Two bomb cyclones, or rapidly developing low-pressure systems, slammed into both the West and Northeast this week. The West Coast storm brought high winds and heavy rain along the majority of the region and supported an atmospheric river bringing record rainfall into California, triggering flash flooding and landslides. Similarly, on the East Coast, a "nor'easter" produced high winds, heavy rains, and flash flooding. Both sides of the country experienced widespread wind damage, with the Northeast having over 600,000 power outages at its peak.

Related:

'Bomb cyclone' leaves more than 500K power outages in Massachusetts and Rhode Island - CNN
Nor'easter causes flooding across East Coast as bomb cyclone lashes the West – CBS
'Bomb cyclone' brings 90 mph gusts to New England; hundreds of thousands without power – Washington Post
Bomb cyclone to blast Northeast with heavy rain and howling winds
Intensifying nor'easter lashing Northeast with flooding rain and high winds – Washington Post
Landslides, flooding: Photos show aftermath of ‘bomb cyclone’ after it slams West Coast – USA Today
Bomb cyclone and atmospheric river lash Northern California - CBS
A historic storm brings heavy rain, flooding and mud flows to Northern California - NPR
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

See also:
- Alaska 7-day precipitation percent of average map
- 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

Generated 10/28/2021 at NWS Regional Climate Centers using provisional data.
Month-to-Date, All Available Data Including SNOTEL and NWS Networks
Source: PRISM

Total Precipitation Anomaly: 01 Oct 2021 - 27 Oct 2021
Period ending 7 AM EST 27 Oct 2021
Base period: 1981-2010
(Map created 25 Oct 2021)

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

July through September 2021 precipitation anomaly map

Total Precipitation Anomaly: Jul 2021 - Sep 2021
Period ending 7 AM EST 30 Sep 2021
Base period: 1981-2010
(Map created 02 Oct 2021)
Water Year-to-Date, NRCS SNOTEL Network

See also:

2022 water year-to-date precipitation percent of median map

Alaska 2022 water year-to-date precipitation percent of median map

Alaska 2022 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

Daily Mean Temperature Anomaly: 01 Oct 2021 - 27 Oct 2021
Period ending 7 AM EST 27 Oct 2021
Base period: 1981-2010
(Map created 28 Oct 2021)

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

Daily Mean Temperature Anomaly: Jul 2021 - Sep 2021
Period ending 7 AM EST 30 Sep 2021
Base period: 1981-2010
(Map created 06 Oct 2021)
**Drought**

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

**U.S. Drought Portal**  
Source: NOAA

---

**Map released: October 28, 2021**  
Data valid: October 26, 2021

---

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

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

View grayscale version of the map

The data cutoff for Drought Monitor maps is each Tuesday at 8 a.m. EDT. 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
- D0 (Abnormally Dry)
- D1 (Moderate Drought)
- D2 (Severe Drought)
- D3 (Extreme Drought)
- D4 (Exceptional Drought)
- No Data

~ - Delineates dominant impacts  
S - Short-term impacts, typically less than 6 months (agriculture, grasslands)  
L - Long-term impacts, typically greater than 6 months (hydrology, ecology)  
SL - Short- and long-term impacts
“A series of strong Pacific weather systems moved across the contiguous U.S. (CONUS) during this U.S. Drought Monitor (USDM) week. The first system early in the week spread precipitation across Wyoming to the Upper Mississippi Valley, then left scattered showers over the Northeast before moving off into the Atlantic. The second brought precipitation to northern California and the Pacific Northwest. Its surface low weakened as it crossed the Rockies, but it was re-energized over the Plains and generated precipitation across the central Plains, Great Lakes, and Northeast. The third system slammed into the West Coast near the end of the week. Fed by an atmospheric river of Pacific moisture, its surface low and front left heavy precipitation across California with widespread rain and some high elevation snow from California and the Pacific Northwest to the Great Basin. According to the National Weather Service Weather Prediction Center, as the third low pressure system approached the Pacific Northwest coast, it set a pressure record, testifying to the strength of the system. The October 24th pressure was 942.5 mb, which is a record low pressure for the Pacific Northwest. The end result of these weather systems was above-normal precipitation for the week across much of the West, including the Pacific Northwest, California, Nevada, and the central to northern Rocky Mountains; across eastern portions of the northern and central Plains, the southern Great Lakes, and western and southern portions of the Northeast; and a band of precipitation from southeast Kansas to eastern Kentucky. The precipitation improved short-term conditions, especially in the West, with soil moisture, streamflow, and 1-month to 6-month Standardized Precipitation Index (SPI) indicators sliding into the wet categories. Other drought indicators, such as vegetation-based VHI and VegDRI, were slower to respond. Groundwater, reservoir levels, and longer-term (9-month to 72-month) SPI indicators still indicated very dry long-term drought conditions in the West and northern Plains. The rest of the CONUS was drier than normal, with little to no precipitation falling across much of the Southwest, central and southern Plains, Lower Mississippi Valley to Southeast, northern reaches of the Upper Mississippi Valley, and northern Maine. Weekly temperatures were warmer than normal in the Pacific Northwest to northern and central Rockies, the southern Plains to Gulf of Mexico coast, and along the eastern seaboard. Temperatures averaged cooler than normal in California and the northern Plains to Upper Mississippi Valley. Drought contracted or was reduced in intensity in parts of the West and Midwest, but expanded or intensified in the southern Plains, central High Plains, and Southeast.”
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

