

HydroPredict2012, Predictions for Hydrology, Ecology and Water Resources Management:
Water Resources and Changing Global Environment,
Vienna, Austria, 24-27 September 2012

VOLUME OF ABSTRACTS (Peter Nachtnebel & Karel Kovar, editors)

Hydro Predict'2012

VOLUME OF ABSTRACTS

Edited by Peter Nachtnebel and Karel Kovar

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on
**Predictions for Hydrology, Ecology and Water
Resources Management:**
Water Resources and Changing Global Environment

24 – 27 September 2012
Vienna, Austria

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The convening organizations are:

- Universität für Bodenkultur Wien (BOKU), University of Natural Resources and Life Sciences; Institute of Water Management, Hydrology and Hydraulic Engineering, Vienna, Austria;
- International Association of Hydrological Sciences (IAHS);
- Faculty of Science, Charles University, Prague, Czech Republic.



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About this publication

The abstracts in this volume were selected and evaluated by members of the Scientific Advisory Committee, resulting in the allocation in the oral presentations (platform presentation) and poster presentations. This volume contains only those abstracts that are expected to be actually presented at the conference.

The Editors and the Organizing Committee take no responsibility for any error and omission or for the opinions of the authors.

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PREFACE

Water resources systems being the main link between the people and the climate are affected by human activities (such as land use change) and climate change. Thus, any assumption related to stationarity of the water resources systems characteristics is highly questionable, maybe not valid at all. Direct human interactions with the water cycle are occurring at the small catchment scale while the climate change impacts dominate at the large catchment scale. However, there are opposite examples of the opposite – impacts in large basins like the Aral Sea, the Tchad, and the Nile are caused by water management practices, while the hydrology of small high Alpine catchments with major contributions from glacier runoff is predominantly affected by climate change, with limited human impacts.

There is a clear need for better understanding of complex interactions between water resources and global environment. This conference will focus on **complexity and uncertainty** as the two main characteristics of global change. New tools for solving water resources problems will need to be developed, or existing tools will need to be adapted to respond to the challenges of global change.

Complex dynamic water resources systems, bridging the span between ecosystems to climate, can have tipping points at which a sudden shift to a contrasting dynamic regime may occur. Although the prediction of such critical points is extremely difficult, work in different scientific fields is now suggesting the existence of generic early-warning signals that may indicate for a wide class of water resources systems if a critical threshold is close to be reached. Thus, this conference has **prediction** as one of the main themes.

The objectives of HydroPredict2012 conference are: (i) to present tools and methods which assist in assessing and discriminating between human and climate change induced impacts on water resources systems; (ii) to discuss the predictive capability of simulation models used for water resources issues, including the model output uncertainty; (iii) to present tools and methods for adaptation to changing global conditions; (iv) to address water management policy to reduce vulnerability and to increase the resilience of water resources systems; and (v) to analyze the role of water resources within the complex social-economic-climatic system. At HydroPredict2012 representatives of natural, social and engineering sciences will meet together to exchange experience and present the current views on **the adaptation and mitigation of adverse effects of global change on water resources systems**.

This prepublished volume contains the selected abstracts as they were received. The Abstract Numbers in the TABLE OF CONTENTS are identification numbers, assigned as part of the submission process. **These abstract identification numbers are referred to from the Conference Programme, both for oral and poster presentations.** For example, “(abstract #63)” in the Conference Programme relates to “Abstract number 63 – A new concept for identifying a scale of potential predictive capability of spatially distributed models” in this Volume of Abstracts.

We wish you a fruitful and enjoyable stay in Vienna.

The HydroPredict2012 Organizing Committee:

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