

Streamflow Information Collaborative – Subcommittee to ACWI-SOH
Conference Call Notes
July 19, 2016

Agenda

The call started at 12 PM EDT.

- Roll Call
- Finalize May conference call notes
- Review meeting notes from last conference call (June, which are attached)
- Schedule next call
- Continue Discussion on Objectives of Workgroup
- Review Charter

Attendees:

Doug Yeskis, USGS
Robert Mason, USGS
Brian Beucler, Federal Highway Administration
Jack Felbinger, Pittsburgh Office, OSM
Dave Goodrich, USDA, ARS
Meredith Carr, NRC
Sara Larsen, WSWC
Jason Todd, EPA
Chris Carlson, US Forest Service
Dan Schwitalla, USGS
Dwane Young, EPA
Peter Evans, Emeritus Interstate Council on Water Policy
Ben Pratt, Susquehanna River Basin Commission

May Conference Call Notes

No changes offered – will finalize notes

June Conference Call Notes

No changes offered – will send for one last review when July call notes are sent out for review

Schedule Next Call

- Agreement that we will skip August call because of so many vacations, etc.
- Agreed to try and set up the week of Labor Day, September 6-9, will send doodle poll to schedule date and time
- Suggestion was made to try and set up a monthly date that we can plan ahead for calls (like the second Tuesday of each month).
 - **Send doodle polls** – Avoid Fridays
 - Tues, Wed., Thurs. most likely – ask 1st, 2nd, 3rd, 4th week, AM or PM, etc.
- Send another doodle poll on getting on more frequent meetings or longer meetings (1 ½ hours) at least for the next few months to make some progress into the objectives of this collaborative, or whether we should proceed as is (one hour calls once a month) – three choices?
- We will discuss the results of the Doodle polls and make final decision during the Sept. call

Discussion on Objectives of Workgroup

Discussion continued from the last call on priorities of the USGS and the discussions centered on the USGS Water Resources Research Institutes (WRRRI) Program and the USGS Cooperative Matching Funds. Doug is to contact Earl Greene (WRRRI Program Coordinator) on past priorities, a powerpoint on basics of WRRRI, and possibility of aligning future research with this workgroup, list of projects funded for the last 5 years, etc. Doug followed up with Earl, who provided a website link (<http://water.usgs.gov/wrri/index.php>), which has also been added in the Web Links pages at the end of each set of notes in the future. As an example, the 2015 and 2016 WRRRI Research Priorities were:

FY 2015 The U.S. Geological Survey in cooperation with the National Institutes for Water Resources requests proposals to support research on the topic of:

- improving and enhancing the nation's water supply, including evaluation of innovative approaches to water treatment, infrastructure design, retrofitting, maintenance, management, and replacement;
- exploration and advancement of our understanding of changes in the quantity and quality of water resources in response to a changing climate, population shifts, and land use changes;
- development of methods for better estimation of water supply, both surface and groundwater, including estimation of the physical supply and of the economic supply of water;
- development and evaluation of processes and governance mechanisms for integrated surface/ground water management; and
- the evaluation and assessment of conservation practices.

FY 2016 Proposals are sought on the topic of improving and enhancing the nation's water supply and availability, and promoting the exploration of new ideas that address or expand our understanding of water problems, including the following specific areas of inquiry (levels of priority are not assigned, and the order of listing does not indicate the level of priority):

- Evaluation of innovative approaches to water treatment, infrastructure design, retrofitting, maintenance, management and replacement.
- Exploration and advancement of our understanding of changes in the quantity and quality of water resources in response to a changing climate, population shifts, and land use changes; including associated economic, environmental, social, and/or infrastructure costs.
- Development of methods for better estimation of water supply, both surface and groundwater, including estimation of the physical supply and of the economic supply of water.
- Development and evaluation of processes and governance mechanisms for integrated surface/ground water management.
- Evaluation and assessment of the effects of water conservation practices, as well as adoption, penetration and permanence.

