MAGNETO-LITHOLOGICAL MODELS FOR RECENT SEDIMENTS: EXAMPLES FROM DELTAIC, LAGOONAL AND LITTORAL LAKES

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Various cases from the most important southeastern Romania wetlands are approached. The modern sediments have been sampled from lakes located in the Danube Delta, Razim (Razelm) - Sinoie Lagoonal Complex and the Black Sea Littoral Zone. Composite models are illustrated and the correlations between the magnetic susceptibility (**k**) values and the main lithological components (i.e., organic/TOC, carbonate/CAR and mineral-siliciclastic/SIL, respectively) are commented. Several correlation coefficients (**r**) were calculated, e.g. related to **k** vs TOC, **k** vs CAR, **k** vs (TOC+CAR) and **k** vs SIL. Generally, positive (direct) correlations characterise the magnetic susceptibility (MS) vs mineral component (SIL), whereas negative (reverse) correlations define MS vs TOC, as well as MS vs (TOC+CAR). The MS regime recorded within the various sedimentary environments located in deltaic, lagoonal and littoral lakes is compared with the ternary diagrams showing the lithological classification of the sampled bottom sediments. Based on the MS values and the lithological contents, the models carried out for several deltaic lakes clearly emphasize the allochthonous sedimentation, predominantly detrital in the lacustrine ecosystems that are directly influenced by the River Danube, comparing with the dominantly autochthonous sedimentation in the distal zones, where the organic component is mostly present. As regards the lagoonal and the littoral lakes, the coincidence between the sedimentary areas characterised by higher MS values and those defined as dominantly siliciclastic, and by low MS intensity fingerprints and those rich in organic matter, respectively, is well reflected by corresponding maximum and minimum anomalies identified within the specific (**k**, SIL, TOC) maps. The presented data demonstrate that the lake sediments sampled in various aquatic ecosystems stand for high fidelity enviromagnetic archives.

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