

Water Resources Dashboard

With Examples of How to Advance Flood Resiliency

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Aimee Cho, NBC4

With Special Thanks to: Tami Houston, NOAA; Katy Lackey, US Water Alliance; Erica Brown, AMWA; Adam Carpenter, AWWA; Lauren Fillmore, WERF (retired) ; Kenan Ozekin, WaterRF; David Rouse and Jim Schwab, APA; (retired); Claudio Ternieden, WEF and Karen Metchis, EPA (retired).

The Potential Use of the Water Resources Dashboard became personal to me...



Ben Caudron NBC4 (July 8, 2019)

<https://www.nbcwashington.com/news/local/Flash-Flood--512411651.html>



Ben Caudron NBC4

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- American Planning Association (APA)
- American Water Works Association (AWWA)
- Association of Metropolitan Water Agencies (AMWA)
- Environmental Protection Agency (US EPA)
- National Oceanic and Atmospheric Admin. (NOAA)
- Water Environment Federation (WEF)
- Water Environment and Reuse Foundation (WERF)
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Water Resources Dashboard



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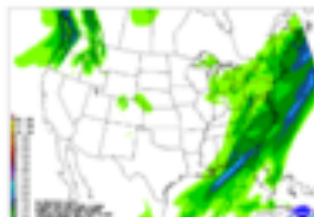


PRINT

Water resource managers and urban planners can use this dashboard to access maps and data that help them monitor the potential for extreme precipitation and drought in their regions. A similar set of information is available via an Esri Story Map, [Climate Information for Water Utilities](#). The Climate Resilience Toolkit's [Acknowledgments](#) page lists the individuals who contributed to this collection.

Note that this is a dynamic page: the scope and content of dashboard entries are driven by input from users. We welcome your suggestions and additions to improve its usefulness. Please [email us](#) with your suggestions.

Forecasts, Outlooks, and Future Projections



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<https://toolkit.climate.gov/waterdashboard>

Story Map

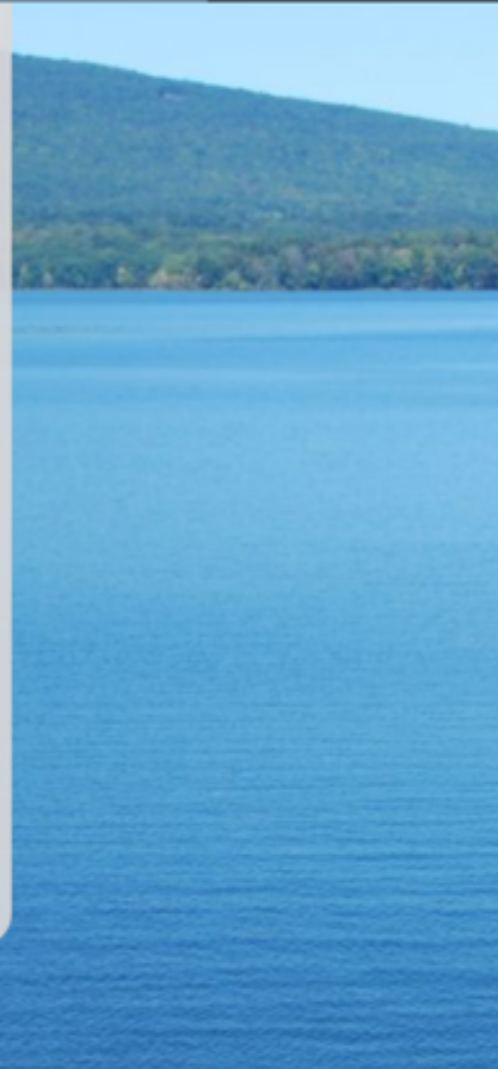
Climate Information for Water Utilities

[Home](#)[Forecasts & Outlooks](#)[Current Observations](#)[Historical Observations](#)

To ensure a constant water supply as well as the health and safety of residents, water resource managers and urban planners need to monitor the potential for flooding and drought in their regions. Federal weather and climate data and tools can help keep decision-makers informed.

