

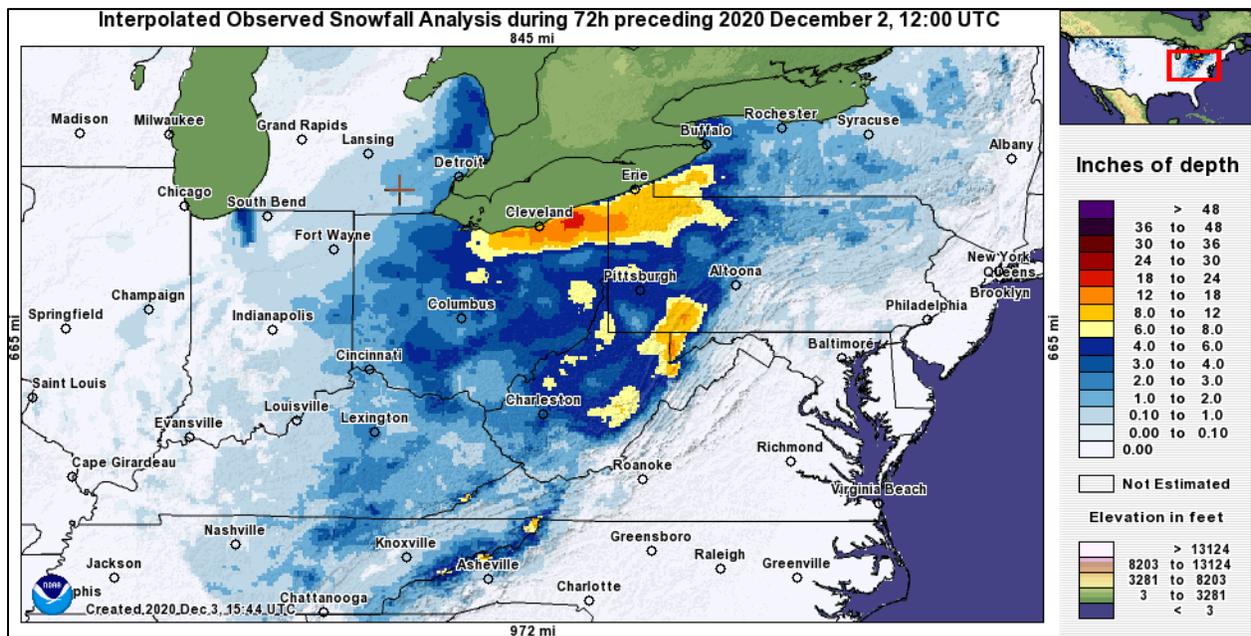
Water and Climate Update

December 3, 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.

Snow	2	Drought	10
Precipitation	4	Other Climatic and Water Supply Indicators	14
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First big Midwest winter storm

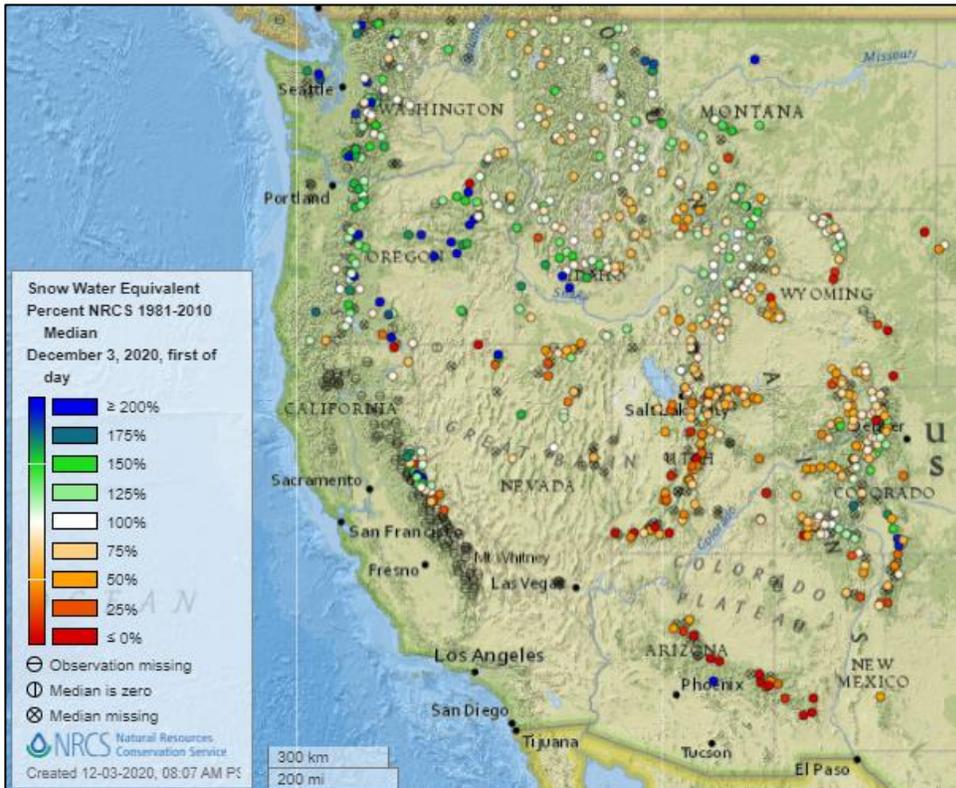


A winter storm system blanketed the Great Lakes, Ohio Valley, and Appalachian Mountains early this week. Northeast Ohio bore the brunt of the first winter storm of the season. Hard-hit Geauga County reported over two feet of snow at some locations. Well over a foot of snow fell across a wide area and into northwest Pennsylvania. 28 million people were impacted by the large winter storm system. Some schools were closed and over 50,000 homes and businesses were without power Tuesday morning. Snow was also heavy along the Appalachian Mountains in Pennsylvania, West Virginia, and North Carolina.

Related:

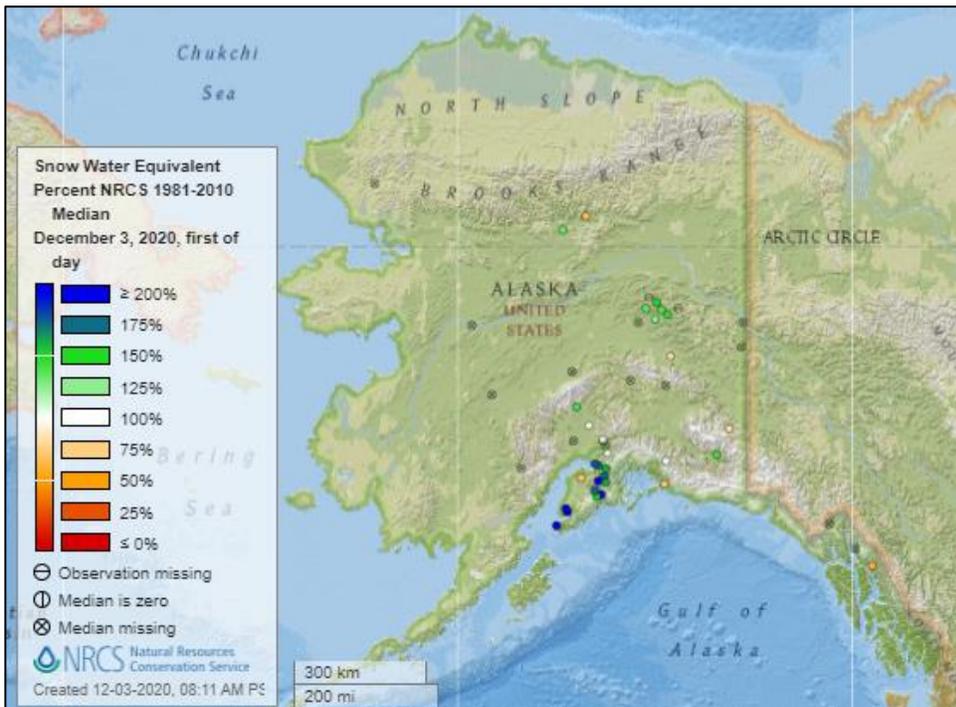
- [Hello, winter: Snowstorm targets Great Lakes, Ohio Valley, Appalachians – Detroit Free Press \(MI\)](#)
- [Storm blankets Ohio with snow, causes thousands of outages - AP](#)
- [What areas saw the most snow? Totals are in from Tuesday’s storm – WOIO \(OH\)](#)
- [Day-long snow total tops forecast, falls shy of record – TribLIVE.com \(PA\)](#)
- [Major storm to unleash snow, heavy rain and wind in eastern U.S., including western Pa., on Monday Philadelphia Inquirer \(PA\)](#)
- [Snow in NC: First significant snowfall of the season recorded in North Carolina mountains – WTVD \(NC\)](#)

Snow



[Snow water equivalent percent of median map](#)

