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Toadstool Geologic Park, Nebraska - Photo by Natalie Umphlett
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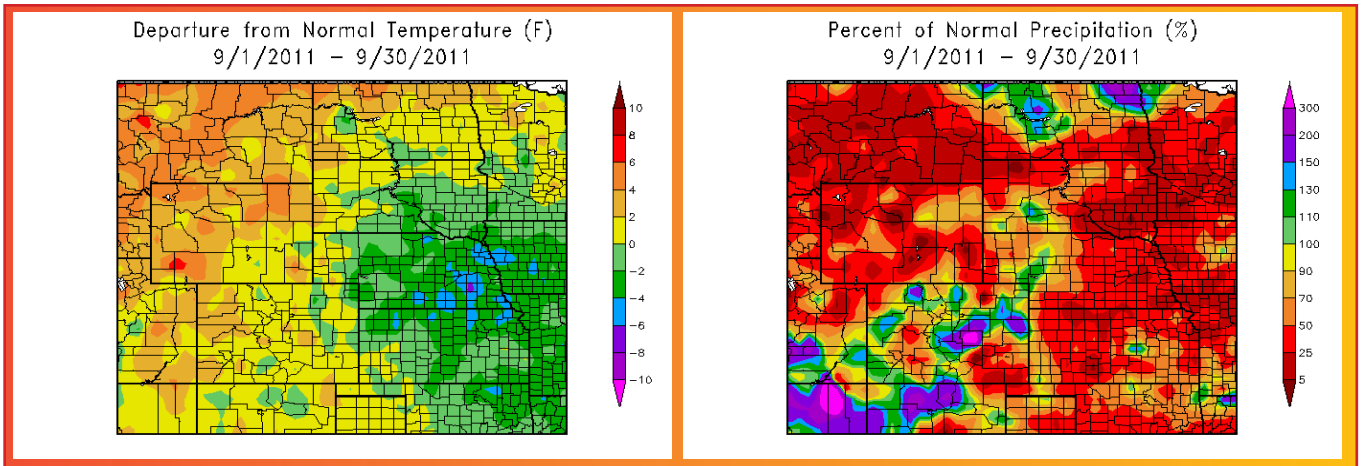
September 2011 Climate Summary

Region Breakdown

September 2011 temperatures were generally below normal in the eastern portion of the High Plains Region and above normal in the western and northern areas of the Region. Temperature departures were up to 6.0 degrees F (3.3 degrees C) below normal in Kansas, Nebraska, and South Dakota. The cooler than normal temperatures allowed many locations across eastern Nebraska to be ranked in the top 10 coolest Septembers on record. Lincoln, Nebraska had its 6th coolest September with an average temperature of 61.5 degrees F (16.4 degrees C) which was 4.5 degrees F (2.5 degrees C) below normal (period of record 1887-2011). Lincoln's coolest September occurred in 1993 with an average temperature of 59.9 degrees F (15.5 degrees C). Meanwhile, Colorado, Wyoming, North Dakota, and pockets of western South Dakota and the panhandle of Nebraska had temperature departures which were up to 6.0 degrees F (3.3 degrees C) above normal. Some locations in Wyoming ranked in the top 10 warmest Septembers on record. For instance, Yellowstone National Park, Wyoming tied for its 6th warmest September on record with an average temperature of 57.0 degrees F (13.9 degrees C) (period of record 1894-2011). The warmest September occurred in 1990 with an average temperature of 58.9 degrees F (14.9 degrees C).

