150	-2409	-2624
				ST02	46.94680 N	11.19850 E	2729	984	-2127	-1328
				ST03	46.94630 N	11.19330 E	2784	1200	-1875	-784
				ST04	46.94880 N	11.18810 E	2827	989	-1781	-920
				ST05	46.95020 N	11.18480 E	2874	923	-1697	-899
				ST06	46.95190 N	11.18410 E	2927	1355	-2039	-794
				ST07	46.95680 N	11.18380 E	3006	1218	-1686	-544
				ST08	46.95840 N	11.18250 E	3036	1298	-1879	-805
				ST09	46.95920 N	11.18140 E	3068	1210	-516	1053
				ST10	46.96290 N	11.17780 E	3141	1058	-1547	-434
				ST11	46.94340 N	11.19500 E	2775	1138	-1786	-753

NR	GLACIER NAME	PSFG NR	YEAR	POINT-ID	COORINATES		ELEV	BW	BS	BA
					LAT	LON	M	MM	MM	MM
				ST12	46.94010 N	11.19360 E	2833	1214	-1879	-772
				ST13	46.93700 N	11.19190 E	2873	1491	-1706	-250
				ST14	46.96310 N	11.18730 E	3142	1365	-1221	281
				ST15	46.96490 N	11.18530 E	3195	1316	-1396	51
				ST16	46.96720 N	11.18780 E	3252	1492	-394	1692
				ST17	46.94470 N	11.18290 E	2891	1310	-1706	-460
				ST18	46.94200 N	11.18320 E	2948	1428	-1824	-460
				ST19	46.93960 N	11.18340 E	2997	1639	-1730	-77
				ST20	46.95350 N	11.16580 E	3411	1165	-274	491
				ST21	46.95160 N	11.16570 E	3367	1312	-959	358
				ST22	46.95740 N	11.17170 E	3170	1114	-495	958
				ST23	46.95410 N	11.17540 E	3134	1325	-942	645
				ST24	46.96240 N	11.17520 E	3155	1198	-702	767
16.1	PENDENTE / HANGENDERF.	IT0876	2006	P48	46.96590 N	11.21900 E	2828			2160
				P49	46.96510 N	11.21760 E	2860			-1467
				P76	46.96540 N	11.23250 E	2813			-2178
				P79	46.96300 N	11.22470 E	2690			-2142
				P80	46.96470 N	11.22480 E	2714			-1485
				P81	46.96670 N	11.22490 E	2735			-1800
				P82	46.96060 N	11.22230 E	2749			-2160
				P84	46.96400 N	11.21590 E	2877			-1325
				P85	46.96650 N	11.22950 E	2775			-2034
				P86	46.96600 N	11.23380 E	2841			-2115
				ST48	46.96590 N	11.21900 E	2828	1546	-3706	-2160
				ST49	46.96510 N	11.21760 E	2860	1779	-3246	-1467
				ST76	46.96540 N	11.23250 E	2813	1471	-3649	-2178
				ST79	46.96300 N	11.22470 E	2690	1029	-3171	-2142
				ST80	46.96470 N	11.22480 E	2714	1282	-2767	-1485
				ST81	46.96670 N	11.22480 E	2735	1377	-3177	-1800
				ST82	46.96600 N	11.22230 E	2749	1582	-3742	-2160
				ST84	46.96400 N	11.21590 E	2877	1831	-3156	-128
				ST85	46.96650 N	11.22950 E	2775	1333	-3367	-2034
				ST86	46.96600 N	11.23380 E	2841	1586	-3701	-2115
16.2	PENDENTE / HANGENDERF.	IT0876	2007	P48	46.96590 N	11.21900 E	2828			-445
				P49	46.96510 N	11.21760 E	2860			-785
				P76	46.96540 N	11.23250 E	2813			-960
				P79	46.96300 N	11.22470 E	2690			-1863
				P80	46.96470 N	11.22480 E	2714			-1440
				P81	46.96670 N	11.22490 E	2735			-1021
				P82	46.96060 N	11.22230 E	2749			-929
				P84	46.96400 N	11.21590 E	2877			-401
				P85	46.96650 N	11.22950 E	2775			-992
				P86	46.96600 N	11.23380 E	2841			-1067
				ST48	46.96590 N	11.21900 E	2828	1461	-3126	-1665
				ST49	46.96510 N	11.21760 E	2860	1719	-3032	-1313
				ST76	46.96540 N	11.23250 E	2813	1336	-2620	-1284
				ST79	46.96300 N	11.22470 E	2690	251	-3479	-3228
				ST80	46.96470 N	11.22480 E	2714	457	-3199	-2742
				ST81	46.96670 N	11.22480 E	2735	1236	-2739	-1503
				ST82	46.96600 N	11.22230 E	2749	1393	-2694	-1301
				ST84	46.96400 N	11.21590 E	2877	1537	-2595	-1058
				ST85	46.96650 N	11.22950 E	2775	1445	-3176	-1731
				ST86	46.96600 N	11.23380 E	2841	1282	-2879	-1597
16.3	PENDENTE / HANGENDERF.	IT0876	2008	ST48	46.96590 N	11.21900 E	2828	1649	-3108	-1459
				ST49	46.96510 N	11.21760 E	2860	1941	-3192	-1251
				ST76	46.96540 N	11.23250 E	2813	1512	-2817	-1305
				ST79	46.96300 N	11.22470 E	2690	1207	-3286	-2079
				ST80	46.96470 N	11.22480 E	2714	1329	-3408	-2079

NR	GLACIER NAME	PSFG NR	YEAR	POINT-ID	COORINATES LAT	LON	ELEV M	BW MM	BS MM	BA MM
				ST81	46.96670 N	11.22480 E	2735	1404	-3122	-1718
				ST82	46.96600 N	11.22230 E	2749	1582	-3202	-1620
				ST84	46.96400 N	11.21590 E	2877	1738	-2575	-837
				ST85	46.96650 N	11.22950 E	2775	1635	-3463	-1828
				ST86	46.96600 N	11.23380 E	2841	1448	-2978	-1530
16.4	PENDENTE / HANGENDERF.	IT0876	2009	ST48	46.96590 N	11.21900 E	2828	2688	-3525	-837
				ST49	46.96510 N	11.21760 E	2860	2541	-3279	-738
				ST76	46.96540 N	11.23250 E	2813	2478	-2883	-405
				ST79	46.96300 N	11.22470 E	2690	1680	-3444	-1764
				ST80	46.96470 N	11.22480 E	2714	1722	-3405	-1683
				ST81	46.96670 N	11.22480 E	2735	2793	-3441	-648
				ST82	46.96600 N	11.22230 E	2749	2520	-4005	-1485
				ST84	46.96400 N	11.21590 E	2877	2415	-2424	-9
				ST85	46.96650 N	11.22950 E	2775	1890	-2763	-873
				ST86	46.96600 N	11.23380 E	2841	1962	-3114	-1152
16.5	PENDENTE / HANGENDERF.	IT0876	2010	ST48	46.96590 N	11.21900 E	2828	1755	-1998	-243
				ST49	46.96510 N	11.21760 E	2860	2135	-1728	407
				ST76	46.96540 N	11.23250 E	2813	1759	-1561	198
				ST79	46.96300 N	11.22470 E	2690	1326	-2676	-1350
				ST80	46.96470 N	11.22480 E	2714	1628	-2222	-594
				ST81	46.96670 N	11.22480 E	2735	1754	-1826	-72
				ST82	46.96600 N	11.22230 E	2749	1663	-1528	135
				ST84	46.96400 N	11.21590 E	2877	1874	-1851	23
				ST85	46.96650 N	11.22950 E	2775	1746	-2043	-297
				ST86	46.96600 N	11.23380 E	2841	1570	-2110	-540
17.1	RIES OCC.(V.. DI)/RIESERF.W.	IT0930	2010	41124	46.90921 N	12.10145 E	2890	1200	-1822	-622
				41125	46.90743 N	12.10293 E	2954	1200	-1752	-552
				41126	46.90554 N	12.10275 E	3031	1100	-1353	-253
				41128	46.90430 N	12.10075 E	3093	1600	-1685	-85
				41129	46.90512 N	12.10523 E	3030	1000	-1515	-515
				41130	46.90408 N	12.09674 E	3071	1200	-1226	-26
				41131	46.90334 N	12.10311 E	3096	1200	-1340	-140
				41132	46.90637 N	12.10622 E	2978	1000	-2060	-1060
				41133	46.90263 N	12.09945 E	3107	1200	-1083	117
				41134	46.90169 N	12.09118 E	3150	1100	-982	118
				41135	46.90419 N	12.09323 E	3060	1200	-1092	108
				41136	46.90484 N	12.08883 E	3065	1500	-1341	159
				41137	46.90585 N	12.09159 E	3043	1100	-1236	-136
				41138	46.90730 N	12.09594 E	3032	1200	-1605	-405
				41139	46.90957 N	12.09677 E	2875	1200	-2379	-1179
				41140	46.90779 N	12.09191 E	2985	1000	-1467	-467
				41141	46.91304 N	12.09546 E	2868	1000	-2467	-1467
				41142	46.91472 N	12.09632 E	2817	1100	-3987	-2887
				41154	46.91088 N	12.10201 E	2752	1000	-2720	-1720
				41174	46.91153 N	12.09667 E	2284	1000	-2217	-1217
				41175	46.91042 N	12.09369 E	2928	1000	-2192	-1192
				41176	46.90899 N	12.09224 E	2969	900	-1602	-702
				41177	46.91217 N	12.09207 E	2905	900	-2312	-1412
				41178	46.90206 N	12.09427 E	3117	1100	-489	611
				41179	46.90036 N	12.09910 E	3162	1200	-1073	127
				41183	46.91275 N	12.10152 E	2677	800	-2954	-2154
	NEW ZEALAND									
18.1	BREWSTER	NZ	2006	10A	44.07297 S	169.4300 E	1881			43
				10B	44.07323 S	169.4342 E	1876			12
				10C	44.07342 S	169.4366 E	1880			11
				10D	44.07310 S	169.4378 E	1880			316
				11	44.07261 S	169.4353 E	1877			91

NR	GLACIER NAME	PSFG NR	YEAR	POINT-ID	COORINATES		ELEV	BW	BS	BA
					LAT	LON	M	MM	MM	MM
				12	44.07171 S	169.4352 E	1883			106
				12A	44.07159 S	169.4328 E	1896			13
				12B	44.07162 S	169.4341 E	1893			-89
				12C	44.07139 S	169.4365 E	1903			-10
				12D	44.07106 S	169.4377 E	1908			241
				15	44.06903 S	169.4353 E	1914			78
				16	44.06823 S	169.4353 E	1927			221
				17	44.06727 S	169.4353 E	1937			310
				18	44.06637 S	169.4350 E	1939			731
				4	44.07876 S	169.4341 E	1774			-1161
				5	44.07790 S	169.4347 E	1784			-834
				6	44.07698 S	169.4354 E	1807			-505
				6A	44.07672 S	169.4329 E	1819			-1048
				6B	44.07689 S	169.4341 E	1815			-1094
				6C	44.07700 S	169.4366 E	1819			-201
				6D	44.07700 S	169.4379 E	1827			150
				7	44.07613 S	169.4353 E	1827			-246
				8	44.07528 S	169.4353 E	1838			-59
				9	44.07438 S	169.4354 E	1855			196
				A1	44.08083 S	169.4328 E	1730			-2240
				A2	44.07922 S	169.4345 E	1766			-1596
				A5	44.07988 S	169.4327 E	1747			-2476
				A6	44.08091 S	169.4346 E	1710			-1531
				A7	44.08045 S	169.4335 E	1747			-2142
				SP0	44.08193 S	169.4316 E	1696			916
				SP1	44.08123 S	169.4323 E	1705			994
				SP12	44.07171 S	169.4352 E	1890			2337
				SP6	44.07698 S	169.4354 E	1801			2112
18.2	BREWSTER	NZ	2007	0	44.08193 S	169.4316 E	1696			-4581
				10	44.07351 S	169.4354 E	1869			-646
				10A	44.07297 S	169.433 E	1881			57
				10B	44.07323 S	169.4342 E	1876			-262
				10C	44.07342 S	169.4366 E	1880			-159
				10D	44.07310 S	169.4378 E	1880			23
				11	44.07261 S	169.4353 E	1877			-692
				12	44.07171 S	169.4352 E	1883			-297
				12A	44.07159 S	169.4328 E	1896			-87
				12B	44.07162 S	169.4341 E	1893			-154
				12C	44.07139 S	169.4365 E	1903			110
				12D	44.07106 S	169.4377 E	1908			37
				14	44.06993 S	169.4353 E	1911			-29
				15	44.06903 S	169.4353 E	1914			291
				16	44.06823 S	169.4353 E	1927			100
				17	44.06727 S	169.4353 E	1937			217
				19	44.06769 S	169.4318 E	1920			-108
				3	44.07958 S	169.4335 E	1762			-2965
				4	44.07876 S	169.4341 E	1774			-2303
				5	44.07790 S	169.4347 E	1784			-1719
				6A	44.07672 S	169.4329 E	1819			-2554
				6C	44.07700 S	169.4366 E	1819			-1243
				6D	44.07700 S	169.4379 E	1827			-24
				8	44.07528 S	169.4353 E	1838			-949
				9	44.07438 S	169.4354 E	1855			-197
				A1	44.08083 S	169.4328 E	1730			-3484
				A2	44.07922 S	169.4345 E	1766			-2716
				A4	44.07529 S	169.4353 E	1857			-43
				A5	44.07988 S	169.4327 E	1747			-3128
				A6	44.08091 S	169.4346 E	1710			-1729
				A7	44.08045 S	169.4335 E	1747			-3961
				SP1	44.08123 S	169.4323 E	1705			1776

NR	GLACIER NAME	PSFG NR	YEAR	POINT-ID	COORINATES		ELEV	BW	BS	BA
					LAT	LON	M	MM	MM	MM
				SP12	44.07171 S	169.4352 E	1890			2704
				SP23	44.06668 S	169.4467 E	2312			4010
				SP6	44.07698 S	169.4354 E	1801			2607
18.3	BREWSTER	NZ	2008	0	44.08193 S	169.4316 E	1696			-4752
				10	44.07351 S	169.4354 E	1869			-2445
				10B	44.07323 S	169.4342 E	1876			-1803
				10D	44.07310 S	169.4378 E	1880			-1864
				12	44.07171 S	169.4352 E	1883			-2116
				12A	44.07159 S	169.4328 E	1896			-2207
				12B	44.07162 S	169.4341 E	1893			-375
				12C	44.07139 S	169.4365 E	1903			-2149
				12D	44.07106 S	169.4377 E	1896			-1896
				13	44.07084 S	169.4352 E	1900			-2291
				14	44.06993 S	169.4353 E	1911			-2279
				15	44.06903 S	169.4353 E	1914			-1486
				16	44.06823 S	169.4353 E	1927			-2315
				19	44.06769 S	169.4318 E	1920			-2422
				2	44.08054 S	169.4331 E	1748			-3528
				3	44.07958 S	169.4335 E	1762			-3068
				4	44.07876 S	169.4341 E	1774			-4968
				5	44.07790 S	169.4347 E	1784			-1855
				6	44.07698 S	169.4354 E	1807			-2904
				6A	44.07672 S	169.4329 E	1819			-3560
				6D	44.07700 S	169.4379 E	1827			-3070
				7	44.07613 S	169.4353 E	1827			-1041
				8	44.07528 S	169.4353 E	1838			-3294
				9	44.07438 S	169.4354 E	1855			-3139
				A2	44.07922 S	169.4345 E	1766			-4447
				A3	44.07702 S	169.4355 E	1827			-2865
				A4	44.07529 S	169.4353 E	1857			-3747
				A5	44.07988 S	169.4327 E	1747			-3743
				A6	44.08091 S	169.4346 E	1710			-4373
				A7	44.08045 S	169.4335 E	1747			-4187
				old10C	44.07342 S	169.4366 E	1880			-929
				old10D	44.07310 S	169.4378 E	1880			-1278
				old12D	44.07106 S	169.4377 E	1908			-1400
				old4	44.07876 S	169.4341 E	1774			-3641
				old6A	44.07672 S	169.4329 E	1819			-2669
				old6C	44.07700 S	169.4366 E	1819			-2725
				S1	44.06907 S	169.4425 E	2000			3005
				S10	44.06864 S	169.4288 E	1965			2530
				S11	44.06603 S	169.4302 E	1940			2710
				S118	44.08041 S	169.4330 E	1743			1300
				S12	44.06606 S	169.4314 E	1952			2315
				S120	44.08047 S	169.4332 E	1749			1150
				S123	44.08064 S	169.4333 E	1746			1250
				S124	44.08072 S	169.4335 E	1748			1200
				S125	44.08081 S	169.4336 E	1748			1200
				S126	44.08091 S	169.4338 E	1754			1350
				S127	44.08102 S	169.4340 E	1746			1300
				S128	44.08102 S	169.4342 E	1746			1400
				S129	44.08110 S	169.4344 E	1779			1600
				S13	44.06622 S	169.4327 E	1957			2825
				S130	44.08120 S	169.4346 E	1782			1550
				S131	44.08127 S	169.4348 E	1773			1300
				S132	44.08134 S	169.4349 E	1766			1525
				S133	44.08028 S	169.4328 E	1749			1375
				S135	44.08011 S	169.4326 E	1743			1330
				S136	44.08003 S	169.4324 E	1743			1470
				S137	44.07993 S	169.4321 E	1741			1360

