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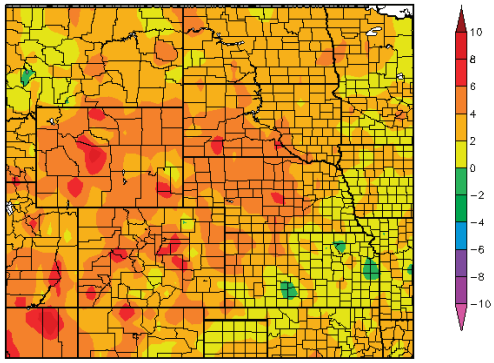
November 2007 Fog Follows a Record-Warm Day in Lincoln, Nebraska - Photo by Ken Dewey
http://www.nebraskaweatherphotos.org

# November 2007 Climate Summary

## Region Breakdown

Dry conditions were present throughout the entire High Plains region for the month of November 2007. This is a continuation of dry contions for the western High Plains, but is in stark contrast to the wet early October for the eastern High Plains.

This comes as a result of west to northwest flow pattern persisting after the pattern shift that occured in late October. High pressure dominated the region for most of November. Some locations in the central High Plains recorded no measureable precipitation, with the majority of stations in the region recording less than 0.25 inches of measurable rainfall. While this is a major change for the eastern High Plains, this is a continuation of dry conditions for the western half of the region. Drought conditions were expanded in parts of Western South Dakota, Western Kansas and Southern Colorado to reflect the short to very-short soil moisture conditions that have persisted in this region throughout the months of October and November.



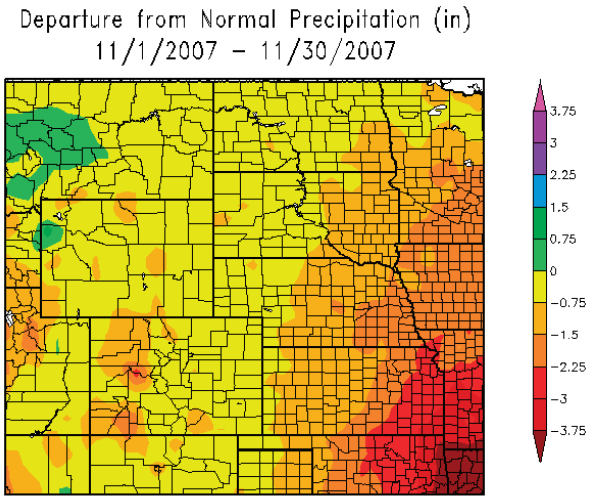

Departure from1971-2000 Normal Mean Average Temperature for November 2007 in the High Plains Region. Map by High Plains Regional Climate Center. Available at: http://hprcc.unl.edu/maps/current

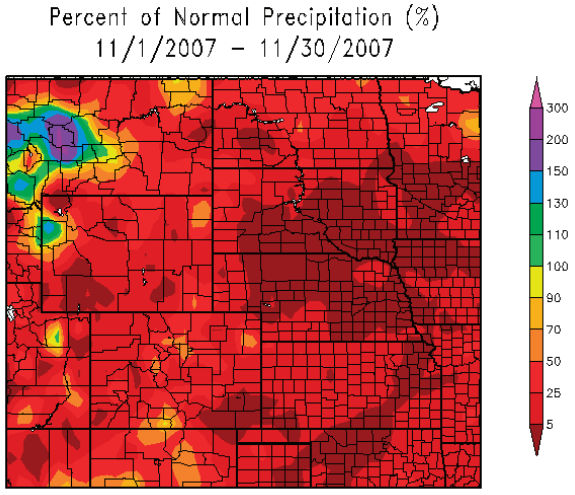
The temperature remained above normal for much of November, with most of the region showing between 2-4 degrees F above the 1971-2000 November Mean temperature normal. An extreme temperature swing (although not uncommon during November for the High Plains Region) occured in late November during the week of Nov 20th, signalling the beginning of Winter conditions for much of the eastern High Plains. Prior to this system's passing, several daily record-high maximum and minimum temperatures were broken during the week of November 13th-20th, as locations in Kansas and Nebraska recorded high temperatures rising into the upper 70's and low 80's. Monthly mean temperatures would have been higher had this cold snap not occured, as it brought lows in the single digits to southern parts of the region, and below zero temperatures to parts of North Dakota, Wyoming, Colorado and South Dakota.

# Precipitation Summary

In stark contrast to the record precipitation amounts that accrued in many eastern locations during the first half of October, November was extremely dry. The northwest flow pattern that became dominate during the latter part of October prevailed into November, and led to dry weather conditions across much of the High Plains region, particularly for parts of North Dakota, South Dakota, Nebraska and Kansas. Most stations across this region reported less than 0.25 inches of precipitation, and some locations reported no measureable precipitation during the month of November. This may be extreme, but it is not entirely unusual for the High Plains region, as many locations east of the Rockies have experienced no measureable precipitation once to several times in their history for the month of November.

