

Editorial

Large-scale hydrology: observations and modelling

The recent focus on large-scale hydrological research (regional and global) has stemmed from the need for the better understanding and prediction of large-scale hydrological variations for a variety of operational and planning purposes, for prediction of land-use and climate change over a large geographic domain, and for improving the representation of hydrological processes in regional and global atmospheric models. Global, continental and other large-scale hydrological models and land surface models can be found in many different contexts. They can form an integral part of atmospheric and climate modelling systems but are also increasingly being developed as stand-alone modelling platforms for hydrological investigations. *Large-scale hydrology* has been since 2009, and will continue to be, an important and successful session in the EGU General Assembly.

This special issue of *Hydrology Research* evolved from the session HS2.8 *Large-scale hydrology: observations and modelling* at the EGU General Assembly held in Vienna on 3–8 April 2011, and related efforts that cover: large-scale studies on novel modelling concepts and model design; data assimilation methods; novel data sources (remotely sensed and *in-situ*); regionalisation approaches; uncertainty/sensitivity analysis and impact studies of

land-use and climate changes. This special issue aims to present the great progress that has been achieved during recent years and to address the significant challenges facing large-scale hydrological research.

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