State of the Climate
National Overview
November 2012
National Oceanic and Atmospheric Administration
National Climatic Data Center

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Temperature and Precipitation Ranks

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U.S. Percentage Areas

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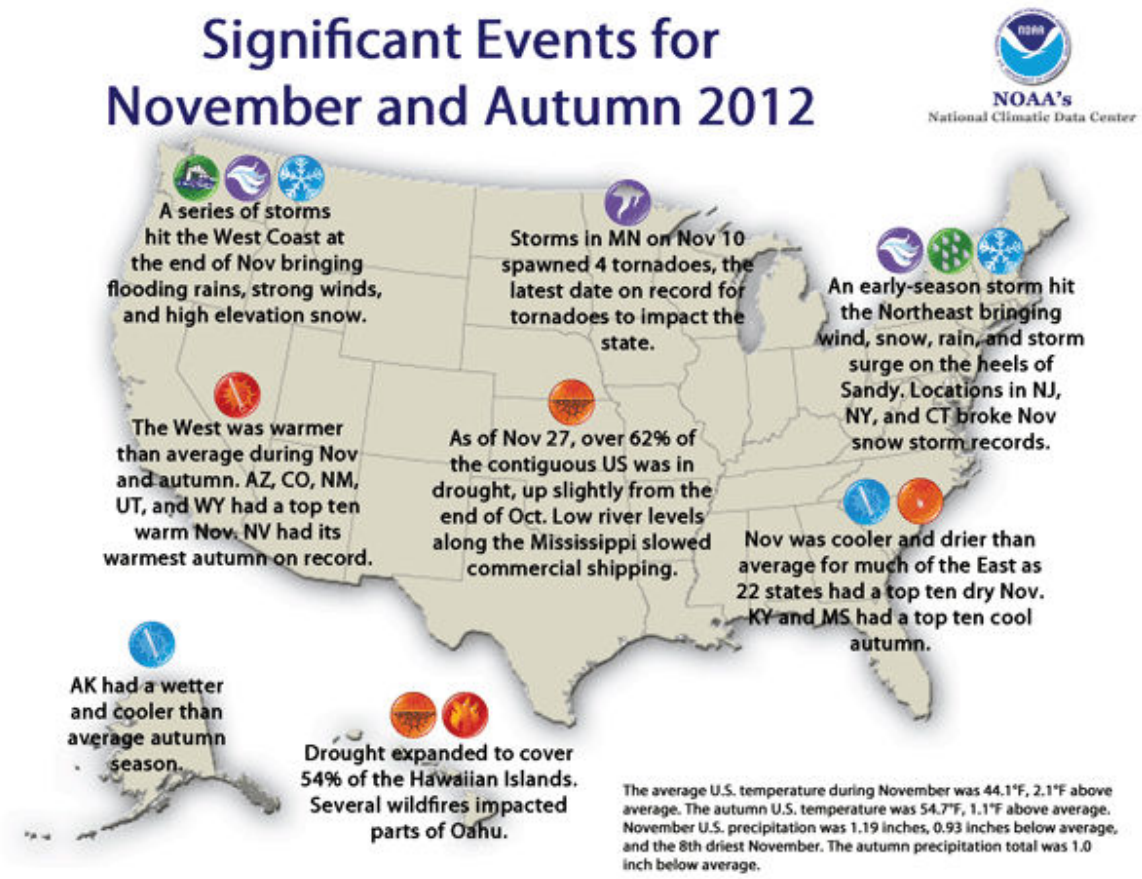
National Overview:



Supplemental November and January-November Information

- Year-to-date temperature evolution for select U.S. cities
- State-by-State: Autumn and year-to-date temperatures
- November divisional temperature and precipitation departure maps
- Year-to-date temperature evolution for contiguous U.S.
- Warmest 12-month periods for contiguous U.S.
- November daily temperature extremes

Climate Highlights — November

- The average temperature for the contiguous U.S. during November was 44.1°F, 2.1°F above the 20th century average, tying 2004 as the 20th warmest November on record.
- November brought warmer-than-average conditions to the western half of the country. The largest temperature departures from average were centered near the Rockies where Arizona, Colorado, New Mexico, Utah, and Wyoming had November temperatures among their ten warmest.
- The Eastern Seaboard, Ohio Valley, and Southeast were cooler than average during November. North Carolina tied its 10th coolest November on record, with a statewide-averaged temperature 3.5°F below average.
- The November nationally-averaged precipitation total of 1.19 inches was 0.93 inch below the long-term average and the 8th driest November on record. A large area of

the country experienced below-average precipitation in November. Drier-than-average conditions stretched from the Intermountain West, through the Plains, into the Midwest, and along the entire East Coast. Twenty-two states had monthly precipitation totals ranking among their ten driest.

