

Assessing the U.S. Climate in 2019

Warmest year on record for Alaska, second wettest for contiguous U.S.



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For 2019, the [average contiguous U.S. temperature](#) was 52.7°F, 0.7°F above the 20th century average. This ranked in the warmest third of the 125-year period of record and was the coolest year since 2014. Below-average temperatures, particularly daytime temperatures, were observed across the northern Plains, while above-average to record-warm overnight temperatures dominated across the Southeast and Mid-Atlantic.

The average contiguous U.S. temperature was 52.7°F, 0.7°F above the 20th century average.

The annual [precipitation total](#) for the contiguous U.S. was 34.78 inches, 4.84 inches above average, the second wettest year on record and 0.18 inch less than the total for the wettest year set in 1973*. Record precipitation fell across the northern Plains, Great Lakes and portions of the central Plains. [Ten](#) of the last twelve 12-month periods were record wet with the top [seven](#) all-time wettest 12-month periods occurring during 2019.

This [annual summary](#) from [NOAA National Centers for Environmental Information](#) is part of the suite of climate services NOAA provides to government, business, academia and the public to support informed decision-making.

Annual Temperature

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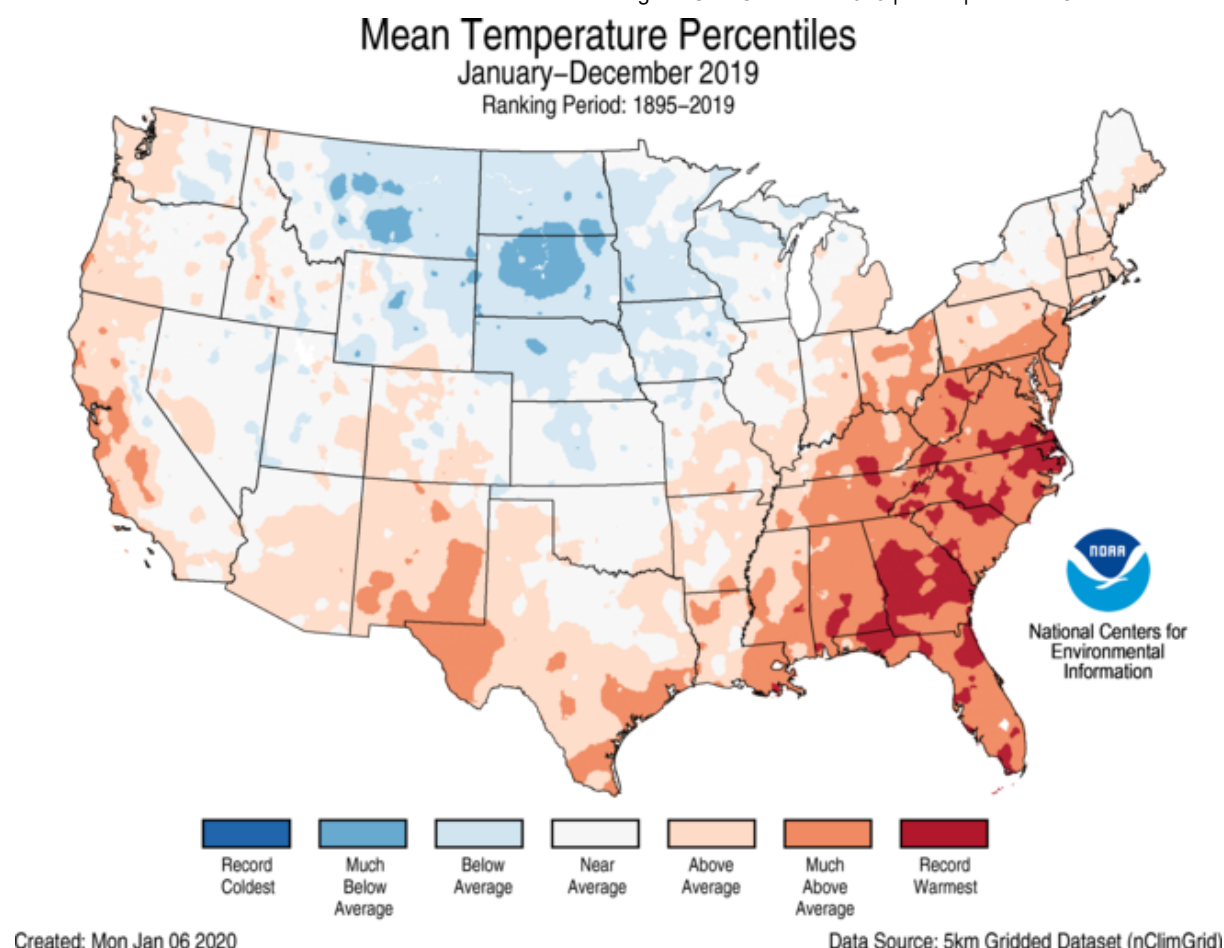
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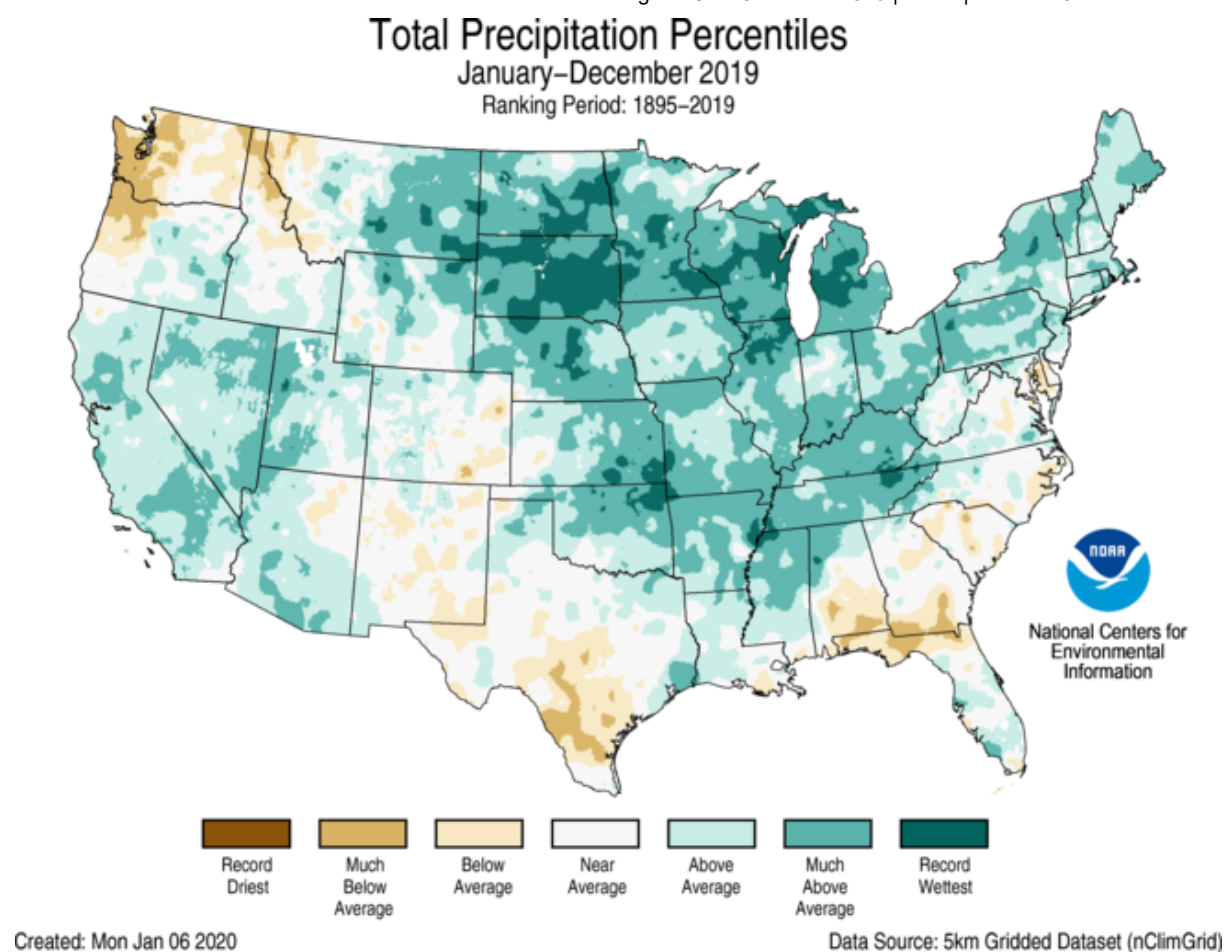
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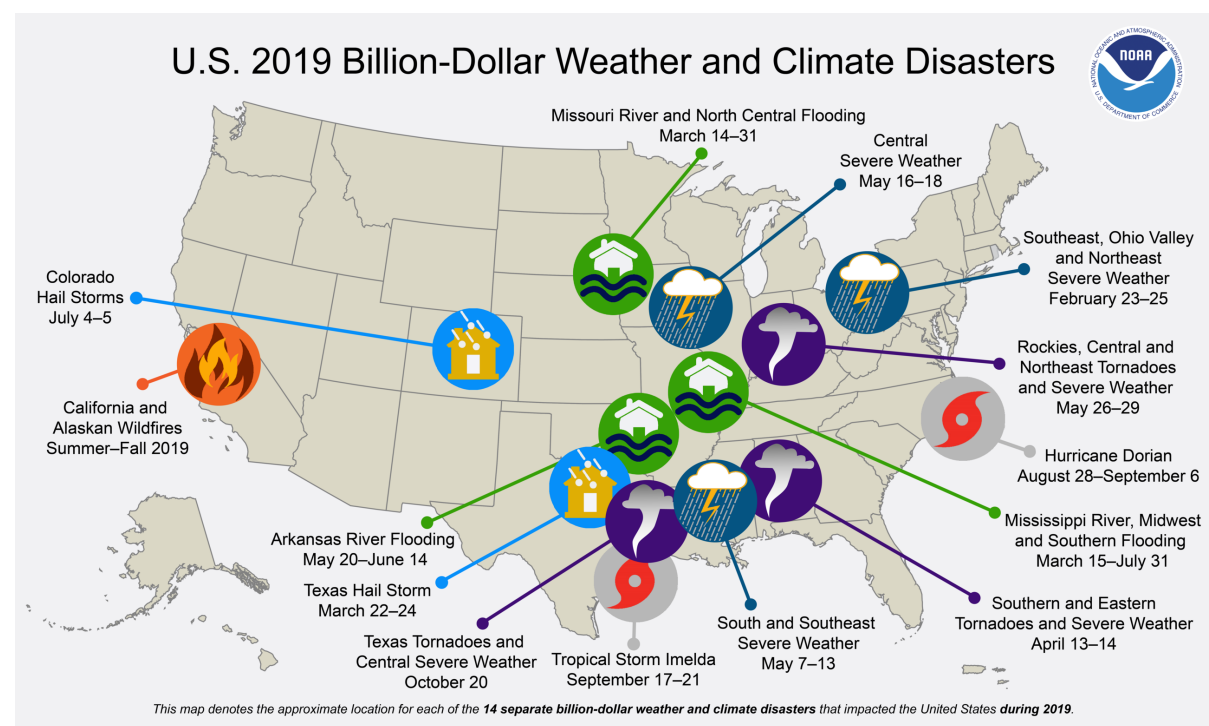
- Parts of the West, South, and much of the Southeast, Ohio Valley, Mid-Atlantic, and Northeast experienced above- to much-above-average temperatures during 2019. [Georgia](#) and [North Carolina](#) ranked record warmest while [Florida](#), [South Carolina](#) and [Virginia](#) each had their second warmest year on record. Below-average temperatures were observed across the northern Plains with [South Dakota](#) ranking 12th coldest for the January–December period.
- Despite a more seasonable December across much of the state, [Alaska](#) had its warmest year on record with a statewide average temperature of 32.2°F, 6.2°F above the long-term average. This surpassed the previous record of 31.9°F in 2016. Four of the last six years across Alaska have been record warm for the state. Utqiagvik, Kotzebue, King Salmon, Fairbanks, Bethel, Anchorage, Northway, McGrath, Kodiak and Cold Bay each experienced their warmest year on record. Record to near-record warmth occurred across northern and central parts of the state with the most mild, yet above-average, temperatures confined to the western Aleutians and eastern Panhandle. Bettles had its second highest annual snowfall with 140 inches for the year. In July, Anchorage reported its first 90°F temperature on record.
- Influenced by warm ocean temperatures, many locations across Hawaii experienced a near-record- to record-warm year in 2019. Kahului and Lihue were record warm, while Honolulu tied with 1995 for warmest year on record.

