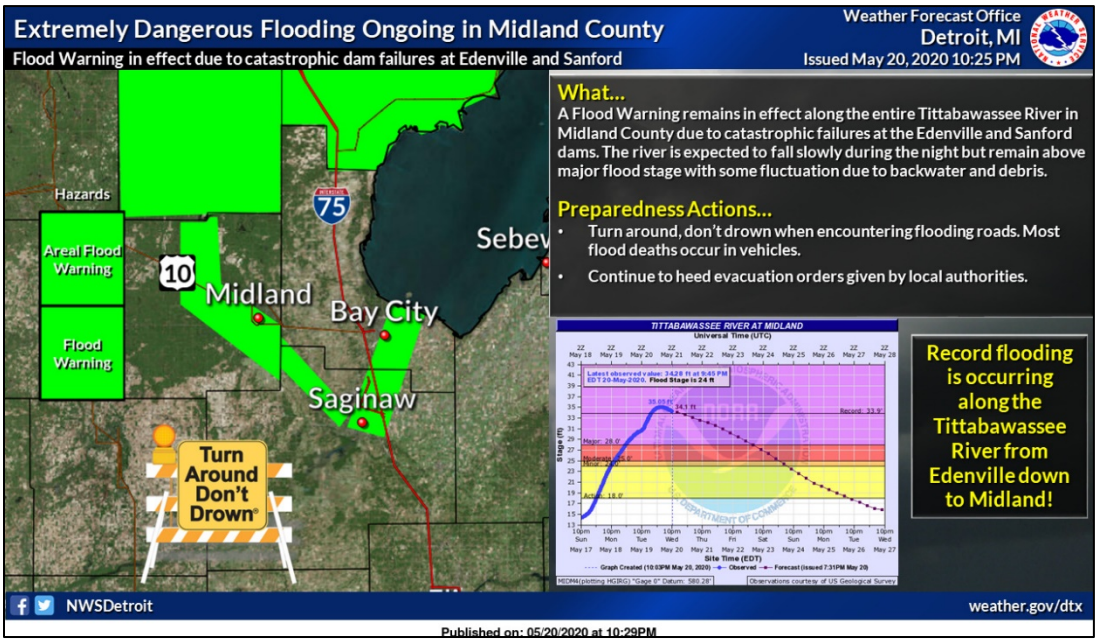
United States Department of Agriculture

Water and Climate Update

May 21, 2020

The Natural Resources Conservation Service produces this weekly report using data and products from the National Water and Climate Center and other agencies. The report focuses on seasonal snowpack, precipitation, temperature, and drought conditions in the U.S.

Two dams fail causing record flooding in Michigan

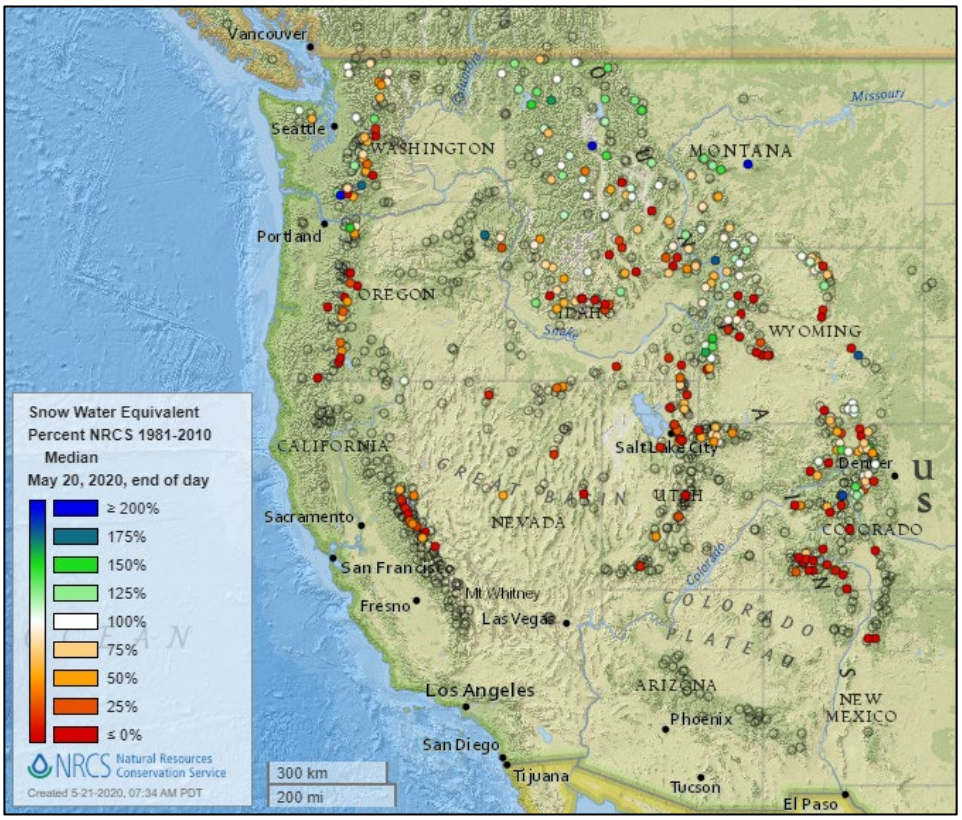


A flash flood emergency was declared May 19 - 20 along the Tittabawassee River in central Michigan due to the failure of the Edenville and Sanford Dams. These dam failures inundated downstream towns, homes, and businesses. Roads are closed and infrastructure along the river are threatened. Flood warnings remain in effect from the flood wave as water and debris continue downstream. Before the dam failures, several daily rainfall records were broken, and four to eight inches of precipitation fell over the region in previous days with flood warnings in effect for many counties in Michigan.

Related:

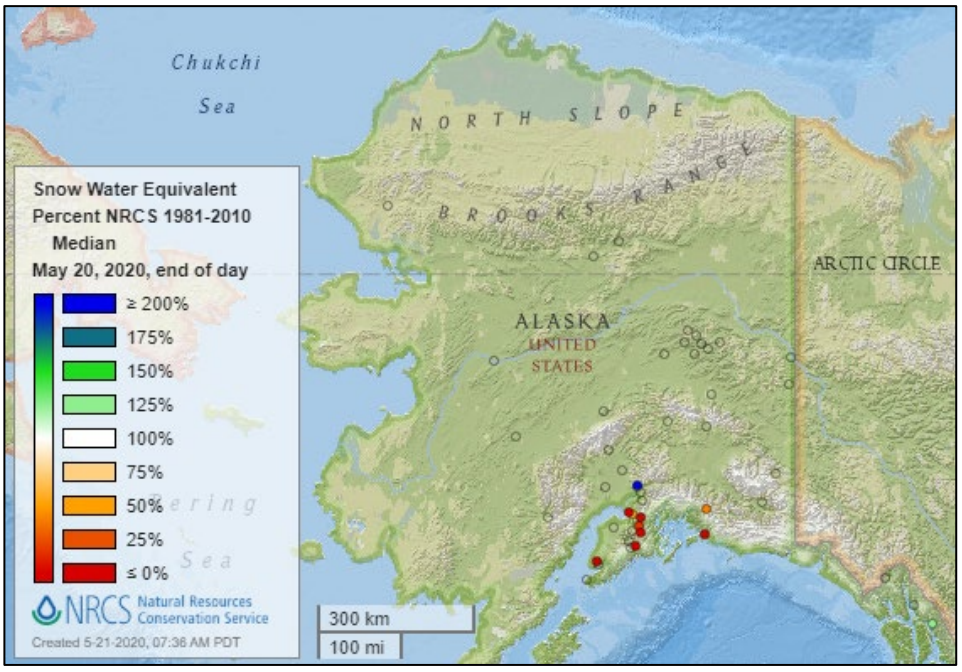
Michigan Dam Flooding Is a Once in 500 Years Event, Water Levels Won't Peak Until Wednesday Night, Governor Whitmer Says - Newsweek
Sanford residents deal with aftermath of dam failure during 500-year flood – ABC12 News (MI)
Catastrophic flooding in Michigan as dams fail - CNN
Mid-Michigan flooding crests at 35 feet, Whitmer requests FEMA help: What we know – USA Today
Michigan Gov. Whitmer: No casualties in 'devastating' mid-Michigan flooding – Detroit Free Press
Michigan flooding: 'One, two, three punch' of rain overwhelms soggy state – MLive (MI)

Snow



[Snow water equivalent percent of median map]

See also:
[Snow water equivalent values (inches) map]

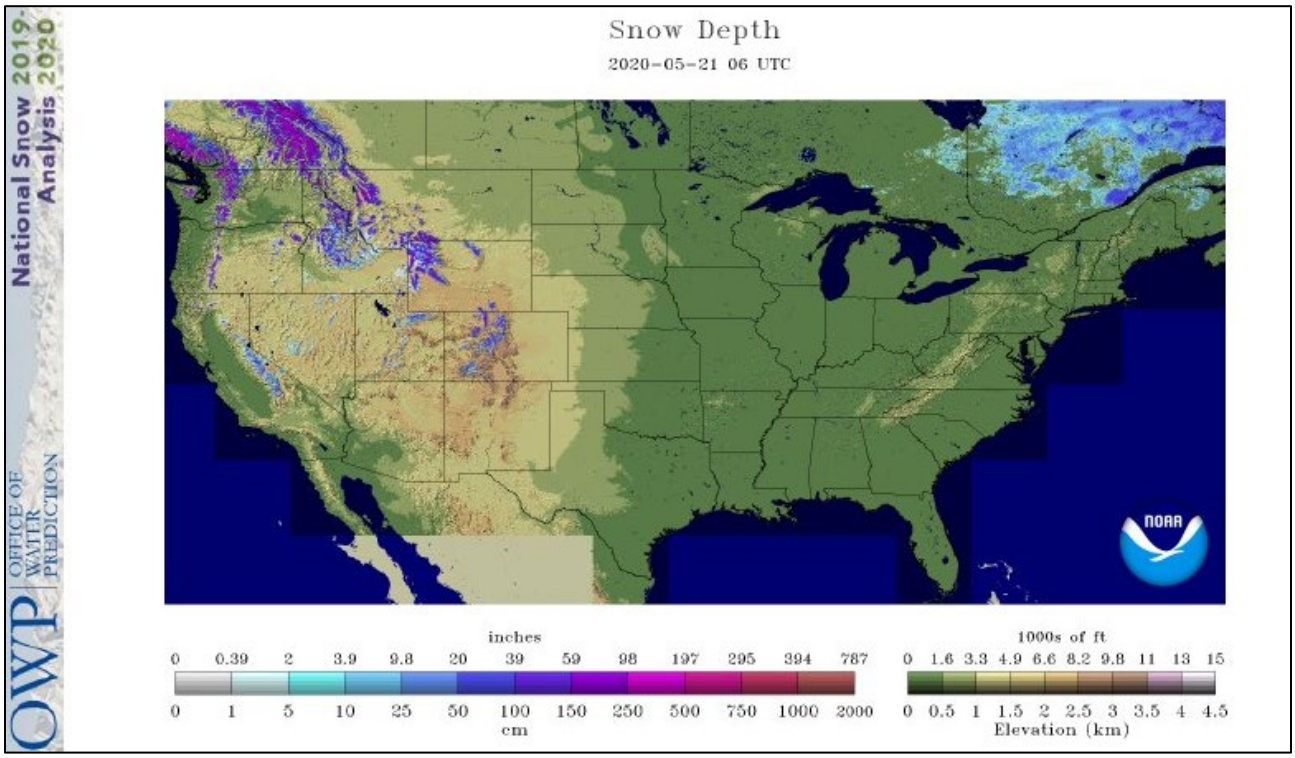


[Alaska snow water equivalent percent of median map]