- According to the November 27th, 2012 U.S. Drought Monitor report, 62.7 percent of the contiguous U.S. was experiencing moderate-to-exceptional drought, larger than the 60.2 percent at the end of October. Drought conditions improved for parts of the Northern Rockies, which were wetter than average during November, while they worsened for parts of the Southwest, Southeast, and Mid-Atlantic.

Climate Highlights — Autumn (September-November)

- The contiguous U.S. temperature of 54.7°F was the 21st warmest autumn, 1.1°F above average.

- Autumn temperatures were above average across much of the western United States. Nevada had its warmest autumn on record, with a seasonal temperature 3.7°F above average. Arizona, California, Idaho, New Mexico, Utah, and Wyoming each had a top ten warm autumn.

- The Ohio Valley and Southeast experienced below-average autumn temperatures. Kentucky autumn temperatures were the sixth coolest while Mississippi had its 10th coolest autumn.

- The autumn precipitation total for the contiguous U.S. was 5.71 inches, 1.0 inch below average.

- Autumn precipitation totals were drier than average for the central U.S. and parts of the Southeast. Minnesota, Nebraska, and South Dakota each had a top ten dry autumn. Wetter-than-average conditions were present for the Pacific Northwest, the Ohio Valley, and parts of the Northeast.

- The U.S. Climate Extremes Index (USCEI), an index that tracks the highest and lowest 10 percent of extremes in temperature, precipitation, drought and tropical cyclones across the contiguous U.S., was above average during the September-November period. Extremes in warm daytime temperatures, warm nighttime temperatures, and the spatial extent of drought conditions contributed to the elevated USCEI value.

Climate Highlights — Year-to-Date (January-November)

- The January-November period was the warmest first 11 months of any year on record for the contiguous United States. The national temperature of 57.1°F was 3.3°F above the 20th century average, and 1.0°F above the previous record warm January-November of 1934. During the 11-month period, 18 states were record warm and an additional 24 states were top ten warm.

- It appears virtually certain that 2012 will surpass the current record (1998, 54.3°F) as the warmest year for the nation. December 2012 temperatures would need to be more than 1.0°F colder than the coldest December (1983) for 2012 to not break the record.

- January-November 2012 was the 12th driest such period on record for the contiguous U.S., with a precipitation total 3.08 inches below the long-term average of 26.91 inches.

- Drier-than-average conditions stretched across the central part of the country, from the Rocky Mountains to the East Coast. Colorado, Nebraska, and Wyoming each had their driest year-to-date on record and eight additional states had 11-month precipitation totals among their ten driest.

- Wetter-than-average conditions were present for the Pacific Northwest, the central Gulf Coast, and New England. Washington State experienced its ninth wettest year-to-date.

- The USCEI was more than twice the average value during January-November, and marked the highest USCEI value for the period. Extremes in warm daytime temperatures, warm nighttime temperatures, and the spatial extent of drought conditions contributed to the record high USCEI value.

Climate Highlights — 12-month period (December 2011-November 2012)

- The December 2011-November 2012 period was the warmest such 12-month period on record for the contiguous U.S., with an average temperature of 55.2°F, 3.2°F above average. This 12-month temperature average was the sixth warmest of any 12-month period on record for the contiguous United States. The eight warmest 12-month periods have all ended during 2012.

Alaska Temperature and Precipitation:

- Alaska had its 26th coolest November since records began in 1918, with a temperature 3.1°F (1.7°C) below the 1971–2000 average.
- Alaska had its 29th coolest September-November since records began in 1918, with a temperature 1.1°F (0.6°C) below the 1971–2000 average.
- Alaska had its 13th coolest January-November since records began in 1918, with a temperature 2.0°F (1.1°C) below the 1971–2000 average.
- Alaska had its 28th driest November since records began in 1918, with an anomaly that was 19.8 percent below the 1971–2000 average.
- Alaska had its 25th wettest September-November since records began in 1918, with an anomaly that was 11.6 percent above the 1971–2000 average.
- Alaska had its 24th wettest January-November since records began in 1918, with an anomaly that was 13.1 percent above the 1971–2000 average.

