



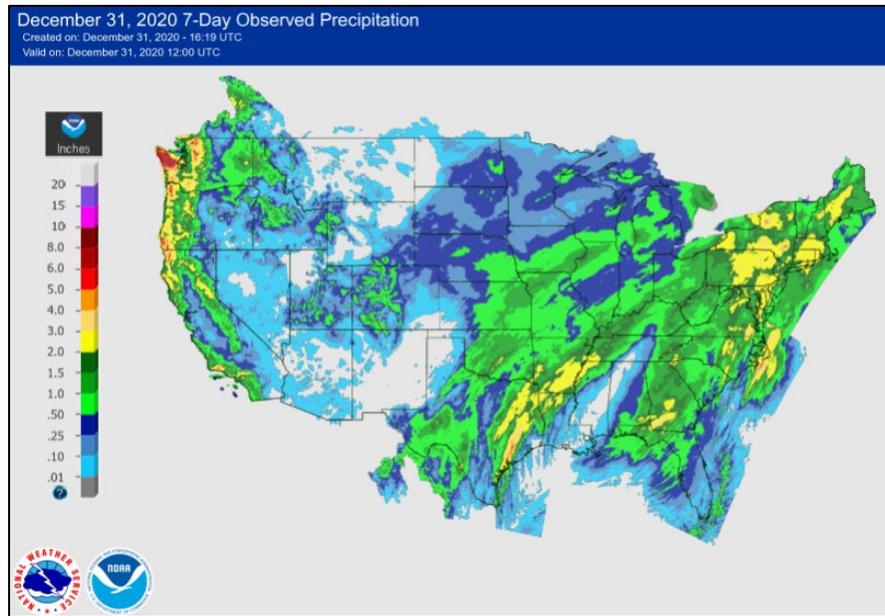
Water and Climate Update

December 31, 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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2020 ends with rain and snow across the U.S.

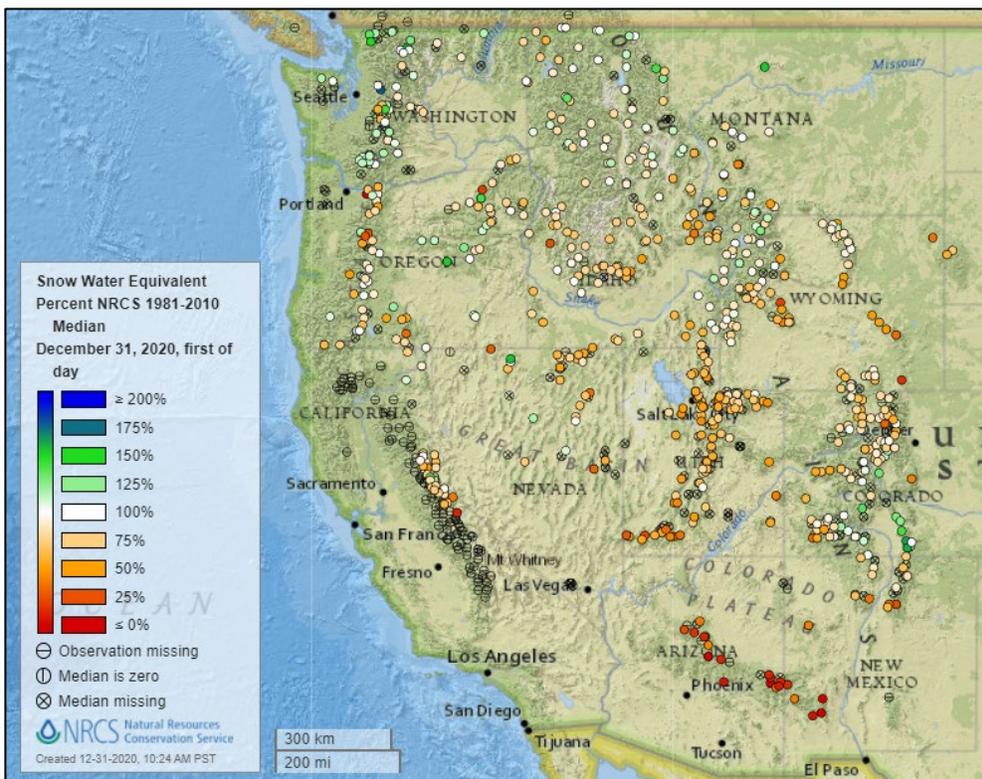


Much needed rain and mountain snow arrived in Southern California over the weekend. A series of storms left inches of rain along the Pacific Northwest and several feet of mountain snow in the Cascades and Rocky Mountains, with more expected. Heavy snow and ice swept from west Texas through the Plains to the Great Lakes. Winter weather warnings with snow, freezing rain, heavy rain, and thunderstorms are posted from Texas to Ohio to end 2020.

Related:

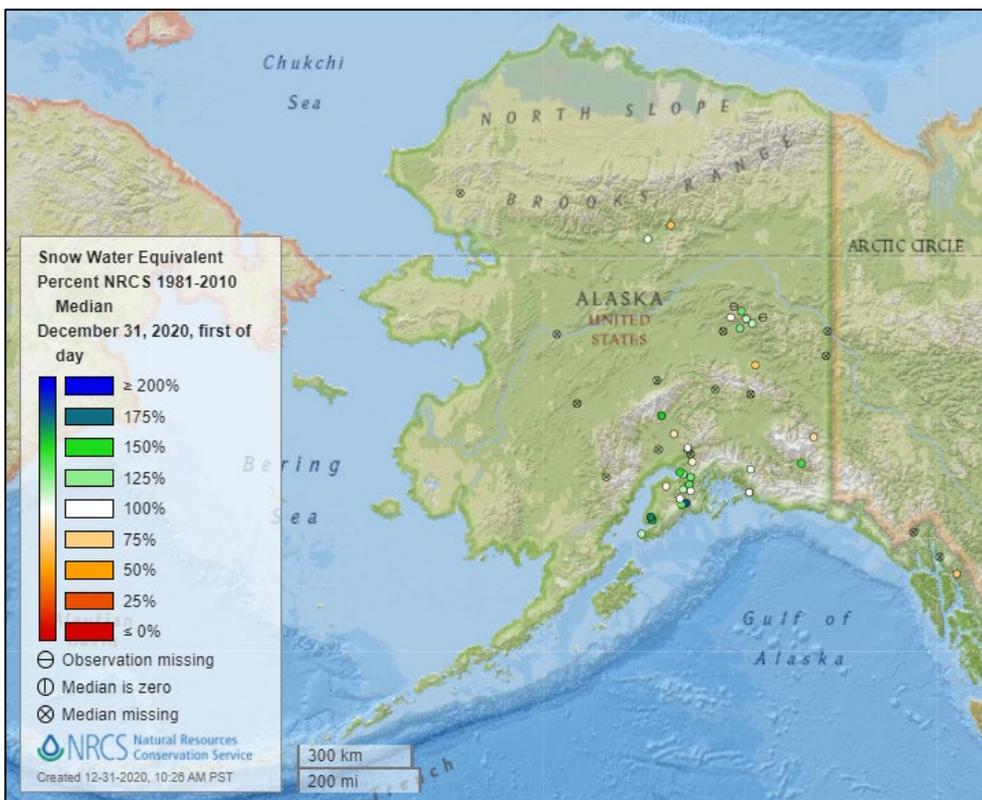
- [Rain, hail, snow battered Southern California as powerful storm hit](#) – Los Angeles Times (CA)
- [Mudslides a risk from season's first 'real' rain in Southern California](#) - Reuters
- [New Year's storm to sweep from Texas to Maine, bringing snow, ice, flooding rain and severe weather](#) – Washington Post
- [Heavy snowfall leads to traffic problems in Spokane, North Idaho](#) – KING5 (WA)
- [Tuesday's storm dropped nearly 10 inches of snow on Des Moines; NWS monitoring Friday storm](#) – Des Moines Register on MSN.com
- [Strong storm to march across the Lower 48 with snow, heavy rain and severe weather](#) – The Washington Post

