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June 3, 2007: Warm and sunny with afternoon cumulus clouds and showers – Photo by Ken Dewey
http://nebraskaweatherphotos.org

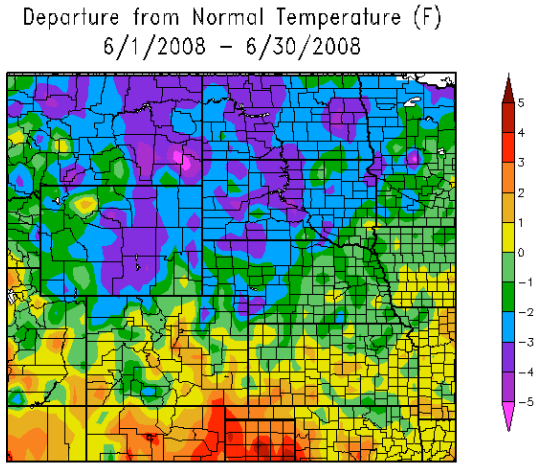
June 2008 Climate Summary

Region Breakdown

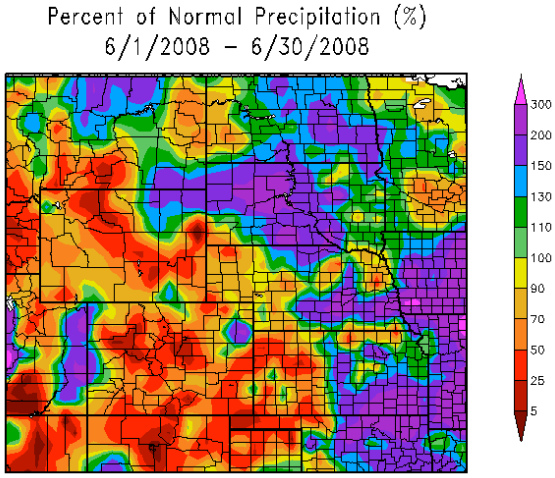
June 2008 was a cool month for the majority of the High Plains Region. Large areas experienced temperatures 2-5 °F (1-3 °C) below normal. The exception to below normal temperatures occurred in areas of Southern Kansas and Colorado. Those areas experienced temperatures as much as 3 °F (2 °C) above normal. The largest departures from normal in either direction occurred in West Central South Dakota (5 °F or 3 °C below normal) and South Eastern Colorado (4 °F or 2 °C above normal).

The precipitation pattern over the High Plains Region took on a much different pattern than the temperatures. Areas of well above normal (150%+) and well below (50% and below) existed across the region. No correlation between departure from normal temperature and percent of normal precipitation appears to be evident. The areas of above normal precipitation occurred in Eastern North Dakota, Central and Western South Dakota, Central and Southeastern Nebraska, Extreme Northeastern Colorado, and Central and Southeastern Kansas. Areas well below normal precipitation occurred in the majority of Colorado and Wyoming with other areas including Western Kansas and Northeastern Nebraska.

Drought conditions continue to persist over many of the same areas with one marked area of great improvement. The extreme drought conditions (D3) of North Dakota have improved greatly and been reduced to a large areas of D0 and D1 in the west with a smaller area along the western border of D2. Drought conditions no longer exist in Eastern North Dakota. Drought through the rest of the region remained the same with some increased D3 areas along the southern portions of the Colorado-Kansas border. Northwestern Nebraska also dropped from D2 drought condition to D1 over the last month.



Above: Departure from 1971-2000 Normal June Average Temperature (°F) for June 2008
For more, please visit: http://hprcc.unl.edu/maps/current



Above: Percent of 1971-2000 Normal June Total Precip
For more, please visit: http://hprcc.unl.edu/maps/current

Precipitation Summary

Much like May, June was diverse in the sense that there was little uniformity in the distribution of percent of normal precipitation. For the most part, the same areas received above normal precipitation as May. Central and Western South Dakota, Central and Southeastern Nebraska, and Southwestern Kansas all received well above normal precipitation for the month of June, in the area of 150-200% the normal. Continued cool weather and system after system moving through has kept the jet relatively far to the south, allowing for the same areas to receive continued above normal precipitation.

