United States Department of Agriculture

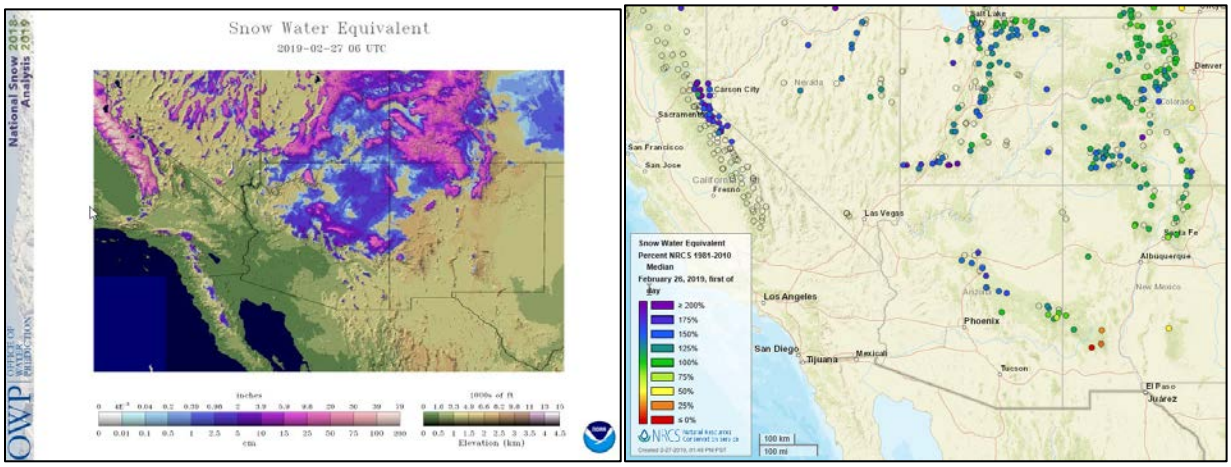
Water and Climate Update

February 28, 2019

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.

Snow 2
Precipitation 3
Temperature 8
Drought 10
Other Climatic and Water Supply Indicators 13
Short- and Long-Range Outlooks 17
More Information 20

Record snow in Arizona as West builds snowpack



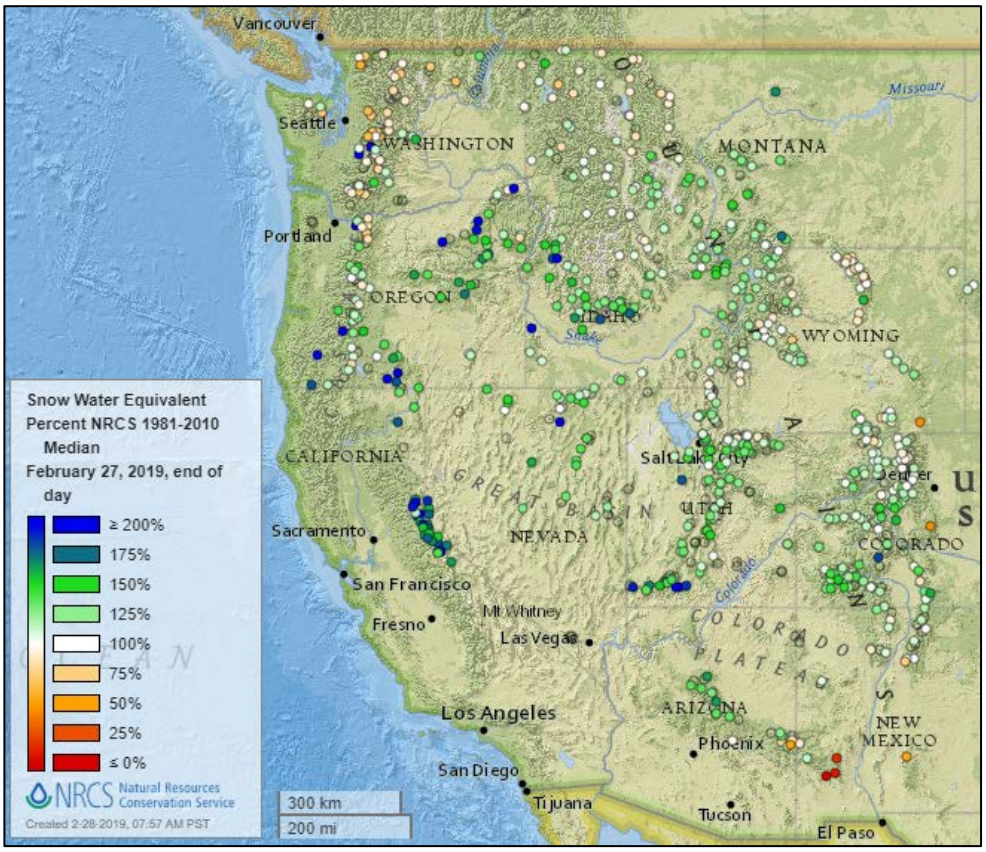
During February, the western mountains were blanketed with many record-breaking snow depths. One of the record snowfalls this week was in Arizona where most of the state experienced snow. Flagstaff saw a 100-year snowfall record at the airport broken, where 35.9 inches fell on February 21, setting a new all-time single-day snowfall which had stood since 1915. The multiple day storm left a total of 40.1 inches in Flagstaff, coming in 8th in all-time storm totals. Snow was reported in many places in the state where snowfall typically is rare. A "snow tornado" was recorded on video in New Mexico, which may be the first occurrence of this phenomenon documented in the U.S. Elsewhere in the West, the snow continues to fall in heavy amounts with many stations reporting record "Febrburied" snow totals.

Related:

Snow overwhelms northern Arizona – Mohave Valley Daily News (NV)
The Latest: Snow in Tucson, Arizona, surprises residents - AP
Following record snowfall, people in Northern Arizona digging out the snow - KTVU
Winter storm breaks 100-year-old snowfall record in Flagstaff, batters rest of Arizona – AZFamily
Flagstaff recovering after 3-day snow total of almost 41 inches – KTAR (AZ)
A 'snow tornado' spun up in New Mexico last week and might be the first documented in the U.S. – The Washington Post
'Febrburied:' Up to 25 feet of snow has fallen in mountains on the West Coast this February – The Washington Post.

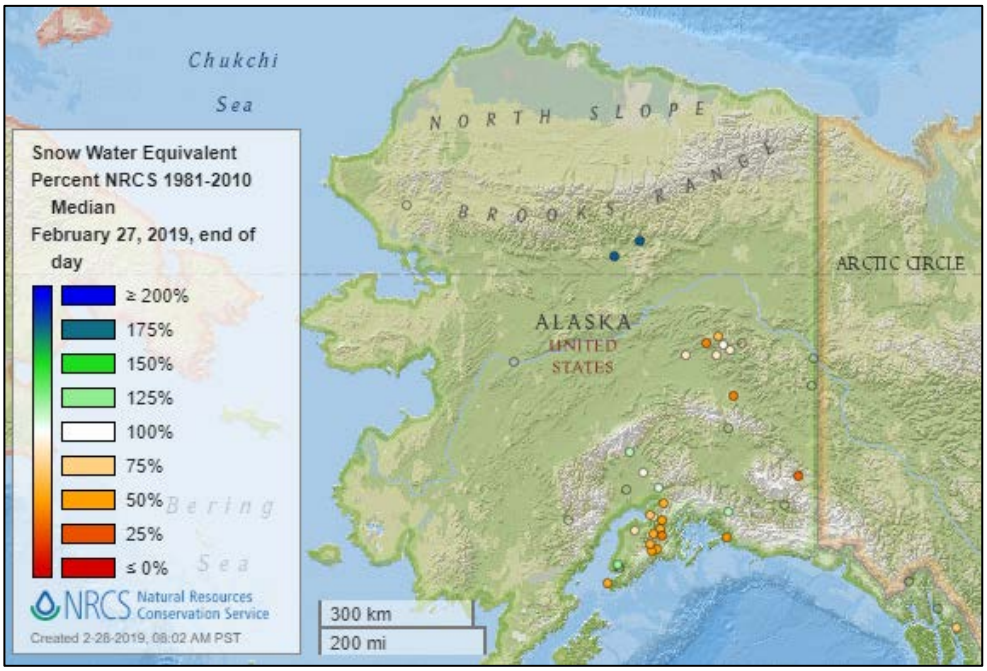
Snow

Current Snow Water Equivalent, NRCS SNOTEL Network



[Snow water equivalent percent of median map]

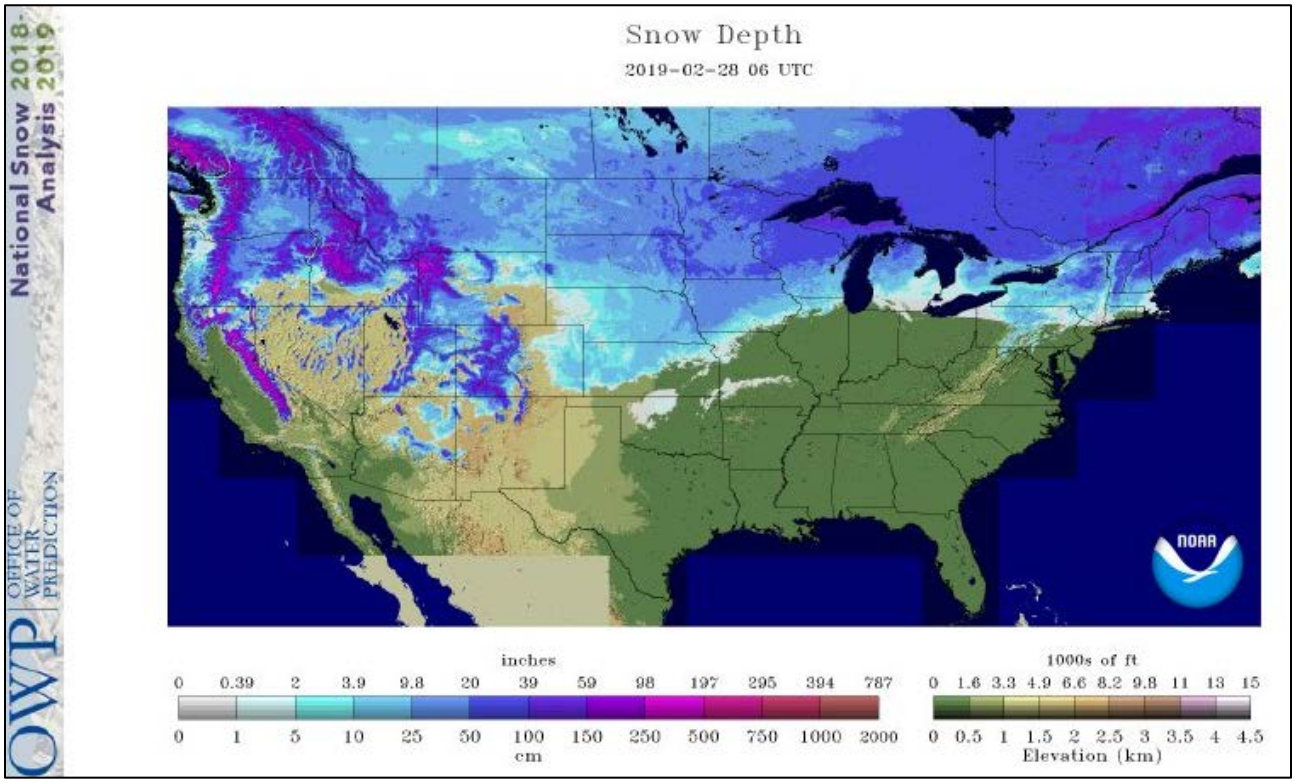
See also:
[Snow water equivalent values (inches) map]