Snow



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

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

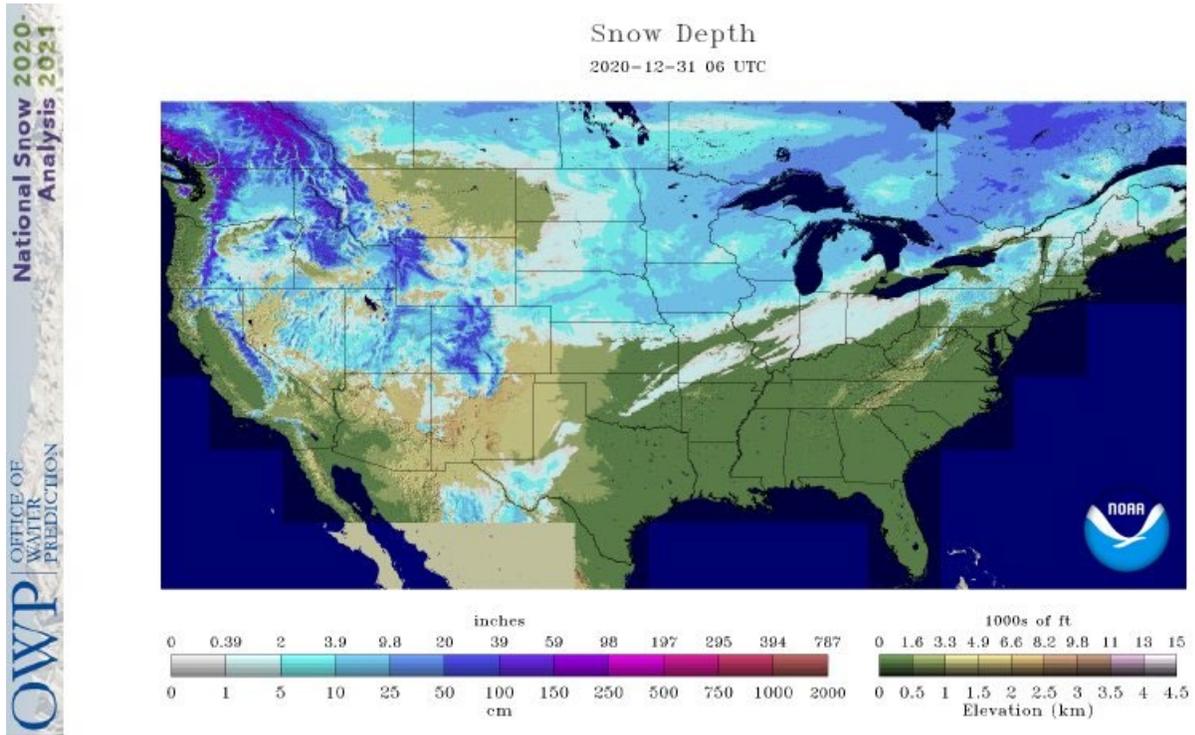


[Alaska snow water equivalent percent of median map](#)

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

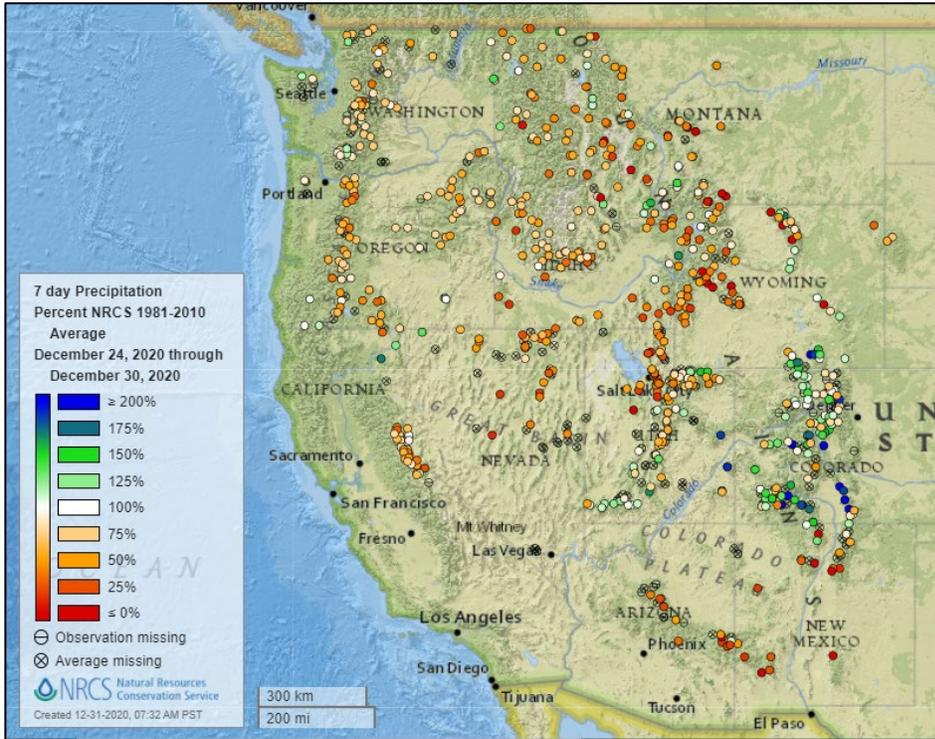
Current Snow Depth, National Weather Service Snow Analysis

Source: NOAA Office of Water Prediction



Precipitation

Last 7 Days, NRCS SNOTEL Network

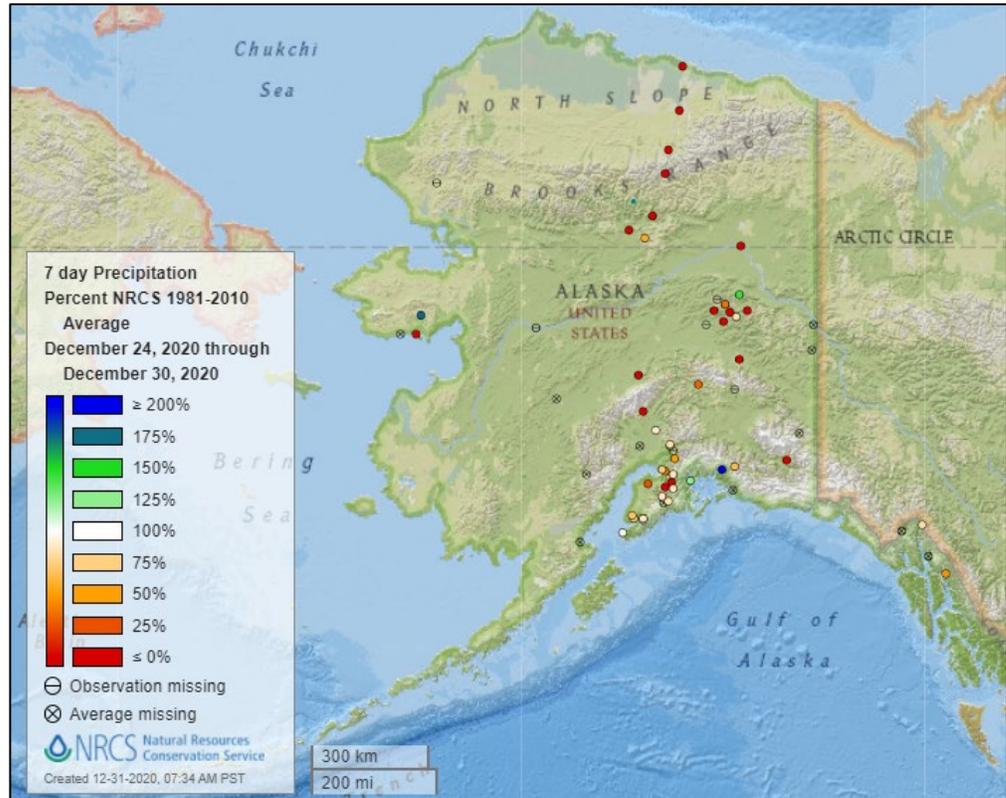


[7-day precipitation percent of average map](#)

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](#)



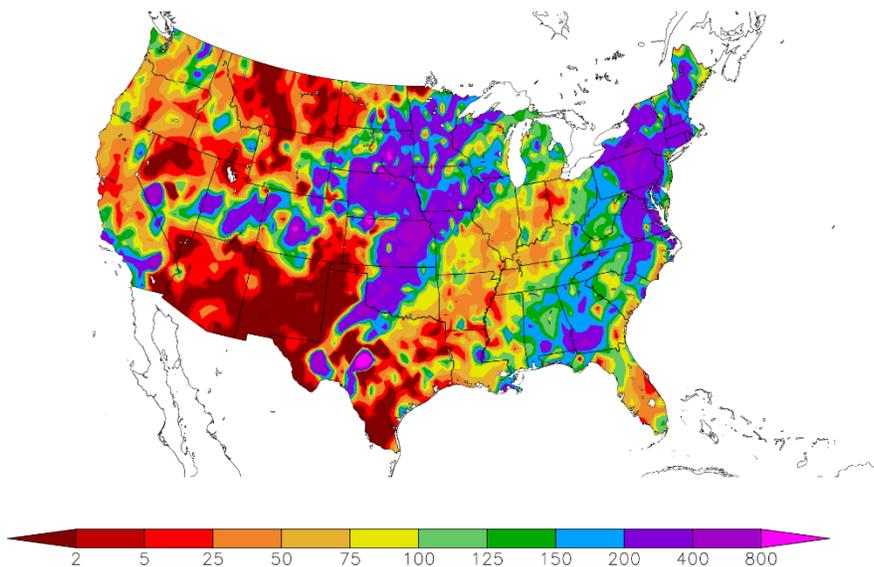
Last 7 Days, National Weather Service (NWS) Networks

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 (%)
12/24/2020 – 12/30/2020



Generated 12/31/2020 at HPRCC using provisional data.

NOAA Regional Climate Centers

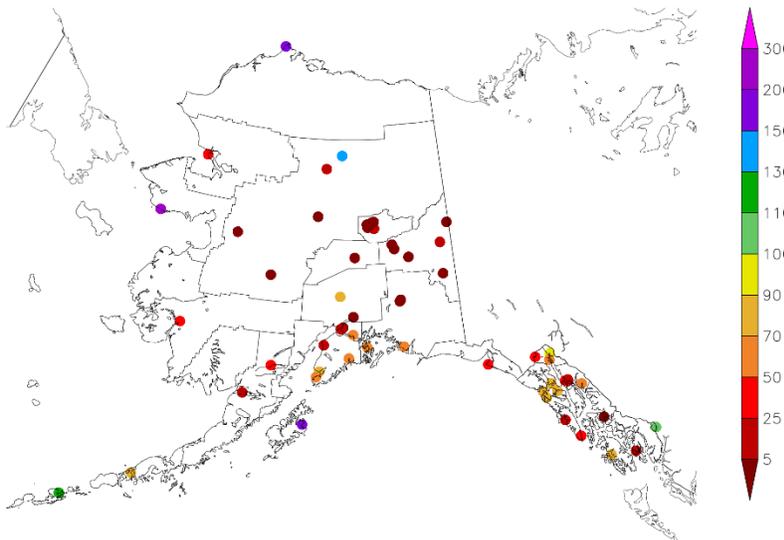
Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

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

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

Percent of Normal Precipitation (%)
12/24/2020 – 12/30/2020



Generated 12/31/2020 at HPRCC using provisional data.

