

ICT tools for Ecological and Human Risk Assessment

Ecological and Human Risk Assessment (EcoHumRA) is a complex process of assessing the influence of human activities on ecosystem duality and vice versa. The endpoint of EcoHumRA is a prospective or retrospective assessment of stress factors influence (chemical contaminants, anthropogenic interventions or natural disasters) on ecosystems and their parts. Monitoring and collecting of available information as the source data for EcoHumRA is a key part of the process for the assessor. The availability and quality of input data determines the complexity and feasibility of the process. In the problem description phase it is possible to use public available high-quality data from on-line Internet databases and web services, e.g. toxicological properties of chemicals, GIS characteristics and maps and so on.

ISESS 2007 will work to summarize the EcoHumRA methodology, provide basic overview of information and communication technologies (ICT) used in EcoHumRA, show available Internet databases and software used in EcoHumRA and, in the practical part of this work, introduce appropriate software applications used during this process, for example:

- Web portals, (e.g. Management of Bioindication Methods and Ecotoxicological Tests portal, etc.);
- Internet database used in monitoring to assess the ecological state of the rivers, land, soil, etc. with respect quality of human life;
- Supplemental ICT tools for environmental information systems as data import/collection/export client applications;
- ICT tools for analysis of biotic data used in EcoHumRA like Biodiversity application for computation of frequently used biodiversity indices;
- Advanced ICT application for multimetric comparison of heterogenous data and metrics of quality environmental data.

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