[Alaska snow water equivalent percent of median map]

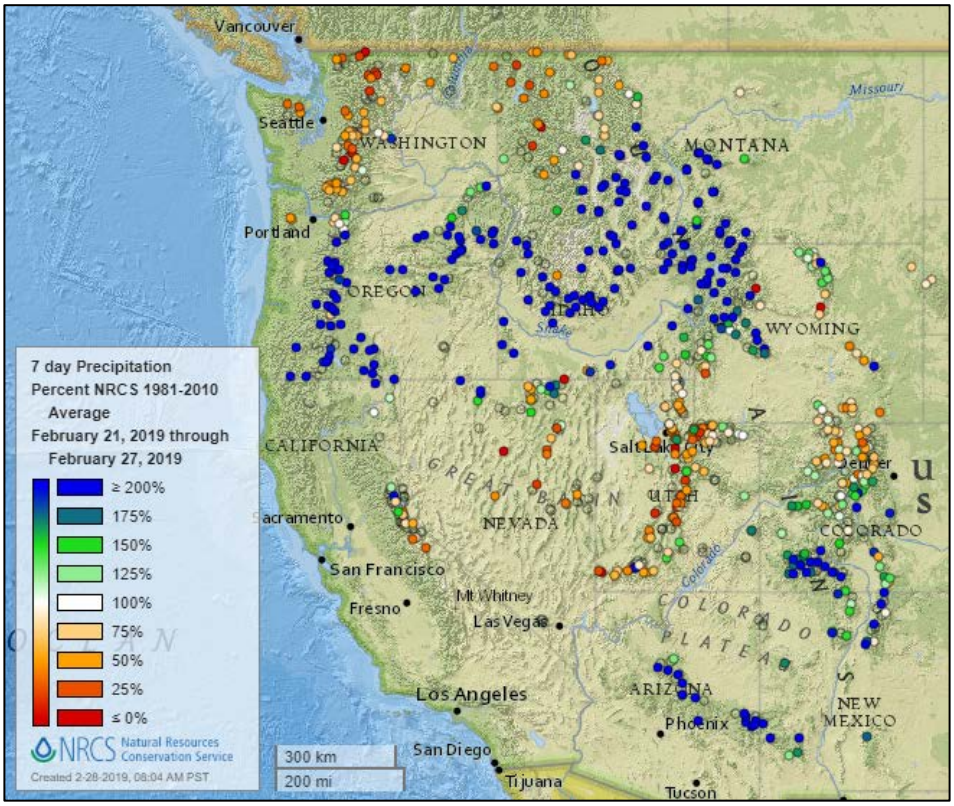
See also:
[Alaska snow water equivalent values (inches) map]

Current Snow Depth, National Weather Service Snow Analysis



Precipitation

Last 7 Days, NRCS SNOTEL Network

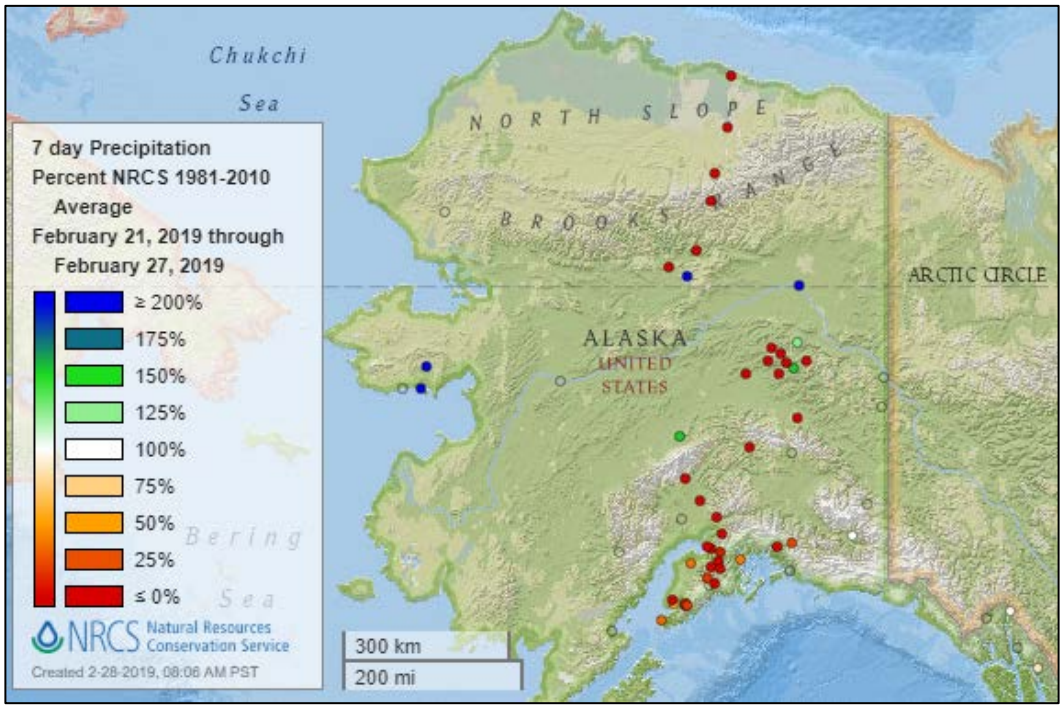


[7-day precipitation percent of average map]

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]

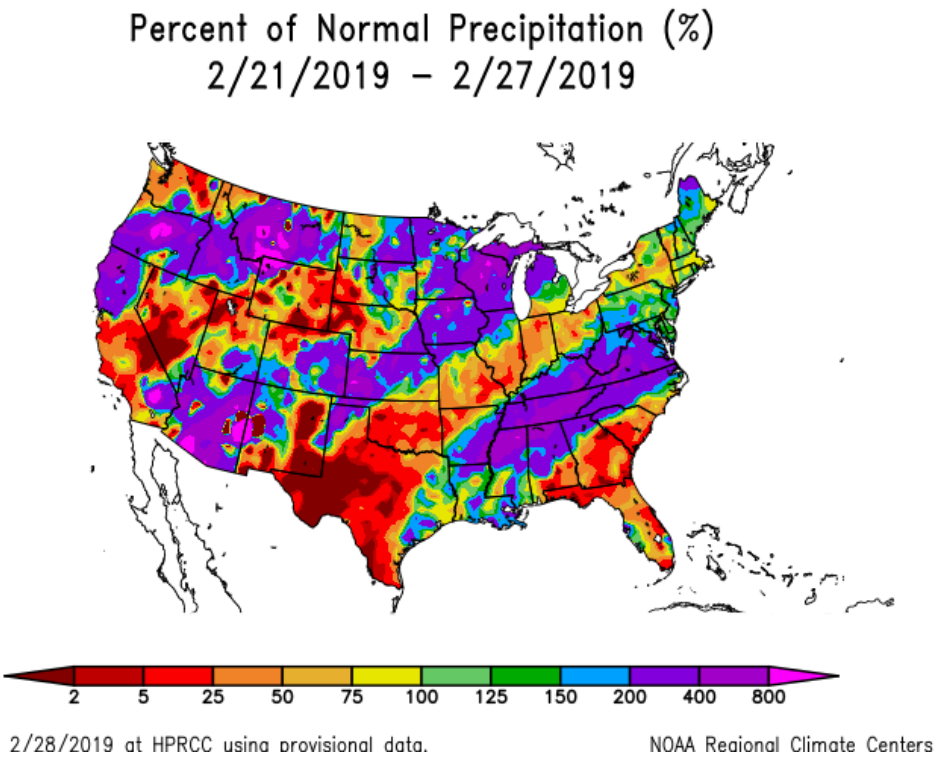


Last 7 Days, National Weather Service (NWS) Networks

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]