See also:
[Alaska snow water equivalent values (inches) map]

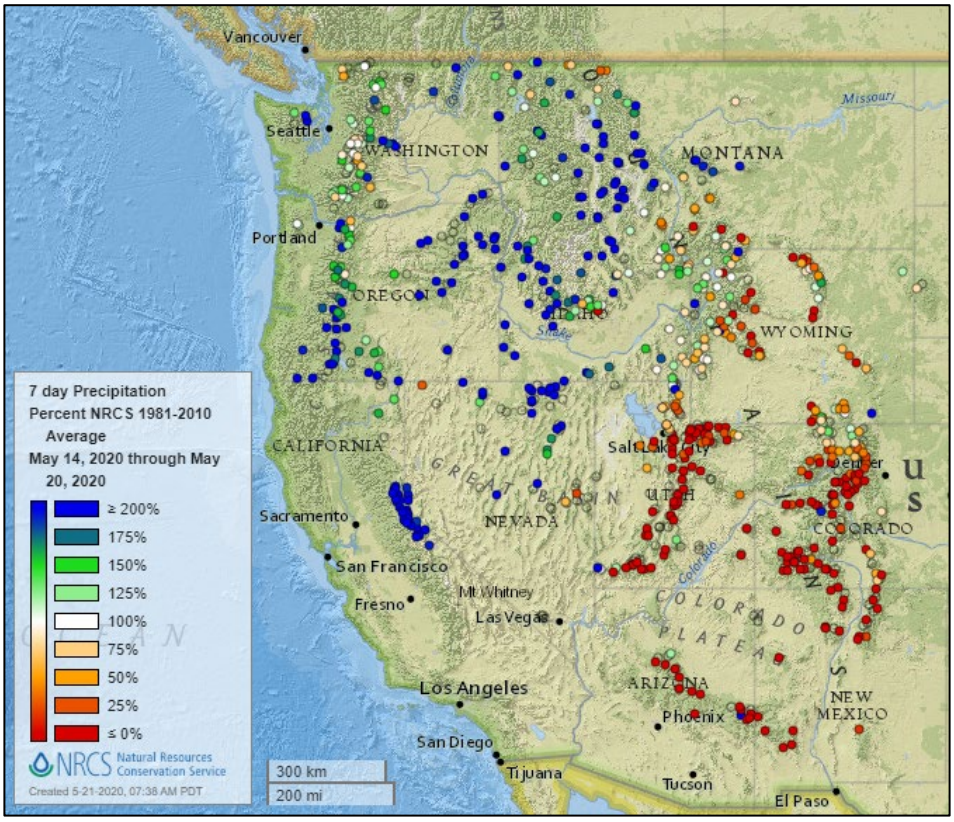
Current Snow Depth, National Weather Service Snow Analysis

Source: NOAA Office of Water Prediction



Precipitation

Last 7 Days, NRCS SNOTEL Network

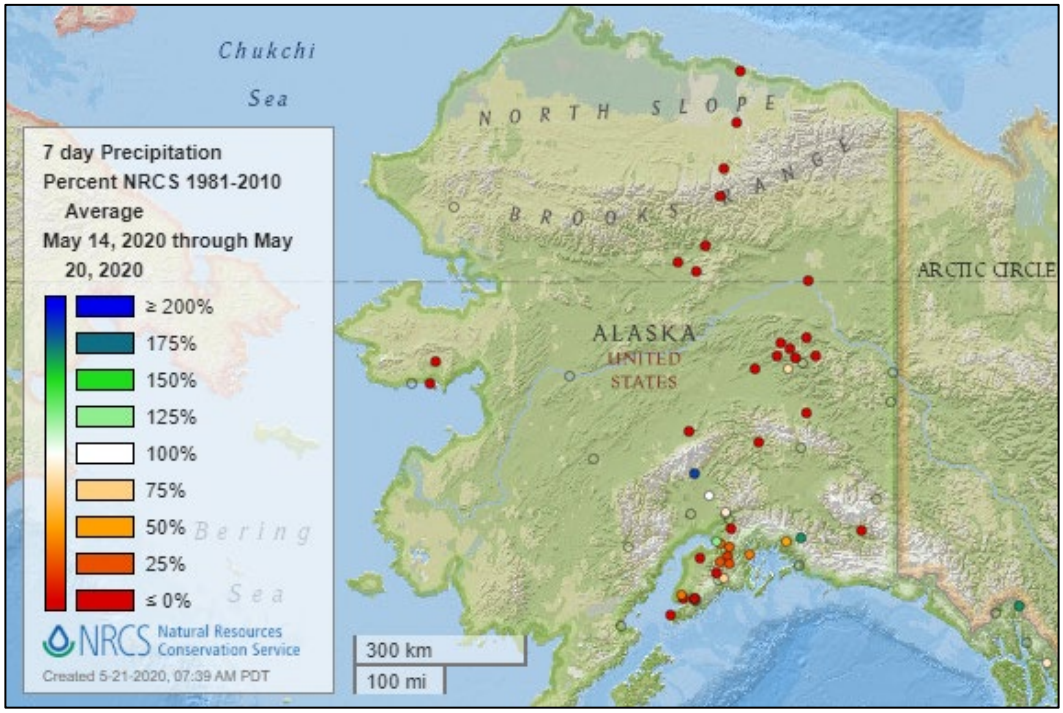


[7-day precipitation percent of average map]

See also:
[7-day total precipitation values (inches) map]

[Alaska 7-day precipitation percent of average map]

See also:
[Alaska 7-day total precipitation values (inches) map]

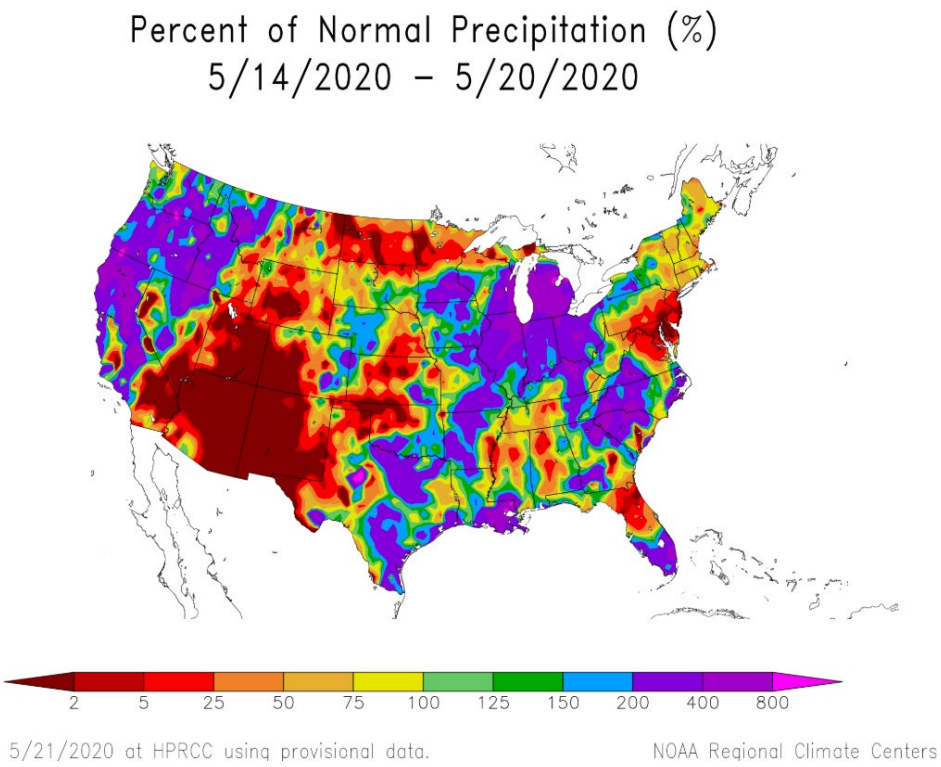


Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

7-day precipitation percent of normal map for the continental U.S.

