

**MEETING OF
ADVISORY COMMITTEE ON WATER INFORMATION'S (ACWI'S)
SUBCOMMITTEE ON HYDROLOGY (SOH)**

9:00 am – 1:00 PM (EST)

July 26, 2007

*Rm. 3M-3, FERC Building
888 First Street, NE, Washington, DC 20426*

AGENDA

(Breaks as appropriate)

1. Welcome and Introductions
2. Review and Approval of Agenda
3. Approval of Minutes from April 12, 2007 Meeting
4. Status of Action Items from April 12, 2007 Meeting
5. Further Amendment to Executive Order 12866 on Regulatory Planning and Review
6. Presentation of “Integrated ground-based, space-based, and airborne observations for water studies” by Dr. William Logan, National Research Council’s Committee on Hydrologic Sciences (Presentation followed by Q&A for about 0.5 hrs)
7. Update on Hydrologic Frequency Analysis Work Group
8. Update on Satellite Telemetry Interagency Work Group
9. Update on Hydrologic Modeling Work Group
10. Proposed Hydrologic GIS Applications Work Group
(including review and vote on draft charge)
11. National Hydrologic Information System (HIS) development and SOH effort
12. Process for Nominating and Electing Officers for Fiscal Year 2008
13. Current Events within Hydrologic Communities
(Including “NOAA 2007 National Stakeholder Forum” by Gene Stallings)
14. Announcements and Q&A on Business Reports from Member Organizations
(Including “The SOH CONNECTIONS” Newsletter editor’s report)
15. Plans for Next Meeting
16. Other Items

Adjournment

SUMMARY OF MEETING
(Prepared by Stephen Blanchard, USGS)

PARTICIPANTS

Hosung Ahn	Nuclear Regulatory Commission (NRC)
Martin Becker	Defenders of Property Rights (DPR)
Stephen Blanchard	Geological Survey (USGS)
David Dajc	Federal Highway Administration (FHWA)
Don Frevert	Bureau of Reclamation (BOR)
Mary Greene	Office of Surface Mining (OSM)
Tim Heible	National Weather Service (NWS)
Claudia Hoeft	Natural Resources Conservation Service (NRCS)
Douglas James	National Science Foundation (NSF)
Samuel Lin	Federal Energy Regulatory Commission (FERC)
William Logan	National Research Council
William Merkel	Natural Resources Conservation Service (NRCS)
Thomas Nicholson	Nuclear Regulatory Commission (NRC)
Eugene Stallings	National Hydrologic Warning Council (NHWC)
James Talley	Federal Highway Administration (FHWA)
Nebiyu Tiruneh	Nuclear Regulatory Commission (NRC)
Jean Thomas	Forest Service (USFS)
Will Thomas	Association of State Floodplain Managers (ASFPM)
David Toll	National Aeronautics and Space Administration (NASA)
Jerry Webb	Army Corps of Engineers (USACE)
David Wells	Environmental Protection Agency (USEPA)
Eric Wood	Princeton University
Don Woodward	American Forests
Bonnie Wyatt	Forest Service (USFS) (<i>by phone</i>)
Max Yuan	Federal Emergency Management Agency (FEMA)

Meeting Highlights

Sam Lin called the meeting to order at 9:00 AM (EST).

1. Welcome and Introductions

Sam Lin welcomed everyone to the meeting. Each person introduced themselves and their organizational affiliation. A total of 25 individuals participated, with 1 of the 25 participating by phone.

2. Review and Approval of Agenda

The meeting agenda was approved as listed above.

3. Approval of Minutes from 4-12-07 meeting

The 4-12-07 meeting minutes were approved.

4. Status of Action Items from April 12, 2007 Meeting

Action: Steve Blanchard would take the lead on developing a Work Group for the purpose of collaborating with CUAHSI. The development of the Work Group needs to consider relationships within ACWI with the Subcommittee on Spatial Water Data and the new Subcommittee on Ground Water. A proposal for the Work Group would be brought back to the next meeting for consideration.

This action is on the agenda for today's meeting.

Action: SOH members are to review the draft terms of reference for the Hydrologic GIS Applications Work Group when they are sent out by email following this meeting and come to the next meeting prepare to vote on the terms of reference.

