

The joint meetings began on April 5, with a welcome from the chairs of each organization: ICWP - Drew Dehoff, Executive Director, Susquehanna River Basin Commission; NWSA - Dan Buhman, General Manager, Tarrant Regional Water District (TX); and WSWC - Jennifer Verleger, Assistant Attorney General, North Dakota.

The first panel provided updates on federal water resources data programs and included U.S. Geological Survey (USGS) program managers and coordinators, including: Robert Joseph, Director, Office of Planning/Programming; Mindi Dalton and Brian Clark, Water Availability and Use Science; Lori Sprague, Integrated Water Availability Assessments; Steve Aichele, Topographic Data Services; and Brian Ebel, a research hydrologist. They were joined by Dwane Young, Chief, Water Data Integration Branch, EPA. Joseph talked about critical data provided by streamgages and groundwater monitoring networks, progress on the NextGen Water Observing System, and opportunities to modernize our national water information system. Dalton addressed research and assessment programs and funding under the SECURE Water Act.

Sprague discussed integrated water availability assessments, progress on the national water census, and efforts to improve forecasting and modeling for enhanced decision making. Clark provided an overview of the development of the National and Regional Drought Projects, and an update on the hydrologic drought observations and drought forecast modeling. Ebel's remarks focused on USGS investments in assessing and predicting the effects of wildfires on watersheds, and post-wildfire water availability. Aichele spoke on the development of the 3D Hydrography Program, and integrating topographic efforts with Landsat and many other tools to provide meaningful data and context for observations. Young talked about types of federal, state, and local water data that need to be shared, and the principles and standards to successfully integrate those data to make them searchable.

A non-federal water data panel included Peter Colohan, Director, Internet of Water (IOW), and Adel Abdallah, WSWC Water Data Exchange (WaDE) Program Manager. Peter described the concept and growing development of IOW "hubs," including WaDE. Adel demonstrated the Western Water Data Access and Analysis Tool prototype.

Next, Micheline Fairbank, and Jennifer Carr, respectively Deputy Administrators for the Nevada Division of Water Resources and Division of Environmental Protection, together with Roger Gorke, Senior Policy Advisor, EPA Office of Water, discussed efforts to integrate state and federal emergency response and other resources to advance water planning objectives. The discussed ways to craft requests for funds available through the Federal Emergency Management Agency (FEMA), U.S. Forest Service and other agencies, including Covid relief funds under the American Rescue Plan Act (ARPA).

A panel on groundwater management included WSWC members: Earl Lewis, Chief Engineer and Kenneth Titus, Chief Counsel, Division of Water Resources, Kansas Department of Agriculture, together with Tom Buschatzke, Director, and Amanda Long-Rodriguez, Active Management Area (AMA) Planning Manager, Arizona Department of Water Resources. They described the challenges and efforts to address dwindling ground and surface water resources in an integrated comprehensive manner. Lewis and Titus shared groundwater management tools in Kansas, and lessons learned about the importance of local leadership and how water conservation can also impact economics for the better. Buschatzke and Long discussed Arizona's groundwater regulations and active management plans, the water banking authority, and efforts to store and shift water in order to meet Arizona's diverse needs.

Water supply forecasting and studies were the topic of a panel that included: Glenn Page, retired, Cobb County Marietta Water Authority; Brad Hudgens, Water Supply Business Line Manager, Institute for Water Resources, and Cary Talbot, Chief, Flood and Storm Protection Division, U.S. Army Corps of Engineers (USACE). Page discussed the Cobb County-Marietta Water Authority's long-term efforts to address Corps accounting for made-inflows in the Allatoona system, and to extend water supplies through reuse. Hudgens talked about risk-informed decision making and approaches to risk assessments for reservoir operations and addressing water supply during water shortages. Talbot provided an update on forecast-informed reservoir operations (FIRO) and efforts to take FIRO beyond the pilot project stage, including federal funding and screening processes to identify suitable FIRO candidates.

Basinwide water planning and climate resilience was addressed by: Cherie Schultz, Director, CO-OP Operations, Interstate Commission on the Potomac River Basin; Brandt Thorington, Director, Government Relations, Mississippi River Cities and Towns Initiative (MRCTI); Kenny Blumenfeld, Minnesota Department of Natural Resources State Climatology Office; and David Wunsch, Association of American State Geologists. Schultz gave a presentation on recent efforts to improve climate resiliency, update regional agreements to account for new water supply concerns, and meet infrastructure needs in the Potomac River Basin. Thorington talked about the MRCTI and efforts to effectively utilize available funding for infrastructure to address flooding and other natural disasters, and to improve awareness of how those resources are being used. Blumenfeld talked about the extreme climate variability Minnesota is experiencing now and projected into the

future, with megastorms coinciding with emerging drought conditions, and the complexities of water planning with increasing temperatures and precipitation in that region of the nation. Wunsch presented on the challenges of managing water among competing uses across multiple states in the Delaware River Basin, and efforts to improve climate change resilience.

