727 Hardin Hall
3310 Holdrege Street
Lincoln, NE 68583-0997
402 472-6706
Fax 402 472-8763
http://hprcc.unl.edu

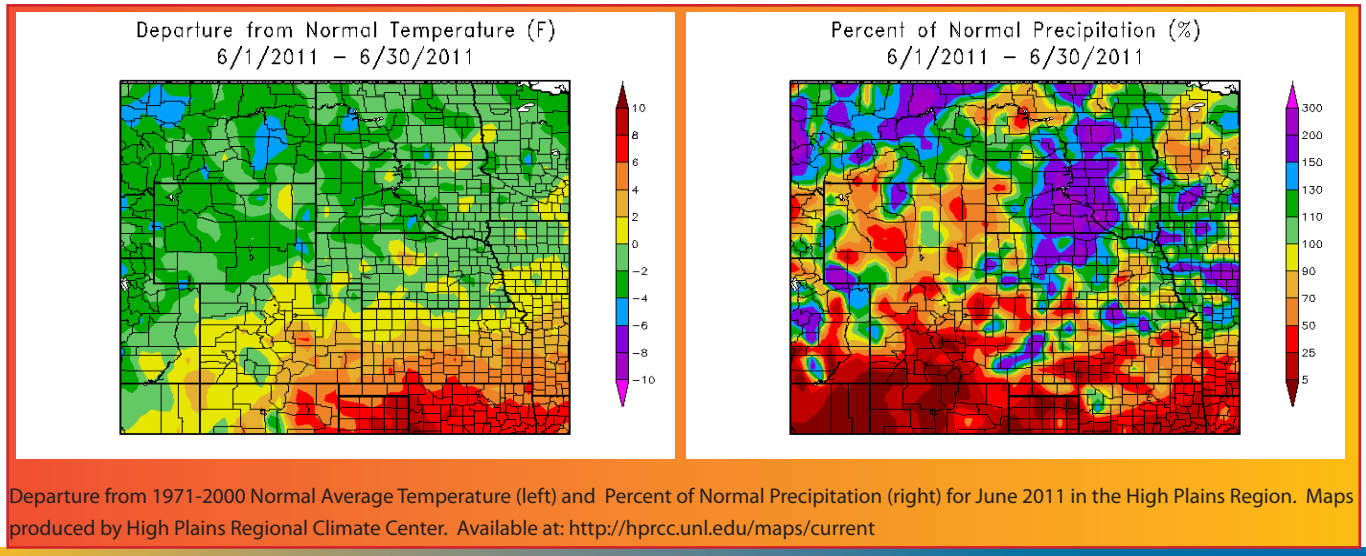
Weather Campers visit AWDN site in Lincoln, NE - Photo by Ken Dewey
http://www.hprcc.unl.edu

June 2011 Climate Summary

Region Breakdown

June 2011 temperatures were generally lower than normal in the north and higher than normal in the south across the High Plains Region. Average monthly temperatures ranged from near normal to 6.0 degrees F (3.3 degrees C) below normal in the Dakotas, Wyoming, Nebraska, and northern Colorado. Meanwhile, average monthly temperatures ranged from near normal to 7.0 degrees F (3.9 degrees C) above normal in Colorado and Kansas.

Many locations in Kansas ranked in the top 10 warmest Junes on record and set many daily high temperature records. Dodge City, Kansas had its 5th warmest June on record (period of record 1874-2011) with an average temperature of 79.8 degrees F (26.6 degrees C). The record, which was set in 1952, held at 81.7 degrees F (27.6 degrees C). Interestingly, Dodge City had 10 days this month in which the maximum temperature was 100 degrees F (37.8 degrees C) or greater. Typically, Dodge City only has 1.5 days at or above 100 degrees F (37.8 degrees C) in June. June 1953 held onto the record with 11 days. One of these particularly hot days was June 26th, when Dodge City tied for its highest maximum temperature of all time with 110 degrees F (43.3 degrees C). The only other time that the temperature had been that high was June 29, 1998.

