

## Historical glacier variations in the western and central Alps – science and art

*Samuel Nussbaumer*

Glaciers affect us with their great visual aesthetic appeal. Glacier variations are a response to changes in past climate, and therefore glaciers are considered prime climate indicators. In order to properly assess today's big ice melt, current glacier changes must be compared with the natural glacier fluctuations within the post-glacial period.

Glacial fluctuations in the Holocene can be reconstructed using various methods of differing precision and covering different periods back into the past: glaciological methods, historical methods, archeological methods, glaciomorphological methods, and glaciopedological methods. The historical methods involve the study of historical material such as written accounts, visual records, maps and relief models of the last 500–800 years. These are only available in any adequate quantity for those glaciers which were accessible, and drew the attention of travellers, scientists and artists through their reputation and scenic attraction.

The two Grindelwald glaciers as well as the glaciers in the Mont Blanc area good examples. The history of these glaciers can be reconstructed back to the 16<sup>th</sup> century thanks to the wealth of available historical documents, and even further back in time using dendrochronological evidence. Today, these glaciers give unequivocal evidence and testimony of the rapid, currently progressing disappearance of glacier landscapes. The glory of ice as it was to admire during the Little Ice Age and partially in the first half of the 20<sup>th</sup> century, is now definitely confined to history.