This discussion also evolved into questions on various USGS programs. Doug was tasked to develop a spreadsheet summarizing the differences between USGS programs, funding, goals etc. to provide in the notes, which is shown here:

USGS Programs			
Program Title	Approximate Federal Funds	Program Goals	Funding Components from Current and Former Programs
Groundwater and Streamflow Information Program (GWSIP)	\$71 M	The GWSIP is funded by Congress to identify, measure, and assess the Nation's water resources. The GWSIP is the principal USGS Program for monitoring groundwater and streamflow, including floods and droughts, related to groundwater resources at the regional/national scales.	GWSIP includes (1) most of the former NSIP; (2) a small part of the Groundwater Resources; (3) part of CMF; (4) and a small part of the Hydrologic Research and Development.
National Water Quality Program (NWQP)	\$90 M	The NWQP provides an understanding of water-quality conditions; whether conditions are getting better or worse over time; and how natural features and human activities affect those conditions.	NWQP components include: (1) the National Water Quality Assessment (NAWQA) Project, including merged monitoring activities formerly in the National Stream Quality Accounting Network (NASQAN), the Hydrologic Benchmark Network (HBN), and the National Monitoring Network (NMN); (2) the USGS-National Park Service Water Quality Partnership; (3) the National Atmospheric Deposition Program; (4) water quality projects supported by CMF; and water quality research activities in the National Research Program.
Water Availability and Use Science Program (WAUSP)	\$42 M	The WAUSP goals are to provide a more accurate assessment of the status of the water resources of the U.S., assist in the determination of the quantity and quality of water that is available for beneficial uses, identify long-term trends in water availability, and develop the basis for an improved ability to forecast the availability of water for economic, energy production, and	WAUSP includes: (1) most of the former Groundwater Resources Program; (2) part of the former Hydrologic Networks and Analysis Program; (3) part of the Hydrologic Research and Development Program; (4) part of the CMF; and (5) a tiny bit of the former NSIP.
Water Resources Research Institutes (WRRRI) Program	\$6.5 M	conducts research that helps resolve State and regional water problems; promotes technology transfer; promotes dissemination and application of research; trains scientists through participation in research; and awards competitive grants under the Water Resources Research Act. WRRRI's at each state Land-Grant University and at the US Commonwealth, District and	Same as before

CMF = Cooperative Matching Funds; FPS = Federal Priority Streamgages; NSIP = National Streamflow Information Program; NSN = National Streamflow Network;

Also a brief discussion on the status of streamgage network analyses where Doug pointed out on the Bibliography listing at the end of each set of notes summarizes what he has been able to find out from USGS offices and other sources. This will be updated for each set of notes. Please contact Doug if you have additional items to be added to the Bibliography or Web Links pages.

The discussion was also on adding to the Collaborative Charter on what stakeholders need to be discussed. The decision was the Charter will evolve as we have the further discussions on the objectives of this workgroup.

The call ended at 1 PM EDT.

Bibliography

USGS Streamflow Network Evaluations:

Bales, J.D., J.E. Costa (chair), D.J. Holtschlag, K.J. Lanfear, S. Lipscomb, P.C. Milly, R. Viger, and D.M. Wolock), 2004, Design of a National Streamflow Information Program -Report with Recommendations of a Committee, Open File Report 2004-1263, <http://pubs.usgs.gov/of/2004/1263/>

Benson, M.A., and R. W. Carter, 1973, A National Study of the Streamflow Data-Collection Program, USGS Water Supply Paper 2028, <http://pubs.usgs.gov/wsp/2028/report.pdf>

Kiang, J.E., Stewart, D.W., Archfield, S.A., Osborne, E.B., and Eng, Ken, 2013, A national streamflow network gap analysis: U.S. Geological Survey Scientific Investigations Report 2013-5013, 79 p. plus one appendix as a separate file, <http://pubs.usgs.gov/sir/2013/5013/>

Lins, H.F., USGS Hydro-Climatic Data Network 2009 (HCDN-2009), USGS Fact Sheet 2012-3047, <http://pubs.usgs.gov/fs/2012/3047/pdf/fs2012-3047.pdf>

Thomas, W.O. Jr. and Wahl, K.L., 1993, Summary of the nationwide analysis of the cost effectiveness of the U.S. Geological Survey Stream-Gaging Program (1983-88), WRIR 93-4168, <http://pubs.usgs.gov/wri/1993/4168/report.pdf>

USGS, 1998, A New Evaluation of the USGS Streamgaging Network – A Report to Congress November 30, 1998, <https://water.usgs.gov/streamgaging/report.pdf>

USGS, 1999, Streamflow Information for the Next Century, Open-File Report 99-456, <http://pubs.usgs.gov/of/1999/ofr99456/>

Streamgaging Evaluation within a State:

Maryland - Cleaves, E.T., and Doheny, E.J., 2000, *A strategy for a stream-gaging network in Maryland*: Maryland Geological Survey Report of Investigations No. 71, 72 p. http://www.mgs.md.gov/reports/RI_71.pdf or <http://md.water.usgs.gov/publications/mgs-ri-71/mgs-ri-71.pdf>

Massachusetts and Rhode Island - Zarriello, P.J., and Socolow, R.S., 2003, The U.S. Geological Survey Streamflow and Observation-Well Network in Massachusetts and Rhode Island: U.S. Geological Survey Open-File Report 03-277, 120 p.