NR	GLACIER NAME	PSFG NR	YEAR	POINT-ID	COORINATES		ELEV	BW	BS	BA
					LAT	LON	M	MM	MM	MM
				S14	44.06631 S	169.4339 E	1960			2640
				S140	44.07990 S	169.4318 E	1742			1310
				S141	44.07980 S	169.4316 E	1738			1295
				S142	44.07972 S	169.4313 E	1736			1310
				S143	44.08046 S	169.4329 E	1739			1225
				S144	44.08060 S	169.4328 E	1737			1360
				S145	44.08079 S	169.4326 E	1731			1165
				S146	44.08091 S	169.4325 E	1723			1230
				S148	44.08111 S	169.4323 E	1721			1245
				S149	44.08129 S	169.4322 E	1714			1180
				S15	44.06625 S	169.4352 E	1956			2670
				S150	44.08155 S	169.4320 E	1709			1175
				S151	44.08173 S	169.4318 E	1696			1425
				S152	44.08189 S	169.4316 E	1683			1220
				S153	44.08186 S	169.4313 E	1687			970
				S154	44.08174 S	169.4310 E	1686			430
				S155	44.08197 S	169.4317 E	1689			900
				S156	44.08205 S	169.4319 E	1691			1225
				S157	44.08210 S	169.4320 E	1691			925
				S158	44.08216 S	169.4323 E	1685			1185
				S159	44.08224 S	169.4324 E	1685			1170
				S16	44.06635 S	169.4364 E	1957			2750
				S160	44.08234 S	169.4325 E	1686			815
				S161	44.08242 S	169.4326 E	1688			935
				S17	44.06646 S	169.4377 E	1962			3150
				S18	44.06631 S	169.4389 E	1982			3180
				S19	44.07166 S	169.4352 E	1897			2310
				S2	44.06902 S	169.4413 E	1973			3065
				S20	44.07158 S	169.4338 E	1898			2400
				S21	44.07153 S	169.4326 E	1902			2350
				S22	44.07150 S	169.4313 E	1913			2350
				S23	44.07143 S	169.4301 E	1925			2345
				S24	44.07136 S	169.4289 E	1944			2170
				S25	44.07130 S	169.4276 E	1965			2160
				S26	44.07115 S	169.4263 E	2001			2665
				S27	44.06958 S	169.4281 E	1974			2660
				S28	44.06965 S	169.4293 E	1953			2460
				S29	44.06970 S	169.4306 E	1935			2365
				S3	44.06904 S	169.4400 E	1952			2585
				S30	44.06977 S	169.4318 E	1920			2425
				S31	44.06979 S	169.4331 E	1914			2300
				S32	44.06984 S	169.4343 E	1915			2250
				S33	44.06987 S	169.4356 E	1917			2265
				S34	44.06993 S	169.4368 E	1922			2275
				S35	44.07005 S	169.4381 E	1920			2540
				S36	44.07019 S	169.4393 E	1928			2420
				S37	44.07030 S	169.4406 E	1948			3125
				S38	44.07160 S	169.4415 E	1955			3265
				S39	44.07178 S	169.4401 E	1915			2535
				S4	44.06869 S	169.4375 E	1929			2520
				S40	44.07175 S	169.4389 E	1905			2540
				S41	44.07175 S	169.4377 E	1903			2315
				S42	44.07170 S	169.4364 E	1902			2340
				S43	44.06444 S	169.4348 E	2007			2025
				S44	44.07135 S	169.4456 E	2082			2510
				S45	44.07140 S	169.4469 E	2082			2375
				S46	44.07143 S	169.4481 E	2082			2940
				S47	44.06444 S	169.4348 E	2010			2505
				S48	44.06522 S	169.4350 E	1993			2675
				S49	44.06624 S	169.4352 E	1958			2550
				S5	44.06872 S	169.4363 E	1928			2400

NR	GLACIER NAME	PSFG NR	YEAR	POINT-ID	COORINATES		ELEV	BW	BS	BA
					LAT	LON	M	MM	MM	MM
				S50	44.06708 S	169.4351 E	1947			2515
				S51	44.06788 S	169.4351 E	1943			2325
				S52	44.06894 S	169.4352 E	1928			1985
				S53	44.06980 S	169.4351 E	1920			2535
				S54	44.07070 S	169.4350 E	1910			2300
				S55	44.07247 S	169.4353 E	1889			2270
				S56	44.07341 S	169.4352 E	1876			2480
				S57	44.07341 S	169.4339 E	1870			2300
				S58	44.07349 S	169.4326 E	1870			2315
				S59	44.07337 S	169.4314 E	1879			2265
				S6	44.06870 S	169.4350 E	1924			2150
				S60	44.07324 S	169.4302 E	1888			2175
				S61	44.07327 S	169.4289 E	1910			2255
				S62	44.07362 S	169.4366 E	1880			2400
				S63	44.07357 S	169.4379 E	1829			2375
				S64	44.07360 S	169.4391 E	1877			2350
				S65	44.07439 S	169.4353 E	2161			2300
				S66	44.07537 S	169.4353 E	2008			2260
				S67	44.07524 S	169.4339 E	2003			2275
				S68	44.07530 S	169.4328 E	1999			2275
				S69	44.07517 S	169.4315 E	2005			2255
				S7	44.06873 S	169.4338 E	1918			2130
				S70	44.07522 S	169.4303 E	2034			2325
				S71	44.07542 S	169.4366 E	1848			2150
				S72	44.07545 S	169.4376 E	1842			2210
				S73	44.07549 S	169.4389 E	1840			2480
				S74	44.07610 S	169.4353 E	1840			2230
				S75	44.07694 S	169.4354 E	1816			2185
				S76	44.07661 S	169.4339 E	1818			1990
				S77	44.07638 S	169.4327 E	1823			1800
				S78	44.07616 S	169.4315 E	1824			2075
				S79	44.07724 S	169.4370 E	1801			2100
				S8	44.06884 S	169.4312 E	1919			2435
				S80	44.07750 S	169.4382 E	1802			2350
				S81	44.07761 S	169.4391 E	1819			2375
				S82	44.07819 S	169.4350 E	1793			1900
				S83	44.07899 S	169.4345 E	1784			1675
				S84	44.07852 S	169.4331 E	1780			1710
				S85	44.07813 S	169.4321 E	1777			1710
				S86	44.07805 S	169.4318 E	1776			1660
				S87	44.07927 S	169.4358 E	1780			1800
				S88	44.07938 S	169.4373 E	1780			1540
				S9	44.06880 S	169.4300 E	1943			2380
				SP0	44.08193 S	169.4316 E	1696			915
				SP12	44.07171 S	169.4352 E	1890			2300
				SP6	44.07698 S	169.4354 E	1801			2126
18.4	BREWSTER	NZ	2009	0	44.08193 S	169.4316 E	1696			-4404
				12	44.07171 S	169.4352 E	1883			-3415
				12D	44.07106 S	169.4377 E	1896			-2928
				14	44.06993 S	169.4353 E	1911			-3052
				16	44.06823 S	169.4353 E	1927			-3139
				18	44.06637 S	169.4350 E	1939			-2700
				19	44.06769 S	169.4318 E	1920			-3144
				2	44.08054 S	169.4331 E	1748			-3250
				2A	44.08004 S	169.4321 E	1732			-3981
				4	44.07876 S	169.4341 E	1774			-3039
				6	44.07698 S	169.4354 E	1807			-3312
				6D	44.07700 S	169.4379 E	1827			-2973
				8	44.07528 S	169.4353 E	1838			-3003
				R01	44.08168 S	169.4321 E	1698			594

NR	GLACIER NAME	PSFG NR	YEAR	POINT-ID	COORINATES		ELEV	BW	BS	BA
					LAT	LON	M	MM	MM	MM
				R01-2	44.08128 S	169.4323 E	1697			924
				R01L	44.08126 S	169.4314 E	1699			755
				R01R	44.08175 S	169.4329 E	1703			447
				R02	44.08099 S	169.4327 E	1725			904
				R03	44.07968 S	169.4339 E	1755			984
				R04	44.07757 S	169.4342 E	1784			1530
				R04-5	44.07684 S	169.4342 E	1809			1457
				R05	44.07558 S	169.4347 E	1834			1718
				R051	44.07421 S	169.4350 E	1854			1838
				R06	44.07238 S	169.4352 E	1877			1768
				R07	44.06671 S	169.4353 E	1929			2128
				R08	44.06847 S	169.4326 E	1904			1953
				R09	44.06890 S	169.4291 E	1954			2017
				R10	44.07339 S	169.4278 E	1920			1874
				R11	44.07107 S	169.4407 E	1921			1940
				R12	44.07923 S	169.4316 E	1747			1059
				R13	44.08008 S	169.4362 E	1767			1216
				R14	44.07740 S	169.4318 E	1782			1352
				R15	44.07704 S	169.4377 E	1812			2481
				RBRI	44.07883 S	169.4340 E	1774			1191
				S01	44.07984 S	169.4350 E	1763			1211
				S02	44.07938 S	169.4327 E	1753			1170
				SP0	44.08195 S	169.4316 E	1685			300
				SP12	44.07171 S	169.4352 E	1883			2041
				SP2	44.08102 S	169.4327 E	1732			1136
				SP4	44.07888 S	169.4340 E	1780			1232
				T01	44.07737 S	169.4330 E	1793			1356
				T02	44.07734 S	169.4354 E	1798			1616
				T03	44.07714 S	169.4363 E	1805			1436
				U01	44.07135 S	169.4424 E	1974			2168
				U02	44.07137 S	169.4444 E	2046			2028
				U03	44.07161 S	169.4454 E	2066			2009
				U04	44.07188 S	169.4464 E	2111			2046
				U05	44.07190 S	169.4476 E	2148			2145
				U06	44.07172 S	169.4487 E	2192			2450
				Y01	44.08081 S	169.4340 E	1744			1000
				Y02	44.08121 S	169.4323 E	1712			733
				Y03	44.07947 S	169.4336 E	1760			1329
				Y04	44.07701 S	169.4366 E	1813			1536
				Y05	44.07435 S	169.4353 E	1852			1820
				Y06	44.07172 S	169.4365 E	1886			1944
				Y07	44.07176 S	169.4377 E	1888			1857
				Y08	44.07180 S	169.4390 E	1889			2134
				Y09	44.07183 S	169.4402 E	1913			2021
				Y10	44.07093 S	169.4403 E	1927			1880
				Y11	44.07090 S	169.4390 E	1892			1883
				Y12	44.07086 S	169.4378 E	1902			1947
				Y13	44.07077 S	169.4353 E	1897			1745
				Y14	44.06902 S	169.4352 E	1910			2003
				Y15	44.06725 S	169.4353 E	1935			2068
				Y16	44.07158 S	169.4341 E	1891			1785
				Y17	44.07152 S	169.4314 E	1902			1834
				Y18	44.07150 S	169.4303 E	1910			1956
				Y19	44.07061 S	169.4303 E	1920			1960
				Y20	44.07063 S	169.4315 E	1905			1946
				Y21	44.07070 S	169.4328 E	1890			1820
				Y22	44.07068 S	169.4340 E	1892			1816
				Y23	44.06823 S	169.4400 E	1950			2782
				Y24	44.06820 S	169.4387 E	1935			2179
				Y25	44.06817 S	169.4375 E	1929			2135
				Y26	44.06816 S	169.4363 E	1929			1947

NR	GLACIER NAME	PSFG NR	YEAR	POINT-ID	COORINATES		ELEV	BW	BS	BA
					LAT	LON	M	MM	MM	MM
				Y27	44.06798 S	169.4338 E	1928			1729
				Y28	44.07339 S	169.4316 E	1878			2178
				Y29	44.07342 S	169.4303 E	1884			1754
				Y30	44.07339 S	169.4330 E	1869			1934
				Y31	44.07344 S	169.4340 E	1869			1812
				Y32	44.07358 S	169.4365 E	1876			1988
				Y33	44.07361 S	169.4378 E	1873			1887
				Z00	44.08190 S	169.4316 E	1685			518
				Z06	44.07694 S	169.4354 E	1808			1601
				Z08	44.07523 S	169.4353 E	1839			1887
				Z10	44.07350 S	169.4354 E	1858			1677
				Z12	44.07168 S	169.4352 E	1885			1838
				Z12A	44.07157 S	169.4328 E	1889			1877
				Z14	44.06983 S	169.4352 E	1876			1735
				Z16	44.06819 S	169.4353 E	1910			1822
				Z18	44.06634 S	169.4350 E	1946			2168
				Z19	44.06765 S	169.4318 E	1908			1861
				Z2	44.08043 S	169.4332 E	1730			868
				Z20	44.07098 S	169.4413 E	1944			2319
				Z2A	44.08000 S	169.4321 E	1737			1209
				Z2B	44.08093 S	169.4346 E	1714			1309
				Z6A	44.07669 S	169.4329 E	1809			1571
				Z6D	44.07696 S	169.4379 E	1814			1821
	NORWAY									
19.1	AUSTRE BROEGGERBREEN	NO15504	2006	BG-102003			315			-626
				BG-112003			370			-252
				BG12-2002			415			-358
				BG13-2004			465			-34
				BG5-2004			155			-1445
				BG6-2004			190			-1458
				BG7-2004			215			-1256
				BG9-2004			285			-992
				BRG4-2005			140			-1766
19.2	AUSTRE BROEGGERBREEN	NO15504	2007	BG-082006			260			-695
				BG-102007			315			-477
				BG-112007			370			-234
				BG12-2005			415			-202
				BG13-2004			465			35
				BG3-2006			115			-1784
				BG5-2006			155			-977
				BG6-2007			190			-909
				BG7-2007			215			-738
				BG9-2007			285			-513
				BRG4-2007			140			-1089
19.3	AUSTRE BROEGGERBREEN	NO15504	2008	BG-082006			260			-209
				BG-102007			315			69
				BG-112007			370			204
				BG12-2005			415			174
				BG13-2004			465			331
				BG3-2006			115			-1618
				BG5-2006			155			-781
				BG6-2007			190			-738
				BG7-2007			215			-432
				BG9-2007			285			8
				BRG4-2007			140			-1217
19.4	AUSTRE BROEGGERBREEN	NO15504	2009	BG-082006			251			-380
				BG-102007			311			-261