Annual Precipitation



- Above-average annual precipitation was observed across much of the nation. [North Dakota](#), [South Dakota](#), [Minnesota](#), [Wisconsin](#) and [Michigan](#) each had their wettest year on record during 2019, with much of the central U.S., Northeast and parts of the West experiencing above- to much-above-average precipitation. Below-average precipitation fell across the state of [Washington](#), which had its ninth driest year on record. It was also dry to much drier than average across parts of southern Texas and the Gulf of Mexico coast.
- According to the December 31 [U.S. Drought Monitor \(USDM\) report](#), released on January 2, approximately 11 percent of the contiguous U.S. was in drought. In April, the drought footprint across the contiguous U.S. was the lowest in the 20-year USDM history at 2.3 percent coverage. By the end of 2019, drought was entrenched across the Southwest, Texas, the Pacific Northwest and across portions of the Alaskan Panhandle, Hawaii and Puerto Rico. During March, California was drought-free for the first time since December 2011.

Other Notable Extremes



- In 2019, there were 14 weather and climate disaster events with losses exceeding \$1 billion each across the United States: three inland flooding events, eight severe storm events, two tropical cyclone events (Dorian and Imelda) and one wildfire event. 2019 experienced an above-average year of

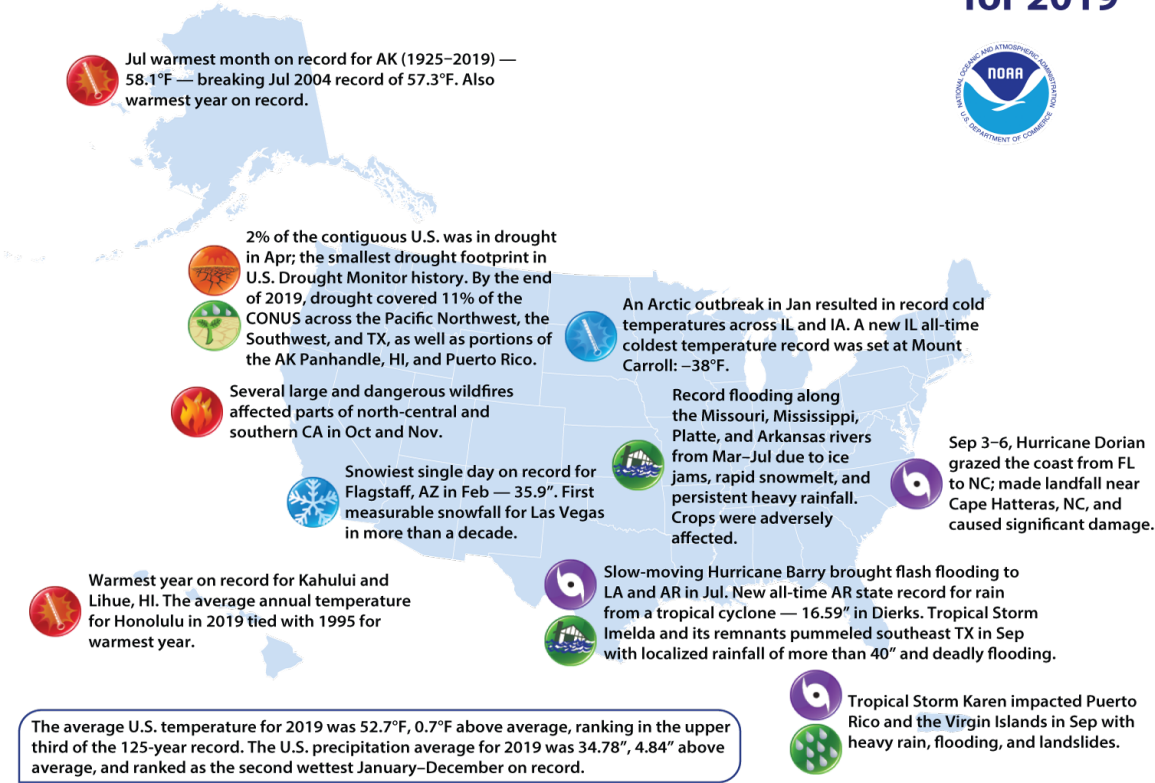
costs (\$45.0 billion) as the 40-year (1980–2019) annual cost average is \$43.9 billion (inflation-adjusted). The combined cost of the Missouri, Arkansas and Mississippi river flooding (\$20.0 billion) was almost half of the U.S. cost total in 2019. There was a trend of an increasing number of billion-dollar inland flooding events during the 2010s.

