



Palynological investigations based on lacustrine sediments from Lake Van, Turkey (new ICDP site)

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Lake Van is the fourth largest terminal lake in the world (volume 607 km³, area 3570 km², maximum depth 460 m), extending for 130 km WSW-ENE on a high plateau in eastern Anatolia, Turkey. The annually-laminated sedimentary record of Lake Van promises to be an excellent palaeoclimate archive because it potentially yields a long and continuous continental sequence that covers several glacial-interglacial cycles. Therefore, Lake Van is a new key site within ICDP (International Continental Scientific Drilling Program) for the investigation of the Quaternary climate evolution in the Near East. An extended pre-site survey at Lake Van was carried out in 2004. Based on the seismic results we cored 10 different locations in water depths up to 420 m. Multidisciplinary scientific work on the new cores including magnetic susceptibility, physical properties, stable isotopes, XRF scans, pollen and spores, has been done since March 2005. The newly obtained results prove the prediction that a long, continuous sediment record exists in Lake Van - the scientific premise to continue the quest for the new ICDP initiative PALEOVAN. A piston core was recovered at Ahlat Ridge (VAN04-2, water depth 375 m) at the position of a proposed ICDP drill site. This core reaches back to the Last Glacial Maximum (LGM), deeper in time than all the other Lake Van cores obtained to date. Magnetic susceptibility peaks of the core could be correlated with prominent volcanic ash layers. Palynological data indicate that profile VAN04-2 encompasses a continuous sequence from the LGM (more than 20 kyr ago) to the present time. The transition between Weichselian Pleniglacial and Late Glacial

Interstadial at about 14.5 kyr cal. BP is well documented both in the pollen diagram as well as in the oxygen isotope record and in the XRF scan data of Ti, Fe and Cl. In addition, the Younger Dryas is clearly identified prior the onset of the Holocene. The newly acquired seismic and core results show thus good evidence for a continuous sediment record in this part of Lake Van free of major gaps and hiatuses.