



ILMS – a Software Platform for Integrated Landscape Management

Sven Kralisch, Bettina Böhm, Manfred Fink, and Wolfgang-Albert Flügel

Department of Geoinformatics, Hydrology and Modelling, Friedrich Schiller University of Jena, Germany
(sven.kralisch@uni-jena.de)

The pressures on environmental systems are increasing worldwide due to population growth, socio-economic development and the consequences of climate change. Therefore, adaptable tools and methods are needed to elaborate information, develop understanding and create strategies for the sustainable use and management of such systems. These tools should assist scientists, natural resource managers and decision makers by providing them with (i) sufficient information about relevant drivers, attributes and factors from primary data, (ii) methods for user friendly access and integrated analyses of such data, i.e. environmental information systems and remote sensing techniques, and (iii) environmental simulation models for estimating additional information not available as measurements and for the prediction of future development scenarios and thus to identify suitable management strategies.

For an integrated assessment of complex environmental systems and their related problems, a seamless integration of environmental information systems, remote sensing techniques, modelling systems and related data analysis methods is therefore needed. The Integrated Landscape Management System (ILMS) developed at the University of Jena provides an integrated, modular software platform that is addressing the abovementioned demands. While using state-of-the-art methods and interfaces that are mainly based on open-source software components (e.g. GRASS GIS, Quantum GIS, Mapserver, OpenLayers, World Wind), it covers different aspects of environmental system analysis and management in a flexible, user-friendly workflow.

In our presentation we will give an overview of the ILMS platform and show the application of its software components by means of a typical use case – the assessment of water quality and quantity in a meso-scale catchment.