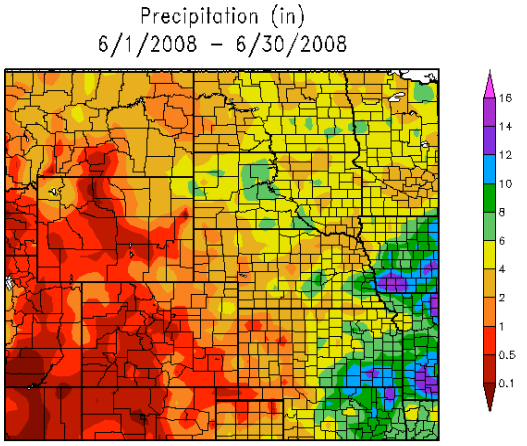
Dynamically, systems are slowly moving further north, as is expected with warmer temperatures penetrating further into the High Plains Region. A shift of precipitation further north may be expected as warmer temperatures continue to penetrate further north.

As many may have heard through various news outlets, on June 11th, 2008 a system producing severe weather and tornadoes rolled through Eastern Nebraska and Western Iowa. The system dropped numerous tornadoes, of which an EF3 devastated the Little Sioux Boy Scout Camp killing 4 young scouts. Our condolences go out to the families and those who knew the boys.

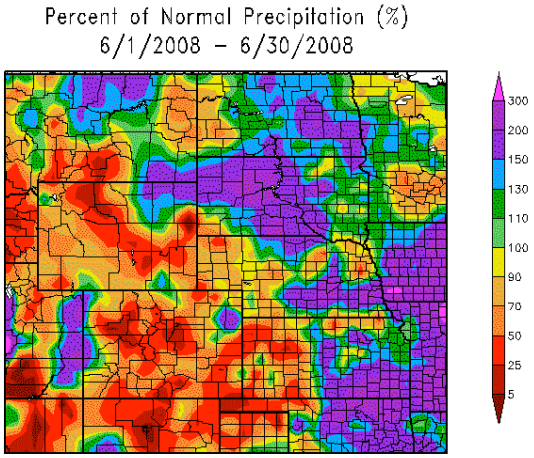
On June 28th a system moved through the Fremont and Omaha areas on east into Iowa that was not primarily a rain producer, but resulted in high winds. Widespread areas reported winds in excess of 80-90 mph and damaged trees and buildings as it moved through.

Extreme single events include 3.86 inches (98 mm) on June 1st at Galesburg, KS, 2.63 inches (66.8 mm) on June 5th at Syracuse, NE, 3.32 inches (84.3 mm) on June 2nd at Pierre Rgnl AP, SD, and 3.59 inches (91.2 mm) on June 4th at Grand Island, NE.

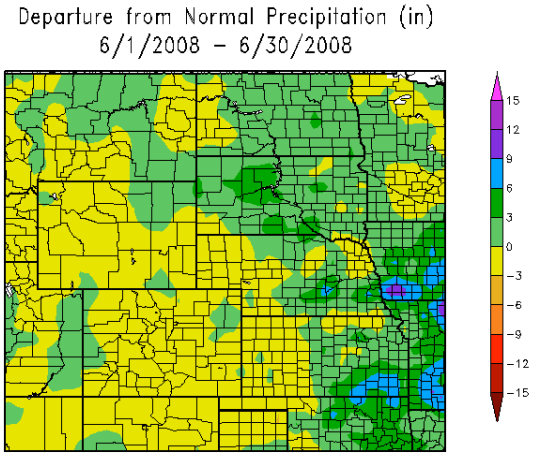
Extreme total precipitation amounts across the region include 15.15 inches (384.8 mm) at Galesburg, KS, over 3 times the normal amount, and 0.17 inches (4.3 mm) at Crested Butte, CO, less than 1/6 the normal amount.



