

Paleo-environment of Lake Van, Turkey. Prospects of a new ICDP drilling site in 2010

M. STURM¹* & "PALEOVAN" TEAM

¹ EAWAG, CH-8600 Dübendorf, Switzerland (*correspondence: sturm@eawag.ch)

Sediments of the world's largest terminal Lake Van (*Van Gölü*), are one of the most promising continental environmental and climate paleo-archives. The lake with a volume of 607 km³, a surface area of 3570 km² and a maximum depth of 460 m is situated in Eastern Anatolya, Turkey. Former studies showed that the sedimentary record of the lake is partly build-up by annual layers (*varves*). Sediments potentially cover several glacial/interglacial cycles during approx. the last 500 kyears.

The ICDP research project PALEO-VAN, which is intended to start drilling in summer 2010 is focused on the following topics:

- (i) palaeoclimate development in a sensitive semiarid region based on proxy data and modeling
- (ii) dynamics of lake level fluctuations and hydrogeological development of the lake
- (iii) formation and age of Lake Van
- (iv) history of volcanism and volcanic activity based on tephrostratigraphy
- (v) variations of the earthmagnetic field
- (vi) tectonic, palaeoseismic and earthquake activity
- (vii) interaction between man and environment since prehistoric time

Five primary sites in different parts of the lake and in water depths between 95 m to 375 m will be drilled to obtain sediment cores of up to 300 m length.

[1] Litt, T., S. Krastel, M. Sturm, R Kipfer, S. Orcen, G. Heumann, S.O. Franz, U.B.Ulgen, F. Niessen (2009) *Quaternary Science Reviews* **28**, 1555–1567

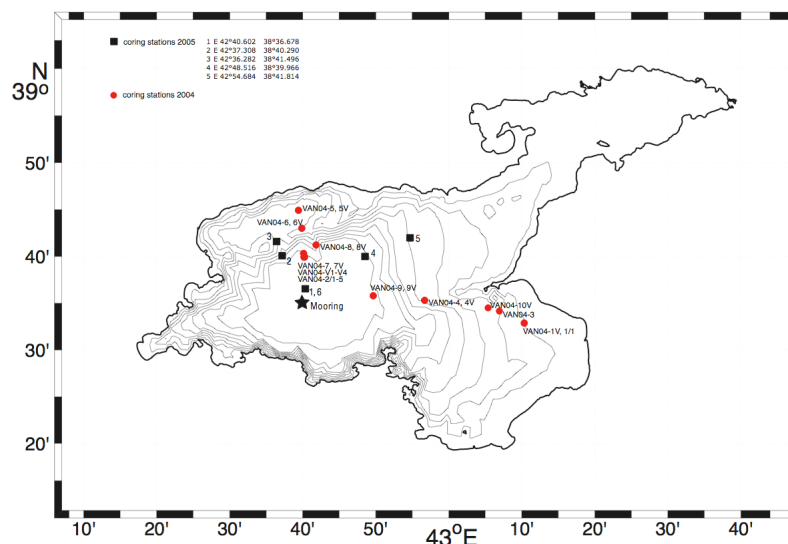


Figure 1: Subaqueous morphology of Lake Van with pre-survey core stations and mooring site for the PALEO-VAN project (modified from [1])