SOH Member Business Reports (October 2015)

NWS

National Oceanic and Atmospheric Administration's (NOAA) National Weather Service (NWS) National Water Center's Hydrometeorological Design Studies Center (HDSC) has been charged to update the precipitation frequency estimates for various parts of the United States and affiliated territories. Recently, the HDSC published NOAA Atlas 14 Volume 10 for Northeastern States on September 30th. This information is now available on the HDSC Precipitation Frequency Data Server (PFDS) at http://hdsc.nws.noaa.gov/hdsc/pfds. HDSC Quarterly Progress Report for July to September 2015 is available at: http://www.nws.noaa.gov/oh/hdsc/current-projects/progress/201510_HDSC_PR.pdf.

NOAA Central Library routinely sponsors Brown Bag Seminars of various topics of interest to the NOAA Community and Partners. Archives of the seminars are available via the following link: http://www.lib.noaa.gov/about/news/archivebrownbags.html . Recent archived seminars, which were held in the past 6 months and could be of interest to SOH members, include:

- California Drought Service Assessment
- An Improved Multi-Scale Modeling Framework for WRF over Complex Terrain
- Communicating uncertainty about Climate Change
- The Atlantic Hurricane Database Reanalysis Project

In December 2015, NOAA and NCAR Scientists will have a poster at the fall AGU meeting to illustrate the Hydrologic Modeling at the National Water Center: An Operational Implementation of the WRF-Hydro Model to support National Weather Service Hydrology. For more info about the AGU Fall Meeting, please visit https://agu.confex.com/agu/fm15/meetingapp.cgi/Home/0

FERC

In August, FERC participated in a core team meeting to review conceptual plans for remediation of two dams in North Carolina. One dam cannot pass the Probable Maximum Flood (PMF) and the incremental rise of flood waters downstream on activation of a fuse plug could present a hazard to life and property. Another dam can pass the PMF, but fuse plug activation would cause unacceptable downstream flooding.

In August, FERC participated in a meeting at Utah State University, Utah Water Research Laboratory, in Logan, Utah, regarding a dam's hydraulic safety in Brainerd, Minnesota. The purpose of the meeting was to observe and evaluate the hydraulic impacts to the physical model of the Spillway, which was built to evaluate options for designing and constructing a new reinforced concrete apron downstream of the spillway.

In October, FERC participated in the fourth and final review meeting of the Virginia State PMP Study in Richmond, Virginia. The Virginia Department of Conservation and Recreation (DCR) Dam Safety and Flood Management Division has retained Applied Weather Associates (AWA) to perform the study. The final product will be a tool available to licensees for the estimation of a basin-averaged PMP value for watersheds in Virginia.

In October, FERC participated in a Board of Consultants (BOC) meeting and conduct a construction inspection of the spillway expansion work at a dam in Indiana. The work involves modifying the existing gravity overflow spillway to lower its crest and install five vertical lift gates across the spillway to increase the spillway capacity to safely pass the Inflow Design Flood (IDF).

U.S. Geological Survey

Flood report published -The U.S. Geological Survey compiled and published data documenting last month's record setting floods in South Carolina. The USGS report is posted at http://pubs.usgs.gov/of/2015/1201/ofr20151201.pdf.

USGS streamgages recorded peaks of record at 17 locations, and 15 other locations had peaks that ranked in the top 5 for the period of record. During the October 2015 flood event, U.S. Geological Survey personnel made about 140 streamflow measurements at 86 locations to verify, update, or extend existing rating curves, which are used to compute streamflow from monitored river stage.

In the Pee Dee River Basin, a new period of record peak occurred on October 6, 2015, for station 02136000, Black River at Kingstree, with a stage of 22.65 ft and corresponding streamflow of 83,700 cubic feet per second (ft3/s) (fig. 10). This was the largest peak in 87 years; the previous maximum peak occurred on June 14, 1973. Annual maximum peak stage data contained in reports of the National Weather Service indicate the October 2015 peak is the largest since 1893.

USGS Water programs reorganized -The USGS Water Science Strategy (URL: http://pubs.usgs.gov/of/2012/1066/of2012-1066.pdf) identifies water science goals and objectives that serve the Nation and address the water challenges for the future. The Strategy outlines areas where hydrologic science can make substantial contributions to the Nation and identifies opportunities for the USGS to better use its hydrologic science capabilities to address to ensure healthy watersheds and sustainable, secure water supplies, and to minimize impacts of water-related hazards. In doing so, the Strategy is intended to inform long-term approaches to USGS program planning, technology investment, partnership development, and workforce and human capital strategies. The choice of strategic water science priority actions, goals and objectives is based on the guiding principles to *observe, understand, predict* and *deliver* water information that allows society to meet the water challenges of the Nation, current and future.

Beginning in 2016, the USGS is aligning its budget structure to the Water Science Strategy by consolidating its existing seven programs into four major program areas. The first, Groundwater and Streamflow Information Program, focuses on Observing and Delivering. The other three programs, National Water Quality Program; Water Availability and Use Science Program; and Water Resources Research Act all focus on Understanding, Predicting and Delivering.

The Groundwater and Streamflow Information Program (GWSIP) will encompass the USGS objectives to provide long-term, national networks for observation of the vital components of the hydrologic cycle and including activities previously associated with the National Streamflow Information Program (NSIP) such as the USGS streamgaging network, flood monitoring and flood inundation science, as well as those previously comprising the National Groundwater Monitoring Network.

NRCS

October 1-4, 2015 Storms in South Carolina:

NRCS is finalizing report on the performance of the NRCS-assisted floodwater retarding dams during the South Carolina Floods. There are 97 NRCS-assisted floodwater retarding dams covering 27 watershed projects located in northern and western South Carolina, well away from the coastal areas. NRCS field personnel reported flows through several auxiliary spillways, but no damages to the spillways was

reported. An assessment of the benefits provided by these structures is underway. NRCS is also working with other Federal, State, and local agencies and landowners to assess damaged area across the state to determine which might be eligible for recovery assistance through NRCS programs.

Post-fire Erosion and Flooding Potential:
NRCS is working on a GIS-based analysis to determine which areas affected by wildfires in the West are eligible for recovery assistance through NRCS programs. This analysis overlays fire perimeter maps with 10-digit HUCs and land ownership (private vs public) data layers to determine those areas where NRCS assistance might be requested (NRCS works on private lands). We are hoping in future to also use this tool to estimate the cost of post-fire recovery efforts in order to prioritize treatment areas and anticipate the amount of funding that might be requested for restoration activities.