



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

Details of the Proposal

Floods in historical cities

Abstract of the proposed research activity

The research activity will focus on the protection of cultural heritage from natural hazards, with particular reference to floods in historical cities. Focus will be made on tangible cultural heritage, namely, on buildings, monuments, documents and artifacts. The activity will consider hazard assessment, vulnerability and exposure estimation, as well as the related mitigation actions. These will include pre-event actions, emergency management and post-event actions. A special focus will be dedicated to eco-innovative solutions to protect the environment and the landscape which are considered landmarks of cultural heritage. The activity aims to support engineering design and to provide tools to decision makers.

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

The following targets and research themes will be addressed.

Targets:

Target 2: estimation and prediction

Target 3: Science in practice

Science questions:

SQ2: How do changes in hydrological systems interact with and feedback on natural and social systems driven by hydrological processes?

SQ4: How can we use improved knowledge of coupled hydrological-social systems to improve model predictions, including estimation of predictive uncertainty and assessment of predictability?

SQ5: How can we advance our monitoring and data analysis capabilities to predict and manage hydrologic change?

SQ6: How can we support societies to adapt to changing conditions by considering the uncertainties and feedbacks between natural and human-induced hydrologic changes?

List of Participants

Please include at least 6 members from 3 different countries. Make an effort to ensure interdisciplinarity. Add rows at the Table if necessary.

Name of Participant	Affiliation (full address and email)	Role in Working Group (Chair or Member)	Main expertise
Alberto Montanari	University of Bologna- Italy	Chair	Hydrological modeling
Guenter Bloeschl	Vienna University of Technology - Austria	Member	Inundation modeling, Hydrological modeling
Giovanni Seminara	University of Genoa - Italy	Member	Geomorphology
Fabio Castelli	University of Florence - Italy	Member	Forecasting
Giorgio Federici	University of Florence - Italy	Member	Hydraulic modeling
Giuliano Di Baldassarre	Uppsala University - Sweden	Member	Flood modeling