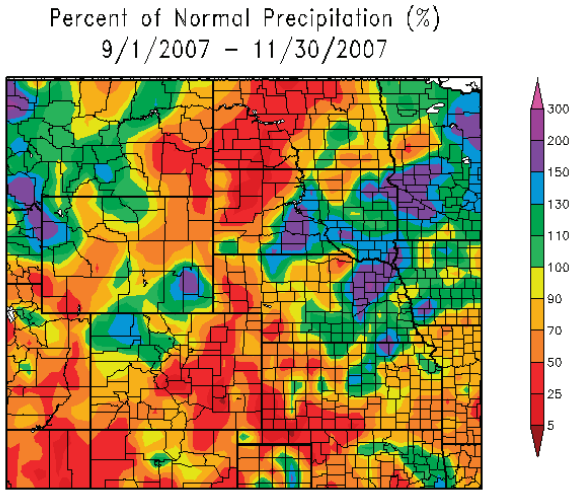
The 3-Month Standardized Precipitation Index Map shown below highlights the areas which did not recieve benefitial rain amounts during the month of October. This map reflects well with the current drought conditions within the High Plains Region, as shown on the Drought Monitor.

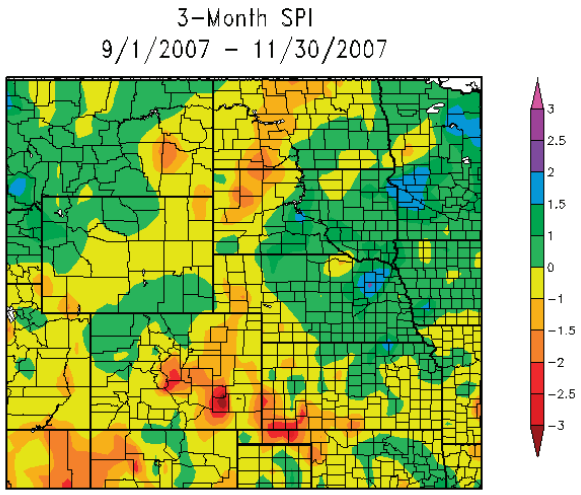



Above: Precipitation Amounts (in inches)(left) and Percent of Normal Precipitation (right) (using 1971-2000 Normals) for November 2007 in the High Plains Region. These maps are produced by HPRCC and can be found on the Current Climate Summary Map page at: http://hprcc.unl.edu/maps/current

Below: October Precipitation Percent of Normal (left) (using 1971-2000 Normals) and 3-Month SPI ending November 30, 2007 (right) for the High Plains Region.



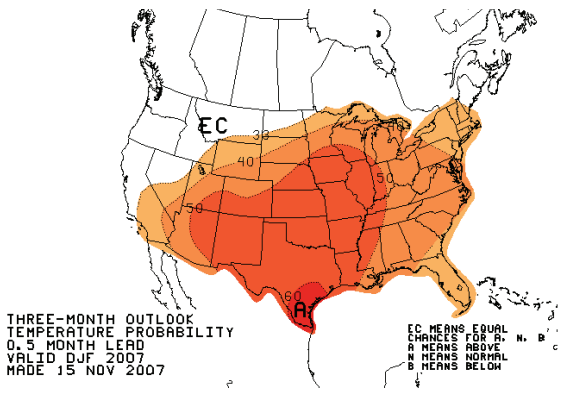



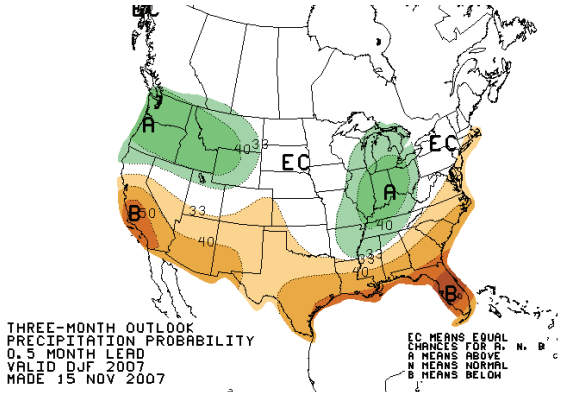

The High Plains Regional Climate Center is one of the NOAA Regional Climate Centers, and is involved in the Applied Climate Information System (ACIS) development and management effort. The data found throughout this publication was derived using products built on the ACIS framework.

ACIS
Applied Climate Information System - NOAA Regional Climate Centers

# Climate Outlook

With La Nina ENSO conditions expected for this winter, NOAA forecasters continue to call for above-average temperatures for much of the southern High Plains, and drier than normal conditions for the far-southwest corner of the High Plains Region (Southern to Southwest Colorado and Western Kansas). Equal Chances of both above, near, and below normal precipitation conditions exist for the rest of the region. This winter outlook is produced by scientists at the NOAA Climate Prediction Center. More information can be found here: http://www.cpc.ncep.noaa.gov/.