Above: Total Liquid Precipitation (in) for June 2008
For more, please visit: http://hprcc.unl.edu/maps/current



Above: Percent of 1971-2000 Normal June Total Precip
For more, please visit: http://hprcc.unl.edu/maps/current



Above: Departure from 1971-2000 June Total Precip
For more, please visit: http://hprcc.unl.edu/maps/current

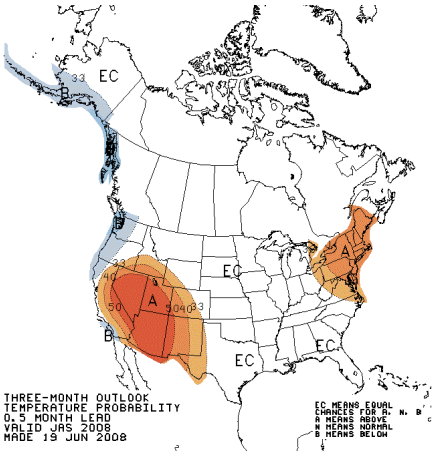
The High Plains Regional Climate Center is one of the NOAA Regional Climate Centers, and is involved in the Applied Climate Information System (ACIS) development and management effort. The data found throughout this publication was derived using products built on the ACIS framework.

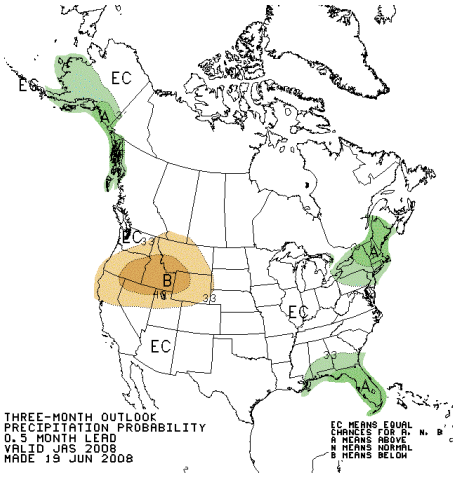
ACIS
Applied Climate Information System - NOAA Regional Climate Centers

June 2008 Climate Summary

Climate Outlook

ENSO conditions are currently neutral, with lingering atmospheric circulation reminiscent of La Nina. ENSO neutrality is expected to persist through the fall. Concerning the High Plains Region, the NOAA Climate Prediction Center is predicting chances of above average temperatures through the majority of Central and Western Colorado with the remainder of the High Plains having equal chance of above or below average temperatures for July-September. Precipitation is predicted below normal in Wyoming with equal chance of above or below normal through the rest of the High Plains Region.

