



Variations and Interpretations of Magnetic Susceptibility Signal of Mid-Holocene Sediments in the Central Part of the Thessaloniki Plain (Greece)

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Four cores (S1 – S2 – S3 and S4) from the Central part of the Thessaloniki plain have been measured for magnetic susceptibility and grain-size distribution. This study aims the contribution of different drainage basins in building the largest deltaic area of Greece since Mid-Holocene, caused mainly by the rapid progradation of two Rivers: Aliakmon and Axios Rivers. During the maximum of the last post glacial marine transgression, this large alluvial plain was occupied by a wide bay, subsequently affected by a marine regression running from the west to the east.

As far as the archaeological interest is concerned, Pella the ancient capital of Macedonians was a harbour during the 5th Century B.C. (Herodotus) and is now 28 km inland: the edification of a large deltaic complex is responsible of the fast stranding of the marine bay. The role of Axios River in the surroundings of the former capital is depicted here.

Facies identification and magnetic susceptibility measurements revealed different sediment environments and helped to divide in three main types, reflecting combinations of concentrated and dispersing sources of magnetism: the sedimentation processes of the Plain of Thessaloniki allowed us to identify part of the contributions of Axios and Aliakmon Rivers in building the largest deltaic area of Greece and in silting up the harbour of Pella.

Using remote sensing and combination of spectral bands we identified former flu-

vial levees, oxbows and limnic occupation and gave a spatial interpretation of the chrono-stratigraphy sequences revealed by a series of nine accelerator mass spectrometry (AMS) radiocarbon dates of marine shells, peat formations and organic sediments samples.

Keywords: Grain size analysis, Greece, Loudias Lake, Magnetic susceptibility, Mid-Holocene, Thessaloniki Plain.