

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

**12:00 p.m. – 3:00 pm, Eastern Time  
January 19, 2012  
USDA South Building  
1400 Independence Ave SW, Room 2406-S  
Washington DC**

**FINAL MINUTES**

**Agenda**

- |   |                                   |
|---|-----------------------------------|
| 1. Welcome and Introductions  | Richard Raione                    |
| 2. Review and Approval of Agenda  | Richard Raione                    |
| 3. Approval of Minutes from October 20, 2011 Meeting                            | Victor Hom                        |
| 4. Status of Action Items from October 20, 2011 Meeting                         | Richard Raione                    |
| 5. Meeting Topic : <u><i>Assessing Agency Needs and ACWI SOH Priorities</i></u> | Richard Raione and<br>SOH Members |
| • Purpose of the Assessment   |                                   |
| • Review of Survey Feedbacks from FERC, NWS, USGS, EPA, USACE                   |                                   |
| • General Comments from other SOH Members                                       |                                   |
| 6. Work Group Reports   |                                   |
| a) Hydrologic Modeling Work Group   | J. Webb/D. Glysson                |
| b) Hydrologic Frequency Analysis Work Group                                     | Will Thomas                       |
| c) Hydrologic and Hydraulic GIS Applications Work Group                         | William Merkel                    |
| d) Extreme Storms Work Group  | Tom Nicholson                     |
| e) Satellite Telemetry Interagency Work Group                                   |                                   |
| 7. Current Events within Hydrologic Communities                                 | All                               |
| 8. Announcements and Q&A on Business Reports from Member Organizations          | All                               |
| a) Business Reports   |                                   |
| b) "The SOH CONNECTIONS" Newsletter Editor's Report                             |                                   |
| c) Other?   |                                   |
| 9. Review Action Items  | Richard Raione                    |
| 10. Plans for Next Meeting  | Richard Raione                    |

**Adjourn**

## ATTENDEES

### Subcommittee on Hydrology Members

Representative	Organization/Agency	Participation
Martin Becker	Defenders of Property Rights (DPR)	(phone)
Lee Koss	U.S. Bureau of Land Management (USBLM)	(phone)
Glenn Austin	National Hydrologic Warning Council (NHWC)	(phone)
Will Thomas	Association of State Flood Plain Managers (ASFPM)	(phone)
Thomas Torgensen	National Science Foundation (NSF)	(phone)
David Toll	USDA Agricultural Research Service (ARS)	(phone)
Brian Beuclerl	USDOT Federal Highway Administration (FHWA)	(phone)
Jerry Webb	U.S. Army Corps of Engineers (USACE)	(phone)
Michael Eberle	USDA United States Forest Service (USFS)	
David Wells	US Environmental Protection Agency (EPA)	
Sam Lin	Federal Energy Regulatory Commission (FERC)	
Darwin Ockerman	United States Geological Survey (USGS)	
Richard Raione	U.S. Nuclear Regulatory Commission	
Victor Hom	NOAA National Weather Service	
Claudia Hoeft	USDA Natural Resources Conservation Service (NRCS)	
Donald Woodward	Global Ecosystem Center (GEC)s	

## MINUTES

### 1. Welcome and Introductions

*The January 19<sup>th</sup> meeting of the ACWI SOH was well attended. Some noted participants included former ACWI chair, Mr. Glenn Austin. Glenn is currently the Executive Director for the NHWC. He was serving on the call in the place of Mr. Eugene Stallings, who passed away during the summer of 2011. Glenn noted that they are looking for a NHWC representative to serve as the primary POC. Until then, Kevin Stewart will fill the primary role. Glenn stated the NHWC 2012 goals and actions will focus on offering more Training Opportunities including the change on FEMA's Community Rating System (CRS) Activity 610, which involves credit for flood warning programs. Glenn extended an invitation to the SOH members to the Biennial NHWC Conference to take place from June 3 -6, 2013 in Jacksonville, FL.*

### 2. Review and Approval of Agenda

*The agenda was reviewed with no major revisions. Agenda was approved as is.*

*It was noted that the Review of the Feedback Surveys was important but when these discussions have been completed, ACWI SOH should open the meetings with a guest speaker and topic.*

*Dr. Sam Lin recommended that Dr. Ed Tomlinson be invited to speak..*

### 3. Approval of Minutes from October 20, 2011 Meeting

*Version 2 of the draft minutes was circulated prior to the meeting. Members were asked to submit any revisions which pertained to the October 20<sup>th</sup> meeting to Mr. Victor Hom. Victor has the action to check his emails for any unincorporated revisions. Minutes was approved as is, subject to any new edits.*

#### **4. Status of Action Items from October 20, 2011 Meeting**

*See Action items listed on page 4.*

#### **5. Meeting Topic : Assessing Agency Needs and ACWI SOH Priorities**

*Dr. Richard Raione provided a summary of the collected feedback from the ACWI SOH Survey. Feedback was provided by EPA, FERC, NWS, USACE, and USGS. Since Mr. Robert Mason was not in attendance, USGS will be provided an opportunity to discuss their feedback at the April meeting. All representatives thought that this was a needed task.*

*The agency POCs provided more details about the feedback from their respective agencies. The dialogue centered around the agency priorities and their suggestions on how ACWI SOH could better align within the needs of all stakeholders commensurate with ACWI SOH's purpose and scope.*

*Some of the comment themes include:*

- *The need for scientists to better understand the engineers who use the hydrologic data for operational and regulatory uses.*
- *The acknowledgment of the challenges which scientists are having with respect to climate change/modeling and the lack of data stationarity to support scientific analyses*
- *The impact of these scientific challenges to the engineering community.*
- *Guidelines*
- *Advisory Role*

*The reports are attached to the minutes beginning on page 11. Agencies who have not submitted their feedback are urged to complete the SOH Survey Form by February 17<sup>th</sup>.*

