



Eastern Mediterranean high resolution paleoclimate investigations using south Adriatic finely laminated sediment: preliminary data

Marie-Louise Goudeau (1), Brice Robert (1), Tom Jilbert (1), Shauna Ni Fhlaithearta (1), K.A.F. Zonneveld (2), G.J.M. Versteegh (2), A Grauel (3), S. Bernasconi (3), and G.J. De Lange (1)

(1) Utrecht University, Marine Geochemistry, Netherlands (marielouise.goudeau@gmail.com), (2) Universitat Bremen, Bremen, Germany, (3) ETH Zürich, Zürich, Austria

The formation of distinct organic-rich units (sapropels) in the Mediterranean is well-known, and intensively studied, however less is known of the smaller scale variability during their formation. Multicore GeOB 107-39-03 was taken in 2006, in the central part of the straits of Otranto, south Adriatic. Over the main part of the core, fine, sub-millimetric scale laminae are found. Preliminary dating indicates a Sapropel 1 age for these sediments. The fine, laminae permit high-resolution climate variability to be studied in this area during sapropel formation. Besides conventional geochemical analyses on discrete samples (XRF, ICP-OES, organic C/N, $\delta^{13}C$) a novel technique was used to investigate the sediment chemistry at the laminae scale: the sediment has been resin-impregnated to enable laser ablation coupled to ICP-MS analyses (LA-ICP-MS). This method recently developed (Jilbert et al., 2008) permits extremely high resolution geochemical profiling of the laminated sediment, to unravel the forcing mechanisms generating the laminae. Furthermore, in order to compare the data to modern sediment geochemistry, a series of analyses were carried out on a batch of sediment surface samples in collaboration with the MOCCHA project partners (see Posters/Talks in session OS15).

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