Interagency Collaborative for Environmental Modeling and Monitoring (ICEMM)

Annual Public Meeting: April 24 - 25, 2018

U.S. Nuclear Regulatory Commission, Office of Nuclear Regulatory Research

11555 Rockville Pike, Rockville, MD, Room TWFN-2B3

Theme: ***Monitoring and Model Data Fusion***

April 24, 2018

8:15 a.m. ***Registration at NRC Visitors' Entrance, 11555 Rockville Pike, Rockville, MD***

9:00 ***Welcome and Opening Remarks*** …….. **Michael Weber, Director of Nuclear Regulatory Research, U.S. NRC**
..…… **Thomas Nicholson, NRC Representative to ICEMM and Meeting Host**
…….. **Brenda Rashleigh, EPA and ICEMM Chair**

9:20 ***Keynote Speaker*** ……..…… **Pierre Glynn,** Chief, Water Cycle Branch, USGS and ICEMM Vice-Chair

- ***From Data to Decisions: Framing the Science and Policy of Coupled Human-Natural Systems***

10:15 **Break**

10:30 Session Topic: ***Data Innovation*** ……..…… Invited Speakers

- ***Data Available from Ambient Water Quality Monitoring Programs*** …… **Dwane Young, EPA**
- ***CUAHSI's Services to Enable Data Fusion*** …….. **Tony Castronova, CUAHSI**
- General Discussion and Q&A on Monitoring and Data (15 minutes)

11:45 **Lunch**

12:30 p.m. ***Keynote Speaker*** …… **Don Cline, Associate Director for Water, USGS**

- ***Water Prediction and the National Water Model***

1:15 *Session Topic****: Integration of Models and Data*** …… Invited Speakers

- ***Envisioning a Terrestrial Systems Model*** ……**Tom Torgersen, NSF**
- ***Building a Cyberinfrastructure to Enable Mechanistic Modeling of Watershed Systems*** ……... ***David Lesmes*****, DOE**
- ***Modeling in the U.S. Global Change Research Program*** ……. **Jennifer Saleem-Arrigo, USGCRP**
- General Discussion and Q&A on Modeling Frameworks and Infrastructure (30 minutes)

3:15 **Break**

3:30 Panel Discussion on ***Monitoring and Model Data Fusion*** and the session topics

- Topics:**Science for Decisions; Data Innovation; Integration of Models and Data**
- Panel Moderators: **Tom Nicholson**, NRC and **Pat Deliman**, USACE
  - Panel member: **Pierre Glynn,** USGS and ICEMM Vice-Chair
  - Panel member: **Dwane Young**, EPA
  - Panel member: **Tony Castronova**, CUAHSI
  - Panel member: **Don Cline,** USGS
  - Panel member: **Tom Torgersen**, NSF
  - Panel member: **David Lesmes**, DOE

- Panel member: **Jennifer Saleem-Arrigo**, USGCRP

4:40 Opportunity for Public Comments and Questions

5:00 p.m. **Adjourn**

April 25, 2018

8:15 a.m. ***Registration at the Visitors' Entrance at 11555 Rockville Pike, Rockville, MD***

9:00 Review Meeting Agenda/ First Day Summary.... **Brenda Rashleigh and Pierre Glynn**

9:15 Presentations by ICEMM Agencies on Monitoring and Model Data Fusion

- ***Environmental Modeling and Monitoring for Risk-Informed Performance-Based Assessments*** …… **Tom Nicholson and George Alexander, NRC**
- ***Optimization of Ground-Water Monitoring Strategy at the Savannah River Site F-Area Using ASCEM***
  …….…. **Carol Eddy-Dilek, DOE-Savannah River National Laboratory**
- ***Discussion and Demonstration of the Watershed Assessment Tool (WAT) for Water Quality*** … **Dr. Todd Steissberg, U.S. Army Corps of Engineers/Hydrologic Engineering Center**

10:30 **Break**

11:00 Group Work on Model/Data Fusion Vision Document ……. All ICEMM Agencies

12:00 **Lunch**

1:00 p.m.
- ***Beyond Grace: Using Remote Sensing for Hydrology and Earth Observations*** ... … **Venkat Lakshmi, Carolina Trustee Professor, School of Earth, Ocean and the Environment, University of South Carolina/ NSF Hydrology Program Director**

1:45 *Working Group Reports/Discussions* …… Working Group Chairs

- ***WG1 Integrated Monitoring and Modeling***
  …… **Ming Zhu,** DOE and **George Alexander**, NRC
- ***WG2 Data Assimilation, Uncertainty Assessment and Environmental Model Confirmation***
  ……..…… **Tom Nicholson,** NRC and **Mary Hill**, University of Kansas
- ***WG 3 Forecasting of Ecosystem Functions and Services***
  …….. **Pat Deliman**, USACE; **Brenda Rashleigh**, EPA; **Ken Bagstad,** USGS
- ***WG4 Surface Water and Watershed Water Quality Modeling***
  ……. **Billy Johnson,** USACE

3:00 **Break**

3:30 ***Steering Committee Business Meeting*** ……..…… **All ICEMM Agencies**

4:15 ***Opportunity for Public Comments and Questions***

4:30 **End**

Meeting Notes:

All attendees need to register **prior** to the public meeting.

To attend in person please e-mail name, organization, telephone number and citizenship information to Thomas.Nicholson@nrc.gov . All attendees must show photo-ID to NRC security for processing at the NRC Visitors' Entrance, and to obtain access badge and be escorted to the meeting room T-2B3

To attend remotely via **Webinar,** please register at:
https://attendee.gotowebinar.com/register/7145569228250991363
After registering, you will receive a confirmation e-mail containing information about joining the **Webinar**.

Information on the ***Interagency Collaborative for Environmental Modeling and Monitoring (ICEMM)*** including the Memorandum of Understanding signed by the ICEMM agencies is available at the ICEMM Website:
https://my.usgs.gov/confluence/display/cdi/Interagency+Collaborative+for+Environmental+Modeling+and+Monitoring

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Background information pertaining to the Meeting Theme as provided by the NRC staff:

Monitoring and Model Data Fusion is the concept of coupling information sources, both temporal and spatial data, from a wide variety of monitoring programs and their instrumentation, to the model which quantitatively analyses and simulates the system of concern.

Fusion involves the active processing and synthesis of various data sources into a unified model database, and where the model informs the monitoring programs as to what, when, where and how the data is to be obtained and translated into modeling assumptions and inputs such as boundary conditions and parameters.

Performance Indicators will be defined common to both the model and the monitoring.