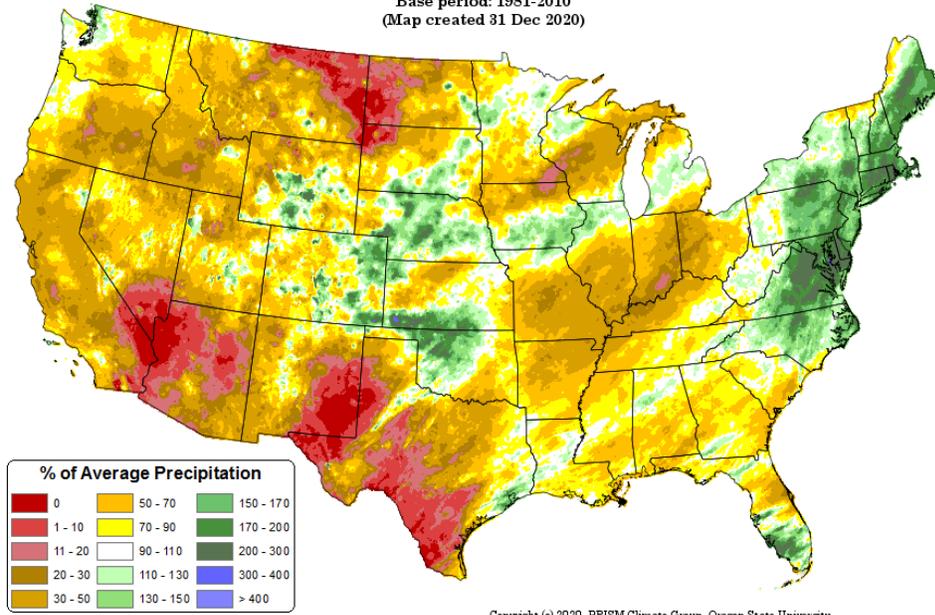
NOAA Regional Climate Centers

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

Source: PRISM

Total Precipitation Anomaly: 01 Dec 2020 - 30 Dec 2020
Period ending 7 AM EST 30 Dec 2020
Base period: 1981-2010
(Map created 31 Dec 2020)

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

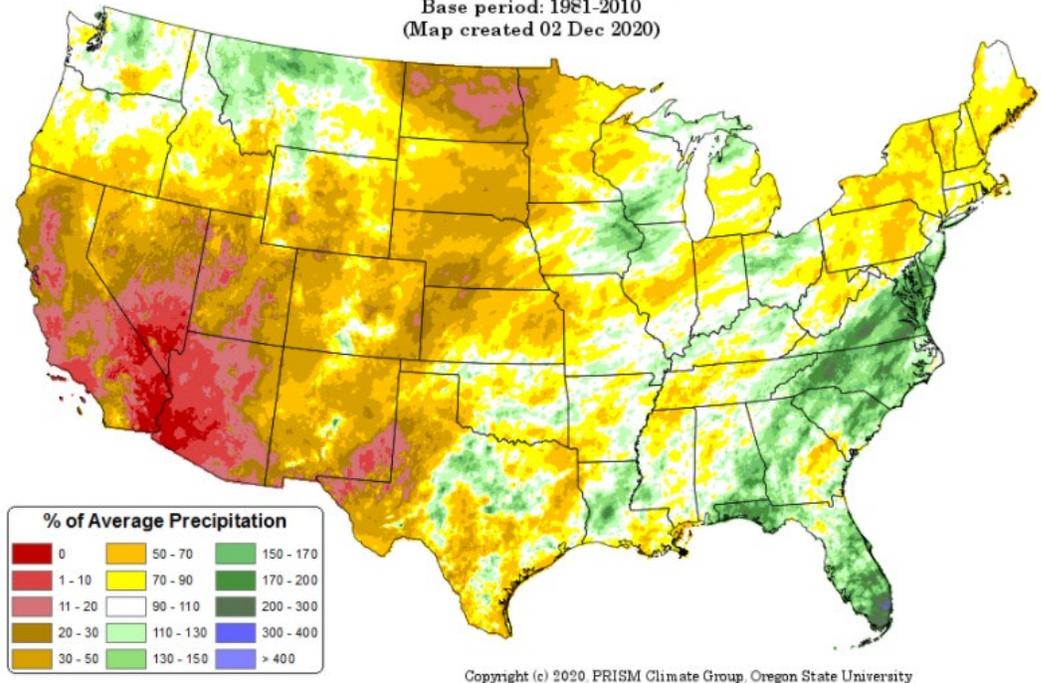


Last 3 Months, All Available Data Including SNOTEL and NWS Networks

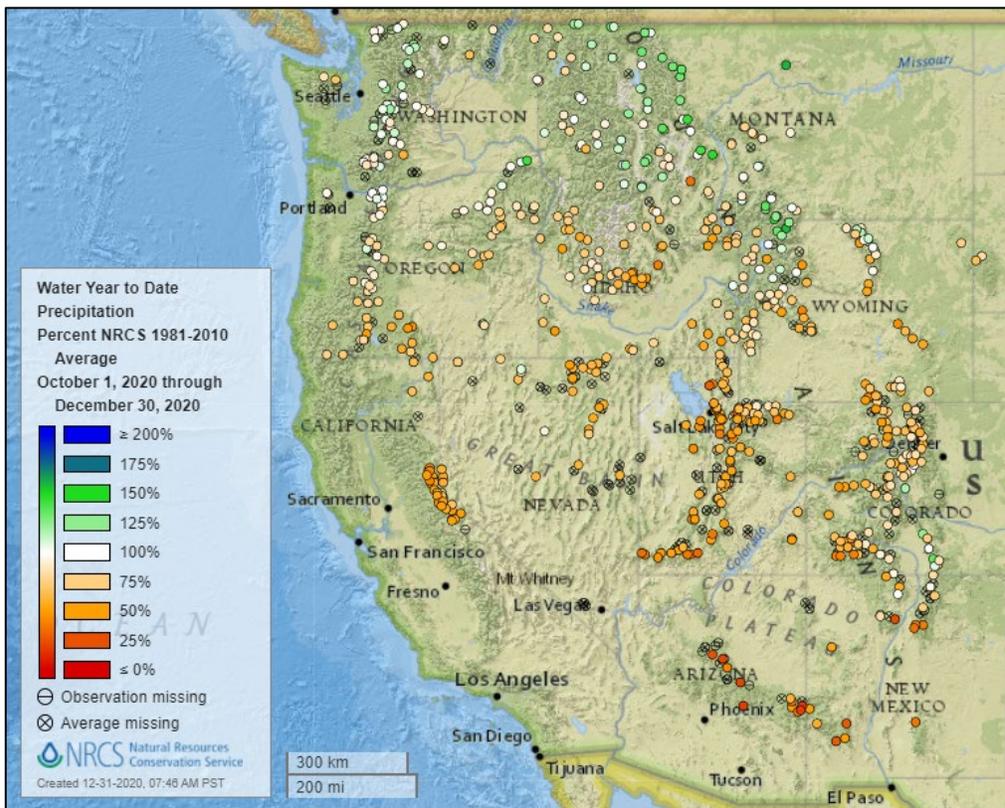
Source: PRISM

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

Total Precipitation Anomaly: Sep 2020 - Nov 2020
Period ending 7 AM EST 30 Nov 2020
Base period: 1981-2010
(Map created 02 Dec 2020)



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

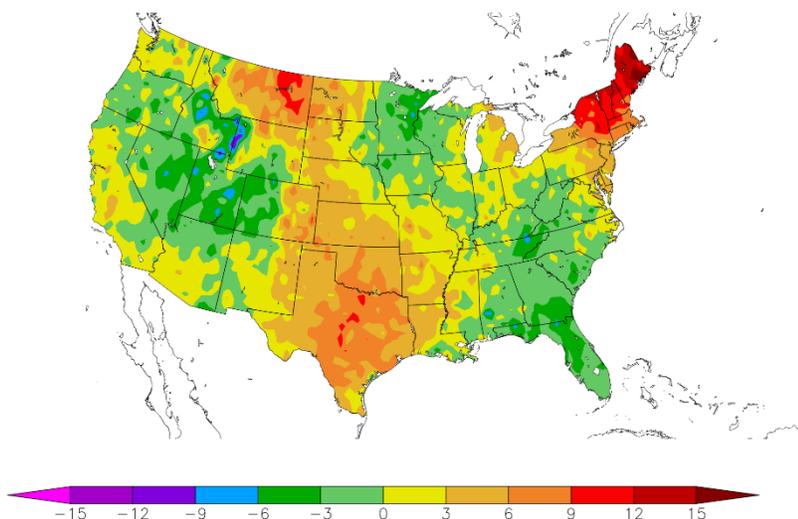
Last 7 Days, National Weather Service (NWS) Networks

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)
12/24/2020 - 12/30/2020



Generated 12/31/2020 at HPRCC using provisional data.

