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Title of Abstract

SARIB project: Data base and Tools for the Sava River Basin

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Text of Abstract

The Sava River (945 km) is the biggest tributary to the Danube River and has 95551 km² large catchment. It extends over four countries, Slovenia, Croatia, Bosnia and Herzegovina and Serbia and Montenegro. In order to meet the needs of Water Framework Directive available data were collected, harmonized and integrated into one data base. Data assembled through field investigations. Until 1991, the methodological bases for data collection have been reasonably unified over the catchment, but lacking a lot of today's important aspects such as ecological character of the river and its tributaries, inventory of pollution sources, dangerous substances, socio economic parameters, cost and benefit implications and similar. For the later period a lot of data are missing due to insufficient monitoring (financing, recent warfare) and weak institutional and legal control over use of water and land resources of the Sava river catchment. Many aspects of river quality need scientific investigation. Furthermore, there is a need to link the knowledge of river quality state and environmental and health risks to pressures and their driving forces to propose efficient and beneficiary actions and measures for protection. In order to meet the needs of scientific investigation, an integrated expert data base and tools have been developed for the Sava river catchment in the project funded by EU scientific research programme and shortly named SARIB. Harmonisation of collected data and information was done with two tools, SARIB Database and SARIB GIS. In the first tool, relational data base structure is used. The main table is based on a list of SARIB sampling locations with WGS84 geographic coordinates. This means that data entered into SARIB Database are automatically connected (linked, harmonised) with the data in SARIB GIS. Here all information is georeferenced. The final structure of SARIB GIS has been developed in regard to spatial data collected within the project: RASTER IMAGE BACKGROUND, ADMINISTRATIVE BORDERS, THE SAVA RIVER CATCHMENT, RIVERS, WATER QUALITY, CORINE LANDCOVER 2000, AREAS WITH DIFFUSE POLLUTION FROM AGRICULTURE, AREAS WITH SIGNIFICANT POLLUTION SOURCES AND INTENSIVE INDUSTRIAL AND CULTURAL ACTIVITIES, DISTANCE FROM CONFLUENCE, HYDROLOGICAL STATIONS, METEOROLOGICAL STATIONS, SARIB MEASUREMENT POINTS, and GEOLOGY. Available data were transformed into Lambert conformal conical projection. During transformation some problems occurred, associated with projection and geographical transformations. Data source, provided by Serbia, includes basic engineering geological map, scale 1:200.000. Data source, provided by Bosnia & Herzegovina Sarib partner, includes land use classification. Serbia & Montenegro geological classification layer includes geological period and base geological foundation. Harmonisation was done with editing graphical object with GIS standards (no overlaps, no slips, no overshoots or undershoots), putting objects into one geographical coordinate system and removing topology. Data have been imported into GIS SARIB. Then SARIB GIS internet platform has been developed as spatially homogenised data warehouse with a data catalogue and data themselves.

Very important aspect of building SARIB data tools is integration of data supplied from all SARIB partners. In this respect, partners have developed mutual trust, collaboration spirit and support that will the most probably stay in the future. It is important, that research data and information obtained during SARIB research are integrated into one data base, the SARIB Database. All locations from the sampling are in the GIS, therefore relations exist between all data. The SARIB Database contains a list of sampling location, results of laboratories analyses and information on hydrology that is related to a longitudinal profile (related by elevation, description, and station name).