National Research Council
RESEARCH INSTITUTE FOR GEO-HYDROLOGICAL PROTECTION

International Association of Hydrological Sciences - IAHS

Activities in Italy (2013-2014)

Short summary

The Italian research activity referring to the International Association of Hydrological Sciences (IAHS) has been carried out by the scientific community that refers to hydrological sciences, hydraulics and hydraulic works. The most relevant initiative carried out in the period 2013-2014 can be identified by:

a) the development of the new scientific decade 2013-2022 which is entitled "Panta Rhei – Everything Flows" (see http://www.iahs.info/pantarhei for more details) and of which the first Chair of Panta Rhei, for the biennium 2013-2015, is the Dr. Alberto Montanari, from the University of Bologna and National Representative for Italy within the International Association of Hydrological Sciences for the period 2013-2014.

b) the activities related to the International Commission on Statistical Hydrology of IAHS, which is presided by Dr. Salvatore Grimaldi (University of Tuscia). The activities of the commission are described in detail at the web site www.stahy.org.

c) the activities of International Commission on Continental Erosion/International Association of Hydrological Sciences (ICCE/IAHS) whose secretary is the Dr. Paolo Porto (University Mediterranea of Reggio Calabria)

The main event that was organized in Italy was under the umbrella of Panta Rhei and took place in Bologna in June 4-6, 2014 where the University of Bologna organized the international conference titles "Evolving Water Resources Systems - Understanding, Predicting and Managing Water - Society Interactions".

There has been a very relevant research activity carried out by Italian institutions within IAHS and in particular within IAHS research initiatives. The Italian community also played an important role in the consultation process that is leading to the preparation of the new IAHS Decade 2013-2022.

Finally, it is worth highlighting that on 13th March 2015, the National Research Council appointed the Dr.Tommaso Moramarco, researcher with the CNR IRPI as National Representative of IAHS and the Prof. Alberto Montanari of the University of Bologna as Deputy.

Organization of conferences, workshops

a) 6th IAHS-EGU International Symposium on Integrated Water Resources Management, Bologna, June 4-6 2014, http://distart119.ing.unibo.it/bo2014/

b) IAHS-IAPSO-IASPEI - Scientific Assembly. Gothenburg July 22-26 2013

b.1) HPS1: Advanced Statistical Methods for Hydrology, Oceanography and Seismology

b.2) Hw10: Adaptive water resources management - system design and operation

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b.3) Hw14: Regional modelling in hydrology using statistical tools

b.4) Hw15: Testing simulation and forecasting models in non-stationary conditions

c) STAHY'13 workshop, Facets of uncertainty, Kos Island, Greece, jointly to: 5th EGU Leonardo Conference • Hydrofractals '13, October 17–19 2013

d) STAHY'14 Workshop, Abu Dhabi, UAE, November 10-11, 2014

e) ICCE International Symposium on '*Sediment Dynamics from the Summit to the Sea*', held in New Orleans, USA during the period Dec 11-14, 2014.

f) Florisa Melone International Memorial Conference, IAHS Sponsor, Assisi, October 10-11, 2014 http://www.irpi.cnr.it/melone_conference/index.htm

Organization of scientific initiatives

a) Chairmanship of the IAHS scientific decade 2013-2022 for the period 2013-2015. Presidency of the International Commission on Water Resources Systems and Presidency of the International Commission on Statistical Hydrology.

b) The ICSH Commission organized several initiatives and the main ones are summarized in the following:

- Reference Collection about specific statistical hydrology topics. This collection is monthly updated and offers an useful overview for the scientific community.
- Scientific sessions during the main General Assemblies and International conferences.
- Short courses (one week of duration) on innovative topics.
- Annual Commission Conferences.
- STAHY Best Paper Award. Recently an official IAHS award was established dedicated to the best paper on statistical hydrology. Details on the award selection procedure are described on the website. The first award was assigned in 2013

National Correspondent:

Tommaso Moramarco – CNR IRPI, National Research Council

Deputy:

Alberto Montanari - University of Bologna

Perugia, March 31, 2015

A) Institutions involved in research activity

An extended set of Italian universities is involved in the IAHS activities, as well as several institutes of the National Research Council.

National Research Council:

Research Institute for Geo-Hydrological Protection (Dr. Tommaso Moramarco)

Main universities involved:

- Polytechnic of Turin (Prof. Pierluigi Claps)
- University of Bologna (Prof. Alberto Montanari)
- University of Tuscia (Prof. Salvatore Grimaldi)
- University Mediterranea of Reggio Calabria (Prof. Paolo Porto)

B) Scientific Report

The new scientific decade 2013-2022 of IAHS, which is entitled "Panta Rhei – Everything Flows", is dedicated to research activities on change in hydrology and society. It counts a relevant participation of the Italian hydrologic community. The first Chair of Panta Rhei, for the biennium 2013-2015, was Alberto Montanari, from the University of Bologna. The web site of Panta Rhei is hosted by the University of Bologna itself. The activities related to Panta Rhei allowed Italian researchers to already submit two proposals for research projects related to similar activities. One was founded by the EU and deals virtual water laboratories for water science. The project, whose acronym is Switch-On, is described at the web site http://www.water-switch-on.eu/ and counts three Italian partners.

