

**Glacier recession from 1955 to 2007 on Sat (Ikiyaka) Mountains, Southeastern Anatolia, Turkey**YESILYURT S.(1), DOGAN U.(2), SENKUL C.(3)

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In the present study, present glaciers of Sat (Ikiyaka) Mountains (3794m) located in Southeast Anatolia, one of the most important recent glacier areas of Turkey, is dealt with within the context of the impacts of climatic changes on glaciers. Alpine type present glaciers of these mountains, which quickly respond to climate changes, provide significant data for Turkey and Middle East that limited number of study is available. In this study, based on aerial photographs taken in 1955, 1968 and 1988 together with Quickbird satellite images taken in 2007, four main stages were examined using remote sensing and GIS technologies. The results of *performed analysis demonstrate that* the paleo-glacier cover of the Last Glacial Age (most likely the Last Glacial Maximum) on the Sat Range was about 80 km<sup>2</sup> in area as compared to the actual glaciers found an area of only 1.5 km<sup>2</sup>. 730 meter recession has been detected in glaciers located around the Satsivrisi peak for the 52 years period from 1955 to 2007. These glaciers have retreated between 2 and 14 meter per year depends on their thickness-mass characteristics and the geomorphologic characteristics of the cirques that they located in. Some of the glaciers have significantly lost their mass in 52 years (for example, Geverok glacier has lost 47% of its mass) due to this retreat rate. According to the temperature records of meteorological stations located near environment of the mountainous area, both long-term average (1961-2003) summer and annual temperatures indicates a warming trend. Also, new moraines around the glaciers clearly show the area that glaciers covered during the last progression phase. According to the retreat speed of these glaciers which created the moraines for the last half century, it is understood that they have been rapidly retreating since the end of the Little Ice Age to the present. Therefore, new moraines are evidences of Little Ice Age glaciation.

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**The Quaternary glacial maximum in the center of the Cantabrian Mountains (northern Iberian Peninsula): Aller-Nalón-Porma catchments**RODRIGUEZ RODRIGUEZ L., JIMÉNEZ-SÁNCHEZ M., DOMÍNGUEZ-CUESTA M.J.Departamento de Geología, Universidad de Oviedo, OVIEDO, SPAIN

The Cantabrian Mountains is a coastal range up to 2648 m altitude that is considered the westward projection of the Pyrenees in north Iberia (~43°N 5°W). Like in Pyrenees, the occurrence of well-preserved glacial landforms and deposits in this mountain range has proved the occurrence of former glaciers during the Quaternary. Previous research here supports a regional glacial maximum prior to ca 38 cal ka BP and an advanced state of deglaciation by the time of the global Last Glacial Maximum (Jiménez-Sánchez et al., in press).

A geomorphologic database has been produced in ArcGIS at 1:25,000 scale details for an area about 220 km<sup>2</sup> that partially covers the Redes Natural Reservation and Picos de Europa Regional Park. A reconstruction of the ice extent and flow pattern of the former glaciers is presented for this area as a previous step to plan further chronological studies. Our reconstruction shows that an icefield covered ca 156 km<sup>2</sup> of the study area (72.3 %) during the maximum extent. The altitude difference between the glacier fronts of both mountain slopes was ca 100 m. The ice tongues that drained the icefield also showed a remarkably asymmetric length between both slopes, being 1 to 6 km-long and up to 19 km-long in the north and south faces respectively. This asymmetric character of the ice tongues can be related to geologic and topo-climatic factors.

Jiménez-Sánchez, M., Rodríguez-Rodríguez, L., García-Ruiz, J.M., Domínguez-Cuesta, M.J., Farias, P., Valero-Garcés, B., Moreno, A., Rico, M., Valcárcel, M., in press. A review of glacial geomorphology and chronology in northern Spain: timing and regional variability during the last glacial cycle. *Geomorphology*, doi: 10.1016/j.geomorph.2012.06.009.

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