NOAA Regional Climate Centers

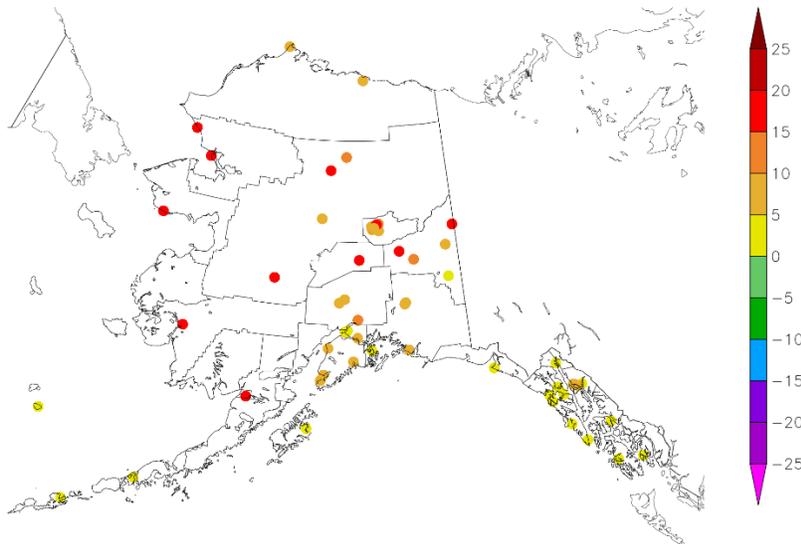
Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

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

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

Departure from Normal Temperature (F)
12/24/2020 - 12/30/2020



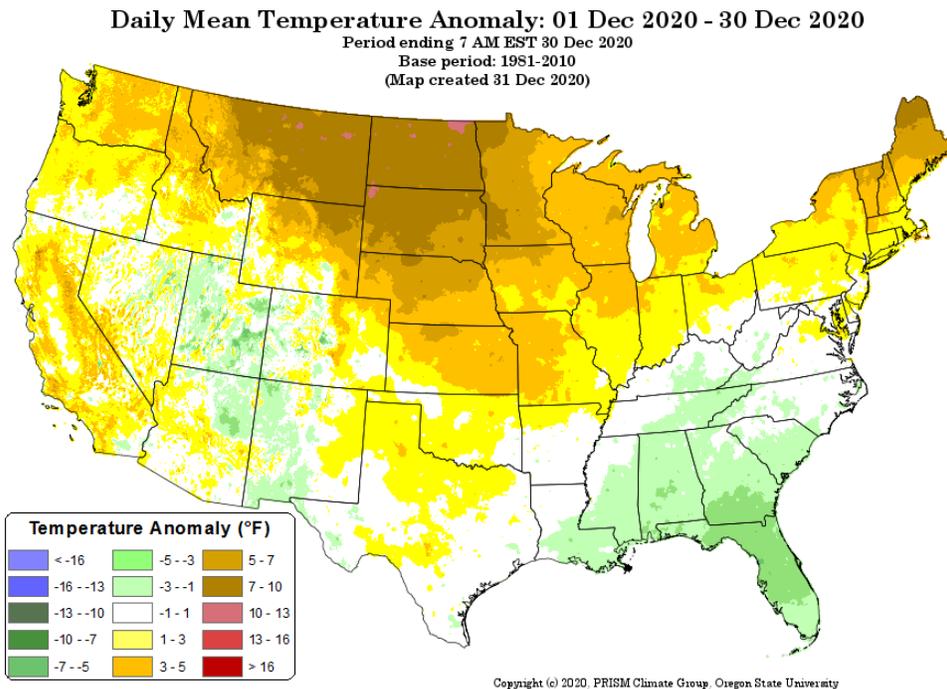
Generated 12/31/2020 at HPRCC using provisional data.

NOAA Regional Climate Centers

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

Source: PRISM

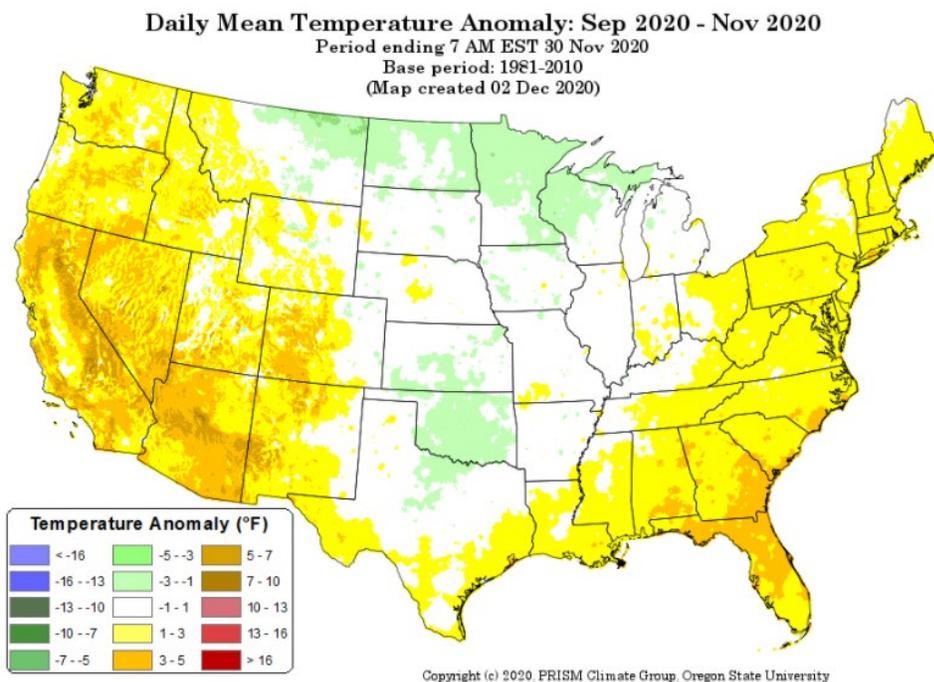
[Month-to-date national daily mean temperature anomaly map](#)



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

Source: PRISM

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



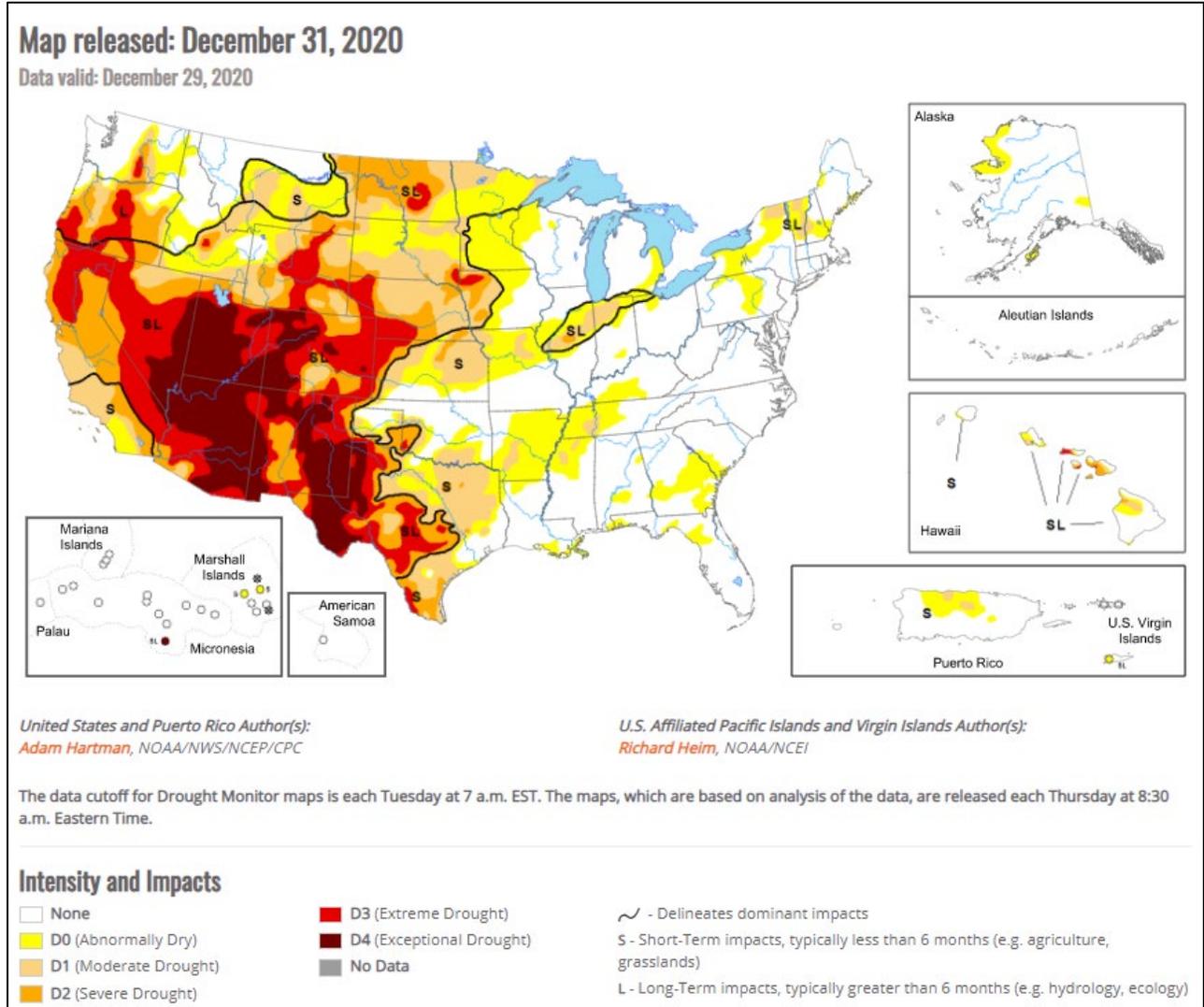
Drought

[U.S. Drought Monitor](#)