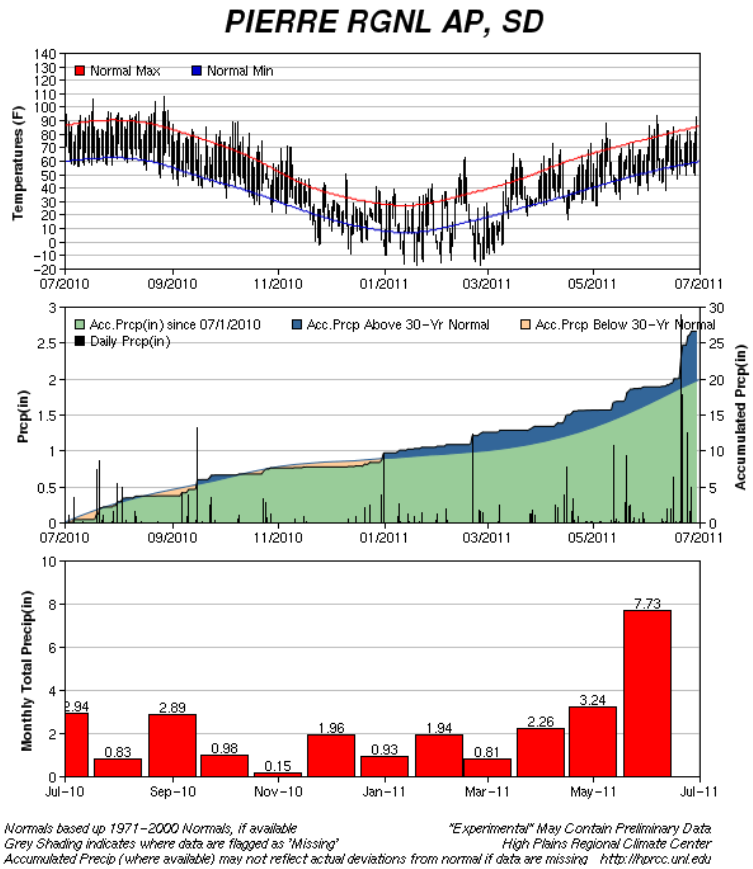


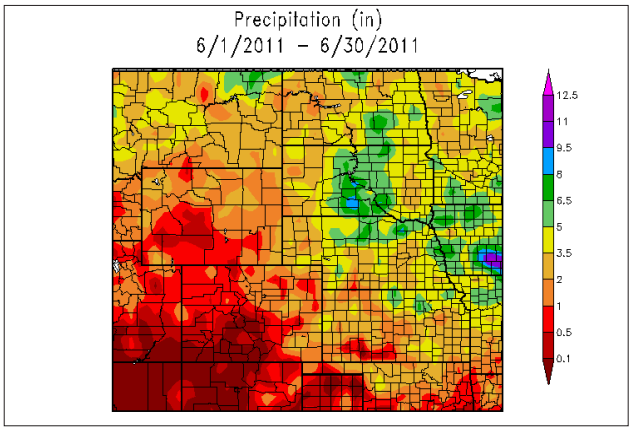
Departure from 1971-2000 Normal Average Temperature (left) and Percent of Normal Precipitation (right) for June 2011 in the High Plains Region. Maps produced by High Plains Regional Climate Center. Available at: http://hprcc.unl.edu/maps/current

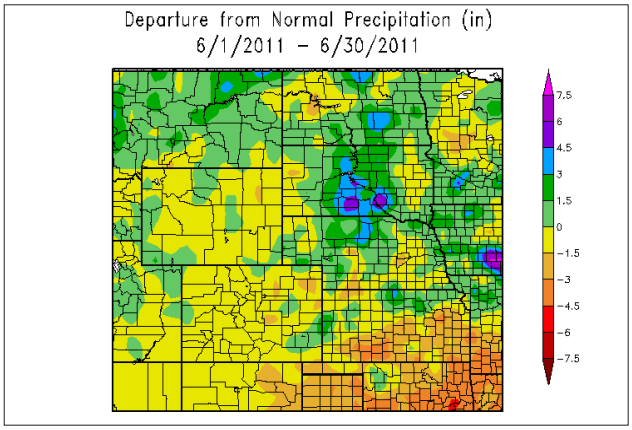
Precipitation Summary

This month, large areas of above and below normal precipitation occurred. Areas of southern Colorado and southern Kansas received little to no precipitation, while a swath of above normal precipitation extended through central North Dakota, South Dakota, and into Nebraska. Alamosa, Colorado, which was experiencing extreme drought the entire month, tied for its driest June on record (period of record 1906-2011). This was the third June on record in which Alamosa did not receive any measurable precipitation (other years included 1980 and 1946). Elsewhere, some locations received well over 200 percent of normal precipitation with Pierre, South Dakota being this month's wet spot. Total precipitation at Pierre this June was 8.31 inches (211 mm) which was 4.82 inches (122 mm) above normal and enough to set a new record (period of record 1893-2011). The old record of 7.66 inches (195 mm) occurred just a few years ago, in 2008. The plots below (left) show the temperatures and precipitation for Pierre, South Dakota over the past year. The accumulated precipitation above normal from July 1, 2010 to June 30, 2011 is in the blue shading. More graphs like this one may be found via the Station Search tool at: http://www.hprcc.unl.edu/stations.