*In addition, SOH Members asked background history about the formation of ACWI as it relates to OMB and the Water Information Coordination Program (WICP). Mr. Will Thomas provided the following background:*

*The Water Information Coordination Program (WICP) of the Department of Interior and the USGS began in 1964 under the Office of Management and Budget (OMB) Circular A-67. In those days, there were two coordination groups, one for the Federal agencies (IACWD) and one for the public sector (ACWDPU). In addition to these two groups, there was also the U.S. Water Resources Council (WRC).*

*In the 1960s and 1970s, the development of flood frequency guidelines was under the auspices of the WRC. There was a Hydrology Committee under WRC. This Hydrology Committee composed of Federal Employees, produced Bulletin 15 in 1967, Bulletin 17 in 1976, Bulletin 17A in 1977 and Bulletin 17B in 1981. There were a number of typographical errors in the 1981 version of Bulletin 17B. The Reagan Administration disbanded the WRC in 1982. Bulletin 17B was republished in March 1982, under the auspices of the Interagency Advisory Committee on Water Data (IACWD) since the WRC the original sponsoring agency no longer existed.*

*The authorization for IACWD and ACWDPU was continued in 1992 under OMB M-92-01. The IACWD and ACWDPU were combined into the Advisory Committee on Water Information in 1996 to comprise of both Federal agencies and the public.*

*In summary, the USGS Water Information Coordination Program (WICP) began in 1964 long before OMB M-92-01. Additional info can be found at <http://acwi.gov/acwihist.html>.*

## **6. Work Group Activities**

- **Hydrologic Modeling Work Group**

*Mr. Jerry Webb provided an update on the plans for the 2014 conference. The conference name is now changed to the 2014 Federal Interagency Sedimentation and Hydrologic Modeling Conference (SEDHYD) to better relate to the intent of the conference in its title name. The three sites being considered includes Las Vegas, Reno, and New Orleans. The use of WEBEX is being considered.*

- **Hydrologic Frequency Analysis Work Group**

*Mr. Will Thomas stated that the group is making significant progress. He recognized the contributions of Tim Cohn and Nancy Barth of the USGS to the testing of the new EMA code with the Multiple Grubbs-Beck test. The workgroup will be holding a meeting in March and have been invited to Will's office in Alexandria VA. Mr. Martin Becker commented on the need to decide on the threshold for elevation change which would necessitate a use of the different procedure i.e. EMA versus Bulletin 17B.*

- **Hydrologic and Hydraulic GIS Applications Work Group**

*Mr. Jerry Webb commented that there is some redundancy of this workgroup with ACWI Spatial workgroup. This group may want to re-examine their role and perhaps, focus on flood inundation mapping. Mr. Martin Becker weighed in that there are multiple agencies doing their own version of flood mapping, thus these activities need to be better coordinated. Mr. Victor Hom commented that NWS is working with stakeholders and its partners such as USGS and USACE to Flood Inundation Maps which are linked to the USGS river gage and NWS Forecast Services.*

- **Extreme Storms Work Group**

*Dr. Richard Raione and Dr. Sam Linn both acknowledged the importance of this workgroup. Sam stated that similar to USACE, FERC is a user of the data, depends on the scientist to collect the data, and interpret the data to make recommendations on how to appropriately use the data. FERC has a strong interest to have the Extreme Storms Workgroup re-emphasize that NWS has a role and responsibility to redevelop the PMP. Richard understands NWS predicament and thus have worked with USBR to re-examine the PMPs. Sam reminded that it is imperative that ACWI executive make strong recommendation. Richard acknowledged that it is his intent to bring the recommendations and advice forward from the workgroup to the parent ACWI.*

- **Satellite Telemetry Interagency Work Group**

*Ms. Claudia Hoeft commented that there might be changes to STIWG and the group should coordinate with Dan Schwitalla on any changes.*

**NOTE: Work Group Reports have been appended to the minutes beginning on page 7.**

## **7. Current Events, Business Reports, and Newsletter Update**

**NOTE: Business Reports have been appended to the minutes beginning on page 9.**

## **8. Announcements and Q&A on Business Reports from Member Organizations**

a) Business Reports

*Members are to note the due dates. The reports should be sent two weeks prior to the meeting for inclusion into the agenda and meeting notes.*

b) “The SOH CONNECTIONS” Newsletter Editor’s Report

*Richard will coordinate with Peter to send reminders.*

c) Other ... - NONE –

**9. Review Action Items**

*See Action items listed on this page.*

**10. Plans for Next Meeting**

*EPA will be first choice and FERC will be the alternate. Next meeting will be on April 19<sup>th</sup> from noon to 3PM.*

**Action Items**

<b>Actions</b>	<b>Status</b>	<b>Due Date</b>
<b>All members:</b> Submit respective Agency SOH Survey to Richard and Victor.	Closed	February 17
<b>Victor Hom:</b> Review any unincorporated comments on October minutes. Victor is to check any new email postings.	Complete and to be distribute as final for posting onto ACWI SOH site.	February 17
<b>Victor Hom:</b> Send Draft of ACWI SOH Meeting Minutes for January 2012 to SOH Members after incorporating any new reports or comments.	Complete and distributed for review.	February 17
<b>David Wells:</b> Check for conference meeting room and logistic support for April 19 <sup>th</sup> SOH Meeting at EPA	Meeting to be moved to FERC -	February 23
<b>Sam Linn:</b> Confirm conference meeting room and logistic support for April 19 <sup>th</sup> SOH Meeting at FERC from Noon-3PM	Completed -	February 23
<b>All members:</b> Review Terms of Reference, History, and Membership List posted on ACWI SOH website at <a href="http://acwi.gov/hydrology/index.html">http://acwi.gov/hydrology/index.html</a> and submit any suggestion for changes to Richard and Victor.	ACWI SOH members did a great job on the membership roster. Victor received no other related comments, but will provide his review of the website and webpages.	March 1
<b>Victor Hom:</b> Coordinate with Dr. Tomlinson on his availability to present at upcoming ACWI SOH meeting.	Deferred. Will Thomas and John	March 1

