Geophysical Research Abstracts,
Vol. 10, EGU2008-A-07503, 2008
SRef-ID: 1607-7962/gra/EGU2008-A-07503
EGU General Assembly 2008

Magnetic properties of Mid-Holocene sediments from the central part of Thessaloniki Plain, Greece: implications for human impacts

M. Ghilardi (1), J. Bloemendal (2), R. Jude (2), S. Kunesch (3), E. Fouache (1)

(1) Université de Paris 12 Val de Marne, Département de Géographie, 61 avenue du Général de Gaulle 94010 Créteil, France (matthieughilardi@orange.fr), (2), Department of Geography, Laboratory of Environmental Magnetism, University of Liverpool, (3) Laboratoire de Géographie Physique Pierre Birot / UMR 8591, 1, Place Aristide Briand 92195 Meudon, France

Five cores from the central part of the Thessaloniki plain have been studied for magnetic parameters. A total of 186 samples composed of fluvio-deltaic sediments were analysed in order to better understand the historical deposition of the largest coastal plain of Greece.

The magnetic measurements include magnetic susceptibility, anhysteretic and isothermal remanence, hysteresis and temperature dependent magnetization. These parameters enable a much more detailed understanding of the magnetic mineral assemblages than is available in previous work. In particular, we clarify the possible role of diagenetic and biogenic contributions to the detrital magnetic component of these sediments. The X-ray fluorescence analyses are also employed for differentiating various detrital sediment sources and to distinguish more specifically the contributions of the two major rivers responsible in building Thessaloniki plain: the Aliakmon and Axios Rivers.

With regard to the archaeological background, Pella, the second capital of the Macedonian Realm and birth place of famous kings such as Philip the 2^{nd} and Alexander the Great, was landlocked since Roman Times after being situated on the north margin of a large lake during Greek Times. We discuss the key role of alluviation in the area,

and propose a phase of rapid infilling by detrital sediments deposited by the Axios River.