



INTERNATIONAL CONFERENCE WATER RESOURCES ASSESSMENT AND SEASONAL PREDICTION KOBLENZ, 13 to 16 October 2015

Conference Statement

Preamble

The assessment of water resources and prediction of its variability are fundamental to improved water management practices in the 21st century. This requires new approaches to water resources assessment methodologies including surface and groundwater, seasonal climate and hydrologic prediction and the inclusion of water quality as a limiting factor for the quantitative availability of freshwater resources.

80 experts from 28 countries gathered for the International Conference on Water Resources Assessment and Seasonal Prediction held at the premises of the Federal Institute of Hydrology in Koblenz, Germany. 58 presentations and 10 posters highlighted the observational requirements, methods and case studies in water resources assessment, seasonal prediction methodologies, water quality issues and using water diplomacy as a means for implementation of joint water management in transboundary basins. Development aspects as well as changes in the hydrological cycle as a result of climate change, anthropogenic impacts and variability were also highlighted.

Results of the conference

Building on the presentations and interaction between the experts present at the conference, participants state that the capability for dynamic water resources assessment linked to seasonal prediction provides the foundation for interaction with water managers and policy makers at national, regional and global scales. Participants agreed that:

- The development and application of seamless forecasting of available water resources and their variability requires significant strengthening of terrestrial observation networks and their sustainability as well as sustained space-based observations of all components of the water balance. This includes quantitatively and qualitatively enhanced and consistent sharing mechanisms of data and observations at all scales and amongst stakeholders.
- Water resources assessments need a dynamic approach and the development and application of robust assessment tools and practices. These need to build on accurate and timely observations and the availability of adequate modelling and assessment tools.

- Seasonal climate and hydrologic predictions provide the basis for water resources assessment on that scale. This requires the development and application of tools and methodologies to transfer climate information and predictions into hydrologic predictions and their integration in dynamic water resources assessments at different scales.

Comprehensive water resources assessments require the integration of water quality assessments as the quantitative availability of freshwater resources is incomplete without knowledge of the quality status of available water resources. This calls for the integration of water quality observations and prediction models into comprehensive water resources assessments.

- Improvement of observations, development and application of new modelling and prediction tools into relevant seasonal prediction and water resources assessments require highly developed professional skills. This needs to be reflected in largely expanded and intensified capacity building programs for technical and professional staff at institutions mandated to undertake such predictions and assessments.
- The results of predictions and assessments need to be communicated in a policy- and management relevant format including a demonstration and valuation of its economic and social impacts. Specific efforts are necessary to ensure the inclusion of science-based results of water resources assessments and predictions in the development agenda of nations and their implementation at the level of practical integrated water resources management.
- In transboundary basins, these assessments form the basis to strengthen cooperation among riparian countries and institutions in shared river basins including the use of adequate measures in water diplomacy.

The way forward

Participants recognized that the implementation of the above measures is achievable in the medium to longer-term range. Jump-starting this process, participants of the conference agreed to serve as a start-up platform to further develop the knowledge-base in the following areas: Seasonal prediction, surface and groundwater resources assessment including water quality, water policy and water diplomacy as well as capacity-building. Participants further agreed to support to the extent possible, efforts of the United Nations System (such as through UN-Water) and GEO mainly through its water-related activities. Participants stated that this is only achievable with adequate institutional backstopping and exchange of knowledge and information.

Participants appreciated the high expert level of conference presentations and inspirational discussions, establishment of new connections among scientific teams and practitioners. Participants further appreciated the stimulation of future cooperation in the field of water resources assessment and seasonal predictions.