



Support for Critical Federal Water Data, Forecasting, and Applied Research Programs

Policy Summary

The West depends on accurate, timely, and accessible water, weather, and climate data to protect lives and property, manage scarce water supplies, operate critical infrastructure, administer water rights, and support agriculture, energy, ecosystems, and economic growth.

Federal water data, forecasting, and applied research programs are essential to state water management and protection. They should be treated as core public-safety and water-management infrastructure, not optional or expendable programs.

WSWC Urges Congress and the Administration to:

1. Fully fund, maintain, and modernize core federal water data and observing programs.

Critical federal programs that collect, analyze, and deliver water, weather, snowpack, streamflow, groundwater, evapotranspiration, soil moisture, and water quality information must receive stable authorization, appropriations, maintenance, and modernization support.

2. Strengthen drought, flood, and extreme-weather forecasting and early warning.

The federal government should improve forecasting skill and decision support at all time scales—from hours to seasons—to better support drought preparedness, flood risk reduction, forecast-informed reservoir operations, and water-supply planning.

3. Support applied water research and research-to-operations.

Congress and the Administration should maintain and strengthen programs that help move water research into practical use, including the Water Resources Research Institutes, the USGS Water Resources Research Act program, and related federal-state-university partnerships.

The Western States Water Council (WSWC) is a government entity representing western state water agencies with members appointed by their respective governors. The WSWC's mission is to ensure that the West has an adequate, secure, and sustainable supply of water of suitable quality to meet its diverse economic and environmental needs now and in the future.

4. Protect the infrastructure and spectrum that water forecasting and monitoring depend on.

The nation must protect observation networks, remote sensing systems, data communications, and radio frequencies necessary for weather forecasting, satellite observations, streamgaging, and water management.

5. Advance cooperative federalism and data partnerships.

Federal programs should work with, not around, the states by improving coordination, consultation, interoperability, and data-sharing, recognizing regional differences and respecting state authority over water allocation and administration.

Core Message

For the West, these programs are not abstract science programs. They are operational tools that help prevent loss of life, reduce economic damage, improve water management, strengthen drought and flood preparedness, and support sound state decision-making.

What WSWC Is Asking For

1. Provide sufficient appropriations and durable support for core federal water, weather, drought, and climate observation, forecasting, and data-delivery programs.
2. Prioritize maintenance, modernization, and restoration of aging or damaged observation networks and associated communications systems.
3. Support legislation and administrative actions that improve data availability, quality, interoperability, accessibility, and usability.
4. Strengthen applied research, research-to-operations, and state-university-federal partnerships, including WRRIs and the Water Resources Research Act program.
5. Improve drought prediction, early warning, and preparedness through coordinated research, forecasting, and implementation.
6. Advance forecasting capabilities needed for flood protection, water supply planning, and forecast-informed operations.
7. Protect spectrum and technical infrastructure necessary for satellite observations, remote monitoring, and weather and water forecasting.
8. Work with states in a manner consistent with cooperative federalism and respect for state water authority.

Governing Principle

Nothing in this position is intended to alter or affect the authority of western states over the allocation and administration of waters within their borders, or the interpretation or application of any interstate compact, court decree, international treaty, tribal settlement agreement, or state water law..

Supporting Documentation

Why This Matters

In the West, water is a vital and limited resource. Sound decision-making depends on reliable data regarding precipitation, temperature, snowpack, soil moisture, evapotranspiration, streamflow, groundwater, water quality, and related conditions.

Those data are used every day by federal, state, tribal, and local agencies, as well as by water users, utilities, agricultural producers, hydropower operators, environmental managers, researchers, and private businesses to:

- forecast floods, droughts, wildfires, and other extreme events;
- plan for municipal, agricultural, industrial, and environmental water needs;
- operate reservoirs, canals, hydropower systems, and flood-control facilities;
- administer water rights, decrees, compacts, and settlement obligations;
- improve drought response, water conservation, and irrigation efficiency; and
- reduce risks to life, property, infrastructure, and the environment.

Without timely and accurate data, the risks to public safety, economic activity, infrastructure, and natural resources increase significantly.

Western states also continue to face greater hydrologic variability, aging infrastructure, prolonged drought, flood risk, and rapidly evolving demands on water systems. These pressures make reliable observing systems, modern forecasting, and applied research more important, not less.

Priority Federal Programs and Capabilities

WSWC supports strong federal investment in the following categories of programs and capabilities.

A. Core observing and data programs

Federal programs that gather, maintain, analyze, and share foundational water and climate information should be preserved, modernized, and adequately funded. These include, among others:

- the NRCS Snow Survey and Water Supply Forecasting Program and SCAN;
- USGS streamgauge, groundwater, water-quality, and related monitoring programs, including GWSIP and the National Streamflow Network;
- NOAA weather, climate, hydrologic, and drought observation, forecasting, and information programs;
- NASA and USGS earth-observation missions and related remote-sensing applications relevant to water management;

- Bureau of Reclamation AGRIMET and similar observing systems; and
- EPA data-sharing and environmental information exchange systems that support timely decision-making.

