

On May 19, the Western States Federal Agency Support Team (WestFAST) continued its webinar series on federal agency program updates by hosting Ed Clark, Director, National Water Center and Deputy Director, Office of Water Prediction, National Oceanic and Atmospheric Administration (NOAA); Veva Deheza, Executive Director, National Integrated Drought Information System (NIDIS), NOAA; and Mike Strobel, Director, National Water and Climate Center (NWCC) at the U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS).

Clark began by discussing the evolving water services that NOAA is providing to support its 2019-22 Strategic Plan, which includes a focus on delivering national water resource data at all spatial and time scales, providing "minutes-to-months" river forecasts to help quantify hydrologic and atmospheric uncertainty, improving water forecasting in the coastal zone by linking terrestrial and coastal models, and linking flood inundation with geospatial information to inform on-the-ground responses. Much of this work is done through the National Water Model, which is a continental-scale water resources model that provides high resolution, spatially continuous estimates of major water cycle components. It has been expanding geographically and technically since it launched in 2016, and there are plans to increase its capability to support water predictions for water supply purposes. Ultimately, the goal is to provide comprehensive, integrated impact-based decision support services that are underpinned by geo-intelligence.

Deheza provided an overview of NIDIS, beginning with its second reauthorization in January 2019. As part of the reauthorization, NIDIS received an increase in funding to \$14.5M/year until 2023 and direction to focus on partnerships with the private sector and academic institutions, seasonal to subseasonal (S2S) forecasting improvement and predictions, and developing a strategy to implement a soil moisture monitoring network. Discussions at the 2nd National Drought Forum in 2019 around achieving drought resiliency informed ways forward, and NIDIS has been working to implement these ideas across their regions. They have focused on five issue areas, including: (1) links between drought and public health; (2) drought and wildfire; (3) drought impact reporting and analysis, which include an assessment to help assign dollar values to impacts caused by drought; (4) drought indicators and triggers; and (5) the National Soil Moisture Network (NSMN). The NSMN has been in development across federal agencies, and a draft is currently in the process of getting clearance from NOAA. The focus has been around identifying opportunities to coordinate across federal agencies and state partners, specifically integrating federal data with state mesonet data (some of the best equipment and data collection capabilities on-the-ground).

Strobel provided an update on the NWCC, beginning with announcing the recent hiring of Brent Duncan as the Snow Survey and Water Supply Forecasting (SSWSF) Program Manager, a position that has been vacant for ten years. The SSWSF Program spans twelve western states and Alaska, and provides data that inform models used for water forecasting to nearly one million customers. It is comprised of a series of monitoring networks, including SNOTEL monitors that provide soil moisture and temperature information, streamflow stations, aerial surveys, and manual stations that must be maintained each year. They are currently working to shift to telemetry-based remote sensing methods, expand the SNOTEL network, and upgrade their IT capabilities to more modern tools that can better work with the data they are collecting. This includes improvements to their data quality editing system, forecasting model environment and content management system that can provide enhanced data and water supply forecast products. There are concerns with how COVID-19 will affect NWCC's ability to complete the necessary field work to ensure their monitoring networks are online for the next season.

NWCC also leads the Soil Climate Analysis Network (SCAN), which is involved in the efforts to build the NSMN. SCAN has developed installation and maintenance manuals for monitoring stations, and is investing in data quality and database management to ensure a high data standard. They have also developed a Tribal SCAN that works with tribes to install monitoring sites, collect data, and provide access through NRCS. The SCAN program has never had permanent funding through Congress. It has only been funded as an initiative, which has prevented their growth. However, the program could be important in implementing the NSMN. More national investment in development of tools and products to utilize the vast amounts of data coming in will be key to better water management.

WestFAST/USDA

On May 21, Astor Boozer, Regional Conservationist of the West for NRCS, provided an update that focused on the changes to the 2018 Farm Bill and how it has impacted programming at NRCS. Goals of NRCS include overarching conservation outcomes and ensuring farmers are profitable, with a focus on soil

health, water quality and quantity, and wildlife habitat. NRCS does this through multiple programs that provide funding and technical assistance, including the Environmental Quality Incentives Program (EQIP), Conservation Stewardship Program (CSP), Agricultural Conservation Easement Program (ACEP), Agricultural Management Assistance Program (AMA), Healthy Forests Reserve Program (HFRP), and Regional Conservation Partnership Program (RCPP).

A focus of the 2018 Farm Bill was on streamlining processes and customer service to make it easier for farmers to access NRCS planning, technical assistance, and funding opportunities. This included improvements to the Conservation Assessment Ranking Tool, which is used to assess land applications and determine the suite of resource concerns that can be addressed. NRCS is also focused on making the planning process more efficient and improving the information provided about the land so that farmers can use it to gain access to outside resources that will help support their objectives, such as investors or equipment dealers.

A new facet of the 2018 Farm Bill is a focus on source water protection, which is providing an opportunity for NRCS to collaborate with community water systems more than they ever have. While water quantity and water quality are already part of the conservation assessment required to be eligible for funding, this focus has opened up the funding pool to irrigation districts, groundwater districts, and others who want to implement projects that protect source water for quantity and quality purposes. NRCS has been partnering with the U.S. Forest Service, EPA and states on source water protection programs, but more is to be done.

The 2018 Farm Bill increased the EQIP authorization to \$2B until 2023. EQIP is focused on funding new, innovative tools and data to inform conservation practices, including methods like remote telemetry to make better predictions on soil and water use. Booser highlighted improvements to EQIP, including payments for soil testing and remediation. This is important to both understand the progress being made and inform the planning and technical assistance that NRCS can help provide. In addition, Booser mentioned the Conservation Innovation Grants (CIG), competitive grants that are available to EQIP-eligible producers to help drive innovation in resource conservation. The Farm Bill authorized an On-Farm Trials support program to facilitate more widespread adoption of innovative approaches, practices and systems on working lands. Incentive payments are paid to producers to offset the risk of implementing these new approaches.

RCPP is a \$300M program that provides conservation assistance to producers and landowners. Within the RCPP, Watershed Operations implements watershed protection, flood protection, and land rehabilitation programs that provide opportunities to address major resource concerns across the landscape. The Watershed Rehabilitation program focuses on rehabbing infrastructure to extend its useful life and protect soil and water quality, water quantity, and public safety.

The CSP is NRCS' largest conservation program with more than 70 million enrolled acres, which rewards landowners for their conservation efforts. For the past decade, they have implemented a program that pays farmers with land in grassland regions to fallow their land for five years.

ACEP is the easement program that works with farmers to hold easements for NRCS to protect, restore or enhance wetlands, grasslands, and farmland. About one-third of the total easements are held in the West, primarily in California, Colorado, Montana, Oregon, Washington, and Wyoming.

Lastly, Booser mentioned the Voluntary Public Access Habitat Incentive Program (VPA-HIP), which incentivizes forest landowners to provide public access to areas of their land for wildlife and recreation purposes. The 2014 Farm Bill awarded 24 projects, and the 2018 Farm Bill included provisions to expand the reach of this program through state partnerships. The largest award of \$6M has been provided to the Yakima Tribe in Washington.