

## **Introduction to Papers on Catchment Processes in Regional Hydrology: from Experiment to Modelling in Carpathian Drainage Basins**

Regional understanding and modelling of hydrological processes in catchments is becoming increasingly essential for addressing questions in science as well as in practical water resource management questions. Evaluation of process representation in hydrological catchment models compared with results from modelling and catchment experiments has become therefore more important in recent years especially in the context of climate change.

Data availability and assimilation based on latest developments in remote sensing, experiments on hillslopes, and tracer studies in catchments gave hydrologists the opportunity to compare different models of the same type (e.g. distributed) or different types of models (e.g. distributed vs. lumped, process based vs. conceptual) on a regional basis. The new data also supports the study and generalisation of hydrological regimes. All these activities support better process representation in both deterministic and stochastic models in diverse hydrological environments.

In the series of similar symposia, the *International Symposium on Catchment processes in regional hydrology: from experiment to modelling in Carpathian drainage basins (Hydrocarpath 2013)* was organised by the Department of Water Management, at the Institute of Geomatics and Civil Engineering, Faculty of Forestry, at the University of West Hungary in Sopron, in cooperation with the Department of Land and Water Resources Management, Faculty of Civil Engineering, at the Slovak University of Technology in Bratislava. This conference welcomed contributions on hydrology which focus on the following issues: Presentation of results from catchments experiments leading to better process understanding and representations; Regionalisation and generalisation of hydrological regimes on various temporal and spatial scales using increased process knowledge; Comparison of similar model types as well as different model types (conceptual, process based, distributed, lumped); Soil, vegetation and atmospheric interactions especially focusing on forests. The texts of the presentations were published in a reviewed proceeding.

In cooperation with the editorial board, some authors were invited to submit their manuscripts to *Acta Silvatica & Lignaria Hungarica*. The papers were selected and reviewed by international experts in hydrological science mainly from the scientific committee of the conference, based on scientific excellence and relevance of the problem that was investigated. It is the expectation of the organisers that these papers will contribute to the better knowledge of the hydrology and catchment processes.

Zoltán Gribovszki  
guest editor

