

DRAFT

Streamflow Information Network Collaborative – Subcommittee to ACWI-SOH Conference Call Notes January 11, 2017

Agenda

Roll Call

Presentation by Julie Kiang (USGS) on Ungaged Streams

Q & A for her briefing

Workgroup Charter paper

Call started at 11:30AM Eastern/10:30AM Central/09:30AM Mountain/Noon Pacific

Attendees:

Doug Yeskis, USGS

Jack Felbinger, Pittsburgh Office, OSM

Dan Schwitalla, USGS

Dongsoo Kim, NOAA-NWS

Julie Kiang, USGS

Mike Eberle, Forest Service

Robert Mason, USGS

Meredith Carr, Nuclear Regulatory Commission

Michele Eddy, Research Triangle Institute

Sara Larsen, Western States Water Council

Ted Engman,

Thomas Nicholson, Nuclear Regulatory Commission

Notes

- *First Item was a question from Dongsoo Kim referred to Robert Mason at 703-648-5305:*

Non-stream gage US Historical Data; in El Paso Texas

Because of location interested in getting data. Couldn't obtain any from non-USGS sites.

How would portal be incorporated? NGWMN is bringing in historical data. Concern about how portal is bringing in data. Needs to have goals of portal discussed.

Caller asked if data sharing is possible? Data can be downloaded from portal.

- *Second Item was to present Julie Kiang OSW, briefing Using the National Streamgage Network to Estimate Streamflow at Ungaged Locations:*

Goal is briefly overview what we are trying to estimate?

Viewing Temporal and Spatial continuum scales.

What frame of time is being modeled/observational record, a host of different continuums.

Modeling is completed for different purposes and what streamgage is used for.

Impossible to install streamgages everywhere, which is why estimates are performed.

Key question: Is enough of the gaged area tested for the ungaged area to be an accurate assessment for inputs to models.

Need a similarity in upstream simulation to obtain modeling.
Where are the gaps for this purpose?

Sara Larsen Question: Ryan Mueller wasn't able to make call but had info a few months ago. Asked to give a synopsis on streamflow gage has been modeled in this last year?
Only some parts of the country 30-40%, depending on which modeling type used.
Daily time series accumulation is harder to pin down a level of uncertainty because of too many variables & factors. Working on developing tools to look objectively at models. Not a simple question to answer due to all extenuating factors and groups. A lot of information out but not too many centralized discussions.

Doug Yeskis Question: Stationary vs non-stationary field, trends changing over time and how that factors over time for gaged vs non-gaged factor. Need long-term data set, and what processes are involved? If going to make good decisions need a basic level of understanding and ensure what is incorporated into our models.

Ted Engman Question: Data assimilation work is that being worked? Yes, absolutely just depends on where data is being estimated. Resetting model state to match what is happening. Depends on modeling framework and how much is put into data assimilation. Definitely an area that warrants more work going forward.

Sara Larsen Question: Several years ago a presentation talked about looking at models in different regions in the US and an ongoing study effort. Do you know how that played out in the Western Region? Comparing 2 main classes of models. Compare strength and weaknesses of these in SE U.S. If able to calibrate at gage locations. If forced to run in ungaged type of mode it's harder. Relying on transferring. Take away ideally 2 approaches needed to be blended. Initial version of both types of models in the U.S. Working towards bringing in end of FY intent is to have ... (didn't catch) hallway filled with people couldn't hear caller.

Thomas Nicholson Question: To Request a copy of the viewgraphs on a website and for USGS to host the website. – Doug Yeskis will follow up to get a web site for the working group where we can put items such as this powerpoint.

Whether or not this data should be publicly accessible or hidden for only participants?
What about things that are only preliminary?

Robert Mason stated that things are meant to be public, recommends put under SOH and until items are warranted to be public items just shouldn't be linked.

- *Third Item was to discuss Workgroup Charter:*

Has everyone had a chance to review and incorporate their discussion? Goal is to have final discussion/collaborative Charter by AQWIA Meeting scheduled for 22-23 February 2017 at Crowne Plaza Hotel in Herndon, VA.

1st set of comments: 5th bullet no one had concerns of change.

6th bullet: Robert Mason stated to insert measurement & records uncertainty "add records"
Rephrased last paragraph to ensure grammatically correct.

Jack Felbinger Question: How long chairs length of time? Chairs stay for a lengthy period of time, but possible to elect a chair person to re-elected as needed.

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 streamgaging 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 streamgaging 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/wrri/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/swag/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