NR	GLACIER NAME	PSFG NR	YEAR	POINT-ID	COORINATES		ELEV	BW	BS	BA
					LAT	LON	M	MM	MM	MM
				BG-112007			365			20
				BG12-2005			410			-106
				BG13-2004			461			208
				BG3-2006			102			-1332
				BG5-2006			145			-722
				BG6-2007			179			-684
				BG7-2007			206			-448
				BG9-2007			277			-169
				BRG4-2007			125			-959
20.1	KONGSVEGEN	NO15510	2006	1			156			-2259
				2			238			-1926
				3			333			-1125
				3.5			362			-1046
				4			398			-679
				4.5			424			-603
				5			464			-122
				5.5			503			-160
				6			531			-85
				6.5			558			138
				7			591			429
				7.5			635			594
				8			666			897
				8.5			701			1089
				9			722			949
20.2	KONGSVEGEN	NO15510	2007	1			154			-1854
				2			236			-1602
				2.5			284			-1017
				3			331			-823
				3.5			361			-643
				4			397			-475
				4.5			423			-526
				5			465			-290
				5.5			503			-140
				6			531			-157
				6.5			558			73
				7			592			255
				7.5			635			320
				8			667			537
				8.5			702			600
				9			723			704
20.3	KONGSVEGEN	NO15510	2008	1			152			-1602
				2			234			-1080
				2.5			285			-618
				3			330			-428
				3.5			361			121
				4			396			58
				4.5			423			219
				5			465			255
				5.5			503			348
				6			531			380
				6.5			558			651
				7			592			718
				7.5			635			855
				8			667			897
				9			723			1144
20.4	KONGSVEGEN	NO15510	2009	0			20			-2601
				2			233			-1447

NR	GLACIER NAME	PSFG NR	YEAR	POINT-ID	COORINATES		ELEV	BW	BS	BA
					LAT	LON	M	MM	MM	MM
				2.5			284			-1285
				3			329			-668
				3.5			361			-734
				4			396			-493
				4.5			423			-859
				5			465			-191
				5.5			503			-247
				6			532			-115
				6.5			559			103
				7			593			180
				7.5			636			407
				8			668			598
				9			723			628
21.1	MIDTRE LOVENBREEN	NO15506	2006	10			408			37
				11			460			330
				2			104			-1804
				3			152			-1514
				4			198			-1152
				5			237			-1120
				6			267			-644
				6.5			282			-551
				7			306			-661
				8			339			-347
				9			368			-313
				9.5			387			13
				9.5N			416			-72
21.2	MIDTRE LOVENBREEN	NO15506	2007	MLB2-2006			103			-1697
				MLB3-2006			150			-1136
				MLB4-2006			196			-797
				MLB5-2007			235			-819
				MLB6.5C-06			280			-432
				MLB6-05			265			-479
				MLB7.5C-07			321			-259
				MLB7-2003			304			-362
				MLB82004			337			-182
				MLB9.5-2003			385			21
				MLB9.5N-04			416			76
				MLB92004			366			-41
				NP10-1995			406			246
				NP11-AWS			459			450
21.3	MIDTRE LOVENBREEN	NO15506	2008	MLB-2-2008			101			-1350
				MLB3-2006			149			-754
				MLB4-2006			195			-497
				MLB5-2007			234			-405
				MLB6.5C-06			279			-151
				MLB6-2005			265			28
				MLB7.5C-07			320			32
				MLB7-2003			303			1
				MLB82004			337			41
				MLB9.5-03			384			80
				MLB9.5N-04			416			99
				MLB92004			365			114
				NP10-1995			405			330
				NP11-AWS			459			611
21.4	MIDTRE LOVENBREEN	NO15506	2009	MLB-11-09			459			198
				MLB-2-2008			101			-1318
				MLB3-2006			149			-766
				MLB4-2006			195			-497
				MLB5-2007			234			-370

NR	GLACIER NAME	PSFG NR	YEAR	POINT-ID	COORINATES		ELEV	BW	BS	BA
					LAT	LON	M	MM	MM	MM
				MLB6.5C-06			279			-173
				MLB6-2005			265			-9
				MLB7.5C-04			320			-198
				MLB7-2003			303			-115
				MLB82004			337			-155
				MLB9.5-2003			384			117
				MLB9.5N-04			416			77
				MLB92004			365			-54
				NP10-1995			405			201
22.1	NIGARDSBREEN	NO31014	2006	1000	61.69400 N	7.16100 E	986			-6300
				54	61.70800 N	7.11000 E	1612			-1070
				55	61.71700 N	7.15400 E	1465			-1660
				56	61.69100 N	7.07800 E	1797			-600
				57	61.67800 N	7.03800 E	1962			-420
				600	61.68400 N	7.19900 E	575			-9450
				94	61.71500 N	7.07000 E	1703			-680
				95	61.72800 N	7.09900 E	1681			-140
22.2	NIGARDSBREEN	NO31014	2007	1000	61.69300 N	7.16400 E	970			-3650
				54	61.70800 N	7.10900 E	1610			1170
				55	61.71700 N	7.15400 E	1465			900
				56	61.69100 N	7.07800 E	1800			1800
				57	61.67800 N	7.03800 E	1960			2520
				600	61.68300 N	7.19900 E	580			-7110
				94	61.71500 N	7.07000 E	1700			1560
				95	61.72800 N	7.09900 E	1680			2010
				96	61.74000 N	7.12600 E	1750			1890
	SWITZERLAND.									
23.1	FINDELEN	CH0016	2006	Ag1	63.23200 N	9.55400 E	3040			-2600
				Ag2	63.25320 N	9.54760 E	3090			-2600
				Ag3	63.27120 N	9.55430 E	3130			-2600
				Fi1	62.97000 N	9.55800 E	2590			-8000
				Fi10	63.44500 N	9.43900 E	3270			-600
				Fi2	62.97900 N	9.54200 E	2580			-7400
				Fi3	63.03200 N	9.54500 E	2660			-6200
				Fi4	63.09200 N	9.54900 E	2720			-5600
				Fi5	63.09900 N	9.52300 E	2730			-6000
				Fi6	63.15300 N	9.53700 E	2810			-4600
				Fi7	63.21800 N	9.49800 E	2950			-3600
				Fi8	63.25300 N	9.43700 E	3050			-3000
				Fi9	63.33200 N	9.38400 E	3140			-2100
				Fi-s2	63.50700 N	9.39200 E	3350			1000
				Fi-s3	63.34120 N	9.23000 E	3460			1600
23.2	FINDELEN	CH0016	2007	Ag1	63.23200 N	9.55400 E	3040			-2100
				Ag2	63.25320 N	9.54760 E	3090			-1900
				Ag3	63.27120 N	9.55430 E	3130			-1800
				Fi1	62.97000 N	9.55800 E	2590			-7500
				Fi10	63.44500 N	9.43900 E	3270			200
				Fi11	63.24150 N	9.49710 E	3000			-3000
				Fi2	62.97900 N	9.54200 E	2580			-7200
				Fi3	63.03200 N	9.54500 E	2660			-5500
				Fi4	63.09200 N	9.54900 E	2720			-4900
				Fi5	63.09900 N	9.52300 E	2730			-5700
				Fi6	63.15300 N	9.53700 E	2810			-3800
				Fi7	63.21800 N	9.49800 E	2950			-2400
				Fi8	63.25300 N	9.43700 E	3050			-1600
				Fi9	63.33200 N	9.38400 E	3140			-500

NR	GLACIER NAME	PSFG NR	YEAR	POINT-ID	COORINATES		ELEV	BW	BS	BA
					LAT	LON	M	MM	MM	MM
				Fi-s1	63.44150 N	9.39220 E	3290			200
				Fi-s2	63.50700 N	9.39200 E	3350			1000
23.3	FINDELEN	CH0016	2008	Ag1	63.23200 N	9.55400 E	3040			-2500
				Ag2	63.25320 N	9.54760 E	3090			-2100
				Ag3	63.27120 N	9.55430 E	3130			-2300
				Fi1	62.97000 N	9.55800 E	2590			-6700
				Fi10	63.44500 N	9.43900 E	3270			-300
				Fi11	63.24150 N	9.49710 E	3000			-2900
				Fi2	62.97900 N	9.54200 E	2580			-6800
				Fi3	63.03200 N	9.54500 E	2660			-6000
				Fi4	63.09200 N	9.54900 E	2720			-5400
				Fi5	63.09900 N	9.52300 E	2730			-5900
				Fi6	63.15300 N	9.53700 E	2810			-4100
				Fi7	63.21800 N	9.49800 E	2950			-2800
				Fi8	63.25300 N	9.43700 E	3050			-2200
				Fi9	63.33200 N	9.38400 E	3140			-1400
				Fi-s2	63.50700 N	9.39200 E	3350			1000
24.1	PIZOL	CH0081	2007	1-06'	46.96061 N	9.39038 E	2629			-2900
				2-06'	46.95914 N	9.38951 E	2700			-1290
24.2	PIZOL	CH0081	2008	1-06'	46.96061 N	9.39038 E	2629			-2090
				2-06'	46.95914 N	9.38951 E	2700			-100
				2-07'	46.95948 N	9.38904 E	2698			-140
				3-07'	46.95832 N	9.38766 E	2765			-660
24.3	PIZOL	CH0081	2009	1-08'	46.96061 N	9.39038 E	2629			-1940
				2-06'	46.95914 N	9.38951 E	2700			-700
				2-07'	46.95948 N	9.38904 E	2698			-10
				3-08'	46.95832 N	9.38766 E	2765			-530
				4-08'	46.96065 N	9.38909 E	2663			-2200
				5-08'	46.96048 N	9.38854 E	2682			-1130
24.4	PIZOL	CH0081	2010	1-08	46.96061 N	9.39038 E	2629			-1490
				1-09	46.96061 N	9.39038 E	2629			-1530
				2-07	46.95948 N	9.38904 E	2698			-350
				2-09	46.95926 N	9.38948 E	2700			-870
				3-08	46.95832 N	9.38766 E	2770			-560
				3-09	46.95830 N	9.38780 E	2777			-430
				4-09	46.96065 N	9.38909 E	2663			-2370
				5-09	46.96048 N	9.38854 E	2675			-1450
				6-09	46.95859 N	9.39040 E	2711			-420
25.1	TSANFLEURON	CH0033	2010	1-09	46.32420 N	7.21590 E	2818			-350
				2-09	46.31699 N	7.21685 E	2857			-420
				4-09	46.32419 N	7.23061 E	2726			-960
				5-09	46.32167 N	7.23448 E	2684			-1500
	U.S.A.									
26.1	EMMONS	US2022	2009	1			3118			40
				2			2810			-1400
				2X			2800			-1540
				3			1970			-6020
				4			1700			-8170
				4A			1705			-1590
				5			1580			-1670
26.2	EMMONS	US2022	2010	1			3118	3510	-2250	1260
				2			2810	2760	-640	2120
				2X			2800	2760	-530	2230

NR	GLACIER NAME	PSFG NR	YEAR	POINT-ID	COORINATES		ELEV	BW	BS	BA
					LAT	LON	M	MM	MM	MM
				3			1970	2060	-4110	-2040
				4			1700	1920	-9900	-7980
				4A			1705	950	-3390	-2440
				5			1580	1170	-4670	-3500
27.1	GULKANA	US0200	2008	100	63.25930 N	145.42975 W	1332			-3417
				200	63.28550 N	145.41034 W	1671			-148
				300	63.28489 N	145.38504 W	1833			673
27.2	GULKANA	US0200	2009	100	63.25930 N	145.42975 W	1332			-4780
				200	63.28550 N	145.41034 W	1672			-1200
				300	63.28489 N	145.38504 W	1833			222
28.1	NISQUALLY	US2027	2009	1			3382			-340
				2			2960			-1530
				3			2175			-3640
				4			1890			-4580
				4A			1870			-1060
				5			1778			-3260
28.2	NISQUALLY	US2027	2010	1			3382	340	-1570	1830
				2			2960	3310	-1750	1560
				3			2175	3130	-3200	-80
				4			1890	2340	-5500	-3160
				4A			1870	240	-4150	-1750
				5			1778	2120	-6410	-4290
29.1	NOISY CREEK	US2078	2009	1			1848			-2100
				2			1840			-1020
				3			1800			420
				4			1755			-2340
				5			1724			-2180
29.2	NOISY CREEK	US2078	2010	1			1860	4100	-3338	720
				2			1840	3600	-3280	320
				3			1800	2540	-3270	-730
				4			1755	2760	-3280	-520
				5			1724	3050	-3330	-290
30.1	NORTH KLAWATTI	US2076	2009	1			2337			-1630
				2			2226			-370
				3			2104			-650
				4			1950			-3850
				5			1858			-5280
30.2	NORTH KLAWATTI	US2076	2010	1			2338	2710	-2400	670
				2			2226	2610	-2300	310
				3			2104	2620	-2410	210
				4			1950	2550	-2680	-130
				5			1858	2510	-2830	-310
31.1	SANDALEE	US2079	2009	1			2254			-290
				2			2177			-630
				3			2094			-2610
				4			2001			-20
31.2	SANDALEE	US2079	2010	1			2244	2100	-2040	60
				2			2196	2650	-2050	600
				3			2094	2520	-2710	-180
				4			1988	2710	-3240	-530

NR	GLACIER NAME	PSFG NR	YEAR	POINT-ID	COORINATES		ELEV	BW	BS	BA
					LAT	LON	M	MM	MM	MM
32.1	SILVER	US2077	2009	1			2538			330
				2			2433			-3460
				3			2291			50
				4			2162			-4210
32.2	SILVER	US2077	2010	1			2567	2280	-1340	940
				2			2420	2260	-1270	980
				3			2319	2320	-1450	860
				4			2198	1830	-2110	-280
33.1	SOUTH CASCADE	US2013	2008	1	48.36460 N	121.05990 W	1663			-6450
				2	48.36320 N	121.06090 W	1732			-3230
				3	48.35860 N	121.05850 W	1837			-430
				4	48.35180 N	121.05430 W	1946			-120
				5	48.34770 N	121.05090 W	2027			1020
				6	48.34870 N	121.04490 W	2066			-160
33.2	SOUTH CASCADE	US2013	2009	1	48.36460 N	121.05990 W	1670			-6250
				2	48.36320 N	121.06090 W	1725			-4290
				3	48.35860 N	121.05850 W	1834			-2460
				4	48.35180 N	121.05430 W	1944			-1430
				5	48.34770 N	121.05090 W	2026			-180
				6	48.34870 N	121.04490 W	2064			-1520
34.1	WOLVERINE	US0411	2008	100			535			-4120
				200			1055			-2206
				300			1287			2752
34.2	WOLVERINE	US0411	2009	100			529			-7385
				200			1053			-4094
				300			1284			-194

WORLD GLACIER MONITORING SERVICE

CHANGES IN AREA, VOLUME AND THICKNESS

TABLE D

NR	Record number
GLACIER NAME	15 alphabetic or numeric digits
PSFG NUMBER	5 digits identifying glacier with alphabetic prefix denoting country
PERIOD	Period from 'reference year' to 'survey year' in which the changes take place
ALTITUDE	Altitude interval in meters above sea level
AREA SY	Area of altitude interval for 'survey year' (square kilometers)
AREA CHANGE	Change in area of altitude interval for period of change (thousand square meters)
VOLUME CHANGE	Change in volume of altitude interval for period of change (thousand cubic meters)
THICKNESS CHANGE	Change in thickness of altitude interval for period of change (millimeters)