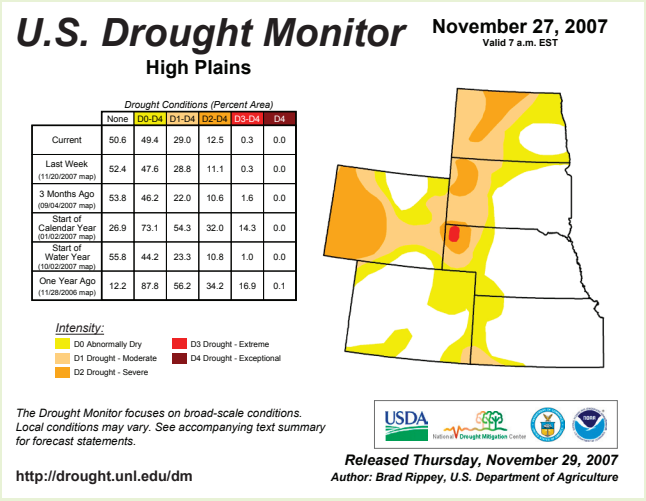


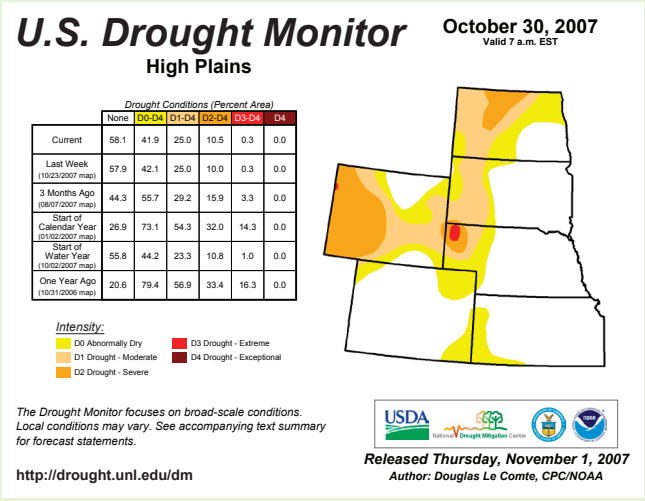




Above: 3-Month Outlook Maps Courtesy the NOAA Climate Prediction Center - http://www.cpc.ncep.noaa.gov
(left) The Three-Month Temperature Probability Outlook showing a higher probability of above-normal temperatures for southern parts of the High Plains region, decreasing probabilities as we head north. (right) The Three-Month Precipitation Probabilities showing equal chances of above or below normal precipitation for most of the high plains, with an increased probability of above normal precipitation across the mountains in WY, and an increased probability for below normal precipitation across parts of western KS and SE CO

# Drought Watch

D0-D1 conditions were extended in parts of Southwest Nebraska and Western Kansas to reflect the dryness that occured during the month of November over much of the high plains region. Winter wheat struggled in parts of Kansas and Colorado dur to very short/short soil moisture conditions. Grass fires were present in Southern Kansas, where during the week of November 23 the Aetna fire burned 5,000 acres of vegetation. The category of Severe Drought (D2) was introduced into parts of Western South Dakota during November as dry conditions prevaled throughout much of the high plains.




The U.S. Drought Monitor is produced as a joint effort of the U.S. Department of Agriculture (USDA), National Drought Mitigation Center, U.S. Department of Commerce and the National Oceanic and Atmospheric Administration (NOAA). Real-time data provided through ACIS from the NOAA Regional Climate Centers is often used by the agencies involved in the U.S. Drought Monitor when determining the area and intensity of drought conditions, although the product itself is not produced by HPRCC. For current Drought Monitor information, please see: http://www.ndmc.unl.edu/dm/monitor.html
Portions of this Drought Watch are courtesy the Drought Monitor Text Discussion found on the Drought Monitor webpage.

# First Snowfall Statistics

| Colorado | First Measurable Snowfall | | |
|---|---|---|---|
| | Average | | Extreme |
| | Date | # of Years | Date |
| Akron Washington CO AP | 10/22 | 57 | 9/01/1951 |
| Colorado Springs Muni AP | 10/17 | 56 | 9/03/1961 |
| Grand Junction WF AP | 11/17 | 105 | 9/18/1965 |
| Pueblo Memorial Airport | 11/05 | 48 | 9/17/1971 |

| Kansas | First Measurable Snowfall | | |
|---|---|---|---|
| | Average | | Extreme |
| | Date | # of Years | Date |
| Concordia Muni AP | 11/21 | 47 | 10/09/1970 |
| Dodge City Regional AP | 11/21 | 63 | 9/21/1995 |
| Goodland Renner Field | 11/01 | 73 | 9/20/1995 |
| Topeka Muni AP | 11/30 | 54 | 10/09/1970 |
| Wichita Mid-Continent AP | 12/04 | 53 | 10/22/1996 |

