



Lake Van Drilling Project ‘PaleoVan’ to be drilled in summer 2010

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Lake Van is the fourth largest terminal lake in the world (volume 607 km³, area 3,570 km², maximum depth 460 m), extending for 130 km WSW-ENE on the Eastern Anatolian High Plateau, 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 (ca. 500 kyr). Therefore, Lake Van is a key site within the International Continental Scientific Drilling Program (ICDP) for the investigation of the Quaternary climate evolution in the Near East. Based on the high-resolution seismic data and multidisciplinary scientific work, it is planned to drill a series of sites in Lake Van in the frame of ICDP in summer 2010. The geochronological precision on a decadal or even annual scale will allow comparisons not only with astronomical cyclicity but also signals below the frequency of Milankovitch cycles, such as North Atlantic Oscillation, which may have also affected the past climate system of the eastern Mediterranean region. As a closed and saline lake, Lake Van reacts very sensitively to lake level changes caused by any alterations in the hydrological regime in response to climate change. Tephra layers, documented in short cores and also expected in the deep drill cores of Lake Van sediments, allow reconstructing larger volcanic events and environmental impacts. The short cores from Lake Van show also strong evidence of earthquake-triggered microfaults, interpreted as seismites. Similar features are expected to be found in the deeper sections. The unique setting of Lake Van, which records simultaneously the volcanic as well as the earthquake history, will also allow establishing possible coincidence between larger earthquakes and volcanic events. Preparation of the drilling campaign is almost finished and drilling is scheduled to start in July 2010.