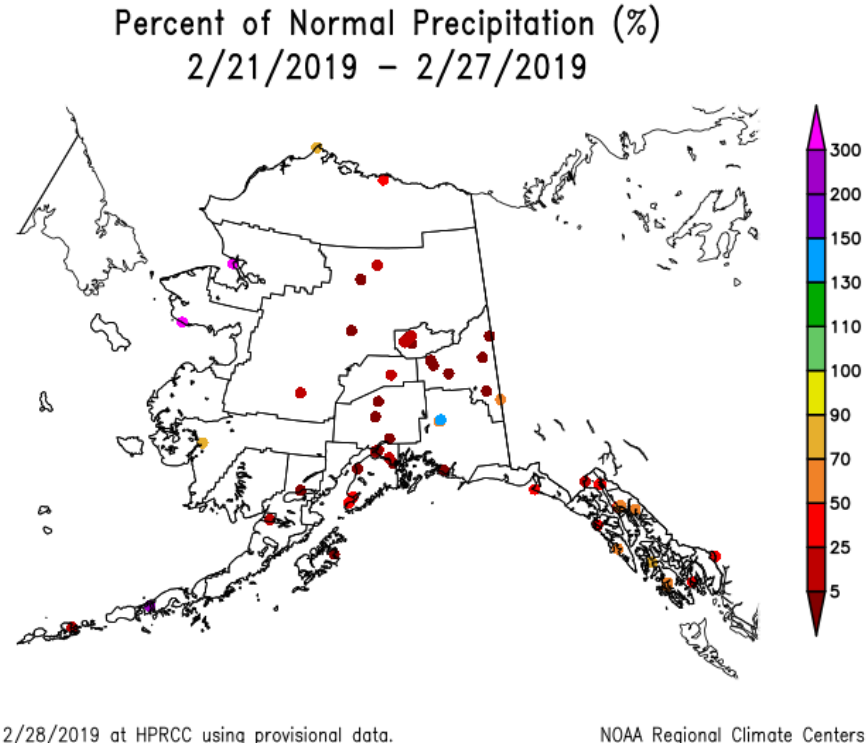


Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

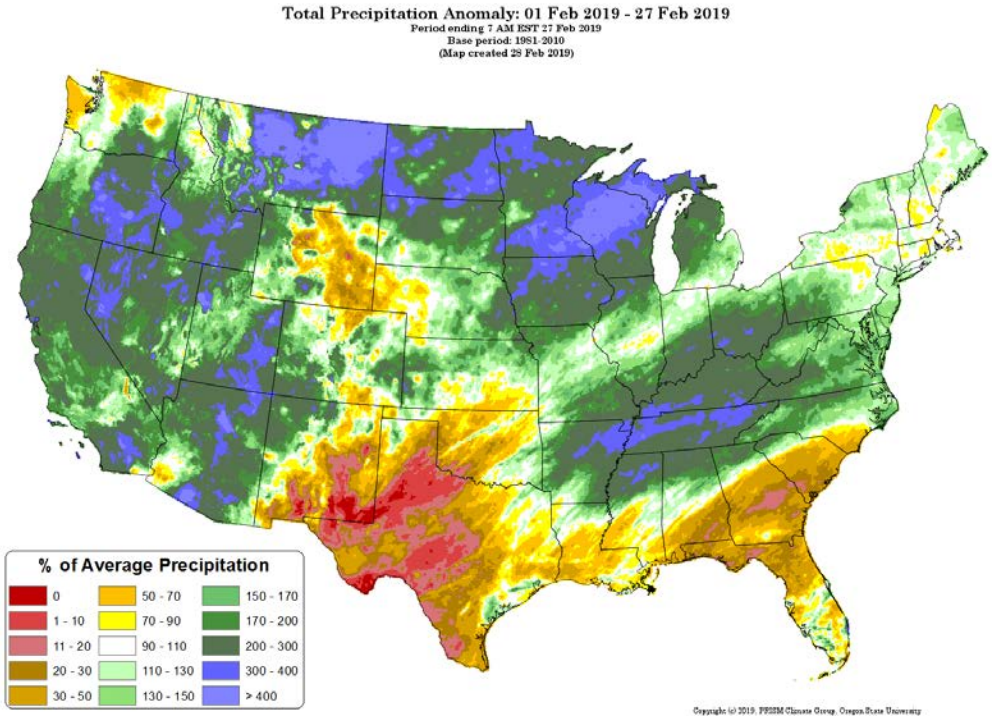
[7-day precipitation anomaly map] for Alaska.

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



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

Source: PRISM

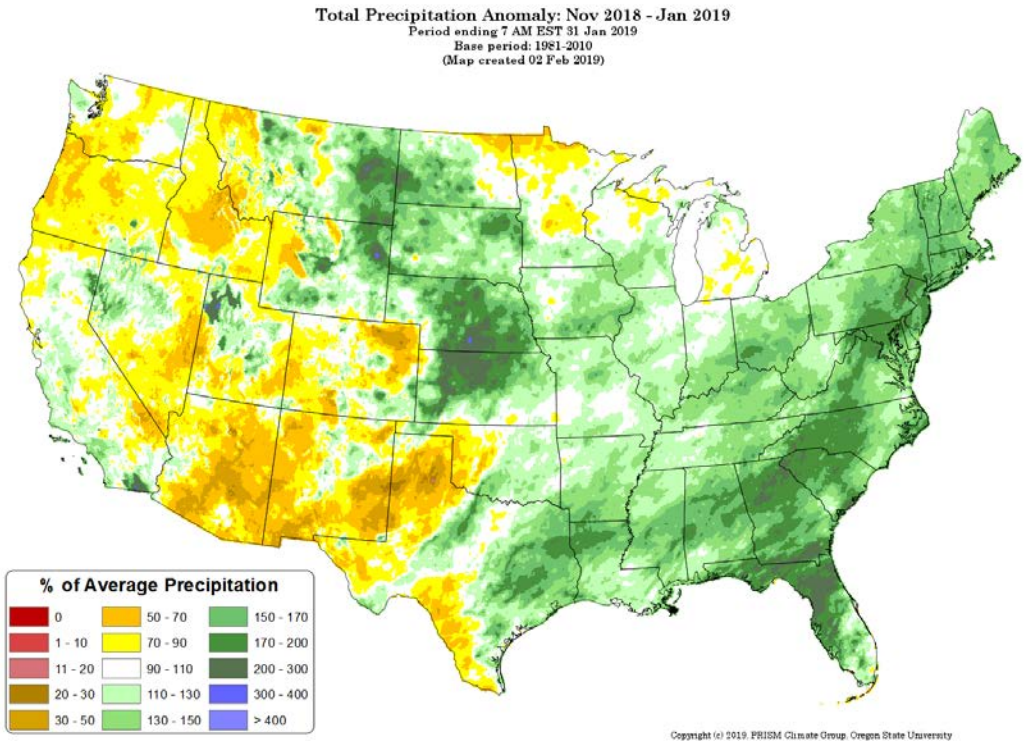


Month-to-date national total precipitation percent of average map

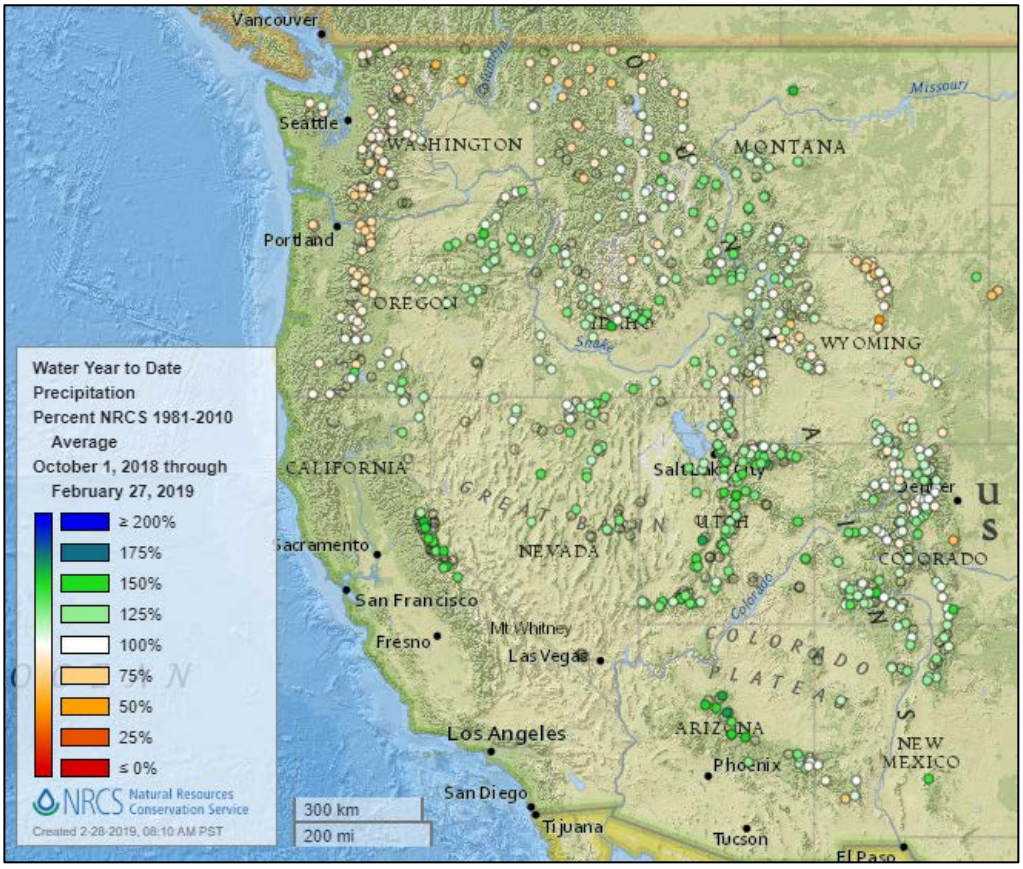
Last 3 Months, All Available Data Including SNOTEL and NWS Networks

Source: PRISM

November 2018 through January 2019 total precipitation percent of average map

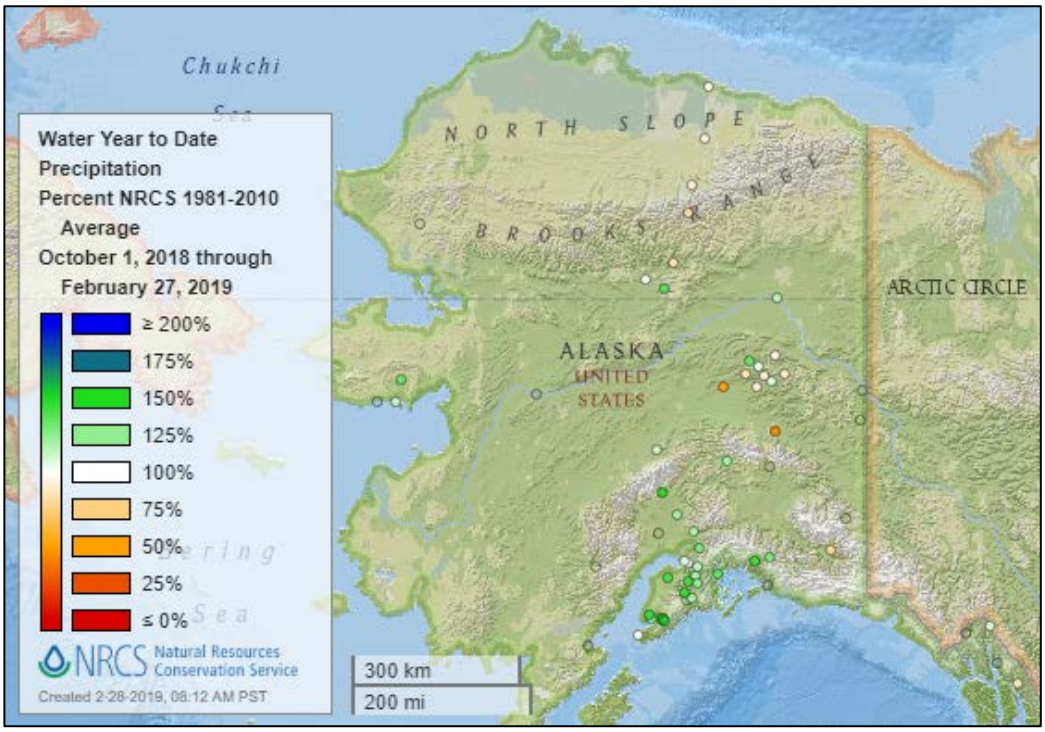


Water Year-to-Date, NRCS SNOTEL Network



[2019 water year-to-date precipitation percent of average map]

