

**ACWI**  
**Streamflow Information Collaborative (SIC)**  
**Tuesday, August 13, 2019**  
**10:00 am Central**

**Phone:** 1-855-547-8255 (toll free), Access Code 74449#  
1-703-648-4848, Access Code 74449#

**WEBEX:** <https://global.gotomeeting.com/join/882470341>

**Call Purpose:**

- Presentation: *USGS Next Generation Water Observing System*
- Update on streamflow related activities

**Agenda:**

- Approval of agenda – additions/deletions
- Approval of previous minutes
- NextGen Water Observing System presentation
- Info exchange – streamflow information related activities

**Attendees:**

Sandy Eberts (USGS Co-Chair), Sue Lowry (Co-Chair), Mike Woodside, Angela Bowman, Joy Loughry, Michele Eddy, Lisa Pearson, Jeremy Rivord, Richard Rockel, Sam Swartz, James Williams, Bill Kappel, Ben Pratt, Richard Antoine, Shuhai Zheng, Chris Carlson, Douglas Hulstrand, Tom Nicholson, Kyle Blasch, Seyoum Asamenaw, Meredith Carr, Kristen McSwain, Ricardo Quiroga, Tom Littlepage, Witold Krajewski, John Wolf

**Business Portion:**

Approval of agenda – additions/deletions: Agenda approved

Approval of previous meeting minutes: Minutes from 07/09/2019 were adopted

**Presentation:**

USGS Next Generation Water Observing System

by Mike Woodside, Deputy Program Coordinator, Groundwater Streamflow Information Program

Summary: The USGS Next Generation Water Observing System (NGWOS) is a relatively new program that will strategically enhance the temporal and spatial collection of water quantity, quality, and water-use data using robust, innovative technologies to develop readily accessible fit-for-purpose information. There are three components to the USGS NGWOS: (1) water observing network equipment & operation, (2) USGS data management, integration and delivery infrastructure, and (3) USGS hydrologic instrumentation facility. The presentation focused on network equipment and operation. Characteristics of the NGWOS include state-of-the-art measurements, dense array of sensors at selected sites, increased spatial and temporal coverage, new technology testing and implementation, improved operational efficiency, and modernized and timely data storage and delivery. When fully implemented the NGWOS will provide real-time field and remote-sensing data on streamflow, water cycle components (ET, snowpack, soil moisture), numerous water-quality constituents, connections between groundwater and surface water, stream velocity distribution and sediment transport. The NGWOS also includes an effort to better document water use. Intensive monitoring cannot be done

everywhere, so there is an initial effort to focus on ten medium-sized (10,000–20,000 mi<sup>2</sup>) watersheds that represent larger water resource regions in the country. Water use, natural factors, and stakeholder input will inform NGWOS basin selection. A pilot has begun in the Delaware River Basin. The Delaware pilot has focused on instrumenting smaller watersheds and adding some water quality monitoring. Future additions will include groundwater / surface water monitoring. Each NGWOS basin will include one or more innovation testing sites, some of which will focus on operational testing (e.g. radars for water level and velocity, and video images for water velocity) and others will focus on technology testing itself (e.g. waterborne geophysics to understand groundwater / surface water exchange). The USGS is working with the DOD and Homeland Security on some innovative technologies. One innovation site in the Delaware River Basin is near a museum. All data except for technology testing data will be in the public domain. Data from the Delaware River basin pilot can be found on the Delaware River Dashboard, which displays multiple types of data in a single application (<https://webapps.usgs.gov/odrm/viewer/>). The NGWOS is NOT a replacement for existing USGS monitoring networks.

### **Q&A Throughout the Presentation:**

Question: Tom Nicholson asked about groundwater / surface water monitoring. Answer: USGS is using drone-mounted tools to collect data on groundwater / surface water interactions in the Delaware River Basin, including use of temperature data. Streambank piezometers also are being installed near selected streamgages. Q: Nicholson also asked how USGS is using Citizen Science. A: Citizen Science has not yet been formally incorporated into the NGWOS, but it is expected to be. Q: Sue Lowry asked for clarification on collection of water use data. A: Water diversions in the Delaware are being instrumented, as are selected domestic water supply wells. Q: Tom Littlepage asked if the NGWOS will be able to improve rainfall-runoff models. A: The NGWOS data are intended to help reduce uncertainty in multiple types of models by filling in data gaps and providing better information on data quality. Q: Tom asked if the states are being lumped together as a single stakeholder with respect to NGWOS basin selection. A: The USGS is initially engaging its Water Science Centers to learn more about state needs to help narrow down options for NGWOS locations. Once a basin is selected, the USGS team will have a more intimate relation with the state and local stakeholders. Q: Will NGWOS include ocean observations? A: No, NGWOS is focused on Conus monitoring. USGS does monitor storm surge using its rapid deployment gages. Q: What is the relation between NGWOS and the River Forecast Centers? A: The relationship between the NGWOS team within a selected basin and the River Forecast Centers will largely be through the local USGS Water Science Center that is doing most of the data collection in the basin.

### **Round Robin:**

Sue Lowry pointed out that the USGS NGWOS and the USGS Integrated Water Availability Assessments (IWAAs) programs are on the agenda for the upcoming Interstate Council on Water Policy (ICWP) meeting in Mobile, AL, in October.

### **Next SIC Meeting:**

September 10, 2019, 10:00 central.