	England will be feature speakers for the April 2012 ACWI SOH meeting.	
<b>Richard Raione/Victor Hom:</b> Discuss ACWI SOH's purpose and its role as it relates to ACWI, OMB, 92-01, and any other related authorizations with Wendy Norton.	Richard has reached out to Wendy. Richard and Victor have re-examined ACWI-SOH's TOR and supporting materials. They are committed to rechanneling this group to its purpose.	March 15
<b>All members:</b> Submit current events and business reports on FY12Q2 activities to Richard and Victor in preparation for April 19 <sup>th</sup> meeting.	-	April 5
<b>All members:</b> Submit newsletter articles to ACWI SOH editors: Peter Chaput.	-	April 5
<b>Work Group chairs:</b> Send Work Group status reports to Richard and Victor in preparation for April 19 <sup>th</sup> meeting.	-	April 5
<b>Claudia Hoeft:</b> Draft a standard procedure regarding welcome to meetings and expectations / needs of guests who wish to attend SOH meetings.	Claudia to provide draft and discuss at April meeting.	April 19
<b>Kevin Stewart:</b> Identify NHWC/Washington DC representative for ACWI SOH.	Members are to submit recommendations to Glenn and Kevin	April 19
<b>John Osterberg:</b> Identify Dr. Ian Ferguson will be USBR Primary representative for ACWI SOH.	Completed - Dr. Ian Ferguson will be a welcome addition	April 19
<b>Dan Schwitalla:</b> STIWG draft statement of concern regarding bandwidth sell off impact on hydrology and hydraulic data collection and availability.	Carried forward	No date assigned
<b>Completed Actions from Prior Meeting</b>	<b>Status</b>	<b>Due Date</b>
<b>Claudia Hoeft:</b> Investigate what is required for a final report and dissolving a work group.	Claudia emailed Wendy Norton with questions regarding dissolution of Work Groups on 01-18-2012.	Completed

Final

## Work Group Reports

### Hydrologic Frequency Analysis Work Group (HFAWG) Report for the January 19, 2012 meeting of the Subcommittee on Hydrology

#### Background

A major objective of the Hydrologic Frequency Analysis Work Group (HFAWG) is to increase the usefulness of Bulletin 17B, *Guidelines for Determining Flood Flow Frequency*, which are used by all Federal agencies. The current guidelines were published in March 1982 and have not been updated to incorporate advancements in frequency analysis over the last 30 years.

In November 2005, the HFAWG developed a plan to investigate possible improvements in statistical procedures for frequency analysis. This plan titled “Flood Frequency Research Needs and Possible Improvements to Bulletin 17B” is posted on the work group web site at <http://acwi.gov/hydrology/Frequency/>. An important part of this plan was to evaluate the performance of the Expected Moments Algorithm (EMA) for analyzing historical flood data, high and low outliers and to compare this new procedure to the existing Bulletin 17B procedures. The potential advantages of EMA include the use of multiple thresholds and historical periods for analyzing historical floods and high outliers, the use of intervals rather than point estimates for characterizing annual peaks, and the use of greater than or less than values for annual peaks.

In August 2007, 82 long-term stations were chosen as a basis for testing EMA and the current Bulletin 17B procedures. A subgroup of the HFAWG, a Data Group, proposed various tests for the observed data and for Monte Carlo testing on simulated data. The proposed testing scheme was provided to another subgroup of the HFAWG for performing the testing.

In November 2009, the HFAWG met to discuss testing of the observed data at the 82 long-term stations. The test results and the associated report were completed by John England, Bureau of Reclamation; Tim Cohn, U.S. Geological Survey; and Nancy Steinberger, Federal Emergency Management Agency. At the November 2009 meeting, additional testing was proposed by the HFAWG.

Based on the early testing on observed data, it became apparent that the EMA procedure was not performing as well as anticipated for stations with low outliers. In early 2011, Tim Cohn, USGS, developed a Multiple Grubbs-Beck test that was incorporated in the EMA computer code. The Multiple Grubbs-Beck test allows for detection of several low outliers in a single run and eliminates some of the engineering judgment needed in frequency analysis.

#### Recent Progress

In the Fall of 2011, USGS (Tim Cohn and Nancy Barth) completed testing on the data at the 82 long-term stations and performed several Monte Carlo simulations using the new EMA code with the Multiple Grubbs-Beck test. For five of the longest observed records (> 100 years), data samples of size 40 were randomly resampled from the longer record. Specifically three estimators were evaluated for both observed and simulated data:

- Bulletin 17B with the current Grubbs-Beck low outlier test,
- Bulletin 17B with the new Multiple Grubbs-Beck low-outlier test, and

- EMA with the new Multiple Grubbs-Beck low-outlier test.

The three estimators were evaluated to identify differences due to EMA and differences due to the new Multiple Grubbs-Beck low outlier test.

The data sets for the 82 long-term gaging stations were updated through the 2010 water year where the data were available. Using the three estimators above, the relative percent differences were summarized for the 10-, 1- and 0.2-percent chance flood discharges for all stations. A summary of results is provided for four types of data:

- Systematic gage data only, no historical or low outlier data (23 stations)
- Stations with historical data and high outliers (18 stations)
- Stations with low outliers but no historical data (20 stations)
- Stations with low outliers, historical data and high outliers (21 stations)

There were 21 stations where the 1-percent chance discharges differed by 9 percent or more for Bulletin 17B with the current Grubbs-Beck low outlier test and EMA with the Multiple Grubbs-Beck low outlier test. Frequency plots for these stations were prepared as well as a discussion of reasons for the differences.