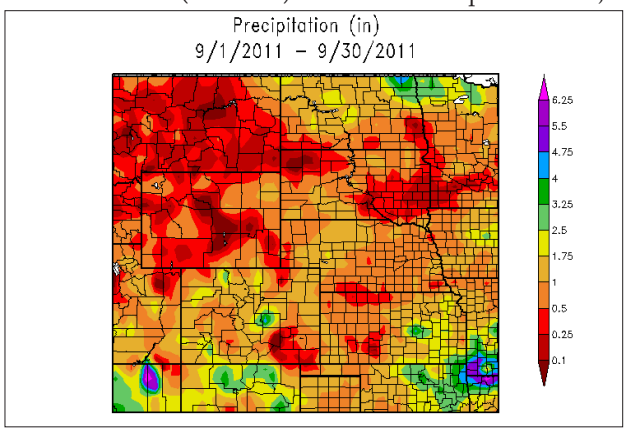


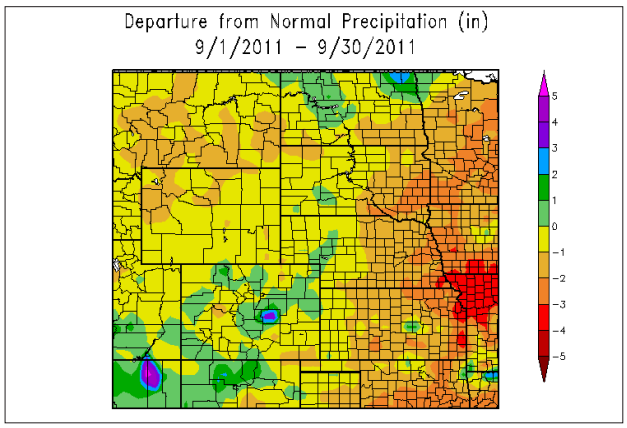
Departure from 1971-2000 Normal Average Temperature (left) and Percent of Normal Precipitation (right) for September 2011 in the High Plains Region.
Maps produced by High Plains Regional Climate Center. Available at: http://hprcc.unl.edu/maps/current

Precipitation Summary

September was a quiet month for the High Plains Region. Severe weather was reported on only a few days this month and the majority of the Region was dry. Much of Kansas, Nebraska, South Dakota, North Dakota, and Wyoming received only 50 percent of normal precipitation and many areas received less than 25 percent of normal precipitation. Several of these locations ranked in the top 10 driest Septembers on record and a few even broke records. For instance, Sioux Falls, South Dakota had its driest September on record with only 0.20 inches (5 mm) of precipitation (period of record 1893-2011). The old long-standing record of 0.21 inches (5 mm) occurred in 1899. Boysen Dam, Wyoming, which is located in the central part of the state, received no precipitation this month and tied for its driest September (period of record 1948-2011). Interestingly, the other driest September occurred just last year (2010) which makes two Septembers in a row without precipitation.

Pockets of Colorado and North Dakota had precipitation which was more than 150 percent of normal. This month's wet location was Colorado Springs, Colorado. Colorado Springs had its wettest September on record with 5.91 inches (150 mm) of precipitation (period of record 1894-2011). The old record occurred in 2008 with 4.97 inches (126 mm). An impressive 4.50 inches (114 mm) of the monthly total fell in one day, September 14th. Not only did this set a record for the day, the September 14 precipitation set a new record for the highest one-day precipitation total on record (for any day of any month)! The old record of 4.29 inches (109 mm) occurred on September 11, 2008.





Above: Total precipitation (inches) (left) and Departure from Normal Precipitation (inches) (right) for September 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.

September 2011 Records - Highlights

Monthly Records

Temperature in degrees F/Precipitation in inches

Coolest	**New Record**	**Old Record/Year**	**Period of Record**
Hastings 4 N, NE	60.3	60.8/2006	1907-2011
Wettest	**New Record**	**Old Record/Year**	**Period of Record**
Colorado Springs, CO	5.91	4.97/2008	1894-2011
Driest	**New Record**	**Old Record/Year**	**Period of Record**
Auburn 5 ESE, NE	0.34	tied/1908	1893-2011
Table Rock 4 N, NE	0.13	0.54/1908	1893-2011
Sioux Falls, SD	0.20	0.21/1899	1893-2011
Boysen Dam, WY	0.00	tied/2010	1948-2011
Rawlins Muni AP, WY	0.06	0.10/1953	1951-2011