See also: 7-day total precipitation values (inches) map

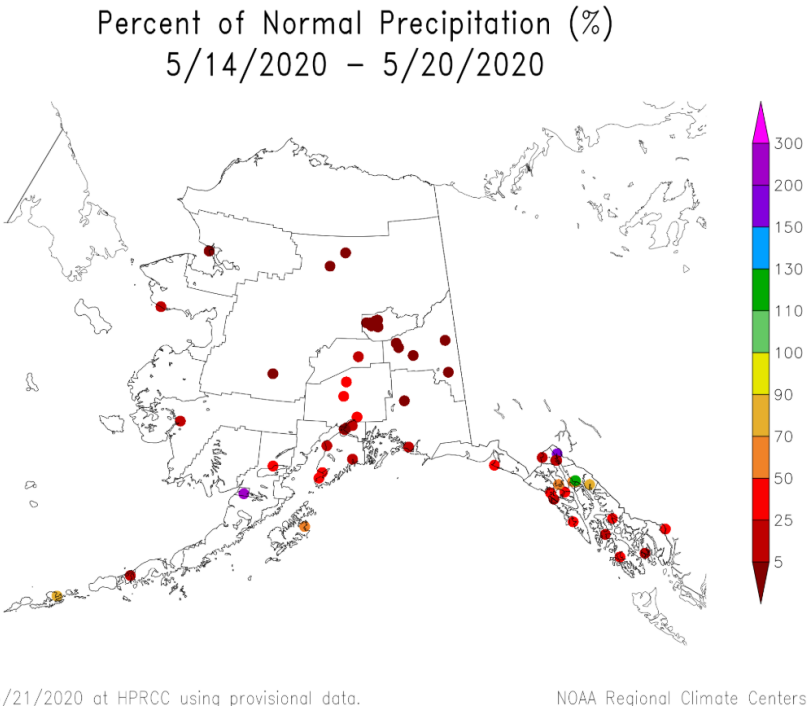


Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

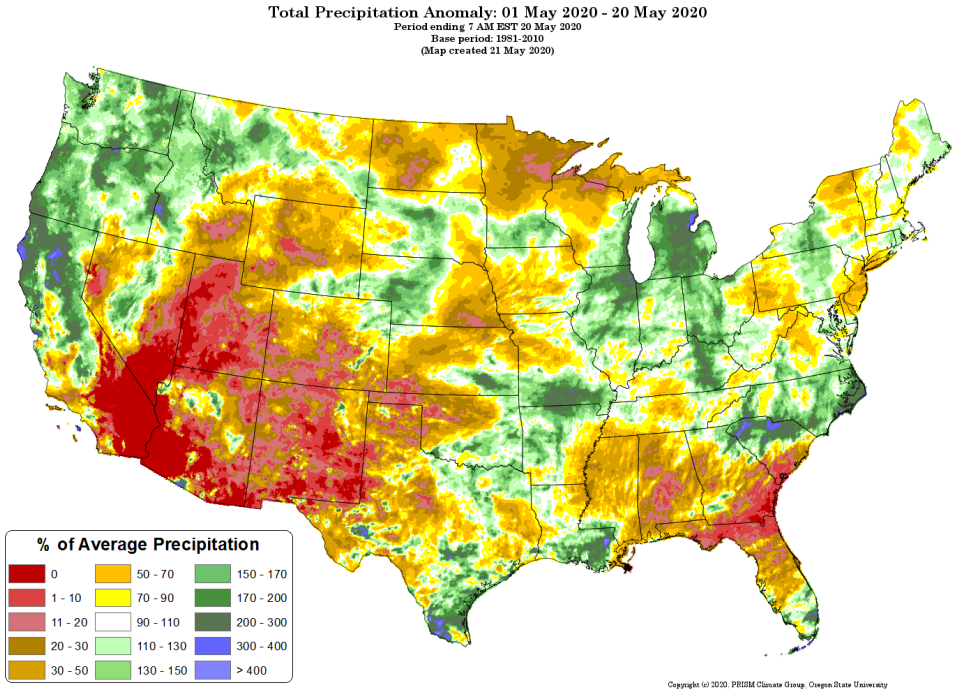
7-day precipitation anomaly map for Alaska.

See also:
7-day total precipitation values (inches) map



Month-to-Date, All Available Data Including SNOTEL and NWS Networks

Source: PRISM

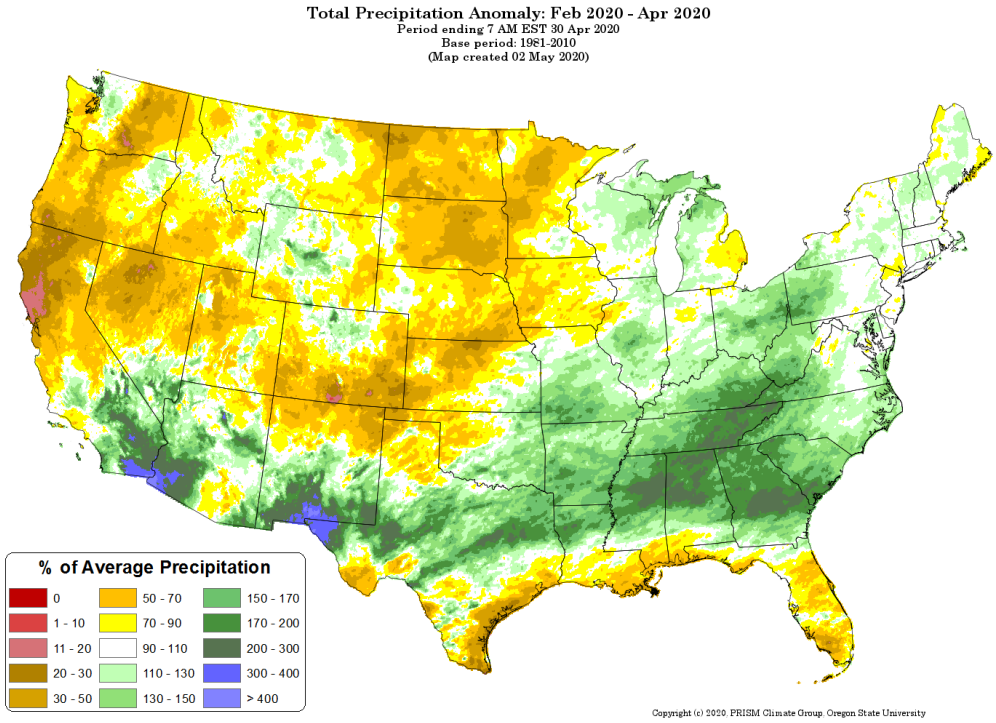


[Month-to-date national total precipitation percent of average map]

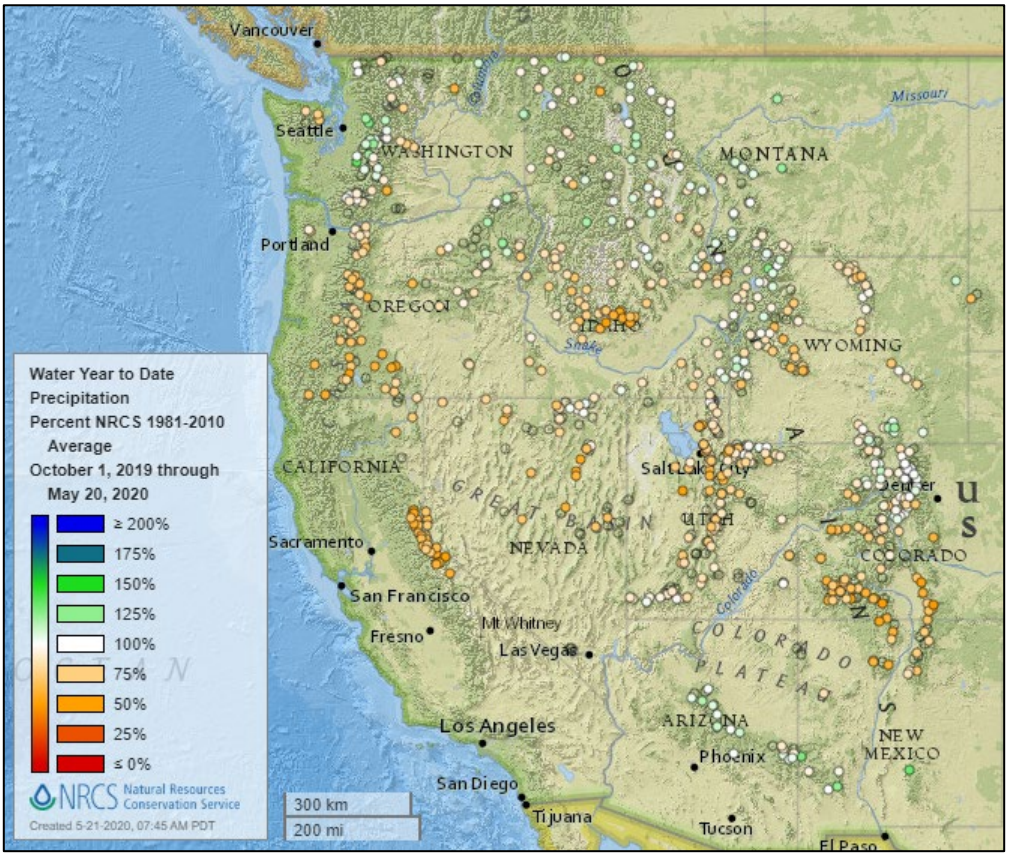
Last 3 Months, All Available Data Including SNOTEL and NWS Networks

Source: PRISM

[February through April 2020 total precipitation percent of average map]

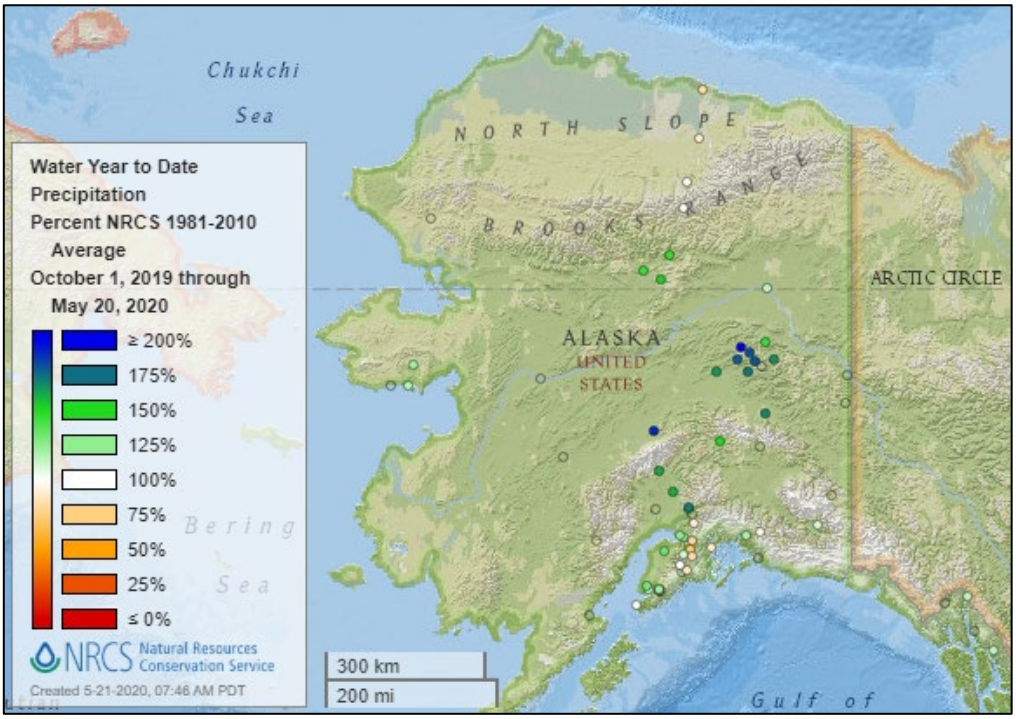


Water Year-to-Date, NRCS SNOTEL Network



[2020 water year-to-date precipitation percent of average map]

See also: [2020 water year-to-date precipitation values (inches) map]



[Alaska 2020 water year-to-date precipitation percent of average map]