NR	GLACIER NAME	PSFG NR	PERIOD FROM	PERIOD TO	ALTITUDE FROM	ALTITUDE TO	AREA SY	AREA CHANGE	VOLUME CHANGE	THICKNESS CHANGE
	AUSTRIA									
1.1	HINTEREIS FERNER	AT0209	1997	2006	2400	3727				-11882
2.1	JAMTAL F.	AT0106	2002	2006	2370	3120				-5882
3.1	KESSELWAND FERNER	AT0226	1997	2006	2698	3490				-5882
4.1	VERNAGT FERNER	AT0211	1997	2006	2793	3631				-12824
	BOLIVIA									
5.1	CHACALTAYA	BO5180	2005	2006	5325	5350	0.0018	0	-1.373605	-557
					5300	5325	0.0025	0	-1.740208	-624
					5275	5300	0.0003	0	-0.340404	-737
					5250	5275	0.0005	-1	-1.503737	-2215
					5225	5250	0.0018	-1	-5.55953	-1805
					5200	5225	0.0003	0	-1.429273	-1254
					5200	5350	0.0072	-3	-11.946757	-1199
5.2	CHACALTAYA	BO5180	2006	2007	5325	5350	0.0006	-1	-0.00496	-1185
					5300	5325	0.0012	-1	-2.9283	-1224
					5275	5300	0.0001	0	-0.46467	-3198
					5250	5275	0.0011	1	-1.59375	-2338
					5225	5250	0.0000	-2	-0.84163	-312
					5225	5350	0.0031	-4	-5.83331	-1652
5.3	CHACALTAYA	BO5180	2007	2008	5325	5350	0.0006	0	-0.61086	-971
					5300	5325	0.0004	-1	-0.37961	-808
					5275	5350	0.0040	-2	-1.59925	-1549
6.1	CHARQUINI SUR	BO	2005	2006	5200	5250	0.0638	-1		324
					5150	5200	0.0763	-1		77
					5100	5150	0.1146	-1		-26
					5050	5100	0.0652	-2		-689
					5000	5050	0.0342	-12		-2840
					5000	5250	0.3541	-17		-631
6.2	CHARQUINI SUR	BO	2006	2007	5200	5250	0.0638	0		346
					5150	5200	0.0763	0		-226
					5100	5150	0.1156	1		-338
					5050	5100	0.0606	-5		-1344
					5000	5050	0.0196	-15		-1774
					5000	5250	0.3359	-18		-482
6.3	CHARQUINI SUR	BO	2007	2008	5150	5200	0.0763	0		548
					5100	5150	0.1156	0		303
					5050	5100	0.0606	0		-156
					5000	5050	0.0196	0		-683
					5000	5200	0.3359	0		161
6.4	CHARQUINI SUR	BO	2008	2009	5200	5250	0.0638			68
					5150	5200	0.0763			-341
					5100	5150	0.1156			-697
					5050	5100	0.0606			-385
					4950	5050	0.0196			-262
					4950	5250	0.3359			-1617
6.5	CHARQUINI SUR	BO	2009	2010	5200	5250	0.0638			97
					5150	5200	0.0763			-797
					5100	5150	0.1156			-1122
					5050	5100	0.0606			-737

NR	GLACIER NAME	PSFG NR	PERIOD FROM	PERIOD TO	ALTITUDE FROM	ALTITUDE TO	AREA SY	AREA CHANGE	VOLUME CHANGE	THICKNESS CHANGE
					4950	5050	0.0196			-361
					4950	5250	0.3359			-2921
7.1	ZONGO	BO5150	1997	2006	4900	6000				-18133
7.2	ZONGO	BO5150	2005	2006	5900	6000	0.0357	0		639
					5800	5900	0.0785	0		639
					5700	5800	0.1386	0		565
					5600	5700	0.2345	0		491
					5500	5600	0.2621	0		417
					5400	5500	0.2336	0		403
					5300	5400	0.1787	0		390
					5200	5300	0.1594	0		376
					5100	5200	0.2211	-2		-542
					5000	5100	0.2761	0		-1832
					4900	5000	0.0628	-4		-5327
					4900	6000	1.8809	-6		-344
7.3	ZONGO	BO5150	2006	2007	5900	6000	0.0357	0		1202
					5800	5900	0.0785	0		1202
					5700	5800	0.1386	0		1202
					5600	5700	0.2345	0		954
					5500	5600	0.2621	0		793
					5400	5500	0.2336	0		571
					5300	5400	0.1787	0		349
					5200	5300	0.1594	0		-95
					5100	5200	0.2226	2		-519
					5000	5100	0.2694	-7		-2683
					4900	5000	0.0577	-5		-6539
					4900	6000	1.8707	-10		-324
7.4	ZONGO	BO5150	2007	2008	5900	6000	0.0357	0		934
					5800	5900	0.0785	0		934
					5700	5800	0.1386	0		934
					5600	5700	0.2345	0		870
					5500	5600	0.2621	0		856
					5400	5500	0.2336	0		751
					5300	5400	0.1787	0		647
					5200	5300	0.1594	0		437
					5100	5200	0.2226	0		19
					5000	5100	0.2694	0		-1200
					4900	5000	0.0519	-10		-4354
					4900	6000	1.8650	-10		257
7.5	ZONGO	BO5150	2008	2009	5900	6000	0.0624			15
					5800	5900	0.1045			28
					5700	5800	0.1875			51
					5600	5700	0.2611			69
					5500	5600	0.2961			77
					5400	5500	0.2193			29
					5300	5400	0.1561			-4
					5200	5300	0.1379			-48
					5100	5200	0.2640			-229
					5000	5100	0.1976			-361
					4900	5000	0.0397			-172
					4900	6000	1.9261			-543
7.6	ZONGO	BO5150	2009	2010	5900	6000	0.0624			27
					5800	5900	0.1045			46
					5700	5800	0.1875			82
					5600	5700	0.2611			115

NR	GLACIER NAME	PSFG NR	PERIOD FROM	PERIOD TO	ALTITUDE FROM	ALTITUDE TO	AREA SY	AREA CHANGE	VOLUME CHANGE	THICKNESS CHANGE
					5500	5600	0.2961			128
					5400	5500	0.2193			38
					5300	5400	0.1561			-13
					5200	5300	0.1380			-83
					5100	5200	0.2601			-428
					5000	5100	0.1902			-471
					4900	5000	0.0344			-179
					4900	6000	1.9097			-739
	CANADA									
8.1	KASKAWULSH	CA	2000	2007					-4800000	
9.1	TWEEDSMUIR	CA	2001	2007					-2252067	-5533
	CHINA									
10.1	KANGWURE	CN	1974	2008	5500	6100	1.9600			-7500
	C.I.S.									
11.1	TS.TUYUKSUYSKIY	SU5075	1998	2006	4150	4200	0.06	10		
					4100	4150	0.1295	1		
					4050	4100	0.184	0		
					4000	4050	0.133	0		
					3950	4000	0.126	0		
					3900	3950	0.1145	1		
					3850	3900	0.1375	-3		
					3800	3850	0.2105	3		
					3750	3800	0.4105	35	-874	-2225
					3700	3750	0.3985	-39	-680	-1628
					3650	3700	0.2170	20	-799	-3852
					3600	3650	0.1080	-2	-626	-5743
					3550	3600	0.1170	-34	-1266	-9416
					3500	3550	0.1330	2	-1385	-10473
					3450	3500	0.0525	-15	-772	-12846
					3450	4200	2.532	-22		
	COLOMBIA									
12.1	LA CONEJERA	CO0033	2009	2009	4817	4958	0.0127	0	0	281
					4799	4817	0.0756	0	-0.05	-653
					4754	4799	0.0366	0	-0.01	-405
					4717	4754	0.0591	0	-0.06	-931
					4717	4958	0.1840	0	-0.12	-629
12.2	LA CONEJERA	CO0033	2010	2010	4817	4958	0.0127	0	0	-81
					4799	4817	0.0756	0	-0.07	-888
					4754	4799	0.0366	0	-0.01	-354
					4721	4754	0.0591	0	-0.06	-967
					4715	4721	0.0365	0	-0.03	-785
					4715	4958	0.2205	0	-0.17	-757
	GERMANY									
13.1	HOELLENTAL	DE0003	1999	2006	2560	2580	0.0002	-0.038	-0.14	-1157
					2540	2560	0.0027	-0.461	-4.04	-1409
					2520	2540	0.0032	0.107	-10.79	-3316
					2500	2520	0.0031	-0.868	-18.19	-4949
					2480	2500	0.0057	-0.74	-35.61	-5829
					2460	2480	0.0085	-0.204	-48.08	-5665
					2440	2460	0.0100	-1.064	-62.49	-6008
					2420	2440	0.0130	-1.505	-78.48	-5714
					2400	2420	0.0187	-2.713	-117.31	-5838
					2380	2400	0.0212	0.047	-141.33	-6717

NR	GLACIER NAME	PSFG NR	PERIOD		ALTITUDE		AREA	AREA	VOLUME	THICKNESS
			FROM	TO	FROM	TO	SY	CHANGE	CHANGE	CHANGE
					2360	2380	0.0219	-0.965	-142.52	-6386
					2340	2360	0.0283	-2.264	-163.77	-5584
					2320	2340	0.0253	-0.013	-170.18	-6826
					2300	2320	0.0225	0.786	-153.81	-6968
					2280	2300	0.0202	-0.239	-153.42	-7676
					2260	2280	0.0188	0.087	-149.94	-7965
					2240	2260	0.0131	-0.335	-122.89	-9492
					2220	2240	0.0067	0.56	-73.36	-12157
					2200	2220	0.0038	-0.499	-39.02	-10921
					2200	2580	0.2470	-10.321	-1685	-6717
14.1	SCHNEEFERNER N	DE0001	1999	2006	2800	2820	0	-0.152	-0.02	-3796
					2780	2800	0.001608	-1.017	-7.27	-3994
					2760	2780	0.002934	-1.747	-13	-4101
					2740	2760	0.005678	-2.154	-26.37	-4393
					2720	2740	0.007377	-3.823	-37.34	-4843
					2700	2720	0.011403	-4.786	-67.37	-5278
					2680	2700	0.024816	-6.175	-133.97	-4985
					2660	2680	0.034674	-6.391	-223.6	-6013
					2640	2660	0.046883	-5.191	-329.17	-6724
					2620	2640	0.049821	-10.138	-371.51	-7572
					2600	2620	0.038102	1.335	-314.89	-8815
					2580	2600	0.033337	-0.301	-225.83	-7310
					2560	2580	0.044047	-7.025	-109.62	-2888
					2540	2560	0.00655	-1.705	0.49	63
					2540	2820	0.307	-49.27	-1860	-6080
15.1	SCHNEEFERNER S	DE0002	1999	2006	2680	2700	0	-0.108	-0.11	0
					2660	2680	0.000053	-3.152	-2.04	-5262
					2640	2660	0.004178	-3.907	-16.74	-3078
					2620	2640	0.010619	-4.864	-48.53	-3838
					2600	2620	0.015527	-4.311	-82.89	-5177
					2580	2600	0.016881	-6.292	-59.28	-3471
					2560	2580	0.021462	-3.285	-45.33	-2402
					2540	2560	0.006496	-2.99	-9.2	-1529
					2520	2540	0.009237	-2.192	-20.15	-2023
					2520	2700	0.084	-31.101	-284	-3247
	GREENLAND									
16.1	FLADE ISBLINK ICE CAP	GL	2002	2009						210
16.2	FLADE ISBLINK ICE CAP	GL	2004	2008						680
16.3	FLADE ISBLINK ICE CAP	GL	2004	2008						400
	INDIA									
17.1	CHHOTA SHIGRI	IN	2002	2010	5450	6250	1.1683			2882
					5400	5450	1.4253			1455
					5250	5300	0.8316			928
					5200	5250	0.9525			617
					5150	5200	1.1227			633
					5100	5150	1.0468			385
					5050	5100	1.1635			-246
					5000	5050	1.2373			-608
					4950	5000	1.2187			-950
					4900	4950	1.0081			-1224
					4850	4900	0.6132			-1622
					4800	4850	0.6500			-1919
					4750	4800	0.9295			-2348
					4700	4750	0.5008			-3024
					4650	4700	0.4952			-3544

NR	GLACIER NAME	PSFG NR	PERIOD FROM	PERIOD TO	ALTITUDE FROM	ALTITUDE TO	AREA SY	AREA CHANGE	VOLUME CHANGE	THICKNESS CHANGE
					4600	4650	0.3057			-3631
					4550	4600	0.3095			-3812
					4500	4550	0.1882			-3964
					4450	4500	0.2479			-4102
					4400	4450	0.1546			-4555
					4350	4400	0.1155			-4352
					4300	4350	0.0940			-3114
					4050	4300	0.1525			-3065
					4050	6250	16.8876			-579
	IRAN									
18.1	ALMAKOUH	IR	2002	2010	3197	4835	3.7000		-63000	-16790
	ITALY									
19.1	CALDERONE	IT1006	2005	2006	2750	2830	0.0090	2	22	2400
					2630	2750	0.0270	0	18	650
					2630	2830	0.0360	2	39	1090
19.2	CALDERONE	IT1006	2006	2007	2750	2830	0.0090	0	-18	-2000
					2630	2700	0.0270	0	-36	-1350
					2630	2830	0.0360	0	-54	-1500
19.3	CALDERONE	IT1006	2007	2008	2750	2830	0.0090	0	-2915	-82
					2630	2700	0.0270	0	12689	357
					2630	2830	0.0360	0	9774	
19.4	CALDERONE	IT1006	2009	2010	2750	2830	0.0090	0	8538	949
					2630	2750	0.0270	0	16414	608
					2630	2830	0.0360	0	24952	693
20.1	CAMPO SETT.	IT0997	2005	2007	2840	3180	0.3200			-4471
20.2	CAMPO SETT.	IT0997	2007	2009	2840	3180				-2230
21.1	LUPO	IT0543	2008	2009	2435	2760	0.2020			704
21.2	LUPO	IT0543	2009	2010	2435	2760				408
22.1	SURETTA MERID.	IT0371	2005	2006	2685	2925				-2707
22.2	SURETTA MERID.	IT0371	2006	2007	2685	2925	0.1800	-18		-2911
22.3	SURETTA MERID.	IT0371	2007	2008	2685	2925				-382
22.4	SURETTA MERID.	IT0371	2008	2009	2685	2925				-778
	KENYA									
23.1	LEWIS	KE0008	2004	2010	4651	4871	0.1050	-31	-470	-3900
	NEPAL									
24.1	AMA DABLAM	NP	1970	2007			2.2000			-12000
24.2	AMA DABLAM	NP	2002	2007			2.2000			-3100
25.1	AMPHU LAPTSE	NP	1970	2007			1.5000			-10000
25.2	AMPHU LAPTSE	NP	2002	2007			1.5000			-4300
26.1	AX010	NP0005	1999	2008	4968	5302	0.3800			-7290