For additional details about recent temperatures and precipitation across the U.S., see the Regional Highlights section below and visit the Climate Summary page. For information on local temperature and precipitation records during the month, please visit NCDC's Records page. For details and graphics on weather *events* across the U.S. and the globe please visit NCDC's Global Hazards page.

Regional Highlights:

These regional summaries were provided by the six Regional Climate Centers and reflect conditions in their respective regions. These six regions differ spatially from the nine climatic regions of the National Climatic Data Center.

Northeast | Midwest | Southeast | High Plains | Southern | Western

Northeast Region: *(Information provided by the Northeast Regional Climate Center)*

- Despite a mid-month warm up, the Northeast was cooler than normal for November 2012. With an average temperature of 37.2 degrees F (2.9 degrees C), it was 2.5 degrees F (1.4 degrees C) cooler than normal and the coolest November since 1997. All states reported below average temperatures for the first time since October 2009. West Virginia and Maine were the coolest at 4.1 degrees F (2.3 degrees C) below average. It was West Virginia's 16th and Maine's 18th coolest November in 118 years. Departures for the rest of the states ranged from 4.0 degrees F (2.2 degress C) below normal in New Jersey to 0.9 degrees F (0.5 degrees C) below normal in Vermont. Autumn's average temperature of 50.0 F (10.0 degrees C) was average for November in the Northeast. Five states reported cooler than average temperatures while the other seven were slightly warmer than average. West Virginia was the coolest at 1.6 degrees F (0.9 degrees C) below average making it their 19th coolest autumn on record. Of the warm states, Vermont was the warmest at 1.1 degrees F (0.6 degrees C) above average.

- Even though it was a wet start to the month for several states, November 2012 went into the record books as the 2nd driest since 1895. With an average of 1.04 inches (26.42 mm), the region received only 27 percent of normal precipitation. The record driest November was 1917 when the Northeast received only 0.88 inches (22.35 mm) of precipitation. All states were drier than average. Departures ranged from 16 percent of normal in Connecticut, their 2nd driest November, to 37 percent of normal in New Jersey, their 11th driest. Of the remaining states, New Hampshire, Vermont and West Virginia had their 2nd driest November; Delaware, Maine, Maryland and New York had their 3rd driest; and in Pennsylvania, Rhode Island, and Massachusetts November ranked in the top 10 driest. The Northeast was slightly drier than average for autumn with 11.36 inches (288.54 mm) of precipitation (98 percent of normal). The region was split down the middle with half of the states drier and half the states wetter than normal. Connecticut took the title of driest state with only 78 percent of normal while Delaware led the wet states with 120 percent of normal. The latest US Drought Monitor, issued November 27, indicated abnormal dryness continued in upstate New York while a new area of abnormal dryness popped up near the Vermont-New Hampshire border and in central/southern West Virginia.

- At the start of November, the Northeast was still dealing with the aftermath of Sandy. Damage to fuel terminals and power outages caused twelve northern counties of New Jersey, New York City, and Long Island to institute gas rationing. It was the first time since the energy crisis of the 1970s that New York City had implemented this system. The rationing lasted just over two weeks in New York City and 10 days in New Jersey. As per the Associated Press, the estimated cost of recovering and rebuilding from Sandy increased to $42 billion in New York and to $37 billion in New Jersey. A Nor'easter dropped snow on areas still trying to clean up from Sandy on the 7th and 8th. Some inland areas received over a foot of snow and more than twenty snowfall records were set, in some cases for the first time, at sites from Maryland up to Maine.

For instance, JFK Airport, NY, reported 4.0 inches (101.6 mm) of snow on the 7th and 0.3 inches (7.6 mm) on the 8th. Snowfall had never been recorded on those dates. High winds, with gusts above 60 mph (26.8 m/s), downed already vulnerable trees and power lines. Around 115,000 new power outages (according to NBC News) were reported in places where many people had just gotten power back. According to the Department of Energy website, “All customers who are able to receive electricity and who lost power due to Sandy and the Nor’easter have had their electricity restored. As of December 3, in New Jersey there are less than 19,000 customers and in New York there are less than 17,000 customers who are unable to accept electric service.” A couple days later, a mid-month warm-up, with temperatures topping out from 65 degrees F (18.3 degrees C) to 75 degrees F (23.9 degrees C), broke high temperature records in several cities in the Northeast. Just after Thanksgiving, the lake-effect season kicked off in parts of New York. On the 25th, a band of snow off Lake Erie dropped up to 7.0 inches (177.8 mm) around Buffalo. The snow continued into the 26th off of Lake Ontario dropping up to 15.0 inches (381.0 mm) in parts of New York’s North Country. Holiday traffic was disrupted when the southbound side of Interstate 81 was closed and the northbound side was backed up for several hours in Oswego County on the 25th due to weather-related accidents.