Source: National Drought Mitigation Center

[U.S. Drought Portal](#)

Source: NOAA



Current [National Drought Summary](#), December 31, 2020

Source: National Drought Mitigation Center

“Precipitation fell across much of the United States this week, with widespread moderate amounts (1-2 inches) falling on the eastern third of the CONUS, as a strong storm system moved eastward and exited the Northeast early in the week (Dec. 24-25). Ahead of the frontal boundary associated with this system, strong southerly flow resulted in a rapid warm up and heavy rainfall (2-3 inches, with locally heavier totals), leading to increased snowmelt throughout the Northeast. Behind this system, and in the following days due to lake effect, new snow blanketed many of the same locations that experienced the rapid snowmelt. Toward the end of the week, moderating temperatures led to additional snowmelt across the region. As a result, much of the Northeast saw 1-category improvements (D1 to D0, and D0 to removal). The Southeast also saw improvements in D0 coverage as the frontal boundary from this system extended all the way to the Gulf Coast as it tracked eastward. In the western CONUS, only minor improvements were made in Oregon as long-term indicators (going back to last year’s below normal rainy season) have improved enough to warrant

Water and Climate Update

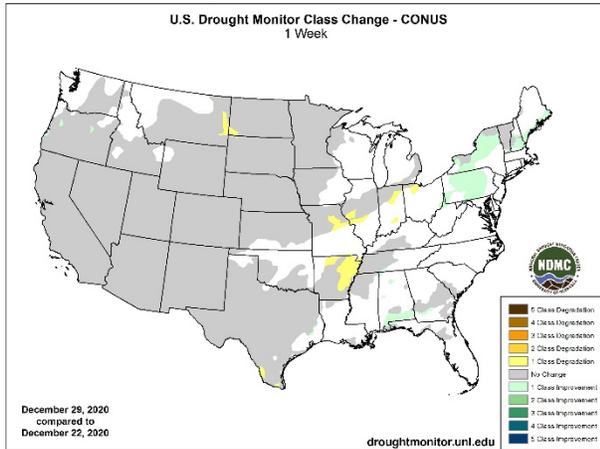
some reduction in extreme drought (D3) coverage. Late in the week (Dec. 28-29), a storm system finally tracked southward this season, bringing above-normal weekly precipitation to coastal southern California. Unfortunately, long-term deficits (beyond 60 days) remained, foregoing D1 improvement. Status-quo was warranted from the Great Basin eastward to the Great Plains as the energy from this system propagated eastward, building upon snow water equivalent (SWE) values and preventing further deterioration; however, the precipitation that did fall was not enough to improve conditions either. In the Northern Plains, snowpack remains well below-normal, leading to some minor degradation in areas where temperatures averaged above freezing and winds were gusty. Elsewhere, the time of year has minimized degradation of drought in many locations, with low temperatures, little or no evapotranspiration, and frozen ground (upper Midwest and Great Plains).

Much of Alaska has received near to above-normal precipitation during the first half of Fall, with some sporadic stations depicting some minor dryness in the last month. However, snowpack is above-normal everywhere south of the Brooks Range for the season as a whole. Hawaii has experienced a dry December, and this has led to some D0 degradation to D1 on the Big Island, as pasture conditions have begun to worsen. Puerto Rico observed below-normal precipitation in areas already experiencing abnormal dryness and moderate drought (D0 and D1, respectively), but USGS 7-day average stream flows remain steady from last week."

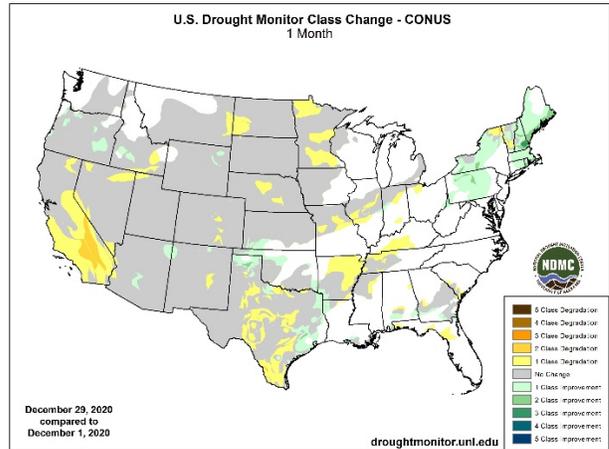
Changes in Drought Monitor Categories over Time

Source: National Drought Mitigation Center

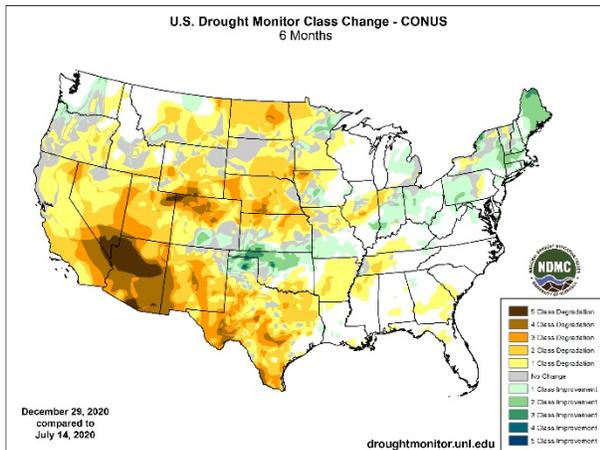
1 Week



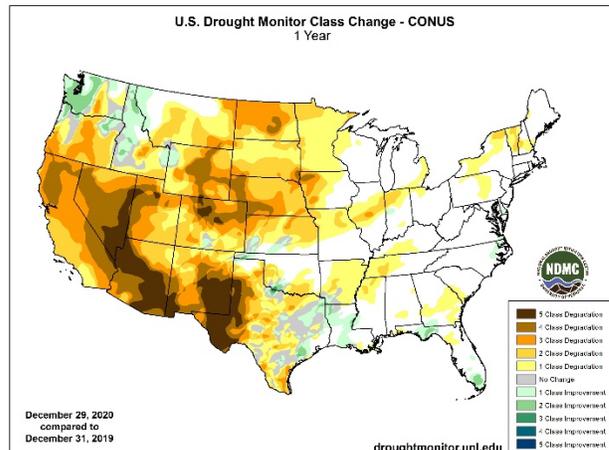
1 Month



6 Months



1 Year



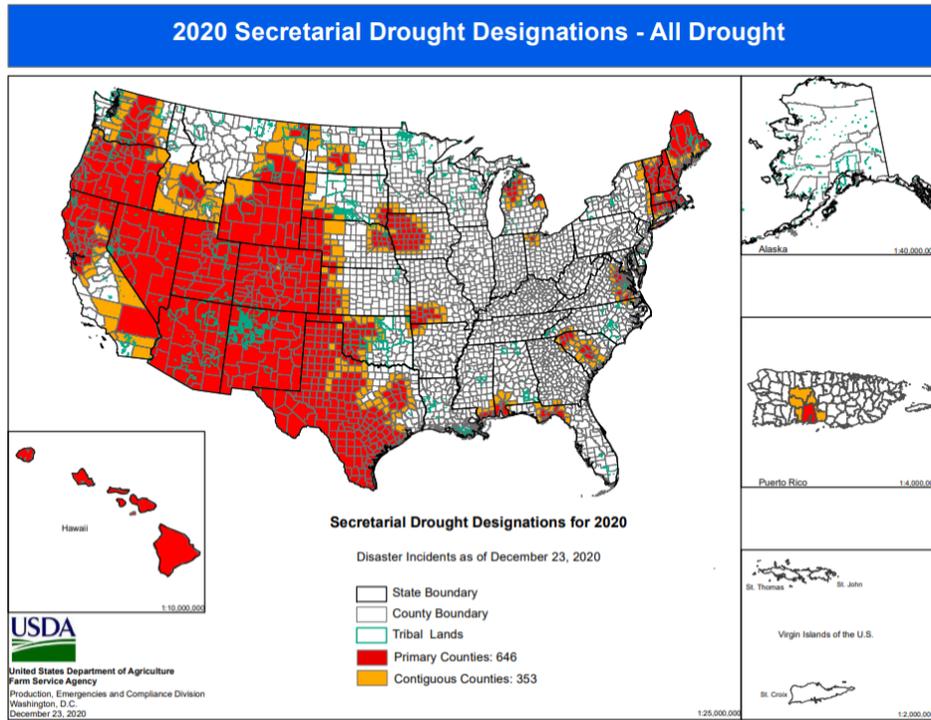
[Changes in drought conditions over the last 12 months for the contiguous U.S.](#)

