Geophysical Research Abstracts
Vol. 14, EGU2012-9413, 2012
EGU General Assembly 2012

Studying the driving forces of landscape change in the surroundings of the Late Bronze Age harbor town Halla Sultan Tekke, Cyprus.

V. Heyvaert (1), D. Kaniewski (2), M. Sintubin (3), K. Szkornik (5), G. Verstraeten (3), and J. Walstra (4)

(1) Geological Survey of Belgium, RBINS; Vrije Universiteit Brussel, Belgium (vanessa.heyvaert@naturalsciences.be), (2) Ecolab, Université Paul Dabatier, Toulouse, France, (3) Katholieke Universiteit Leuven, Leuven, Belgium, (4) Geological Survey of Belgium, RBINS; Ghent University, Belgium, (5) Keele University, United Kingdom

A complex of salt lakes, fringing the Mediterranean Sea between Larnaca and Cape Kiti, marks the Larnaca coastal plain in Eastern Cyprus. The ancient city of Hala Sultan Tekke is situated directly to the west of the main salt lake, and has been abandoned at the end of the Late Bronze Age (LBA; ∼1200 BC). Several hypotheses circulate with respect to the LBA societal collapse in the Eastern Mediterranean: from the invasion by the 'sea people', climate change to an earthquake or even a tsunami catastrophe. Nearby the archaeological site, the salt lake is protected from the Mediterranean Sea by a Pleistocene sandstone barrier.A second middle to late Holocene ridge separates the salt lakes completely from the Mediterranean Sea. Three faults, trending nearly perpendicular to the present-day coastline, are identified near the salt lakes.

Human-environmental interactions that may have led to the abandonment of the ancient city of Hala Sultan Tekke are investigated by studying the sedimentary record of the Larnaca salt lakes in great detail. Hand-operated augering took place in the main salt lake as well as in the southernmost lake (Menoui beach). A detailed lithological facies analysis and preliminary microfossil and pollen analysis were carried out. The sedimentary sequence is subdivided into Pliocene bedrock, open marine (rich in Posidonia Oceanica), lagoon, salt lake and coastal ridge deposits. It is suggested that during the Early Holocene the Larnaca Bay was open, but protected; its floor being built up behind a sublittoral Posidonia meadow. Close to the Hala Sultan Tekke site, the succession reflects a confined marine embayment protected by the Pleistocene barrier. This embayment gradually evolved into lagoon, coastal marsh and finally into an enclosed salt lake due to the development of a Middle to Late Holocene coastal ridge along the present-day shoreline. From the 16th century, the lake became an important site for salt extraction.