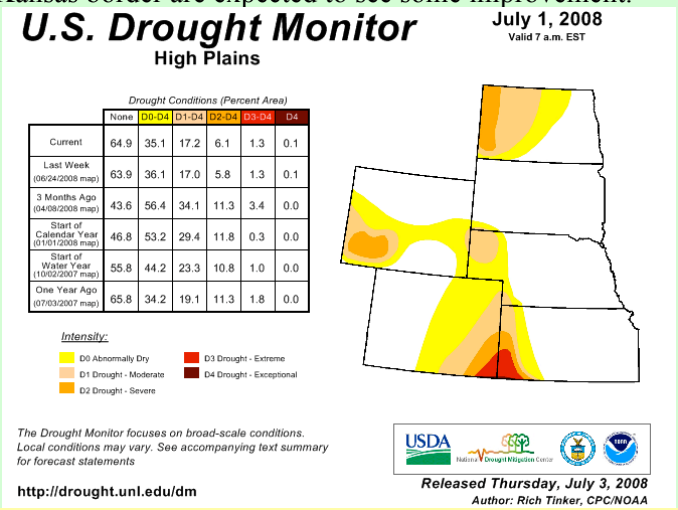


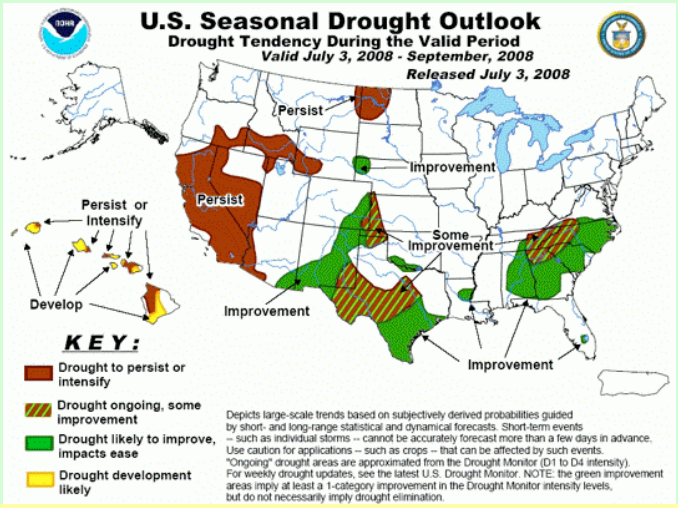


Above: 3-Month Outlook Maps Courtesy the NOAA Climate Prediction Center – http://www.cpc.ncep.noaa.gov
Left: The Three-Month Temperature Probability Outlook covering July, August, and September
Right: The Three-Month Precipitation Probabilities Outlook covering July, August, and September

Drought Watch

Drought persists through much of the same areas as last month, with marked improvement in North Dakota. Extreme drought conditions no longer exist in North Dakota as the area experienced increased precipitation. The Panhandle region of Nebraska also saw some minor improvement over this time last month. The remaining areas of drought persisted through the month with little change. North Dakota is predicted to see no more improvement, and possibly some intensification through September along with South Western Wyoming, while the Nebraska Panhandle and Colorado-Kansas border are expected to see some improvement.





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 Tex Discussion found on the Drought Monitor webpage.

June 2008 Climate Summary
State Summaries

Colorado	Temperature (degrees F)								Precipitation (inches)		
	Averages				Extremes				Totals		
	Max	Min	Mean	Depart	High	Date	Low	Date	Obs	Depart	Pct Norm
Alamosa San Luis Airport	79.9	37.7	58.8	-0.6	88	6/17	24	6/9	0.15	-0.44	25
Akron Washington County Airport	81.1	52.2	66.7	-1.1	94	6/22	42	6/13	2.86	0.54	123
Colorado Springs Municipal Airport	81.4	50.4	65.9	1.5	91	6/26+	38	6/13+	0.58	-1.76	25
Grand Junction Walker Field Airport	87.1	56	71.5	0.4	98	6/22	42	6/12+	0.5	0.09	122
Pueblo Memorial Airport	89.2	52.3	70.8	1	103	6/18	41	6/13	0.89	-0.44	67

Kansas	Temperature (degrees F)								Precipitation (inches)		
	Averages				Extremes				Totals		
	Max	Min	Mean	Depart	High	Date	Low	Date	Obs	Depart	Pct Norm
Concordia Municipal Airport	84.5	61.9	73.2	-0.2	96	6/26	56	6/30+	4.71	0.76	119
Dodge City Regional Airport	90	60	75	0.7	103	6/26	52	6/12	1.64	-1.51	52
Goodland Renner Field	85.9	53.4	69.7	0.1	98	6/25+	38	6/12	0.97	-2.33	29
Topeka Municipal Airport	85.1	65.2	75.2	1.2	92	6/25	56	6/17	7.5	2.62	154
Wichita Mid-Continent Airport	87.3	66.2	76.8	1.2	95	6/26	58	6/30	7.42	3.17	175