2021 Secretarial Drought Designations - All Drought

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 October 23, 2021

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 Bodie Hills SCAN site in California. Recent precipitation that fell October 24-25 totaled 1.94 inches and increased the soil moisture at the -2, -4, and -8-inch sensors. There was little-to-no change in soil moisture at the deeper sensors. Total precipitation for the last 30 days was 2.30 inches.

Soil Moisture Data Portals

- USCRN Soil Moisture
- National Soil Moisture Network
- NOAA Climate Prediction Center Soil Moisture
- NASA Grace
Streamflow, Drought, Flood, and Runoff
Source: U.S. Geological Survey

Map of flood and high flow conditions
(23 in floods [moderate: 2, minor: 21], 61 in near-flood)

Thursday, October 28, 2021 10:30 EDT

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

SELECTED WATER SUPPLY RESERVOIRS

Trinity Lake: 27% | 47%
Lake Shasta: 22% | 41%
Lake Oroville: 27% | 53%
New Melones Lake: 34% | 64%
Folsom Lake: 31% | 71%
San Luis Reservoir: 11% | 24%
Millerton Lake: 58% | 134%
Lake Perris: 83% | 117%
Casitas Lake: 29% | 37%
Pine Flat Reservoir: 20% | 72%

LEGEND
- Red Line: Historic level for date
- Orange Line: Total Reservoir Capacity
- Blue Bar: Storage Level for date
- Blue Bar: Historical Avg Max
- % of Capacity | % of Historical Average

Updated: 10/28/2021 07:48 AM
Agricultural Weather Highlights
Author: Brad Rippey, Agricultural Meteorologist, USDA/OCE/WAOB

National Outlook, Thursday, October 28, 2021: “For the remainder of today, the departure of an East Coast storm will result in improving conditions, including lighter winds and smaller waves, along the northern Atlantic Coast. Meanwhile, a low-pressure system currently centered over the Ozark Plateau will drift eastward, reaching the central Appalachians late Friday before turning northward and weakening. Storm-total rainfall could reach 1 to 2 inches or more across a broad area stretching from the middle Mississippi Valley into the middle and northern Atlantic States. Similar amounts may occur in parts of the southern Atlantic States, due to scattered thunderstorms. In contrast, mostly dry weather will prevail during the next 5 days from southern California to the Great Plains. Elsewhere, Northwestern precipitation will diminish during the weekend, followed by a surge of colder air. By early next week, widespread readings below 20°F should occur across the northern Plains. The NWS 6 - to 10-day outlook for November 2 – 6 calls for the likelihood of near- or below-normal temperatures and near- or above-normal precipitation across most the country. Warmer-than-normal weather will be largely limited to California and eastern Maine, while drier-than-normal conditions should be confined to the upper Midwest and parts of the Southwest.”

Weather Hazards Outlook: October 30 – November 03, 2021
Source: NOAA Weather Prediction Center
Seasonal Drought Outlook: **October 21, 2021 – January 31, 2022**
Source: National Weather Service

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

Valid for October 21, 2021 - January 31, 2022
Released October 21, 2021

Climate Prediction Center 3-Month Outlook
Source: National Weather Service

**November-December-January 2021-2022 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.