NR	GLACIER NAME	PSFG NR	PERIOD FROM	PERIOD TO	ALTITUDE FROM	ALTITUDE TO	AREA SY	AREA CHANGE	VOLUME CHANGE	THICKNESS CHANGE
27.1	CHANGRI NUP / SHAR	NP	1970	2007			13.0000			-11600
27.1	CHANGRI NUP / SHAR	NP	2002	2007			13.0000			-1600
28.1	CHUKHUNG	NP	1970	2007			3.8000			-5300
28.2	CHUKHUNG	NP	2002	2007			3.8000			200
29.1	DUWO	NP	1970	2007			1.0000			-12200
29.2	DUWO	NP	2002	2007			1.0000			-10900
30.1	KHUMBU	NP	1970	2007			17.0000			-11100
30.2	KHUMBU	NP	2002	2007			17.0000			-2500
31.1	LHOTSE	NP	1970	2007			6.5000			-10700
31.1	LHOTSE	NP	2002	2007			6.5000			-6100
32.1	LHOTSE NUP	NP	1970	2007			1.9500			-7600
32.2	LHOTSE NUP	NP	2002	2007			1.9500			-5700
33.1	LHOTSE SHAR / IMJA	NP	1970	2007	5055	5800	10.7000			-20600
33.2	LHOTSE SHAR / IMJA	NP	2002	2007	5055	5800	10.7000			-8100
34.1	NUPTSE	NP	1970	2007			4.0000			-9400
34.2	NUPTSE	NP	2002	2007			4.0000			-2200
35.1	RIKHA SAMBA	NP0012	1999	2010	5346	6229	4.6200			-4790
36.1	YALA	NP0004	1996	2009	5086	5642	1.8800			-10400
	SLOVENIA									
37.1	TRIGLAVSKI LEDENIK	SI	2005	2008	2410	2510	0.0060	-1	-9	
	SPAIN									
38.1	MALADETA	ES9020	2005	2006	3075	3190	0.1564	-13		-2718
					3050	3075	0.0468	4		-2816
					3025	3050	0.0374	0		-1603
					3000	3025	0.0195	-2		-2383
					2975	3000	0.0159	-1		-2418
					2950	2975	0.0104	-3		-4880
					2925	2950	0.0091	0		-3080
					2900	2925	0.0084	0		-3563
					2875	2900	0.0061	-1		-3930
					2850	2875	0.0028	0		-4580
					2825	2850	0.0002	0		-2914
					2825	3190	0.3129	-15	-992	
38.2	MALADETA	ES9020	2006	2007	3075	3190	0.1526	-4		-815
					3050	3075	0.0331	-14		-428
					3025	3050	0.0239	-13		-737
					3000	3025	0.0171	-2		-1286
					2975	3000	0.0127	-3		-2499
					2950	2975	0.0098	-1		-2521
					2925	2950	0.0082	-1		-2720
					2900	2925	0.0084	0		-3094

NR	GLACIER NAME	PSFG NR	PERIOD		ALTITUDE		AREA	AREA	VOLUME	THICKNESS
			FROM	TO	FROM	TO	SY	CHANGE	CHANGE	CHANGE
					2875	2900	0.0066	0		-2977
					2850	2875	0.0030	0		-3452
					2825	2850	0.0002	0		-3120
					2825	3190	0.2757	-37	-593	
38.3	MALADETA	ES9020	2007	2008	3088	3213	0.1374	-4		1330
					3063	3088	0.0367	2		300
					3038	3063	0.0371	7		100
					3013	3038	0.0206	1		1060
					2988	3013	0.0164	2		130
					2963	2988	0.0122	1		0
					2938	2963	0.0096	1		0
					2913	2938	0.0088	0		-1120
					2888	2913	0.0068	-1		-800
					2863	2888	0.0050	0		-1500
					2838	2863	0.0011	0		-800
					2838	3213	0.2917	9		678
38.4	MALADETA	ES9020	2008	2009	3138	3163	0.0383	-2		-1100
					3113	3138	0.0371	-1		1800
					3088	3113	0.0372	-1		-600
					3063	3088	0.0375	1		-3100
					3038	3063	0.0339	-3		-1700
					3013	3038	0.0176	-3		-2700
					2988	3013	0.0140	-2		-2900
					2963	2988	0.0114	-1		-2800
					2938	2963	0.0083	-1		-3700
					2913	2938	0.0078	-1		-3200
					2888	2913	0.0081	1		-3700
					2863	2888	0.0034	-2		-3900
					2838	2863	0.0011	0		-3200
					2838	3163	0.2556	-15		-1541
38.5	MALADETA	ES9020	2009	2010	3138	3163	0.0397	1.387		600
					3113	3138	0.0374	0.32		-500
					3088	3113	0.0368	-0.425		300
					3063	3088	0.0361	-1.355		2700
					3038	3063	0.0341	0.206		600
					3013	3038	0.0173	-0.312		800
					2988	3013	0.0142	0.195		0
					2963	2988	0.0115	0.146		-500
					2938	2963	0.0084	0.106		-200
					2913	2938	0.0075	-0.265		-800
					2888	2913	0.0079	-0.187		-1600
					2863	2888	0.0036	0.129		-2700
					2838	2863	0.0012	0.084		500
					2838	3163	0.2557	0.029		441
	SWITZERLAND									
39.1	ADLER	CH0016B	2005	2009			2.4700		-2300	-990
39.2	ADLER	CH0016B	2009	2010			2.4700	0	-1700	-770
40.1	FINDELEN	CH0016	2005	2009	3900	4000	0.0018	0	1	620
					3800	3900	0.2437	0	211	868
					3700	3800	0.3141	0	-135	-429
					3600	3700	0.4886	-1	-69	-140
					3500	3600	1.6173	0	-335	-207
					3400	3500	2.3866	0	-698	-293
					3300	3400	1.9445	0	-1429	-735
					3200	3300	1.8257	0	-2363	-1294

NR	GLACIER NAME	PSFG NR	PERIOD		ALTITUDE		AREA	AREA	VOLUME	THICKNESS
			FROM	TO	FROM	TO	SY	CHANGE	CHANGE	CHANGE
					3100	3200	1.7443	-2	-4173	-2392
					3000	3100	0.9631	-6	-3401	-3531
					2900	3000	0.6058	-28	-3215	-5308
					2800	2900	0.3879	-24	-3330	-8586
					2700	2800	0.3152	-50	-4308	-13666
					2600	2700	0.3928	-59	-7213	-18361
					2500	2600	0.0765	-60	-1333	-17426
					2500	4000	13.3079	-230	-31790	-2289
40.2	FINDELEN	CH0016	2009	2010	3900	4000	0.0020	0	-2	-1656
					3800	3900	0.2460	0	-167	-692
					3700	3800	0.3124	0	-134	-434
					3600	3700	0.4862	0	-313	-652
					3500	3600	1.6182	0	-932	-583
					3400	3500	2.3728	0	-1260	-529
					3300	3400	1.9441	0	-1194	-610
					3200	3300	1.8154	0	-1225	-682
					3100	3200	1.7263	0	-1581	-934
					3000	3100	0.9726	0	-1106	-1113
					2900	3000	0.5839	0	-930	-1581
					2800	2900	0.3489	0	-772	-2286
					2700	2800	0.2512	0	-813	-3559
					2600	2700	0.3200	0	-1443	-4861
					2500	2600	0.0817	0	-592	-6900
					2500	4000	13.0815	0	-12464	-963
41.1	GRIES	CH0003	2003	2007	2415	3307				-2106
42.1	SILVRETTA	CH0090	2003	2007	2467	3079				-4856
	U.S.A.									
43.1	BARNARD	US0615	2003	2007	550	1890			-684444	-3422
44.1	BERING	US	2003	2007	200	3230			-23070667	-6356
45.1	GUYOT NORTH BRANCH	US	2005	2007					-1086000	-4022
46.1	GUYOT SOUTH BRANCH	US	2005	2007					241778	1422
47.1	HIDDEN	US	2005	2007					-194978	-4756
48.1	HUBBARD	US1290	2003	2007	0	5800			10608000	3467
49.1	KLUTLAN	US	2003	2007					-1284889	-2178
50.1	LOGAN	US	2003	2007					-1057778	-1556
51.1	MALASPINA	US	2003	2007					-15497778	-4889
52.1	NOVATAK	US	2005	2007					-453000	-3356
53.1	STELLER	US	2003	2007					-1156800	-1600
54.1	TANA	US	2003	2007					-181111	-222
55.1	WALSH	US	2003	2007					-1966667	-5556
56.1	WEST NUNATAK	US	2005	2007					-141556	-1556
57.1	YAHTSE	US	2000	2007					-6743333	-6611

NR	GLACIER NAME	PSFG NR	PERIOD		ALTITUDE		AREA	AREA	VOLUME	THICKNESS
			FROM	TO	FROM	TO	SY	CHANGE	CHANGE	CHANGE
58.1	YAKUTAT	US1303	2005	2007	0	1520			-2242533	-6178

Notes

WORLD GLACIER MONITORING SERVICE

ALPHABETIC INDEX

GLACIER NAME	15 alphabetic or numeric digits, names arranged in alphabetic order
PSFG NUMBER	5 digits identifying glacier with alphabetic prefix denoting country
WGMS ID	5 digits, identifying glacier in the WGMS-data base
DATA TABLE AND RECORD NUMBER	Table and record number where data are located

- A = General information on the observed glacier
- B = Variations in the position of glacier fronts: 2005–2010
- BB = Variations in the position of glacier fronts: addenda from earlier years
- C = Mass balance summary data: 2005–2010
- CC = Mass balance summary data: addenda from earlier years
- CCC = Mass balance versus altitude for selected glaciers
- D = Changes in area, volume and thickness
- F = Index measurements or special events – see Chapter 4

GLACIER NAME	PSFG NR	WGMS ID	DATA TABLE AND RECORD NUMBER							
AALFOTBREEN	NO36204	317	A.546			C.72	CCC.39			
ADAMS	NZ	2923	A.444	B.373						
ADLER	CH0016B	3801	A.635						D.39	
AGNELLO MER.	IT0029	684	A.309	B.254						
AILSA	NZ	2924	A.445							F
AKULLIIT	GL	3733	A.217	B.176						
ALBIGNA	CH0116	1674	A.636	B.509						
ALDEGONDABREEN	NO14108	3470	A.547	B.439						
ALLALIN	CH0011	394	A.637	B.510						
ALMAKOUH	IR	3695	A.308						D.18	
ALMER/SALISBURY	NZ	1548	A.446	B.374						F
ALPAMAYO	PE	3612	A.601	B.483						
ALPEINER F.	AT0307	497	A.31	B.17						
ALPETLI(KANDER)	CH0109	439	A.638	B.511						
ALTA (VEDRETTA) / HOHENF.	IT0730	632	A.310	B.255						
AMA DABLAM	NP	3459	A.429						D.24	
AMEGHINO	AR	3800	A.4		BB.1					
AMMERTEN	CH0111	435	A.639	B.512						
AMOLA	IT0644	638	A.311	B.256						
AMPHU LAPTSE	NP	3460	A.430						D.25	
ANDY	NZ	1590	A.447	B.375						
ANETO	ES9030	943	A.617	B.493						
ANTELAO INFERIORE (OCC.)	IT0967	642	A.312	B.257						
ANTELAO SUP.	IT0966	643	A.313	B.258						
ANTIZANA15ALPHA	EC0001	1624	A.202	B.168		C.36	CCC.23			
AOUILLE	IT0138	1239	A.314	B.259						
ARGENTIERE	FR0002	354	A.203	B.169	BB.19	C.37				
AROLLA (BAS)	CH0027	377	A.640	B.513						
ARTESONRAJU	PE0003	3292	A.602	B.484		C.94	CCC.59			
ASHBURTON	NZ	1570	A.448	B.376						
ASHU-TOR SOUTH (326)	SU	3771	A.169	B.138						
ASSAKAAT	GL	3734	A.218	B.177						
AUSTDALSBREEN	NO37323	321	A.548			C.73	CCC.40			
AUSTERDALSBREEN	NO31220	288	A.549	B.440						
AUSTRE BROEGGERBREEN	NO15504	292	A.550			C.74	CCC.41	CCCC.19		
AUSTRE OKSTINDBREEN	NO	3342	A.551	B.441						
AVOCA	NZ	2928	A.449							F
AX010	NP0005	906	A.431						D.26	
AXIUS	NZ	2283	A.450	B.377						
AZUFRE	AR	2851	A.5	B.2						
BACHFALLEN F.	AT0304	500	A.32	B.18						
BAEGISARJOEKULL	IS0304	3059	A.240	B.196						
BAERENKOPF K.	AT0702	567	A.33	B.19						
BAGLEY ICE FIELD	US	3663	A.746							F
BAHIA DEL DIABLO	AQ	2665	A.1	B.1		C.1	CCC.1			
BALFOUR	NZ	1604	A.451	B.378						
BARLOW	NZ	1608	A.452	B.379						
BARNARD	US0615	165	A.747						D.43	
BARRIER	NZ	2281	A.453	B.380						
BARRIER PK	NZ	2933	A.454	B.381						F
BARROSO	AR	3590	A.6	B.3						
BASEI	IT0064	611	A.315	B.260						
BASODINO	CH0104	463	A.641	B.514		C.102	CCC.67			
BATURA	PK0005	990	A.598	B.480						
BEAR	US	3372	A.748	B.613						
BELVEDERE (MACUGNAGA)	IT0325	618	A.316	B.261						F
BERGLAS F.	AT0308	496	A.34	B.20						
BERGSETBREEN	NO31013	2290	A.552	B.442	BB.26					
BERING	US	3336	A.749						D.44	
BESSANESE	IT0040	1297	A.317	B.262						
BIELTAL F.	AT0105A	481	A.35	B.21						

GLACIER NAME	PSFG NR	WGMS ID	DATA TABLE AND RECORD NUMBER							
BIELTAL F. W	AT0105B	1452	A.36	B.22						
BIELTALFERNER MITTE	AT	2674	A.37	B.23						
BIFERTEN	CH0077	422	A.642	B.515						
BIRDZHALYCHIRAN	SU3026	756	A.170	B.139						
BITYUKTYUBE	SU3034	764	A.171	B.140						
BLAGNIPUJOEKULL	IS	3130	A.241	B.197						
BLAIR	NZ	1551	A.455							F
BLANC	FR0031	351	A.204	B.170						
BLOMSTOELSKARDSBREEN	NO	3339	A.553	B.443		C.75	CCC.42			
BLUEMLISALP	CH0064	436	A.643	B.516						
BOEDALSBREEN	NO37219	2291	A.554	B.444						
BOEVERBREEN	NO0548	2298	A.555	B.445						
BOEYABREEN	NO33014	2297	A.556	B.446	BB.27					
BOLSHOY AZAU	SU3004	701	A.172	B.141						
BOLSHOY CHONTOR	SU	3772	A.173	B.142						
BONAR	NZ	1587	A.456	B.382						
BONDHUSBREA	NO20408	318	A.557	B.447	BB.28					
BOSSONS	FR0004	355	A.205	B.171	BB.20					
BOTNABREA	NO20515	2292	A.558	B.448						
BOULDER	US2005	1364	A.750	B.614						
BOVEYRE	CH0041	459	A.644	B.517						
BREIDABLIKKBREA	NO	2671	A.559	B.449		C.76	CCC.43			
BREIDAMJOEKULL W. A.	IS1125A	3063	A.242	B.198						
BREIDAMJOEKULL W. C.	IS1125C	3065	A.243	B.199						
BRENEY	CH0036	368	A.645	B.518						
BRENNDALSBREEN	NO37109	2293	A.560	B.450						
BRENNKOGL K.	AT0727	528	A.38	B.24						
BRENVA	IT0219	615	A.318	B.263						
BRESCIANA	CH0103	465	A.646	B.519						
BREWSTER	NZ	1597	A.457	B.383		C.71	CCC.38	CCCC.18		F
BRIKSDALSBREEN	NO37110	314	A.561	B.451						
BROKARJOEKULL	IS1427	3066	A.244	B.200						
BROWNING	NZ	2937	A.458							F
BRUARJOEKULL	IS2400	3067	A.245			C.44				
BRUNEGG	CH0020	384	A.647	B.520						
BRUNNI	CH0072	427	A.648	B.521						
BRYANT	NZ	2938	A.459							F
BUERBREEN	NO21307	315	A.562	B.452	BB.29					
BURTON	NZ	1606	A.460	B.384						
BUTLER	NZ	1544	A.461	B.385						F
CALDERAS	CH0095	403	A.649	B.522						
CALDERONE	IT1006	1107	A.319	B.264		C.55		CCCC.9	D.19	F
CAMBRENA	CH0099	399	A.650	B.523						
CAMERON	NZ	1565	A.462	B.386						
CAMISA	AR	3591	A.7	B.4						
CAMPO SETT.	IT0997	1106	A.320	B.265		C.56			D.20	
CANON HISPANO	AR	3592	A.8	B.5						
CARE ALTO OR.	IT0632	1148	A.321	B.266						
CARESER	IT0701	635	A.322	B.267		C.57	CCC.27			F
CARESER CENTRALE	IT	3659	A.323			C.58	CCC.28			
CARESER OCCIDENTALE	IT	3346	A.324			C.59	CCC.29	CCCC.10		
CARESER ORIENTALE	IT	3345	A.325			C.60	CCC.30	CCCC.11		
CARIA	NZ	1558	A.463							F
CAROLINE	NZ	2943	A.464							F
CARRINGTON	NZ	2944	A.465							F
CASPOGGIO	IT0435	628	A.326	B.268						
CASSANDRA OR.	IT0411	1185	A.327	B.269						
CASTELLI OR.	IT0493	1162	A.328	B.270						
CASTLE CREEK	CA	3349	A.145	B.126						
CAVAGNOLI	CH0119	464	A.651	B.524						
CEDEC	IT0503	1165	A.329	B.271						