This action is on the agenda for today's meeting.

5. Further Amendment to Executive Order 12866 on Regulatory Planning and Review

Martin Becker provided 2 handouts related to the Executive order:

- A Washington Post article titled "Bush Order Limits Agencies' 'Guidance'" dated January 30, 2007 by Cindy Skrzycki; and
- A press release titled "Executive Order: Further Amendment to Executive Order 12866 on Regulatory Planning and Review" dated January 18, 2007 from OMB.

This document is available at:

<http://www.whitehouse.gov/news/releases/2007/01/print/20070118.html>

Martin Becker requested two actions (1) that agencies look at the executive order to see how their agencies are implementing it, and (2) that we put the Executive Order on the agenda for the October meeting for further discussion.

Action: Agencies representatives are to look over the Executive Order and see how it is being implemented in their agency.

Action: Sam Lin and Steve Blanchard will put the Executive Order on the agenda for the October 2007 meeting for further discussion.

6. Presentation of “Integrated ground-based, space-based, and airborne observations for water studies” by Dr. William Logan, National Research Council’s Committee on Hydrologic Sciences and Dr. Eric Wood, Princeton University
(Presentation followed by Q&A for about 0.5 hrs)

Will Logan started the presentation with an overview of the NAS, NRC, and the Committee on Hydrologic Sciences and the types of work the committee does. Eric Wood then gave an overview of the Integrated Observations project including the charge to the committee, key components of the study, case studies examined as part of the study, and challenges to integrating observation. The Scope of this study from the project description is: “This study will examine the potential for integrating new and existing space-borne observations with complementary airborne and ground-based observations to gain holistic understanding of hydrologic and related biogeochemical and ecological processes and to help support water and related land-resource management. These systems are closely interconnected, and a great deal of common information is required in their study. The goal is to focus on information that would contribute to quantifying current and projected water availability, water quality and biogeochemical cycling, and land surface and related ecologic conditions. The assessment would consider these goals in the light of the capabilities of sensor and other in situ monitoring technologies and of space-borne observation technologies.” The project is nearly complete and findings and recommendations were drafted and in review before being made public. More information about this project is available from the project web page at:

<http://www8.nationalacademies.org/cp/projectview.aspx?key=123>.

The powerpoint presentation is provided as attached 1.

7. Update on Hydrologic Frequency Analysis Work Group

Will Thomas gave a brief overview of the objectives of the Hydrologic Frequency Analysis Work Group (HFAWG) and motivation for the evaluation of new statistical procedures. It has been 25 years since Bulletin 17B was published and significant research has been accomplished in those years. The HFAWG is about to begin testing a new statistical procedure known as the Expected Moments Algorithm (EMA). This new statistical procedure is potentially an improvement over the existing Bulletin 17B procedures for analyzing data sets with historic flood peaks and high and low outliers.

Will reported that a subset of the HFAWG, a data group, had two conference calls on June 4 and July 12 during which they discussed the gaging station data base and Monte Carlo simulation procedures for evaluating and comparing EMA to Bulletin 17B procedures. As a result of these conference calls, Will and a colleague at Michael Baker have summarized useful information about the gaging station data and modified plans for

Monte Carlo simulations. The summary of gaging station data includes information on the magnitude of historic flood peaks, high and low outliers, the length of the historic period and systematic record, the computed high and low outlier thresholds and the 100-year flood discharge based on station skew. Beth Faber, USACE in Davis, CA, has provided six theoretical frequency curves for the Monte Carlo simulations, some of them are a mixture of frequency distributions.

Tim Cohn, USGS, has revised the EMA computer code to include recent research and John England, BOR, has reviewed and verified the code. Tim and John will be doing the EMA–Bulletin 17B testing for the HFAWG. They will be using separate programs but both programs will be based on the same code. Comparison tests will be made to verify that the two programs are giving the same results.

Will reported that he will be sending a summary of the gaging station data base and procedures for the EMA testing to Tim Cohn and John England by August 1 so they can begin the testing. Will indicated that he will update the entire HFAWG with respect to the status of the EMA testing.

