Study of anthropogenic pollution after the war and establishing of measures for protection of plitvice national park and bihac region at the border area of croatia and bosnia-herzegovina

Results in Brief

Protecting national resources in Plitvice and Una River basin

The ANTHROPOL.PROT project established Geographic Information System tools to assist Croatia and Bosnia and Herzegovina in managing their common water resources: the Plitvice Lakes and the Una River catchments.

The main scientific and technological objective is the assessment of anthropogenic pollution after the war in former Yugoslavia and its consequences to the karst ecosystem in a border zone between Croatia and Bosnia and Herzegovina. From the hydrogeological point of view there exists strong interconnection between both areas due to the permeable karst system. Possible environmental contamination could
due to the permeable karst system. Possible environmental contamination could cause heavy consequences to this vital groundwater storage reservoir, important for both counties.

Collection of raw data was done by Croatian and Bosnian hydrogeologists mostly by terrain work, and partly taking into account the results of some previous studies. Satellite image analysis was used for main morphological, structural and land use prospecting. Obtained data were registered into a structured data base with all attributed tables. The hydrogeologists and GIS specialists from Croatia constructed a hydrogeological model from which a wide range of GIS maps were generated using the ArcMap-Arc-View software package. Within the whole approx 3000 km2 large area, following thematic maps (scale 1:100,000) were prepared: hydrogeological map, land use map, unclassified and classified hazard maps, risk map and intrinsic vulnerability map.

The structure of all presented components in the tables was made corresponding to the protocol of the Basic Hydrogeological Map of Croatia and the Hydrogeological Databank. It was also modified to meet the needs of this specific study. The modified COP method was used for intrinsic vulnerability modeling to reach the needs caused by specific diversities of Dinaric karst. Collected data about hazards were structured in a data base using the procedures proposed by COST Action 620 "Vulnerability and risk mapping for the protection of carbonate (karst) aquifer". Analysis of satellite images was made using the protocol of CORINE Land Cover database, standards applied in Europe. The result of the interpreted CORINE Land Cover base is CLC2000, which represents the land cover of year 2000.

Potential end-users of the map are land-use planners, water resources and protection specialists, environmental specialists, the academic community, local community services etc.

Figure caption: Una River spring (Croatia)
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