Water and Climate Update
January 23, 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.

2019 national climate records reported

NOAA’s annual Climate Report of the weather in 2019 was released this week. Globally, it was the second warmest year on record based on temperatures taken at 20,000 land-based stations and ocean sensors. In the contiguous U.S., the 2019 average temperature was 52.7°F, in the top one-third of the record, but the coolest since 2014. Below average temperatures were observed across the northern Great Plains, whereas above normal temperatures were recorded in the Southeast and Mid-Atlantic states. The average precipitation across the country totaled 34.78 inches, which is 4.84 inches above normal, making it the second wettest year on record. Record precipitation was recorded in the northern Great Plains, parts of the central Great Plains, and the Great Lakes.

Related:
- NASA, NOAA Analyses Reveal 2019 Second Warmest Year on Record - NASA
- Another Scorcher: 2019 Was the Second-Hottest Year on Record - EOS
- Extreme weather and climate disasters cost the U.S. billions in 2019, NOAA reports – CBS News
- 2019 Was The 2nd-Hottest Year On Record, According To NASA And NOAA - NPR
- 2019 was the second-warmest year on record, NASA and NOAA say – Los Angeles Times on MSN
- 2019 Was Second-Wettest Year on Record in the U.S., Warmest Year in Alaska, NOAA Says – The Weather Channel

The Natural Resources Conservation Service provides leadership in a partnership effort to help people conserve, maintain, and improve our natural resources and environment.
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

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 (%)
1/15/2020 - 1/21/2020

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 (%)
1/15/2020 - 1/21/2020

Generated 1/22/2020 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

October through December 2019 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

Last 3 Months, All Available Data Including SNOTEL and NWS Networks
Source: PRISM
Pacific weather systems migrated across the contiguous U.S. (CONUS) in a fairly westerly jet stream flow during this U.S. Drought Monitor (USDM) week. East of the Rockies, they tapped Gulf of Mexico moisture and dropped above-normal precipitation in a storm track that stretched from Texas to the Great Lakes. The jet stream flow amplified as the week progressed, producing a strong trough over the eastern CONUS with a ridge migrating across the West into the central CONUS. Cold arctic air was directed by the trough into the East behind surface frontal low pressure systems. The Pacific fronts dropped precipitation along the coastal ranges, but the air masses quickly dried out as they crossed the interior West, resulting in below-normal precipitation from the High Plains west to the coastal ranges. The Gulf of Mexico and Atlantic coasts were mostly drier than normal. Weekly temperatures were warmer than normal from Texas to the Mid-Atlantic, and colder than normal along the West Coast and northern to central Plains. Drought and abnormal dryness expanded across parts of the West, southern Plains and Gulf Coast, and Mid-Atlantic coast, but contracted in parts of the northern Rockies and southern to central Plains, as well as Hawaii and the Alaska panhandle.
Changes in Drought Monitor Categories over Time
Source: National Drought Mitigation Center

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 January 18, 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 Silver City SCAN site in Mississippi. Several precipitation events throughout the month resulted in increased soil moisture at the -2", -4", -8", and -20" 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
Streamflow, Drought, Flood, and Runoff

Source: U.S. Geological Survey

Map of flood and high flow conditions
(70 in floods [moderate: 9, minor: 61], 40 in near-flood)

Explanation - Percentile classes

<table>
<thead>
<tr>
<th>Percentile</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;95</td>
<td>Streamgage with flood stage</td>
</tr>
<tr>
<td>95-98</td>
<td>Streamgage without flood stage</td>
</tr>
<tr>
<td>&gt;=99</td>
<td>Above action stage</td>
</tr>
<tr>
<td></td>
<td>Above flood stage</td>
</tr>
<tr>
<td></td>
<td>Above moderate flood stage</td>
</tr>
<tr>
<td></td>
<td>Above major flood stage</td>
</tr>
</tbody>
</table>

WaterWatch: Streamflow, drought, flood, and runoff conditions
Reservoir Storage

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

Reservoir Storage as of January 1, 2020

<table>
<thead>
<tr>
<th>Capacity of Reservoirs Reported (1000 Acre-Feet)</th>
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<tbody>
<tr>
<td>3,218</td>
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</tbody>
</table>

State and Number of Reservoirs Reported

January 1, 2020 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
Short- and Long-Range Outlooks

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

National Outlook, Thursday, January 23, 2020: “A storm system will linger across the Midwest through Saturday before reaching New England on Sunday. A mix of rain and wintry precipitation will accompany the slow-moving storm. Meanwhile, rain will end on Friday across the South, where 1- to 2-inch totals may occur in the southern Appalachians. In contrast, mostly dry weather will prevail during the next 5 days from southern California to the southern High Plains. Stormy weather will prevail, however, across the northern half of the western U.S., with late-week precipitation becoming heavy in northern California and the Pacific Northwest. In western Washington, local flooding could develop later today into Friday. The NWS 6- to 10-day outlook for January 28 – February 1 calls for warmer-than-normal weather nationwide, except for near- or below-normal temperatures in parts of the Southwest. Meanwhile, wetter-than-normal conditions will dominate most areas of the country, including the Plains, Ohio Valley, Southeast, and Northwest, while near- or below-normal precipitation will be limited to a small area from central and southern California into parts of the Southwest, as well the nation’s northern tier from Lake Superior to Maine.”

Weather Hazards Outlook: January 25 - 29, 2020
Source: NOAA Climate Prediction Center
Seasonal Drought Outlook: **January 16 – April 30, 2020**
Source: National Weather Service

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

February-March-April (FMA) 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.