The three estimators were also applied to the simulated data and the resampled observed data. Box plots were used to compare for the three estimators for the 1-percent chance flood discharge and the differences were discussed. The synthetic frequency distributions used in the testing were developed by Beth Faber, USACE. The types of analyses included:

- simulated data from assumed log-Pearson Type III distributions with positive and negative skews,
- mixed distributions of two log-Pearson Type III distributions with positive skews,
- concatenation of two log-Pearson Type III distributions with negative skews,
- concatenation of two Generalized Extreme Value (GEV) distributions, one with negative skew and one with positive skew; and
- resampling from the observed record for five gaging stations with more than 100 years of annual peak data.

A draft report has been prepared and is being finalized for transmittal to the HFAWG. Plans are to send out the report by March 1 and have a HFAWG meeting on March 19, 2012 at Michael Baker's office in Alexandria, VA to discuss the testing described above. The objective of the meeting is to develop recommendations for revising Bulletin 17B.

Will Thomas  
Michael Baker, Jr.  
January 18, 2012  
Revised January 20, 2012

## Business Reports

### FERC Report for SOH Meeting on January 19, 2012 Submitted by Sam Lin, FERC

- On November 7&8, 2010 FERC participated in a Board of Consultant (BOC) meeting on the Piru Creek Site-Specific PMP/PMF Study for determination of spillway adequacy at Santa Felicia Dam and Pyramid Dams. This Site-Specific PMP Study is a joint effort by the United Water Conservation District (UWCD) and the CA Department of Water Resources (DWR) for their respective FERC project dams.
- On December 7th and 8th, 2011, FERC attended an ASDSO Dam Failures Investigation Committee Meeting. The committee is tasked to develop a guidance document covering the scope of work, organization, conduct, and follow-up activities that would be used for a dam failure investigation and reporting. The Committee consists of Federal Dam Safety engineers, State dam safety officials, private consultants and owners that have direct and recent experience in the investigation of dam failures including Silver Lake (Michigan), Big Bay (Mississippi), Taum Sauk (Missouri), Hadlock Pond (New York), and Hope Mills (North Carolina) and KaLoko Dam (Hawaii).
- On January 10 and 11th FERC participated in the National Dam Safety Review Board (NDSRB) meeting and the Interagency Committee on Dams (ICODS) meeting. NDSRB focuses on the State dam safety offices and how the Federal dam safety agencies can assist and support the states in carrying out successful dam safety programs. ICODS focuses primarily on the Federal dam safety agencies and the collaboration and cooperation necessary to implement consistent programs.

### NWS Report for SOH Meeting on January 19, 2012 Submitted by Victor Hom, NWS

- On December 14<sup>th</sup>, USGS, USACE, and NWS met to discuss interagency collaboration in enhancing flood risk communications with flood forecast inundation maps. HSD worked with USGS to host this third Quad Agency FIM Meeting and provided a status update on NWS flood inundation mapping (FIM) efforts. NWS reported that there are over 45 interagency FIM projects in which could lead to new AHPS FIM Libraries. HSD provided screenshots of the new AHPS Google-based FIM <<<http://ahpsdev.enable-us.com/ahps/inundation.php>>>. See link <<[http://apps.weather.gov/tempdocuments\\_ext/QuadAgency\\_FIM\\_Meeting\\_Hom\\_20111214\\_Final.ppt](http://apps.weather.gov/tempdocuments_ext/QuadAgency_FIM_Meeting_Hom_20111214_Final.ppt)>> . for a copy of the NWS presentation. USGS followed with presentations on their collaborations with NWS in linking the AHPS FIM libraries with FEMA Hazus-MH Analysis to show the socio-economic impacts of flooding and screen-shots of the coupled analysis on the USGS Flood Inundation Mapping Initiative (FIMI) Viewer. Afterwards, there was an open discussion to brainstorm on an efficient business model for interagency collaboration to develop flood forecast gage-based flood inundation maps.
- NWS has been participating in FEMA's LAMP (Levee Analysis and Mapping Approach) for Non-Accredited Levee System Forums and will be providing feedback on the new approaches used to evaluate the flood risk behind non-accredited levees. The new approaches include enhanced modeling behind levees and levee segments. HSD has the action to coordinate a collective response on behalf of NWS to FEMA. More information about these approaches can be found at: <<[http://www.fema.gov/plan/prevent/fhm/lv\\_lamp.shtm](http://www.fema.gov/plan/prevent/fhm/lv_lamp.shtm)>>.
- There will be an ICWP (Interstate Council on Water Policy) Washington Roundtable March 13-16. For more info, please see the following link: <<<http://www.icwp.org/cms/>>>.

**NRC Report for SOH Meeting on January 19, 2012**  
**Submitted by Richard Raione, NRC**

- The U.S. Nuclear Regulatory Commission (NRC) will be hosting the Annual (24<sup>th</sup>) Regulatory Information Conference (RIC) on March 13-15, 2012, at the Bethesda North Marriott Hotel and Conference Center in Rockville, Maryland. The RIC brings together more than 3,000 participants from over 34 countries and offers an opportunity for government, industry, international agencies and other interested stakeholders and members of the public to meet and discuss safety and security initiatives and developments in the regulatory arena. Registration is free, see weblink for details: <https://ric.nrc-gateway.gov/ricregistration.aspx>
- In particular, the technical sessions that folks may be interested in attending include Session T6 (March 13) – International Panel Discussion on Assessing Environmental Risk from Radioactive Releases and Session W10 (March 14) - Flooding: Lessons Learned and Near-Term Regulatory Actions. See attachment for more details. Additionally, tabletop and poster presentations that may be of interest include “One Year Later: Implementing Lessons-Learned from Fukushima” and “Tsunami Hazards: Overview of NRC Safety Review Process, NRC-Supported Research, and NRC Plans for Updating Guidance.
- A desalination plant video from the USBR is posted at the website: <http://www.usbr.gov/> under the link referencing the Secretary of Interior Salazar and the USBR Commissioner Connor’s video about the world’s largest inland desalination plant located in El Paso, Texas. This plant produces about 27.5 million gallons per day of fresh water and struck me as a very impressive step forward and accomplishment dealing with water resources and protection. If you are interested in learning more about this project, please also see the link: [http://www.epwu.org/water/desal\\_info.html](http://www.epwu.org/water/desal_info.html)