For more information, please go to the Northeast Regional Climate Center Home Page.

Midwest Region: *(Information provided by the Midwest Regional Climate Center)*

- November temperatures in the Midwest were moderate with departures ranging from 2 degrees F (1 C) along the Iowa-Minnesota border to as much as 5 degrees F (3 C) below normal in parts of eastern Kentucky. Two warm spells during the month, the first coming on the 10th to the 12th and the second on the 22nd and 23rd, were responsible for most of the 600 plus daily temperature records. Just dozens of record lows were recorded. Fall, September to November, temperatures ranged from near normal to below normal across the region. Kentucky ranked as the 6th coolest fall dating back to 1895 with temperatures 2.2 degrees F (1.2 C) below normal. The cooler November and fall temperatures have cooled the year-to-date temperatures slightly but all nine states remain among the five warmest January to November periods dating back 118 years.

- November precipitation was below normal across the Midwest. Only small pockets of northern Minnesota and Upper Michigan reached normal for the month while all nine states had areas with less than 25 percent of normal. Most of the southeastern half of the region received less than half of their normal precipitation in November. Statewide totals in Ohio (4th), Indiana (4th), Kentucky (5th), and Michigan (7th) all ranked among the 10 driest Novembers since 1895. Fall precipitation totals ranged widely from southern Illinois and northern Ohio with over 150 percent of normal to most of Minnesota with less than 50 percent of normal for the three-month period. Year-to-date statewide precipitation totals ranged from 70 percent to 95 percent of normal. Iowa (8th) and Missouri (9th) ranked among the top 10 driest January to November periods since 1895.

- Drought remained a serious issue in the western half of the Midwest. Moderate drought extended across most of the western half of the region with areas of extreme drought in Minnesota and Iowa at the end of the month. A little over half (55 percent) of the Midwest was in drought and 9 percent was in extreme drought as November

came to a close. The drought has contributed to low water issues from the Great Lakes to the Missouri and Mississippi rivers to lakes and farm ponds. Navigation on the Mississippi River is a growing concern as levels continued to drop through November. In Iowa near Des Moines, Saylorville Reservoir fell to within inches (cm) of its record low stage. Recharge of soil moisture also is a concern with the low precipitation totals.

- Severe weather hit the Midwest on only one day in the month. Among the severe weather that occurred that day were rare November tornadoes that touched down in Minnesota. Three weak tornadoes damaged trees, power lines, and some roofs in the greater Minneapolis-St. Paul area. It was just the 4th time on record that Minnesota had tornadic weather in November. The most recent occurrence was in 2000 and the latest in the season was on November 16, 1931 (The official NOAA tornado dataset only dates back to January 1950). In addition to the tornadoes in Minnesota, many locations in the state reported strong thunderstorm winds. Large hail was also recorded in Illinois that day.

For details on the weather and climate events of the Midwest, see the weekly summaries in the Midwest Climate Watch page.

Southeast Region: *(Information provided by the Southeast Regional Climate Center)*

- Mean temperatures in November were below normal across most of the Southeast region, except across Puerto Rico and the U.S. Virgin Islands, where monthly temperatures were between 1 and 3 degrees F (0.5 and 1.6 degrees C) above normal. The greatest departures were found across coastal sections of the Carolinas and Virginia, where monthly temperatures were between 5 and 6 degrees F (2.8 and 3.3 degrees C) below normal. Wilmington, NC (period of record 1870-2012) and Charleston, SC (period of record 1938-2012) recorded their fourth and fifth coldest Novembers on record, respectively. Most other locations across the region were between 3 and 4 degrees F (1.6 and 2.2 degrees C) below normal, except across northern section of Florida, Alabama and South Carolina, and western sections of North Carolina, where monthly temperatures were between 1 and 2 degrees F (0.5 and 1.1 degrees C) below normal. The warmest weather occurred during the first half of the month, with temperatures exceeding 80 degrees F (26.7 degrees C) across parts of Alabama, Georgia, and South Carolina from the 3rd to the 5th of the month. Temperatures reached 70 degrees F (21.1 degrees C) as far north as northern Virginia from the 11th to the 13th of the month. A cold spell occurred in between these periods over a large portion of region, with subfreezing temperatures recorded as far south as southern Alabama from the 6th to the 8th of the month. Over 200 daily low maximum temperature records were tied or broken across the region during this three-day period. The coldest weather of the month occurred over Thanksgiving weekend, with subfreezing temperatures recorded as far south as central Florida on the 25th of the month.

