



Holocene paleoenvironmental recording in large shallow lakes: the Shkodra (Albania/Montenegro) case

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The Shkodra lake (also known Skadar or Scutari), spreading over the Montenegro-Albania borders, is 45 km long and 15 km wide, with a 8 m mean depth. Its recent sedimentary fill was targeted both for paleoseismic and paleoenvironmental investigations within the frame of a NATO SFP project dedicated to seismic hazards in north-western Albania. Two destructive earthquakes (1905 and 1979) stroke this region and especially the Shkodra city and surroundings. 'Seiche' effect were reported during these events, implying possible associated disturbances in the sediments.

A set of short gravity cores was dedicated to high resolution analysis of recent sedimentation, especially for the 20th century. Multi-proxies study was also conducted on four long piston-cores (5 to 8 m) representing Holocene accumulation. All cores displayed fine-grained non-laminated sediments.

The chronology of the last century was established using radionuclides; their profiles were also checked to detect possible sediment re-suspensions. The results of magnetic susceptibility (MS), grain-sizing, and LOI, did not yield any significant anomalies that

could be related to the two historical earthquakes. At the difference, human activity and climatic events were identified (van Welden et al., *in press*).

Long cores' chronostratigraphic framework is defined by both ^{14}C dating and the characterization of tephra layers (related to Italian volcanoes). Evidences of liquefaction were observed at three levels, and could represent paleo-earthquakes. Hydrological changes (precipitations and lake level) were identified based on different proxies (MS and LOI); similarities could be tentatively proposed with solar activity fluctuations.

The last 500 year of sedimentation in Shkodra Lake (Albania/Montenegro): paleoenvironmental evolution and potential for paleoseismicity studies. A van Welden, C Beck, JL Reyss, S Bushati, R Koci, F Jouanne & JL Mugnier. *In press*, Journal of Paleolimnology. DOI: 10.1007/s10933-007-9186-y