| Nebraska | First Measurable Snowfall | | |
|---|---|---|---|
| | Average | | Extreme |
| | Date | # of Years | Date |
| Grand Island AP | 11/16 | 101 | 9/20/1995 |
| Lincoln Muni AP | 11/16 | 40 | 9/29/1985 |
| Omaha Epply Airfield | 11/18 | 56 | 10/9/1970 |
| Norfolk Karl Stefan AP | 11/09 | 58 | 9/28/1985 |
| North Platte Regional AP | 11/02 | 59 | 9/23/2000 |
| Scottsbluff Helig AP | 10/23 | 76 | 9/11/1974 |
| Valentine Miller Field | 11/03 | 58 | 9/20/1995 |

| North Dakota | First Measurable Snowfall | | |
|---|---|---|---|
| | Average | | Extreme |
| | Date | # of Years | Date |
| Bismark Muni AP | 10/29 | 120 | 9/12/1903 |
| Dickinson Muni AP | 10/28 | 40 | 9/19/1983 |
| Fargo International AP | 11/03 | 64 | 9/25/1942 |
| Grand Forks International AP | 10/30 | 41 | 9/17/1991 |
| Willison International AP | 10/24 | 45 | 9/15/1965 |

| South Dakota | First Measurable Snowfall | | |
|---|---|---|---|
| | Average | | Extreme |
| | Date | # of Years | Date |
| Aberdeen Regional AP | 11/05 | 74 | 9/21/1995 |
| Huron Regional AP | 11/06 | 114 | 9/24/1912 |
| Rapid City Regional AP | 11/06 | 51 | 8/9/1950 |
| Sioux Falls Foss Field | 11/07 | 107 | 9/25/1939 |

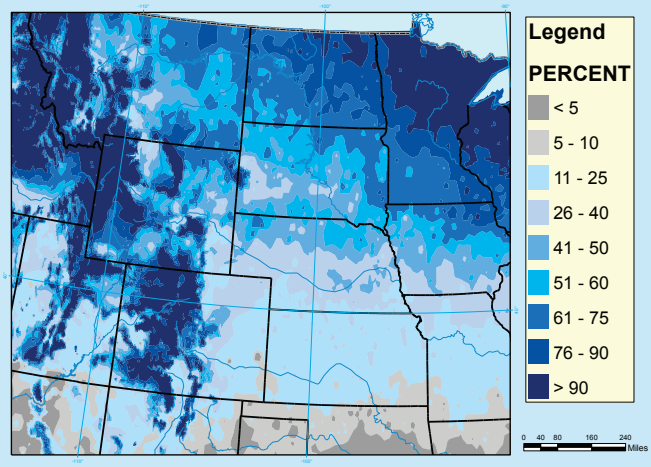
| Wyoming | First Measurable Snowfall | | |
|---|---|---|---|
| | Average | | Extreme |
| | Date | # of Years | Date |
| Casper Natrona Co. AP | 10/07 | 55 | 9/08/1929 |
| Cheyenne AP | 10/07 | 92 | 9/08/0962 |
| Lander Hunt AP | 10/04 | 57 | 9/08/1962 |
| Laramie Regional AP | 10/07 | 51 | 9/03/1961 |
| Rawlins Muni AP | 10/14 | 42 | 9/11/1974 |
| Worland | 10/20 | 40 | 9/11/1991 |

Information Compiled by Crystal Cooling, HPRCC

# White Christmas Probabilities

With the approaching holiday season, many people may find themselves asking relatives or friends the common question, Will we have a White Christmas?

The NOAA's National Climatic Data Center has calculated and mapped out just that question, from a climatological perspective. The probabilities based upon historical snowfall and snow depth data.




Climate Data : National Climatic Data Center
Map : High Plains Regional Climate Center

# Winter Weather Safety

## Winter Travel

### Before Leaving Home: Be Prepared

Before leaving home, find out about the driving conditions and prepare your vehicle. Safe drivers know the weather, and they know their limits. If the weather is bad, remember, Ice and Snow, take it SLOW, or just don't go.

• Keep your vehicle in top operating condition all year round for safety and fuel economy.

### Safe Travel on the Road

Winter Conditions call for different driving tactics, Ice and Snow, take it Slow - slower speed, slower acceleration, slower steering, and slower braking. Give yourself extra time to reach your destination safely. It's not worth putting yourself and others in a dangerous situation just to be on time.

• Drive with your headlights on

• Ice and Snow, take it SLOW, Drive for conditions. Don't get overconfident with four-wheel drive. It won't help you stop any faster.