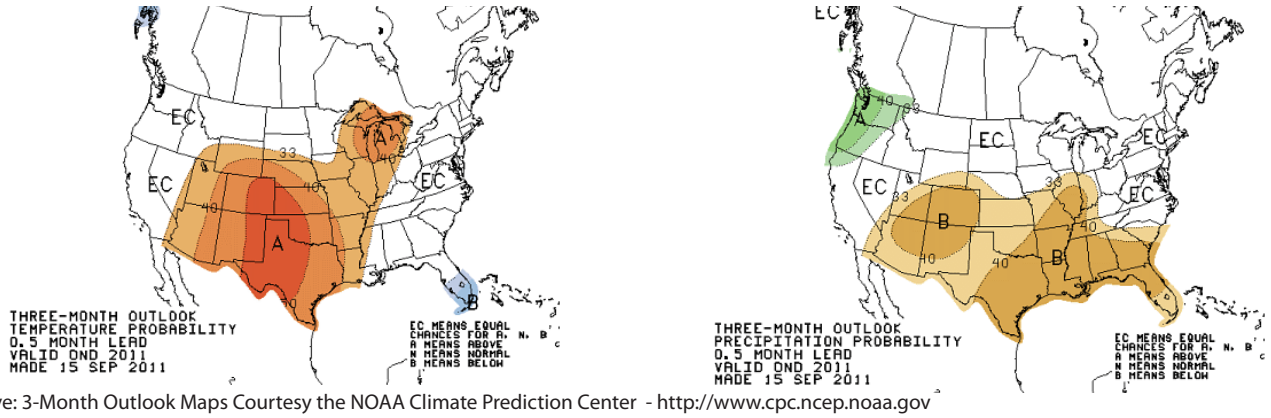
All Data are Preliminary and Subject to Change.
Source: National Weather Service Cooperative Observation Network Data

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

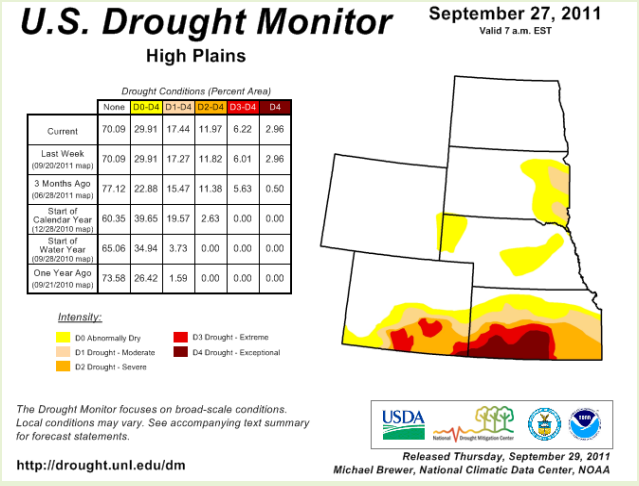
La Niña conditions are present in the equatorial Pacific and are expected to strengthen and continue into winter. The temperature outlook indicates a higher probability of above normal temperatures for most of the Region, including Colorado, Kansas, Nebraska, the majority of Wyoming, and southern South Dakota. Equal chances of above, near, or below normal temperatures are predicted elsewhere in the Region. The precipitation outlook indicates a higher probability of below normal precipitation for Colorado, Kansas, southeastern Wyoming, and the panhandle of 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, the El Niño Southern Oscillation cycle (ENSO). More information about these forecasts can be found here: http://www.cpc.ncep.noaa.gov/.

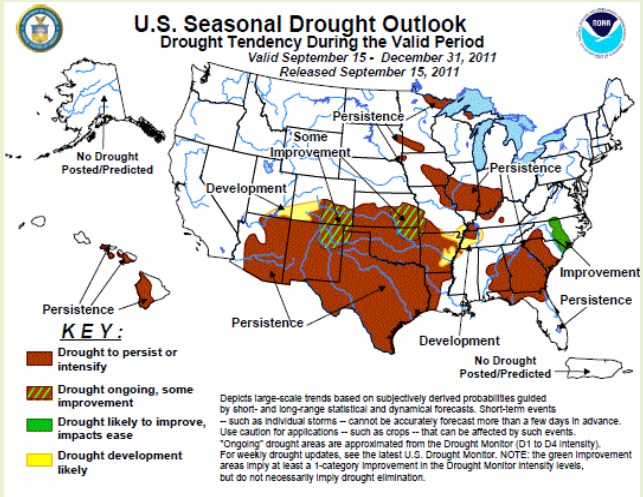


Above: 3-Month Outlook Maps Courtesy the NOAA Climate Prediction Center - http://www.cpc.ncep.noaa.gov
(left) The Three-Month Temperature Probability Outlook, (right) The Three-Month Precipitation Probability Outlook