Highlighted Drought Resources

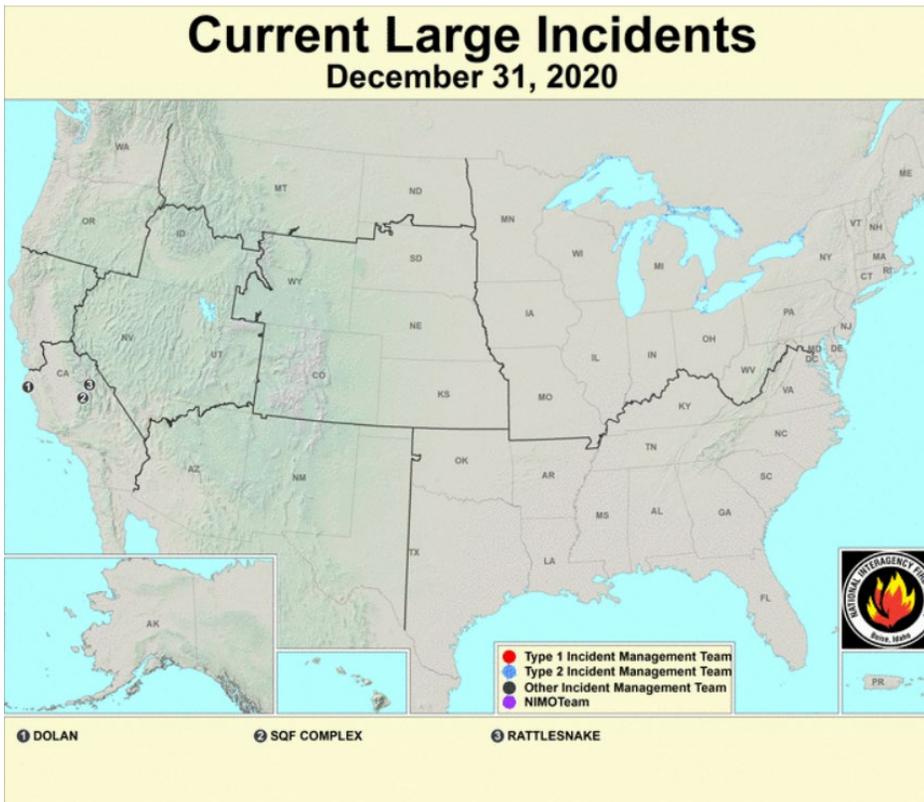
- [Drought Impact Reporter](#)
- [Quarterly Regional Climate Impacts and Outlook](#)
- [U.S. Drought Portal Indicators and Monitoring](#)
- [U.S. Population in Drought, Weekly Comparison](#)
- [USDA Disaster and Drought Information](#)

Secretarial Drought Designations

Source: USDA Farm Service Agency



Wildfires: USDA Forest Service Active Fire Mapping



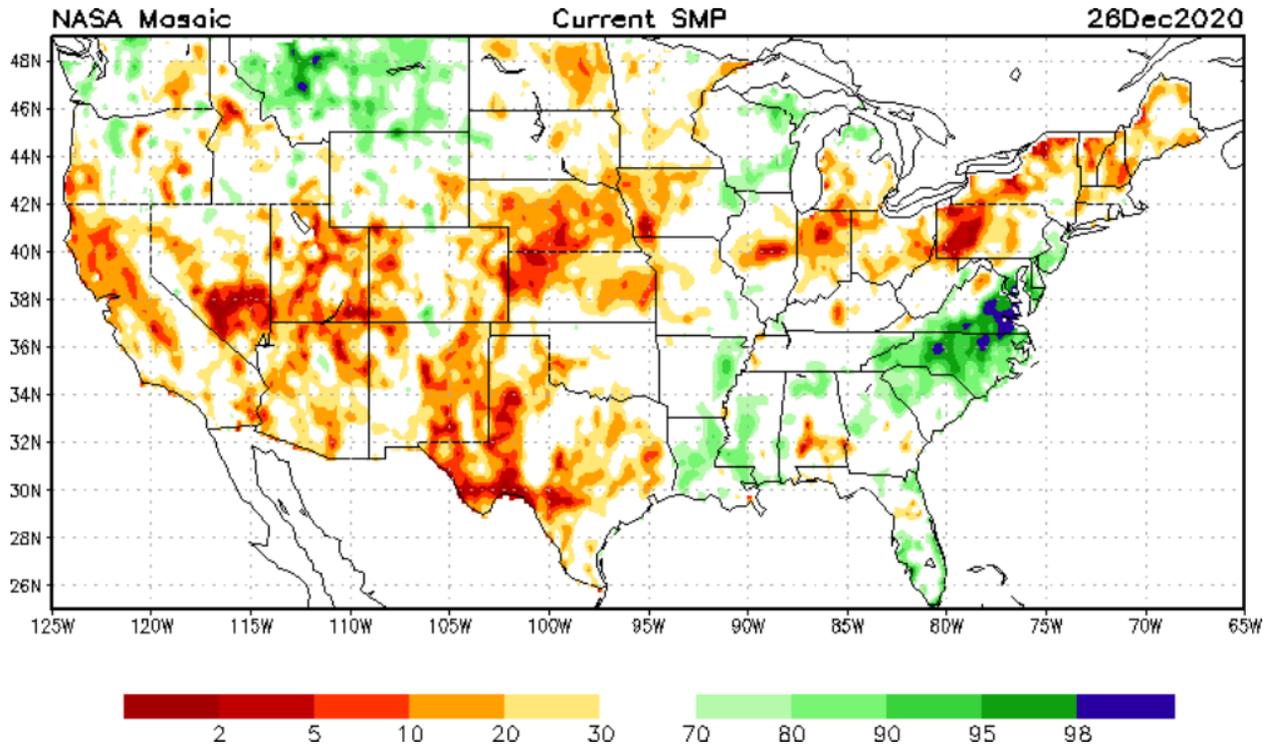
Highlighted Wildfire Resources

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

Other Climatic and Water Supply Indicators

Soil Moisture

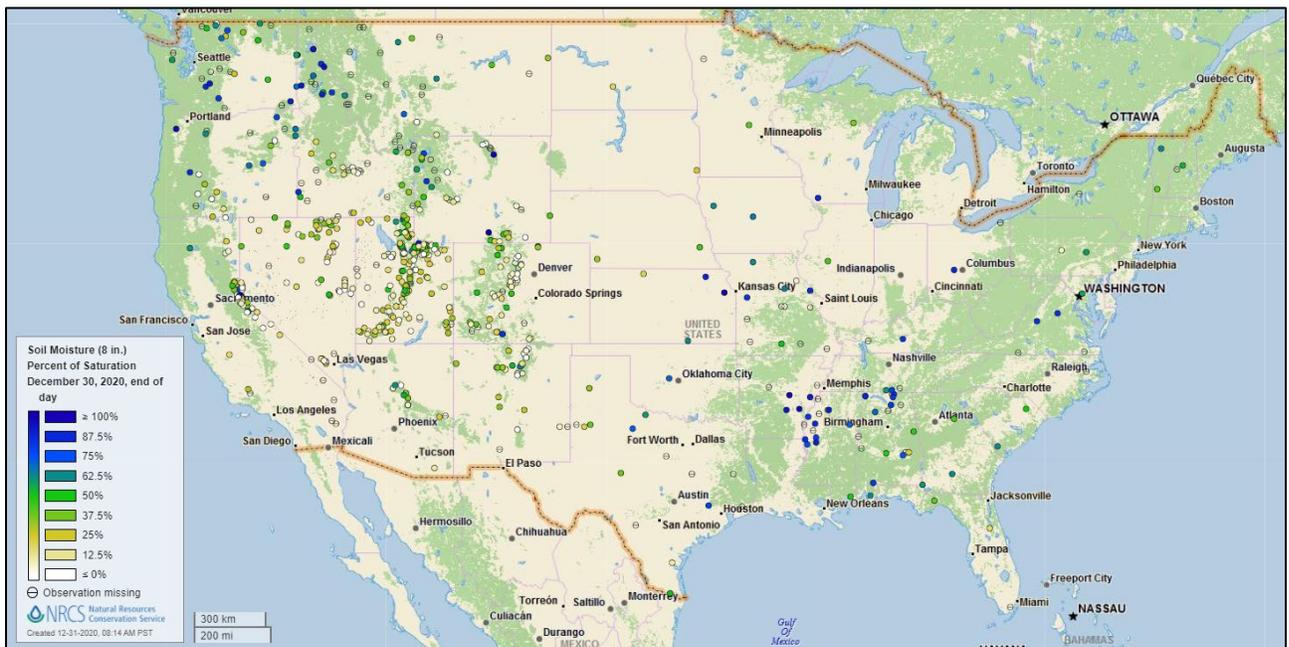
Source: NOAA National Centers for Environmental Prediction



