
Hydroclimatic changes in Talesh Mts, NW Iran, during the last 15,000 years, based on a chironomid analysis.

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Abstract

Subfossil chironomid assemblages from Lake Neor, NW Iran (N 38° 12' 32"; E 48° 19' 42"; 2480 m a.s.l.), allowed identifying several hydrological phases during the Lateglacial-Holocene. Chironomid data were compared with geochemical data and pollen data (unpublished). DCA on Chironomid data suggest a gradient in the duration of the low-water levels with taxa indicating permanent lacustrine conditions opposed to those indicating temporary semi-terrestrial to terrestrial conditions. The onset of the Holocene is characterized by longer periods of seasonal drought, suggesting the extension of LGM drier climate conditions and/or high seasonality in precipitation into the early Holocene, a general feature observed elsewhere in the continental Middle East. This could be explained by an intensification of the Indian Ocean Summer Monsoon reducing the late spring precipitation in the region. Alternatively, other authors argue for a strengthening of Siberian High Pressure obstructing the Westerlies precipitation. Around 8500 cal yrs BP, a lower seasonality is contemporaneous with the start of the regional extension of the deciduous forest. As regards the rest of Holocene, alternation of low and high phases in the low-water level gradient is suggested by chironomid assemblage changes. These probable cycle of low/high seasonality in Neor and over the NW Iran and Middle-East would be the result of complex interaction between the three main climatic systems of Middle-East area, Indian Ocean Summer Monsoon (IOSM), Siberian High Pressure and North-Atlantic Westerlies. Hydroclimatic changes in Talesh Mts, NW Iran, during the last 15,000 years, based on a chironomid analysis.

Keywords: Climate change, Seasonality, Irano, Touranian steppe, Lake Neor, Middle, East, Younger Dryas, IOSM, Westerlies, Siberian High Pressure.

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