The last panel of the day addressed state water infrastructure projects and financing with WSWC member states represented by: Brooke Paup, Chairwoman and Jeff Walker, Executive Administrator, Texas Water Development Board; Candice Hasenyager, Director, Utah Division of Water Resources; and Andrea Travnicek, Director, North Dakota Department of Water Resources. Each described the once in a generation opportunity to leverage available state resources and programs with ARPA Covid-relief funds and the Infrastructure Investment and Jobs Act (IIJA), or Bipartisan Infrastructure Law (BIL) authority to address the back-log of water resources projects and needs.

The April 6 presentations included key federal agency officials. The first panel included: Tanya Trujillo, Assistant Secretary for Water and Science, U.S. Department of the Interior (DOI); Michael Brain, Deputy Commissioner, Bureau of Reclamation; and Don Cline, USGS Associate Director for Water. They provided information about funding and authorizations under the IIJA, efforts to respond to drought, water supply needs, and aging infrastructure, and discussed efforts to better leverage partnerships with other federal agencies and states, and improving collaboration on data sharing and support for water data gathering networks.

They were followed by Raffael Stein, Director, Water Infrastructure Division, and John Goodin, Director, Office of Wetlands Oceans and Watersheds, EPA. Stein talked about the historic investment in water infrastructure under the IIJA, primarily distributed through the State Revolving Fund (SRF) program, and technical assistance and other resources for disadvantaged communities. Goodin provided updates on the Clean Water Act rulemaking status for defining Waters of the United States (WOTUS) and §401 State Certifications, and expressed gratitude to the states for their hard work on gathering monitoring and assessment information through the pandemic.

The USACE was represented by Amy Frantz, Senior Policy Advisor to Lieutenant General Scott Spellmon, Chief of Engineers. Her remarks focused on recent significant increases in federal funding for Corps of Engineers projects and efforts to complete the backlog of civil works projects that address water infrastructure and water resources.

Next, Mary Erickson, Acting Director, National Weather Service, National Oceanic and Atmospheric Administration (NOAA) spoke, with Tom Graziano, Director, Office of Water Prediction and Ed Clark, Director of the National Water Center participating virtually. Erickson spoke on building weather, water, and climate ready nation, and on how the National Weather Service is prioritizing goals to meet the challenges and needs of water managers across the nation.

After lunch, Astor Boozer, Western Region Chief, Natural Resources Conservation Service, USDA, and Bernie Gyant, Deputy Associate Chief, USDA Forest Service talked. Boozer spoke about the devastating impacts of wildfires on water resources, from domestic chemical pollutants to sedimentation in reservoir storage, and joint strategies for post-fire recovery across the landscape. Gyant addressed the many programs and projects the Natural Resources Conservation Service (NRCS) has been implementing to assist with water resources and conservation, particularly in times of drought, and protection of water quality.

The last federal agency panel remarks came from Lawrence Friedl, Director, Applied Sciences Program, Earth Science Division, and Bradley Doorn, Water Resources Program Manager, National Aeronautics and Space Administration (NASA). They discussed Landsat, OpenET, and other satellite observations that can meet various water management need, as well as the interagency process for identifying new satellite needs, and how states might get involved and offer input or feedback.

Finally, a congressional staff panel described current and future legislative priorities with: John Busovsky and Paul Babbitt from the House Agriculture Committee; Matt Muirragui, with the House Natural Resources Committee Subcommittee on Water, Oceans and Wildlife; Ryan Hambleton from the House Transportation and Infrastructure Subcommittee on Water Resources and Environment; and Melanie Thornton and Brian Clifford serving on with the Senate Energy and Natural Resources Committee. Busovsky and Babbitt discussed the water conservation programs of the upcoming Farm Bill and the forestry provisions in the IIJA to improve watershed health. Muirragui talked about House Natural Resources actions on advancing water supply projects, ecosystem restoration projects, water technology and data to improve water management, drought relief and long-term resilience, tribal water rights, and overseeing implementation of the IIJA. Hambleton talked about bipartisan efforts on WRDA 2022, and the focus on projects over policy to give the Corps time to implement policies from past WRDA legislation. Thornton and Clifford addressed tracking IIJA funds and moving other legislation in a bipartisan way, particularly to meet the needs of aging infrastructure, water storage projects, and watershed health.