[Modeled soil moisture percentiles](#) as of December 26, 2020

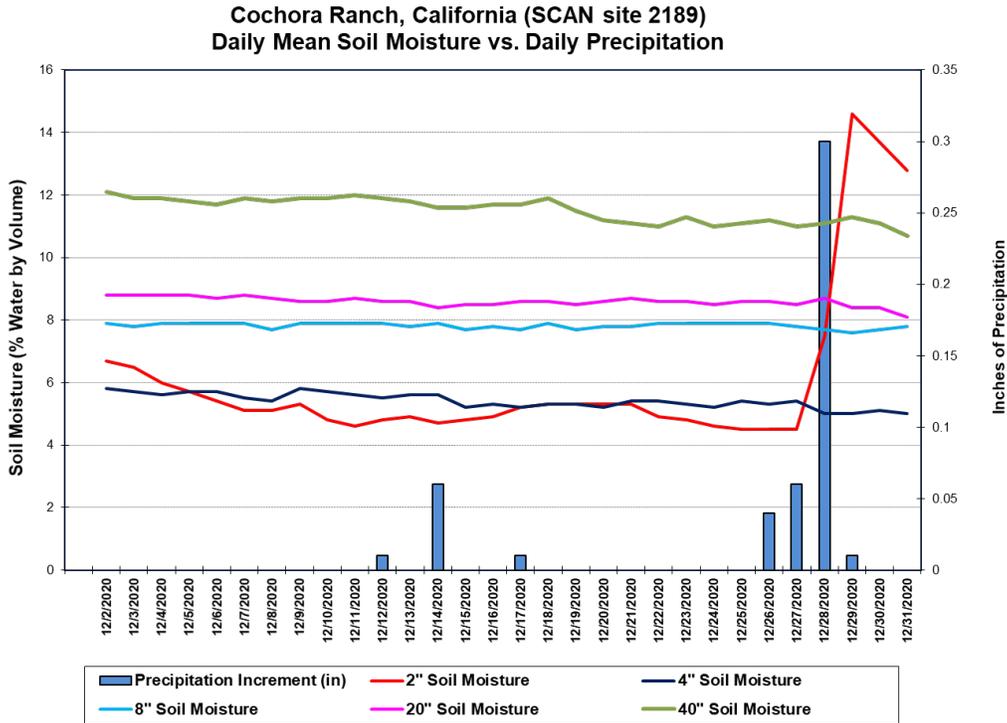
Soil Moisture Percent of Saturation

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 [Cochora Ranch](#) SCAN site in California. Several days of precipitation from December 26 to 29 totaling 0.41 inches increased the soil moisture at the -2-inch depth sensor. Accumulated precipitation for the 30-day period was 0.49 inches.

Soil Moisture Data Portals

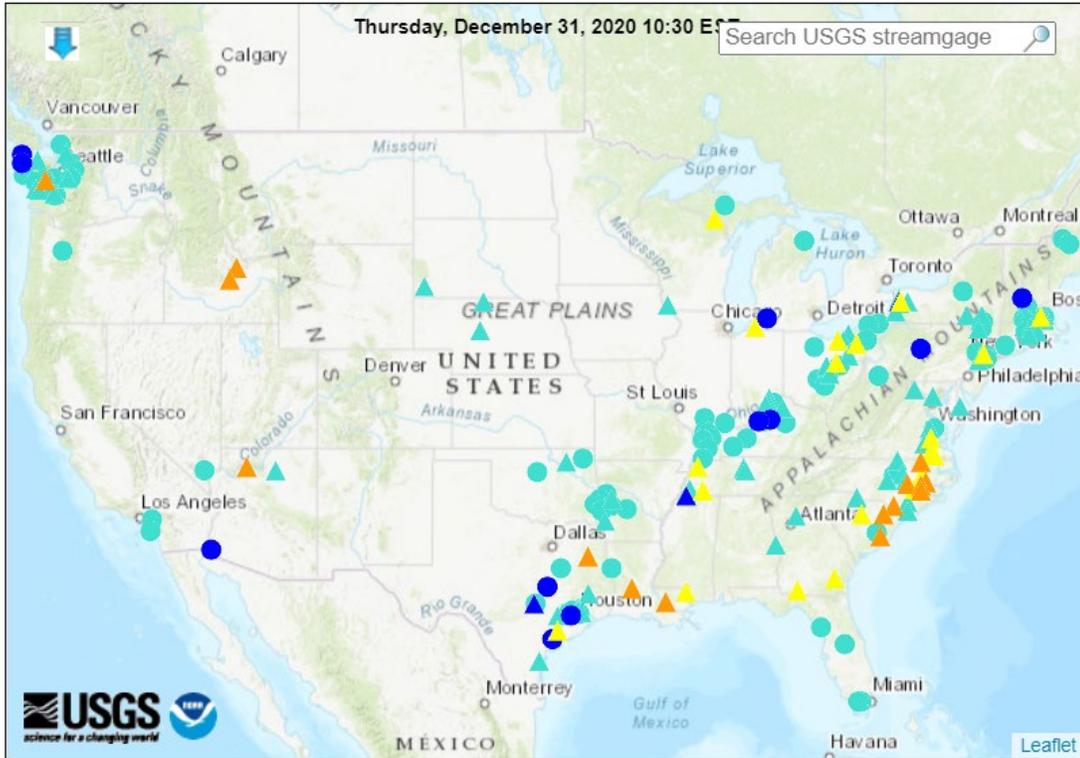
- [CRN Soil Moisture](#)
- [Texas A&M University North American Soil Moisture Database](#)
- [University of Washington Experimental Modeled Soil Moisture](#)

Streamflow, Drought, Flood, and Runoff

Source: U.S. Geological Survey

Map of flood and high flow conditions

(19 in floods [major: 2, minor: 17], 19 in near-flood)



Explanation - Percentile classes						
<95	95-98	>= 99	Above action stage	Above flood stage	Above moderate flood stage	Above major flood stage
			▲ Streamgage with flood stage ○ Streamgage without flood stage			

[WaterWatch: Streamflow, drought, flood, and runoff conditions](#)

Reservoir Storage

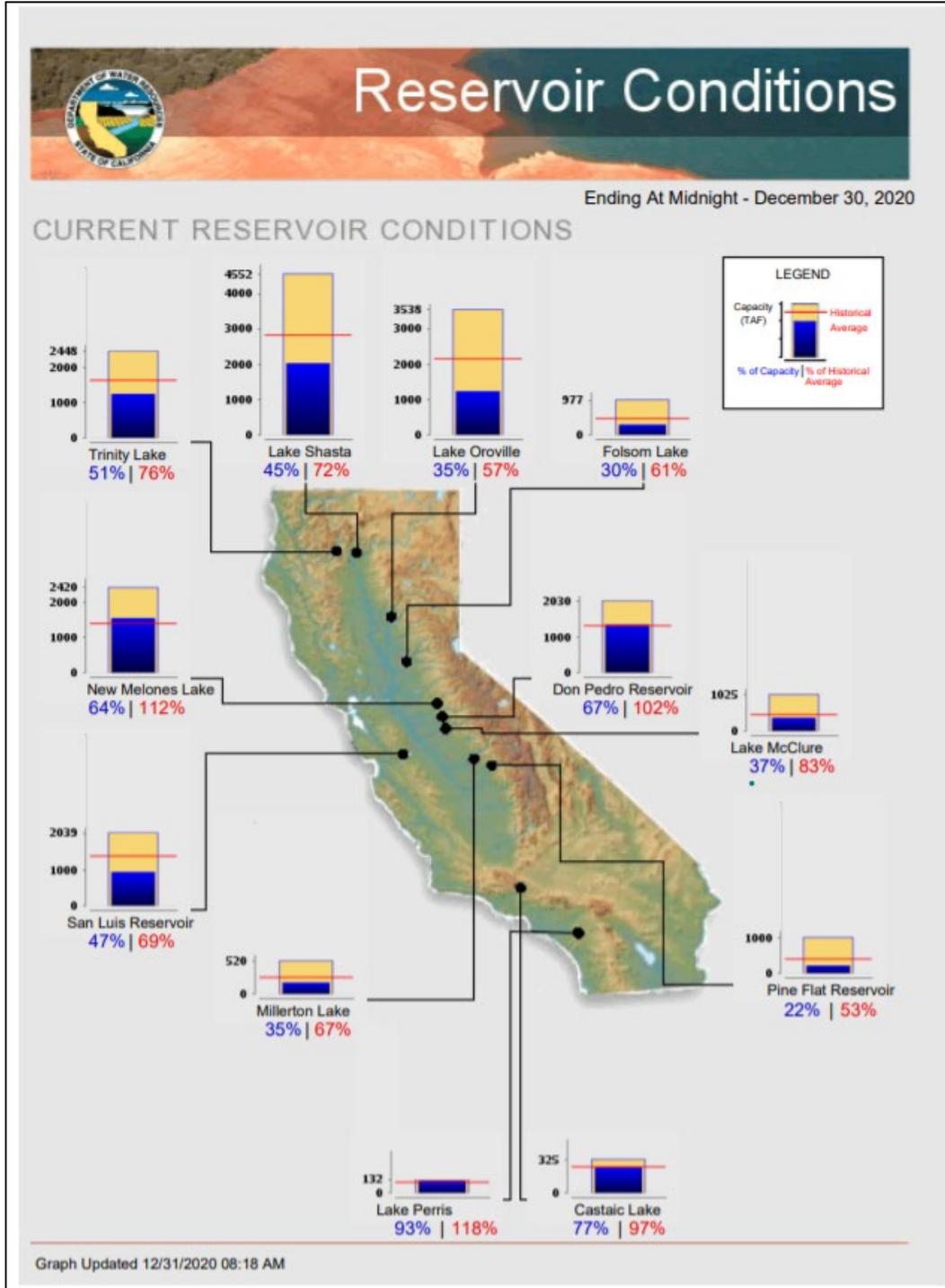
Hydromet Teacup Reservoir Depictions

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 31, 2020: “For the remainder of New Year’s Eve, a winter storm will produce snow and freezing rain across portions of the central and southern Plains. As 2020 ends, wintry precipitation will also overspread the southern Corn Belt. Meanwhile, heavy rain and locally severe thunderstorms will spread northeastward from the western Gulf Coast region. Across the South, the threat for severe weather will persist into New Year’s Day. Storm-total precipitation could reach 1 to 4 inches across the South, excluding Florida’s peninsula. From the Midwest into the Northeast, the first day of 2021 will feature snow and freezing rain. During the weekend and early next week, the focus for heavy precipitation will shift to the Northwest, with significant rain and high-elevation snow extending inland to the northern Rockies and southward into northern California. The NWS 6- to 10-day outlook for January 5 – 9, 2021, calls for above-normal temperatures from the Plains to the East Coast, except for near-normal temperatures in Florida, while cooler-than-normal conditions will prevail in California and environs. Meanwhile, near- or above-normal precipitation across most of the country should contrast with drier-than-normal weather in the Northeast and across Florida’s peninsula.”