• Drivers should allow additional room between their vehicles and others. Winter road conditions often result in longer stopping distances.

• Avoid abrupt actions while steering, braking or accelerating to lessen the chances of losing control of the vehicle.

• Look farther ahead in traffic. Action by other drivers will alert you to problems and give you extra time to react.

• Avoid using cruise control or overdrive. Don't let your car make a bad decision for you.


• Stopping on snow and ice without skidding requires extra time and distance. If you have anti-lock brakes, press the pedal down firmly and hold it. If you don't have anti-lock brakes, gently pump the pedal. Either way, give yourself plenty of room to stop.

*Winter Travel Courtesy Washington State Dept of Transportation*

## Emergency Supplies for your Car

- Cell phone; portable charger and extra batteries
- Shovel
- Windshield scraper
- Battery-powered radio (and extra batteries)
- Flashlight (and extra batteries)
- Water
- Snack food
- Extra hats, coats, mittens
- Blankets
- Chains or rope
- Tire chains
- Canned compressed air with sealant (emergency tire repair)
- Road salt and sand
- Booster cables
- Emergency flares
- Bright colored flag; help signs
- First aid kit
- Tool kit
- Road maps
- Compass
- Waterproof matches and a can (to melt snow for water)
- Paper towels

## Winter Storms Can Be Deadly

- Extreme cold can cause hypothermia (an extreme lowering of the body's temperature) and death.
- Fireplaces, emergency heaters, and candles can cause household fires.
- Toxic fumes, such as carbon monoxide, from heaters can cause asphyxiation (unconsciousness or death from a lack of oxygen).
- Hazardous road conditions can cause car accidents.
- Prepare for a winter storm before it hits. This is the best way to keep your family and yourself safe. Plan ahead: prepare your house and car; stock up on emergency supplies.

## Winterize Your House

- Insulate walls and attic.
- Caulk and weather-strip doors and windows.
- Install storm windows or cover windows with plastic from the inside.
- Insulate any water lines that run along outer walls (water will be less likely to freeze).
- Service snow-removal equipment.
- Have chimney and flue inspected.

## Outdoor Safety

- Always bundle up when in doubt!
- Babies and the elderly are more at risk from the cold and should be kept warm.
- Dress warmly. Wear loose-fitting, layered clothes. Outer garments should be tightly woven and water-repellent.
- Wear mittens rather than gloves—mittens are warmer.
- If you shovel snow, do stretching exercises to warm up. Take breaks often.
- Cover your mouth to protect your lungs from extremely cold air.
- Avoid working too hard (strains your heart).
- Drink water and other fluids to avoid dehydration.
- Watch for signs of frostbite: Feeling of "pins and needles" followed by numbness (no feeling). Skin may freeze hard and look white. When thawed out, skin is red and painful. Very bad frostbite may cause blisters or gangrene (black, dead tissue).
- Watch for signs of hypothermia (uncontrolled shivering, slow speech, memory loss, stumbling, sleepiness, extreme tiredness).
- If you think you have frostbite or hypothermia, don't eat or drink anything containing caffeine or alcohol—they can worsen your symptoms.
- Drink warm liquids that do not contain caffeine or alcohol. (alcoholic drinks cause your body to lose heat more quickly).

*Outdoor Safety Courtesy the Center for Disease Control and Prevention*

Information Compiled by Allan Curtis, HPRCC

# State Summaries

| Colorado | Temperatures (degrees F) | | | | | | | | Precipitation (inches) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Averages | | | | Extremes | | | | Totals | | |
| | Max | Min | Mean | Depart | High | Date | Low | Date | Obs | Depart | % Norm |
| Alamosa San Luis Airport | 52.6 | 8.8 | 30.7 | 2.3 | 68 | 11/19 | -11 | 11/25 | 0.42 | -0.06 | 87 |
| Akron 4E | 55.6 | 25.5 | 40.5 | 5.0 | 80 | 11/20 | 5 | 11/22 | 0.13 | -0.57 | 19 |
| Colorado Springs Municipal Airport | 56.9 | 25.6 | 41.2 | 5.0 | 76 | 11/19 | 11 | 11/24 | 0.10 | -0.42 | 19 |
| Grand Junction Walker Field Airport | 55.9 | 27.0 | 41.5 | 3.4 | 65 | 11/20+ | 13 | 11/22 | 0.05 | -0.66 | 7 |
| Pueblo Memorial Airport | 60.6 | 21.1 | 40.9 | 2.5 | 82 | 11/19+ | 5 | 11/24 | 0.14 | -0.44 | 24 |