Drought Watch

There were many changes to the U.S. Drought Monitor this month. Areas of improvement include northeastern Colorado and the Black Hills region of South Dakota where abnormally dry conditions (D0) were erased. East central Kansas had a one category improvement from extreme drought (D3) to severe drought (D2) while a pocket of exceptional drought (D4) in south-central Colorado was downgraded to D3. D0 expanded to include much of eastern South Dakota and two pockets of moderate drought (D1) expanded there as well. In addition, an area of D0 expanded through parts of central Nebraska and the panhandle. Meanwhile, the ongoing drought in eastern Colorado and western Kansas remained largely unchanged. According to the U.S. Seasonal Drought Outlook drought conditions in western Kansas and eastern Colorado were expected to improve somewhat. The drought conditions in central Colorado, western Kansas, and eastern South Dakota were expected to persist, while drought conditions in western Colorado were expected to develop.





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://droughtmonitor.unl.edu/
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	73.9	37.9	55.9	1.4	84	09/03	27	09/23	1.15	0.26	129
Akron Washington County Airport	77.0	49.6	63.3	0.2	97	09/01	40	09/15	1.59	0.67	173
Colorado Springs Municipal Airport	75.3	49.6	62.5	2.7	92	09/01	40	09/22	5.91	4.68	480
Grand Junction Walker Field Airport	82.8	54.0	68.4	3.0	95	09/01	48	09/18	1.23	0.32	135
Pueblo Memorial Airport	81.6	50.5	66.0	1.2	98	09/01	39	09/22	0.46	-0.38	55

Kansas	Temperatures (degrees F)								Precipitation (inches)		
	Averages				Extremes				Totals		
	Max	Min	Mean	Depart	High	Date	Low	Date	Obs	Depart	% Norm
Concordia Municipal Airport	78.0	51.1	64.5	-3.5	104	09/01	40	09/30	0.88	-1.62	35
Dodge City Regional Airport	82.3	53.2	67.8	-1.5	107	09/01	37	09/30	0.54	-1.16	32
Goodland Renner Field	77.7	46.7	62.2	-1.8	101	09/01	34	09/30	0.38	-0.74	34
Topeka Municipal Airport	79.4	52.6	66.0	-2.1	106	09/01	40	09/26	1.74	-1.97	47
Wichita Mid-Continent Airport	82.6	56.0	69.3	-1.5	106	09/01	47	09/26	0.98	-1.98	33

Nebraska	Temperatures (degrees F)								Precipitation (inches)		
	Averages				Extremes				Totals		
	Max	Min	Mean	Depart	High	Date	Low	Date	Obs	Depart	% Norm
Chadron Municipal Airport	80.3	43.3	61.8	0.1	92	09/11	28	09/22	0.27	-1.17	19
Grand Island Airport	74.8	47.3	61.0	-3.4	94	09/01	35	09/30+	0.83	-1.60	34
Lincoln Municipal Airport	75.1	47.9	61.5	-4.5	95	09/01	35	09/23	1.33	-1.59	46
Omaha Eppley Airfield	74.2	53.3	63.8	-1.6	96	09/01	40	09/23	0.99	-2.18	31
Norfolk Karl Stefan Airport	74.1	45.6	59.9	-3.5	93	09/01	29	09/23	0.63	-1.62	28
North Platte Regional Airport	76.9	43.3	60.1	-2.3	99	09/01	27	09/30	0.98	-0.34	74
Valentine Miller Field	76.4	43.6	60.0	-1.5	92	09/28+	27	09/30	1.09	-0.52	68

North Dakota	Temperatures (degrees F)								Precipitation (inches)		
	Averages				Extremes				Totals		
	Max	Min	Mean	Depart	High	Date	Low	Date	Obs	Depart	% Norm
Bismark Municipal Airport	72.4	42.9	57.7	0.0	87	09/11	29	09/22+	0.96	-0.65	60
Fargo International Airport	73.5	46.3	58.9	1.9	91	09/11	30	09/15	0.23	-1.95	11
Grand Forks International Airport	73.0	45.6	59.3	2.3	89	09/11+	31	09/15	2.89	0.93	147
Theodore Roosevelt Airport	73.9	42.6	58.3	1.1	88	09/27	32	09/15+	0.66	-0.96	41
Williston International Airport	76.0	43.4	59.7	3.6	90	09/08+	26	09/14	0.86	-0.49	64

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.