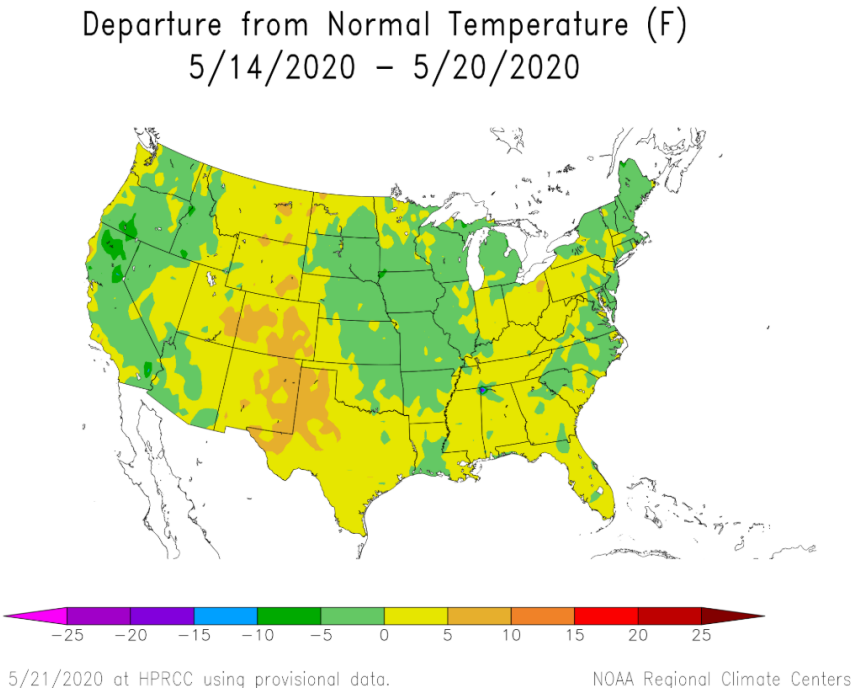
See also: [Alaska 2020 water year-to-date precipitation values (inches) map]

Temperature

Last 7 Days, National Weather Service (NWS) Networks
Source: Regional Climate Centers

7-day temperature anomaly map for the contiguous U.S.

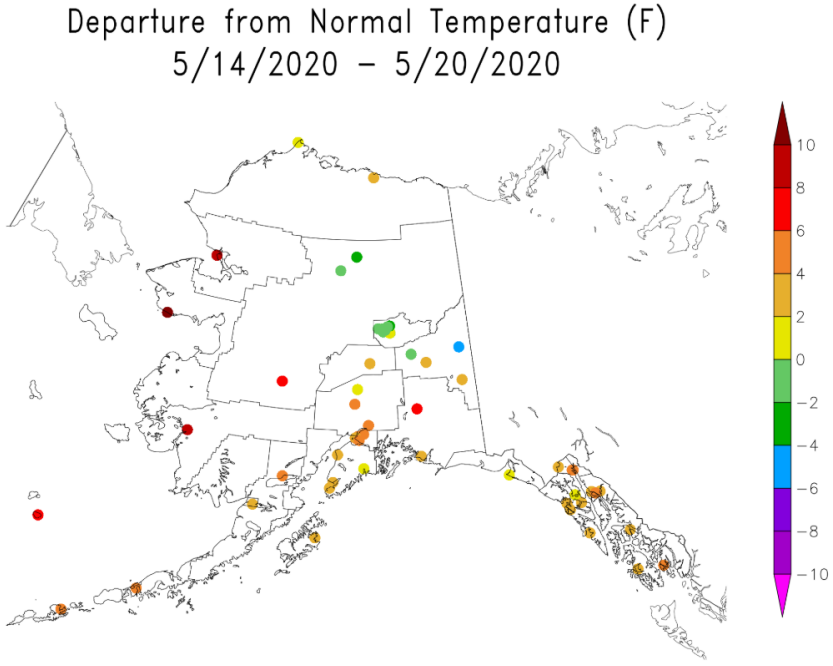
See also: 7-day temperature (° F) map



Last 7 Days, National Weather Service (NWS) Networks
Source: Regional Climate Centers

7-day temperature anomaly map for Alaska.

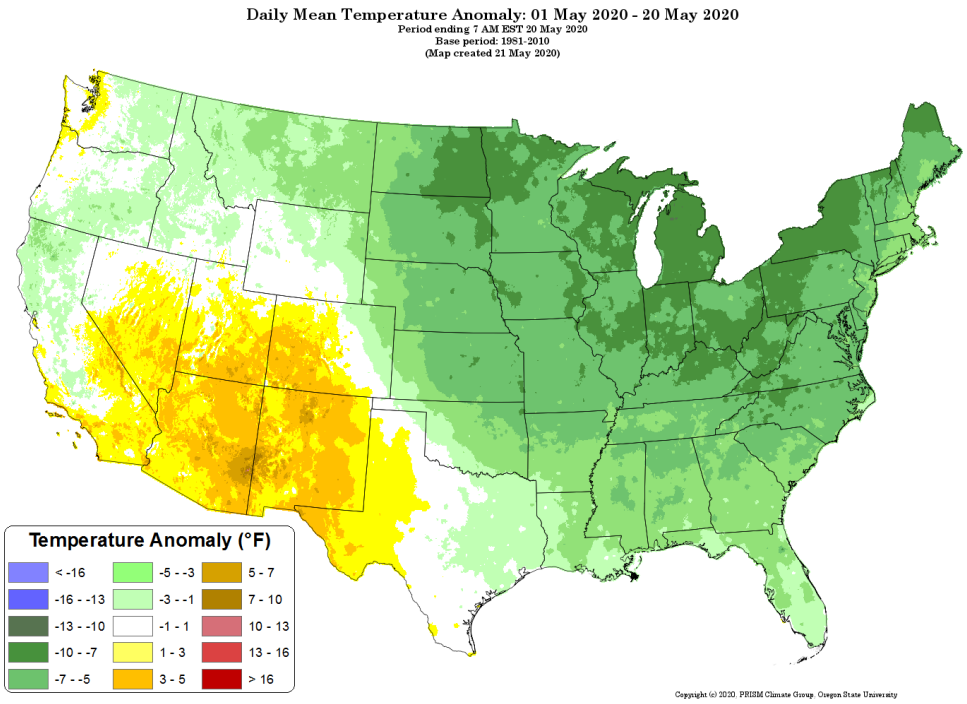
See also: 7-day temperature (° F) map



Month-to-Date, All Available Data Including SNOTEL and NWS Networks

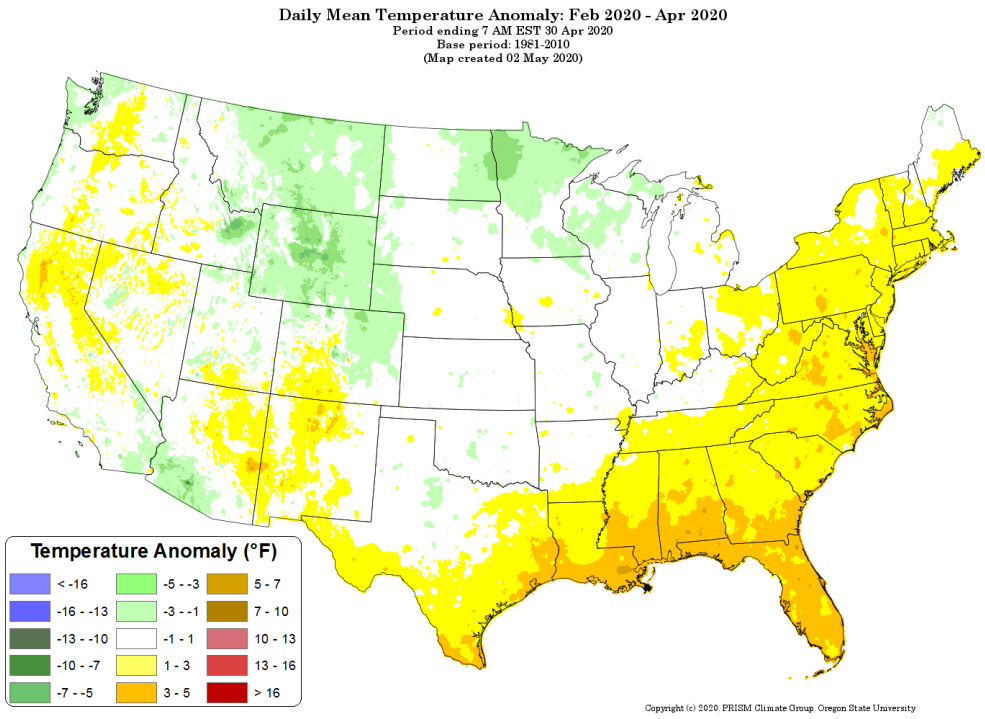
Source: PRISM

[Month-to-date national daily mean temperature anomaly map]