Comments by Subcommittee on Hydrology members following the report

Doug James, NSF, asked if the HFAWG had considered land use changes and their potential effects on the EMA–Bulletin 17B testing. Will Thomas indicated that most of the gaging stations were from the USGS HydroClimatic Data Network and these watersheds were essentially free of land use change or regulation or urbanization. We all agreed that land use changes, however small, may explain some of the differences between EMA and Bulletin 17B resulting from our testing.

Bill Merkel, NRCS, had two comments. Bill commented that Bulletin 17B procedures were somewhat subjective with respect to the use of historic information and asked if the EMA procedures would be better. Will Thomas indicated that EMA may make better use of the historic information but that the determination of the historic period (e.g., a flood peak resulting from Hurricane Agnes is the highest in 150 years) will still be somewhat subjective. Bill also asked about the use of generalized skew in the testing. Will Thomas indicated that all testing would be based on station skew to avoid any adverse effects of using generalized skew.

Don Woodward, American Forests and a member of the HFAWG, commented that the HFAWG will also be evaluating ways of estimating generalized skew and documenting improvements in the computation of confidence limits. The EMA-Bulletin 17B testing is not the only effort of the HFAWG but it is the largest effort.

David Wells, EPA, suggested that the HFAWG drafts a decision paper that explains the rationale for why we are doing the EMA–Bulletin 17B testing. He felt that OMB would want such a document.

8. Update on Satellite Telemetry Interagency Work Group (STIWG)

Bonnie Wyatt, the chair of STIWG, reported that the Work Group has raised issues to NOAA about the continuity of operations of the GOES DCS. STIWG met with NOAA in May 2007 and talked with them about strategic planning for GOES DCS operations. Bonnie also reported that the contract for the installation of the back-up to Wallop's Island that will be located at the USGS facility at Sioux Falls, South Dakota was awarded with an expected completion date of January 2008.

9. Update on Hydrologic Modeling Work Group

Don Frevert reported that the Hydrologic Modeling Work Group held its conference call on May 1st, 2007. The group elected Don as chair and Steve Markstrom (USGS) as vice-chair. Don and Steve will serve in their respective capacities through the 2010 Joint Federal Interagency Conference. The group also agreed on a charge statement which can now be viewed on line through the SOH website.

The request for proposals to host the 2010 Joint Federal Interagency Conference was sent out on June 12th and proposals are due by August 20th. About ten locations are being considered – pending receipt of proposals. The proposals will be reviewed by the site selection committee in September and a short list of three or four facilities will be presented to the SOH and the Subcommittee on Sedimentation at their respective October meetings. Site visits will be done in the winter and a final selection of the site will be made shortly after the site visits are completed.

Proceedings from 1993 workshop and the 1998, 2002, and 2006 conferences will be put on line. It is estimated that they should be ready for posting within the next several weeks.

The next conference call of the Work Group will be held on Tuesday, July 31 at 10:00 am MDT (noon EDT).

10. Proposed Hydrologic and Hydraulic GIS Applications Work Group

William Merkel provided the SOH with a revised draft of the charter for the proposed GIS Applications Work Group prior to the meeting – the charter is provided as Attachment 2. William provided an overview of the charter and clarified that the new GIS Applications Work Group will focus primarily on GIS applications and that the existing ACWI Subcommittee on Spatial Water Data will focus on GIS data. There was some discussion about whether the Work Group would focus just on hydrologic or also hydraulic applications; there was also interest expressed in web portals to GIS applications and GIS training. The Work Group will focus on both hydrologic and hydraulic applications.

A motion was made to approve the charter and establish the Work Group. The motion was unanimously approved.

Decision: The SOH unanimously approved the charter to establish the Hydrologic and Hydraulic GIS Applications Work Group.

Action: The members of the SOH are to circulate the charter for the new GIS Work Group within their organization and seek members from their organization for the Work Group. Names of those interested in membership are to be submitted to William Merkel.