September 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	73.5	44.6	59.0	-0.8	92	09/28	30	09/15	0.64	-1.17	35
Huron Regional Airport	74.0	45.3	59.6	-1.4	93	09/28	30	09/15	0.45	-1.35	25
Pierre Regional Airport	76.3	45.7	61.0	-2.2	93	09/28+	29	09/22	1.05	-0.50	68
Rapid City Regional Airport	77.1	45.3	61.2	0.6	92	09/11	32	09/22	0.75	-0.35	68
Sioux Falls Joe Foss Field Airport	72.7	46.5	59.6	-1.3	90	09/12+	30	09/23	0.20	-2.38	8

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	78.1	41.8	59.9	2.3	88	09/25	25	09/21	0.10	-0.88	10
Cheyenne Municipal Airport	73.0	44.4	58.7	2.1	89	09/01	34	09/22	0.45	-0.98	31
Lander Hunt Field Airport	77.2	46.5	61.9	3.2	88	09/01	34	09/21	0.66	-0.48	58
Laramie Regional Airport	70.4	37.6	54.0	1.1	85	09/01	24	09/22	0.89	-0.10	90
Rawlins Municipal Airport	74.8	39.6	57.2	0.3	85	09/01	25	09/22	0.06	-0.76	7
Sheridan County Airport	79.2	42.3	60.8	3.7	92	09/25	30	09/21	0.12	-1.26	9

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Fall Frost Statistics

What is the average first fall frost date in your area? Check out the table below to find out!

Location	Average, Earliest, and Latest First Fall Frost (32F)			
	Average	Earliest	Latest	Period of Analysis
Denver, CO	October 7	09/08/1962	11/15/1944	1872-2011
Grand Junction, CO	October 19	09/15/1903	11/26/1965	1893-2011
Pueblo, CO	October 8	09/09/2001	10/31/1974	1888-2011
Dodge City, KS	October 20	09/17/1903	11/14/1965	1875-2011
Topeka, KS	October 20	09/22/1995	11/21/1944	1887-2011
Wichita, KS	October 28	09/22/1995	11/21/1944	1888-2011
Lincoln, NE	October 12	09/11/1940	11/07/1956+	1887-2011
North Platte, NE	September 29	09/03/1974	11/28/1931	1875-2011
Omaha, NE	October 17	09/18/1901	11/13/1915	1871-2011
Bismarck, ND	September 22	08/28/1911	10/14/2008	1874-2011
Fargo, ND	September 25	08/25/1885	10/24/1994	1881-2011
Williston, ND	September 20	08/22/1911+	10/27/1963	1894-2011
Aberdeen, SD	September 23	08/28/1893	10/17/1957+	1893-2011
Rapid City, SD	September 28	09/09/2001+	10/27/1963	1942-2011
Sioux Falls, SD	September 30	09/03/1974	10/28/1963	1893-2011
Cheyenne, WY	September 25	08/24/1910	10/27/1963	1873-2011
Lander, WY	September 21	08/22/1904	10/25/2010	1891-2011
Sheridan, WY	September 20	08/17/2002	10/24/1963	1907-2011

+ indicates multiple dates, latest date listed.
Source: National Weather Service Cooperative Observation Network Data
Data are retrieved through the Applied Climate Information System (ACIS).

State Spotlight - North Dakota

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

Precipitation:

September was a quiet month with many dry days which aided harvest progress. The larger rainfall events that occurred in parts of North Dakota (ND) happened on the 1st, 18th, 19th, and 20th. The rainfall event on the 20th was widespread with the higher amounts falling in the northeast. For September, the northeastern part of the state had above normal precipitation ranging from approximately 125% to 250% of normal (Figure 1. North Dakota State Climate Office). For the most part, the rest of the state had below normal precipitation of less than 50%. The northwest corner had near normal September rainfall. September precipitation amounts ranged from a trace in the southeast to ~4 inches in the northeast. For many locations it was in the top 10 driest Septembers. For example, for Fargo it was the 4th driest September since 1881.