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

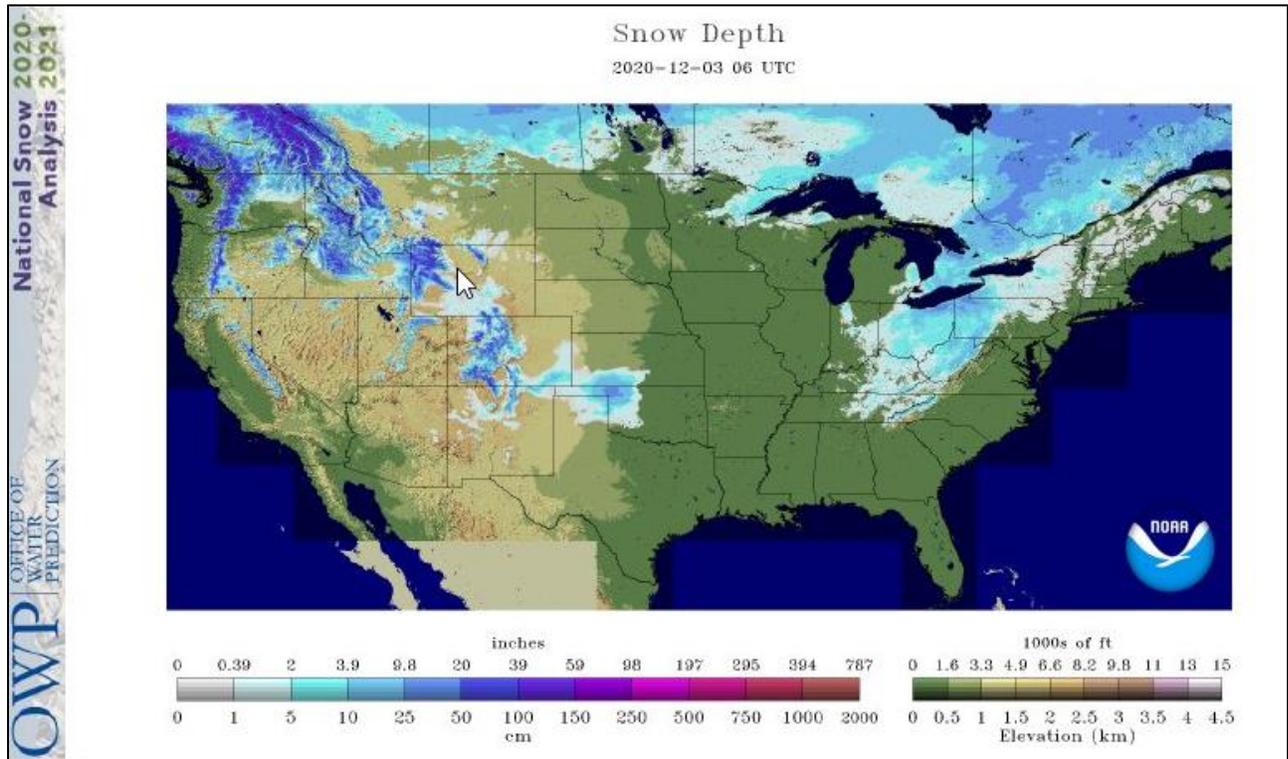


[Alaska snow water equivalent percent of median map](#)

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

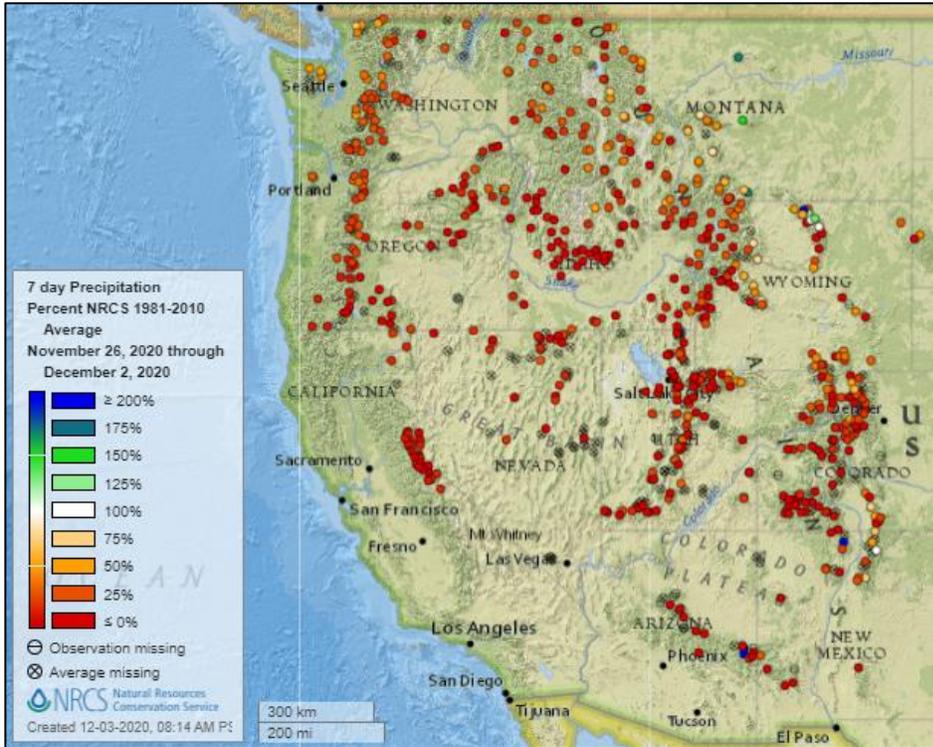
[Current Snow Depth](#), National Weather Service Snow Analysis

Source: NOAA Office of Water Prediction



Precipitation

Last 7 Days, NRCS SNOTEL Network

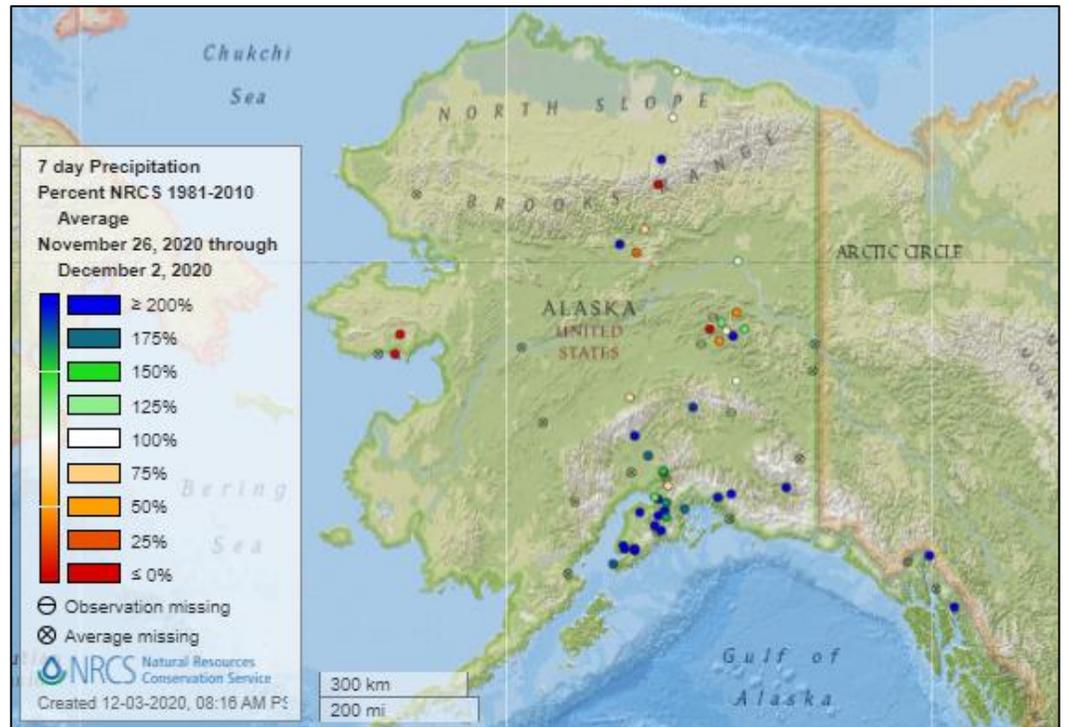


[7-day precipitation percent of average map](#)

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](#)



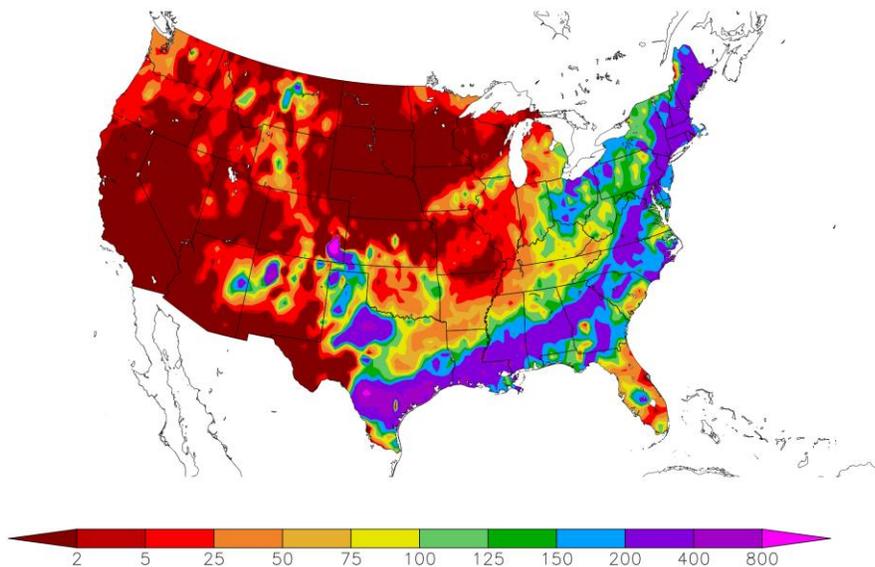
Last 7 Days, National Weather Service (NWS) Networks

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](#)

Percent of Normal Precipitation (%)
11/26/2020 – 12/2/2020



Generated 12/3/2020 at HPRCC using provisional data.

NOAA Regional Climate Centers

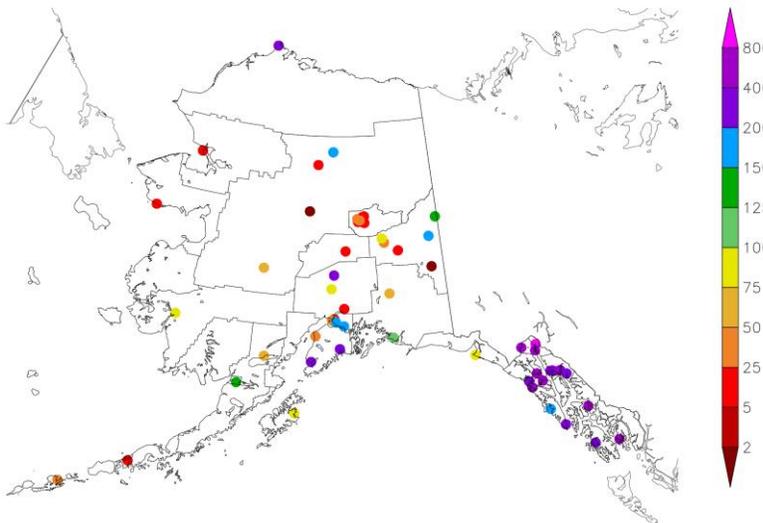
Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

[7-day precipitation anomaly map](#) for Alaska.

