

Current glacier area in the Pyrenees: An updated assessment

Ibai Rico (1,2), Eñaut Izagirre (3), Enrique Serrano (4), and Juan Ignacio López-Moreno (2)

(1) Dept. of Geography, Prehistory and Archaeology, University of the Basque Country, Vitoria-Gasteiz, Spain
(ibai.rico@ehu.eus), (2) Dept. of Geoenvironmental Processes and Global Change, Pyrenean Institute of Ecology, CSIC, Jaca-Zaragoza, Spain, (3) Dirección de Programas Antárticos y Subantárticos, Universidad de Magallanes, Punta Arenas, Chile, (4) Dept. of Geography, University of Valladolid, Valladolid, Spain

The glaciers and ice-patches in the southwestern European mountains receive more and more attention due to ongoing global warming. These ice-masses are facing continuous negative mass-balance since several decades, but due to their smaller size, low altitude and their location, these glaciers are being recognized as highly sensitive geo-indicators of climatic variations.

Glacier area studies in the Pyrenees reported over 2000 ha in 1850, 810 ha in the 1980s and 321 ha in 2008. The latest detailed available glacier surface area calculation is nearly 9 years old and thus an updated appraisal of glacier change for the whole Pyrenees is long overdue.

In this work, we carried out an updated estimation of the current glacier area of the Pyrenees, based on remote sensing survey and contrasted with in-situ observations on the most representative glaciers. Our results yield a glacier area of 244,6 ha for 2016.

This implies a reduction of 87.8 % since 1850, and a rapid wastage since 1980s, confirming the accelerated shrinkage during the end of the 20th century and the first decades of the 21st century.