Within the umbrella of Panta Rhei, the University of Bologna organized in June 2014 an international conference titles "Evolving Water Resources Systems - Understanding, Predicting and Managing Water - Society Interactions". It took place in Bologna from June 4th to 6th. Alberto Montanari was the main organiser. 6 invited speakers were scheduled and fee waivers and travel supports were provided for young participants from developing countries. A named lectures, in honour of Peter Loucks was started and Loucks himself was the first speaker of this series. A visionary paper is being written to summarize the outcome from the conference. All information about this conference is available at the web site: www.iahs.info/bologna2014.

The proceedings of the conference were published in a Red Book "Evolving Water Resources Systems: Understanding, Predicting and Managing Water–Society Interactions, Proceedings of ICWRS2014, Bologna, Italy, June 2014 (IAHS Publ. 36x, 2014)". The book collects 89 contributions presented by research groups active in 31 different countries from 5 continents (see Fig. 1).

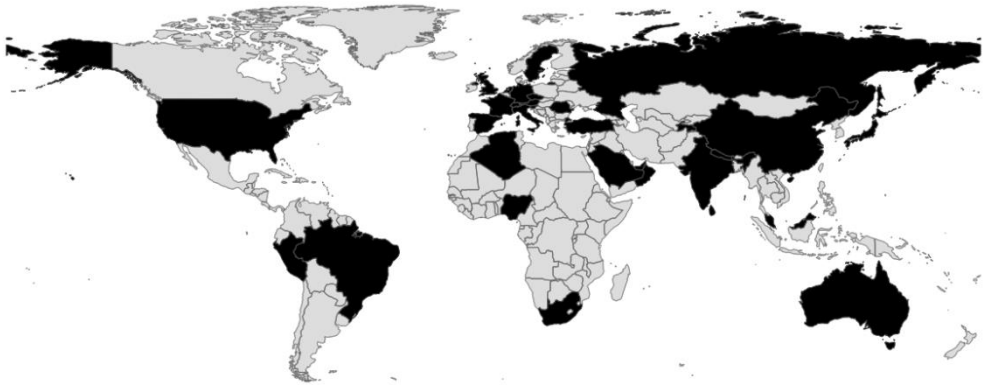

Figure 1. Countries of origin of the international research groups that contributed to the volume "Evolving Water Resources Systems: Understanding, Predicting and Managing Water–Society Interactions".

The papers focus on a broad variety of topics associated with water resources assessment and management in a changing environment, and concentrate in particular on the two-way interaction between water and society (Figure 2).

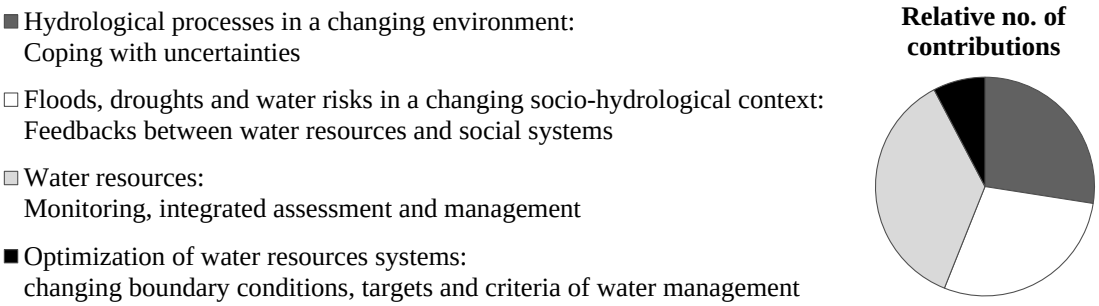

Figure 2. Main themes of the book "Evolving Water Resources Systems: Understanding, Predicting and Managing Water–Society Interactions" and relative number of contributions.

Italian researchers are currently leading three Working Groups of Panta Rhei (Attilio Castellarin, Elena Toth and Alberto Montanari), to prove the relevant interest of the Italian scientific community for Panta Rhei and IAHS.

Finally, it is worth reporting that Alberto Montanari (University of Bologna) is current President of the International Commission on Water Resources Systems of IAHS.

An important initiative was the International Memorial Conference organized by CNR-IRPI and co-sponsored by IAHS. Tommaso Moramarco was the main organizer. The conference took place in Assisi October 10-11, 2013 and brought together some of the most renewed scholars came from different part of world like Africa, Asia, US, Europe and Italy, with the aim to make memory of Dr. Florisa Melone, senior researcher at CNR-IRPI and to present new frontiers in the hydrology field. More than one hundred participants attended to the Conference wherein ten keynote lectures were delivered and a series of presentations were made. Selected papers have been collected as chapters in a book illustrating aspects of past, present and future in hydrology and will be shortly published by Water Resources Publications, LLC.

Another event was the Red Book no. 367 '*Sediment Dynamics from the Summit to the Sea*', edited by Y. Jun Xu et al., wherein most of the oral presentation of the ICCE Symposium held in New Orleans in December 2014 were collected.

C) Goals, priorities and plans for future activities (next two years)

For the next two years the plan is to continue to actively participate to IAHS initiatives through targeted activities.

D) Scientific Publications 2013-2014 (peer-reviewed papers)

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