11. National Hydrologic Information System (HIS) development and SOH effort

Steve Blanchard had an action from the April 2007 meeting to take the lead on developing a Work Group for the purpose of collaborating with CUAHSI on HIS. The goal was for a proposal for the Work Group to be brought back to this July 2007 meeting for consideration. Steve Blanchard was unable to do any work on this action item. So the Action item is carried on to the next meeting. Tom Nicholson commented that this Work Group on collaboration on HIS was needed. Martin Becker restated his comment made by way of an email following the April 2007 that in considering the HIS, he believes there should be two conditions - they are: (1) there should be an acceptable minimum standard for data in the HIS database, and (2) any endorsement should not exclude the endorsement of other parties by the SOH who can provide the same service to the public. Tom Nicholson also commented on the need for some sort of minimum standard for data quality.

Several items were suggested for consideration in forming the Work Group:

- Reviewing data,
- Reliability of serving data,
- Mechanisms for cooperation,
- Will the data be for research or management purposes, and
- What meta data is needed.

Several members of the SOH - David Wells, Mary Greene, and David Goodrich - expressed interest in participating in such a Work Group. Steve Blanchard wasn't sure if he could take the lead on this activity given that he is scheduled to be chair of the SOH beginning in October 2007. Steve will maintain the lead on the action item until someone else agrees to take it.

Action: Steve Blanchard will take the lead, for the time being, on developing a Work Group for the purpose of collaborating with CUAHSI on HIS. A proposal for the Work Group would be brought back to the next meeting for consideration.

12. Process for Nominating and Electing Officers for Fiscal Year 2008

Sam Lin stated that two candidates have put their names in for consideration to be Vice-Chair of the SOH for Fiscal Year 2008. The two candidates are Mary Greene (OSM) and Michael Eberle (BLM). Each SOH member organization is allowed one vote.

Action: Sam Lin will send out the names of the two candidates by email following this meeting and each member organization will have one vote to cast for one of the two

candidates. Member organizations are to vote by email to Sam Lin and Steve Blanchard by August 15, 2007.

13. Current Events within Hydrologic Communities

- “2007 NOAA Stakeholder Forum” by Gene Stallings

Eugene Stallings represented the National Hydrologic Warning Council (NHWC) at the 2007 NOAA Stakeholder Forum on May 23, 2007 in Crystal City, VA. There were over 300 participants. The purpose of the Forum was to communicate key aspects of NOAA’s strategic outlook and obtain the views of NOAA’s stakeholders on the agency’s strategic direction and priorities in key thematic areas. Retired Navy Vice Admiral Conrad C. Lautenbacher, Jr., Under Secretary of Commerce for Oceans and Atmosphere delivered the opening remarks in a plenary session. Admiral Lautenbacher pointed out that NOAA’s challenge is to integrate NOAA’s products and services to serve its customer’s needs. His final statement was that he is a big fan of interagency cooperation.

Stakeholders then dispersed into Breakout Sessions to discuss input for the next NOAA Strategic Plan. Eugene attended the Extreme Weather Theme. In this breakout session, the question directed to us was “What are the most significant emerging societal demands for water resource information services, and what is NOAA’s distinct role in responding to those demands?” The other tables received slightly different questions. There was general agreement among the respondents in this breakout session that NOAA’s Automated Hydrologic Prediction System (AHPS) is very valuable and needs future budget support. The American Red Cross representative stated that they have 70,000 volunteers and decision-making information is of great help to them. The consensus of this breakout session was that there is a definite need for probabilistic forecasts and flood inundation maps. These are the tools that are most useful to the Emergency Managers and Decision-Makers. With this type of information, important decisions can be made in a timely manner during weather and water extremes. Economic benefits are likely. The attendees also concurred that consistency in GIS systems is also a must. We reached several other conclusions and they were listed in our Summary sheet and presented at the Plenary Closing Session along with the summaries from the other three themes. Admiral Lautenbacher thanked the Stakeholders for their interest and participation. He said that the information from the Stakeholders Breakout Sessions will be considered in NOAA’s strategic planning process. He stated that “We need to be responsive to our partners”.

14. Announcements and Q&A on Business Reports from Member Organizations

Agricultural Research Service – David Goodrich
Nothing to report

American Forests – Don Woodward
Nothing to report

Association of State Floodplain Managers – Will Thomas
Nothing to report

Bureau of Land Management – Mike Eberle
Nothing to report

Bureau of Reclamation – Don Frevert
Assistant Secretary for Water and Science Mark Limbaugh resigned his position effective July 13, 2007 to pursue opportunities in the private sector. No successor has been named.

