



Morphogenesis, sedimentary records and palaeogeography of the Holocene and Pleistocene Van Lake terraces (Turkey).

A. Christol (1,2), C. Kuzucuoğlu (2), M. Fort (1), A.-F. Doğu (3), E. Akköprü (4), D. Brunstein (2), D. Mouralis (5), M. Fontugne (6), H. Zorer (3) et J.-L. Reyss (6).

(1) Paris 7-Denis Diderot University, UMR 8586 PRODIG, France, (2) Laboratoire de Géographie Physique, UMR 8591, Meudon, France (aurelien.christol@cnrs-bellevue.fr), (3) University of Van, Department of Geography, Turkey, (4) University of Istanbul, Department of Geography, Turkey, (5) University of Rouen, FRE 2795, France, (6) Laboratoire des Sciences de l'Environnement et du Climat, UMR 1572 CEA-CNRS, Gif-Sur-Yvette, France.

The Van lake, located in Eastern Anatolia (43°E; 38,5° N), is the third soda lake volume in the world with 602 km³ and its surface is 3593 km². Lake level measurements show high amplitude variations with an > 3.5m increase in one decade of the 1990's. Previous studies based on deep cores (Degens *et al.* 1978 and Landmann *et al.* 1996) and a section in the watershed (Kempe *et al.* 2002) reveal possible variations with very high amplitude (> 75m) possibly dating Last Glacial Maximum. ANOVAN research program, from which come the results exposed in this work, is focussed on the morphological and sedimentary study of lake archives in the present drainage basin, evidencing records of lake level variations during the Pleistocene and the Holocene. On coasts and upstream areas of the valleys, lake terrace systems are well-developed, suggesting old and large lake extension variations. The study of the past environments of sedimentation, the identification of ancient levels and their dating allow to suggest a relative lake level change chronology and measurement. Three valleys of tributaries have been chosen: Muradiye River, Engil River and Karasu River respectively located in North, South and East of the lake. Their morphologies and geological settings are different and their terraces show dissimilar features in the types and number of terraces and in the sedimentology of the deposits. This study allows us to propose stratigraph-

ical and palaeogeographical patterns for the entire lake basin. The causes (climate, tectonics) of the ancient lake level variations and the preferential preservation of the lake deposits are discussed and different hypotheses are exposed in the poster.