Meanwhile, flood warnings along the Missouri River continued the entire month. Numerous towns and hundreds of thousands of acres of farmland have been impacted by the flooding. In addition, many roads were closed including parts of I-29 in Iowa, Missouri, and South Dakota. According to the South Dakota State Climate Office, some residents of Pierre, Fort Pierre, and Dakota Dunes evacuated their homes. Major flooding continued this month along not only the Missouri River, but also the Souris River which flows south from Canada into North Dakota. Many towns along the river were impacted including Minot, Burlington, Sawyer, and Velva. According to the North Dakota State Climate Office, in Minot, the state's fourth largest city, 11,000 people were forced to evacuate in just 24 hours and numerous homes and businesses were damaged in the flood. The river crested at a record 1561.72 feet which surpassed the old record of 1558 feet set in 1881.







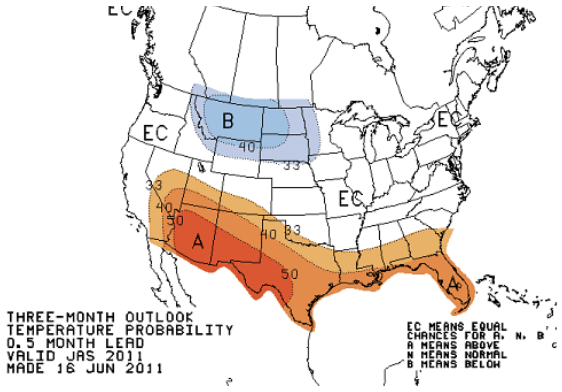
Above: Maximum, minimum, and normal temperatures, accumulated precipitation, and monthly total precipitation for Pierre, South Dakota over the past year (top left). Total precipitation (inches) (top right) and Departure from Normal Precipitation (inches) (bottom right) for June 2011 in the High Plains Region. These maps are produced by HPRCC and can be found on the Current Climate Summary Maps page at: http://hprcc.unl.edu/maps/current.

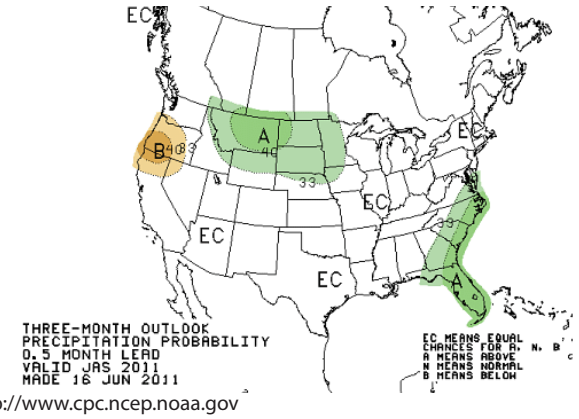
The High Plains Regional Climate Center is one of the Regional Climate Centers, and is involved in the Applied Climate Information System (ACIS) development and management effort. Data found throughout this publication were derived using products built on the ACIS framework.

ACIS
Applied Climate Information System - Regional Climate Centers

Climate Outlook

El Niño Southern Oscillation cycle (ENSO)-neutral conditions are present in the equatorial Pacific and are expected to continue through summer. The temperature outlook indicates a higher probability of above normal temperatures for most of southern Colorado. Meanwhile, North Dakota, South Dakota, northern Wyoming, and a small sliver of northern Nebraska have a higher probability of below normal temperatures. Equal chances of above, near, or below normal temperatures are predicted elsewhere in the Region. The precipitation outlook indicates a higher probability of above normal precipitation for North Dakota, South Dakota, the northern half of Wyoming, and northern Nebraska. Equal chances of above, near, or below normal precipitation are predicted elsewhere in the Region. The seasonal outlooks combine the effects of long-term trends, soil moisture, and when applicable, ENSO. More information about these forecasts can be found here: http://www.cpc.ncep.noaa.gov/.