Pennsylvania –Currently a report is in development, close to Bureau approval. Report was of the streamgauge network in PA and the entire Susquehanna River Basin identifying potential gaps in the network and also streamgages with high substitution potential (i.e., redundancy).

Virginia – nothing since the 1980's.

Washington - Konrad, Christopher, and Sevier, Maria, 2013, Physiographic and land cover attributes of the Puget Lowland and the active streamflow gaging network, Puget Sound Basin, Washington: U.S. Geological Survey Data Series 815, <http://dx.doi.org/10.3133/ds815>

Streamgaging Evaluation within a Basin or Region:

Susquehanna River –Currently a report is in development, close to Bureau approval. Report was of the streamgage network in PA and the entire Susquehanna River Basin identifying potential gaps in the network and also streamgages with high substitution potential (i.e., redundancy).

Upper Colorado River - Terry A. Kenney, Susan G. Buto, David D. Susong, 2011, USGS Scientific Investigations Report 2011-5081, <https://pubs.er.usgs.gov/publication/sir20115081>

Others:

Norris, J.M., Lewis, Michael, Dorsey, Michael, Kimbrough, Robert, Holmes, R.R. Jr., and Staubitz, Ward, 2008, Qualitative comparison of streamflow information programs of the U.S. Geological Survey and three non-Federal agencies: U.S. Geological Survey Open-File Report 2007–1426, 11 p., <http://pubs.usgs.gov/of/2007/1426/>

Web Links

USGS

<https://www.usgs.gov/>

Main USGS Web Page

<https://www.usgs.gov/science/mission-areas/water>

USGS Water Mission Area

Groundwater and Streamflow Information Program

<https://www.usgs.gov/science/mission-areas/water/groundwater>

Groundwater and Streamflow Information Program

<http://cida.usgs.gov/ngwmn/index.jsp>

National Groundwater Monitoring Network Portal

<http://water.usgs.gov/nsip/>

National Streamflow Information Program (what is now known as the Federal Priority Streamgages (FPS))

<http://waterdata.usgs.gov/nwis/rt>

NWIS Daily Streamflow Conditions

<http://water.usgs.gov/osw/hcdn-2009/>

USGS Hydro-Climatic Data Network (HCDN-2009)

Water Availability and Use Science Program

<http://water.usgs.gov/watuse/>

Water Use

<http://water.usgs.gov/wausp/>

Water Availability and Use Science Program

Water Resources Research Institutes (WRI) Program

<http://water.usgs.gov/wri/index.php>

Main WRI page

OTHER LINKS TO DATA AND CURRENT CONDITIONS

<http://www.wcc.nrcs.usda.gov/snow/>

NRCS Snow Telemetry (SNOTEL) and Snow Course Data and Products

<http://mvs-wc.mvs.usace.army.mil/dresriv.html>

U.S. Army Corps of Engineers Lake and River Stage

<http://www.usbr.gov/main/water/>

Bureau of Reclamation Water Operations

<http://www.usbr.gov/watersmart/>

Bureau of Reclamation WaterSMART

<http://hydrodesktop.codeplex.com/>

CUAHSI Hydro Desktop

<http://droughtmonitor.unl.edu/>

US Drought Monitor

OTHER LINKS OF INTEREST

<https://www.weforum.org/reports/the-global-risks-report-2016/>

The Global Risks Report 2016 by the World Economic Forum

<http://water.usgs.gov/swaq/docs/strengthening-scientific-understanding-aug-2011.pdf>

Report to Congress Strengthening the Scientific Understanding of Climate Change Impacts on Freshwater Resources of the United States

<http://www.wcc.nrcs.usda.gov/ftpref/support/drought/dmrpt-20160707.pdf>

Example of a weekly newsletter from the NRCS that you can subscribe to.

<http://acwi.gov/spatial/owdi/>

Open Water Data Initiative