- November was an exceptionally dry month across the Southeast, as over 100 locations recorded one of their top five driest Novembers on record. Many of these locations recorded less than 2 inches (50.8 mm) of precipitation for the month, or less than 50 percent of normal. The driest locations were found across Florida, where monthly totals were less than 10 percent of normal in many places. Two locations in Florida Moore Haven Lock and Inverness did not record any measurable rainfall for

the month. Gainesville, FL (period of record 1890-2012) recorded its second driest November with only 0.05 inches (1.27 mm), while Tallahassee, FL recorded its fourth driest November with 0.34 inches (8.64). Precipitation was between 10 and 25 percent of normal across southern Alabama, North Carolina, and eastern Virginia. Greensboro, NC (period of record 1892-2012) recorded its driest November on record with 0.24 inches (6.10 mm), breaking the previous record of 0.27 inches (6.86 mm) set in 1922, while Richmond, VA (period of record 1887-2012) recorded its fourth driest November with 0.27 inches (6.86 mm). Monthly precipitation was also below normal across most of Puerto Rico and the U.S. Virgin Islands. In contrast, some locations across coastal sections of South Carolina and southeast North Carolina recorded near normal precipitation for the month. Between 2 and 5 inches (50.8 and 127 mm) of snowfall was recorded across the higher elevations of western North Carolina during the cold spell from the 6th to the 8th of the month.

- There were only 11 reports of severe weather across the Southeast in November, all coming on the 4th of the month across central and eastern sections of South Carolina. Strong winds brought down several trees in parts of Colleton and Hampton Counties, while quarter size hail up to two inches deep was recorded at Murrells Inlet in Georgetown County. No tornadoes were reported.

- The lack of rainfall in November resulted in an expansion of drought conditions across the Southeast. By the end of the month, nearly 70 percent of the region was classified as abnormally dry or in drought according to the U.S. Drought Monitor, up from 40 percent at the end of October. The biggest changes were an expansion of moderate drought (D1) into central North Carolina and Virginia and the re-emergence of abnormally dry (D0) and moderate drought conditions across the Florida Panhandle. Areas of severe to exceptional drought (D2 to D4) across central Georgia expanded slightly across the state and into parts of eastern Alabama by the end of the month. The persistent dryness across Georgia continued to place stress on water supplies. Lake Lanier, which is the primary water supply for Atlanta, reached its lowest level since March 2009. The U.S. Army Corps of Engineers reported a drop of almost 4.5 feet (1.4 m) in November, which is the largest one month decline in more than five years. Releases from several reservoirs were modified in response to the dryness across North Carolina and mandatory water restrictions began to be implemented. Although the dry weather aided farmers in completing their harvests for the season, the lack of rainfall and cool temperatures affected the growth of cool season forages, and several small grain crops have been slow to germinate due to the lack of moisture. Some farmers were concerned that these crops may have difficulty surviving the winter if their growth remains stunted.

For more information, please go to the Southeast Regional Climate Center Home Page.

High Plains Region: *(Information provided by the High Plains Regional Climate Center)*

- November 2012 was warm and dry across the majority of the High Plains Region. Below normal temperatures were confined to northern North Dakota where temperature departures ranged from 2.0-4.0 degrees F (1.1-2.2 degrees C) below normal. However, most locations in the Region had average temperatures at least 2.0 degrees F (1.1 degrees C) above normal. The largest departures occurred in southern Wyoming where a large area had average temperatures which were 6.0-10.0 degrees F (3.3-5.6 degrees C) above normal. The warmth caused many locations in that area

to rank in the top 10 warmest Novembers on record. Laramie, Wyoming had its 3rd warmest November on record with an average temperature of 38.0 degrees F (3.3 degrees C) which was 8.7 degrees F (4.8 degrees C) above normal. The record of 40.6 degrees F (4.8 degrees C) was set in 1949 (period of record 1948-2012). Temperatures for the year continued to be among the warmest on record for locations in each state of the Region. For instance, Omaha, Nebraska had its warmest January-November on record with an average temperature of 58.4 degrees F (14.7 degrees C). The old record of 57.9 degrees F (14.4 degrees C) was set in 1934 (period of record 1871-2012). Topeka, Kansas also had its warmest January-November with an average temperature of 62.1 degrees F (16.7 degrees C). This easily beat the old record of 61.0 degrees F (16.1 degrees C), which was also set in 1934 (period of record 1887-2012).