See also:
[2019 water year-to-date precipitation values (inches) map]



[Alaska 2019 water year-to-date precipitation percent of average map]

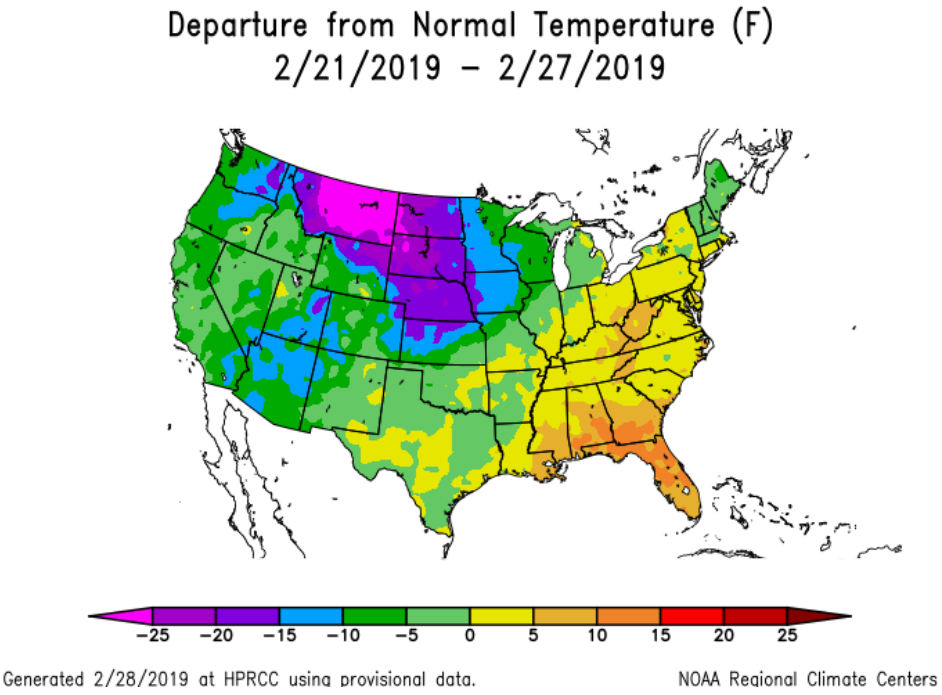
See also:
[Alaska 2019 water year-to-date precipitation values (inches) map]

Temperature

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

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

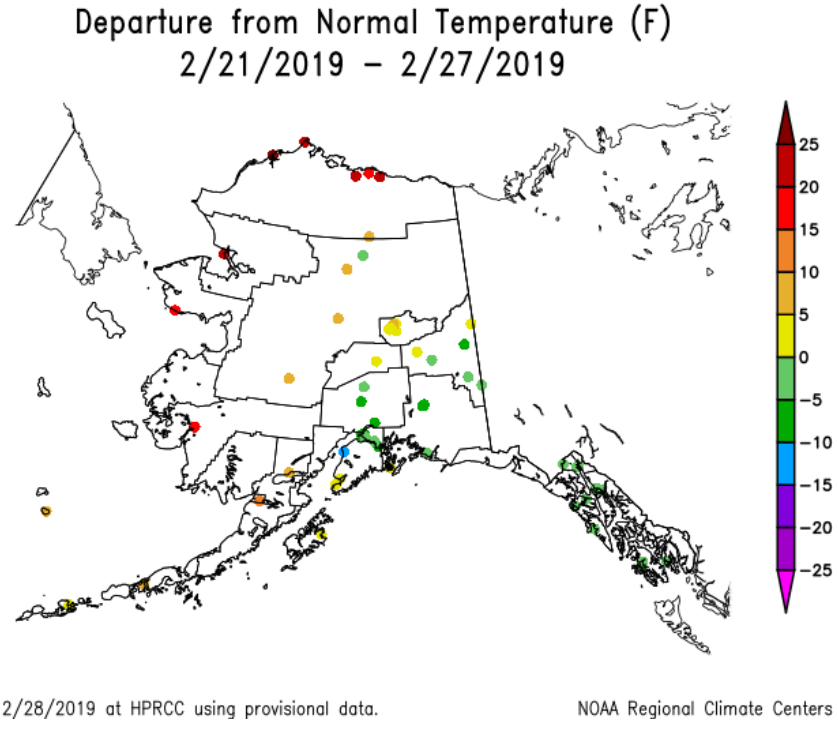
See also: [7-day temperature (° F) map]



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

[7-day temperature anomaly map] for Alaska.

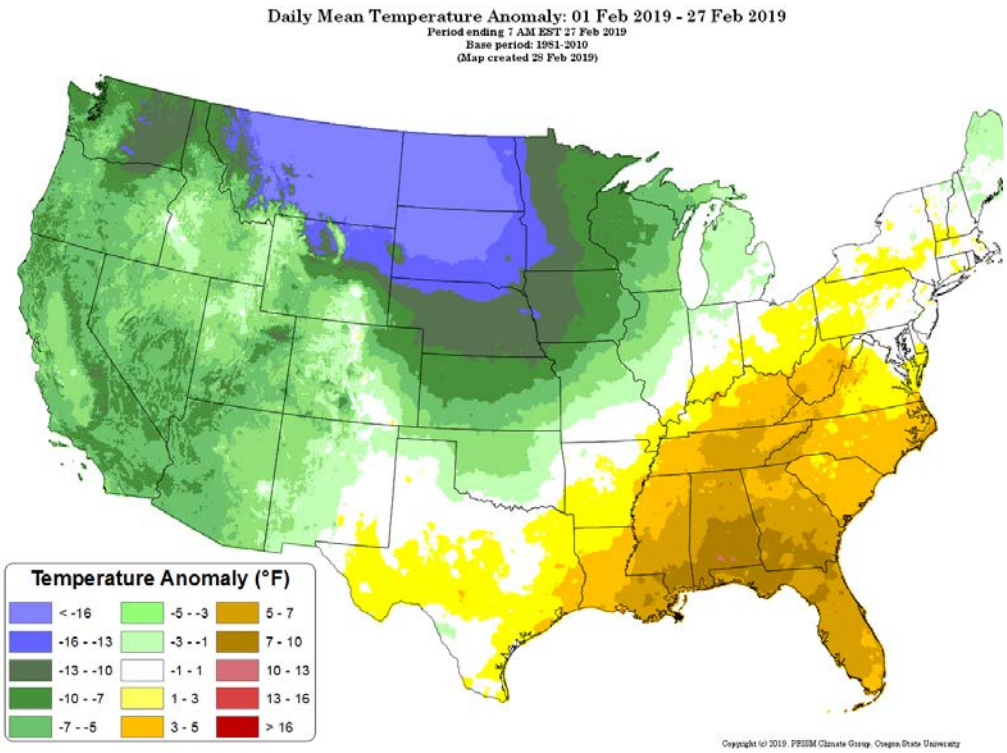
See also:
[7-day temperature (° F) map]