GLACIER NAME	PSFG NR	WGMS ID	DATA TABLE AND RECORD NUMBER							
CEVED. FORCOLA / FUERKELEF.	IT0731	663	A.330	B.272						
CEVED. PRINCIPALE / ZUFALLF.	IT0732	662	A.331	B.273						
CHACALTAYA	BO5180	1505	A.137	B.123		C.14	CCC.11		D.5	
CHANCELLOR	NZ	2945	A.466							F
CHANGRI NUP / SHAR	NP	3457	A.432						D.27	
CHARQUINI NORTE	BO	3718	A.138		BB.11					
CHARQUINI OESTE	BO	3719	A.139		BB.12					
CHARQUINI SUR	BO	2667	A.140	B.124	BB.13	C.15	CCC.12	CCCC.2	D.6	
CHARQUINI SURESTE	BO	3720	A.141		BB.14					
CHEILLON	CH0029	375	A.652	B.525						
CHHOTA SHIGRI	IN	2921	A.291			C.53	CCC.26		D.17	
CHICON	PE	3614	A.603							F
CHORABARI	IN	3640	A.292	B.238						
CHUKHUNG	NP	3461	A.433						D.28	
CHUNGURCHATCHIR	SU3027	757	A.174	B.143						
CIAMARELLA	IT0043	1298	A.332	B.274						
CIARDONEY	IT0081	1264	A.333	B.275		C.61	CCC.31			
CIPRESES	CL0071	2008	A.156		BB.18					
CLAPIER	IT0001	1286	A.334	B.276						
CLARIDENFIRN	CH0141	2660	A.653							F
COL DELLA MARE I	IT0506A	1167	A.335	B.277						
COLEMAN	US2011	1369	A.751	B.615						
COLIN CAMPBELL	NZ	2947	A.467	B.387						
COLLALTO (V. DI) / HOCHGALL F.	IT0927	647	A.336	B.278						
COLLERIN D'ARNAS	IT0042	2349	A.337	B.279						
COLUMBIA (2057)	US2057	76	A.752	B.616		C.109				
COLUMBIA (627)	US0627	156	A.753	B.617						
COMFORTLESSBREEN	NO	3348	A.563							F
CORBASSIERE	CH0038	366	A.654	B.526						
CORNELIUSSENBREEN	NO	3341	A.564	B.453						
CORNO	CH0120	468	A.655	B.527						
COUPE DE MONEY	IT0109	1271	A.338	B.280						
CRISTALLO	IT0937	644	A.339	B.281						
CROSLINA	CH0121	1681	A.656	B.528						
CROW	NZ	1564	A.468	B.388						
DAINTY	NZ	2287	A.469	B.389						F
DANIELS	US2052	83	A.754	B.618		C.110				
DART	NZ	898	A.470	B.390						
DAUNKOGEL F.	AT0310A	604	A.39	B.25						
DEMING	US2009	1368	A.755	B.619						
DEVON ICE CAP NW	CA0431	39	A.146			C.17				
DIEM F.	AT0220	513	A.40	B.26						
DINGLESTADT	US	3382	A.756	B.620						
DISGRAZIA	IT0419	2503	A.340	B.282						
DISPUTE	NZ	2286	A.471	B.391						
DJANKUAT	SU3010	726	A.175			C.28	CCC.18			
DONALD	NZ	2284	A.472	B.392						
DONNE	NZ	1585	A.473	B.393						
DOSEGU	IT0512	668	A.341	B.283						
DOUGLAS (KAR.)	NZ	1601	A.474	B.394						
DRANG DRUNG	IN	3656	A.293	B.239						
DRUS, GLACIER DE	FR	3696	A.206							F
DUNGEL	CH0112	1678	A.657	B.529						
DUWO	NP	3462	A.434						D.29	
DYNGJUJOEKULL	IS2600	3068	A.246			C.45				
DZASSET	IT0113	2372	A.342	B.284						
EASTON	US2008	1367	A.757	B.621		C.111				
ECHAURREN NORTE	CL0001B	1344	A.157			C.24				
EIGER	CH0059	442	A.658	B.530						
EISKAR G.	AT1301	1632	A.41	B.27						
ELISEBREEN	NO	3337	A.565			C.77				

GLACIER NAME	PSFG NR	WGMS ID	DATA TABLE AND RECORD NUMBER							
ELLA	NZ	2956	A.475							F
EMMONS	US2022	203	A.758			C.112		CCCC.26		
EN DARREY	CH0030	374	A.659	B.531						
ENGABREEN	NO67011	298	A.566	B.454		C.78	CCC.44			
ERCIYES	TR	3788	A.745	B.612						
ESPERANZA NORTE	AR	3711	A.9		BB.2					
ESTELLETTE	IT0208	1259	A.343	B.285						
EXCELSIOR	US	3790	A.759	B.622						
EXIT	US0390	86	A.760	B.623						
EYJABAKKAJOEKULL	IS2300	3069	A.247			C.46				
EYJAFJALLAJOEKULL	IS0112	3353	A.248							F
FAABERGSTOELSBREEN	NO31015	289	A.567	B.455						
FAERIE QUEENE	NZ	2958	A.476							F
FALLJOEKULL	IS1021	3071	A.249	B.201						
FEE NORTH	CH0013	392	A.660	B.532						F
FERNAU F.	AT0312	601	A.42	B.28						
FERPECLE	CH0025	379	A.661	B.533						
FIESCHER	CH0004	471	A.662	B.534						
FINDELEN	CH0016	389	A.663	B.535		C.103		CCCC.23	D.40	
FINDLAY	NZ	2959	A.477							F
FIRNALPELI	CH0075	424	A.664	B.536						
FITZGERALD (GOD)	NZ	2278	A.478	B.395						
FJALLSJOEK BY BREIDAMERK.	IS1024A	3073	A.250	B.202						
FJALLSJOEKULL BY GAMLASEL	IS1024C	3074	A.251	B.203						
FLAAJOEKULL E 148	IS1930C	3076	A.252	B.204						
FLADE ISBLINK ICE CAP	GL	3668	A.219						D.16	
FOG	NZ	2962	A.479							F
FOND OCCID.	IT0146	2380	A.344	B.286						
FOND OR.	IT0145	1243	A.345	B.287						
FONT. BIANCA / WEISSBRUNNF.	IT0713	1507	A.346	B.288		C.62	CCC.32	CCCC.12		
FORGOTTEN COL	NZ	2282	A.480	B.396						
FORNI	IT0507	670	A.347	B.289						
FORNO	CH0102	396	A.665	B.537						
FOSS	US2053	84	A.761	B.624		C.113				
FOURNEAUX	IT0027	1294	A.348	B.290						
FOX	NZ	1536	A.481	B.397						
FRADUSTA	IT0950	2273	A.349	B.291						
FRANKLIN	NZ	2964	A.482							F
FRANZ JOSEF	NZ	899	A.483	B.398	BB.25					
FREIGER F.	AT0320	595	A.43	B.29						
FREIWAND K.	AT0706	564	A.44	B.30						
FRESHFIELD	NZ	2966	A.484	B.399						
FREYA	GL	3350	A.220	B.178		C.42	CCC.24	CCCC.8		
FRIAS	AR5004	1347	A.10		BB.3					
FROSNITZ K.	AT0507	579	A.45	B.31						
FURTSCHAGL K.	AT0406	585	A.46	B.32						
GAISKAR F.	AT0325	530	A.47	B.33						
GAISSBERG F.	AT0225	508	A.48	B.34						
GAJAP-YANACARCO	PE0009	223	A.604	B.485						
GAMCHI	CH0061	440	A.666	B.538						
GANGOTRI	IN0019	3639	A.294	B.240						
GANGSTANG	IN0077	3631	A.295	B.241						
GARABASHI	SU3031	761	A.176	B.144		C.29	CCC.19			
GAULI	CH0052	449	A.667	B.539						
GEBROULAZ	FR0009	352	A.207	B.172		C.38				
GEITLANDSJOEKULL	IS	3128	A.253	B.205						
GELTEN	CH0113	1679	A.668	B.540						
GENDARME	NZ	2967	A.485							F
GEPATSCH F.	AT0202	522	A.49	B.35						
GHULKIN	PK0008	996	A.599	B.481						
GIETRO	CH0037	367	A.669	B.541						

GLACIER NAME	PSFG NR	WGMS ID	DATA TABLE AND RECORD NUMBER							
GIGJOEKULL	IS0112	3079	A.254	B.206						
GLACIER NO. 10	IN	3655	A.296	B.242						
GLACIER NO. 12	IN	3657	A.297	B.243						
GLACIER NO. 13	IN	3658	A.298	B.244						
GLACIER NO. 9	IN	3654	A.299	B.245						
GLAERNISCH	CH0080	418	A.670	B.542						
GLENMARY	NZ	1550	A.486	B.400						F
GLIAIRETTA VAUDET	IT0168	1248	A.350	B.292						
GLJUFURARJOEKULL	IS0103	3080	A.255	B.207						
GOESSNITZ K.	AT1201	532	A.50	B.36						
GOLDBERG K.	AT0802B	1305	A.51	B.37	C.5		CCC.3			
GOLETTA	IT0148	683	A.351	B.293						
GORNER	CH0014	391	A.671	B.543						
GR. GOSAU G.	AT1101	536	A.52	B.38						
GRAAFJELLSBREA	NO	2672	A.568	B.456	C.79		CCC.45			
GRAASUBREEN	NO0547	299	A.569		C.80		CCC.46			
GRAN PILASTRO (G.D.) / GLIEDERF.	IT0893	652	A.352	B.294						
GRAN VAL	IT0115	2374	A.353	B.295						
GRAN VEDRETTA OCC. / HOCHF.	IT0884	2634	A.354	B.296						
GRAN VEDRETTA OR. / GRIESSF.	IT0883	2633	A.355	B.297						
GRAN ZEBRU	IT0502	1164	A.356	B.298						
GRAND CROUX CENTR.	IT0111	1273	A.357	B.299						
GRAND DESERT	CH0031	373	A.672	B.544						
GRAND ETRET	IT0134	1238	A.358	B.300	C.63		CCC.33	CCCC.13		
GRAND PLAN NEVE	CH0045	455	A.673	B.545						
GRANDE D. NEVADO D. PLOMO	AR	3304	A.11							F
GREGORIEV	SU	3779	A.177	B.145						
GREWINGK	US	3791	A.762	B.625						
GRIES	CH0003	359	A.674	B.546	C.104	CC.2	CCC.68		D.41	
GRIESS(KLAUSEN)	CH0074	425	A.675	B.547						
GRIESSEN(OBWA.)	CH0076	423	A.676	B.548						
GROSSELEND K.	AT1001	542	A.53	B.39						
GROSSER ALETSCH	CH0005	360	A.677	B.549						F
GRUENAU F.	AT0315	599	A.54	B.40						
GRUETTA ORIENT.	IT0232	2418	A.359	B.301						
GULKANA	US0200	90	A.763		C.114			CCCC.27		
GUNN	NZ	1560	A.487	B.401						F
GURGLER F.	AT0222	511	A.55	B.41						
GUSLAR F.	AT0210	490	A.56	B.42						
GUSSFELDT	AR	2848	A.12	B.6						
GUYOT NORTH BRANCH	US	3552	A.764						D.45	
GUYOT SOUTH BRANCH	US	3553	A.765						D.46	
HAGAFELLSJOEKULL E	IS0306	3081	A.256	B.208						
HAILUOGOU	CN0031	849	A.164	B.133						
HALLSTAETTER G.	AT1102	535	A.57	B.43						
HAMAGURI YUKI	JP0001	897	A.427		C.70	CC.1				F
HAMTAH	IN	3044	A.300	B.246	C.54					
HANSBREEN	NO12419	306	A.570	B.457	C.81		CCC.47			
HANSEBREEN	NO36206	322	A.571		C.82		CCC.48			
HEINABERGSJOEKULL	IS1829A	3135	A.257	B.209						
HELLSTUGUBREEN	NO0511	300	A.572	B.458	C.83		CCC.49			
HELM	CA0855	45	A.147		C.18					
HIDDEN	US	3554	A.766						D.47	
HINTEREIS FERNER	AT0209	491	A.58	B.44	C.6		CCC.4		D.1	
HOCHALM K.	AT1005	538	A.59	B.45						
HOCHJOCH F.	AT0208	492	A.60	B.46						
HOELLENTAL	DE0003	348	A.214						D.13	
HOFSJOEKULL E	IS0510B	3088	A.258		C.47					
HOFSJOEKULL N	IS0510A	3089	A.259		C.48					
HOFSJOEKULL SW	IS0510C	3090	A.260		C.49					
HOHLAUB	CH	3332	A.678	B.550						

GLACIER NAME	PSFG NR	WGMS ID	DATA TABLE AND RECORD NUMBER							
HORACE WALKER	NZ	1600	A.488	B.402						
HORCONES INFERIOR	AR5006	919	A.13	B.7						
HORN K.(SCHOB.)	AT1202	531	A.61	B.47						
HORN K.(ZILLER)	AT0402	589	A.62	B.48						
HUALCAN	PE	3615	A.605							F
HUASCARAN NORTE	PE	3692	A.606							F
HUASCARAN SOUTH EAST	PE	3702	A.607							F
HUBBARD	US1290	87	A.767						D.48	F
HUEFI	CH0073	426	A.679	B.551						
HUMO	AR	3712	A.14	B.8						
HURD	AQ	3367	A.2			C.2				
HYRNINGSJOEKULL	IS0100	3092	A.261	B.210						
ICE WORM	US2054	82	A.768	B.626		C.115				
INCACHIRIASCA	PE	3613	A.608	B.486						
INDREN OCC.	IT0306	1209	A.360	B.302						
INN.PIRCHLKAR	AT0228	505	A.63	B.49						
IRENE	NZ	2974	A.489							F
IRENEBREEN	NO15402	2669	A.573	B.459		C.84				
IRIK	SU3029	759	A.178	B.146						
IRIKCHAT	SU3028	758	A.179	B.147						
ISFALLSGLAC.	SE0787	333	A.619	B.495						
IVORY	NZ	900	A.490	B.403						
JACK	NZ	1553	A.491							F
JACKSON	NZ	1552	A.492							F
JALF	NZ	1549	A.493							F
JAMTAL F.	AT0106	480	A.64	B.50		C.7	CCC.5		D.2	
JANKHU UYU	BO	3721	A.142		BB.15					
JASPUR	NZ	2979	A.494							F
JOEKULKROKUR	IS0007	3094	A.262	B.211						
JOHNSONS	AQ	3366	A.3			C.3				
JUMEAUX	IT0280	2441	A.361	B.303						
JUVFONNE	NO	3661	A.574			C.85	CCC.50			
KAELBERSPITZ K.	AT1003	540	A.65	B.51						
KAHUTEA	NZ	1569	A.495	B.404						
KAIKOURAS	NZ	2980	A.496							F
KALDALONSJOEKULL	IS0102	3095	A.263	B.212						
KALSER BAERENKOPF K.	AT	2676	A.66	B.52						
KALTWASSER	CH0007	363	A.680	B.552						
KANGIUSAQ	GL	3736	A.221	B.179						
KANGWURE	CN	3694	A.165	B.134					D.10	
KARACHAUL	SU3022	835	A.180	B.148						
KARLINGER K.	AT0701	568	A.67	B.53						
KARSOJIETNA	SE0798	330	A.620	B.496						
KASKAWULSH	CA	3669	A.148						D.8	
KEA	NZ	1545	A.497							F
KEHLEN	CH0068	431	A.681	B.553						
KESSELWAND FERNER	AT0226	507	A.68	B.54		C.8	CCC.6		D.3	
KESSJEN	CH0012	393	A.682	B.554						
KHUMBU	NP	3458	A.435						D.30	
KIRKJUJOEKULL	IS	3129	A.264	B.213						
KJENNDALSBREEN	NO37223	2294	A.575	B.460						
KLEINEISER K.	AT0717	555	A.69	B.55						
KLEINELEND K.	AT1002	541	A.70	B.56						
KLEINFLEISS K.	AT0801	547	A.71	B.57		C.9	CCC.7			
KLOSTERTALER M	AT0102B	485	A.72	B.58						
KLOSTERTALER N	AT0102A	486	A.73	B.59						
KLUTLAN	US	3557	A.769						D.49	
KOELDUKVISLARJ.	IS2700	3096	A.265			C.50				
KOETLUJOEKULL	IS	3132	A.266	B.214						
KOLPAKOVSKY	SU	3780	A.181	B.149						
KONGSVEGEN	NO15510	1456	A.576			C.86	CCC.51	CCCC.20		