- Unfortunately November was another dry month as precipitation totals were still well below normal across the majority of the Region. A large swath extending from Colorado and Kansas up into southern North Dakota received as little as 25 percent of normal precipitation. In addition, some locations did not receive any measurable precipitation. For instance, Goodland, Kansas received just a trace of precipitation this month and tied with 1959, 1939, and 1932 for its driest November on record (period of record 1895-2012). Goodland has been experiencing exceptional drought conditions (D4) since the end of July. A few areas of the Region did get ample precipitation this month including northern and central North Dakota and north-central Wyoming. Williston, North Dakota had its 5th snowiest November on record with 16.0 inches (41 cm). 8.0 inches (20 cm) of Williston's monthly total fell all in one day - the 10th. This total smashed the old daily record of 2.2 inches (6 cm) set in 1996 and 1940, and was also the 3rd highest snowfall total for any day in November (period of record 1894-2012). Although drought conditions were downgraded in parts of North Dakota where beneficial precipitation fell, the drought continued to have impacts elsewhere. For example, the Fern Lake Fire in Rocky Mountain National Park has burned for more than 6 weeks due to the combination of high winds and dry conditions. According to the Coloradoan, by the end of the month, more than 3,500 acres had burned since the fire started on October 9th. Even though the harvest season has come to a close, the dry weather continued to impact agriculture across the Region as well. The major concerns were the condition of winter wheat and the replenishment of soil moisture. According to the United States Department of Agriculture (USDA), the winter wheat ratings across the U.S. were the worst since 1985. Winter wheat emergence was still just behind the 5-year average in Colorado, Nebraska, and South Dakota. The two hardest hit states were Nebraska and South Dakota, where the percentage of the winter wheat crop rated in good condition was only 14 and 2, respectively. Neither state's crop was rated in excellent condition.

- According to the U.S. Drought Monitor, drought conditions remained widespread over the past month. Overall, about 94 percent of the Region was still in moderate (D1) to exceptional (D4) drought. This was down slightly from the end of last month when 98 percent of the Region was in D1-D4. Although Nebraska had a very slight improvement over last month, it was still the hardest hit state in the Region, with 77 percent in the D4 designation. Wyoming had a slight increase in D4 in the eastern portion of the state as well. Unfortunately, there were slight improvements in only limited parts of the Region. North Dakota received beneficial precipitation which led to improvements in the north-central part of the state where much of the D1 was downgraded to abnormally dry conditions (D0). By the end of the month a couple of

areas of western and central North Dakota were completely drought free. According to the U.S. Seasonal Drought Outlook released November 15th, drought conditions were expected to improve across North Dakota and far northern South Dakota. All other areas of drought in the Region were expected to persist through the end of February 2013.

For more information, please go to the High Plains Regional Climate Center Home Page.

Southern Region: *(Information provided by the Southern Regional Climate Center)*

- November temperature averages in the Southern Region were split longitudinally down the middle, with the western half of the region experiencing a warmer than average month, while the eastern half experienced a colder than average month. In the western half, temperatures ranged from as high as 4 to 6 degrees F (2.22 to 3.33 degrees C) above normal, while in Mississippi and Tennessee, temperatures averaged between 2 to 4 degrees F (1.11 to 2.22 degrees C) below normal. Within the central portion of the region, temperature averages remained within about 2 degrees F (1.11 degrees C) of normal either way. For the Southern Region, it is the warmest year-to-date (January to November) on record (1895-2012). The year-to date average for the region is 67.31 degrees F (19.62 degrees C). For Texas, it was the fourteenth warmest November on record (1895-2012) with a state wide temperature average of 58.80 degrees F (14.89 degrees C). Oklahoma averaged 51.60 degrees F (10.89 degrees C), which was their nineteenth warmest November on record (1895-2012). The remaining four states all averaged cooler than normal. The states averages are as follows: Arkansas averaged 49.80 degrees F (9.89 degrees C), Louisiana averaged 56.80 degrees F (13.78 degrees C), Mississippi averaged 51.40 degrees F (10.78 degrees C), and Tennessee averaged 45.60 degrees F (7.56 degrees C). For Mississippi, it was the twenty-first coldest November on record (1895-2012), while for Tennessee it was the twenty-seventh coldest November (1895-2012). The other state rankings fell in the middle two quartiles.

