

Colorado Governor Jared Polis (R) chaired and hosted the 2023 Annual Meeting of the Western Governors' Association (WGA) in Boulder, on June 26-28. Governors attending also included Josh Green (D-HI), Brad Little (R-ID), Michelle Lujan Grisham (D-NM), Joe Lombardo (R-NV), and Mark Gordon (R-WY). Governor Gordon, the incoming WGA Chair, will focus on Decarbonizing the West, through better management of forests and wildfire risk, and decarbonization using forests, grasslands, geologic sequestration, and direct air capture. Governor Grisham is the new WGA Vice Chair.

Michael Regan, Administrator, Environmental Protection Agency (EPA), was the keynote speaker. He observed, "One thing that's been clear to me since day one is that State-level collaboration is necessary if we are going to meet our goals. We need to continue to work together." He emphasized the Administration's historic investments, including \$50B in the Bipartisan Infrastructure Law (BIL) for wastewater and drinking water projects, and \$40B in the Inflation Reduction Act (IRA) for related new and existing Environmental Justice (EJ) programs. This massive undertaking achieved with our state and local partners working "shoulder-to-shoulder and arm-in-arm." Navigating the complex challenges related to both "wildfire or drought, we are with you. We are in this together."

The Governors called for more flexibility in environmental regulation and tailoring specific solutions to specific states. Regan acknowledged, "None of us like bureaucracy." Having served as Secretary of the North Carolina Department of Environmental Quality, he said that North Carolina and Nevada are very different states. There is no one-size-fits-all attitude. Governor Polis asked, "How do we move from compliance to cooperation? It's all about making our air and water cleaner." Regan noted, "These executives, state, and local leaders, know your communities more intimately than the federal government ever could. I think we have to put the bureaucracy to the side. I think we have to look at the solutions at the local level..." He added, "We are all for streamlining regulatory requirements. Sometimes you need to change the language in the law." He observed, "No doubt we will have differences and significant challenges. EPA isn't conceding its authority by working through States."

During the ensuing conversation, Governors raised issues related to forest fires and the use of per- and polyfluoroalkyl substances (PFAS) as retardants, plastics pollution in our oceans, environmental challenges given our energy choices, including carbon sequestration, methane regulation and nuclear power, and other challenges that cross multiple federal agencies and jurisdictions. Regan noted EPA and others have had conversations over "regulatory whack-a-mole." The Governors questioned, "How can States provide the nexus to coordinate?" Regan replied that States should hold industry and governments accountable.

Governor Little raised the U.S. Supreme Court's recent *Sackett* decision, which he suggested had turned the Administration's efforts to define Waters of the United States (WOTUS) upside down. He noted some of the governors had questioned the time and expense EPA put into writing the current rule, while the case was pending before the Court. Regan replied that EPA will absolutely be re-writing rules. While he was in North Carolina, he had to work under both the Obama and Trump Administration's WOTUS rules. He suggested that the Court had provided more prescriptive directions, and whether we agree or disagree, the new regulations will provide new certainty. Little urged him to "remember the States in redrafting the rules." Regan replied, "Absolutely! We will follow the science and follow the law."

Governor Gordon suggested that Western States and energy producers want to control and best protect our waters, noting the Clean Water Act (CWA) has also been used to impact actions in neighboring States, often "leaving EPA to referee interstate disputes." He referred to disputes over a natural gas pipeline in the State of New York, and permitting under CWA Section 404 and 401, while adding we don't want to be dependent on Russian gas. Regan replied, "You put your finger on the struggle. It is impossible to design a WOTUS rule to meet the needs of North Carolina and Nevada. Whether it is the CWA or the Clean Air Act, it is a fine line when EPA has to step in and tell a State how to regulate. If we look at this regulation in isolation we will only end up in litigation."

Ashley Llorens, Microsoft VP and Distinguished Scientist, addressed the Governors observing, "Over the last half a century or so, we've seen the rise of computing technologies and AI [artificial intelligence] that could really extend what now the human mind can do." Governor Lombardo asked if AI can help solve the challenges in the Colorado River system, given the amount of available data. Llorens offered organizational boundaries limit application of disparate knowledge. AI can help with retrieval and learning from data, with training, but machines can only help people make decisions based on their own body of knowledge.

