



Late Quaternary Glaciers and paleoclimate on the southwest Mediterranean coast of Turkey

Mehmet Akif Sarıkaya and Attila Ciner

Eurasian Earth Sciences, Istanbul Technical University, Turkey (attilaciner@gmail.com)

We report an overview of Quaternary glaciers in Turkey, specifically on the southwest Mediterranean coast. Small-glaciated mountains exist on the western sector of the Taurus Mountain Range such as Akdağ (36.54°N, 29.57°E, 3016 m). Forty-one moraine boulders from three glacial valleys on Akdağ were dated with cosmogenic ^{36}Cl . Valleys on the north side of the mountain were filled with few km long glaciers that terminated at elevations of about 2000 m above sea level (a.s.l). The oldest glaciers reached their maximum positions (2150 m a.s.l) by 35.1 ± 2.5 ka ago (ka = 1000 calendar years). They readvanced during the global LGM and reached their farthest locations (2050 m a.s.l) by around 21.7 ± 1.2 ka ago. Later, glaciers retreated and shortly stabilized during the Late Glacial at around 15.1 ± 0.9 ka ago. Using the glacier modeling and paleoclimate proxies from the Eastern Mediterranean, we estimated that if temperatures during the LGM were 8-11 °C colder than modern, which is suggested by paleotemperature proxies from the region, precipitation on Akdağ was up to two times more than that of today, in line with comparable estimation on southwest Turkey. Same model suggests that the central Turkey requires drier conditions, implying regional heterogeneity on LGM climates in Turkey.