Click the tabs above to view **Forecasts & Outlooks** for the future, check **Current Observations** for what's happening now, or **Historical Observations** to explore conditions that occurred in the past.

Content of these pages is driven by input from the water resources community. We gratefully [acknowledge](#) contributors to the [original Water Resources Dashboard](#), and we welcome new suggestions to further improve the usefulness of the site. Email us at noaa.toolkit@noaa.gov.





Water Resources Dashboard

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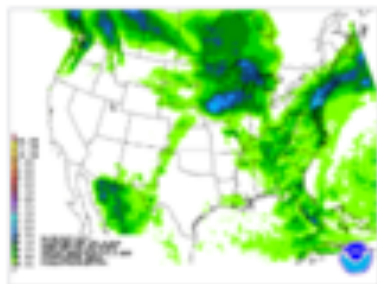
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Forecasts, Outlooks, and Future Projections



NWS Forecasts

View current conditions and short- to medium-range (1-7 days) forecasts for precipitation, temperature, wind, and clouds.



Quantitative Precipitation Forecasts

View forecasts of cumulative precipitation for periods from 6 to 7 days.



National Water Model (NWM)

The National Water Model (NWM) forecasts streamflow over the next 7 days.

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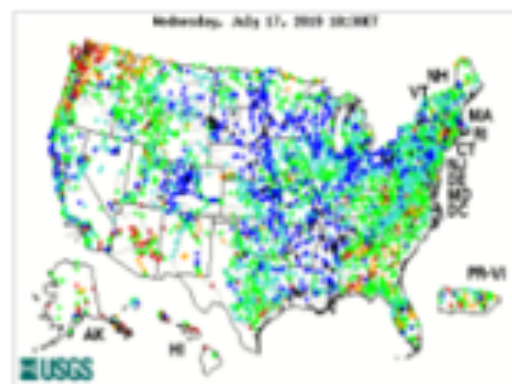
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Current Observations



Daily Streamflow Conditions

Colors indicate current streamflow. Click any region on the site, and then click individual stations to access graphs or raw data on streamflow and precipitation. This display can help water managers judge short-term future supply.

[View tool demo >](#)

[Visit data source >](#)



River Observations

View current and predicted flood status at more than 7,500 gauges in the United States. Click to zoom in on a region, and then roll your cursor over gauge locations to view hydrographs of recent and forecast discharge levels.

[View tool demo >](#)

[Visit data source >](#)



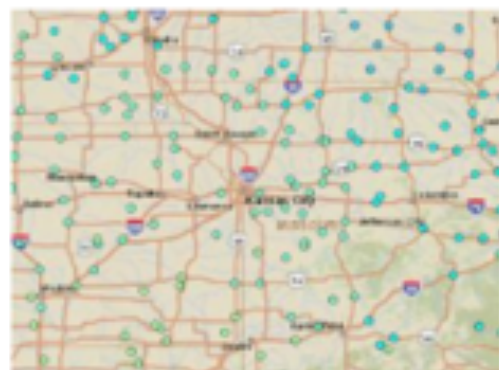
River Forecast Centers

View observed flow conditions across 13 regions of the contiguous United States. For each gauge location, access hydrographs showing observed and predicted water levels that account for upcoming weather and snowmelt.

[Visit data source >](#)



Historical Observations



Daily Summary Observations

Access summary observations from more than 90,000 land-based stations around the world. Data may include precipitation, maximum and minimum temperature, temperature at the time of observation, and/or snow depth. A How-to Guide provides assistance with selecting stations of interest in the map interface.

[View tool demo »](#)

[Visit data source ›](#)



1981-2010 Daily Normals by Weather Station

Use this GIS interface to select stations for which you want to view daily normals. Climate Normals are the latest three-decade averages of climatological variables, including temperature and precipitation. Hourly, monthly, and annual normals are also available.

[View tool demo »](#)

[Visit data source ›](#)



Hourly Precipitation

Use this GIS interface to select from more than 5000 stations that indicate maximum observed rates of rainfall. You can consult these records to see historical extremes for locations of interest.

[View tool demo »](#)

[Visit data source ›](#)

Long-range Planning Resources



Drought.gov

Comprehensive access to drought monitoring resources, reports, and news from the U.S. Drought Community.

