



CICLO DI SEMINARI

Venerdì 12 Giugno 2015

Sala riunioni terzo piano - ore 11:00

THE PALEOVAN PROJECT: A CLIMATIC AND ENVIRONMENTAL HISTORY OF THE LAST 600.000 YEARS

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International Continental Drilling Program (ICDP) drilled a complete 220 m long lacustrine sequence deposited during the last ~600,000 years in Lake Van, the fourth largest terminal lake in the world on a high plateau in eastern Anatolia, Turkey. The partly-varved sedimentary section allows for an unprecedented view into the millennial- to orbital-scale modulation of subtropical climate changes and its relation to the North Atlantic climate change. As a closed and saline lake, Lake Van react very sensitively to lake level changes caused by any alterations in the hydrological regime in response to climate change. The detrital signature of the sedimentary sequence, possibly of eolian origin, shows a lithologic variability that reflects changes in depositional conditions, including intervals characterized by anoxic conditions similar to the present-day. The lithological pattern, geochemical proxy records (TOC), elemental scanning (XRF) and even rock magnetic parameters matched the last six orbitally driven glacial/interglacial cycles as well as the sub-orbitally driven climate cycles observed in the Greenland ice-cores. A correlation is also observed with different climatic archives including the record of the dust flux from Antarctica (Epica) Greenland (GRIP) and the chinese loess. The unique setting of Lake Van, which records simultaneously the volcanic as well as the earthquake history, also allowed to establish possible coincidence between these events.