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

Percent of Normal Precipitation (%)
11/26/2020 – 12/2/2020

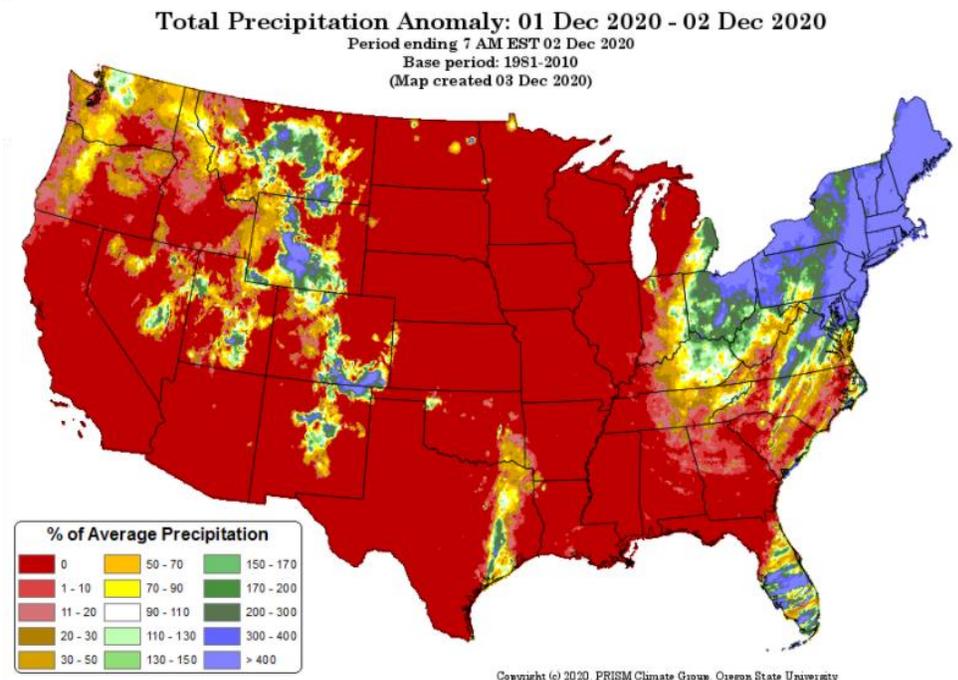


Generated 12/3/2020 at HPRCC using provisional data.

NOAA Regional Climate Centers

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

Source: PRISM

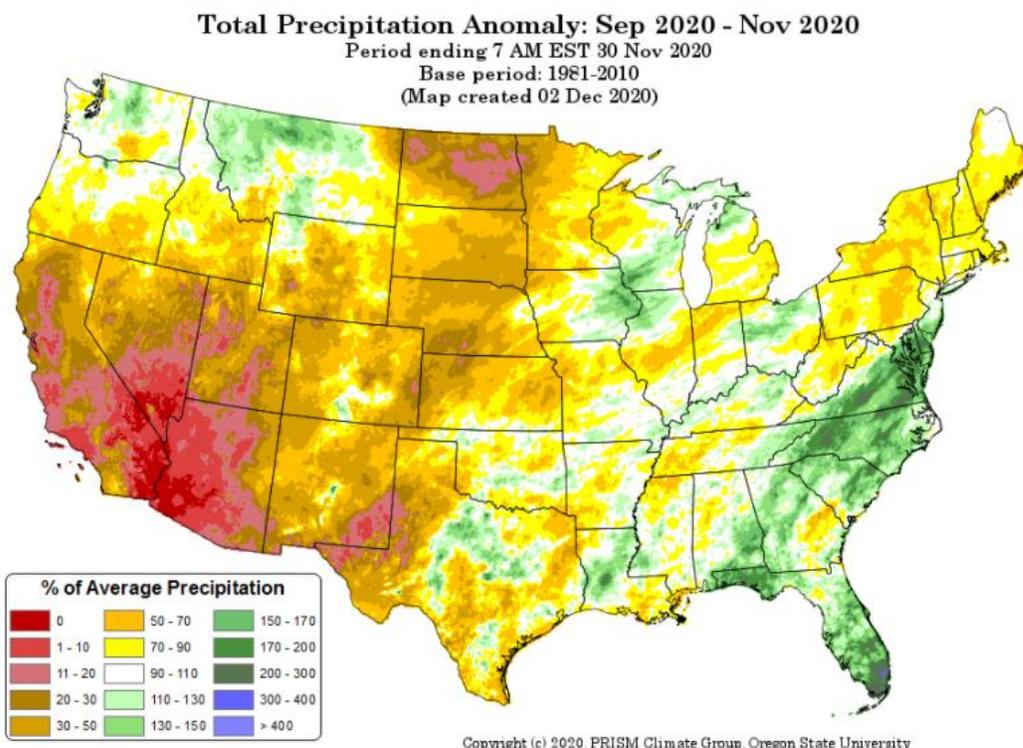


[Month-to-date national total precipitation percent of average map](#)

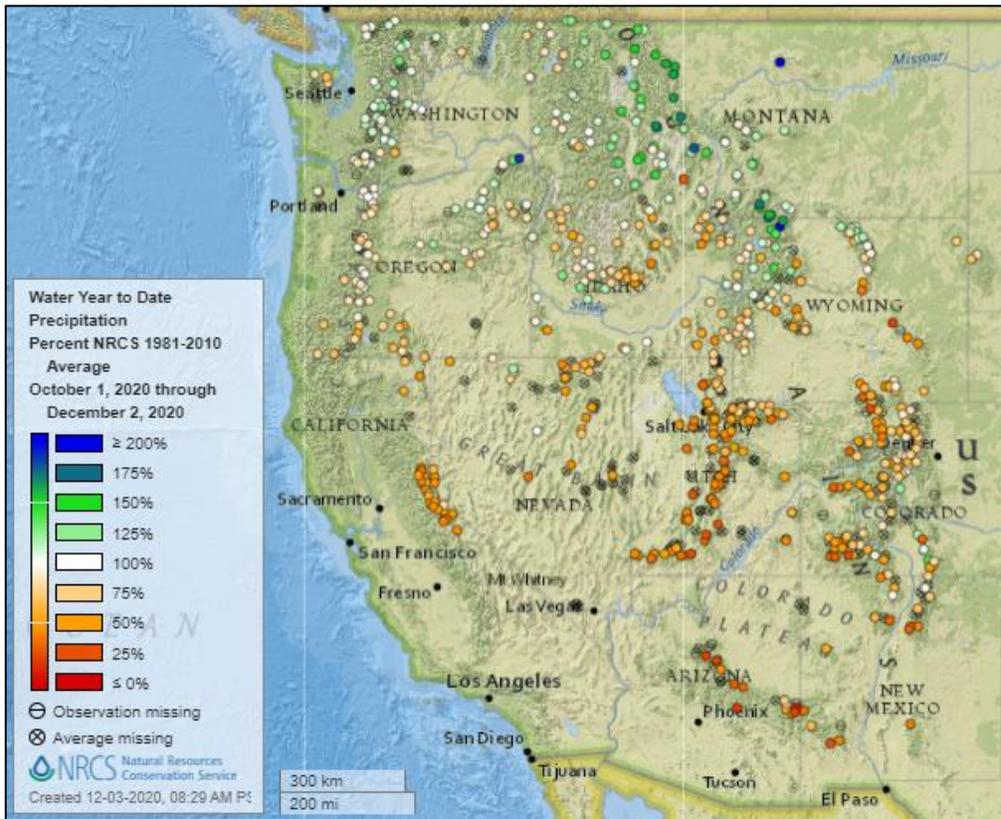
Last 3 Months, All Available Data Including SNOTEL and NWS Networks

Source: PRISM

[September through November precipitation percent of average map](#)

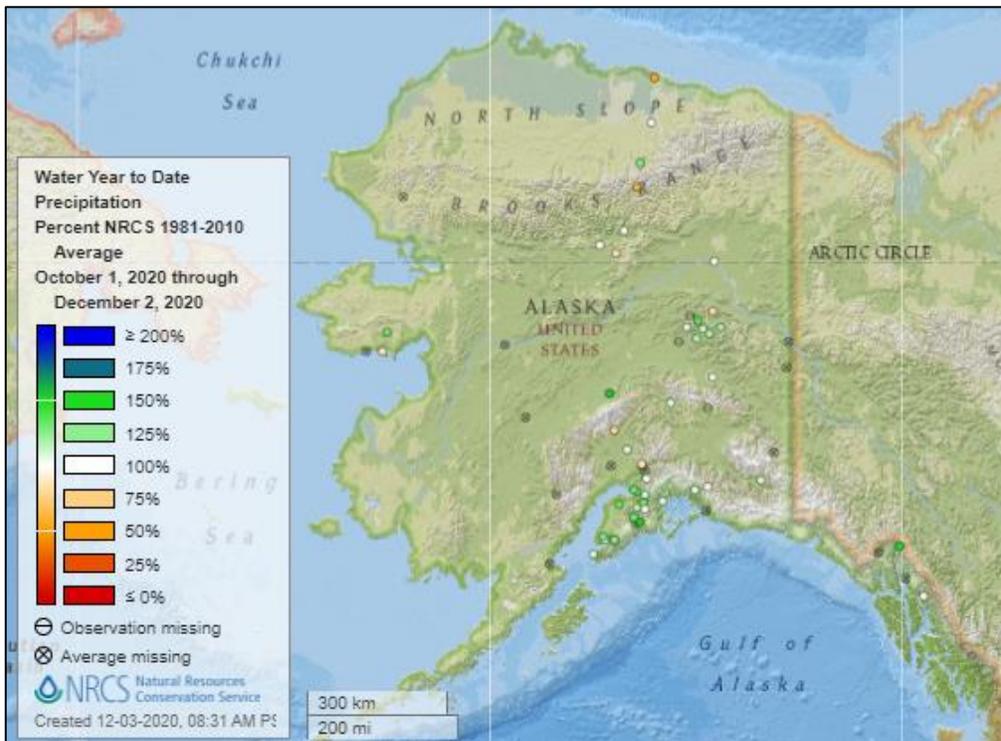


Water Year-to-Date, NRCS SNOTEL Network



[2021 water year-to-date precipitation percent of average map](#)