GLACIER NAME	PSFG NR	WGMS ID	DATA TABLE AND RECORD NUMBER							
KOPPANGSBREEN	NO	2309	A.577	B.461						
KRIMMLER K.	AT0501A	584	A.74	B.60						
KRIMMLER K. EAST	AT0501B	1309	A.75	B.61						
KVERKJOEKULL	IS2500	3097	A.267	B.215						
KVISLAJOEKULL	IS	3131	A.268	B.216						
KYUKYURTLYU	SU3033	763	A.182	B.150						
LA CONEJERA	CO0033	2721	A.199	B.167		C.34	CCC.22	CCCC.7	D.12	
LA MARE (VEDRETTA DE)	IT0699	636	A.362	B.304						
LA PEROUSE	NZ	1605	A.498	B.405						
LAEMMERN	CH0063	437	A.683	B.555						
LAENGENTALER F.	AT0305	499	A.76	B.62						
LAGO DEL DESIERTO I	AR	3713	A.15		BB.4					
LAGO DEL DESIERTO II	AR	3714	A.16		BB.5					
LAGO DEL DESIERTO III	AR	3715	A.17		BB.6					
LAMBERT	NZ	1612	A.499	B.406						
LANA (V. D.)/AEUSSER. LAHNER K.	IT0913	650	A.363	B.305						
LANDECK K.	AT0604	569	A.77	B.63						
LANG	CH0018	386	A.684	B.556						
LANGDALE	NZ	2985	A.500							F
LANGFJORDJOEKULEN	NO85008	323	A.578	B.462		C.87	CCC.52			
LANGJOEKULL SOUTHERN DOME	IS	3101	A.269			C.51				
LANGTALER F.	AT0223	510	A.78	B.64						
LARES	IT0634	1149	A.364	B.306						
LARKINS	NZ	2986	A.501							F
LAUSON	IT0116	1275	A.365	B.307						
LAVACCIU	IT0129	1285	A.366	B.308						
LAVASSEY	IT0144	1242	A.367	B.309						
LAVAZ	CH0082	416	A.685	B.557						
LEIRBREEN	NO0548	301	A.579	B.463						
LEIRUFJARDARJOEKULL	IS0200	3102	A.270	B.217						
LEMON CREEK	US	3334	A.770			C.116	CCC.72			
LENGUA	CL1019	2034	A.158	B.127						
LENTA	CH0084	414	A.686	B.558						
LEVIY AKTRU	SU7102	794	A.183	B.151		C.30				
LEWIS	KE0008	695	A.428	B.369					D.23	
LHOTSE	NP	3463	A.436						D.31	
LHOTSE NUP	NP	3464	A.437						D.32	
LHOTSE SHAR / IMJA	NP	3465	A.438	B.370					D.33	
LIMMERN	CH0078	421	A.687	B.559						
LINDSAY	NZ	1556	A.502							F
LISCHANA	CH0098	400	A.688	B.560						
LITZNERGL.	AT0101	607	A.79	B.65						
LLAWRENNY	NZ	1561	A.503							F
LOBBIA	IT0637	1150	A.368	B.310						
LOCCE SETT.	IT0321	2462	A.369	B.311						
LODALSBREEN	NO31019	2301	A.580		BB.30					
LODMUNDARJOEKULL	IS0108	3103	A.271	B.218						
LOGAN	US	3558	A.771						D.50	
LOS RITACUBAS	CO	2763	A.200			C.35				
LOWER CURTIS	US2055	77	A.772	B.627		C.117				
LUNGA (VEDRETTA) / LANGENF.	IT0733	661	A.370	B.312		C.64	CCC.34	CCCC.14		
LUPO	IT0543	1138	A.371	B.313		C.65			D.21	
LYELL	NZ	1567	A.504	B.407						
LYMAN	US	3340	A.773	B.628						
LYNCH	US2056	81	A.774	B.629		C.118				
LYNGMARKSBRAE	GL	3737	A.222		BB.22					
LYS	IT0304	620	A.372	B.314						
MACAULAY	NZ	2280	A.505	B.408						
MALADETA	ES9020	942	A.618	B.494		C.96	CCC.61		D.38	
MALASPINA	US	3347	A.775						D.51	F
MALAVALLE (V. DI) / UEBELTALF.	IT0875	672	A.373	B.315		C.66	CCC.35	CCCC.15		

GLACIER NAME	PSFG NR	WGMS ID	DATA TABLE AND RECORD NUMBER						
MALIY AKTRU	SU7100	795	A.184	B.152		C.31	CCC.20		
MALIY AZAU	SU3032	762	A.185	B.153					
MANDRONE	IT0639	664	A.374	B.316					
MARION	NZ	1591	A.506	B.409					
MARMADUKE DIXON	NZ	1541	A.507	B.410					F
MARMAGLACIAEREN	SE0799	1461	A.621			C.97	CCC.62		
MARMOLADA CENTR.	IT0941	676	A.375	B.317					
MAROVIN	IT0541	2547	A.376	B.318					
MARTELOT	IT0049	1301	A.377	B.319					
MARTIAL ESTE	AR	2000	A.18			C.4	CCC.2	CCCC.1	
MARZELL F.	AT0218	515	A.80	B.66					
MATARA	PE	3616	A.609						F
MATHAIAS	NZ	2997	A.508	B.411					
MAURER K.(GLO.)	AT0714	558	A.81	B.67					
MAURER K.(VEN.)	AT0510	576	A.82	B.68					
MC COY	NZ	1572	A.509	B.412					
MCCARTY	US	3396	A.776	B.630					
McKENZIE	NZ	3000	A.510						F
MEIGHEN ICE CAP	CA1335	16	A.149			C.19			
MER DE GLACE	FR0003	353	A.208	B.173	BB.21				F
MERRIE	NZ	3001	A.511						F
METALILLE	NZ	2998	A.512	B.413					
MIDTDALSBREEN	NO4302	2295	A.581	B.464					
MIDTRE LOVENBREEN	NO15506	291	A.582			C.88	CCC.53	CCCC.21	
MIKELCHIRAN	SU3025	755	A.186	B.154					
MIKKAJEKNA	SE0766	338	A.622	B.497					
MILAM	IN0037	3642	A.301	B.247					
MITTERKAR F.	AT0214	487	A.83	B.69					
MITTIVAKKAT	GL0019	1629	A.223	B.180		C.43	CCC.25		
MOIRY	CH0024	380	A.689	B.561					
MOMING	CH0023	381	A.690	B.562					
MONCIAIR	IT0132	1237	A.378	B.320					
MONCORVE	IT0131	1236	A.379	B.321					
MONEY	IT0110	1272	A.380	B.322					
MONT DURAND	CH0035	369	A.691	B.563					
MONT FORT	CH0032	372	A.692	B.564					
MONT MINE	CH0026	378	A.693	B.565					
MONTANDEYNE	IT0128	1284	A.381	B.323					
MORION OR.	IT0180	1250	A.382	B.324					
MORSARJOEKULL	IS0318	3104	A.272	B.219					
MORTERATSCH	CH0094	1673	A.694	B.566					
MOTZFELDT E	GL	3738	A.224	B.181					
MOTZFELDT W	GL	3739	A.225	B.182					
MUELLER	NZ	1575	A.513	B.414					
MULAJOEKULL S	IS0311A	3105	A.273	B.220					F
MULINET MERID.	IT0047	2351	A.383	B.325					
MULINET SETT.	IT0048	1300	A.384	B.326					
MULKILA	IN0070	3630	A.302	B.248					
MURCHISON	NZ	1578	A.514	B.415					
MUTMAL F.	AT0227	506	A.84	B.70					
MUTT	CH0002	472	A.695	B.567					
NAPASORSUAQ	GL	3740	A.226	B.183					
NARDIS OCC.	IT0640	639	A.385	B.327					
NARSSAQ BRAE	GL0005	233	A.227	B.184					
NARVAEZ GRANDE	AR	3799	A.19		BB.7				
NAUTHAGAJOEKULL	IS0210	3107	A.274	B.221					
NEL CENTRALE	IT0057	1303	A.386	B.328					
NEVES OR. (GH. D.) / NOEFESF. O.	IT0902	651	A.387	B.329					
NIEDERJOCH F.	AT0217	516	A.85	B.71					
NIGARDSBREEN	NO31014	290	A.583	B.465	BB.31	C.89	CCC.54	CCCC.22	
NISCLI	IT0633	677	A.388	B.330					

GLACIER NAME	PSFG NR	WGMS ID	DATA TABLE AND RECORD NUMBER							
NISQUALLY	US2027	201	A.777			C.119		CCCC.28		
NO. 125 (VODOPADNIY)	SU7105	780	A.187	B.155		C.32				
NO.211	SU	3766	A.188	B.156						
NO.324	SU	3767	A.189	B.157						
NO.392	SU	3768	A.190	B.158						
NO.393	SU	3769	A.191	B.159						
NO.394	SU	3770	A.192	B.160						
NOISY CREEK	US2078	1666	A.778			C.120		CCCC.29		
NOROESTE	CL	3724	A.159	B.128						
NORTH KLAWATTI	US2076	1664	A.779			C.121		CCCC.30		
NORTHWESTERN	US	3793	A.780	B.631						
NOVATAK	US	3556	A.781						D.52	
NUKA	US	3794	A.782	B.632						
NUPTSE	NP	3466	A.439						D.34	
OB.GRINDELWALD	CH0057	444	A.696		BB.32					
OBERALETSCH	CH0006	361	A.697	B.568						
OBERSULZBACH K.	AT0502	583	A.86	B.72						
OCHSENTALERGL.	AT0103	483	A.87	B.73						
OEDENWINKEL K.	AT0712	559	A.88	B.74						
OELDUFELLSJOEKULL	IS0114	3108	A.275	B.222						
OESTE M	CL	3725	A.160	B.129						
OESTE N	CL	3726	A.161	B.130						
OESTE S L	CL	3727	A.162	B.131						
OESTE S R	CL	3728	A.163	B.132						
OKPILAK	US	3795	A.783	B.633						
OSSOUE	FR	2867	A.209	B.174		C.39				
OTEMMA	CH0034	370	A.698	B.569						
PALON D. MARE LOBO CENTR.	IT0506B	2533	A.389	B.331						
PALON DELLA MARE LOBO OR.	IT0506C	2534	A.390	B.332						
PALUE	CH0100	398	A.699	B.570						
PANCHI NALA I	IN0046	3633	A.303	B.249						
PANCHI NALA II	IN0048	3634	A.304	B.250						
PANEYROSSE	CH0044	456	A.700	B.571						
PARADIES	CH0086	412	A.701	B.572						
PARADISINO	CH0101	397	A.702	B.573						
PARK PASS	NZ	1559	A.515	B.416						F
PARKACHICK	IN	3647	A.305	B.251						
PARTEJEKNA	SE0763	327	A.623	B.498						
PASSUSJIETNA E.	SE0797	331	A.624	B.499						
PASTERZE	AT0704	566	A.89	B.75		C.10	CCC.8			
PASTORURI	PE0008	224	A.610	B.487						
PEIRABROC	IT0002	1287	A.391	B.333						
PENDENTE (VED.) / HANGENDERF.	IT0876	675	A.392	B.334		C.67	CCC.36	CCCC.16		
PENON	AR	2850	A.20	B.9						
PETERMANN	GL	3667	A.228							F
PEYTO	CA1640	57	A.150			C.20				
PFAFFEN F.	AT0324	591	A.90	B.76						
PIEDRAS BLANCAS	AR	3716	A.21		BB.8					
PIODE	IT0312	619	A.393	B.335						
PISGANA OCC.	IT0577	666	A.394	B.336						
PIZOL	CH0081	417	A.703	B.574		C.105	CCC.69	CCCC.24		
PIZZO FERRE	IT0365	1181	A.395	B.337						
PIZZO SCALINO	IT0443	1187	A.396	B.338						
PLACE	CA1660	41	A.151			C.21				
PLATTALVA	CH0114	420	A.704	B.575						
POD BULA	PL0111	1617	A.614	B.491						F
POD CUBRYNA	PL0180	902	A.615	B.492						F
POPOV	SU	3782	A.193	B.161						
PORCHABELLA	CH0088	410	A.705	B.576						
PRAEGRAT K.	AT0603	570	A.91	B.77						
PRAPIO	CH0048	453	A.706	B.577						