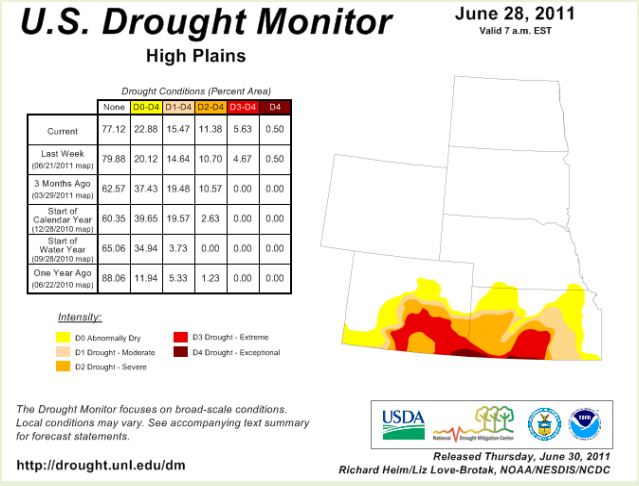


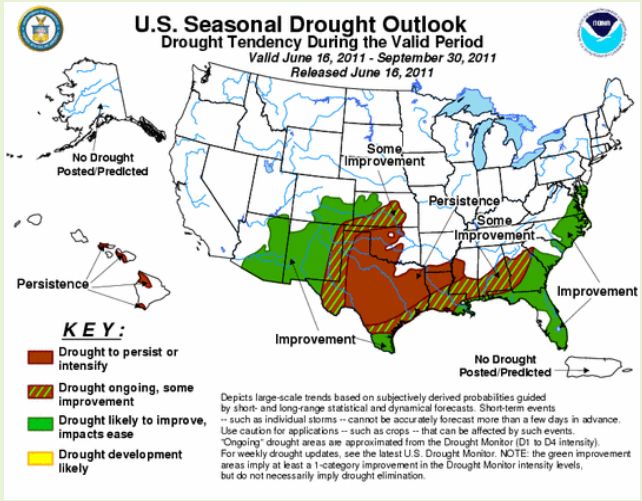


Above: 3-Month Outlook Maps Courtesy the NOAA Climate Prediction Center - http://www.cpc.ncep.noaa.gov
(left) The Three-Month Temperature Probability Outlook, (right) The Three-Month Precipitation Probability Outlook

Drought Watch

The U.S. Drought Monitor had slight changes throughout the month of June. Hot and dry conditions caused an expansion of extreme drought (D4) in parts of south central Colorado. Exceptional drought conditions (D5) were also expanded northward into extreme south central Kansas. Since last month, abnormally dry conditions have also expanded to southwestern Colorado. Heavy rains allowed for some improvement in southeastern Kansas where abnormally dry conditions (D0) and moderate drought conditions (D1) were eliminated, and also in northwestern Kansas, where D1 and severe drought conditions (D2 were erased. Meanwhile, North Dakota, South Dakota, and Wyoming remained drought free, while only small portions of southeast and southwest Nebraska had D0 this month. According to the U.S. Seasonal Drought Outlook released June 16th drought conditions across Colorado and Kansas were expected to improve.





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 Regional Climate Centers are 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.

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	83.4	39.4	61.4	2.0	91	06/28	28	06/08	0.00	-0.59	0
Akron Washington County Airport	--	--	--	--	--	--	--	--	0.59	-1.73	25
Colorado Springs Municipal Airport	86.3	54.7	70.5	6.1	97	06/27	47	06/12	0.26	-2.08	11
Grand Junction Walker Field Airport	88.2	55.9	72.0	1.0	101	06/28	47	06/03	0.56	0.15	137
Pueblo Memorial Airport	91.9	55.6	73.8	4.0	102	06/20	48	06/15	0.80	-0.53	60

Kansas	Temperatures (degrees F)								Precipitation (inches)		
	Averages				Extremes				Totals		
	Max	Min	Mean	Depart	High	Date	Low	Date	Obs	Depart	% Norm
Concordia Municipal Airport	86.9	63.6	75.2	1.8	103	06/30	54	06/01	3.55	-0.40	90
Dodge City Regional Airport	96.5	63.2	79.8	5.5	110	06/26	51	06/11	0.32	-2.83	10
Goodland Renner Field	85.6	56.2	70.9	1.3	102	06/30	47	06/09	2.16	-1.14	65
Topeka Municipal Airport	89.2	67.8	78.5	4.6	101	06/30	55	06/01	2.29	-2.59	47
Wichita Mid-Continent Airport	94.5	68.3	81.4	5.9	105	06/30	58	06/22	4.73	0.48	111

Nebraska	Temperatures (degrees F)								Precipitation (inches)		
	Averages				Extremes				Totals		
	Max	Min	Mean	Depart	High	Date	Low	Date	Obs	Depart	% Norm
Chadron Municipal Airport	80.2	50.8	65.5	-1.7	100	06/29	40	06/04	1.67	-0.95	64
Grand Island Airport	83.7	59.9	71.8	0.7	103	06/30	47	06/11	1.72	-2.00	46
Lincoln Municipal Airport	84.0	61.8	72.9	0.2	100	06/30+	47	06/11	3.44	-0.07	98
Omaha Eppley Airfield	82.5	64.1	73.3	1.1	101	06/06	54	06/01	4.31	0.36	109
Norfolk Karl Stefan Airport	81.1	58.6	69.8	-0.2	98	06/30+	46	06/11	3.12	-1.13	73
North Platte Regional Airport	81.3	55.2	68.2	-0.2	96	06/30	47	06/15+	4.17	1.00	132
Valentine Miller Field	81.1	53.8	67.5	-0.1	102	06/06	40	06/11	3.56	0.55	118

