

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

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

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<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)

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

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 to10 (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

Applicability from 1 to10 (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/stiwg/index.html>

Applicability from 1 to10 (10 Highest): 7

Suggested Priority 1 to 10 (10 Highest): 7

Recommendations:

Challenges for GOES DCS are increasing. The impacts of proposals for selloff 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 to10 (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 to10 (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

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: _____

Agency POC: _____

Hydrologic Frequency Analysis Work Group

http://acwi.gov/hydrology/FA_terms.html

Applicability from 1 to10 (10 Highest): 5

Suggested Priority 1 to 10 (10 Highest): 8

Recommendations: _____

Agency POC: _____

Satellite Telemetry Interagency Work Group

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

Applicability from 1 to10 (10 Highest): 2

Suggested Priority 1 to 10 (10 Highest): 1

Recommendations: _____

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: _____

Agency POC: Gabriel Olchin, 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: _____

Agency POC: Carmen Maso maso.carmen@epa.gov Chair EPA GIS Workgroup - Co-chair, Allison Landsman, 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

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