GLACIER NAME	PSFG NR	WGMS ID	DATA TABLE AND RECORD NUMBER								
PRE DE BAR	IT0235	681	A.397	B.339	BB.24						
PREDAROSSA	IT0408	1182	A.398	B.340							
PUNTEGLIAS	CH0083	415	A.707	B.578							
QINGUA KUJALLEQ	GL	3743	A.229	B.185							
QUAIRA BIANCA (V. D.) / WEISSK..	IT0889	686	A.399	B.341							
RABOTS GLACIAER	SE0785	334	A.625	B.500		C.98		CCC.63			
RAETZLI (PLAINE MORTE)	CH0065	434	A.708			C.106					
RAIKOT	PK	3665	A.600	B.482							
RAINBOW	US2003	79	A.784	B.634		C.122					
RED	US	3335	A.785								F
REISCHEK	NZ	1566	A.516	B.417							
REMBESDALSKAAKA	NO22303	2296	A.584	B.466		C.90		CCC.55			
RETREAT	NZ	1542	A.517								F
RETTENBACH F.	AT0212	488	A.92	B.78							
REYKJAFJARDARJOEKULL	IS0300	3109	A.276	B.223							
RHONE	CH0001	473	A.709	B.579	BB.33						
RICHARDSON	NZ	1574	A.518	B.418							
RIDGE	NZ	1547	A.519								F
RIED	CH0017	387	A.710	B.580							
RIES OCC. (V. DI) / RIESERF. WESTL.	IT0930	645	A.400	B.342		C.68		CCC.37	CCCC.17		
RIES OR. CENTR. / RIESERF. O. ZEN.	IT0929	646	A.401	B.343							
RIKHA SAMBA	NP0012	1516	A.440							D.35	
RIUKOJIETNA	SE0790	342	A.626	B.501		C.99		CCC.64			
RJUPNABREKKUJOEKULL	IS	3136	A.277	B.224							
ROCHEMELON, GLACIER DE	FR	3802	A.210								F
ROFENKAR F.	AT0215	518	A.93	B.79							
ROLLESTON	NZ	1538	A.520	B.419							F
ROLWALING (TRAKARDING)	NP	3672	A.441	B.371							
ROOSEVELT	US2012	1349	A.786	B.635							
ROSEG	CH0092	406	A.711	B.581							
ROSENLAUI	CH0056	445	A.712		BB.34						
ROSIM (VEDR. DI) / ROSIMF.	IT0754	610	A.402	B.344							
ROSSO DESTRO	IT0920	648	A.403	B.345							
ROTER KNOPF K.	AT	3297	A.94	B.80							
ROTFIRN NORD	CH0069	430	A.713	B.582							
ROTMOOS F.	AT0224	509	A.95	B.81							
RUOPSOKJEKNA	SE0764	340	A.627	B.502							
RUOTESJEKNA	SE0767	337	A.628	B.503							
RUTOR	IT0189	612	A.404	B.346							
SAARLOQ	GL	3744	A.230	B.186							
SAINT SORLIN	FR0015	356	A.211	B.175		C.40					
SALAJEKNA	SE0759	341	A.629	B.504							
SALEINA	CH0042	458	A.714	B.583							
SALINILLAS	AR	3594	A.22	B.10							
SAN JOSE	AR	3593	A.23	B.11							
SAN LORENZO SUR	AR	3798	A.24		BB.9						
SANDALEE	US2079	1667	A.787			C.123			CCCC.31		
SANKT ANNA	CH0067	432	A.715	B.584							
SAQQAQ	GL	3745	A.231	B.187							
SARDONA	CH0091	407	A.716	B.585							
SARENNES	FR0029	357	A.212			C.41					
SATUJOEKULL	IS0530	3110	A.278	B.225							
SCALETTA	CH0115	1680	A.717	B.586							
SCERSCEN INFERIORE	IT0432	1186	A.405	B.347							
SCHALF F.	AT0219	514	A.96	B.82							
SCHAUFEL F.	AT0311	602	A.97	B.83							
SCHLADMINGER G.	AT1103	534	A.98	B.84							
SCHLATEN K.	AT0506	580	A.99	B.85							
SCHLEGEIS K.	AT0405	586	A.100	B.86							
SCHMIEDINGER K.	AT0726	548	A.101	B.87							
SCHNEEFERNER N	DE0001	346	A.215							D.14	

GLACIER NAME	PSFG NR	WGMS ID	DATA TABLE AND RECORD NUMBER								
SCHNEEFERNER S	DE0002	347	A.216							D.15	
SCHNEEGLOCKEN	AT0109	525	A.102	B.88							
SCHNEELOCH G.	AT1104	533	A.103	B.89							
SCHWARZBERG	CH0010	395	A.718	B.587							
SCHWARZENBERG F.	AT0303	501	A.104	B.90							
SCHWARZENSTEIN	AT0403	588	A.105	B.91							
SCHWARZKARL K.	AT0716	556	A.106	B.92							
SCHWARZKOEPFL K.	AT0710	560	A.107	B.93							
SE KASKASATJ GL	SE0789	329	A.630	B.505							
SEA	IT0046	1299	A.406	B.348							
SEEWJINEN	CH	3333	A.719	B.588							
SEPARATION	NZ	2279	A.521	B.420							
SERMIARSUIT	GL	3746	A.232	B.188							
SERMIKASSAK	GL	3747	A.233	B.189							
SERMINNGUAQ	GL	3748	A.234	B.190							
SERMITSIAQ	GL	3749	A.235	B.191							
SESVENNA	CH0097	401	A.720	B.589							
SEX ROUGE	CH0047	454	A.721	B.590							
SEXEGERTEN F.	AT0204	520	A.108	B.94							
SFORZELLINA	IT0516	667	A.407	B.349							
SHALLAP	PE0003	3293	A.611	B.488							
SHOLES	US	3295	A.788	B.636		C.124					
SIDUJOEKULL E M 177	IS0015B	3112	A.279	B.226							
SIEGE	NZ	1616	A.522	B.421							F
SILVER	US2077	1665	A.789			C.125			CCCC.32		
SILVRETTA	CH0090	408	A.722	B.591		C.107	CC.3	CCC.70		D.42	F
SIMILAUN F.	AT	3296	A.109	B.95							
SIMMING F.	AT0318	596	A.110	B.96							
SIMONY K.	AT0511	575	A.111	B.97							
SISSARISSUT	GL	3750	A.236	B.192							
SISSONE	IT0422	2506	A.408	B.350							
SKAFTAFELLSJOEKULL	IS0419	3113	A.280	B.227							
SKALAFELLSJOEKULL	IS1728A	3115	A.281	B.228							
SKEIDARARJOEKULL E1	IS0117A	3116	A.282	B.229							
SKEIDARARJOEKULL E2	IS0117B	3117	A.283	B.230							
SKEIDARARJOEKULL E3	IS0117C	3118	A.284	B.231							
SKEIDARARJOEKULL M	IS	3134	A.285	B.232							
SKEIDARARJOEKULL W	IS0116	3119	A.286	B.233							
SLADDEN	NZ	3611	A.523	B.422							
SLETTJOEKULL	IS	3133	A.287	B.234							
SNOW WHITE	NZ	1588	A.524	B.423							
SNOWBALL	NZ	1589	A.525	B.424							
SNOWY	NZ	3018	A.526								F
SOCHES TSANTELEINA	IT0147	1244	A.409	B.351							
SOLDA (VEDRETTA DI) / SULDENF.	IT0762	660	A.410	B.352							
SOLHEIMAJOEKULL W	IS0113A	3122	A.288	B.235	BB.23						
SOQQAAP	GL	3751	A.237	B.193							
SOUTH CAMERON	NZ	3019	A.527	B.425							
SOUTH CASCADE	US2013	205	A.790	B.637		C.126			CCCC.33		
SOUTH MELVILLE ICE CAP	CA	3690	A.152			C.22					
SPENCER	NZ	1607	A.528	B.426							
SPIEGEL F.	AT0221	512	A.112	B.98							
SQUAK	US2007	1366	A.791	B.638							
ST. JAMES	NZ	2274	A.529	B.427							
ST.MARY	NZ	3022	A.530								F
STEELE	CA	3331	A.153								F
STEGHOLTBREEN	NO31021	313	A.585	B.467							
STEIN	CH0053	448	A.723	B.592							
STEINDALSBREEN	NO	2310	A.586	B.468							
STEINLIMMI	CH0054	447	A.724	B.593							
STELLER	US	3559	A.792							D.53	

GLACIER NAME	PSFG NR	WGMS ID	DATA TABLE AND RECORD NUMBER								
STOCKING (TEWAEWAE)	NZ	3023	A.531	B.428							
STORBREEN	NO0541	302	A.587	B.469		C.91		CCC.56			
STORE SUPPHELLEBREEN	NO33014	287	A.588	B.470							
STORGLACIAEREN	SE0788	332	A.631	B.506		C.100		CCC.65			
STORJUVBREEN	NO	2308	A.589	B.471							
STORSTEINSFJELLBREEN	NO7381	1329	A.590	B.472							
STRAUCHON	NZ	1599	A.532	B.429							
STUART	NZ	1555	A.533								F
STUBACHER SONNBLICK KEES	AT0601A	573	A.113	B.99		C.11					
STYGGEDALSBREEN	NO30720	303	A.591	B.473							
SULZ	CH0079	419	A.725	B.594							
SULZENAU F.	AT0314A	600	A.114	B.100							
SULZTAL F.	AT0301	503	A.115	B.101							
SUOTTASJEKNA	SE0768	336	A.632	B.507							
SURETTA	CH0087	411	A.726	B.595							
SURETTA MERID.	IT0371	2488	A.411	B.353		C.69				D.22	
SVELGJABREEN	NO	3343	A.592	B.474		C.92		CCC.57			
SVINAFELLSJOEKULL	IS0520A	3124	A.289	B.236							
SYDBREEN	NO	3351	A.593	B.475							
TAKU	US1805	124	A.793	B.639		C.127	CC.4				F
TANA	US	3560	A.794							D.54	
TARFALAGLACIAEREN	SE0791	326	A.633			C.101		CCC.66			
TASCHACH F.	AT0205	519	A.116	B.102							
TASMAN	NZ	1074	A.534	B.430							F
TAVLEBREEN	NO	3764	A.594	B.476							
TEBENKOF	US0414A	175	A.795	B.640							
TERSKOL	SU3030	760	A.194	B.162							
TETE ROUSSE	FR	3301	A.213								F
THULAGI	NP0013	1535	A.442	B.372							
THURNEYSON	NZ	1554	A.535	B.431							F
TIATSCHA	CH0096	402	A.727	B.596							
TIEFEN	CH0066	433	A.728	B.597							
TINGAL GOH	IN0088	3632	A.306	B.252							
TORRE	AR	3717	A.25		BB.10						
TORRENT	IT0155	2384	A.412	B.354							
TOTENFELD	AT0110	524	A.117	B.103							
TOTENKOPF K.	AT	2680	A.118	B.104							
TOULES	IT0221	614	A.413	B.355							
TRAVIGNOLO	IT0947	1514	A.414	B.356							
TRIBOLAZIONE	IT0112	1274	A.415	B.357							
TRIEBENKARLAS F.	AT0323	592	A.119	B.105							
TRIENT	CH0043	457	A.729	B.598							
TRIFT (GADMEN)	CH0055	446	A.730	B.599							
TRIGLAVSKI LEDENIK	SI	3662	A.616							D.37	F
TROLLKYRKJEBREEN	NO	3606	A.595	B.477							
TS.TUYUKSUYSKIY	SU5075	817	A.195	B.163		C.33		CCC.21		D.11	
TSANFLEURON	CH0033	371	A.731	B.600		C.108		CCC.71	CCCC.25		
TSCHIERVA	CH0093	405	A.732	B.601							
TSCHINGEL	CH0060	441	A.733	B.602							
TSEUDET	CH0040	364	A.734	B.603							
TSIDJIORE NOUVE	CH0028	376	A.735	B.604							
TUFTEBREEN	NO	3352	A.596	B.478							
TUNGNAARJOEKULL	IS2214	3126	A.290	B.237		C.52					
TUNORSUAQ	GL	3752	A.238	B.194							
TUPUNGATO 01	AR	2852	A.26	B.12							
TUPUNGATO 02	AR	2853	A.27	B.13							
TUPUNGATO 03	AR	2854	A.28	B.14							
TUPUNGATO 04	AR	2855	A.29	B.15							
TWEEDSMUIR	CA	3561	A.154							D.9	
TZA DE TZAN	IT0259	623	A.416	B.358							
ULLUCHIRAN	SU3021	836	A.196	B.164							

GLACIER NAME	PSFG NR	WGMS ID	DATA TABLE AND RECORD NUMBER							
ULLUKOL	SU3023	834	A.197	B.165						
ULLUMALIENDERKU	SU3024	833	A.198	B.166						
UMBAL K.	AT0512	574	A.120	B.106						
UMIARTORFIUP	GL	3753	A.239	B.195						
UNT. RIFFL KEES	AT0713B	605	A.121	B.107						
UNT.GRINDELWALD	CH0058	443	A.736		BB.35					F
UNTERAAR	CH0051	450	A.737		BB.36					
UNTERSULZBACH K.	AT0503	582	A.122	B.108						
URUASHRAJU	PE0005	221	A.612	B.489						
URUMQI GLACIER NO. 1	CN0010	853	A.166	B.135		C.25	CCC.15			
URUMQI GLAC. NO. 1 E-BRANCH	CN0001	1511	A.167	B.136		C.26	CCC.16	CCCC.5		
URUMQI GLAC. NO. 1 W-BRANCH	CN0002	1512	A.168	B.137		C.27	CCC.17	CCCC.6		
VACAS	AR	2849	A.30	B.16						
VAL TORTA	CH0118	466	A.738	B.605						
VAL VIOLA OCC.	IT0477	1156	A.417	B.359						
VALDEZ	US0629	154	A.796	B.641						
VALLE DEL VENTO	IT0919	649	A.418	B.360						
VALLEGGIA	CH0117	467	A.739	B.606						
VALSOREY	CH0039	365	A.740	B.607						
VALTOURNANCHE	IT0289	621	A.419	B.361						
VARTASJEKNA	SE0765	339	A.634	B.508						
VAUDALETTA	IT0142	2379	A.420	B.362						
VENEROCOLO	IT0581	665	A.421	B.363						
VENTINA	IT0416	629	A.422	B.364						
VERBORGENBERG F.	AT0322	593	A.123	B.109						
VERMUNTGL.	AT0104	482	A.124	B.110						
VERNAGT FERNER	AT0211	489	A.125	B.111		C.12	CCC.9		D.4	
VERRA (GRANDE DI)	IT0297	1206	A.423	B.365						
VERSTANKLA	CH0089	409	A.741	B.608						
VERTEBRAE 12	NZ	3032	A.536							F
VERTEBRAE 20	NZ	3033	A.537							F
VICTORIA	NZ	3034	A.538	B.432						
VILTRAGEN K.	AT0505	581	A.126	B.112						
VOLCAN NEVADO DEL HUILA	CO	2689	A.201							F
VORAB	CH0085	413	A.742	B.609						
W.TRIPP K.	AT1004	539	A.127	B.113						
WALDEMARBREEN	NO15403	2307	A.597	B.479		C.93	CCC.58			
WALLENBUR	CH0071	428	A.743	B.610						
WALSH	US	3579	A.797						D.55	
WASSERFALLWINKL	AT0705	565	A.128	B.114						
WAXEGG K.	AT0401	590	A.129	B.115						
WEISSEE F.	AT0201	523	A.130	B.116						
WEST NUNATAK	US	3555	A.798						D.56	
WESTLICHER GRUEBLER F. W	AT	2681	A.131	B.117						
WHATAROA	NZ	2285	A.539	B.433						
WHITBOURNE	NZ	1583	A.540	B.434						
WHITE	NZ	3037	A.541	B.435						
WHITE	CA2340	0	A.155			C.23	CCC.14	CCCC.4		
WHYMPER	NZ	1609	A.542	B.436						
WIELINGER K.	AT0725	549	A.132	B.118						
WILA LLUXITA	BO	3722	A.143		BB.16					
WILDGERLOS	AT0404	587	A.133	B.119						
WILKINSON	NZ	1615	A.543	B.437						
WILSON	NZ	3041	A.544							F
WINKL K.	AT1006	537	A.134	B.120						
WOLVERINE	US0411	94	A.799	B.642		C.128		CCCC.34		
WURTEN K.	AT0804	545	A.135	B.121		C.13	CCC.10			
YAHTSE	US	3581	A.800						D.57	
YAKUTAT	US1303	1381	A.801						D.58	
YALA	NP0004	912	A.443						D.36	
YALIK	US	3797	A.802	B.643						

GLACIER NAME	PSFG NR	WGMS ID	DATA TABLE AND RECORD NUMBER							
YANAMAREY	PE0004	226	A.613	B.490		C.95		CCC.60		
YAWNING	US2050	75	A.803	B.644		C.129				
YOCHE LUNGPA	IN0079	3629	A.307	B.253						
ZAI DI DENTRO / ZAY F. INNERER	IT0749	1515	A.424	B.366						
ZAI DI FUORI / ZAY F. AEUSSERER	IT0751	609	A.425	B.367						
ZAI DI MEZZO / ZAY F. MITTLERER	IT0750	1127	A.426	B.368						
ZETTALUNITZ K.	AT0508	578	A.136	B.122						
ZINAL	CH0022	382	A.744	B.611						
ZONGO	BO5150	1503	A.144	B.125	BB.17	C.16		CCC.13	CCCC.3	D.7
ZORA	NZ	1593	A.545	B.438						

Notes