North Dakota	Temperatures (degrees F)								Precipitation (inches)		
	Averages				Extremes				Totals		
	Max	Min	Mean	Depart	High	Date	Low	Date	Obs	Depart	% Norm
Bismark Municipal Airport	74.8	50.5	62.7	-2.0	89	06/29	34	06/11	3.19	0.60	123
Fargo International Airport	76.9	56.6	66.8	0.8	98	06/30	45	06/11+	4.41	0.90	126
Grand Forks International Airport	75.3	54.2	64.8	-0.4	96	06/30	38	06/11	3.34	0.31	110
Theodore Roosevelt Airport	72.8	48.8	60.8	-2.6	94	06/29	35	06/01	3.56	0.25	108
Williston International Airport	73.1	50.7	61.9	-1.8	91	06/29	36	06/01	1.86	-0.50	79

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

June 2011 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	77.2	55.7	66.4	-0.4	98	06/06	42	06/11	4.69	1.20	134
Huron Regional Airport	77.7	57.1	67.4	-0.5	98	06/30	42	06/11	3.95	0.67	120
Pierre Regional Airport	77.6	53.1	65.3	-3.4	94	06/06	38	06/11+	8.31	4.82	238
Rapid City Regional Airport	76.1	49.9	63.0	-1.6	98	06/29	39	06/01	3.84	1.01	136
Sioux Falls Joe Foss Field Airport	77.4	56.8	67.1	-0.4	99	06/06	45	06/01	4.26	0.77	122

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	78.0	43.0	60.5	-2.2	94	06/29	31	06/04	1.55	0.12	108
Cheyenne Municipal Airport	76.1	47.3	61.7	0.2	90	06/29	38	06/10	2.02	-0.10	95
Lander Hunt Field Airport	75.8	45.9	60.8	-2.9	92	06/28	36	06/10+	0.55	-0.60	48
Laramie Regional Airport	74.5	40.2	57.4	0.2	88	06/28	27	06/03	1.36	0.03	102
Rawlins Municipal Airport	75.7	39.9	57.8	-3.5	89	06/29	29	06/03	0.68	-0.25	73
Sheridan County Airport	75.1	46.0	60.5	-1.1	97	06/29	36	06/04+	1.68	-0.34	83

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

Severe Weather Summary

June was a stormy month across the High Plains Region as severe weather was reported on all but 4 days this month. In addition to tornadoes, large hail, and high winds, heavy rains were reported in many locations. Here is an overview of some of the events:

- June 1: Bulk of severe weather occurred in northern Kansas with tornadoes, large hail (2" diameter +), and high winds (65 knot +); 6-9 inches of rain fell in just a 6 hour period in northeastern Kansas
- June 18-20: Tornadoes reported in Colorado, Kansas, Nebraska, and North Dakota; damage to houses, power lines, grain bins, trees, and center pivot irrigation systems reported; heavy rains caused flash flooding and washed out roads in western and central Nebraska
- June 26: Large hail and high winds reported across much of northern and eastern Nebraska
- June 28: Collapsing thunderstorm caused 84 mph (135 km/hr) winds at the Kit Carson County Airport in eastern Colorado; damage to hangars and aircraft reported

June 2011 - Storm Reports

June 2010 Totals in Parentheses

State	Tornado	Hail	Wind
Colorado	6 (13)	82 (137)	46 (15)
Kansas	21 (21)	275 (128)	261 (241)
Nebraska	37 (25)	222 (204)	139 (155)
North Dakota	9 (41)	27 (56)	24 (59)
South Dakota	4 (6)	70 (105)	64 (114)
Wyoming	4 (6)	25 (65)	24 (36)
Total	81 (112)	701 (695)	558 (620)

Damage at Kit Carson Airport - Photo courtesy Goodland NWS Office

Storm report totals are preliminary and are provided by the NOAA Storm Prediction Center located in Norman, OK. For more information on storm reports and the Storm Prediction Center, please see: http://www.spc.noaa.gov.

State Spotlight - North Dakota

F. Adnan Akyüz - State Climatologist, Barb Mullins
North Dakota State Climate Office, North Dakota State University

Precipitation:

Percent of normal precipitation ranged from approximately 40% to 250% (Figure 1. North Dakota State Climate Office). The northwest, eastern, and southwestern corner had above normal precipitation and below normal elsewhere. The North Dakota Agricultural Weather Network (NDAWN) June rainfall totals ranged from 1.07 inches at Brorson, MT to 6.89 inches at Streeter. The first half of the month was relatively dry and warm. During the second half of the month there was a significant rain event somplace in North Dakota almost daily. Major unprecidented flooding occurred along the Souris (Mouse) river. Heavy rains in western North Dakota and neighboring Canada contributed to the flooding. Towns along the Souris River including Minot, Burlington, Sawyer, and Velva were affected. Minot being the 4th largest city in North Dakota evacuted a fourth of it's population. An estimated 11,000 people were evacuated in less than 24 hours. Many homes and business were damaged or lost. At Minot the river crested on the 25th at 1561.72 feet breaking the previous record set in 1881 of 1558 feet. See photos posted at the end of this article.