See also:
[2021 water year-to-date precipitation values \(inches\) map](#)



[Alaska 2021 water year-to-date precipitation percent of average map](#)

See also:
[Alaska 2021 water year-to-date precipitation values \(inches\) map](#)

Temperature

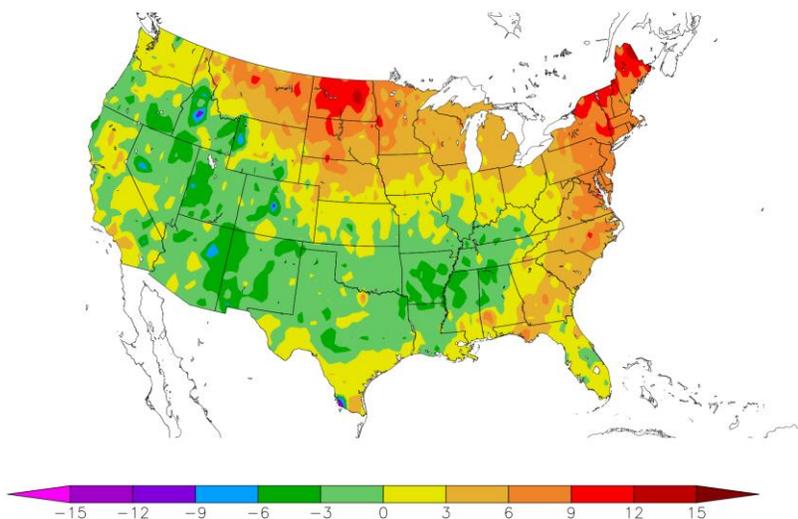
Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

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

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

Departure from Normal Temperature (F)
11/26/2020 – 12/2/2020



Generated 12/3/2020 at HPRCC using provisional data.

NOAA Regional Climate Centers

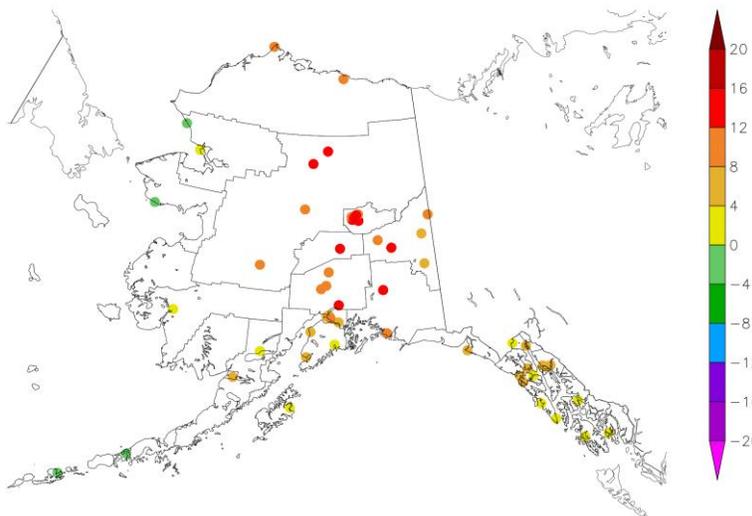
Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

[7-day temperature anomaly map](#) for Alaska.

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

Departure from Normal Temperature (F)
11/26/2020 – 12/2/2020



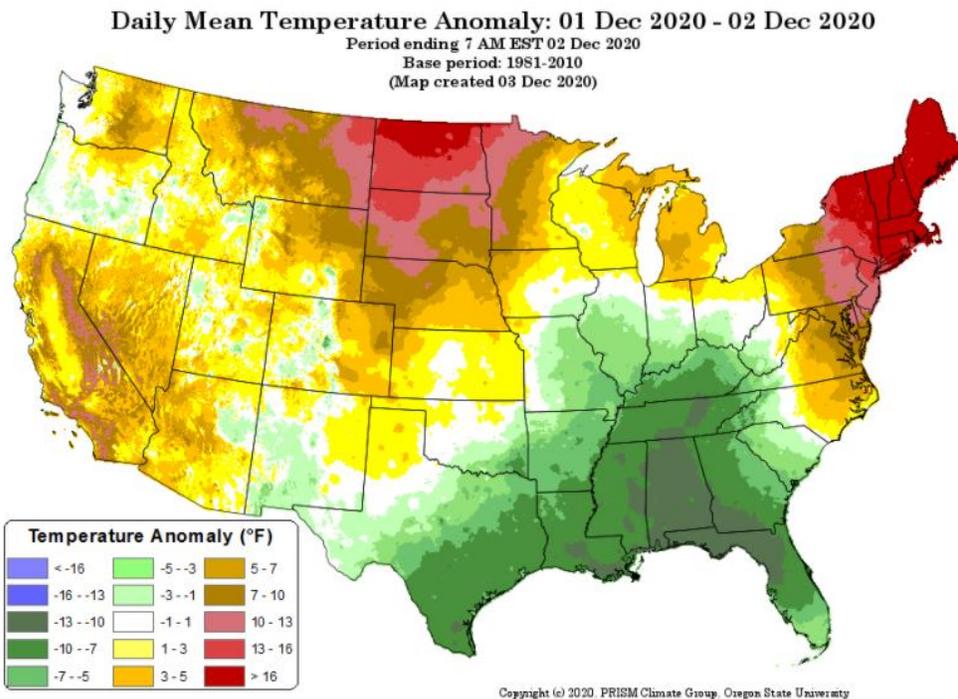
Generated 12/3/2020 at HPRCC using provisional data.

NOAA Regional Climate Centers

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

Source: PRISM

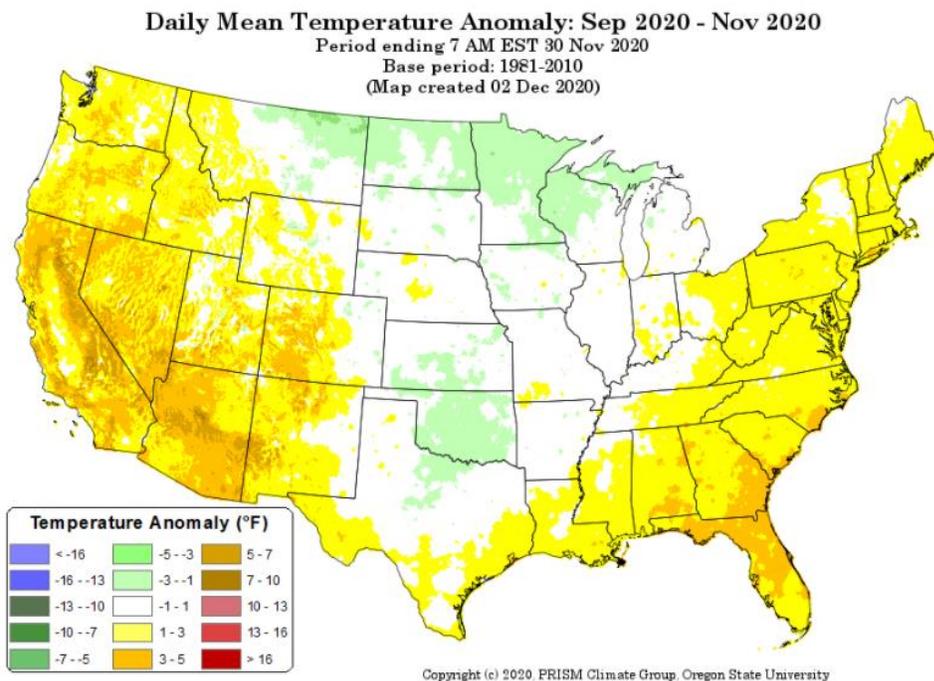
[Month-to-date national daily mean temperature anomaly map](#)



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

Source: PRISM

[September through November 2020 daily mean temperature anomaly map](#)



Drought

[U.S. Drought Monitor](#)

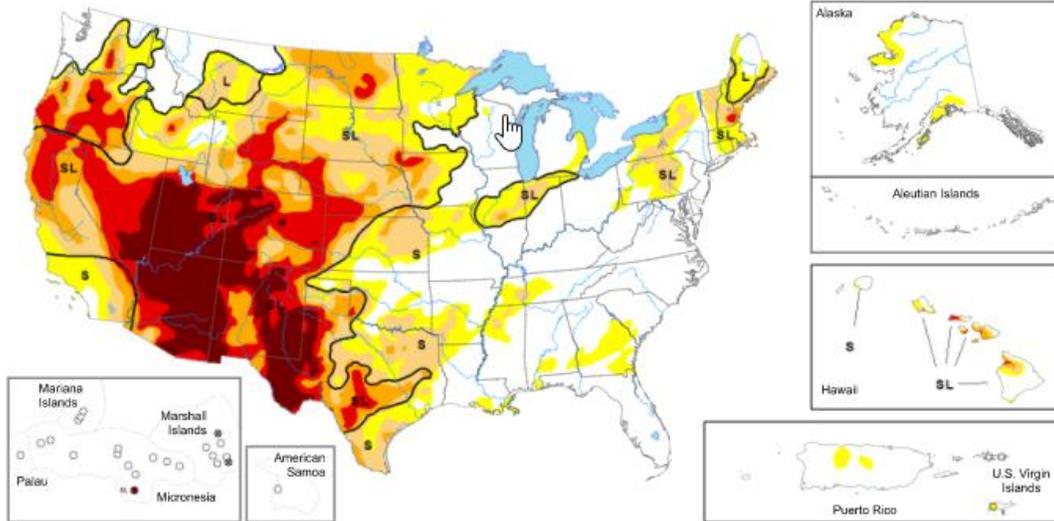
Source: National Drought Mitigation Center

[U.S. Drought Portal](#)

Source: NOAA

Map released: December 3, 2020

Data valid: December 1, 2020



United States and Puerto Rico Author(s):
Richard Heim, NOAA/NCEI

U.S. Affiliated Pacific Islands and Virgin Islands Author(s):
Ahira Sanchez-Lugo, NOAA/NCEI

The data cutoff for Drought Monitor maps is each Tuesday at 7 a.m. EST. The maps, which are based on analysis of the data, are released each Thursday at 8:30 a.m. Eastern Time.

