



INVITATION

2nd International Workshop on Data Assimilation

for Operational Hydrologic Forecasting
and Water Resources Management

September 10-12, 2012

Incheon, Republic of Korea

 **MEV**
MINISTRY OF
ENVIRONMENT
National Institute of
Environmental Research

 **Deltares**
Enabling Delta Life

 **Portland State**
UNIVERSITY

 **UNIVERSITY OF
TEXAS**
ARLINGTON

 **HEPEX**
Hydrologic Ensemble Prediction EXperiment

2nd International Workshop on Data Assimilation for Operational Hydrologic Forecasting and Water Resources Management

Hydrologic modeling and prediction has been an important research subject for decades in flood control and water resource management. While benefited greatly from recent advances in computation, observation techniques and understanding the physics of hydrologic systems, difficulties in identifying, quantifying and reducing the uncertainties associated with observation, model structures, and initial condition still remain as major obstacles to achieving satisfactory hydrologic prediction. Hydrologic data assimilation (DA), which merges model simulation and observation, has been proved as a promising method in reducing the predictive uncertainties. DA in hydrologic forecasting, however, is faced with significant scientific and operational challenges: the hydrologic systems are generally underdetermined, the hydrologic processes involved are multiscale in nature, and DA is still a relatively new methodology in the operational community and hence lacks tools and support. The International Workshop on Data Assimilation for Operational Hydrologic Forecasting and Water Resources Management aims at accelerating the transition of hydrologic DA research into operation by developing and fostering community-based effort for collaborative research, development and synthesis of techniques and tools.

The second meeting of this biennial workshop will be held at the National Institute of Environmental Research (NIER) in Incheon, Republic of Korea, on September 10-12, 2012. Continuing the very productive experience of the first workshop in 2010 held at Deltares in Delft, the Netherlands, the second workshop will bring together expert scientists, engineers, operational forecasters and water managers to share new experiences, ideas and advances in the area of DA for operational hydrologic forecasting and water resources management. The workshop is co-organized by NIER, Deltares, Portland State University and the University of Texas at Arlington, and features keynote, oral and poster presentations and breakout discussion on:



1. Advances in theoretical and mathematical aspects of hydrologic DA;
2. Quantification and modeling of uncertainties in model structures, parameters, initial conditions and observations;
3. Pre-/post-processing vs. hydrologic DA;
4. Objective utilization of new and existing sources of data (in-situ or remotely-sensed, quantitative or qualitative) for DA applications;
5. Open-source and community-based tools for hydrologic DA in support of single-valued or ensemble analysis, prediction and verification;
6. Computational complexities of DA methods in operation;
7. New fields of application such as water quality forecasting for rivers;

An important outcome of the first workshop was a special issue of the Hydrology and Earth System Sciences (HESS) journal in 2011, "Latest advances and developments in data assimilation for operational hydrologic forecasting and water resources management" which include a jointly-authored position paper for a community research agenda. The second workshop is planned to continue this effort by publishing the outcomes and developing new community-based research and research-to-operations projects.

For questions on how to participate, or for general questions and comments, please contact the co-organizers, Kyunghyun Kim of NIER (matthias@korea.kr), Albrecht Weerts of Deltares (albrecht.weerts@deltares.nl), Hamid Moradkhani of Portland State University (hamidm@cccs.pdx.edu) and DJ Seo of the University of Texas at Arlington (djseo@uta.edu).

More information on the workshop will be posted on the workshop website as it becomes available.

Workshop Dates and Venue

Dates : September 10-12, 2012 (half day on September 12)

Venue : NIER in Incheon, South Korea

Workshop Format : Open but size-limited (~ 40 participants)

First day : oral and poster sessions

Second day : oral and poster sessions, breakout group discussion (see below for topics)

Third day (morning only) : breakout group discussion, plenary session for wrapping up

The detailed program for the workshop will be developed based on the abstracts received.

Abstract Submission

Abstracts addressing one or more of the following topics will be accepted:

- 1) Theoretical, mathematical and operational aspects (including computational complexities of DA methods in operation);
- 2) Modeling, quantification and reduction of uncertainty (including aspects as pre-/post-processing vs. hydrologic DA);
- 3) Objective utilization of existing or new data sources
- 4) Community-based tools
- 5) New hydrologic fields of operational application (e.g. water quality forecasting of rivers)

Papers on other related topics are also welcome. Organization of sessions and keynote presentations (1 or 2 keynote talks for each session) will be determined based on the abstracts received/solicited.

Registration

The workshop website will be open for abstract submission and registration around April 15th, 2012.

Deadlines

Abstract submission: June 1st, 2012

Registration: June 15th, 2012

Accommodations

The workshop hotels are located in downtown Seoul. Shuttle services will be available between the hotels and NIER in Incheon. Hotel information will be posted on the workshop website around April 15th, 2012.