Last 3 Months, All Available Data Including SNOTEL and NWS Networks

Source: PRISM

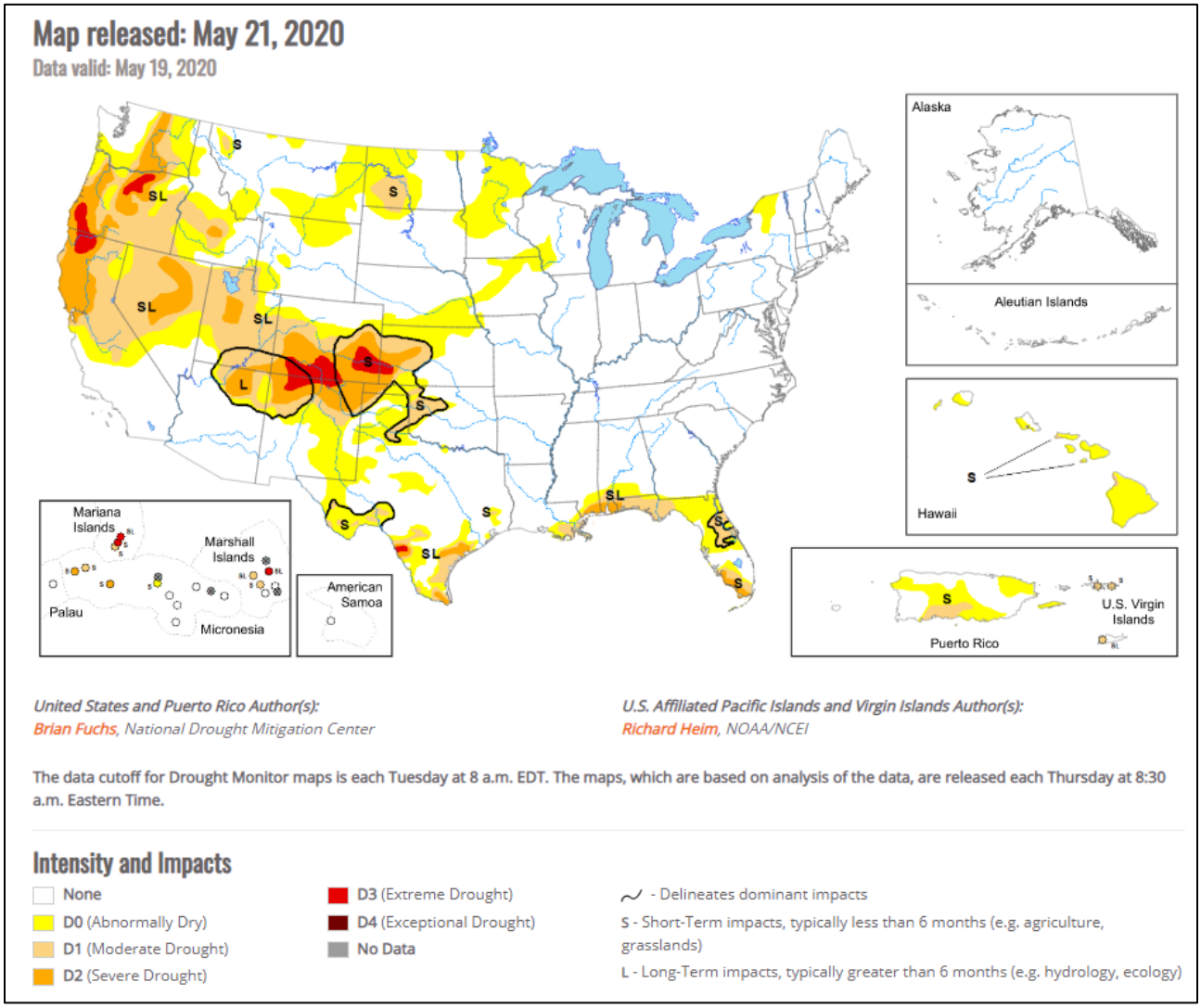


[February through April 2020 daily mean temperature anomaly map]

Drought

U.S. Drought Monitor
Source: National Drought Mitigation Center

U.S. Drought Portal
Source: NOAA



Current National Drought Summary, May 21, 2020

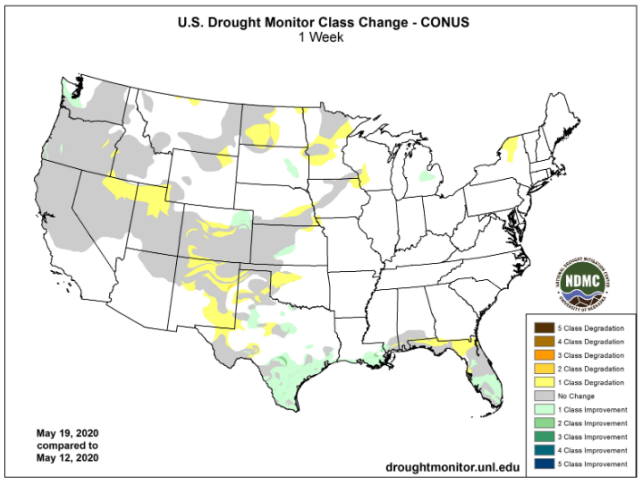
Source: National Drought Mitigation Center

“The southern Plains, Mississippi Valley, Pacific coast and south Florida were the recipients of the greatest rains this week, with some areas of Louisiana and south Florida recording 5+ inches of rain for the week. Dryness over the East and West was also coupled with warmer than normal temperatures over the West. Temperatures were 3-6 degrees above normal over the Nevada, Utah, Colorado and New Mexico regions while the northern Plains was 6-9 degrees below normal. Many dry areas of the Plains and Midwest have not had drought development due to the unseasonably cool temperatures in May.”

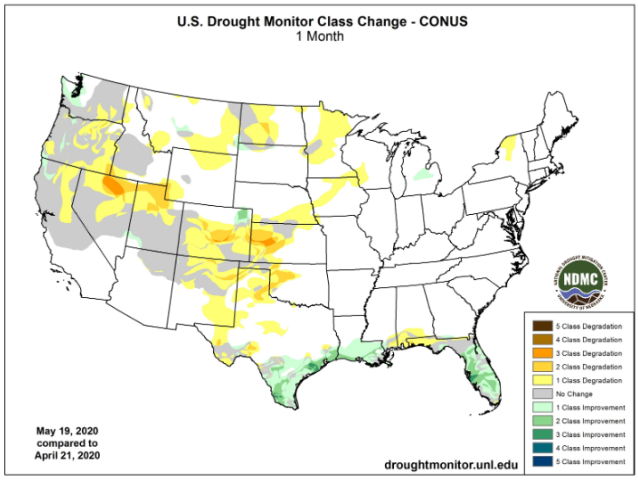
Changes in Drought Monitor Categories over Time

Source: National Drought Mitigation Center

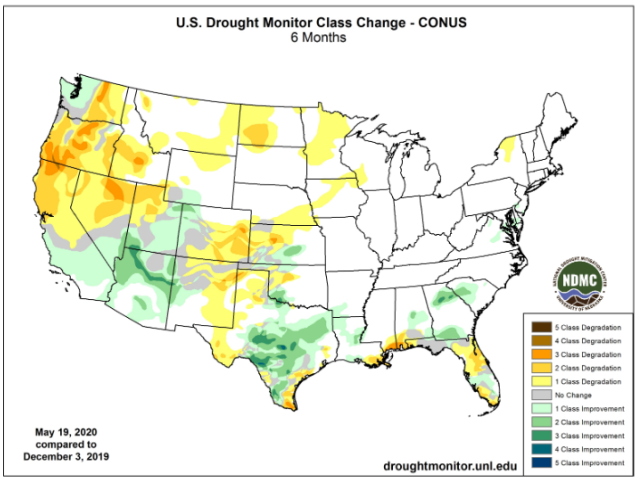
1 Week



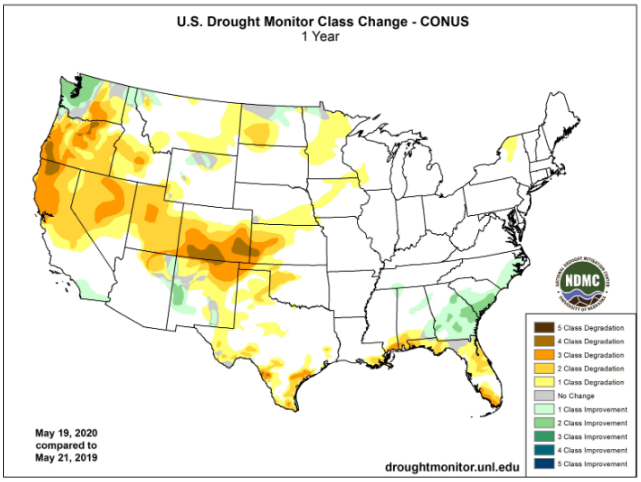
1 Month



6 Months



1 Year



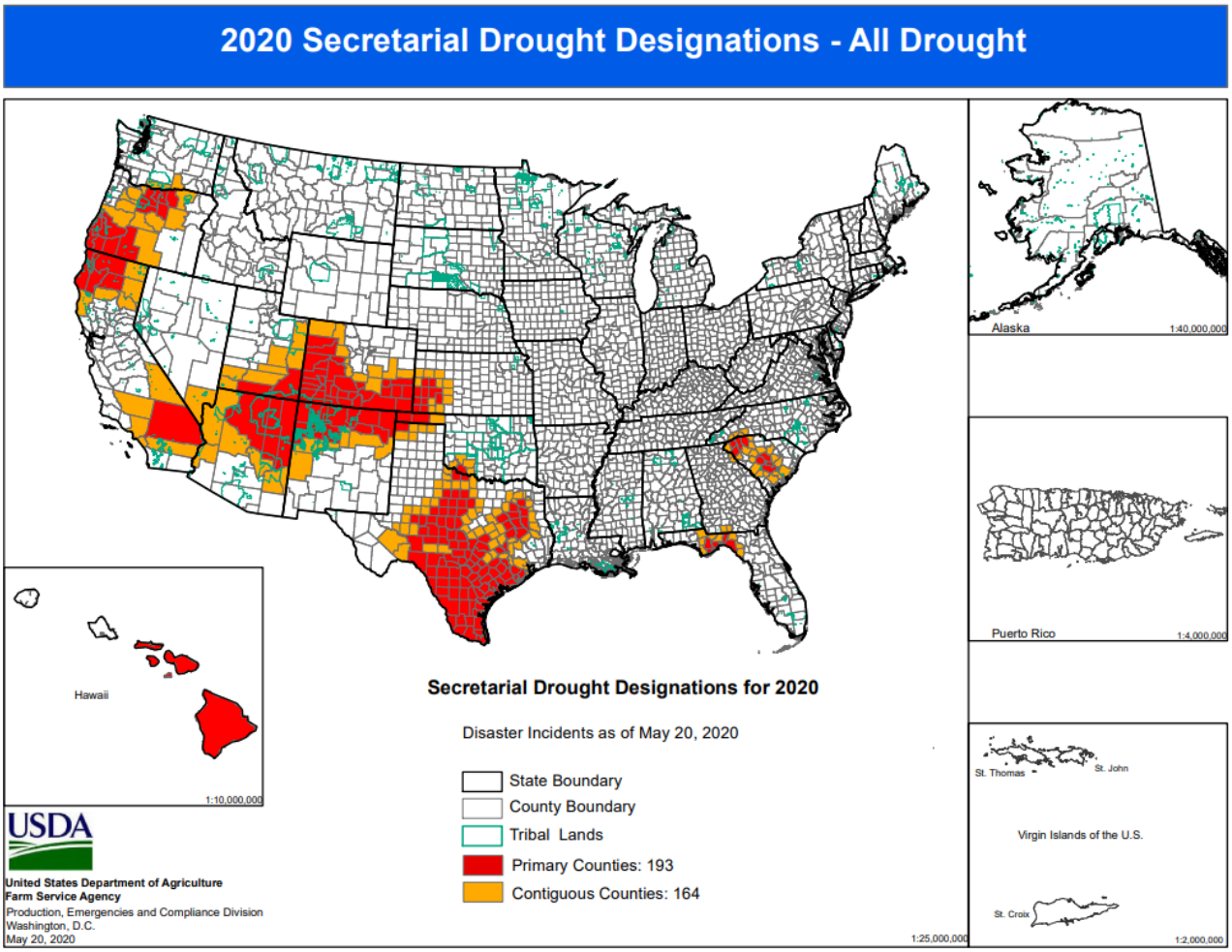
Changes in drought conditions over the last 12 months for the contiguous U.S.