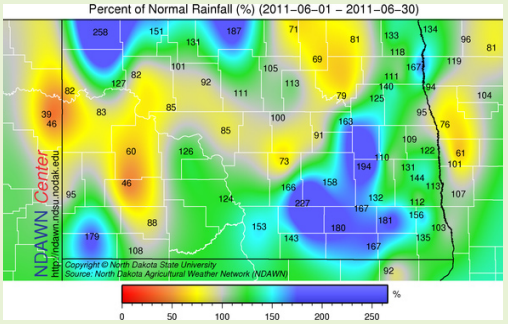


Figure 1. Percent of Normal Precipitation in June 2011 for North Dakota (North Dakota State Climate Office)

Temperature:

NDAWN June average air temperatures ranged from 60 °F to 66 °F. NDAWN departure from normal temperatures ranged from 1 °F to -2 °F (Figure 2. North Dakota State Climate Office). The beginning of the month had a few very warm days with above normal temperatures. The 7th through the 11th were cool and below normal for most locations. The rest of the month had fairly steady near normal temperatures. The last couple days of the month were hot with temperatures in the high 80's and 90's. The minimum temperatures in the east on the 29th were in the 70's. Fargo set a new record high minimum temperature of 76 °F on the 30th.

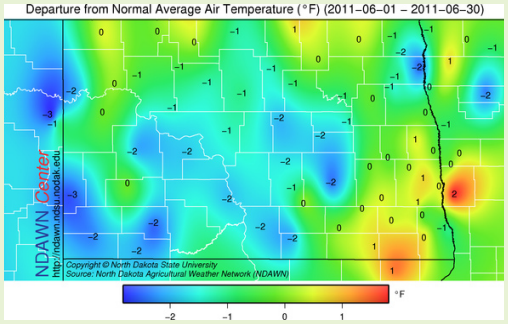


Figure 2. Temperature Departure from Normal in June 2011 for North Dakota (North Dakota State Climate Office)

Above: Photos of flooding along the Souris River, courtesy the Bismarck National Weather Service Forecast 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).

State Spotlight - South Dakota

Dennis Todey - State Climatologist, Nathan Skadsen
South Dakota State Climate Office, South Dakota State University

Synopsis

The month of June saw a continuation of above normal precipitation, below normal temperatures, and impacts due to flooding. The most severe flooding occurred along the Missouri River as many communities along the river saw record high river elevations that corresponded to record high releases from the many dams. Flooding was not only a concern along the Missouri as many other rivers and lakes around the state continued to affect home and land owners. The below average temperatures also delayed crop development across much of the state.

Temperature

In the month of June, average temperatures ranged from 70°F in the extreme southeast to less than 60°F in the extreme northwest (Fig. 1). The highest average temperature was 70.4°F at Vermillion 2SE while the lowest average temperature was 55.2°F at Pactola Dam.

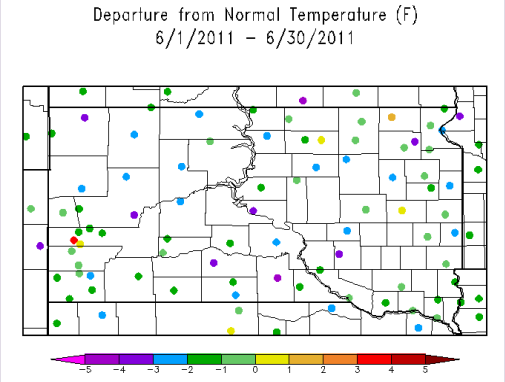


Figure 1. Departure from Normal Temperature in June 2011 for South Dakota (High Plains Regional Climate Center)

The month of June saw almost the entire state experience below normal temperatures with just a couple sites recording near normal temperatures. The greatest departure from normal, -4.3°F, was seen at Oahe Dam and Winner. Only Hill City, Mount Rushmore National Memorial, DeSmet, Britton, and Ipswich recorded above averagel temperatures. The first 100°F temperatures in the state in 2011 did not occur until late June when a warm air mass moved across the state. Most areas reached highs well into the 90s F.

Precipitation and Drought

Precipitation during the month of June varied greatly across the state of South Dakota. Areas in central South Dakota received between 8 to 9 inches of precipitation while areas to the west received 1 to 2 inches. The greatest amount of precipitation was seen at Academy 2NE which received 9.95 inches. Mission, Bowdle, and Pierre Regional Airport all received greater than 8 inches of precipitation.

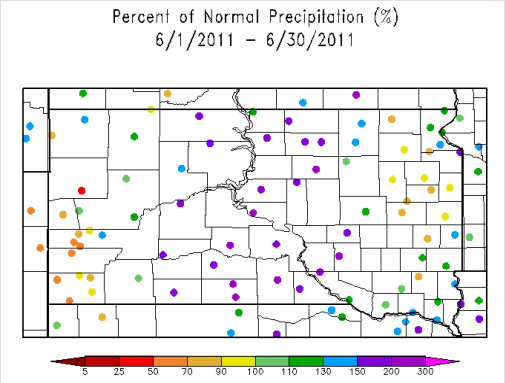


Figure 2. Percent of Normal Precipitation in June 2011 for South Dakota (High Plains Regional Climate Center)

Two stations, Pierre (8.31 inches) and Academy (9.95 inches) had all time record wettest months. Murdo at 7.28 inches came in 2nd all time.