Weather Hazards Outlook: [January 02 – 06, 2021](#)

Source: NOAA Weather Prediction Center

U.S. Day 3-7 Hazards Outlook

[About the Hazards Outlook](#)

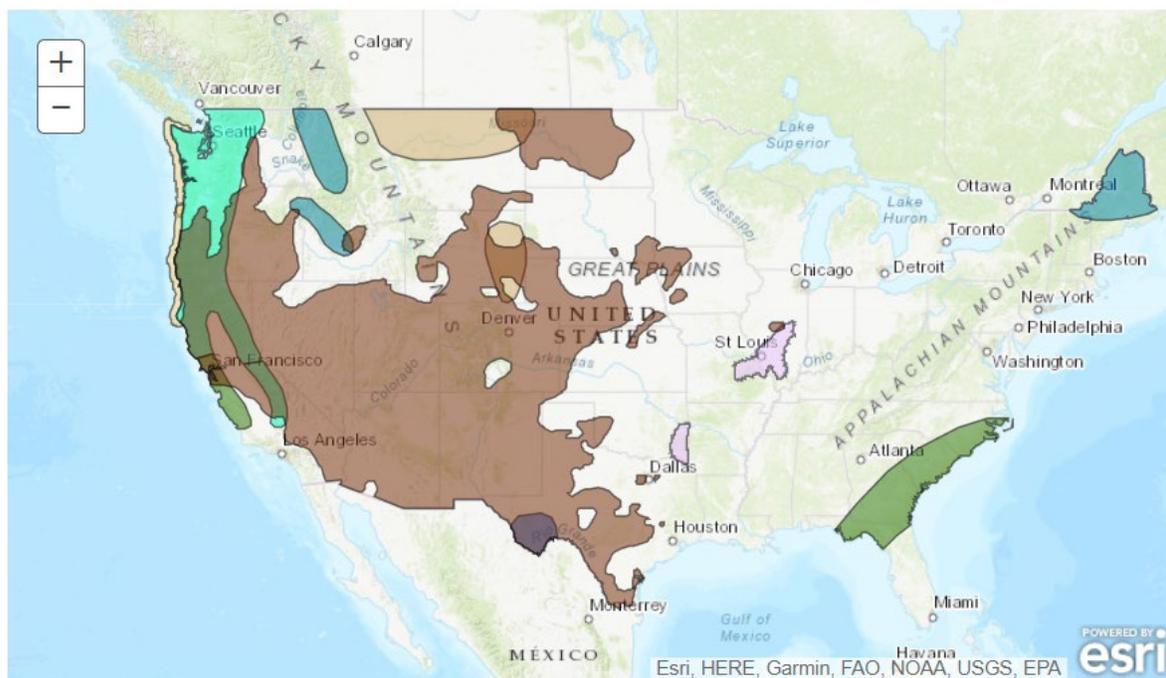
Created December 30, 2020

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 January 02, 2021 - January 06, 2021

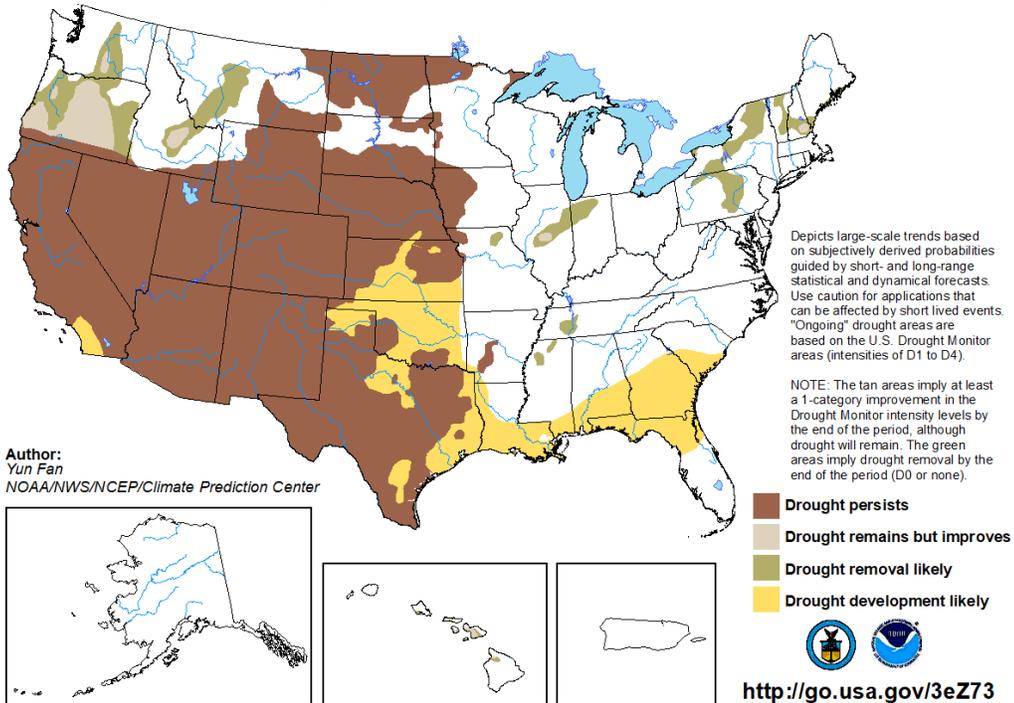


Seasonal Drought Outlook: [December 17, 2020 – March 31, 2021](#)

Source: National Weather Service

U.S. Seasonal Drought Outlook
Drought Tendency During the Valid Period

Valid for December 17, 2020 - March 31, 2021
Released December 17, 2020

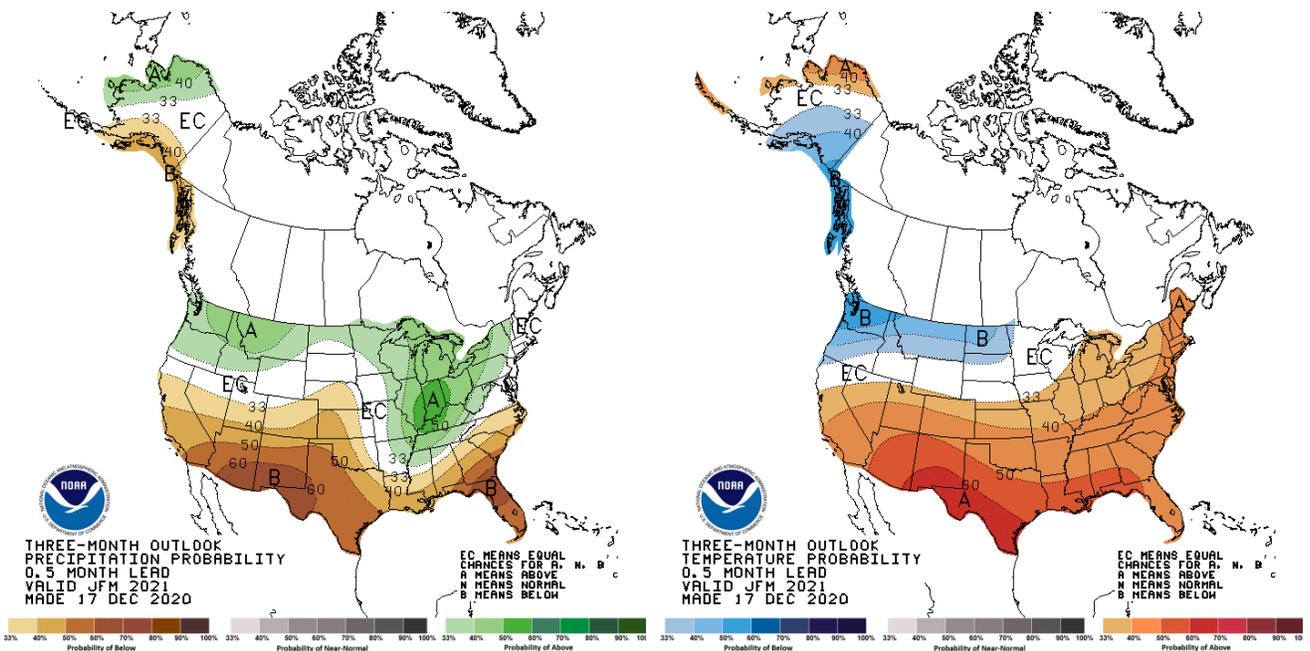


Climate Prediction Center 3-Month Outlook

Source: National Weather Service

Precipitation

Temperature



[January-February-March \(JFM\) 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](#).