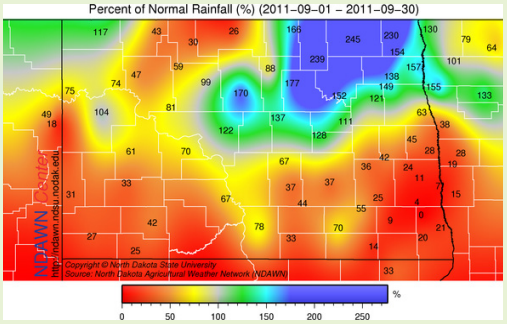

Figure 1. Percent of Normal Precipitation in September 2011 for North Dakota (North Dakota State Climate Office)

Temperature:

NDAWN September average air temperatures ranged from 55 °F to 61 °F. NDAWN departure from normal temperatures ranged from -1 °F to 7 °F (Figure 2. North Dakota State Climate Office). In the late hours of August 31st and the early hours of September 1st a severe thunderstorm that produced powerful winds swept through northeast North Dakota (ND) and hit especially hard in northwestern Minnesota (MN) in which a peak wind of 121 mph was measured. The 121 mph peak wind is under review and could possibly become the new MN state record, beating the previous record of 117 mph. The first few days of September had near normal average air temperatures for most parts of ND which was followed by a stretch from the 5th through the 11th of above normal average temperatures. The first killing frost hit on the 14th-15th. Daily minimum temperatures on the 14th fell to 28 °F in parts of the central west. Daily minimum temperatures fell to 28 °F and less primarily in the east on the 15th. Average temperatures rebounded after the 15th to near normal. The 21st-22nd again had below normal average air temperatures for most. Beginning around the 25th was a long stretch of warm, sunny days that went into October. The National Weather Service (NWS) recorded a record high temperature on the 28th at Fargo with 90 °F and Grand Forks airport with 88 °F.

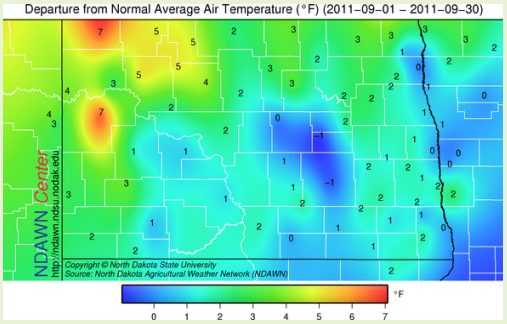

Figure 2. Temperature Departure from Normal in September 2011 for North Dakota (North Dakota State Climate Office)

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).

State Spotlight - South Dakota

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

Summary

September saw the state of South Dakota continue to dry out with many areas seeing one of the top ten driest Septembers on record leading to increased drought conditions and some fires. Temperature continued to remain around normal, even with the first major freeze of the fall being experienced during the month. The early freeze was a concern for crop producers. The full impact of the crop damage is still being determined as harvest is moving in to full swing. As the state continued to dry out, clean up began in many communities that experienced flooding this past summer while some lake chains, including Lake Thompson and Bitter Lake, continued to have high lake levels.

Temperature

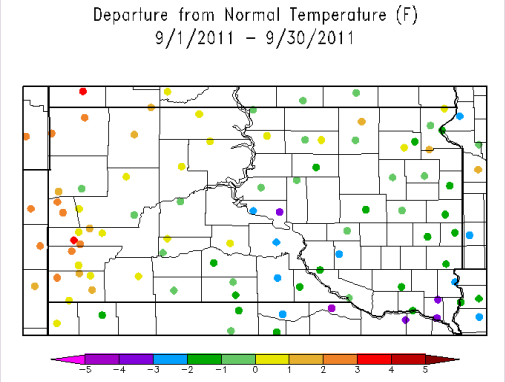

Figure 1. Departure from Normal Temperature in September 2011 for South Dakota (High Plains Regional Climate Center)

During the month of September, average temperatures in the state of South Dakota ranged from the upper 50's F in east central South Dakota to the mid 60's F in southwestern South Dakota. Interior 3NE had an average temperature of 65.4°F, which was the highest in the state. The lowest average temperature was 53.6°F at Pactola Dam in the Black Hills. For the month of September, departure from normal temperature varied from +2 to 3°F in the Black Hills and extreme western South Dakota to -2 to 3°F in south central and southeastern South Dakota. On September 15th, much of eastern South Dakota experienced the first major freeze of the fall. Freeze warnings and frost advisories were in effect for much of eastern South Dakota as low temperatures were forecasted to reach the upper 20's. The lowest temperature reported was 25°F near Herreid, SD. Sites at Frederick, McIntosh, Milbank, and Bowdle also reported low temperatures in the upper 20's. Some impact of the freeze was likely mitigated by very warm soil temperatures at the time. The end result was that many of the row crops, especially soybeans, ended their growing season.

