



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

Details of the Proposal

Title of the Working Group

Comparative Water Footprint Studies

Abstract of the proposed research activity

The water footprint of an activity or process depends on local production circumstances, including for instance climate, land management, other inputs into production, and technologies and management practices applied. As a result, the water footprint of a certain process will vary across regions and within regions.

Insight in how the different production circumstances influence the size of the water footprint of a certain activity or process may yield understanding in the causes behind large water footprints (low water productivities, low eco-efficiency). Possible causes may include limited access to better technology, poor choice of inputs or prices of other inputs relative to water.

The research will focus on selected activities that typically have large water footprints and are often placed in water scarce areas. The research will compare the results from different studies (as carried out by different research groups) that use different modelling approaches and assumptions. This will bring insight into the relevance of different factors influencing the intensity of water resources use per unit of production, but also in the sensitivity of the findings to model assumptions and data.

Panta Rhei Research Themes, Targets and Science Questions addressed by the Working Group

This working group will address the research theme 'Water Footprint Assessment', science questions 2, 5 and 6 and research targets of 'understanding', 'estimation' and 'science in practice'.

Societal impact of the Working Group activity

The working group will provide insights on why a water footprint can be high for the same activity in some regions and low in other regions and what can be done to reduce water use

in places where necessary. It will also attempt to explain counterintuitive patterns of high water footprints of activities in water scarce regions and by doing so open avenues for smart policy interventions to secure local availability of water. Many companies have started to explore their water footprint, in their operations and supply chain, and look for guidance on how to benchmark water footprints and how to reduce their footprint when beyond a certain benchmark.

List of Participants

Name of Participant	Affiliation (full address and email)	Role in Working Group (Chair or Member)	Main expertise
Prof.dr. Arjen Y. Hoekstra	Department of Water Engineering & Management, University of Twente, P.O. Box 217, 7500 AE Enschede, the Netherlands, a.y.hoekstra@utwente.nl	Chair	Water management
Dr Saket Pande	Faculty of Civil Engineering and Geosciences, Delft University of Technology, P.O. Box 5048, 2600 GA Delft, the Netherlands, s.pande@tudelft.nl	Secretary	Hydrology, water economics
Prof dr. Junguo Liu	School of Nature Conservation, Beijing Forestry University, Beijing, 100083, China; Forestry Program, International Institute for Applied Systems Analysis, A-2361 Laxenburg, Austria, junguo.liu@gmail.com	Member	Hydrology
Prof. Alberto Garrido	Department of Agricultural Economics and Social Sciences, Polytechnic University Madrid, 28040 Madrid, Spain, alberto.garrido@upm.es	Member	Agricultural economics
Dr Davy Vanham	Institute for Environment and Sustainability, Joint Research Centre, European Commission, Via E. Fermi 2749, 21027 Ispra, VA, Italy. davy.vanham@jrc.ec.europa.eu	Member	Water & environmental management
Dr. Holger Hoff	Potsdam Institute for Climate Impact Research, Telegrafenberg 31, 14473 Potsdam, Germany, hhoff@pik-potsdam.de	Member	Integrated water and land management, climate adaptation
Dr Ashok K.Chapagain	Water Footprint Network, Drienerlolaan 5, 7522 NB Enschede, the Netherlands ashok.chapagain@waterfootprint.org	Member	Water footprint assessment
Prof. Dr Eduardo M. Mendiando	Sao Paulo University, Sao Carlos, Sao Paulo, Brazil, emm@sc.usp.br	Member	Hydrology