A roundtable discussion involved Governor Polis' The Heat Beneath Our Feet initiative, regarding geothermal development, with Department of Energy Deputy Secretary David Turk, Idaho State Geologist Claudio Berti, and Sarah Jewett, VP Fervo Energy. The discussion addressed the competitive advantages of geothermal as a prevalent resource capable of reliably meeting base load demands. Geothermal has relatively low operation and maintenance costs, but high initial research,

exploration and construction costs. For now this makes wind and solar resources less expensive. Turk suggested coupling geothermal, wind and solar resources, also adding that as more geothermal development takes place costs will fall.

In response to a question, Jewett replied that geothermal consumptive water use depends on whether the system is open or closed. With enhanced project water recycling there is still some water loss. Governor Gordon acknowledged the geothermal potential in the Yellowstone area and noted fears of unintended consequences. Berti replied that there are ways to understand hydrothermal connectivity but balancing risks and rewards is a challenge. Further, whether a project's water use is neutral or not, states need to require sufficient information for sound decisionmaking. Turk expressed a need to speed up permitting, as tax incentives and other tools "don't mean it is going to get done." Governor Green asked about using salt water in place of precious potable water. Jewett said Fervo projects are all inland, but some are using brackish water, so it would be a similar concept. She added that geothermal can be used to produce "green" hydrogen. Turk suggested that hydrogen's versatility in its production and use makes it attractive. There are tradeoffs between direct hydrogen generation and its use as a storage medium, but the major obstacle is the lack of a distribution system. Gordon added that the lack of electrical grid infrastructure is another "big, big, big" problem.

A panel discussion focused on Grasslands for Growers and Greenspace revolved around finding ways to integrate wildlife conservation into ranching and farming operations and by incentivizing producers to manage their lands in ways that benefit wildlife. "We have to recognize that production and conservation actually go together," said Robert Bonnie, Under Secretary for Farm Production and Conservation (FPAC), U.S. Department of Agriculture. "All politics is local," well, all conservation is local." We need to keep farmers farming, and ranchers ranching by addressing drought mitigation, and the vagaries of weather and markets. We need a commitment to voluntary conservation. He mentioned the successful sage grouse initiative, the Natural Resources Conservation Service's Working Lands for Wildlife Program, Environmental Quality Incentives Program (EQIP) and Conservation Reserve Program.

Elayne Arther, Secretary, Oklahoma Dept of Agriculture, said the Dust Bowl illustrated the importance of conservation focused on soil and water production, preservation, and education. We need to leave the land better for the next generations, by improving the land on a daily basis. She noted the importance of forest and fire management, and getting prescribed fire plans in place, adding Eastern Red Cedar is native but spreading and it uses a lot of water. While the recent drought was drier than during the Dust Bowl, the soil has not been blowing away.

A Water Data panel addressed the challenge of making informed water management and use decisions. The discussion focused on understanding water resources and how predictive modeling can be used to provide critical information to water managers, emergency responders, and other decision-makers.

Dr. Richard Spinrad, Administrator, National Oceanic and Atmospheric Administration (NOAA), noted the agency is working on the science to understand and predict atmospheric processes, develop actionable tools, and serve as the authoritative source of climate information. NOAA touches the livelihood of every American. He highlighted WGA's role in supporting enactment of the National Drought Policy Act in 1996, which led to creation of the National Integrated Drought Information System (NIDIS) and the U.S. Drought Monitor. NIDIS is up for reauthorization this year. It continues to grow as a one stop shop for drought information. He referred to both [drought.gov](http://drought.gov) and [climate.gov](http://climate.gov).

Spinrad also noted the recent shift in focus in the West to too much water! He noted the National Weather Service (NWS) is developing a Hydrologic Ensemble Forecast System (HEFS) to include forecasts and analysis of probable outcomes. HEFS is designed to minimize biases in hydrologic and atmospheric models. Further, he discussed research on atmospheric rivers (ARs), Forecast Informed Reservoir Operations (FIRO), updating Atlas 14 precipitation frequency data to account for climate change. Atlas 15 is expected to be released in a year or too. He added NOAA takes its responsibilities very seriously.

Dr. Everette Joseph, Director, National Center for Atmospheric Research (NCAR), explained it founded to provide expertise to the academic community collectively, but now seeks to advance atmospheric, climate and weather research in collaboration with academic, private and public sector partners. NCAR represents a concentration of the best scientists, advancing basic research and supercomputing for modeling to understand earth systems, resulting in actionable, cutting-edge work to improve public safety and prosperity. The goal is to move research to applications – "Not just doing basic research and throwing it over the fence." What do decisionmakers need in the face of climate extremes? NCAR aims to assist water resource managers with better projections of water availability, building innovative tools in partnership with the U.S. Army Corps of Engineers and U.S. Bureau of Reclamation, and others.