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

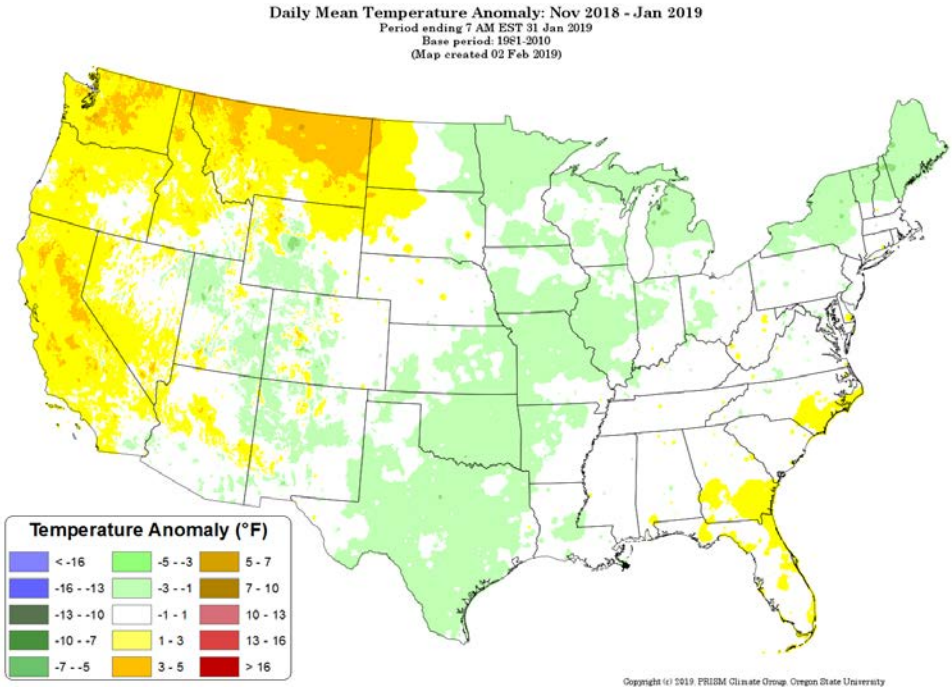
Source: PRISM

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



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

Source: PRISM

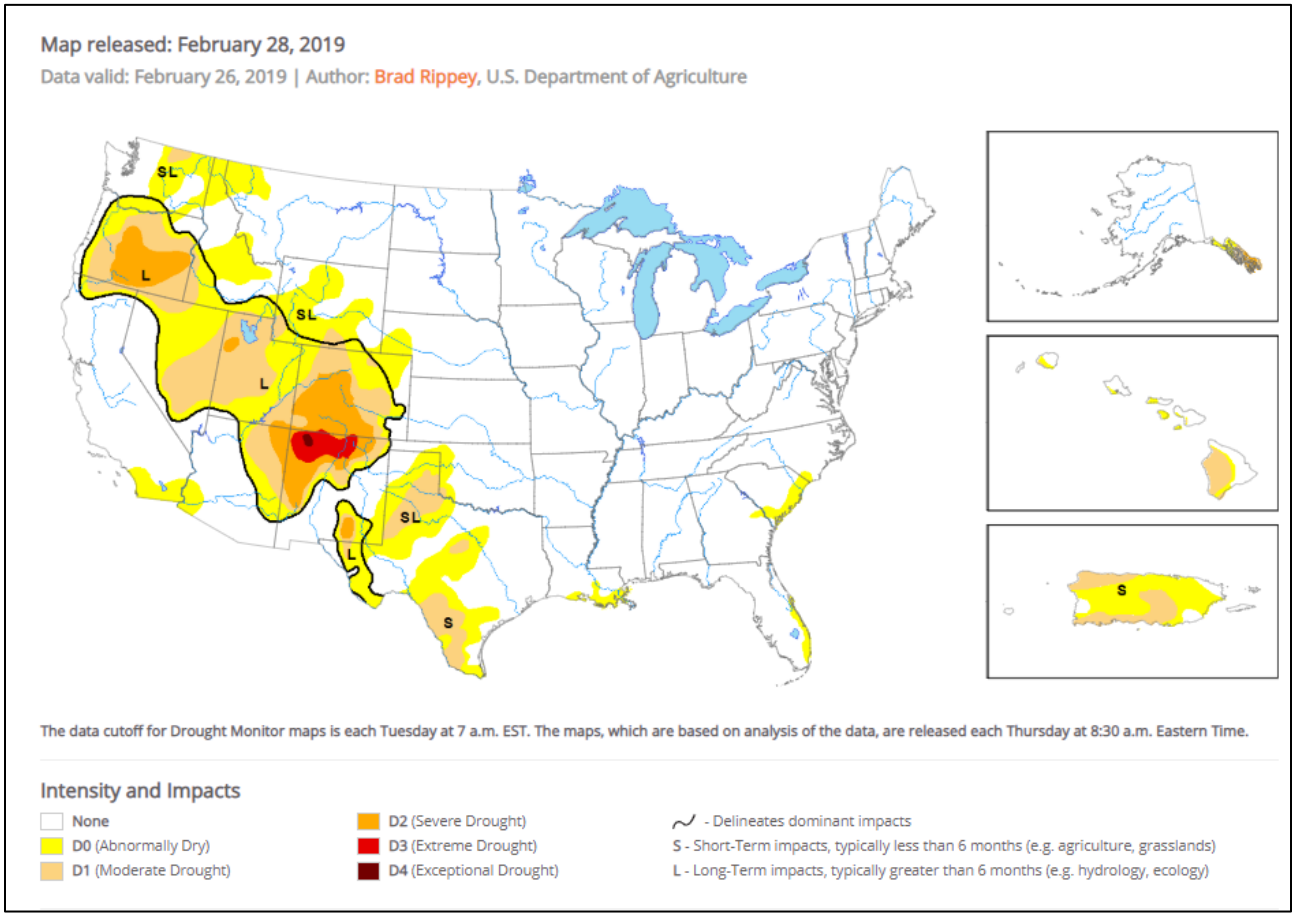


[November 2018 through January 2019 daily mean temperature anomaly map]

Drought

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

U.S. Drought Portal
Source: NOAA



Current National Drought Summary, February 28, 2019

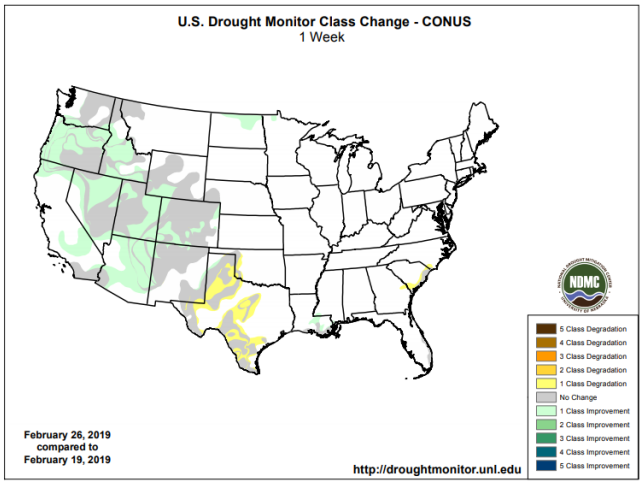
Author: Brad Rippey, U.S. Department of Agriculture

“A pair of late-winter storms blanketed large areas of the West with snow, easing drought; bolstering high-elevation snowpack; and further improving spring and summer runoff prospects. The first storm system, which swept across the Southwest from February 20-22, produced heavy precipitation in core drought areas of the Four Corners States and deposited measurable snow in locations such as Las Vegas, Nevada, and Tucson, Arizona. The second storm—in actuality a series of disturbances—began to affect parts of the Northwest during the weekend of February 23-24 and later delivered another round of heavy precipitation across northern California. Farther east, drenching rain resulted in aggravated and expanded flooding from the northern Mississippi Delta into the southern Appalachians. Rainfall totaled 4 to 12 inches or more in the flood-affected area, with some of the highest amounts occurring in the Tennessee Valley. On February 23-24, thunderstorms spawned several tornadoes in Alabama, Georgia, and Mississippi. Farther north, a blizzard briefly engulfed portions of the northern and central Plains and upper Midwest. The short-lived but fierce storm produced several inches of snow, driven by wind gusts in excess of 60 mph, mainly on February 23-24. High winds also raked the southern Plains—without the benefit of significant precipitation—compounding the effects of short-term dryness on winter wheat and rangeland health.”

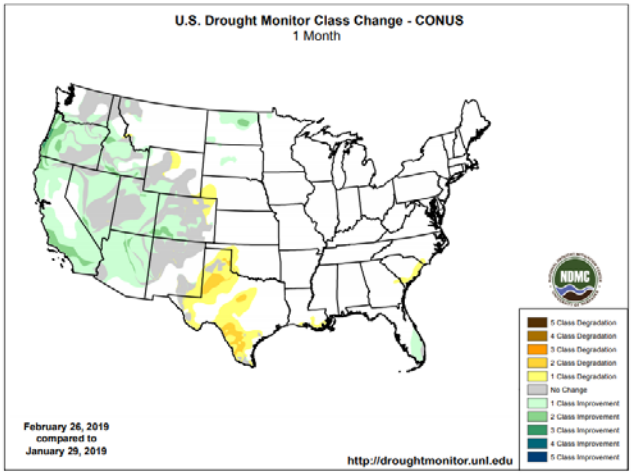
Changes in Drought Monitor Categories over Time

Source: National Drought Mitigation Center

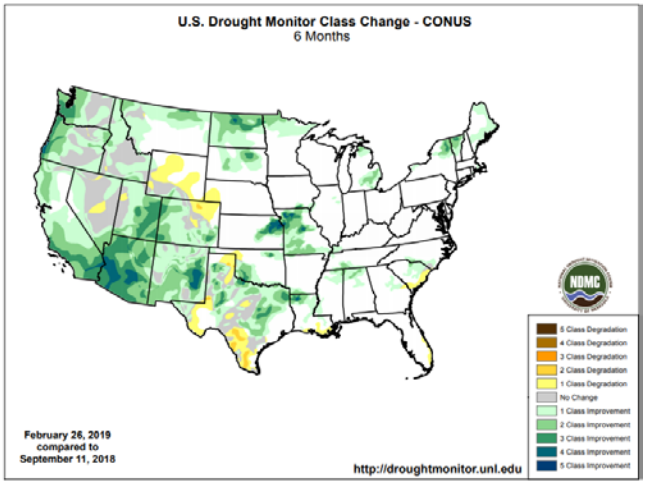
1 Week



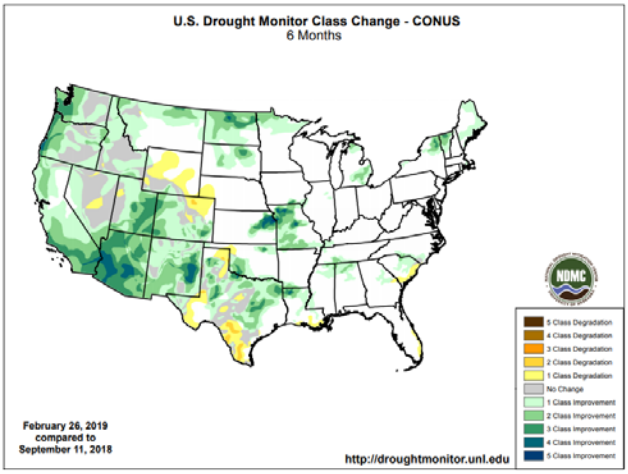
1 Month



6 Months



1 Year



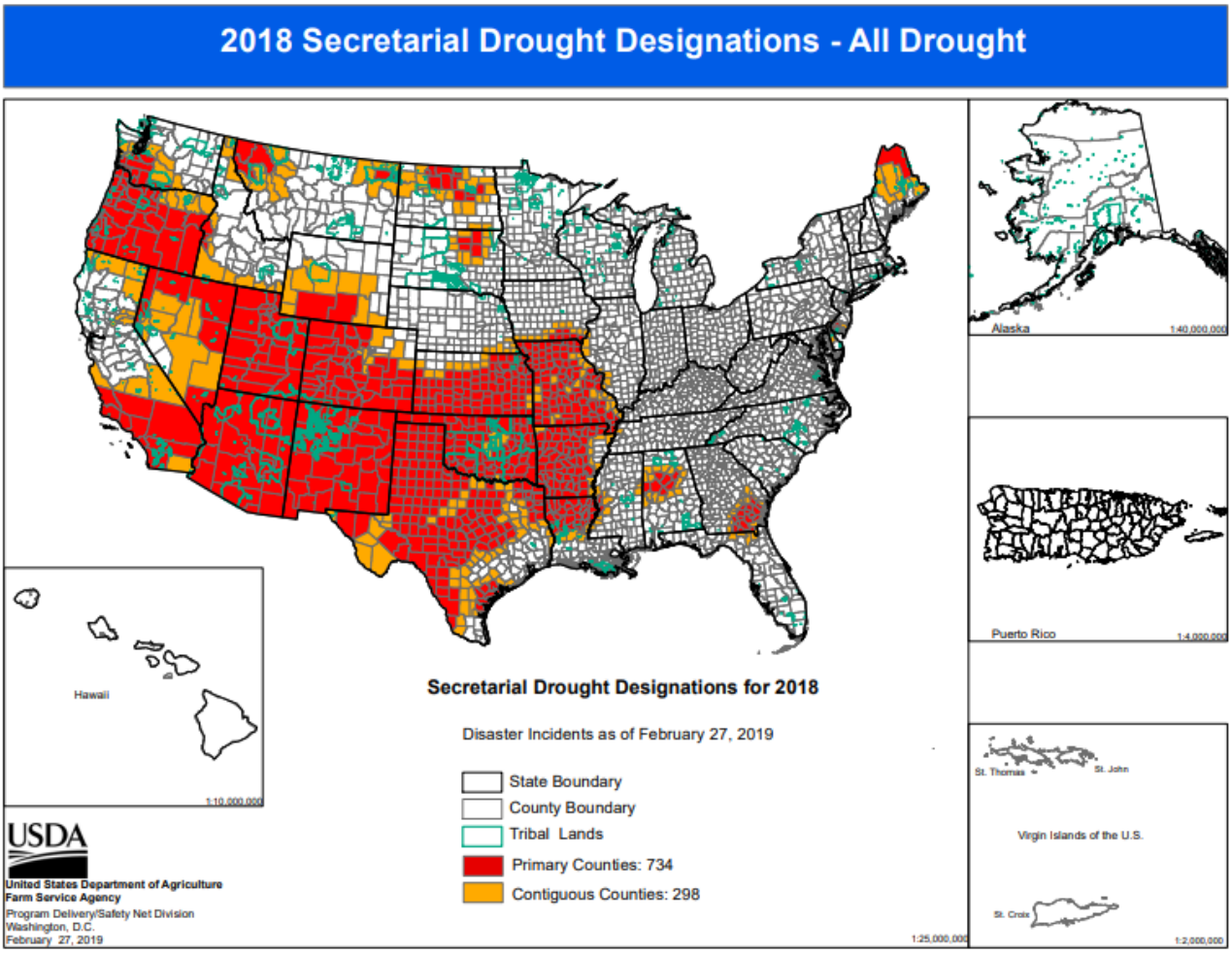
Changes in drought conditions over the last 12 months for the contiguous U.S.