These programs should be viewed as part of the nation’s water-management and public-safety infrastructure.

B. Drought preparedness, prediction, and early warning

The West needs stronger and more coordinated drought monitoring, prediction, preparedness, and response. WSWC supports federal efforts to:

- maintain and improve drought early warning systems;
- strengthen drought-related monitoring networks for snow, streamflow, groundwater, soil moisture, evapotranspiration, and climate conditions;
- improve drought prediction through research, modeling, paleoclimate work, and pilot projects; and
- support coordination among federal, state, tribal, and local partners, including through NIDIS and related programs.

C. Forecasting and water operations

The West needs better forecasting at operational, subseasonal, and seasonal time scales. Improvements in observations, computing, research, and forecasting can directly improve reservoir operations, flood preparedness, water-supply planning, and drought response.

WSWC supports:

- improved precipitation, hydrologic, and extreme-event forecasting;
- continued work to improve subseasonal to seasonal forecasting skill;
- research-to-operations investments that move improved forecasting tools into use by end users;
- use of forecasting improvements to support forecast-informed reservoir operations and other innovative operational strategies; and
- efforts to update water-control tools, manuals, and operating approaches where better data and forecasting can improve outcomes.

D. Applied research, climate adaptation, and research-to-operations

WSWC supports state and federal applied research that helps water managers adapt to hydrologic variability and make sound scientific decisions. This includes research on:

- climate adaptation relevant to water planning and management;
- extreme precipitation and flood risk;
- remote sensing and new monitoring technologies;
- reconstructed paleoclimate and drought analysis;
- evaluation of hydroclimate networks and data gaps;

- water-use data and evapotranspiration tools; and
- other research that improves water planning, infrastructure design, and operations.

WSWC also supports stronger research-to-operations pathways so that scientific advances are translated into tools that agencies can actually use.

E. Water Resources Research Institutes and state-university partnerships

WSWC supports continued federal authorization and financial support for the Water Resources Research Institutes and the USGS Water Resources Research Act program.

These institutes provide valuable university-based research capacity, technology transfer, outreach, and training that directly support western state water agencies in planning, policy development, and management. They are a proven federal-state partnership that helps ensure research investments are relevant to state needs and useful in practice.

F. Modernization, resilience, and emerging technology

Many federal observing systems and data programs are operating under funding constraints, deferred maintenance, aging equipment, wildfire and flood damage, and growing demands for better data delivery and interoperability.

WSWC supports adequate and consistent federal funding to:

- restore, maintain, and upgrade existing observation networks and equipment;
- improve real-time or near-real-time data delivery and interoperability;
- identify and address data gaps and unnecessary overlap;
- develop and deploy new monitoring technologies, including remote sensing applications;
- improve accessibility and usability of water supply, water demand, and water-use information; and
- restore capabilities lost to wildfire, floods, and other disasters.

G. Extreme precipitation and probable maximum precipitation standards

States and infrastructure owners need current, credible, and consistent federal leadership on extreme precipitation science and related design standards.

WSWC supports federal action to update probable maximum precipitation methodologies and related extreme-rainfall tools using modern science, data, and methods so that states, dam safety officials, infrastructure owners, and the design community can rely on up-to-date and consistent standards that protect public safety.

H. Protection of spectrum and data communications

Water forecasting and management rely on the uninterrupted transmission of satellite, weather, streamflow, groundwater, and emergency information.

WSWC supports protecting the radio frequencies, observation systems, and data communication pathways necessary for weather forecasting, earth observation, streamgaging, water monitoring, and related public-safety functions. Spectrum decisions should account for the operational importance of these systems, the risks of interference, and the potentially severe consequences for forecasting, emergency response, and water management.

I. Cooperative federalism and state partnership

Western states have invested heavily in their own monitoring programs, observing systems, and decision-support tools. Federal policy should build on these investments through partnership.

WSWC supports federal policies and programs that:

- improve collaboration and coordination among federal, state, tribal, and local partners;
- increase consultation with states and affected stakeholders;
- recognize regional differences and western conditions;
- improve interoperability and open sharing of reliable data;
- support state-federal data partnerships, including water-use data improvement efforts; and
- consider governance tools such as a federal water data council, national framework, advisory mechanisms, and grant support where they improve coordination and implementation.

Closing Statement

WSWC supports a strong federal-state partnership to ensure that the West and the Nation have the data, forecasting, research, communications infrastructure, and practical tools needed to manage water wisely, prepare for extremes, and protect the public. These investments are foundational to water security, public safety, and the long-term resilience of western communities, economies, and ecosystems.