Intensity and Impacts

None	D3 (Extreme Drought)	- Delineates dominant impacts
D0 (Abnormally Dry)	D4 (Exceptional Drought)	S - Short-Term impacts, typically less than 6 months (e.g. agriculture, grasslands)
D1 (Moderate Drought)	No Data	L - Long-Term impacts, typically greater than 6 months (e.g. hydrology, ecology)
D2 (Severe Drought)		

Current [National Drought Summary](#), December 3, 2020

Source: National Drought Mitigation Center

“A couple Pacific weather systems, in the form of shortwave troughs or closed lows, moved in the jet stream flow across the contiguous U.S. (CONUS) during this U.S. Drought Monitor (USDM) week. The weather systems brought rain or snow to the coastal Pacific Northwest, dried out as they traversed an upper-level ridge over the West, then picked up Gulf of Mexico and Atlantic moisture as they moved across the southern Plains to East Coast. An inch or more, with locally over 3 inches, of precipitation fell over the coastal and Cascade ranges, with up to an inch over parts of the northern Rockies. Otherwise, most of the West was dry. Only a few areas in the Northwest and southern Rockies had more than a quarter inch of precipitation. East of the Rockies, bands of an inch or more of precipitation, with locally 2 inches or more, fell across Kansas to the Great Lakes and along the Ohio River to northeast Ohio. Widespread 2+ inches of rain fell from coastal Texas to the Carolinas, and from Virginia to New England. A large shield of half an inch or more of precipitation surrounded these bands and extended from the southern and central Plains to the East Coast, and from the southern Great Lakes to Gulf of Mexico Coast. Generally the 1+ inch bands of precipitation were wetter than normal, while the areas with less than that were below normal. Much of the northern Plains to Upper Mississippi Valley was dry. Improvement in drought conditions occurred where precipitation was above normal, while drought expanded or intensified in some areas where dryness continued. Temperatures were near to cooler than normal across much of the West, southern Plains, and Lower Mississippi Valley,

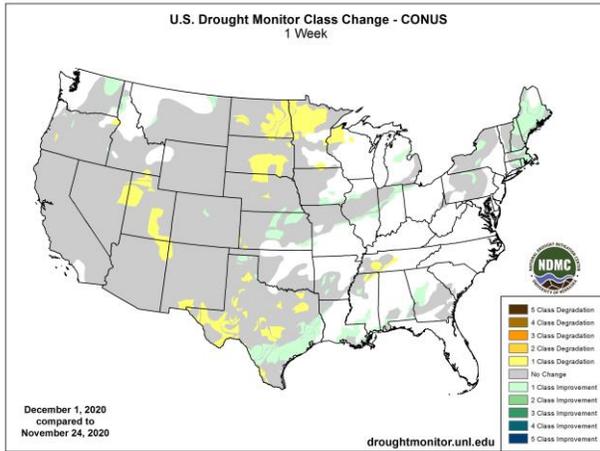
Water and Climate Update

and warmer than normal in the northern Plains, South Texas, Great Lakes, Gulf Coast, and East Coast. Maps of 7-day, 14-day, and 28-day USGS streamflow measurements are consistent in showing below-normal streamflow from northern California, Nevada, and southern Idaho to the Four Corners states; and across southwest Nebraska to western Texas. They consistently show below-normal streamflow over central Texas, central Illinois to northern Indiana, and western Pennsylvania to western New York. The satellite-based Vegetation Health Index shows stressed vegetation across the California valleys and southern California, the Southwest, parts of the central Plains and Ohio Valley, and especially in southeastern New Mexico to western Texas. Where VegDRI is still in season, it shows drought across the Southwest and west Texas and parts of the Northeast (Maine). Where QuickDRI is still in season, it shows very dry conditions from southeastern Wyoming and western Nebraska, southward across Colorado, New Mexico, and western Kansas. The KBDI shows significantly dry conditions in California, Nevada, Utah, Arizona, New Mexico, and Texas, and a few spots in eastern Wyoming, western Nebraska, northern Florida, southern Alabama, and southern Georgia. NIFC maps show large wildfires still burning in California, and several in Oklahoma, central Appalachians, and a few elsewhere. Evapotranspiration (EDDI) for the last week has been high in California and the Southwest to the southern Plains, in the northern Plains, and in southern Alabama and Georgia. The EDDI shows high evapotranspiration across California and the Southwest, Great Plains, and Southeast to Northeast at the 2- to 3-week time scales, and across much of the West and Plains, Midwest, and Northeast at the 1- to 9-month time scales. USGS real-time groundwater level data show low groundwater at points across the West, in northern Indiana, southern Georgia, and parts of the Northeast, and a couple gauges in southern Alaska. NASA GRACE satellite-based groundwater estimates show low groundwater across most of the West to central and southern High Plains, most of New York to New England, much of Texas, and parts of North Dakota, Pennsylvania, Virginia, Alabama, Georgia, and Florida. Soil moisture is dry across the West from California to the southern and central Rockies, in the southern and central High Plains (especially southwest Nebraska and northwest Kansas), in North Dakota, across Nebraska and Iowa, across central Illinois to northern Indiana, parts of Pennsylvania and New York, and (for some indicators) most of New England (CPC, NLDAS, UCLA/VIC models; satellite-based AAFC/SMOS, GRACE, NASA/SPoRT analyses). SNOTEL snowpack (SWE percentiles) is above normal in Washington, Oregon, the Sierra Nevada, and parts of the other western states, but it is below normal across much of Utah and other parts of Idaho, Montana, Wyoming, Nevada, Colorado, and New Mexico. But this is early in the snow season and normal amounts are low. The Standardized Precipitation Index (SPI) shows dry conditions in various places at different time scales. These include North Dakota to Wyoming, northeast Texas to the Tennessee Valley, and parts of the West (at the 1-month time scale); California to the central and southern Rockies, much of the Great Plains, northern Missouri to northern Indiana, and parts of the Northeast (2 to 4 months); California to the central and southern Rockies, much of the Great Plains, Iowa, northern Indiana to Ohio and Michigan, most of Northeast (6 to 12 months); parts of Pacific Northwest (9 to 12 months); and the Southwest to southern and central High Plains, and parts of Pacific Northwest, Texas, Iowa, Indiana, and the Northeast (24 months). When the desiccating effects of hot temperatures are included, the Standardized Precipitation Evapotranspiration Index (SPEI) shows more intense drought conditions over the SPI dry areas than indicated by the SPI.”

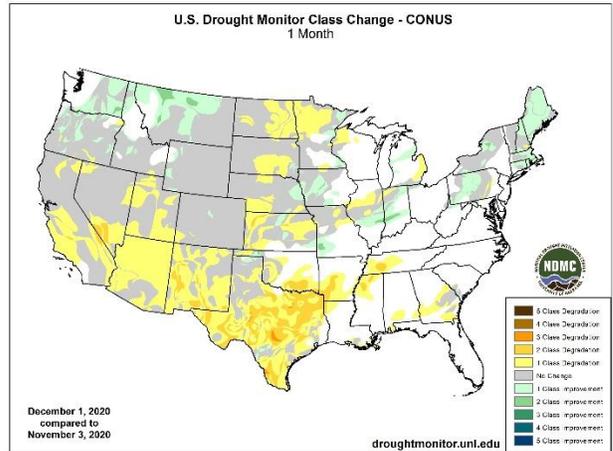
Changes in Drought Monitor Categories over Time