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

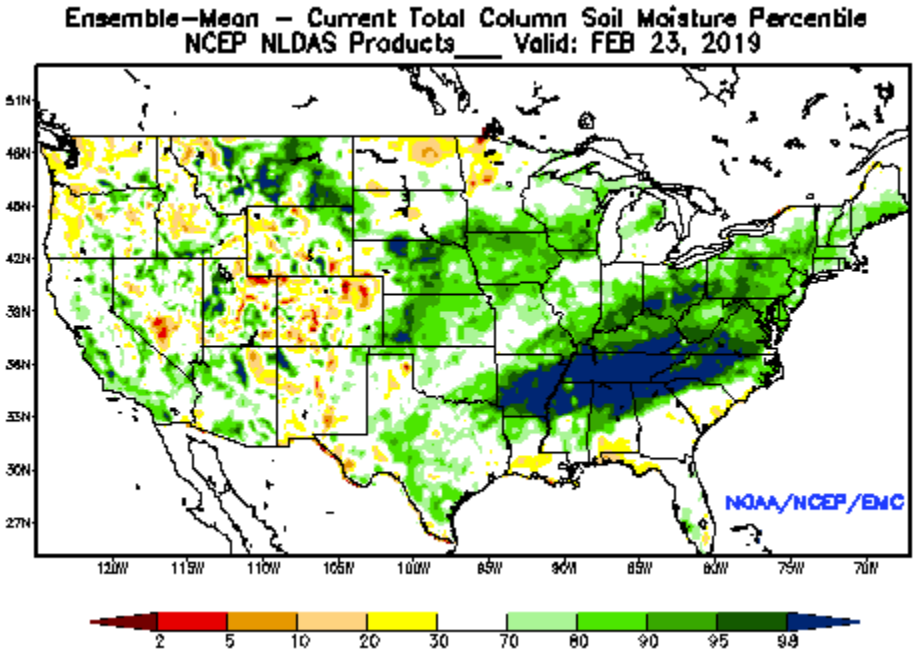
Source: USDA Farm Service Agency



Other Climatic and Water Supply Indicators

Soil Moisture

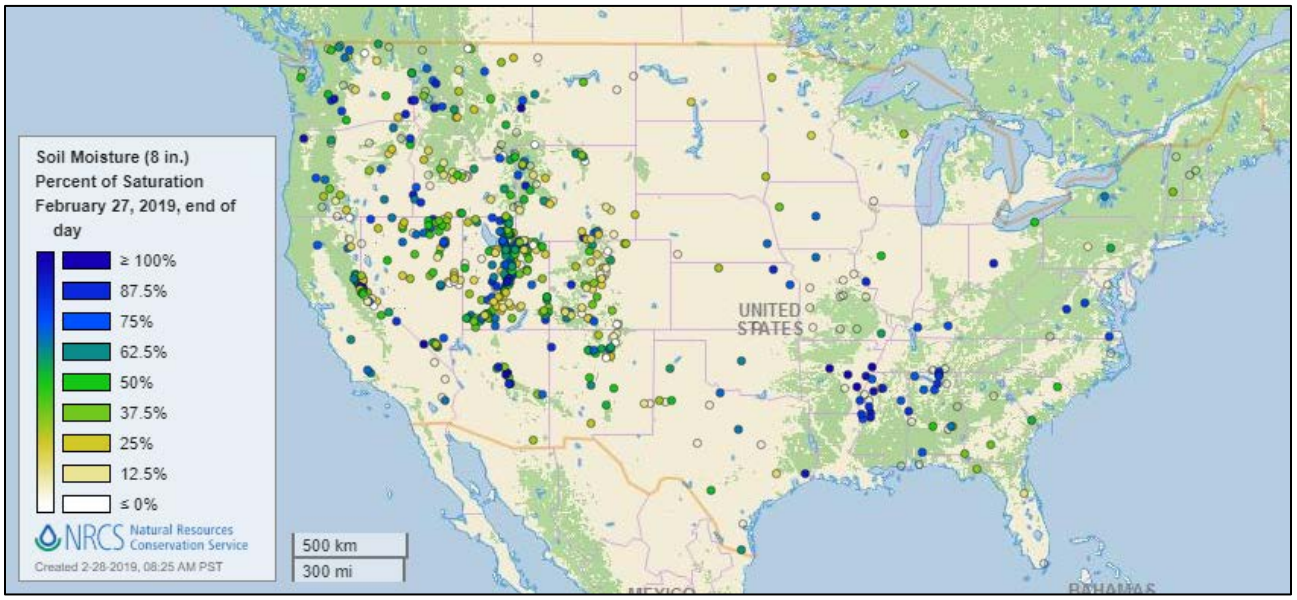
Source: NOAA National Centers for Environmental Prediction



Modeled soil moisture percentiles as of February 23, 2019

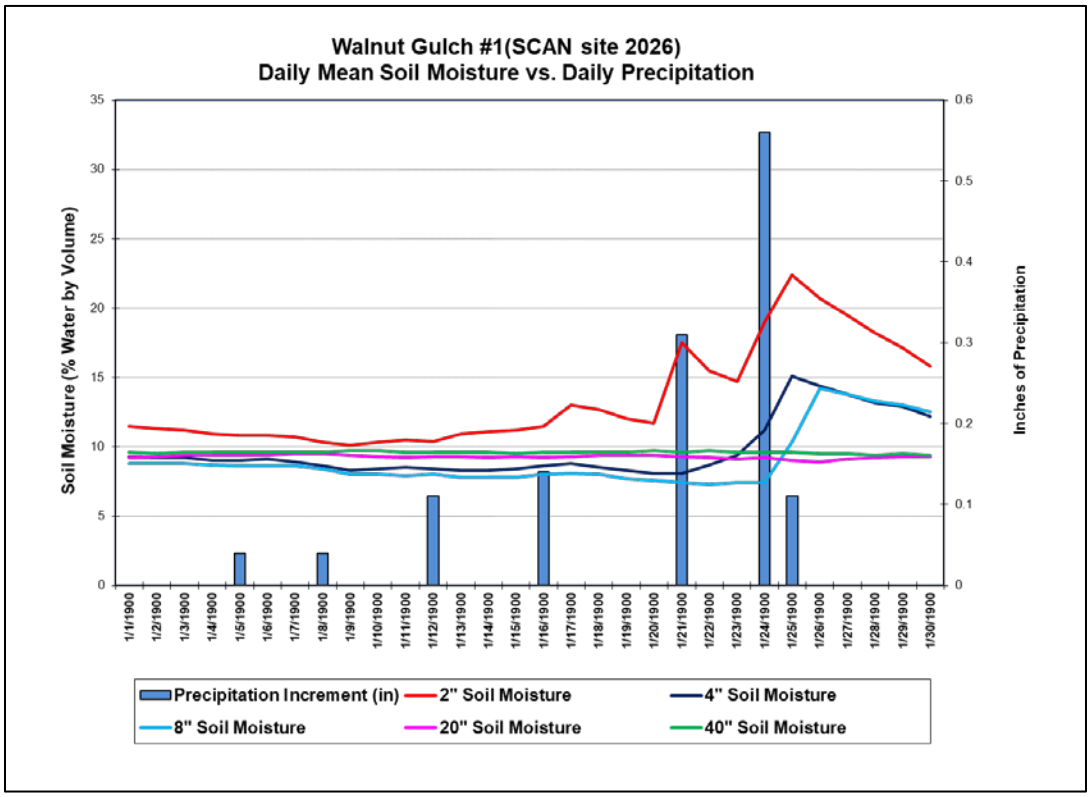
Soil Moisture Percent of Saturation

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



Soil Moisture Data

Source: NRCS Soil Climate Analysis Network (SCAN)



This graph shows the precipitation and soil moisture during the last 30 days at the Walnut Gulch #1 (SCAN 2026) in Arizona. The precipitation event on February 24-25 of 0.67 inches increased soil moisture at the 2-, 4-, and 8-inch sensor depths.