Joseph observed, "The summer monsoon produces on the order of 60% to 80% of the annual precipitation in the desert southwest. A weak monsoon can lead to drought conditions, and strong monsoon can lead to flooding conditions. Water resource managers can reduce the effects if they know months in advance what type of monsoon to expect or if they have a reliable seasonal prediction of precipitation."

Yvonne Stone, with Deloitte's California Energy, Environment and Governance Practice, noted California water resources are managed under a system of 19th century water rights, 20th century infrastructure, and 21st century data tools. Some of the earliest water rights were recorded on paper in Sacramento. She addressed advancements in low-cost sensors and flow monitors, geospatial analytics and artificial intelligence. The California State Water Resources Control Board is digitizing millions of documents, allowing for the analysis of patterns and connections, also informing action on applications and complaints. Dashboarding for visualizing water data is head and shoulders from where it was before. Modern cloud platforms allow layering with new research and policy tools. Adding water use and supply side information provides a much richer management picture, but requires collective action.

Stone mentioned the creation of a Fox Canyon cap-and-trade groundwater market, in Ventura, County. Under this system, agricultural producers are subject to fixed groundwater allocations based on historical use, and are then allowed to buy and sell allocations. The Santa Clara River, Southern California's last free-flowing river, is impacted by groundwater pumping. Subsequent to passage of California's Sustainable Groundwater Management Act (SGMA), the Nature Conservancy (TNC) applied for and received a \$1.8M Conservation Innovation Grant from USDA's Natural Resources Conservation Service (NRCS) to develop the market. She said overall pumping has been reduced by 35-40%.

Stone suggested that without metering there is no market, but that standards for metering can allow for flexible solutions. You don't always have to change flow meters. Also sensors and cameras can be used to verify pumping data, then uploaded to the cloud.

She also mentioned that Deloitte in 2022 launched a Climate Innovation Collaboratory (CIC) in partnership with the University of Colorado Boulder, to enable global, real-world impact through technology and market development. Deloitte is also working to bring market solutions to water quality challenges, as well as using carbon credits and financial tools and produce improved outcomes. She concluded, "We are all deeply aware of the water crisis in the West. It is also an exciting time."

The panel also suggested that using machine learning and deep learning to analyze large volumes of data could help to better understand the risks associated with natural disasters, like drought, floods, and landslides caused by burn scars from wildfires.

Western Governors formally approved six new policy resolutions during executive on western agriculture, rural development, broadband connectivity, veterans, missing and murdered indigenous people, and infrastructure permitting. See [westgov.org/resolutions](https://westgov.org/resolutions).

On Infrastructure Permitting, Resolution 2023-10 calls for a clear, consistent, focused, and effective environmental review process to protect environmental resources, ensure public participation, and facilitate timely decision making in the design, financing and execution of critical infrastructure and land management projects. "These review processes can be improved and streamlined while still providing meaningful opportunities for public input and promoting a safe and healthy environment for our citizens.... Federal agencies' NEPA [National Environmental Policy Act] review processes should seek to comply with CEQ requirements as efficiently and effectively as possible.... CEQ should revise its guidance to direct agencies to consider only those impacts that are reasonably foreseeable and have a proximate relationship to the proposed action and also include robust socioeconomic analysis.... Agencies should initiate tribal, state, and county consultation in the earliest stages of the review process."

Regarding Rural Development 2023-06, "Western Governors believe that many federal programs for rural development and distressed communities include unintended barriers for rural individuals and entities that need assistance most. Western Governors urge federal agencies to work with states to: thoroughly evaluate program requirements; identify barriers for rural applicants; and revise onerous requirements in a manner that recognizes the limited resources and capacity of rural applicants.... Western Governors recognize and support efforts at the federal and state level to coordinate the deployment of resources, leverage funding, and create one-stop application processes for rural customers."

The updated Western Agriculture 2023-05 resolution, highlights the production and conservation benefits of precision agriculture technologies and provided recommendations to support this growing sector. Changes in climate, the increased prevalence and severity of extreme weather events, extended drought, and the approaching Farm Bill reauthorization necessitate the advancement of Western Governors' policy which supports, protects, and advocates for the continued health of western agricultural communities and their economies.

WGA's Resolution on Water Resources Management 2021-08 and Water Quality in the West 2021-08 will be up for renewal next year.