Dr. Curtis Brown has been appointed Reclamation's Director of Research and Development. Brown earned his PhD from the University of Colorado in 1981 and most recently served as the Manager of Reclamation's Platte River Environmental Impact Study Office. In his new capacity, Brown will oversee a reevaluation of the Science and Technology Program's charter and a restructuring of its steering team.

Aaron Thompson has been appointed as Nebraska – Kansas Area Office Manager. Thompson will assume his duties in early August.

Reclamation recently published the *Erosion and Sedimentation Manual* (November, 2006). This document is available as a textbook or on a compact disk.

Corps of Engineers – Jerry Webb

The United States Army Corps of Engineers released the draft Hurricane Protection Decision Chronology (HPDC) for the Lake Pontchartrain and Vicinity Hurricane Protection Project (LP&VHPP) in the Greater New Orleans area July 10, 2007. The report is being released for a 30-day public comment period during which time the report's authors are soliciting any additional relevant documentation that was not available to them while compiling the draft.

The HPDC is an exhaustive examination of the complex 50-year record of LP&VHPP decision-making and project implementation involving the Corps, local sponsors, government at all levels, and the courts.

Maj. Gen. Don T. Riley, Director of Civil Works for the Corps, said, "Both the chronology and the IPET studies have contributed in meaningful ways to the ongoing hurricane damage reduction work we are doing around New Orleans and to the Corps' new initiatives. The Chronology in particular serves to emphasize the importance of using systems approaches in our public works infrastructure; adaptive management over the life of projects; and the critical importance of understanding risk management and effectively communicating that risk to the public and decision makers.

The Hurricane Protection Decision Chronology is available on the internet at <http://www.iwr.usace.army.mil/inside/products/pub/hpdc/hpdc.cfm>. The public comment period to submit relevant additional documentation runs through August 10, 2007.

Defenders of Property Rights – Martin Becker
Nothing to report

Federal Emergency Management Agency – Max Yuan
Nothing to report

Federal Highways Administration – Joe Krolak
Nothing to report

FERC – Sam Lin

Both the FERC Dam Safety Program peer review and the Department of Energy office of Inspector General Reports highlighted the need to provide additional security training to FERC's dam safety engineers to improve the effectiveness of its security program. A security expert and FERC staff taught security training sessions in FERC's all five regional offices in May, 2007. The training covered areas where FERC staff feels further guidance is needed to make adequate dam security evaluations.

Forest Service – Jean Thomas

Hydrologic Data Needs - The mission of the USDA Forest Service is to sustain the health, diversity, and productivity of the Nation's forest and grasslands to meet the needs of present and future generations. The Forest Service manages more than 192 million acres of forests and grasslands in the National Forest System (NFS), has an active Research and Development (R&D) program, assist landowners through its State and Private Forestry (S&PF) program, and works at the global scale through International Programs. The Forest service as a land management agency is primarily a user of hydrologic information for use in National Environmental Policy Act (NEPA) analyses, water rights adjudications, stream channel restoration projects, to predict changes in annual water yield due to vegetation changes, and to estimate floods following wildfires. The Forest Service Research branch collects and analyzes hydrologic data at a limited number of experimental watersheds. Much of the USDA Forest Service's interest in hydrologic data centers around the use of hydrologic information to analyze the effects of proposed land disturbing activities on the National Forests. Therefore the Forest Service is interested in new hydrologic analysis techniques that may have application to land management and the availability of hydrologic data that may be stored in various databases maintained by other agencies, such as streamflow data collected by the U.S. Geological Survey.

Within that framework, our interest in hydrologic data and information consists of (1) maintaining ready access to surface and groundwater data bases, (2) keeping apprised of improved hydrologic analysis techniques, and (3) collaborating in the inter-agency development of hydrologic databases and analysis techniques.

National Aeronautic and Space Administration – David Toll

NASA's 2007 Research Opportunities in Space and Earth Sciences (ROSES) was closed May 25 2007. Twenty-two Water Management proposals were submitted. There will be a panel review this September. Approximately 2-3 Water Management proposals may be selected for funding. {<http://wmp.gsfc.nasa.gov>}

David Toll and Ted Engman are coordinating NASA Water Management activities to assist with capacity building efforts for Latin America.