**Agency Assessments (See attached for individual reports and comments)**

From FERC

Advisory Committee on Water Information  
Subcommittee on Hydrology

Assessments of Needs and Priorities  
Subcommittee on Hydrology

<http://acwi.gov/hydrology/>

Agency: FERC

Agency's Top Three Hydrology Needs for FY2012 and FY2013

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

Suggestions on how ACWI SOH could help address your agency needs

*FERC is a pure operational engineering agency, and does not conduct scientific research in the aspects of hydrology/hydraulics. But we intend to adopt improved hydrologic/hydraulic technology, and/or updated related business information, like HMR, to meet best engineering practice. FERC will be pleased to take on advancements in hydrology/hydraulics when developed in the engineering society, and update its existing engineering guidelines as appropriate.*

Suggestions on how ACWI SOH could realign our efforts to support your goals

\_\_\_\_\_  
\_\_\_\_\_

**Extreme Storm Events Work Group**

<http://acwi.gov/hydrology/extreme-storm/index.html>

Applicability from 1 to 10 (10 Highest): 6

Suggested Priority 1 to 10 (10 Highest): 6

Recommendations: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Agency POC: Samuel Lin

**Hydrologic Frequency Analysis Work Group**

[http://acwi.gov/hydrology/FA\\_terms.html](http://acwi.gov/hydrology/FA_terms.html)

Applicability from 1 to 10 (10 Highest): 5

Suggested Priority 1 to 10 (10 Highest): 5

Recommendations: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Agency POC: Samuel Lin

**Satellite Telemetry Interagency Work Group**

<http://acwi.gov/hydrology/stiwig/index.html>

Applicability from 1 to 10 (10 Highest):   1    
Suggested Priority 1 to 10 (10 Highest):   1  

Recommendations: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Agency POC:   Samuel Lin  

**Hydrologic Modeling Work Group**

<http://acwi.gov/hydrology/Hydro-Modeling/index.html>

Applicability from 1 to 10 (10 Highest):   5    
Suggested Priority 1 to 10 (10 Highest):   5  

Recommendations: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Agency POC:   Samuel Lin  

**Hydrologic & Hydraulic GIS Applications Work Group**

<http://acwi.gov/hydrology/h2gisa/index.html>

Applicability from 1 to 10 (10 Highest):   4    
Suggested Priority 1 to 10 (10 Highest):   4  

Recommendations: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Agency POC:   Samuel Lin

From NWS

**Advisory Committee on Water Information  
Subcommittee on Hydrology**

**Assessments of Needs and Priorities**

**Subcommittee on Hydrology**

<http://acwi.gov/hydrology/>

Agency's Top Three Hydrology Needs for FY2012 and FY2013

1. Improve the quantification and communication of flood risks to enhance the accuracy, timeliness, and specificity of flood forecast and warnings.
2. Under the auspices of the Integrated Water Resources Science and Services, work collaboratively with other federal water agencies to leverage resources. Initial areas for collaboration include system interoperability and data synchronization, flood inundation mapping, and multi-disciplinary summit-to-sea water modeling.
3. Implement a National Water Center for multi-agency coordination of water resources forecasts and decision support.

Suggestions on how ACWI SOH could help address your agency needs

ACWI SOH should serve in an advisory role to help ACWI meet its objectives, namely "The purpose of the ACWI is to represent the interests of water-information users and professionals in advising the Federal Government on activities and plans related to Federal water-information programs ..." and "... the ACWI will consider the effectiveness of existing water information programs and recommend modifications needed to respond to changes in legislation, technology and other conditions." (ACWI charter [http://acwi.gov/a\\_charter.pdf](http://acwi.gov/a_charter.pdf) )

Specifically the SOH should catalog existing Federal water information programs and catalog the needs of appropriate constituents. The SOH should further evaluate the effectiveness of these programs in meeting constituents' needs. The programs should be evaluated collectively rather than as individual programs so that gaps, overlaps and potential efficiencies can be identified and provided to ACWI as recommended modifications.

Suggestions on how ACWI SOH could realign its efforts to support your agency goals

To ensure success of SOH workgroups, agencies must be willing to make programmatic changes and commit resources. To fulfill work group charters, SOH should garner the backing of the parent ACWI. Workgroups and SOH itself should be staffed by agency representatives authorized to recommend change.

To increase the effectiveness of workgroups, ACWI SOH could have greater oversight of workgroups to ensure the purpose, scope, and functions as stated in the respective "Terms of Reference" are carried out. ACWI chair/vice-chair could help the workgroup stay focused on the desired outcomes and prescribe the methods to achieve the outcomes.

After the workgroup completes the work and makes the recommendations, either the workgroup chair or the subcommittee chair/vice-chair should promote and follow-up with the parent ACWI group. Actions assigned by the ACWI board to its member organization with respect to each recommendation should be periodically tracked by ACWI SOH. In addition,

after the workgroup completes their findings and provides the recommendations, the group should be closed as instructed in the “Terms of Reference”. A final report citing the recommendations posted on the ACWI SOH website would be helpful.

The ACWI SOH chair/vice-chair and workgroup chair should collectively work with ACWI to identify the resources necessary to carry out the desired outcomes.

**Extreme Storm Events Work Group** <http://acwi.gov/hydrology/extreme-storm/index.html>

Applicability from 1 to10 (10 Highest): 9

Suggested Priority 1 to 10 (10 Highest): 8

Recommendations: ESWG has made a good start by identifying and implementing methods for providing the *Catalog of Extreme Storms* in electronic form. The charge of developing a “detailed scope of work/plan of study and determine the necessary funding requirements to update the *Catalog of Extreme Storms* and *Hydrometeorological Reports*” needs to be completed and submitted to ACWI as a recommendation for action. ESWG should conduct its business as a project with a defined life and specific deliverables rather than an on-going study group.