| Kansas | Temperatures (degrees F) | | | | | | | | Precipitation (inches) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Averages | | | | Extremes | | | | Totals | | |
| | Max | Min | Mean | Depart | High | Date | Low | Date | Obs | Depart | % Norm |
| Concordia Municipal Airport | 55.9 | 30.4 | 43.1 | 2.4 | 76 | 11/19 | 12 | 11/23 | 0.06 | -1.39 | 4 |
| Dodge City Regional Airport | 59.7 | 28.0 | 43.9 | 1.5 | 82 | 11/19 | 13 | 11/25 | 0.07 | -0.94 | 7 |
| Goodland Renner Field | 57.4 | 23.9 | 40.7 | 3.3 | 80 | 11/19+ | 8 | 11/24 | 0.17 | -0.65 | 21 |
| Medicine Lodge | 61.1 | 30.3 | 45.7 | -- | 84 | 11/19 | 14 | 11/23 | 0.14 | -- | -- |
| Topeka Municipal Airport | 57.5 | 31.2 | 44.4 | 1.8 | 79 | 11/19 | 10 | 11/23 | 0.10 | -2.21 | 4 |
| Wichita Mid-Continent Airport | 59.3 | 32.9 | 46.1 | 1.9 | 79 | 11/19 | 15 | 11/23 | 0.05 | -1.77 | 3 |

| Nebraska | Temperatures (degrees F) | | | | | | | | Precipitation (inches) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Averages | | | | Extremes | | | | Totals | | |
| | Max | Min | Mean | Depart | High | Date | Low | Date | Obs | Depart | % Norm |
| Chadron Muni Airport | 54.3 | 20.4 | 37.4 | 3.6 | 77 | 11/19 | 4 | 11/23 | 0.02 | -0.55 | 7 |
| Grand Island Airport | 55.1 | 27.4 | 41.2 | 4.8 | 79 | 11/19 | 12 | 11/22 | 0.00 | -1.41 | 0 |
| Lincoln Municipal Airport | 52.9 | 26.0 | 39.5 | 1.4 | 78 | 11/19 | 10 | 11/23 | 0.05 | -1.53 | 3 |
| Omaha Eppley International Airport | 50.4 | 26.9 | 38.6 | 0.6 | 73 | 11/19 | 11 | 11/23 | 0.03 | -1.79 | 2 |
| Norfolk Karl Stefan Airport | 51.7 | 25.8 | 38.7 | 3.6 | 73 | 11/11 | 13 | 11/23 | 0.03 | -1.41 | 2 |
| North Platte Regional Airport | 56.3 | 20.4 | 38.4 | 3.8 | 81 | 11/19 | 6 | 11/23 | 0.02 | -0.74 | 3 |
| Valentine Miller Field | 53.3 | 23.0 | 38.1 | 5.1 | 74 | 11/4 | 2 | 11/30 | 0.02 | -0.70 | 3 |

| North Dakota | Temperatures (degrees F) | | | | | | | | Precipitation (inches) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Averages | | | | Extremes | | | | Totals | | |
| | Max | Min | Mean | Depart | High | Date | Low | Date | Obs | Depart | % Norm |
| Bismark Municipal Airport | 43.1 | 19.1 | 31.1 | 3.1 | 66 | 11/4 | -1 | 11/29+ | 0.13 | -0.57 | 19 |
| Dickinson Municipal Airport | 43.6 | 19.0 | 31.3 | 2.3 | 66 | 11/10 | -5 | 11/29 | 0.01 | -0.58 | 2 |
| Fargo International Airport | 39.8 | 22.5 | 31.1 | 4.1 | 61 | 11/11 | -7 | 11/27 | 0.09 | -0.97 | 8 |
| Grand Forks International Airport | 37.1 | 19.6 | 28.4 | 2.6 | 60 | 11/13+ | -13 | 11/27 | 0.26 | -0.76 | 26 |
| Williston International Airport | 41.2 | 17.3 | 29.3 | 3.7 | 62 | 11/13+ | -10 | 11/29 | 0.19 | -0.46 | 29 |

All Data are Preliminary and Subject to Change
Source: National Weather Service Cooperative Observation Network Data
Data is retrieved through the Applied Climate Information System (ACIS)
This data is available for the entire period of record through the CLIMOD system. For more information please see http://hprcc.unl.edu/services.

# November 2007 Climate Summary

| South Dakota | Temperatures (degrees F) | | | | | | | | Precipitation (inches) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Averages | | | | Extremes | | | | Totals | | |
| | Max | Min | Mean | Depart | High | Date | Low | Date | Obs | Depart | % Norm |
| Aberdeen Regional Airport | 43.7 | 18.5 | 31.1 | 1.8 | 66 | 11/4 | -4 | 11/30 | 0.02 | -0.73 | 3 |
| Huron Regional Airport | 46.3 | 22.1 | 34.2 | 2.9 | 71 | 11/13 | 2 | 11/30 | 0.02 | -0.87 | 2 |
| Rapid City Regional Airport | 52.0 | 23.5 | 37.8 | 4.4 | 75 | 11/4 | 8 | 11/30 | 0.03 | -0.58 | 5 |
| Sioux Falls Joe Foss Field Airport | 45.9 | 24.2 | 35.0 | 3.7 | 65 | 11/4 | 2 | 11/30 | 0.04 | -1.32 | 3 |