Precipitation

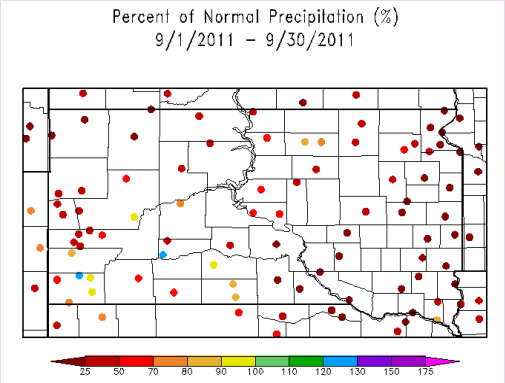

Figure 2. Percent of Normal Precipitation in September 2011 for South Dakota (High Plains Regional Climate Center)

The month of September saw very little precipitation across the state. The site at Vermillion 2SE received 1.93 inches, the most precipitation in the state. Bison, Hoover, Nisland, Takini, Timber Lake, Jewel Cave, Oral, Eagle Butte, Lake Cochrane, Oak Lake, and Aurora all reported no precipitation during the month. The lack of precipitation meant that almost all of the state saw a negative departure from normal precipitation. A number of sites, including Montrose, Sioux Falls Foss Field, Castlewood, Clear Lake, Madison 2SE, and Britton saw their driest September on record. For twenty-three other sites, this past September was one of the top ten driest on record.

As a result of the lack of precipitation during the month, drought conditions continued to spread across eastern South Dakota. Most of east central and southeastern South Dakota were considered to be abnormally dry (D0) at the end of the month. Included in the area of D0 conditions were two areas of moderate drought (D1) conditions. These areas included the communities of Watertown, Brookings, and Sioux Falls. The D1 areas have seen below average precipitation extending back 2-3 months leading to the higher drought category. A small sliver of D0 drought conditions were also present in extreme southern Fall River County.

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

Precipitation cont.

Although the state has begun drying out during the past two months, there are a couple areas in the state that have already received record precipitation for the year. Both Murdo and McLaughlin have already seen their wettest year on record with 28.87 and 23.64 inches of precipitation recorded respectfully. Seven other sites have also experienced one of the top ten wettest years on record. With three months left in the year, the total precipitation for this current year may move into the top ten on record for many other sites as well.

Agricultural Impacts

Despite an extremely wet spring and the early freeze experienced on September 15th and the follow-up freeze on September 23rd the soybean crop appeared to be better than anticipated as harvest began at the end of the month. The North Central Farmers Elevator, which has its headquarters in Ipswich, SD, say early soybean yields from the mid-30s to low 50s bushels per acre. However, the full effects of the early freeze on South Dakota crops remains to be seen as most of South Dakota continued to see a negative departure from normal heating degree days.

The very dry late season conditions in combination with the freezes likely have reduced yields. But the total impact is not apparent, yet. The dry late season has also been detrimental from a fire standpoint. Extremely dry crop conditions have led to combine-induced fires mainly on soybean fields. Static electricity or heat from combines have induced fires on several fields leading to relatively small, but not insignificant crop losses. Dry conditions in the winter wheat areas had producers needing some additional moisture to support winter wheat emergence

In contrast the late season dryness has helped dry down crops. Anecdotal information from producers has indicated very dry harvest moisture percentages. These conditions have reduced drying needs in many locations. The dryness has also allowed for crop harvesting to progress ahead of average. Soybeans were 30% harvested, ahead of the 5 year average of 19%. Corn was right at the 5 year average at 8%.

