



Panta Rhei – Everything Flows
Change in Hydrology and Society
IAHS Scientific Decade 2013-2022
www.iahs.info/pantarhei

Summary of the activity of the Panta Rhei Working Groups – Year 2014

Title of the Working Group:

ANTHROPOGENIC AND CLIMATIC CONTROLS ON WATER AVAILABILITY (ACCuRACY)

Report of the activity of the working group in 2014

Members of WG ACCURACY have been actively promoting the IAHS Scientific Decade 2013-2022 Initiative, and ACCURACY activities, during international conferences and assemblies. In particular, ACCURACY members met and discussed ongoing research activities during focused sessions at the following events:

- Bologna IAHS 2014 - 6th IAHS-EGU International Symposium on Integrated Water Resources Management Bologna 4-6 June 2014 (A. Castellarin; A. Viglione; L. Brandimarte, scientific committee members)
- Catchment processes in regional hydrology: Experiments, modeling and predictions in Carpathian drainage basins, Sopron, Hungary, Bratislava, Slovakia, 27 October 2014 (S. Kohnová, organizing committee member)
- STAHY 2014 Statistical Hydrology Workshop November 10-11, 2014 Abu Dhabi, UAE (T.B.M.J. Ouarda, conference chair)

Furthermore, one ACCURACY member promoted the following session:

- Modeling Feedbacks in Complex Coupled Natural-Human Water Systems (Panta Rhei- Everything Flows) – AGU Fall Meeting 2014, december 15-19, San Francisco, CA, USA
(<https://agu.confex.com/agu/fm14/webprogrampreliminary/Session3044.html>, C.N. Kroll is one of the main convener)

The following papers deal directly with ACCURACY research activities:

- Niranjan Kumar, K., and T. B. M. J. Ouarda (2014): Precipitation variability over UAE and global SST teleconnections, *J. Geophys. Res. Atmos.*, 119, doi:10.1002/2014JD021724.
- Ouarda, T.B.M.J., C. Charron, K. Niranjan Kumar, P.R. Marpu, H. Ghedira, A. Molini, I. Khayal, (2014): Evolution of the rainfall regime in the United Arab Emirates, *J. Hydrol.*, 514(6), 258–270, doi:10.1016/j.jhydrol.2014.04.032.
- Salinas, J. L., Castellarin, A., Viglione, A., Kohnová, S., and Kjeldsen, T. R.: Regional parent flood frequency distributions in Europe – Part 1: Is the GEV model suitable as a pan-European parent?, *Hydrol. Earth Syst. Sci.*, 18, 4381-4389, doi:10.5194/hess-18-4381-2014, 2014.
- Salinas, J. L., Castellarin, A., Kohnová, S., and Kjeldsen, T. R.: Regional parent flood frequency distributions in Europe – Part 2: Climate and scale controls, *Hydrol. Earth Syst. Sci.*, 18, 4391-4401, doi:10.5194/hess-18-4391-2014, 2014.

The following paper explicitly acknowledges ACCURACY:

- Pugliese, A., Castellarin, A., and Brath, A. (2014): Geostatistical prediction of flow–duration curves in an index-flow framework, *Hydrol. Earth Syst. Sci.*, 18, 3801-3816, doi:10.5194/hess-18-3801-2014.

Description of the opportunities provided by Panta Rhei

Triggered by ACCURACY SQ's and identifying synergies in several nationally funded research projects, during December 2014 a research team involving University of Bologna (Italy) Tufts University, SUNY College of Environmental Science and Forestry and USGS (USA) started working jointly on the effects induced at regional scale by different environmental-flow policies on the hydropower production potential and fluvial habitat suitability. Collaboration is welcome.