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Influence of environmental factors on the geomorphologic support in Maritime Danube Delta

Iuliana NICHERSU, Iulian NICHERSU, Cristian TRIFANOV, Marian MIERLA, Eugenia MARIN, and Florentina SELA

Danube Delta National Institute, GIS and Spatial Planning, Tulcea, Romania (kris@indd.tim.ro, 0040240533547)

This study aims to present the main aspects of the influence of environmental factors in the maritime part of Danube Delta, in the context of the impact on the geomorphologic support.
The evolution of environmental factors impact is exponentially increasing in recent years, mapping out the complexity of the Delta system. Analysis of the impact of these factors on the evolution of geomorphologic support is relevant if the system analysis is done in an integrated way. In this context, this research presents in detail the interaction between the elements of the environment and maritime delta complex geomorphologic evolution.
The approach provides a concrete example of systemic modeling through a multi-criteria methodology, systematically introducing and changing the impact of environmental factors in the deltaic system.
Analyzing with the environmental factors (abiotic, biotic and anthropogenic) was noticed a high level of synergies between their components and the deltaic support-with relevant observations on the geomorphology of the study area.
Soil science, geomorphology, hydrology etc. are geographical subjects that are used in applied sciences, considering the anthropogenic pressure regarding spatial planning and regional development. The precise knowledge of the vulnerability of land provides delineation, spatial location of areas with different degrees of exposure. Thus opens another direction regarding the practical knowledge of the environment and relief in which the maps receives analytic and practical valences and the geographical sciences proves their social usefulness.
In order to determine the impact of the chosen factors (climate – temperature, rainfall etc, geomorphologic – exposure, slope etc, soil – texture, salinity etc, biotic – habitat, species etc, anthropogenic – embankments, irritations etc) on the geomorphologic support of the maritime Danube Delta, the analysis was based on detailed maps (both historical and actual like the Digital Terrain Model). The work was conducted in the context of the relevant data collected in time and based on a new methodology for system analysis that combines the cross impact balance analysis (to determine the relations within the defined system) and the causal loop diagrams (to highlight the connections and relations between the components of the system).