- November was a very dry month for the entire Southern Region, with a strong majority of stations averaging less than half of the monthly normal precipitation total. Collectively, it was the fourth driest November on record (1895-2012) for the region, which averaged only 0.93 inches (23.62 mm) of precipitation. All six states reported precipitation averages that rank significantly among the historical record. The state wide precipitation averages are as follows: Arkansas averaged 1.80 inches (45.72 mm), Louisiana averaged 1.69 inches (42.93 mm), Mississippi averaged 2.46 inches (62.48 mm), Oklahoma averaged 0.58 inches (14.73 mm), Tennessee averaged 1.65 inches (41.91 mm), and Texas averaged just 0.33 inches (8.38 mm). For Arkansas and Louisiana it was the twelfth driest November on record (1895-2012), while for Mississippi, it was the thirty-second driest November on record (1895-2012). Oklahoma experienced its twenty-first driest November on record (1895-2012). For Tennessee, it was the ninth driest November on record (1895-2012), while for Texas, it was the fourth driest on record (1895-2012).

- Dry conditions in the Southern Region has not allowed for much improvement in drought status. The significant lack of November precipitation has led to widespread extreme and exceptional drought in Oklahoma and northwestern Texas. In addition, an area of severe drought is now present in the western panhandle of Texas. A one

category improvement did occur in western Tennessee and northeastern Arkansas. The area, which was classified as severe drought, is now classified as moderate drought.

- November was a rather quiet month with very little in the way of severe weather. On November 11, 2012, two tornadoes were reported in northwestern Louisiana. Both were rated as EF0 and caused little to no damage, with no injuries or fatalities.

- In Texas, one of the biggest concerns this time of year is the winter wheat crop, and the lack of rain in the short term is taking its toll: between 40 and 45 percent of all Texas winter wheat is rated as poor or very poor and that number is increasing rapidly. Additionally, grasslands continue to dry out, making it difficult for ranchers to put their herds out. On the positive side, pecan farmers are expected to have above normal harvests this year: 67 million pounds compared to the 52 million pound average (Information provided by the Texas Office of State Climatology).

- Surface water declines have driven many meetings and symposiums in Texas, as water supplies continue to decline during a period of recharge or maintenance, such as in Corpus Christi, whose total water supply is at 40.6 percent. The city of El Paso currently is planning to drill nine new wells to meet water demands at a cost of $3.5 million. Other plans include a new pipeline between Stillhouse Hollow and Belton Lakes, estimated to cost approximately $500 million, diverting water from the Colorado River that would normally be reserved for rice farmers, and instituting water restrictions (Information provided by the Texas Office of State Climatology).

- In Texas, lightning has caused some damage, including two fires in Leon Valley and Lufkin early in the month. Freeze warnings following these events were issued for many regions of the state, including the year's first in El Paso. The cooler temperatures were expected to have a positive effect on human health as mosquitoes, which had thrived during the above average fall heat, died off. West Nile Virus from mosquitoes has already claimed several lives this year (Information provided by the Texas Office of State Climatology).

For more information, please go to the Southern Regional Climate Center Home Page.

Western Region: *(Information provided by the Western Regional Climate Center)*

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- While most of the conterminous United States remained drier than normal this month, several systems delivered above average precipitation to portions of the Northwest. Over the last few days of November, a series of atmospheric rivers, narrow filaments of high water vapor transport with subtropical origins, brought heavy precipitation to northern and central California as well as parts of Oregon and Idaho. Throughout the West, average monthly temperatures remained above normal with many locations reporting a positive anomaly of at least 3.0 F (1.6 C).