| Wyoming | Temperatures (degrees F) | | | | | | | | Precipitation (inches) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Averages | | | | Extremes | | | | Totals | | |
| | Max | Min | Mean | Depart | High | Date | Low | Date | Obs | Depart | % Norm |
| Casper Natrona County International AP | 50.0 | 21.2 | 35.6 | 3.6 | 68 | 11/9+ | -1 | 11/23 | 0.05 | -0.77 | 6 |
| Cheyenne Airport | 49.9 | 25.4 | 37.6 | 4.4 | 69 | 11/19 | -1 | 11/22 | 0.32 | -0.32 | 50 |
| Lander Hunt Field Airport | 48.4 | 22.7 | 35.5 | 5.2 | 67 | 11/8+ | 2 | 11/23+ | 0.17 | -0.82 | 17 |
| Laramie Regional Airport | 46.4 | 20.4 | 33.4 | 5.0 | 64 | 11/19 | -10 | 11/23+ | 0.07 | -0.57 | 11 |
| Rawlins Municipal Airport | 47.8 | 23.5 | 35.6 | 4.1 | 62 | 11/9 | -3 | 11/22 | 0.04 | -0.61 | 6 |
| Sheridan County Airport | 49.2 | 21.0 | 35.1 | 4.1 | 71 | 11/10+ | -2 | 11/22 | 0.33 | -0.47 | 41 |

## State Spotlight - Nebraska

**Al Dutcher - State Climatologist**

**Nebraska State Climate Office, University of Nebraska - Lincoln**

After an exceptionally wet November across the eastern 2/3 of Nebraska, little significant moisture was recorded at the vast majority of observation sites across the state. Mean upper atmospheric conditions during the month of November were conducive to high pressure aloft centered over the western 1/3 of the U.S. With a west - northwest flow aloft, systems passing through the region were moisture starved, with the most significant precipitation event occurring during the 11/20-11/21 time frame. Twenty-four hour precipitation totals in excess of 0.10 inches were reported across western Nebraska, with scattered trace to 0.10 inch accumulations confined to eastern Nebraska. Light snow also occurred with this system, but totals were generally less than an inch which allowed for a white start to Thanksgiving Day. Preliminary monthly precipitation totals ranged from 0.00 inches to 0.30 inches at Chappel. Over 50% of the cooperative observers reporting daily readings electronically had zero to trace accumulations for the month of November.

Average temperatures during the month of November ranged from 7.0 F above normal at Sidney to 0.4 F below normal at Pawnee City. The only locations reporting below normal temperatures were confined to the Southeast Climate District. The sharp gradient of average temperature departures is directly tied to the location of the upper air ridge. Areas of western Nebraska were closer to the ridge center and fronts moving southeastward from the northern Plains brought the coldest air into the upper Midwest and Great Lakes region. Numerous high temperature records were set across the state on the 19th prior to the light snow event. Lincoln recorded a high of 78 F, eclipsing the old record of 73 F set in 1949. Additional records set on the 19th(old record and date in parenthesis): Grand Island -79 F ( 72 F, 2003), North Platte - 81 F (75 F, 1897), McCook - 80 F (75 F, 1989). Preliminary data indicates that the highest temperature recorded during November was 84 F at Benkelman on the 19th, with the lowest temperature recorded being -4 F at Agate on the 21st. Thus, a 88 F swing in temperature extremes was recorded within Nebraska in less than 48 hours.

The Nebraska State Climate Office is a part of the School of Natural Resources, University of Nebraska - Lincoln
For more information about the School of Natural Resources at UNL: http://www.snr.unl.edu
For more information on the University of Nebraska - Lincoln: http://www.unl.edu

University of Nebraska Lincoln

All Data are Preliminary and Subject to Change
Source: National Weather Service Cooperative Observation Network Data
Data is retrieved through the Applied Climate Information System (ACIS)
This data is available for the entire period of record through the CLIMOD system. For more information please see http://hprcc.unl.edu/services.

# State Spotlight - South Dakota

**Dennis Todey- State Climatologist**
**South Dakota State Climate Office, South Dakota State University**

The ping pong climate conditions continued across much of South Dakota in November. After a very wet October, November was very dry over nearly the entire state. Only some areas of the Black Hills received over 0.5" of precipitation. Many stations across the state received only a few hundredths or less for the month. The whole state was well below 25% of average total precipitation for the month. Because of the wet October over much of the southeast 2/3 of the state, the dry November was not an issue and actually welcomed to allow completion of fall harvest and field work. For the balance of the northwest, the lack of precipitation continued to worsen the prolonged drought conditions in the west.