Source: National Drought Mitigation Center

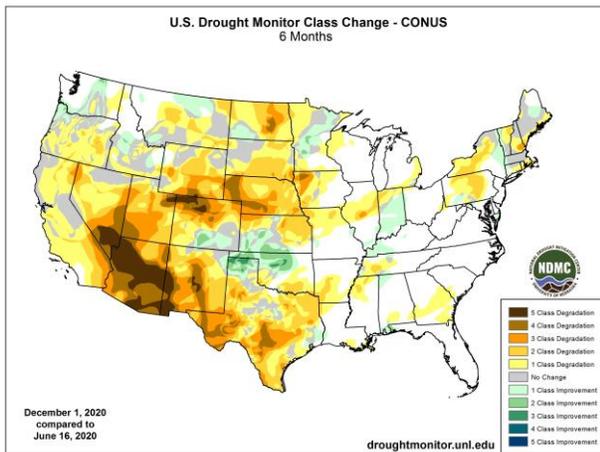
1 Week



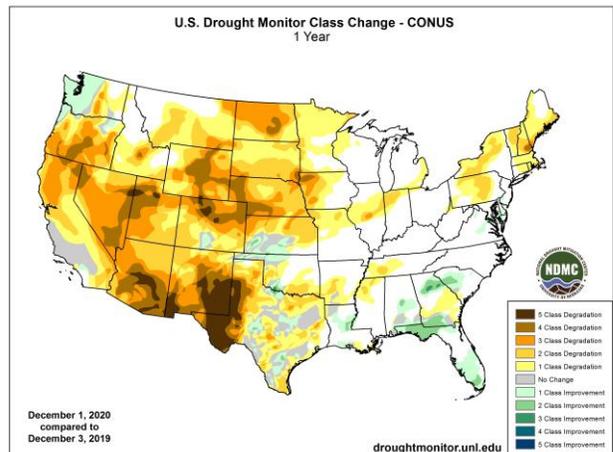
1 Month



6 Months



1 Year



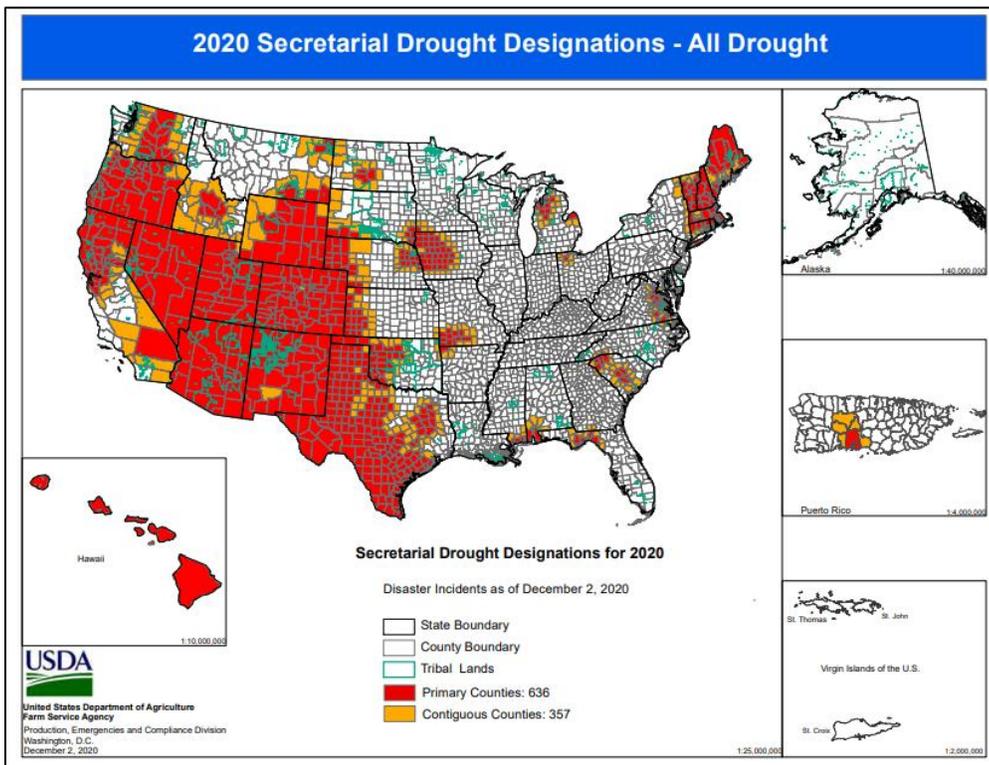
[Changes in drought conditions over the last 12 months for the contiguous U.S.](#)

Highlighted Drought Resources

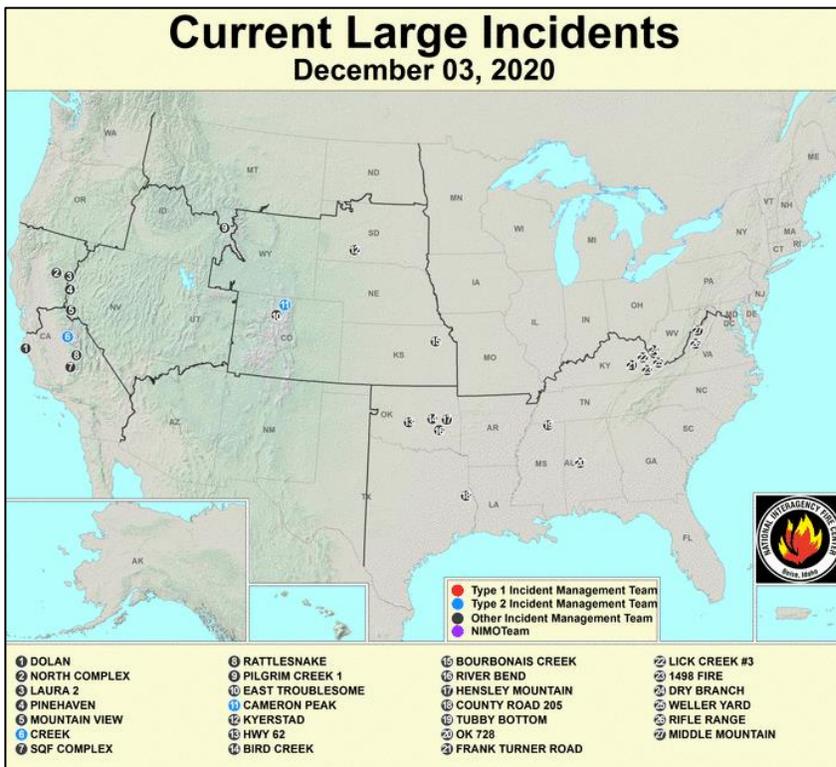
- [Drought Impact Reporter](#)
- [Quarterly Regional Climate Impacts and Outlook](#)
- [U.S. Drought Portal Indicators and Monitoring](#)
- [U.S. Population in Drought, Weekly Comparison](#)
- [USDA Disaster and Drought Information](#)

Secretarial Drought Designations

Source: USDA Farm Service Agency



Wildfires: USDA Forest Service Active Fire Mapping



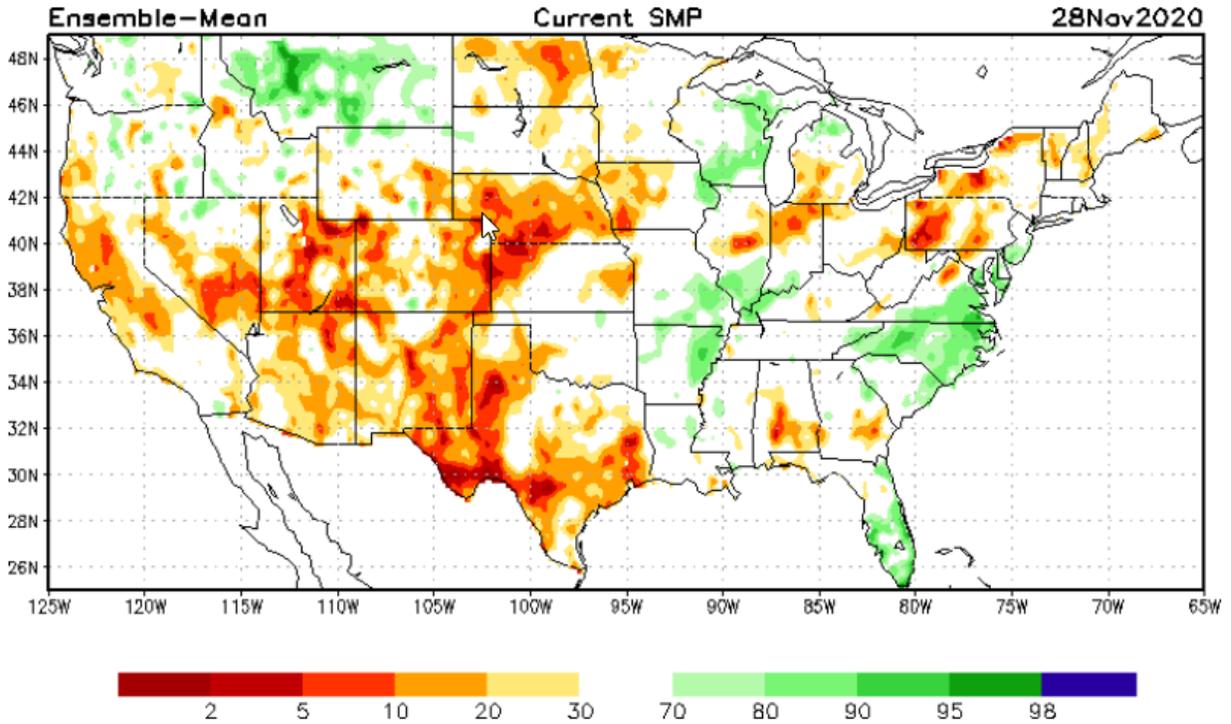
Highlighted Wildfire Resources

- [National Interagency Fire Center](#)
- [InciWeb Incident Information System](#)
- [Significant Wildland Fire Potential Outlook](#)

Other Climatic and Water Supply Indicators

Soil Moisture

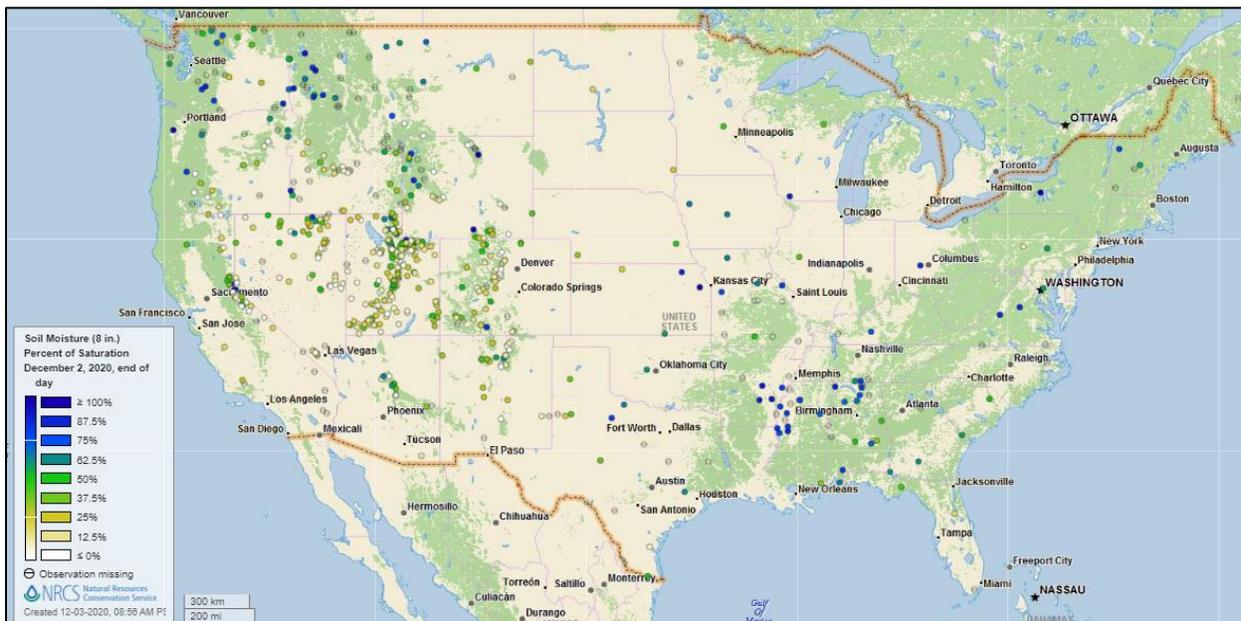
Source: NOAA National Centers for Environmental Prediction