Highlighted Drought Resources

- Drought Impact Reporter
- Quarterly Regional Climate Impacts and Outlook
- U.S. Drought Portal Indicators and Monitoring
- U.S. Population in Drought, Weekly Comparison
- USDA Disaster and Drought Information

Secretarial Drought Designations

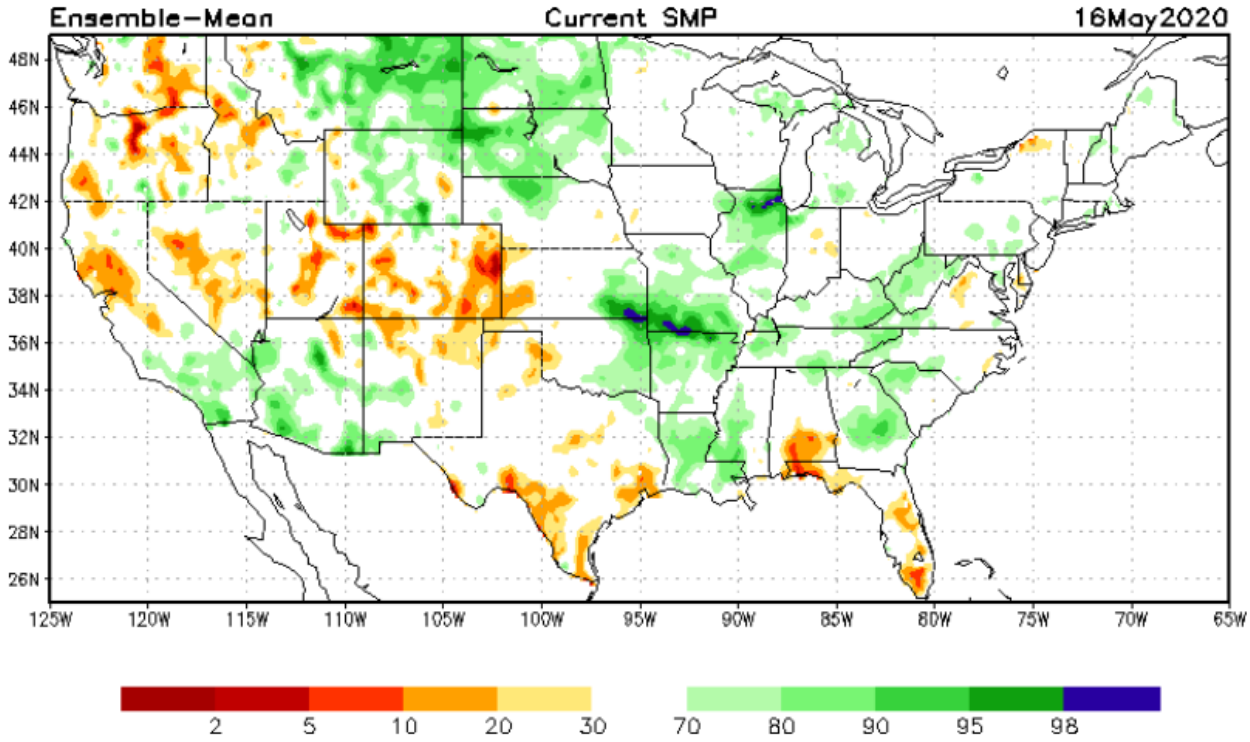
Source: USDA Farm Service Agency



Other Climatic and Water Supply Indicators

Soil Moisture

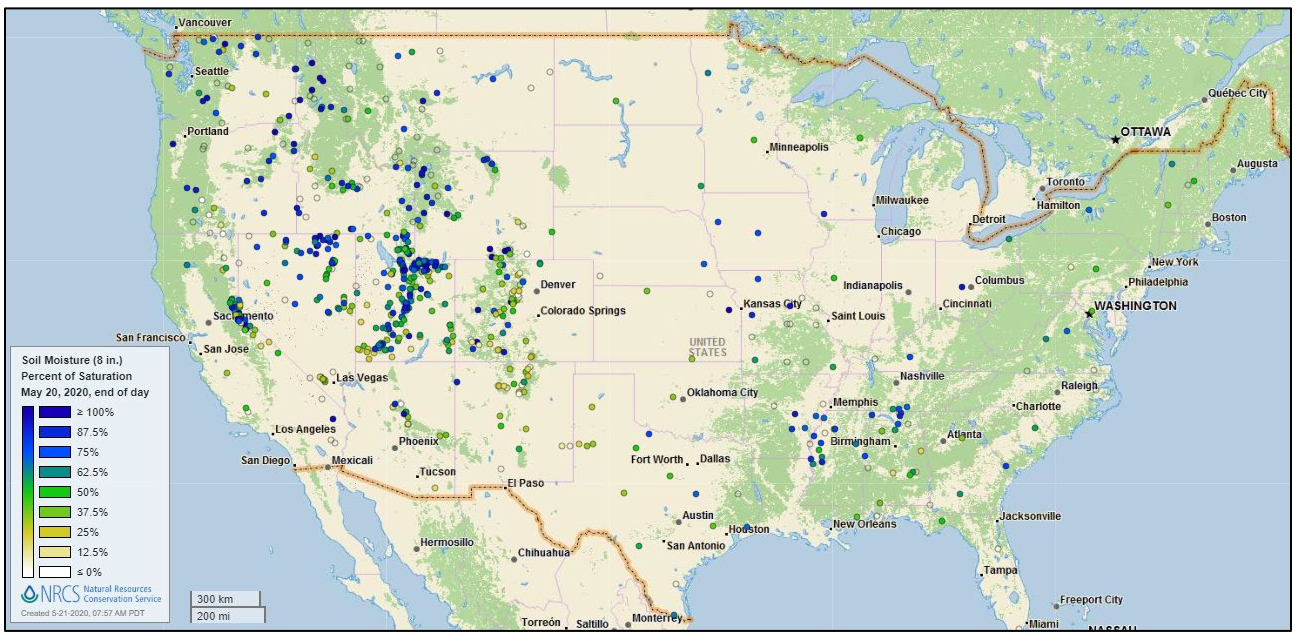
Source: NOAA National Centers for Environmental Prediction



Modeled soil moisture percentiles as of May 16, 2020

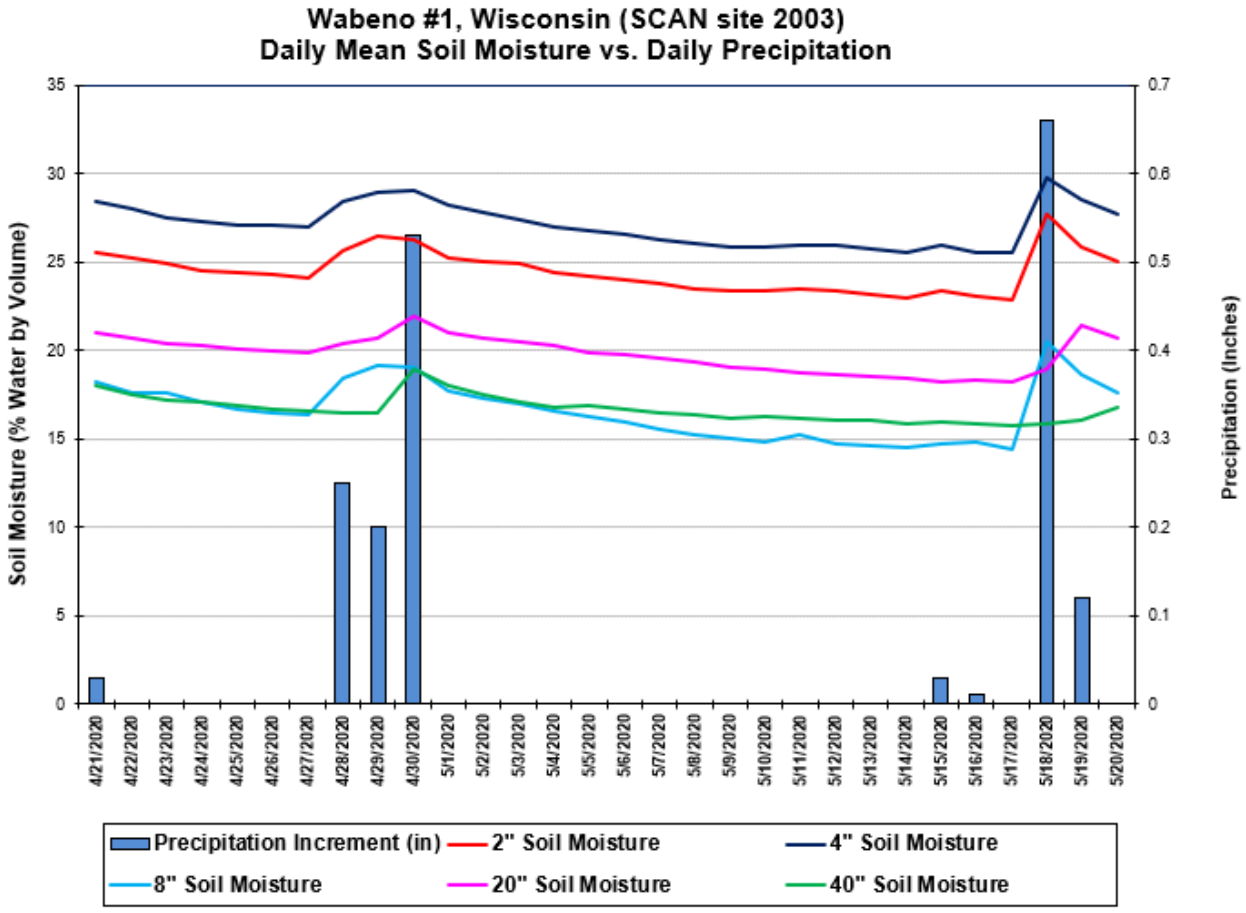
Soil Moisture Percent of Saturation

Source: NRCS SNOTEL and Soil Climate Analysis Network (SCAN)



Soil Moisture Data

Source: NRCS Soil Climate Analysis Network (SCAN)