The whole state was above average for temperature, ranging from about 2-6 F above the mean monthly normal across the state. The main cold push came during the last four days of the month where temperatures finally fell well below average across the state and most of the first below 0 F temperatures occurred across northern parts of the state.

A few snows occurred in the Black Hills during the month. But the first major snow storm in the state started on the last day of the month with most of the precipitation occurring in December.

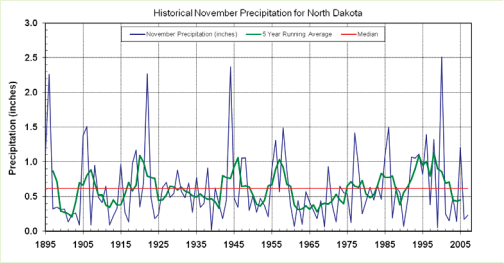
**Records** - Rapid City east set a record high minimum temperature of 45 F on November 16.

The low precipitation totals were in the top five driest for many locations around the state or tied record low totals of 0 for those locations which received no precipitation.

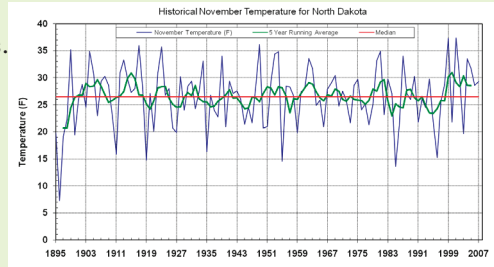
For more information on the South Dakota State Climate Office, Please see: http://climate.sdstate.edu
The SDSU's AWDN is a part of the High Plains Automated Weather Data Network (AWDN). Data is available through SDSU or the High Plains Regional Climate Center.

# State Spotlight - North Dakota

**Barb Mullins**
**North Dakota State Climate Office, North Dakota State University**




There was some snowfall in November with totals of 3-5 inches in the northern part of the state. The majority of the state had less than a 1 inch snow total. Precipitation totals were less than an inch and below normal across the state. For the majority of the state, the percent of normal precipitation was less than 25%. According to North Dakota's National Agricultural Statistics Service, ND topsoil moisture supplies were rated 84 percent short to adequate, while subsoil moisture supplies were rated 83 percent short to adequate. The November state average precipitation was 0.23" which is below the 1971-2000 normal state average of 0.73". The month ended as the 23rd driest (91st wettest) November in the past 113 years. The November state average maximum precipitation was 2.51" in 2000 and the minimum was 0.02" in 1939.




November average temperatures ranged from 23.5 ° F to 32.0 °F. The temperatures were all from 0 °F to 5° F above normal. The November state average air temperature was 29.3° F which is slightly above the 1971-2000 normal of 26.1° F. The month ended as being the 37th warmest (78th coolest) November in the past 113 years. The state average maximum air temperature was 37.4° F in 2001 and the minimum was 7.3 °F in 1896. The state average temperature range then for the past 113 years is 30.1 °F.

All graphs in this section courtesy the North Dakota State Climate Office
For more information about the North Dakota State Climate Office: http://www.ndsu.edu/ndsco
For more information on the North Dakota Agricultural Network: http://www.ndawn.ndsu.nodak.edu
The North Dakota Agricultural Network is a part of the Automated Weather Data Network (AWDN).

# About the High Plains Regional Climate Center

The High Plains Regional Climate Center (HPRCC) operates out of the University of Nebraska - Lincoln (UNL) in Lincoln, Nebraska. As one of 6 regional climate centers operated under the National Oceanic and Atmospheric Administration (NOAA), HPRCC works closely with other organizations such as the National Climatic Data Center (NCDC), Local and Regional National Weather Service (NWS) Offices, and other climate services organizations such as the National Drought Mitigation Center (also located at UNL) to provide climate data services and specialized climate products.

# For More Information Online

High Plains Regional Climate Center : http://hprcc.unl.edu
High Plains Regional Climate Services: http://hprcc.unl.edu/services
CLIMOD: http://climod.unl.edu
NOAA Regional Climate Centers and ACIS: http://www.rcc-acis.org
North Dakota State Climate Office: http://www.ndsu.edu/ndsco
North Dakota Agricultural Network: http://www.ndawn.ndsu.nodak.edu
National Weather Service: http://www.weather.gov
National Climatic Data Center: http://ncdc.noaa.gov
School of Natural Resources - University of Nebraska - Lincoln: http://snr.unl.edu
University of Nebraska - Lincoln: http://www.unl.edu
National Drought Mitigation Center: http://drought.unl.edu
Climate Prediction Center: http://www.cpc.noaa.gov
NOAA Storm Prediction Center: http://www.spc.noaa.gov
National Agricultural Statistics Service (USDA): http://www.nass.usda.gov
Weather Photos: http://www.nebraskaweatherphotos.org

Photo of the Nebraska Sandhills by Bill Sorensen - Senior Programmer - HPRCC

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