



The Glacial and Holocene palaeorecord from Lake Ohrid (Albania and Macedonia)

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Lake Ohrid is considered to be of Pliocene origin and is the oldest present-day lake in Europe. A 10.75 m long sediment core was recovered from the southeastern part of the lake, from a water depth of 105 m. The core was investigated using a multi-disciplinary approach, including geophysical, granulometric, biogeochemical, diatom, ostracode, and pollen analyses. Tephrochronology and AMS radiocarbon dating of plant macrofossils reveals that the sediment sequence spans the past c. 39,500 years, apart from a hiatus between c. 14,600 and 9,400 cal. yr BP. The Pleistocene sequence indicates relatively stable and cold conditions, with a steppe vegetation in the catchment, at least partial winter ice-cover of the lake, and oxygenated bottom waters at the coring site. The Holocene sequence indicates that the catchment vegetation had changed to forest dominated by pine and summer-green oak. Several of the proxies suggest an impact of abrupt climate oscillations such as the 8.2 ka or 4.0 ka event. The observed changes, however, cannot clearly be related to a change in temperature or humidity. Human impact started about 5,000 cal. year BP and increased significantly during the past 2,400 years. Water column mixing conditions, inflow from subaquatic springs, and human impact are the most important parameters influencing lake internal processes, notably affecting the composition and characteristics of the sediments.

The results indicate that Lake Ohrid has a high potential for long-term paleoenvironmental reconstruction in the northern Mediterranean region. The core studied correlates broadly with other records from the region, but, as is common to many sequences

in this topographically and climatically complex region, also shows local peculiarities.