GIS tools for erosion studies. Development of Erosion Risk Index Map Exercise

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We selected five torrent examples on Tinos Island in order to develop an erosion risk maps for every drainage basin. The selected torrents for this exercise are IIIrd and IVth order and are developed on areas with variety of geomorphological landforms.

The Falatados-Livada drainage system, located on the NE part of the island, is developed along the lithological contact of granites and schists.

The Alfareti drainage system, located on the N-central part of the island, is developed mainly on the schists.

The Rochari drainage system, located on the N-central part of the island, is developed on schists.

The Panormos drainage system, located on the NW part of the island, is developed on schists and marbles, found at a 10km radius around the torrent's mouth.

The Tinos drainage system, located on the SE part of the island, is developed mainly on schists.

1. Develop the logical rules that you will use to derive the erosion risk index (Table 1).
2. Develop a thematic map presenting the values' geographical distribution of the rocks' erodibility of the study area.

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3. Develop a thematic map presenting the values' geographical distribution of the morphological slope gradient of the study area.
4. Develop a thematic map presenting the values' geographical distribution of the drainage density of the study area.
5. Develop a thematic map presenting the values' geographical distribution of land uses of the study area.
6. Develop a thematic map presenting the values' geographical distribution of erosion risk map index of the study area.

References

Gournelos, Th., Vassilopoulos, A., Evelpidou, N., 2001: Examples of erosion risk maps using Boolean and fuzzy logical rules in GIS web platforms, Proceedings of 20th International cartographic conference, Beijing, China, Vol. 4. pp. 2472-2479.