Agency POC: Victor Hom, NWS Office of Climate, Water and Weather Services (Geoff Bonnin can serve in a review role)

**Hydrologic Frequency Analysis Work Group** [http://acwi.gov/hydrology/FA\\_terms.html](http://acwi.gov/hydrology/FA_terms.html)

Applicability from 1 to10 (10 Highest): 9

Suggested Priority 1 to 10 (10 Highest): 8

Recommendations: HFAWG has been in existence for over a decade. SOH should review the activities of the HFAWG. SOH may need to revise the “Terms of Reference” or develop a new charter recommending specific deliverables with a specific finite schedule. HFAWG deliverables should be limited to recommendations for action to ACWI. The group is unfunded volunteers and should not be expected to develop new studies or methods itself.

Agency POC: Victor Hom, NWS Office Climate, Water and Weather Services

**Satellite Telemetry Interagency Work Group** <http://acwi.gov/hydrology/stiwig/index.html>

Applicability from 1 to10 (10 Highest): 8

Suggested Priority 1 to 10 (10 Highest): 8

Recommendations: Most recently, the backup of GOES DCS and funding resources were drivers for STIWG to interact with the ACWI SOH, as hydrology is a major benefactor of the DCS. Concerns related to STIWG and GOES DCS periodically arise. As such activities either related to STIWG, NOAA NESDIS, and USGS EDDN could be part of the business report or topical item for the meeting. ACWI SOH could request business reports or topical updates related to GOES DCS from member agencies who support this type of activity.

Agency POC: Kay Metcalf NOAA NESDIS, Brian Jackson NWS OHD

**Hydrologic Modeling Work Group** <http://acwi.gov/hydrology/Hydro-Modeling/index.html>

Applicability from 1 to10 (10 Highest): 9

Suggested Priority 1 to 10 (10 Highest): 6

Recommendations: It is our understanding that Hydrologic Modeling Work Group ensures better understanding of new sciences and applications for modeling (input, output, and

applications) which govern the entire hydrologic cycle. As such, NWS would like to better understand the recommendations of this workgroup and how they might support Summit to Sea hydrologic modeling.

NWS is concerned about the resources needed to organize and conduct the Joint Federal Conference on Sedimentation and Hydrologic Modeling (abbreviated as SEDHYM). NWS would like ACWI SOH to consider hosting this conference in conjunction with other venues supported by larger NGOs, who interact with Federal, State, local, and private sectors, such as NHWC or AGU.

Agency POC: Victor Hom, NWS Office Climate, Water and Weather Services

### **Hydrologic & Hydraulic GIS Applications Work Group**

<http://acwi.gov/hydrology/h2gisa/index.html>

Applicability from 1 to 10 (10 Highest): **6**

Suggested Priority 1 to 10 (10 Highest): **3**

Recommendations: NWS would like ACWI SOH to evaluate the objectives and accomplishments of this workgroup, promote recommendations meeting the charge, and track and document outstanding objectives/work. Coordination with the Subcommittee on Spatial Water Data (SSWD) should continue. ACWI SOH should consider sending an ACWI SOH member to serve as SOH liaison to monitor SSWD related activities, provide SOH member input, and report back to SOH on related activities, either as part of the meeting or attachment to the minutes. Member agencies who are involved with ESRI could also provide related notes as part of their business reports on their H&H GIS activities.

Agency POC: Victor Hom, NWS Office Climate, Water and Weather Services

## USGS Response – Robert Mason

### Advisory Committee on Water Information Subcommittee on Hydrology

#### Assessments of Needs and Priorities

#### Subcommittee on Hydrology <http://acwi.gov/hydrology/>

#### Agency's Top Three Hydrology Needs for FY2012 and FY2013

1. The USGS is engaged with numerous partners to establish a more holistic, WaterSMART program for quantifying major aspects of the water budget (Precipitation, ET, surface water, groundwater, water use) as well as ecosystem needs and water-quality limitations on the availability of water. The SOH could provide a sounding board for some aspects of that program and facilitate interactions with SOH member agencies and organization.
2. Flood-inundation modeling is an evolving practice that provides GIS-based interpretations of flood inundation forecasts. The USGS is working with the USACE and NOAA to develop common protocols for flood-inundation maps so that users can receive consistent information about the extent, timing, and statistical characterization of flood risk regardless of the source of the underlying model. SOH could enhance this collaboration by providing a forum for member agencies and organizations to discuss, support, and even join this effort this effort.
3. Stabilize the streamgage network and implement the National Streamflow Information program. SOH should continue to provide opportunities for agency members to highlight the plight of our basic data-collection networks such as the streamgage network, NWS precipitation and radar networks, and USDA Snowtel and fire weather monitoring as well as related products like the NOAA hydrologic atlases and USGS state flood-frequency reports that require updating and enhancements for better use.

#### Suggestions on how ACWI SOH could help address your agency needs:

The USGS is a partner driven, service organization, but we value the SOH for enabling us to discuss our efforts and better understand the efforts of others in regard to hydrology. We would hope that SOH would continue to identify and advertise activities underway in other agencies and organizations that can be used to develop or complement USGS applications efficiently through so that working together we can meet multiple agency needs. The SOH should continue routinely provide a forum for agencies to discuss their current activities and seek input from colleagues.

#### Suggestions on how ACWI SOH could realign its efforts to support your agency goals:

ASCE and other agencies put out occasional status reports related to America infrastructure and it might be possible for the SOH to do the same for the data networks and related technologies, methods, and access portals and databases.

Rather than relying solely on workgroups SOH might consider sponsoring multi-day forums to assemble agency representatives with similar interests who will receive a short-term charge, assemble, review information and data related to specific issues and

then provide a recommendation back to the SOH. The short-term status of the forums might provide timely information for SOH decisions on current issues before they become stale and allow different mixes of agency representatives to interact.