Nebraska	Temperature (degrees F)								Precipitation (inches)		
	Averages				Extremes				Totals		
	Max	Min	Mean	Depart	High	Date	Low	Date	Obs	Depart	Pct Norm
Chadron Municipal Airport	80.4	48.2	64.3	-2.9	96	6/30	36	6/12	2.37	-0.25	90
Grand Island Airport	83.1	59.3	71.2	0.1	93	6/14	48	6/13	9.85	6.13	265
Lincoln Municipal Airport	84	61.7	72.8	0.1	93	6/7	56	6/30+	8.59	5.08	245
Omaha Eppley Airport	82.3	61.4	71.8	-0.4	92	6/7	53	6/17	9.51	5.56	241
Norfolk Karl Stefan Airport	81.2	57.4	69.3	-0.8	90	6/25	48	6/13	4.6	0.35	108
North Platte Regional Airport	80.5	51.3	65.9	-2.5	93	6/26	37	6/13	2.79	-0.38	88
Valentine Miller Field	79.6	50.8	65.2	-2.4	92	6/24	39	6/12	4.48	1.47	149

North Dakota	Temperature (degrees F)								Precipitation (inches)		
	Averages				Extremes				Totals		
	Max	Min	Mean	Depart	High	Date	Low	Date	Obs	Depart	Pct Norm
Bismark Municipal Airport	74.8	49	61.9	-2.8	87	6/24	37	6/16	3.92	1.33	151
Dickinson Municipal Airport	73.3	47.1	60.2	-3.2	92	6/30	37	6/11	2.3	-1.01	69
Fargo International Airport	74.3	52.8	63.5	-2.5	87	6/24	48	6/12+	6.06	2.55	173
Grand Forks International Airport	74.2	49.5	61.8	-3.4	86	6/30	43	6/16	2.96	-0.07	98
Williston International Airport	74.9	47.7	61.3	-2.4	95	6/30	35	6/8	1.93	-0.43	82

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/serviices.

June 2008 Climate Summary

South Dakota	Temperature (degrees F)								Precipitation (inches)		
	Averages				Extremes				Totals		
	Max	Min	Mean	Depart	High	Date	Low	Date	Obs	Depart	Pct Norm
Aberdeen Regional Airport	77.6	50.7	64.1	-2.7	90	6/24	41	6/16	3.21	-0.28	92
Huron Regional Airport	77.5	53.1	65.3	-2.6	86	6/24	42	6/16	4.05	0.77	123
Rapid City Regional Airport	73.9	49.8	61.8	-2.8	88	6/30+	35	6/12	3.12	0.29	110
Sioux Falls Joe Foss Field Airport	80	56.3	68.2	0.7	88	6/19	48	6/16	3.95	0.46	113

Wyoming	Temperature (degrees F)								Precipitation (inches)		
	Averages				Extremes				Totals		
	Max	Min	Mean	Depart	High	Date	Low	Date	Obs	Depart	Pct Norm
Casper Natrona County International AP	76.6	41.9	59.2	-3.5	93	6/30	34	6/8	0.57	-0.86	40
Cheyenne Municipal Airport	74.9	47.5	61.2	-0.3	90	6/30	38	6/9	1.87	-0.25	88
Lander Hunt Field Airport	75.4	46.5	61	-2.8	89	6/30	35	6/13+	0.82	-0.33	71
Laramie Regional Airport	70.6	40.8	55.7	-1.4	84	6/30	33	6/9	1.81	0.48	136
Rawlins Municipal Airport	74.4	41	57.7	-3.6	89	6/30	32	6/11	0.57	-0.36	61
Sheridan County Airport	73.1	43.8	58.5	-3.1	94	6/30	31	6/12	2.06	0.04	102

All Data are Preliminary and Subject to Change
Source: National Weather Service Cooperative Observation Network Data
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June 2008 Climate Summary