[Visit data source >](#)



Digital Coast

Access the data, tools, and training communities need to address coastal issues, including sea level rise and flood exposure.

[Visit data source >](#)



FEMA Hazard Mitigation Planning Resources

Access resources for state, tribal, and local officials and other parties engaged in developing and implementing hazard mitigation plans.

[Visit data source >](#)

Flooding-related Datasets

Current Observations



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River Forecast Centers

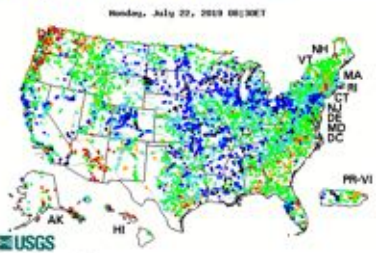
View observed flow conditions across 13 regions of the contiguous United States. For each gauge location, access hydrographs showing observed and predicted water levels that account for upcoming weather and snowmelt.

[Visit data source >](#)

USGS Current Water Data for the Nation

[Introduction](#) [Apps](#)

Daily Streamflow Conditions



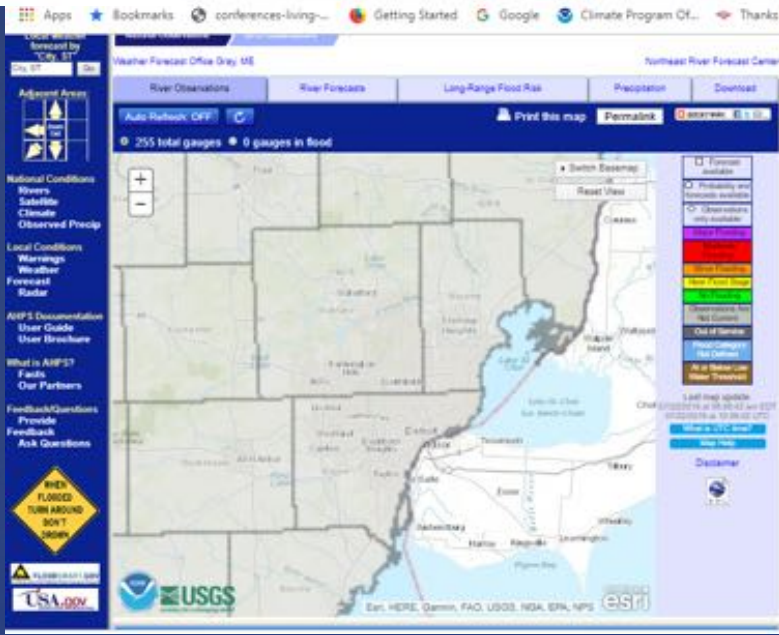
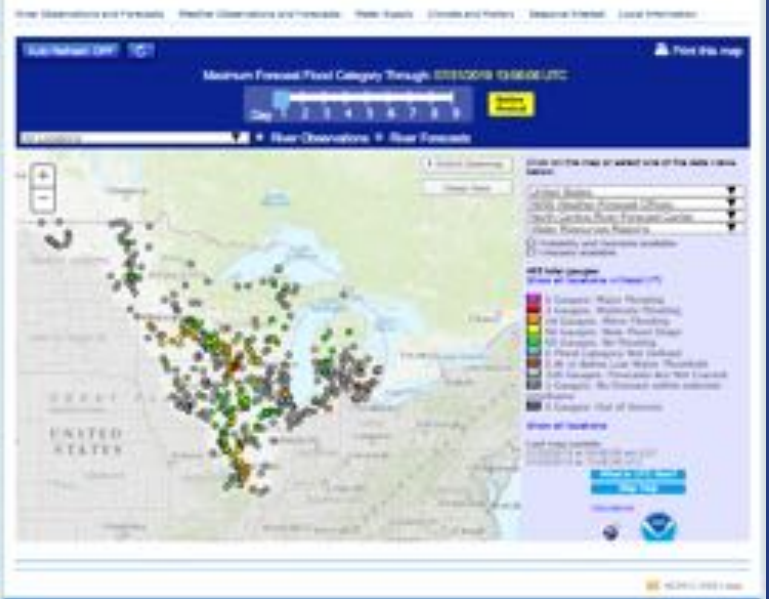
Explanation
The colored dots on this map depict streamflow conditions as a percentile, which is computed from