[Modeled soil moisture percentiles](#) as of November 28, 2020

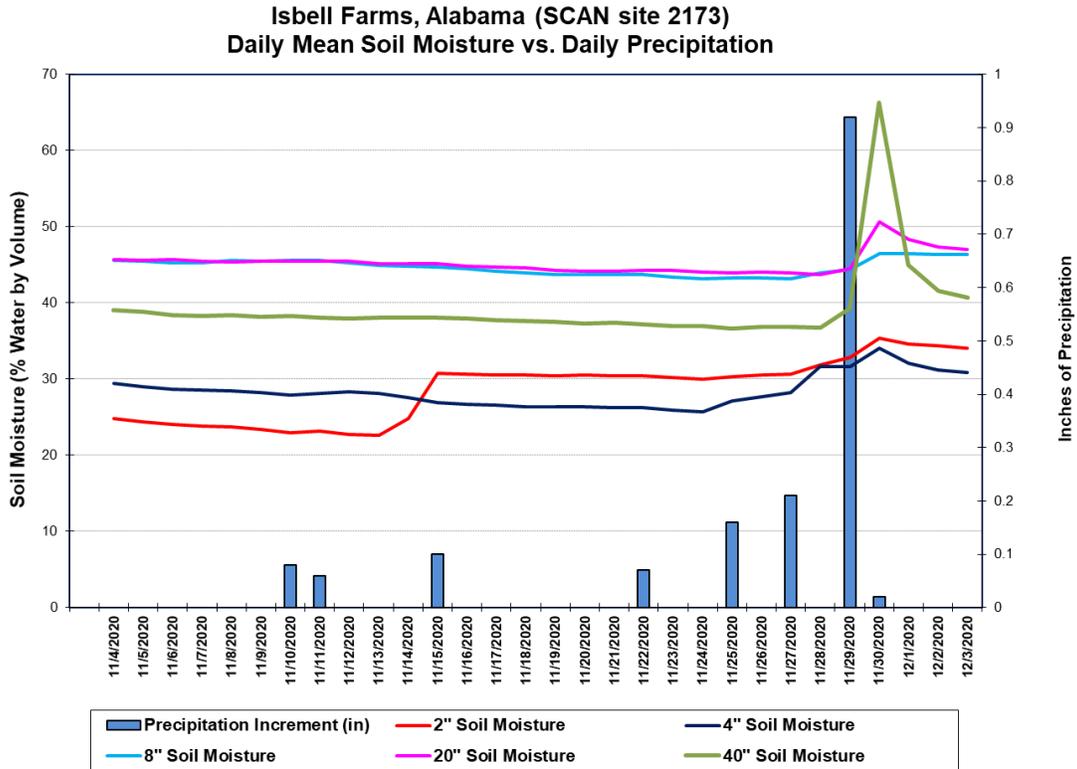
Soil Moisture Percent of Saturation

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



Soil Moisture

Source: NRCS [Soil Climate Analysis Network](#) (SCAN)



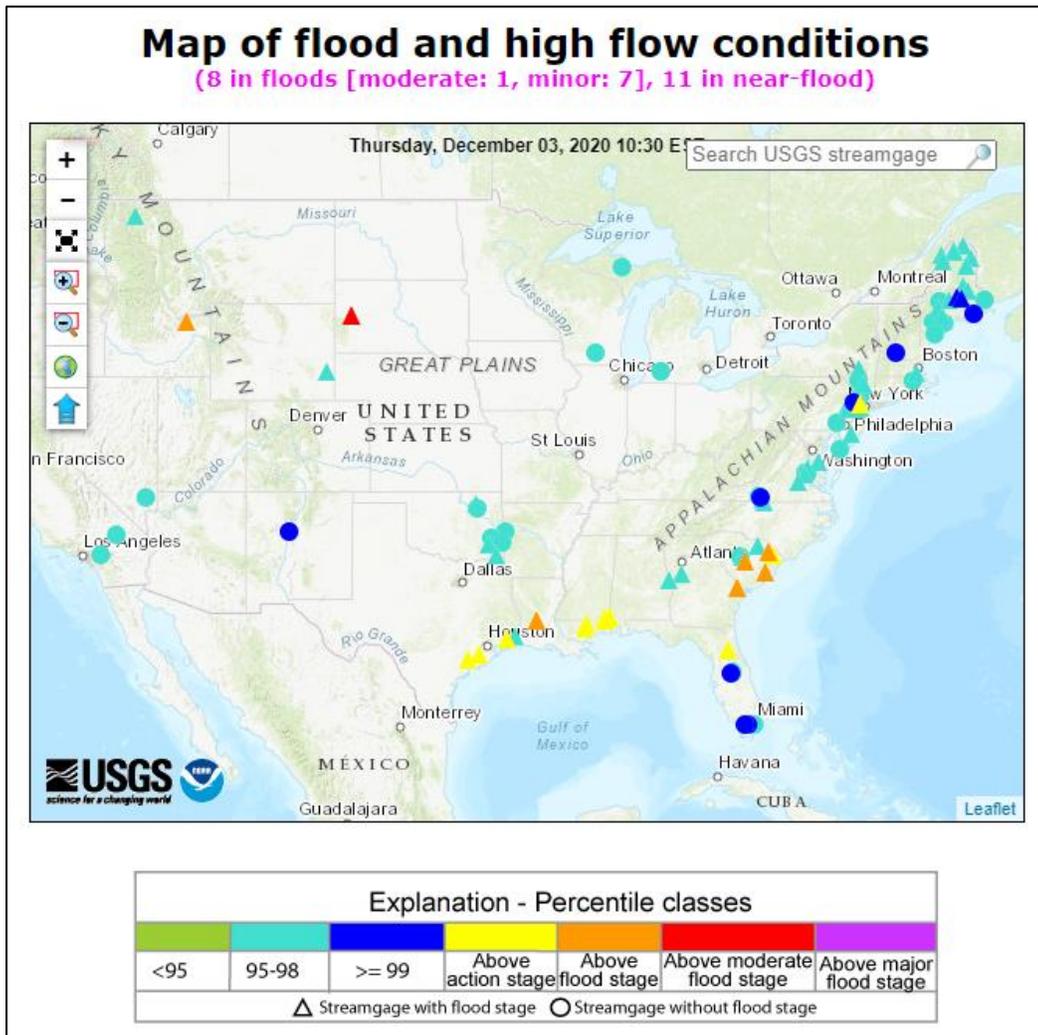
This chart shows the precipitation and soil moisture for the last 30 days at the [Isbell Farms](#) SCAN site in Alabama. 0.92 inches of precipitation on November 29 increased the soil moisture at all depth sensors. Accumulated precipitation for the 30-day period was 1.62 inches.

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

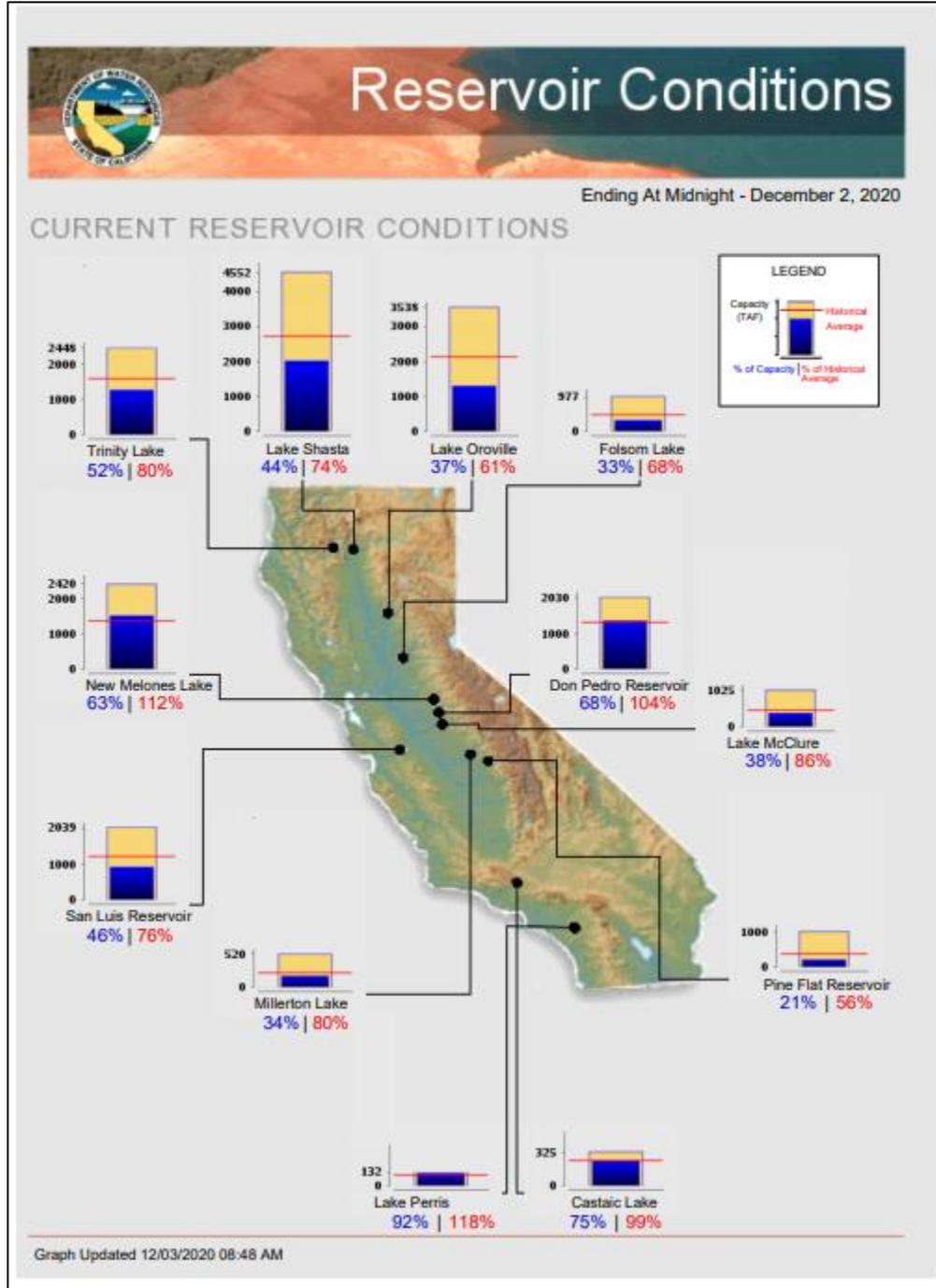
Hydromet Teacup Reservoir Depictions

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](#)

Agricultural Weather Highlights

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

National Outlook, Thursday, December 3, 2020: “A storm system crossing the southern Plains will drift eastward, reaching the southern Appalachians late Friday. During the weekend, the system will turn northeastward along the middle and northern Atlantic Coast. Significant snow may fall during the weekend across the interior Northeast, while storm-total rainfall could reach 1 to 2 inches or more in the Southeast and along the Atlantic Seaboard. In the storm’s wake, dry weather will prevail nearly nationwide, although chilly conditions in the Midwest and East will contrast with significantly above-normal temperatures on the Plains. Dry weather will continue during the next 5 days across the northern Plains, as well as much of the West and Midwest. The NWS 6- to 10-day outlook for December 8 – 12 calls for the likelihood of near- or above-normal temperatures and near- or below-normal precipitation across much of the country. Cooler-than-normal conditions will be confined to the lower Southeast, while wetter than-normal weather should be limited to the northwestern half of the Plains.”