For the seventh month in the row, most of the state saw a positive departure from normal precipitation. Areas across central South Dakota received precipitation values between 1.5 to 6 inches above normal. Gann Valley and Academy 2NE both saw a departure from normal precipitation greater than 6 inches.

Although areas in eastern and western South Dakota received below normal precipitation, the entire state remained drought free. A few stations, mainly around the Black Hills had top 20 driest Junes. But with previous wet conditions and cool temperatures throughout the month, there was little impact.

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

State Spotlight - South Dakota

Dennis Todey - State Climatologist, Nathan Skadsen
South Dakota State Climate Office, South Dakota State University

Agricultural Impacts

The cool temperatures for the month produced little stress and temperatures rarely reached levels to induce stress. The bigger issue was the continued cooler than average temperatures. Combined with late planting in some areas, crop development was well behind average nearly everywhere in the state. Growing degree day accumulation for the growing season ranged from a few days below average in the far southeast to more than 10 days behind average in many other areas of the state. Some fields continued to be flooded and unable to plant. Most of the Missouri River flooding had little impact on field in South Dakota, moreso in other states. Other fields while not flooded were too wet for planting.

Flooding Impacts

Due to higher than normal precipitation upstream, the Missouri River in South Dakota saw record releases of water from dams throughout the month of June causing impacts in communities along the river from Pierre to Dakota Dunes. Excsessive late-season snowfall in the mountains and widespread heavy rainfall in Montana in May produced higher than expected run-off. By mid-June, releases from Oahe Dam were around 150,000 cubic feet per second, about 45,000 feet per second than the greatest previous release. National Guard units from across the state were dispatched to communities to sandbag, build up levees, and protect abandoned property. Additional help was provided by residents from across the state as well as prison inmates.

During the first week of June, about 3,000 residents of Pierre and Fort Pierre were asked to leave their homes. Residents and property located outside of the city limits and reinforced levees were flooded and damaged. Heavy rains throughout the month, included heavy rainfall taking place on June 20th and 21st, tested the storm sewers within the cities and led to water being pumped outside of the protective levees. The same heavy rains also led to a call for evacuations for residents along the Bad River, which empties into the Missouri River at Ft. Pierre. As releases from the Oahe Dam increased the levees held. However, towards the end of the month residents in and around Pierre and Fort Pierre had to deal with a new threat in the form of sinkholes.

The community of Dakota Dunes was another main focus for flood relief and prevention efforts. As crews built emergency levees to protect the community, nearly all of the 2,500 residents packed up and left. With National Guard units patrolling the levee constantly, work continued on the levees throughout the month to prevent any potential breaches. This resulted in the closure of Exit 1 on Interstate 29 multiple times throughout the month. As the water along the Missouri continued to rise, the levees in Dakota Dunes held without any major incident. However, many homes in Dakota Dunes did have water in their basements and lower levels largely due to groundwater build-up.

The communities of Chamberlin and Oacoma also had to begin sandbagging due to increased releases from the Big Bend Dam. Having originally been told that their communities would remain unaffected, the town of Chamberlin had to scramble to protect homes and businesses as the Missouri River overtopped one levee and flowed onto Main Street. The marina was also expected to flood. By the end of the month, Chamberlin had broken the previous record river level, which was set back in 1997.

As the floodwaters continued downstream, many other communities experienced flooding impacts. Several communities, including Wagner, Springfield, and Wynstone, saw land and buildings succumb to the Missouri River. The neighborhood of Riv-R-Land Estates saw 40 of their 56 homes receive water damage. Homes near Yankton, SD, also had to fight rising flood waters. Some residents built their own levees to protect their homes while others increased sandbagging efforts as releases from Gavins Point Dam increased river levels.

Outside of property damage, the rising Missouri River also created many other problems throughout the month of June. In Fort Thompson, the water treatment plant had to deal with increased sand and sediment clogging up the intake filters, causing concerns about supplying drinking water.

Because of the greatly increased level along the Missouri, tributaries near the river were also backed-up leaving little room for inflow. The area along the river saw 3-6” above average precipitation during the month. This added to local flooding issues and caused additional problems with levees and storm sewers blocked in Pierre and other locations.

For more information about the South Dakota State Climate Office: http://climate.sdstate.edu

The SDSU’s AWDN is a part of the High Plains Automated Weather Data Network (AWDN). Data are available through SDSU or the High Plains Regional Climate Center.

