Geophysical Research Abstracts
Vol. 13, EGU2011-12842, 2011
EGU General Assembly 2011

Spatial and temporal constrains for the eastern Mediterranean Levant margin reactivation during the last interglacial

Uri Schattner

Dr. Moses Strauss Dept. of Marine Geosciences, Charney School of Marine Sciences, University of Haifa, Israel (schattner@sci.haifa.ac.il, +972-4-8288267)

Post-Messinian tectonic reactivation of the northern Levant continental margin has been indicated in several studies. Through integration of high resolution marine seismic reflection and biomarker data, this work explores the less known timing and magnitude of vertical motion and sedimentation along the margin during the last interglacial. Biomarker results show that the magnitude of vertical displacement decreases considerably from the East Anatolian fault (Turkey) to the Carmel fault (Israel). This differential uplift corresponds well to the major tectonic segments comprising the Levantine continental margin since the Pleistocene. Sub-meter seismic stratigraphy of Nile derived sediments indicates stability of northern Israel continental margin the Last Glacial Maximum (LGM). Further south along the margin recent tectonic activity has not been identified. The general trend of southward decrease in vertical displacement is predominantly dictated by the convergence between the Sinai and Arabian plates with Anatolia and Eurasia, across the Cyprus arc and Zagros belt; and the secondarily dictated by the southward decrease in convergence component across the sinistral Dead Sea Fault plate boundary. At the margin, the Haifa Bay of northern Israel marks the southern front of the margin reactivation. The combined results show that most of the northern Levant was tectonically active during the last thousands years and even during the last hundreds years.