- The total cost of U.S. billion-dollar disasters over the last five years (2015–2019) exceeds \$525 billion, with a five-year annual cost average of \$106.3 billion (CPI-adjusted), both of which are records.
- The U.S. billion-dollar disaster damage costs over the last decade (2010–2019) were also historically large — exceeding \$800 billion from 119 separate billion-dollar events.
- Even after adjusting for inflation, the U.S. experienced more than twice the number of billion-dollar disasters during the 2010s (119) when compared to the 2000s (59).
- During mid-March, a “bomb cyclone” developed in the central U.S. bringing snow, blizzard conditions, heavy rainfall and above-freezing temperatures across parts of the interior U.S., which already had significant snowpack on the ground from the winter of 2018–2019. This resulted in widespread flash flooding due to the combination of new rainfall, rapidly melting snow and frozen ground. A state of emergency was declared for parts of Nebraska, Iowa, South Dakota and Wisconsin as the Missouri, Platte and Mississippi rivers breached their banks. Flooding continued well into July along the Missouri, Mississippi, Platte and Arkansas rivers due to ongoing heavy rainfall. Many crops were adversely impacted by these wet conditions during 2019.
- Several large-scale flooding events impacted the nation during 2019 including the rainfall associated with Tropical Storm Imelda in September across southeast Texas and southwestern Louisiana. More than 40 inches of rain fell in Jefferson County, Texas, over a five-day period. Slow-moving Hurricane Barry brought flash flooding to Louisiana and Arkansas in July. Dierks, Arkansas, reported 16.59 inches of rainfall, which is a new record for rain from a tropical cyclone across the state.
- Hurricane Dorian made landfall at Hatteras, North Carolina, on September 6 as a Category 1 hurricane with maximum sustained winds estimated near 90 mph. The storm grazed the East Coast from central Florida to the Outer Banks and continued on a path that eventually made landfall in Nova Scotia with 100 mph sustained winds. Earlier in the month, Dorian slammed the Bahamas with Category 5 winds. Dorian’s 185-mph landfalling wind speed in the Bahamas ties with the Labor Day Hurricane of 1935 as the strongest landfalling Atlantic hurricane on record.
- Several large and dangerous wildfires impacted parts of north-central and southern California during October and November. The Kincade Fire, located in Sonoma County, California, burned through nearly 78,000 acres and destroyed approximately 350 structures. The Tick, Saddle Ridge and Getty fires in southern California consumed more than 14,000 acres as well as 60 structures. The Easy Fire, also located in southern California, consumed more than 1,800 acres by the beginning of November. These large and dangerous fires were fanned by powerful winds, with some gusts topping 100 mph in the Sierra Nevada range. Across southern California, unusually strong Santa Ana winds made it difficult for fire crews to keep these fires from spreading. For 2019, [wildfire activity](#) across the U.S. was below average with 4.6 million acres consumed — the sixth lowest area

consumed and the second fewest number of fires in the last 20 years. Wildfires across Alaska consumed 2.68 million acres in 2019, ranking sixth highest in the past 50 years.

- The 2019 Hurricane Season was above normal, particularly in terms of the number of named storms (18 with winds \geq 39 mph) and accumulated cyclone energy (ACE) about 25 percent above the 1981–2010 mean. Many of the storms were weak, short-lived, and higher-latitude than normal: Only eight of the 18 storms lasted more than 72 hours, and seven of them lasted 24 hours or less. Meanwhile, the two Category 5 storms (Dorian and Lorenzo) were each exceptionally long-lived. These two storms accounted for more than 60 percent of 2019's ACE, or about 75 percent of the ACE observed in an average season. Dorian's winds were among the strongest of any Atlantic hurricane in history before it made landfall in the Bahamas as a Category 5 storm and stalled for more than 24 hours. Lorenzo, on the other hand, was noteworthy for being the farthest east Category 5 storm in history.
- The Northern Tier of the U.S. received above-average snowfall during the 2018–2019 snow season. In Caribou, Maine, it was the snowiest January on record (59.8 inches). Caribou also broke another record for the most consecutive days with at least one inch of snow on the ground (163 days from November 10, 2018–April 21, 2019). Record snowfall and cold temperatures occurred from Washington state to Wisconsin in February with Eau Claire, Wisconsin, reporting its all-time snowiest month (53.7 inches).
- 2019 was a top-five year across the contiguous U.S. with over 1,500 tornadoes reported. The most active day in 2019 for tornadoes was May 27 with over 77 confirmed tornadoes from Colorado to Ohio. There were 70 confirmed tornadoes during a March 3 outbreak across Alabama, Georgia and South Carolina. March 3 was also the deadliest day in 2019 for tornadoes with 23 fatalities in Alabama from one EF-4 tornado. There were no EF-5 tornadoes reported during 2019.
- The U.S. Climate Extremes Index (USCEI) for 2019 was 14 percent above average and ranked in the upper third of the 110-year record. Warm extremes across the Southeast, cold extremes in the central U.S. and wet conditions throughout the year from the central U.S. to the East Coast contributed to this elevated USCEI value. The USCEI is an index that tracks extremes (falling in the upper or lower 10 percent of the record) in temperature, precipitation, drought and landfalling tropical cyclones across the contiguous U.S.

U.S. Selected Significant Climate Anomalies and Events for 2019



Please Note: Material provided in this map was compiled from NOAA's State of the Climate Reports. For more information please visit: <http://www.ncdc.noaa.gov/sotc>

**Temperature and precipitation values and ranks are based on preliminary data. Additional data received and processed after the release of this summary may result in small differences for annual values and ranks.*

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