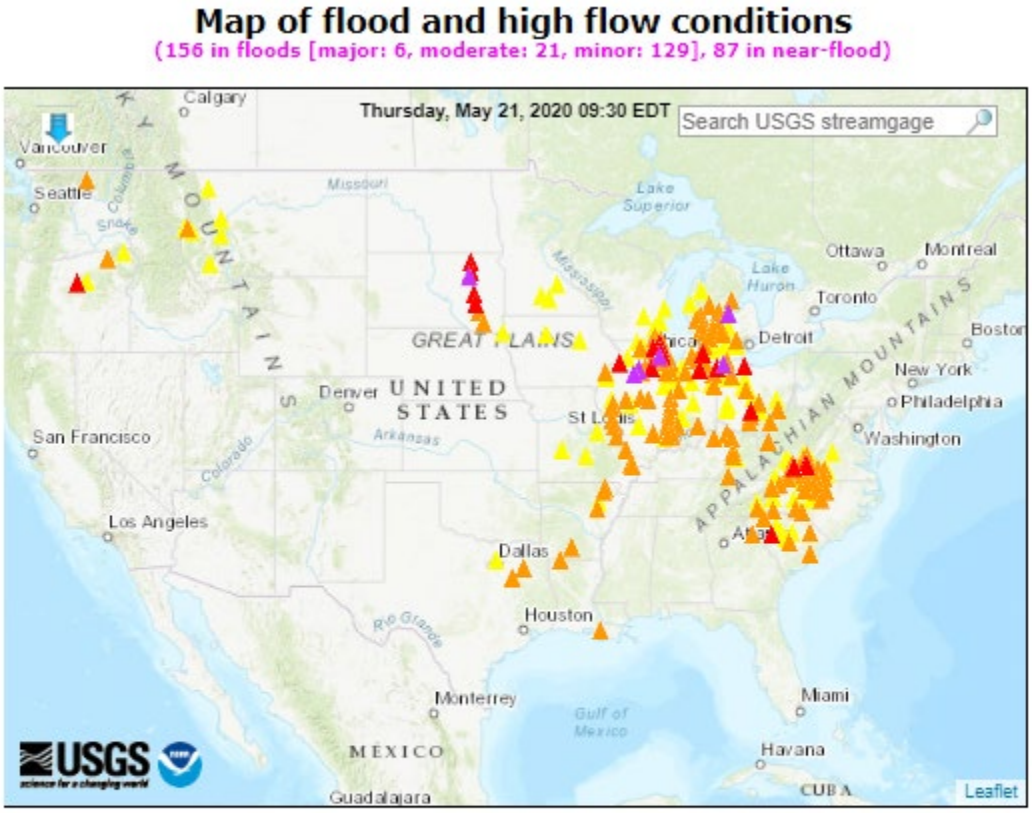
This chart shows the soil moisture and precipitation for the last 30 days at the Wabeno #1 SCAN site in Wisconsin. Two larger precipitation events during the 30 days increased soil moisture at all sensor depths. Accumulated precipitation for the period was 1.83 inches

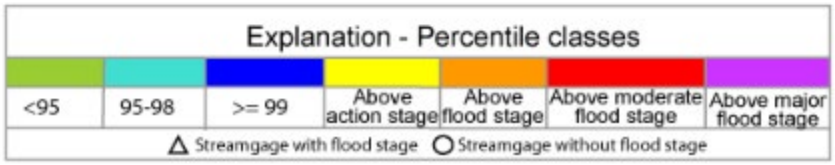
Soil Moisture Data Portals

- CRN Soil Moisture
- Texas A&M University North American Soil Moisture Database
- University of Washington Experimental Modeled Soil Moisture

Streamflow, Drought, Flood, and Runoff

Source: U.S. Geological Survey

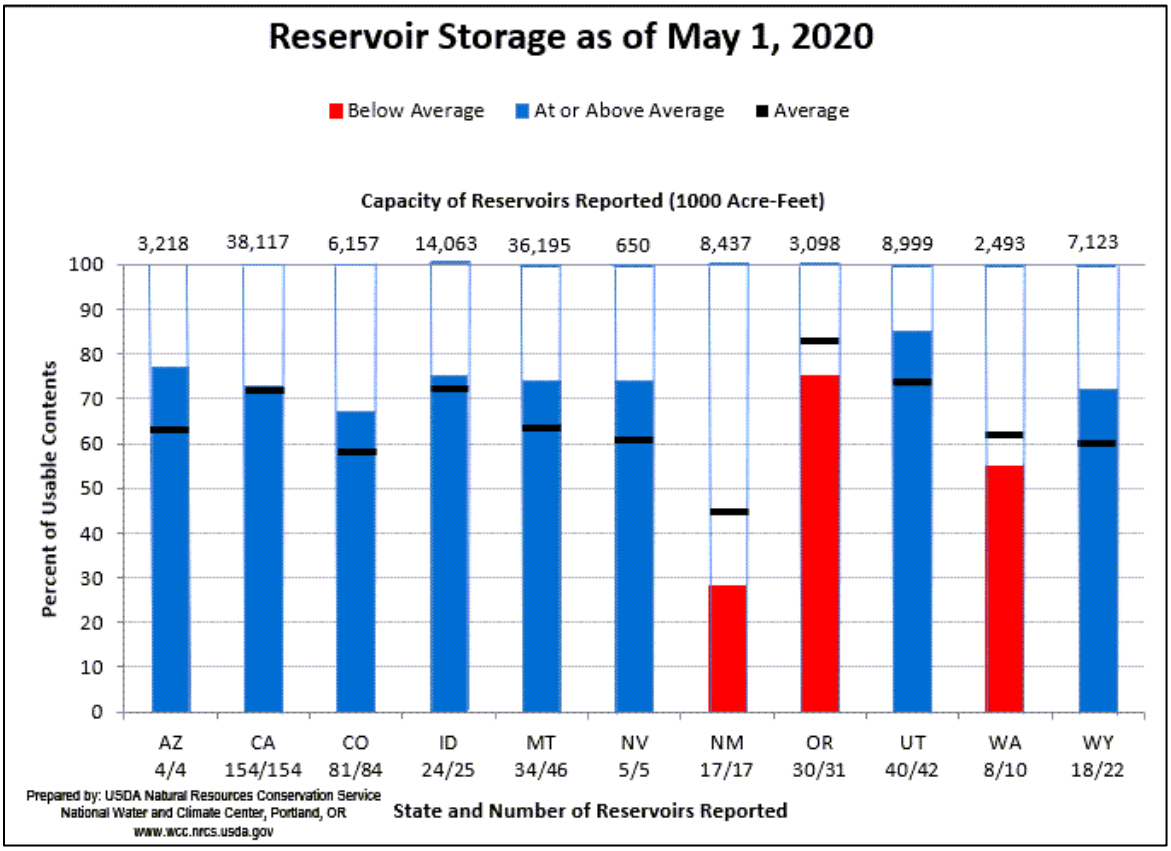




[WaterWatch: Streamflow, drought, flood, and runoff conditions]

Reservoir Storage

Western States Reservoir Storage
Source: NRCS National Water and Climate Center

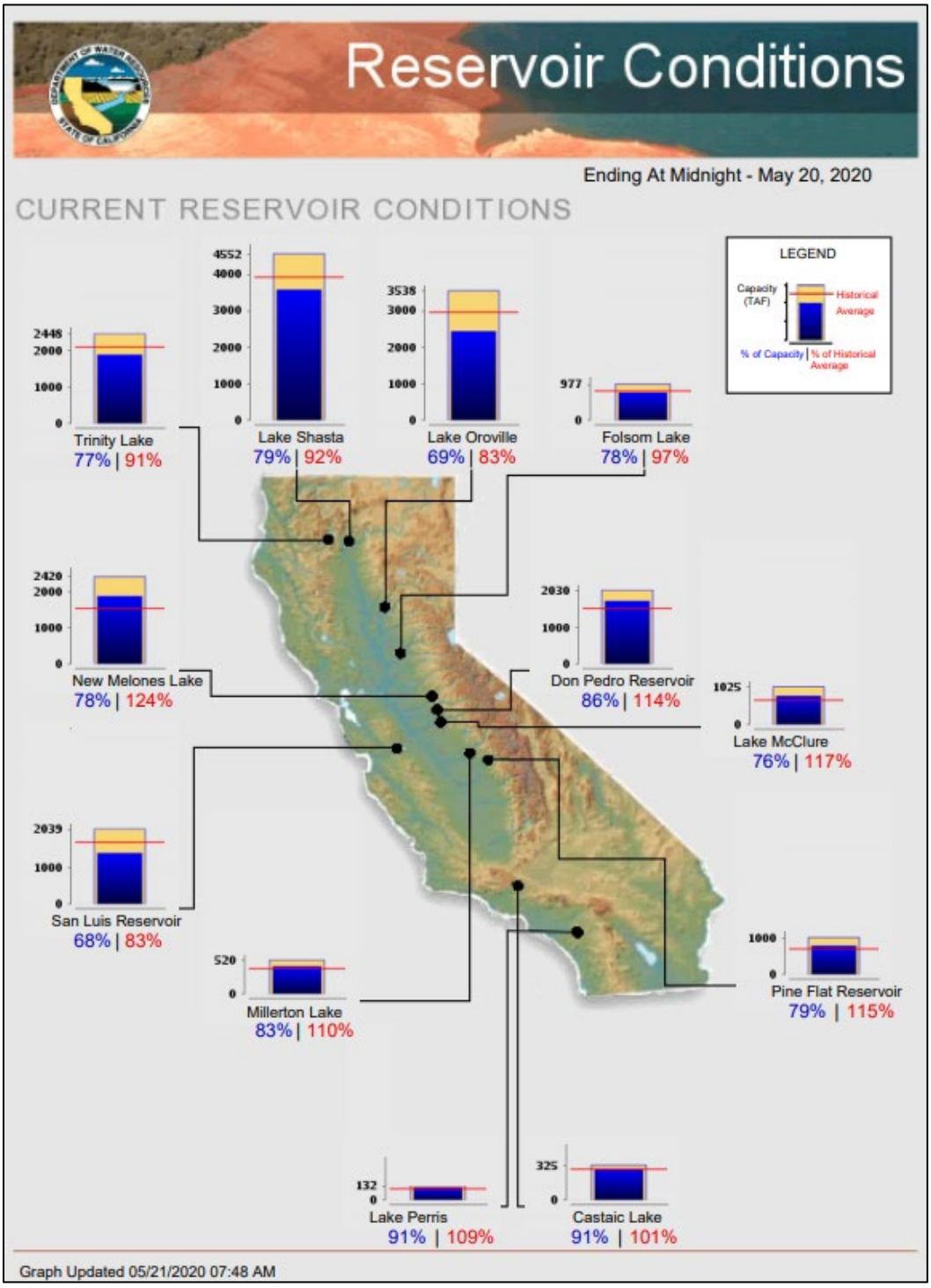


May 1, 2020 Reservoir Storage: Chart | Dataset

Hydromet Teacup Reservoir Depictions
Source: U.S. Bureau of Reclamation

- Upper Colorado
- Pacific Northwest/Snake/Columbia
- Sevier River Water, Utah
- Upper Missouri, Kansas, Oklahoma, Texas

Current California Reservoir Conditions
Source: California Department of Water Resources