**Extreme Storm Events Work Group** <http://acwi.gov/hydrology/extreme-storm/index.html>

Applicability from 1 to 10 (10 Highest): 9

Suggested Priority 1 to 10 (10 Highest): 8

Recommendations:

In order to restore their effectiveness, this Work Group needs to resolve internal conflicts and begin to move forward to complete the charge they have received and accepted. The Group needs to follow the ACWI's request to develop a work plan and cost estimate to update the Catalog. Their work supports important tasks that the Bureau of Reclamation is performing for the Nuclear Regulatory Commission.

Agency POC: Robert Mason, USGS Water Mission Area, Office of Surface Water

**Hydrologic Frequency Analysis Work Group** [http://acwi.gov/hydrology/FA\\_terms.html](http://acwi.gov/hydrology/FA_terms.html)

Applicability from 1 to 10 (10 Highest): 10

Suggested Priority 1 to 10 (10 Highest): 10

Recommendations:

This workgroup needs to draw to close the study of the Bulletin 17B update, report out to the Subcommittee, and produce a final recommendation concerning new flood-frequency statistical procedures (including EMA) no later than March 31, 2012. Following the approval of the recommendations by the SOH and endorsement by ACWI, the Group must focus on the preparation of the Bulletin 17B update and its publication. As a next step, the workgroup should start investigating the status and needs for status of work on non-stationarity trends detection. It would also seem worthwhile to have some general guidance for estimation of flood-frequency information through model simulation.

Agency POC: Timothy Cohn, USGS Water Mission Area, Office of Surface Water

**Satellite Telemetry Interagency Work Group** <http://acwi.gov/hydrology/stiwig/index.html>

Applicability from 1 to 10 (10 Highest): 7

Suggested Priority 1 to 10 (10 Highest): 7

Recommendations:

Challenges for GOES DCS are increasing. The impacts of proposals for sell-off of wireless spectrum, the difficulty of funding new launches, and pressing needs for two-way communications with field instruments demand attention. STIWG needs to establish a more active dialogue with user agencies and the broader hydrologic and meteorological community to ensure that these impacts are understood and that agencies can identify alternatives for communication with field instruments. The presence of STIWG within SOH helps the communications flow, but only to the extent that STIWG members actively engage the SOH with regular reports and attendance. The STIWG should prepare a white paper for ACWI discussing the wireless spectrum sell-off and its impact on GOES DCS and identify potential alternatives. USGS is

considering the formation of an internal group to study alternatives to GOES DCS. Any work by STIWG should be shared with the USGS group and the USGS study group will do likewise.

Agency POC: Daniel Schwitalla, Water Mission Area, NWIS Program

**Hydrologic Modeling Work Group** <http://acwi.gov/hydrology/Hydro-Modeling/index.html>

Applicability from 1 to 10 (10 Highest): 7

Suggested Priority 1 to 10 (10 Highest): 8

Recommendations:

This Work Group seems to have lost focus or function aside from sponsoring the Federal Modeling Conference. It maybe that the group can simply be renamed and charge with that sole activity, or perhaps it could be re-chartered. There are useful activities on which it could work. It could ensure a better understanding of current modeling efforts by reporting compiling a report on agency activities including efforts to model energy-related issues like hydraulic-fracturing. The Group should consider moving towards studies of GCMs, particularly downscaling for hydrologic applications.

Agency POC: Darwin Ockerman, Water Mission Area, Office of Surface Water;  
Alternate: Lauren Hay, Water Mission Area, National Research Program

**Hydrologic & Hydraulic GIS Applications Work Group** <http://acwi.gov/hydrology/h2gisa/index.html>

Applicability from 1 to 10 (10 Highest): 6

Suggested Priority 1 to 10 (10 Highest): 3

Recommendations:

We are unclear about how the scope of this workgroup is distinct or overlaps the broader ACWI workgroup on GIS and spatial data. It is not clear that there is a compelling argument for both. It may be that the membership could be combined with the ACWI spatial data workgroup?

Agency POC: Paul Rydlund, Water Mission Area, Missouri Water Science Center

**EPA Response – David Wells  
Advisory Committee on Water Information  
Subcommittee on Hydrology**

**Assessments of Needs and Priorities  
Subcommittee on Hydrology**

<http://acwi.gov/hydrology/>

Agency’s Top Three Hydrology Needs for FY2012 and FY2013

1. Drainage from Ag lands – Information regarding location, intensity, etc.
2. Data Standards and Data integration – including the use of Open MI for data exchange between models, and the use of web services
3. Federal Interoperability - such as using standardized web schemas across the Federal government for water quality data

Suggestions on how ACWI SOH could help address your agency needs

Provide overviews of other Agencies involvement or participation in topics such as:

- Geosequestration - data, systems, business cases
- Marine (Ocean) Policy - stressors to marine coastal environments
- Economic analysis for hydrologic modeling
- FGDC Geoplatform
- Cloud computing needs for hydrology

Suggestions on how ACWI SOH could realign our efforts to support your goals

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**Extreme Storm Events Work Group**

<http://acwi.gov/hydrology/extreme-storm/index.html>

Applicability from 1 to10 (10 Highest):   5  

Suggested Priority 1 to 10 (10 Highest):   8  

Recommendations: \_\_\_\_\_

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Agency POC: \_\_\_\_\_

**Hydrologic Frequency Analysis Work Group**

[http://acwi.gov/hydrology/FA\\_terms.html](http://acwi.gov/hydrology/FA_terms.html)

Applicability from 1 to10 (10 Highest):   5  

Suggested Priority 1 to 10 (10 Highest):   8  

Recommendations: \_\_\_\_\_

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Agency POC: \_\_\_\_\_

**Satellite Telemetry Interagency Work Group**

<http://acwi.gov/hydrology/stiwig/index.html>

Applicability from 1 to10 (10 Highest):   2  

Suggested Priority 1 to 10 (10 Highest):   1  

Recommendations: \_\_\_\_\_  
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Agency POC: \_\_\_\_\_