State Spotlight - Wyoming

Steve Gray - State Climatologist
Wyoming State Climate Office, University of Wyoming

Record snowpack and high water continued to dominate Wyoming's climate related news in June 2011. Statewide average snow water equivalent (SWE) at the beginning of the month sat at 327% of historical average (compared against values for the period 1971-2000), with end-of-month readings topping 1527% of average! While the latter value is highly skewed by the fact that it is unusual for many reporting sites to still have snow at this time of year, these measurements still give us a meaningful indication of how out of the ordinary this water year (October through September) has been in the high country.

Of course with high snowpack comes the potential for flooding. To date spring and early summer 2011 runoff has accounted for almost $4.5 million in damage across the state. While this number may seem small to many of our neighbors, this equates to a substantial economic impact in a state with only 500,000 people. That said, Wyoming was extremely fortunate in avoiding what could have been an epic disaster. Though this year's snowpack had certainly set the stage for more widespread and serious flooding, a relatively cool early June helped keep the snow in place. Moreover, significant late-season snowstorms and rain-on-snow events were rare to non-existent. Overall, the state dodged a major bullet.

In terms of new precipitation, June 2011 was actually on the dry side across much of Wyoming. Fremont County and many other parts of the Wind and Bighorn River basins in central Wyoming reported 50-70% of historical average precipitation (vs. 1971-200) for the month. Likewise, portions of Carbon County in southeast Wyoming reported as little as 25% of historical average. However, as alluded to above, this lack of precipitation in Carbon County was welcome for a change, as these same areas saw some of the worst damage from snowmelt-related flooding.

Regarding temperatures for June 2011, much of the state averaged 2-3 °F below normal (vs. 1971-2000) for the month. Several stations in the western half of the state reported particularly cool values, with sites in Sublette County and the Yellowstone and Grand Teton National Park regions running 4-5 °F below normal. The end of June did bring a substantial warm up to many parts of the state, with near normal to above normal temperatures expected into early July.

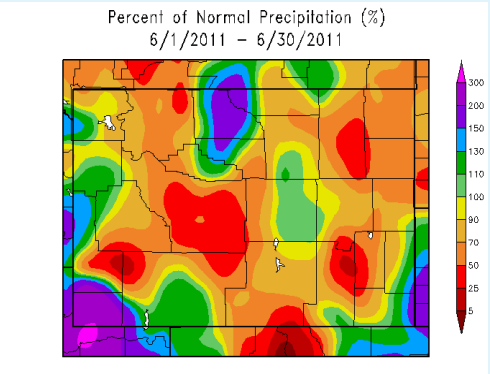


Figure 1. Map showing June 2011 precipitation as a percentage of historical averages (vs. 1971-2000 normal period) for Wyoming. Courtesy HPRCC.

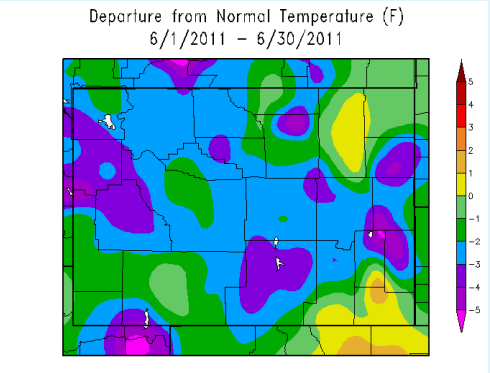


Figure 2. Map showing mean June 2011 temperatures from historical averages (vs. 1971-2000 normal period) for Wyoming. Courtesy HPRCC.

According to the US Drought Monitor (http://www.drought.unl.edu/dm/monitor.html) Wyoming remained "drought free" again for the month of June. Since January 2000 there have been less than 12 months total when the state has enjoyed a similar US Drought Monitor status. Heading into July 2011 the focus remains on snowmelt-driven runoff and flooding. With the Wind River at Riverton, WY exceeding record stage on July 1-2 and the Yellowstone River at Fishing Bridge expected to do the same by July 9 or 10, it could be a wild month.

This report was prepared by the Wyoming State Climate Office, which is a division of the Wyoming Water Resources Data System at the University of Wyoming. More information can be found at: http://www.wrds.uwyo.edu and http://www.wrds.uwyo.edy/sco/climate_office.html. Special thanks to the National Weather Service's Riverton Office and the NRCS Casper Office for supplying much of the data used in this report.

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 throughout the nation, 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

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Regional Climate Centers and ACIS: http://www.rcc-acis.org

National Weather Service: http://www.weather.gov

National Climatic Data Center: http://ncdc.noaa.gov

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

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

Author Information

For questions, comments, or suggestions, please contact:
Natalie Umphlett - Regional Climatologist - High Plains Regional Climate Center
(402) 472-6764 - numphlett2@unl.edu
712 Hardin Hall
3310 Holdrege Street
Lincoln, NE 68583-0997