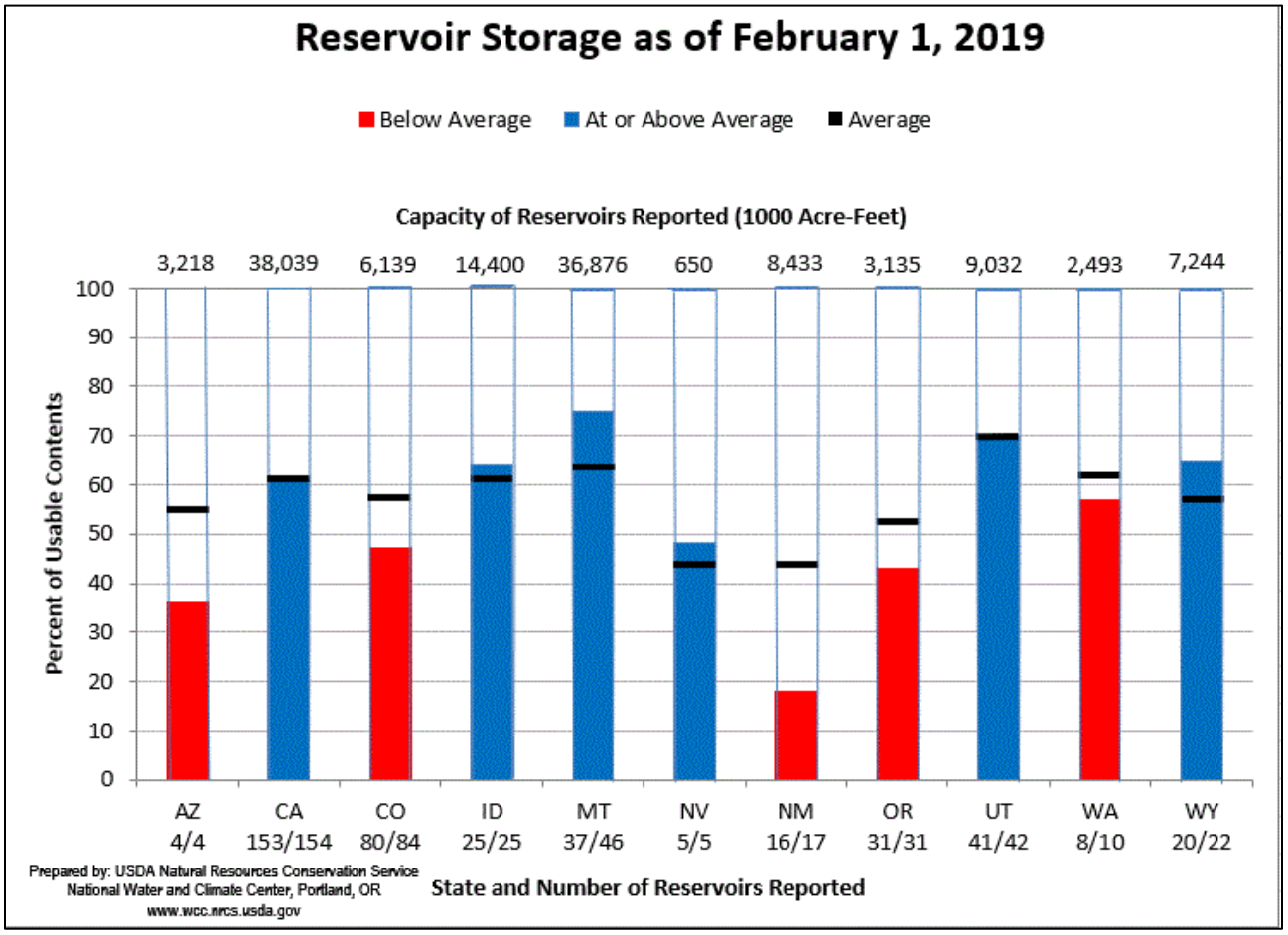
Soil Moisture Data Portals

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

Reservoir Storage

Western States Reservoir Storage

Source: NRCS National Water and Climate Center



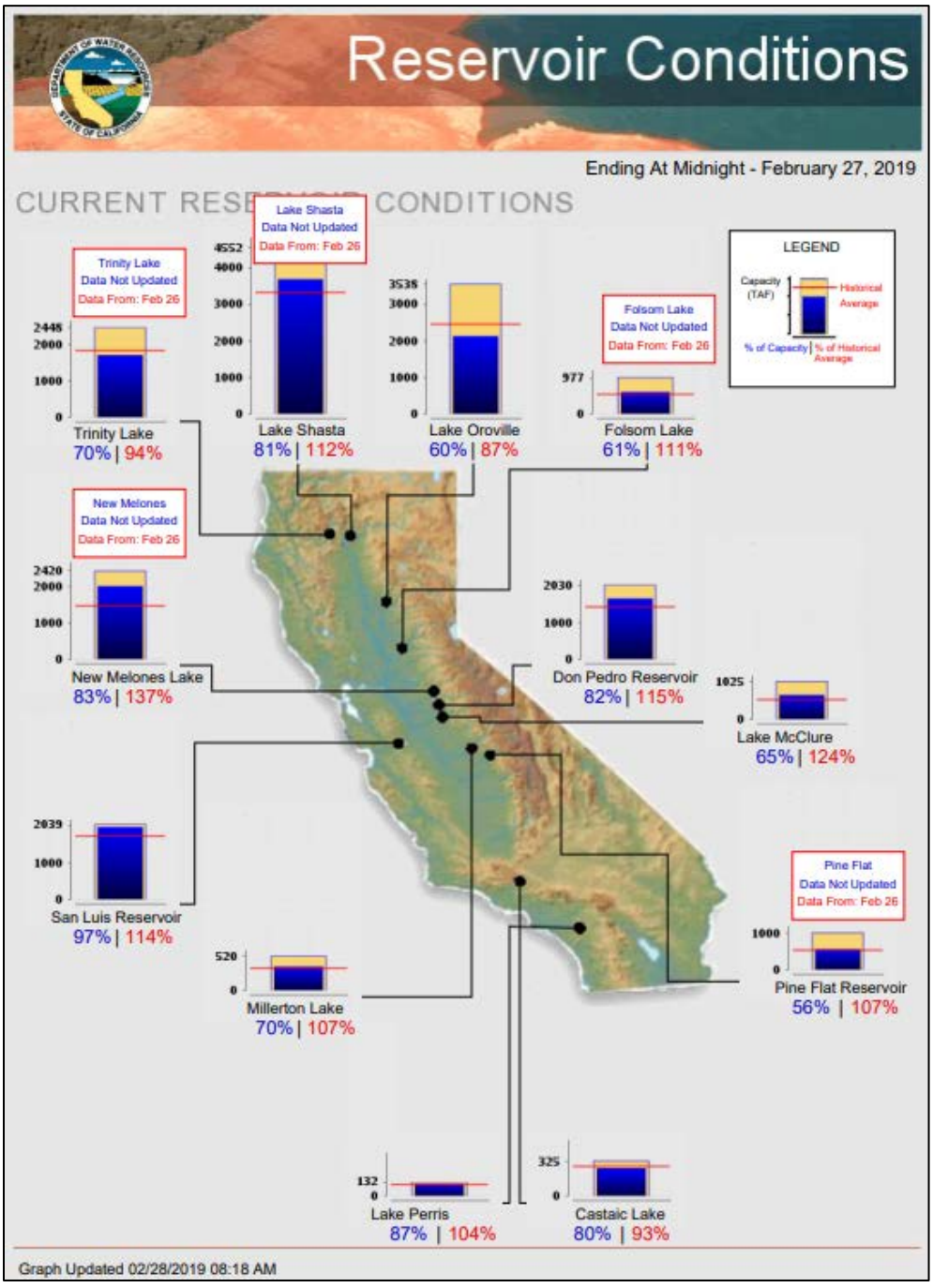
February 1, 2019 Reservoir Storage: Chart | Dataset

Hydromet Tea Cup 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

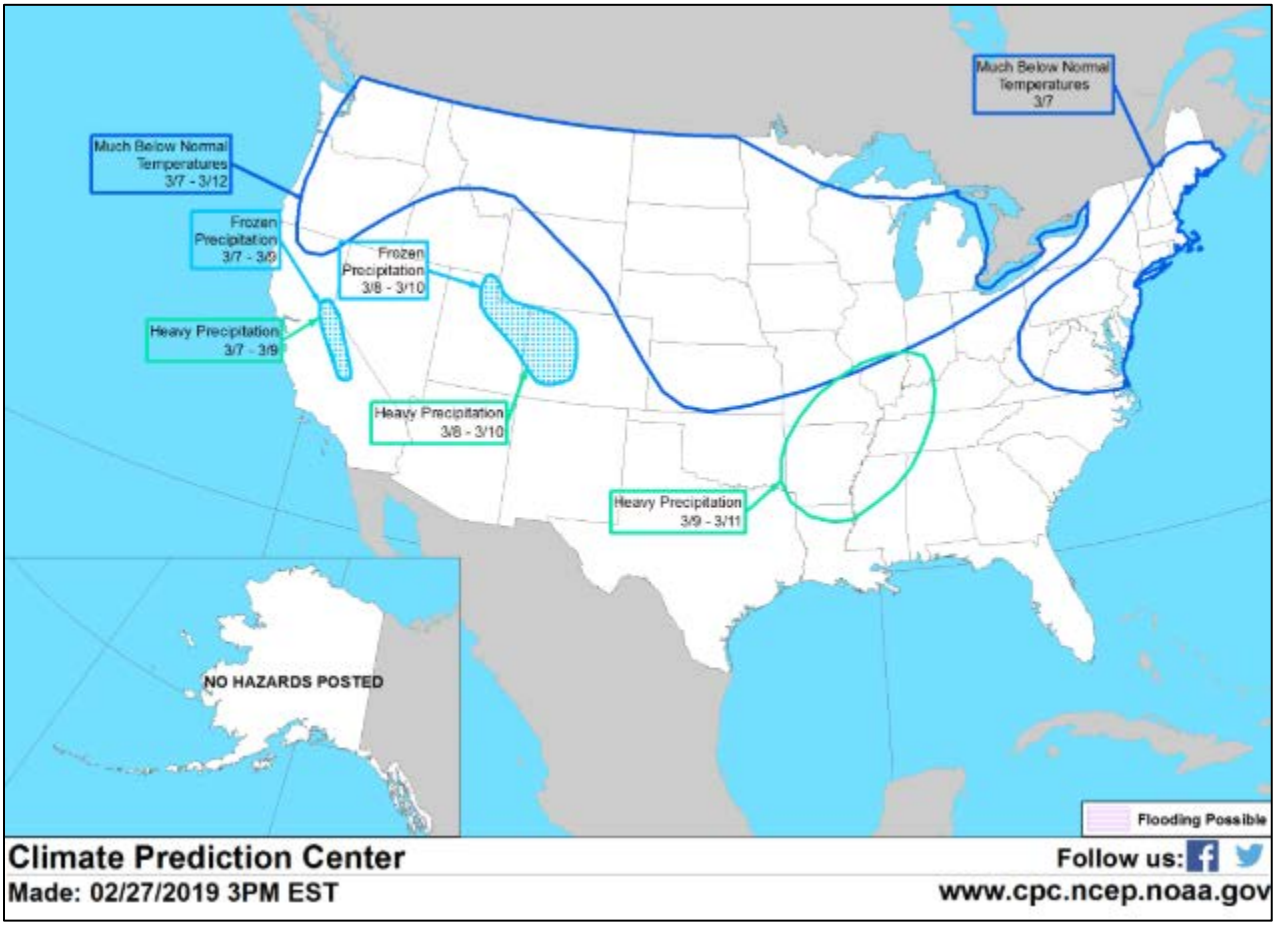
Agricultural Weather Highlights

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

National Outlook, Thursday, February 28, 2019: "During the weekend, a surge of cold air will replace lingering warmth across the Deep South. By Monday morning, sub-zero temperatures should occur as far south as northern sections of Kansas and Missouri. The following day, March 5, freezes could reach into winter agricultural areas of Deep South Texas. Much of the Southeast, excluding Florida's peninsula, could experience freezes by the middle of next week. Meanwhile, an active weather pattern will continue in several areas. As a result, 5-day precipitation totals could reach 1 to 3 inches or more in the Southeast. Farther west, heavy precipitation will fall from California to the central Rockies. Snow will fall in several areas, but the most impressive winter precipitation event will stretch from California to Colorado during the weekend and stretch from the central and southern Plains to the Northeast late in the weekend and early next week. The NWS 6- to 10-day outlook for March 5 – 9 calls for the likelihood of colder-than-normal conditions nationwide, except for near-normal temperatures in southern Florida and above-normal temperatures in parts of the Southwest. Meanwhile, wetter-than-normal weather from California into the lower Missouri Valley should contrast with below-normal precipitation in the upper Great Lakes region and most areas east of the Mississippi River."

