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Modelling of the ecological systems: a case study on Neajlov catchment and Inland Danube Floodplain

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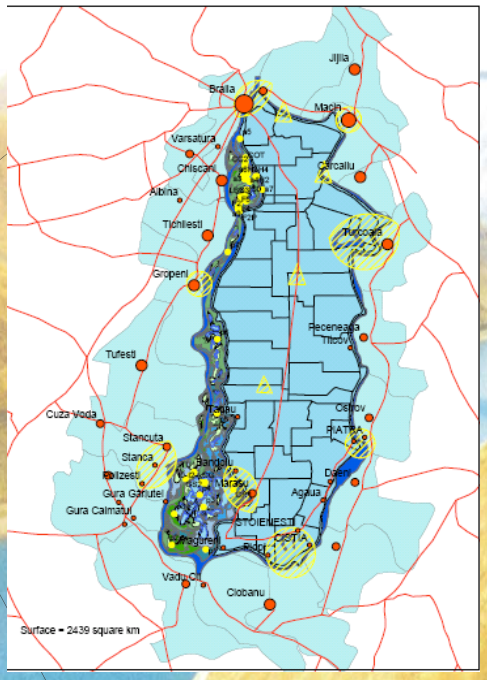
CONCEPTUAL FRAMEWORK

- Hierarchical organization of nature and society
- The ECOSYSTEM is the elementary structural and functional unit
- The ecological system is very complex and has a non-linear dynamics
- Modelling is, in fact, a component of systems analysis as applied to ecology. Without this component, it is impossible to correctly design research programmes and monitoring systems intended to develop knowledge and to acquire data referring to the structural and functional dynamics of ecological systems or to design and develop information systems suitable for practical applications of the "scientific product" and the "acquired data" (Vadineanu, 1998)

ROMANIAN LTSER sites (used for study case)

SMALL ISLAND OF BRAILA



General information:
- Area: 2439.00 sq km
- Mean elevation: 0 - 12.5 m

Main types of ecosystems
- alluvial forest (18%)
- meadow (24%)
- marshes and cattail swamps (19%)
- ponds (22%)
-Danube arms (18%)

NEAJLOV CATCHMENT

General information:
- Area: 3720 sq km
- Mean elevation: 60-300 m

Main types of ecosystems

Man-controlled ecosystems

- Agro - systems (78.5%)

* for crop production
* reservoirs for irrigation and fisheries
* orchards and vineyards

-Semi-natural ecological systems

* Secondary forests (10.4%)
* Pastures (intensively grazed - 4.3%)
*Fodder production

- Human made systems (5.5%)