Flooding Impacts

Flows on the Missouri River were reduced during August and September leading to much lower flows and opening up previously flooded areas. During the month, residents who had been displaced because of flooding along the Missouri River were allowed to move back into their places and begin the cleanup process. In the Dakota Dunes neighborhood, more than a thousand residents began moving back into their homes, including several homes that saw major damage from floodwaters in their basement. In the community of Riv-R-Land Estates, a total of ninety percent of the homes suffered major flood damage. In the communities of Pierre and Ft. Pierre, cleanup work began with the removal of temporary dikes and sandbags. New problems arose for the two communities in the form of sink holes resulting from the high water levels.

As residents along the Missouri River began to clean-up and move back into their homes, people living near many of the flooded lakes around South Dakota continued to battle high water. In Kingsbury County, the chain of lakes containing Lake Thompson, Preston, Henry, and Whitewood continue to experience high water levels. In Day County, lake levels at Bitter Lake continued to remain high, dropping from its peak of 1802.98 feet on August 3rd, 2011 to 1802.33 feet on September 30th, 2011.

State Spotlight - Wyoming

Tony Bergantino - Assistant State Climatologist
Wyoming State Climate Office, University of Wyoming

Streamflow

Thanks to the strong snowpack received during early 2011, streamflow conditions for September remained good with normal and often above normal flows being seen in all portions of the state.

Precipitation

Dryness continued and intensified in September with over one-third of stations being at 25% or less of normal. The improvement that was seen last month in the northern portion of the state was lost in September and only Kaycee showed a very modest amount above normal. The Laramie 2NW station in the southeast was another exception to the drier than normal conditions and was right about at the normal.

The last third of the month was very dry among CoCoRaHS observers, too, with no precipitation reported from the 23rd through the end of the month, and the 4 days prior to that seeing only very minimal amounts from a very small subset of stations.

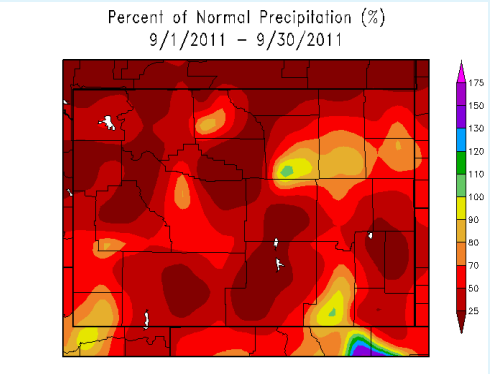

Figure 1. Map showing September 2011 precipitation as a percentage of historical averages (vs. 1971-2000 normal period) for Wyoming. Courtesy HPRCC.

Temperature

The above normal temperatures that dominated Wyoming last month continued in September. Most of the stations in the state saw temperatures that were one to five degrees F above normal. The southeast quarter of the state was generally cooler than the rest of the state but, even there, all stations but Fort Laramie (departure from normal of about -1F) were on the plus side of normal.

Compared to August, September temperatures in the southeast were closer to normal whereas the departures in the northwest were further on the warm side of normal.

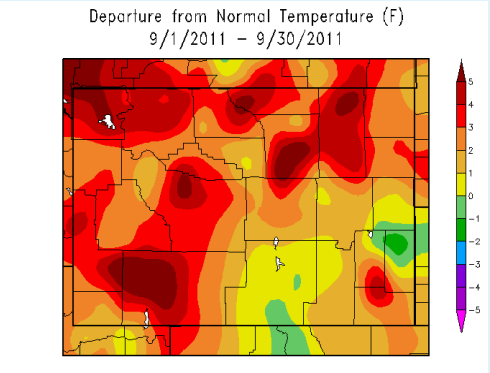

Figure 2. Map showing mean September 2011 temperatures from historical averages (vs. 1971-2000 normal period) for Wyoming. Courtesy HPRCC.

The D0 (Abnormally Dry) category that was introduced by the US Drought Monitor into the eastern part of Weston and the northeastern part of Niobrara counties in August was increased in area (but not intensity) during September. It reached a maximum area during the 13 September report in which it comprised the eastern edges of Weston, Niobrara, Goshen, and Laramie counties. By the end of the month, the area had been decreased and was a little bit less than the eastern half of Goshen County, the southeastern quarter of Niobrara and the very northeastern tip of Laramie County.

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 and Cheyenne Offices 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

CLIMOD: http://climod.unl.edu

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

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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

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