Weather Hazards Outlook: [December 5 – 9, 2020](#)

Source: NOAA Weather Prediction Center

U.S. Day 3-7 Hazards Outlook

[About the Hazards Outlook](#)

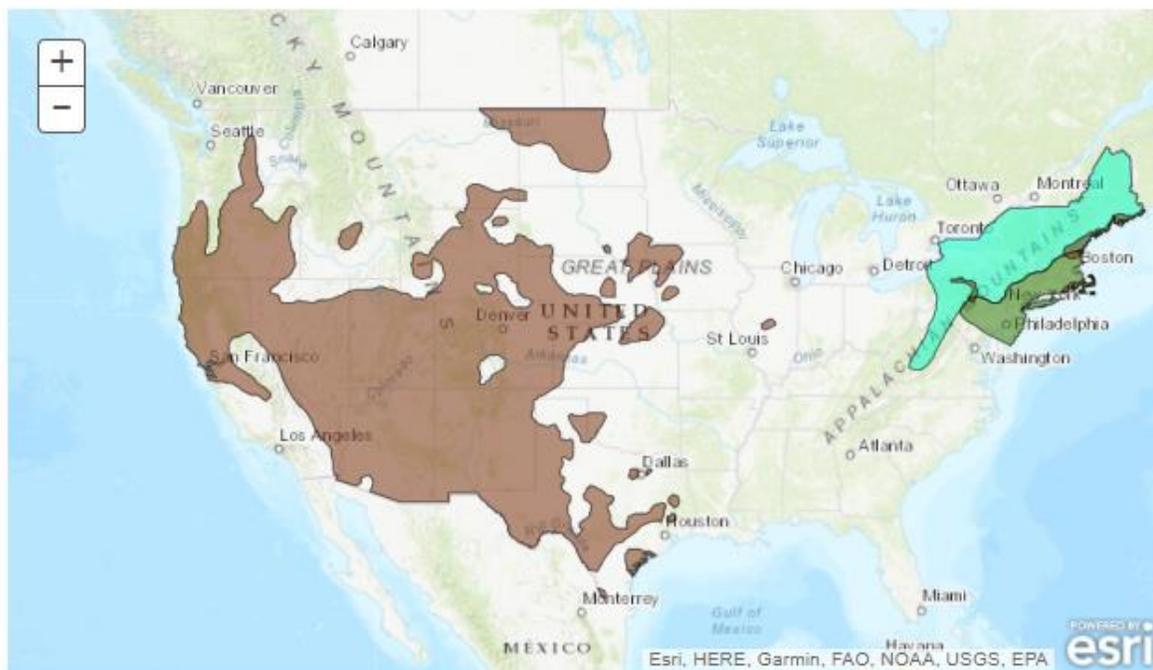
Created December 02, 2020

NOTE: These products are only created Monday through Friday. Please exercise caution using this outlook during the weekend.

Precipitation	<input checked="" type="checkbox"/>
Temperature	<input checked="" type="checkbox"/>
Soils	<input checked="" type="checkbox"/>

Legend			
	Flooding Likely		Excessive Heat
	Flooding Occurring or Imminent		High Winds
	Flooding Possible		Much Above Normal Temperatures
	Freezing Rain		Much Below Normal Temperatures
	Heavy Ice		Significant Waves
	Heavy Precipitation		Enhanced Wildfire Risk
	Heavy Rain		Severe Drought
	Heavy Snow		
	Severe Weather		

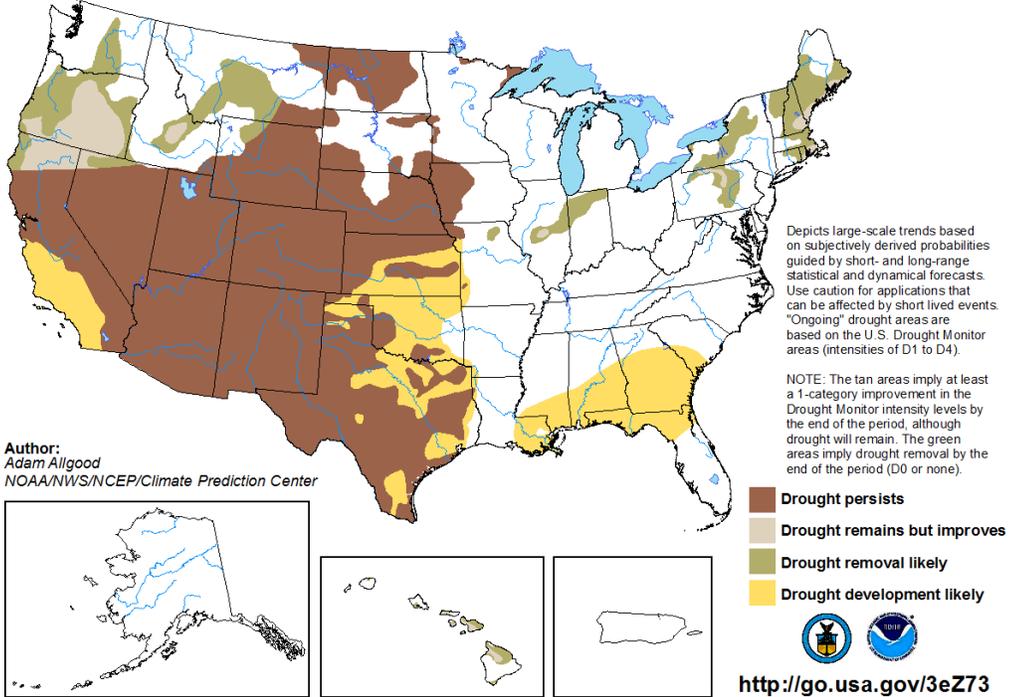
Valid December 05, 2020 - December 09, 2020



Seasonal Drought Outlook: [November 19, 2020 – February 28, 2021](#)

Source: National Weather Service

U.S. Seasonal Drought Outlook *Valid for November 19, 2020 - February 28, 2021*
Drought Tendency During the Valid Period *Released November 19, 2020*

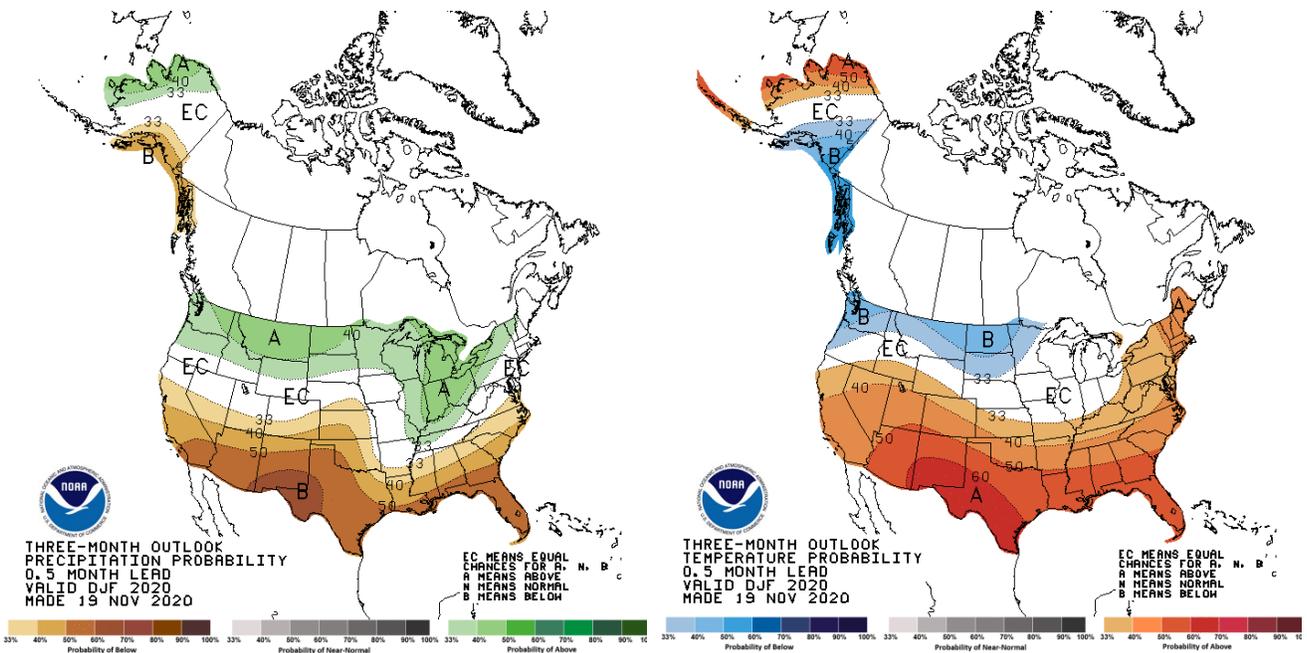


Climate Prediction Center 3-Month Outlook

Source: National Weather Service

Precipitation

Temperature



[December-January-February \(DJF\) 2020-2021 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](#).