David Toll and Ted Engman will participate in a NASA and EPA hosted meeting in Washington DC, Aug. 1-3 2007 of the U.S. Group on Earth Observations (GEO) to help prioritize critical Earth observation priorities for water resources.
{<http://www.scgcorp.com/uic2007/index.htm>}

David Toll and Ted Engman are coordinating efforts with NASA HQ to meet with USDA ARS and NRCS personnel about improved interagency cooperation in water resources

National Hydrologic Warning Council – Gene Stallings
Nothing to report

Nuclear Regulatory Commission – Tom Nicholson
Nothing to report

Natural Resources Conservation Service – Claudia Hoeft
Dr. Michael Strobel joined the USDA-Natural Resources Conservation Service (NRCS) in June as Director of the National Water and Climate Center and Program Manager for the Snow Survey and Water Supply Forecasting Program. Since 1935, most of the American West has relied on the U.S. Department of Agriculture's cooperative snow survey program for predictions of meltwater runoff. These forecasts are vital to the management of water resources in the Western United States. Irrigation; reservoir operation; domestic water use; power generation; fisheries, wildlife and range management; and flood control are typical of the activities dependent upon accurate and timely forecasts. This program is a Federal, State, and local partnership directed by the NRCS.

Dr. Strobel received his BS and MS degrees in Geological Sciences from the Ohio State University and his PhD from the University of North Dakota. For 19 years he worked for the U.S. Geological Survey as a hydrologist, serving in Ohio, North Dakota, South Dakota, North Carolina, and Nevada. For the last 5-1/2 years, he served as the Deputy State Director of the USGS Nevada Water Science Center. Prior to joining the USGS, he worked with the Byrd Polar Research Center doing glaciology field research in Peru, Antarctica, Greenland, and Alaska.

National Science Foundation – Doug James
Nothing to report

National Weather Service – Tim Heible
Nothing to report

Office of Surface Mining – Mary Greene
Nothing to report

U.S. Environmental Protection Agency – David Wells
Nothing to report

U.S. Geological Survey – Steve Blanchard

The President's budget for FY08 requests a \$2.5M increase for the USGS Streamgaging Program. The House mark of the USGS appropriations added another \$2.5M to the President's requests for a total of \$5M increase. The Senate mark left the President's request for streamgaging as it at \$2.5M increase. So for FY08, it looks as if the USGS Streamgaging Program will likely get an increase of between \$2.5M and \$5.0M.

There is a conference related to Floods – The Fourth International Symposium on Flood Defence to be held in Toronto, Canada May 6-8, 2008. Information about the conference is available at the web site: <http://www.flood2008.org/flood/> . The abstracts submitted to date have been primarily from Europe with very few from the North America. We have decided to unofficially extend the abstract submission date to 31 July or longer in order to generate more interest from the USA and Canada. ISFD1 and 3 were held in Europe and the second one was held in China. It looks as if the 5th will take place in Japan, so next May is the best chance for North America to shine. We hope to have about 400 people attending next year's event. Please consider submitting an abstract to the conference.

SOH Newsletter – Don Frevert and Mary Greene

Don Frevert thanked SOH member organizations for their contributions to the SOH Newsletter and Mary Greene for her excellent work as associate editor. Don noted that there was a need for a new associate editor starting October 1st when Mary becomes Chief Editor. Claudia Hoeft subsequently volunteered to be the next associate editor. Mary noted that it has been a good team effort to get the newsletter started.

Contributions for the September newsletter are due to Don and Mary by Friday, August 31st.

15. Plans for Next Meeting

The next meeting will be held at the FERC building in Rm. 3M-3 on October 18, 2007 from 9:00 AM to 12 noon.

16. Other items

Adjournment

Attachment 1 – Presentation of “Integrated ground-based, space-based, and airborne observations for water studies” by Dr. William Logan, National Research Council’s Committee on Hydrologic Sciences and Dr. Eric Wood, Princeton University

Attachment 2 – Charter for the Hydrologic and Hydraulic GIS Applications Work Group