**Hydrologic Modeling Work Group**

<http://acwi.gov/hydrology/Hydro-Modeling/index.html>

Applicability from 1 to10 (10 Highest):   7  

Suggested Priority 1 to 10 (10 Highest):   7  

Recommendations: \_\_\_\_\_  
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Agency POC: Gabriel Olchin, [crem@epa.gov](mailto:crem@epa.gov) EPA Counsel for Regulatory Environmental Modeling (CREM) \_\_\_\_\_

**Hydrologic & Hydraulic GIS Applications Work Group**

<http://acwi.gov/hydrology/h2gisa/index.html>

Applicability from 1 to10 (10 Highest):   7  

Suggested Priority 1 to 10 (10 Highest):   6  

Recommendations: \_\_\_\_\_  
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Agency POC: Carmen Maso [maso.carmen@epa.gov](mailto:maso.carmen@epa.gov) Chair EPA GIS Workgroup - Co-chair, Allison Landsman, [landsman.allison@epa.gov](mailto:landsman.allison@epa.gov) \_\_\_\_\_

## USACE Response – Jerry Webb

### Advisory Committee on Water Information Subcommittee on Hydrology

#### **Assessments of Needs and Priorities Subcommittee on Hydrology**

<http://acwi.gov/hydrology/>

Agency's Top Three Hydrology Needs for FY2012 and FY2013

1. Coordinate ongoing science of climate change into developing best engineering practices. USACE is an engineering organization and has the responsibility to design, operate, and construct water resources projects. Currently there is much development of science of climate change but very little practical applications to hydrologic engineering.
2. The issue of stationarity needs to be addressed in a practical applied methodology. There has been a lot of discussion indicating that current practices are not accurate due to issues of non-stationarity but there has been no real progress made on developing a new procedure that provides better results.
3. The current HMR documents are outdated but still represent the only basis for development of PMP and assessment of extreme storms. A long-term plan is needed with a federal entity assigned the responsibility for updating or developing a new methodology for estimating the magnitude of extreme storm events.

Suggestions on how ACWI SOH could help address your agency needs

ACWI SOH serves a significant coordination role related to hydrologic engineering issues. The problem is that members representing these organizations do not have the fiscal authority to commit resources to specific technical efforts. In order for SOH to address specific agency needs there needs to be some process available through the connection to ACWI to dedicate funds/resources. Otherwise this organization will be restricted to a communication/coordination/advisory capacity.

Suggestions on how ACWI SOH could realign our efforts to support your goals

USACE is involved in several interagency collaborative efforts that have essentially the same objectives and goals as ACWI SOH. SOH should either associate with those efforts or restrict their role into an oversight responsibility. There are too many initiatives with redundant objectives and SOH has not been identified as lead in any of those initiatives.

#### **Extreme Storm Events Work Group**

<http://acwi.gov/hydrology/extreme-storm/index.html>

Applicability from 1 to 10 (10 Highest):   9  

Suggested Priority 1 to 10 (10 Highest):   9  

Recommendations: Currently this group is meeting short term needs of NRC and improving the database of extreme storms, but there is need for development and resourcing of a long-term plan.

Agency POC: Jerry Webb/Doug Clemetson

**Hydrologic Frequency Analysis Work Group**

[http://acwi.gov/hydrology/FA\\_terms.html](http://acwi.gov/hydrology/FA_terms.html)

Applicability from 1 to10 (10 Highest):   9  

Suggested Priority 1 to 10 (10 Highest):   9  

Recommendations: There is no shortage of topics and needs identified for this group related to climate change, non-stationarity, etc. The problem is that this group of volunteers and it seems like they only work on issues that are special to the individuals. There has been no focus to bring forth a recommended update to Bulletin 17B even though there has been much effort over recent years. If SOH is unable to produce a technical document /recommendation using current procedures , we need to revisit our approach to see if we can focus on deliverables that are achievable.

Agency POC: \_\_\_\_\_Jerry Webb/ Beth Faber

**Satellite Telemetry Interagency Work Group**

<http://acwi.gov/hydrology/stiwig/index.html>

Applicability from 1 to10 (10 Highest):   5  

Suggested Priority 1 to 10 (10 Highest):   5  

Recommendations: This group has experienced significant lack of support by primary agencies over recent years. It seems like the workgroup has used SOH as a platform to raise issues to senior management of water resources agencies with some short-term success. There is need for a long-term plan to support the data collection/dissemination system in the US and STIWIG should focus more on the long-term plan.

Agency POC: \_\_\_\_\_Jerry Webb/Chandra Pathak

**Hydrologic Modeling Work Group**

<http://acwi.gov/hydrology/Hydro-Modeling/index.html>

Applicability from 1 to10 (10 Highest):   3  

Suggested Priority 1 to 10 (10 Highest):   3  

Recommendations: At this point the primary responsibility of this workgroup is the conference that occurs every four years and coordination with SOS in organizing and addressing technical/logistics of the conference. The charter for the workgroup should be revisited to determine if there is a continual ongoing role. As stated above there are many collaborative efforts that have been initiated which are totally redundant with the technology transfer components of this workgroup.

Agency POC: \_\_\_\_\_Jerry Webb /Chandra Pathak

**Hydrologic & Hydraulic GIS Applications Work Group** <http://acwi.gov/hydrology/h2gisa/index.html>

Applicability from 1 to 10 (10 Highest):   4  

Suggested Priority 1 to 10 (10 Highest):   2  

Recommendations: This workgroup seems to be totally redundant with the ACWI Spatial workgroup. If it focused on a specific application (like inundation mapping) there could be a productive role for the workgroup.

Agency POC:       Jason Fairchild/ Jerry Webb

Final