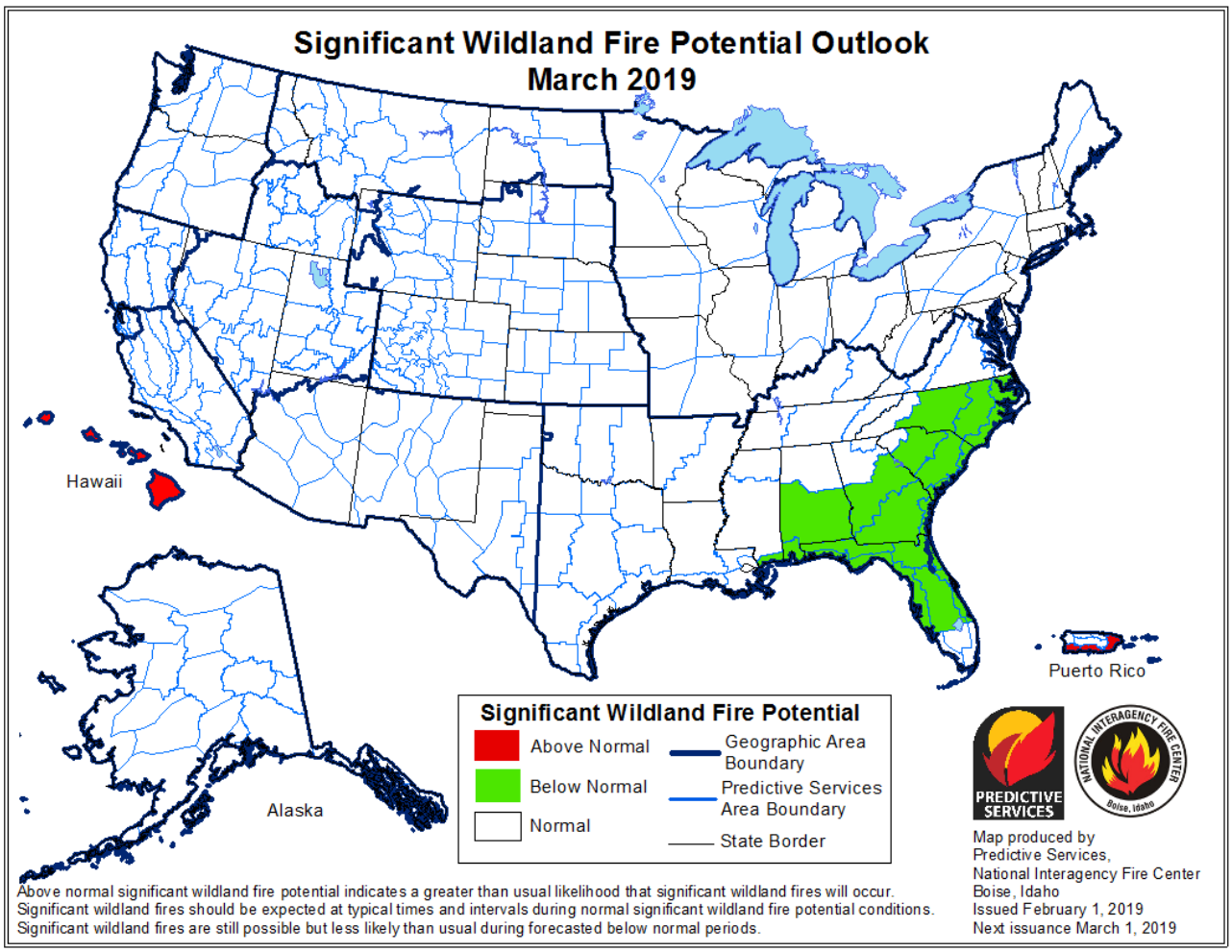
Weather Hazards Outlook: March 7 – 13, 2019

Source: Climate Prediction Center



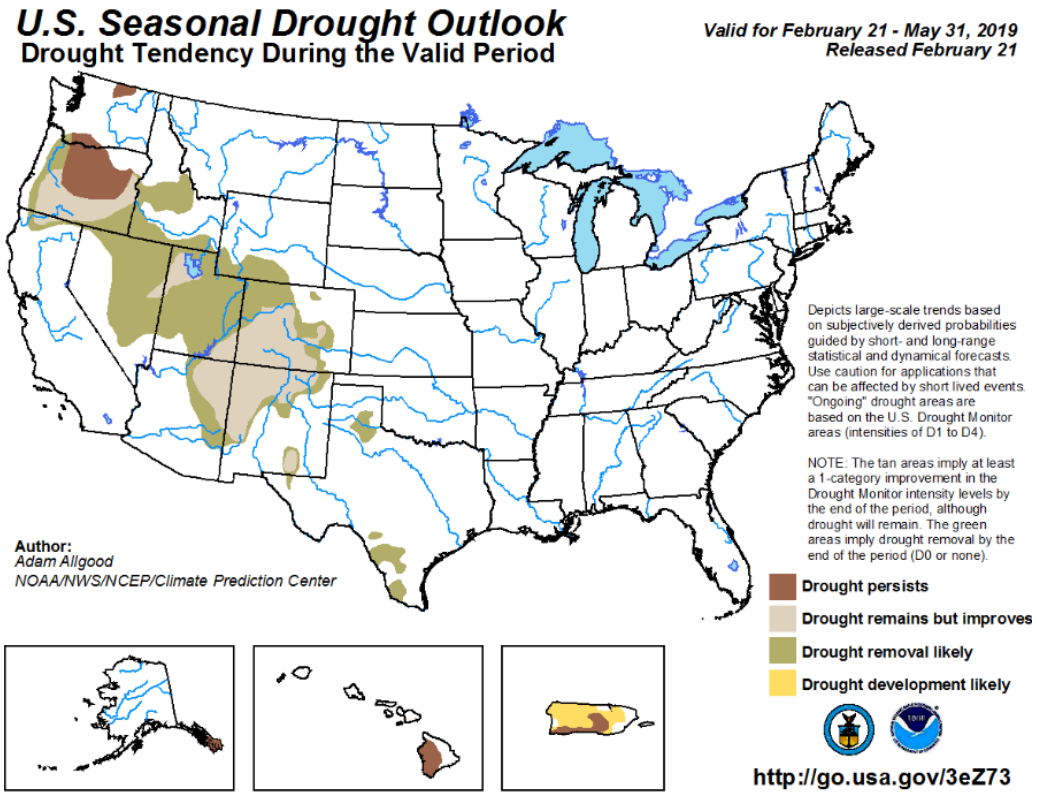
Significant Wildland Fire Potential Outlook

Source: National Interagency Fire Center



Seasonal Drought Outlook: February 21 – May 31, 2019

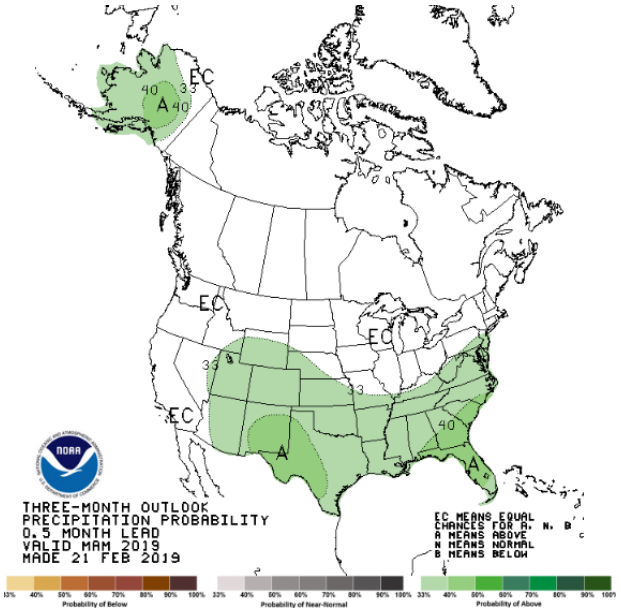
Source: National Weather Service



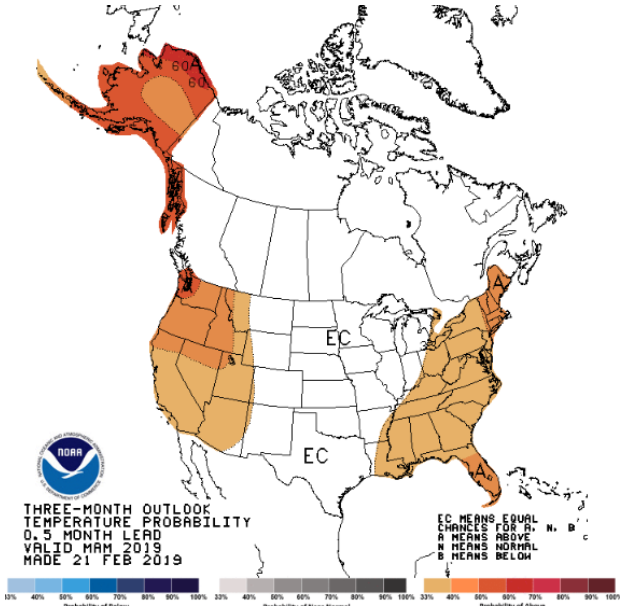
Climate Prediction Center 3-Month Outlook

Source: National Weather Service

Precipitation



Temperature



March-April-May (MAM) 2019 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.