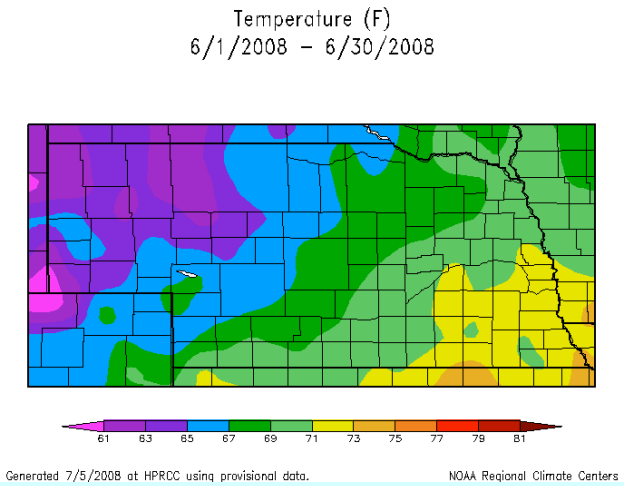
State Spotlight - Nebraska

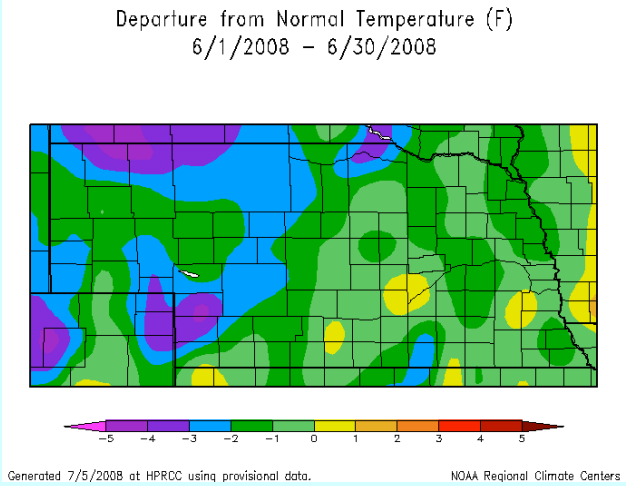
Al Dutcher – State Climatologist
Nebraska State Climate Office – University of Nebraska–Lincoln

Once again cool temperatures blanket the vast majority of Nebraska during the month of June. Over 90% of the recording sites within the states have endured 7 consecutive months of below normal temperatures. Preliminary data indicates that only 8 out of 155 reporting stations recorded above normal temperatures during June with Hebron having the greatest positive departure of 0.8 F. Hay Springs recorded the largest negative average temperature departure of 4.2 F. Temperatures ranged from 99 F at Kilgore and Benkelman on the 27th to 30 F at Harrisburg on the 12th. Monthly average temperatures ranged from 60.7 F at Harrison to 74.1 at York.

Several significant outbreaks of tornadoes occurred during the month of June. Significant damage was reported in Kearney, Grand Island, Aurora, Ceresco, and Valparaiso. Initial assessment reports by the Nebraska Department of Agriculture indicate at least 600 center pivots were destroyed or received significant damage. On June 28, a strong thunderstorm moved through Fremont and Omaha with estimated straight line winds between 90 and 110 mph resulting in widespread tree, crop, and structural damage. Depending on the source, preliminary storm damage losses during June range from 250 to 500 million dollars.

Significant rainfall was reported across the eastern 2/3 of Nebraska during June. Preliminary data indicates that greatest 24-hour precipitation total was 5.65 inches at Hickman on June 5th, with the greatest monthly total reported at Mead Agronomy Farm with 11.31 inches. Of the 180 stations reporting precipitation during June, 5 received at least 10 inches, 23 received at least 8 inches, and .44 received at least 6 inches. Expectations are for these numbers to increase as many sites have incomplete data for the month of June. Normal June precipitation averages about 3 inches across the Panhandle up to 4 inches across the extreme southwest corner of the state.





Above: Current Climate Summary Maps showing Average Temperature (°F) for June 2008 (left) and February 2008 Departure from 1971-2000 Normal Average February Temperature. Current Climate Summary Maps are available from the High Plains Regional Climate Center website at: http://hprcc.unl.edu/maps/current.

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, visit: http://www.snr.unl.edu

For more information on the University of Nebraska-Lincoln, visit: http://www.unl.edu

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 service 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

March 12, 2008 – Sunrise in Lincoln, NE – Photo by Ken Dewey
http://www.nebraskaweatherphotos.org

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