Current California Reservoir Conditions

Short- and Long-Range Outlooks

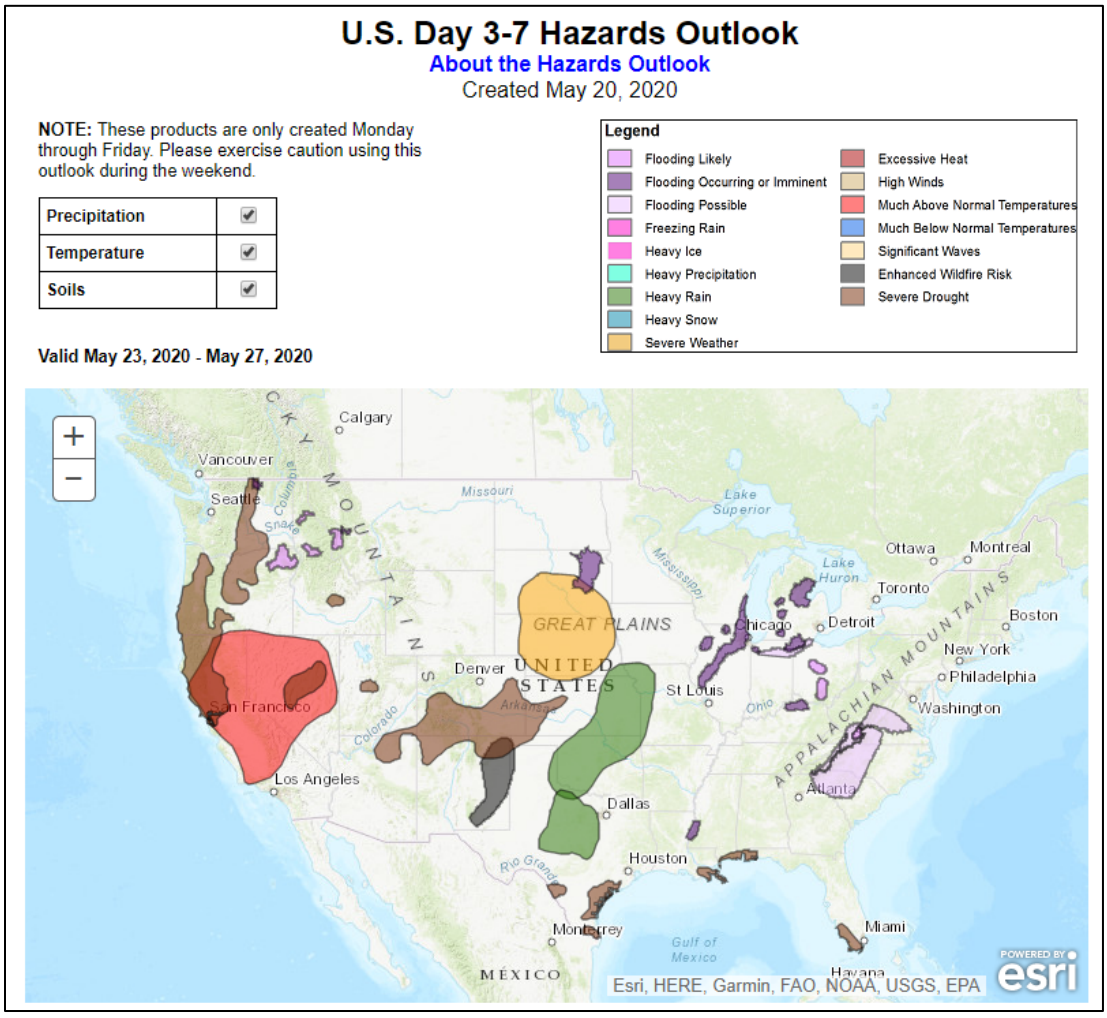
Agricultural Weather Highlights

Author: Brad Rippey, Agricultural Meteorologist, USDA/OCE/WAOB

National Outlook, Thursday, May 21, 2020: "Slow-moving storm systems are currently centered over the Tennessee Valley and the southern Canadian Prairies, respectively. The Southeastern storm will gradually weaken and drift eastward but could produce an additional 1 to 3 inches of rain in the middle Atlantic States. Meanwhile, the Canadian storm will continue to spark scattered showers from the Pacific Northwest to the northern Rockies. In addition, showers and locally severe thunderstorms will remain active in the vicinity of the storm's trailing cold front; 5-day rainfall totals could reach 1 to 3 inches or more across portions of the Plains and Mississippi Valley. In contrast, little or no rain will fall during the next 5 days in northern New England and from California to the Four Corners region. Building warmth will accompany California's dry weather, while temperatures will also rebound to above-normal levels from the Gulf Coast northward into the Midwest. The NWS 6- to 10-day outlook for May 26 – 30 calls for the likelihood of near- or above-normal temperatures nationwide, except for cooler-than-normal conditions in the southcentral U.S. Meanwhile, above-normal rainfall from the Gulf Coast States northward into the Ohio Valley and lower Great Lakes region should contrast with drier-than-normal weather along the northern Atlantic Coast and from northern California and the Pacific Northwest to the northern Plains."

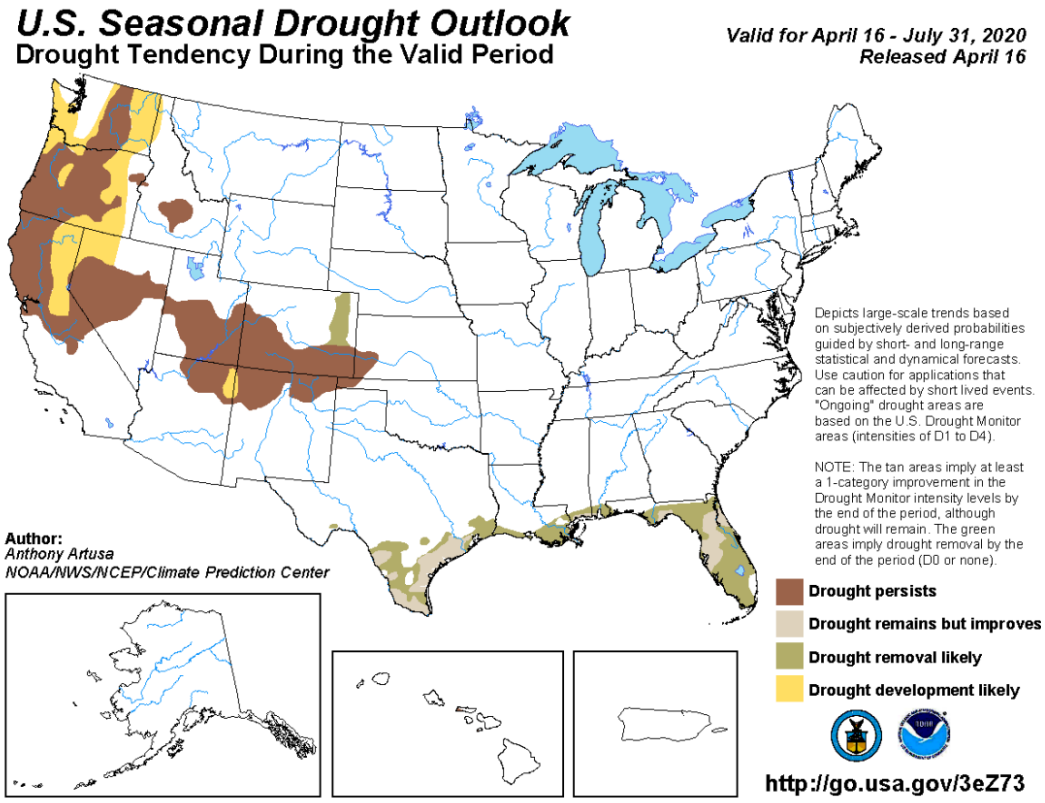
Weather Hazards Outlook: May 23 – 27, 2020

Source: NOAA Weather Prediction Center



Seasonal Drought Outlook: April 16 – July 31, 2020

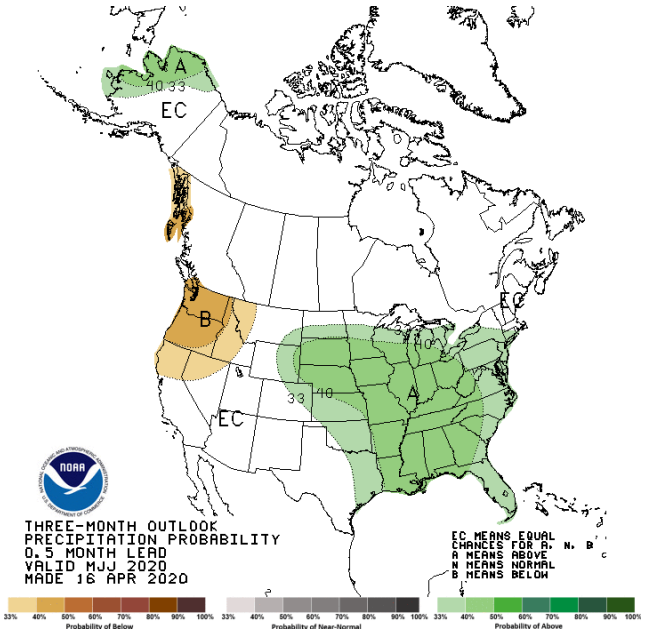
Source: National Weather Service



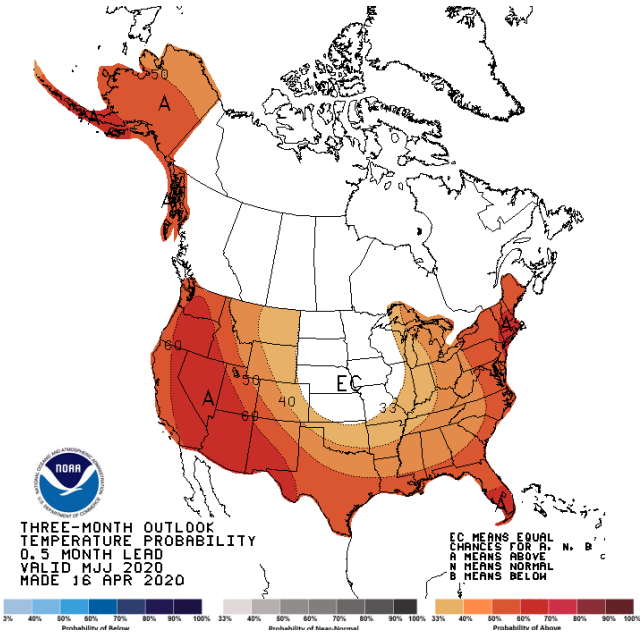
Climate Prediction Center 3-Month Outlook

Source: National Weather Service

Precipitation



Temperature



May-June-July (MJJ) 2020 precipitation and temperature outlook summaries

More Information

The NRCS National Water and Climate Center publishes this weekly report. We welcome your feedback. If you have questions or comments, please contact us.