- Dry and warm conditions prevailed for much of the Southwest this month. Phoenix, Arizona saw its second warmest November on record at an average 68.4 F (20.2 C). Records at Phoenix began in 1895. In Colorado, Denver airport received only 1.7 in (43 mm) of snowfall this month, 20% of its normal 8.7 in (223 mm). In the Great Basin, Las Vegas, Nevada recorded its 3rd warmest November at 60.1 F (15.6 C) in a record

dating back to 1937 and Ely, Nevada logged its 4th warmest November at 39.8 F (4.3 C), 6.1 F (3.4 C) above normal. Tonopah, Nevada tied 1995 for warmest autumn on record with a September-October-November average of 56.0 F (13.3 C). Records in Tonopah began in 1902. Throughout New Mexico, year-to-date average temperatures have been some of the highest on record. The January-November average temperature in Albuquerque was 62.0 F (16.7 C), the warmest such period in a record beginning in 1914. Roswell and Clayton also saw near-record year to date average temperatures. In addition, Clayton experienced its driest January-November period, receiving only 7.4 in (188 mm) so far this year and no precipitation this month. Normal January-November precipitation at Clayton is 15.43 in (392 mm) and records began in 1896.

- The Northwest was dominated by wet and warm conditions. Between November 28-30, 3-day precipitation totals farther south at windward locations in California's Coast Range between Big Sur and the San Francisco Bay Area were over 6 in (152 mm). This event brought monthly totals to over 200% of normal at some locations. Farther inland, some of the highest 3-day totals in the southern Cascades and northern Sierra Nevada were over 8 in (203 mm). Several long-standing daily precipitation records were surpassed in northern California and Oregon. Mt. Shasta City, California received 3.89 in (99 mm) on November 29, shattering the previous record of 1.81 in (46 mm) set in 1932. Medford, Oregon received 2.22 in (56 mm) on the 29th, breaking the daily record of 1.25 in (32 mm) set in 1917. Some of the highest daily totals were 5.1 in (130 mm) on the 30th at Big Sur, and 5.41 in (137 mm) at the Mt. Shasta RAWS on the 29th. Further north, Seattle, Washington recorded its 4th wettest November on record with a total of 9.17 in (233 mm) and also its 9th warmest at an average 47.4 F (8.6 C) for the month. Several other western Washington locations also recorded top 10 warmest November temperatures. Above normal monthly precipitation totals were also observed throughout Montana, providing relief from persistent dry conditions this year. For the year-to-date, 2012 was the warmest on record at Billings with an average 53.3 F (11.8 C) and also the driest at a total 6.86 in (174 mm). Records at Billings began in 1934. Miles City, Montana and Sheridan, Wyoming also experienced top 10 warmest and driest conditions year-to-date on record.

- Dry conditions persisted in Hawaii. Following its driest October in a record beginning in 1950, Lihue, Kauai received only 0.58 in (14.7 mm) this month and tied 1968 for the driest November on record. Stations throughout the state recorded below normal precipitation, with percentages of normal as low as 9% in Honolulu. At the end of November, the entirety of the state was experiencing some level of drought.

- November 18-19: Western Oregon and Washington high winds: The passing of a cold front brought high winds to western Oregon and Washington. Some of the highest wind gust speeds were recorded in southwestern Washington on the morning of the 19th. Naselle Ridge recorded 114 mph (184 kph) and at Megler Tower winds gusted to 101 mph (163 kph). At the Columbia River Bar, 97 mph (156 kph) was recorded. The high winds downed trees and power lines and caused one fatality.

- November 29-30: High winds in San Francisco Bay Area: Another passing cold front brought strong winds to the Bay Area. Wind speeds reached 84 mph (135 kph) in Los Gatos, California and 76 mph (122 kph) in San Jose, California. San Francisco airport recorded winds near 50 mph (80 kph). High winds were also recorded in the along the

Sierra crest and foothills and along the eastern Sierra and western Nevada

- November 18-27: Dense radiation fog in California's Central Valley: After precipitation on the 15-18th saturated the soil, clear skies and light winds created excellent conditions for the development of radiation fog in the Central Valley. On the morning of November 27th, dense fog near Chowchilla, California brought visibility down to 300 ft (91 m). A multi-car accident with 3 fatalities occurred in the heavy fog conditions.

For more information, please go to the Western Regional Climate Center Home Page.

See NCDC's Monthly Records web-page for weather and climate records for the most recent month. For additional national, regional, and statewide data and graphics from 1895-present, for any period, please visit the Climate at a Glance page.

PLEASE NOTE: All of the temperature and precipitation ranks and values are based on preliminary data. The ranks will change when the final data are processed, but will not be replaced on these pages. Graphics based on final data are provided on the Temperature and Precipitation Maps page and the Climate at a Glance page as they become available.

Citing This Report

NOAA National Climatic Data Center, State of the Climate: National Overview for November 2012, published online December 2012, retrieved on January 5, 2013 from http://www.ncdc.noaa.gov/sotc/national/2012/11.

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