Select a state from the map to access real-time data

Current data typically are recorded at 15- to 60-minute intervals, stored onsite, and then transmitted to USGS offices every 1 to 4 hours, depending on the data relay technique used. Recording and transmission times may be more frequent during critical events. Data from current sites are relayed to USGS offices via satellite, telephone, and/or radio telemetry and are available for viewing within minutes of arrival.

All real-time data are provisional and subject to revision.

Build Current Conditions Table	Show a custom current conditions summary table for one or more stations.
Build Time Series	Show custom graphs or tables for a series of recent data for one or more stations.



Other Flooding-related Datasets

Quantitative Precipitation Forecasts - View forecasts of cumulative precipitation for periods from 6 hours to 7 days into the future. Monitoring this site can alert decision makers of the potential for wet weather and/or flooding.

The **National Water Model** forecasts streamflow over the entire continental United States. (still being developed)

Hazard outlooks for the next 3-7 and 8-14 days. Get advance notice of the potential for flooding, severe storms, extreme temperatures, drought, and risk of wildfires.

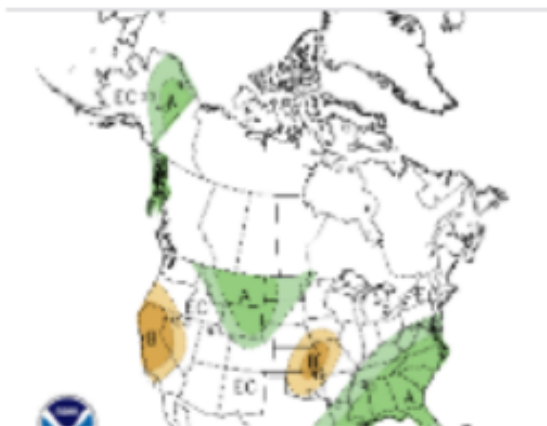
Monthly Precipitation and Forecasts - View monthly maps showing the probability for precipitation ranking in the top, middle, or bottom third of historical observations.

Probability of Exceeding a Precipitation Threshold - Check the probability that cumulative rainfall will exceed user-defined thresholds within the next three days during 6- to 24-hour intervals. This forecast can serve as an early alert for potential flooding.

WATERS (Watershed Assessment, Tracking, & Environmental Results System) provides comprehensive information about the quality of surface water across the nation.

Extreme Events - Access records of heat waves, droughts, tornadoes, and hurricanes. Explore weather records tied or broken for each day of the year, disasters that cost a billion dollars or more, and special reports and indices that characterize extreme events.

Hazard Mitigation - Access resources for state, tribal, and local officials and other parties engaged in developing and implementing hazard mitigation plans.



Monthly Precipitation and Temperature Outlooks

View monthly maps showing the probability for precipitation ranking in the top, middle, or bottom third of historical observations. Outlooks that favor drier or wetter periods can raise awareness of the potential for changing conditions.

[View tool demo >](#)

[Visit data source >](#)

Water Resources Dashboard Learning Seminars Series #3: Stream Flows, River Observations, and Flood Hazards



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Speakers

		
Marie C. Pepler <i>Federal Agency Liaison and National USGS Flood Inundation Mapping Coordinator</i> Office of Surface Water, United States Geological Survey (USGS) 	Mary Mullusky <i>Chief of Water Resources Services</i> Analyze, Forecast, and Support Office of the National Weather Service (NWS)	Scott McAfee <i>Natural Hazards Risk Assessment Program Manager</i> Federal Emergency Management Agency (FEMA) 

We have held 11 seminars, with nearly 500 registered attendees and an additional 900 visits on youtube.

Learning Seminars

Thank You!

For more information (including listserve):

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[https://toolkit.climate.gov/
waterdashboard](https://toolkit.climate.gov/waterdashboard)