



## **Global Terrestrial Network for Glaciers: Databases and Web interfaces**

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The Global Terrestrial Network for Glaciers (GTN-G) is an umbrella organization with links to the Global Climate Observing System (GCOS), Global Terrestrial Observing System (GTOS), and UNESCO (all organizations under the United Nations), for the curation of several glacier-related databases. It is composed of the World Glacier Monitoring Service (WGMS), the U.S. National Snow and Ice Data Center (NSIDC), and the Global Land Ice Measurements from Space (GLIMS) initiative. The glacier databases include the World Glacier Inventory (WGI), the GLIMS Glacier Database, the Glacier Photograph Collection at NSIDC, and the Fluctuations of Glaciers (FoG) and Mass Balance databases at WGMS.

We are working toward increased interoperability between these related databases. For example, the Web interface to the GLIMS Glacier Database has also included queryable layers for the WGI and FoG databases since 2008. To improve this further, we have produced a new GTN-G web portal (<http://www.gtn-g.org/>), which includes a glacier metadata browsing application. This web application allows the browsing of the metadata behind the main GTN-G databases, as well as querying the metadata in order to get to the source, no matter which database holds the data in question.

A new glacier inventory, called the Randolph Glacier Inventory 1.0, has recently been compiled. This compilation, which includes glacier outlines that do not have the attributes or IDs or links to other data like the GLIMS data do, was motivated by the tight deadline schedule of the sea level chapter of the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC). Now served from the GLIMS website (<http://glims.org/>), it is designed to serve that narrowly focused research goal in the near term, and in the longer term will be incorporated into the multi-temporal glacier database of GLIMS. For the required merging of large sets of glacier outlines and association of proper IDs that tie together outlines that pertain to the same glacier (perhaps at different points in time), we at NSIDC have written software to examine geospatial relationships between the sets of outlines and assign attributes and linkages accordingly.