National Weather Service
Aberdeen, South Dakota

July 2012

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Follow Us On Twitter

The National Weather Service in Aberdeen is now on Twitter! We encourage you to follow @NWSAberdeen. Twitter will **NOT** be used to disseminate alerts or warnings of hazardous weather, but it **WILL** be used to relay current weather information and provide reports or pictures of current or past weather events. You are welcome and encouraged to share the current weather conditions at your location or ask weather related questions. If you are not on Twitter, but use Facebook you can like our Facebook page US National Weather Service Aberdeen South Dakota. You can also reach us by sending a text to 605-229-9029 or e-mail a picture or report to abrreports@gmail.com. We want to hear from you!

So, Exactly How Hot Has It Been?

We all know that it has been a warm summer so far across much of the northern plains, but how does this year so far compare to previous years? Below is a table that shows what the average temperature has been so far this year (January 1 through July 25) and the associated record.

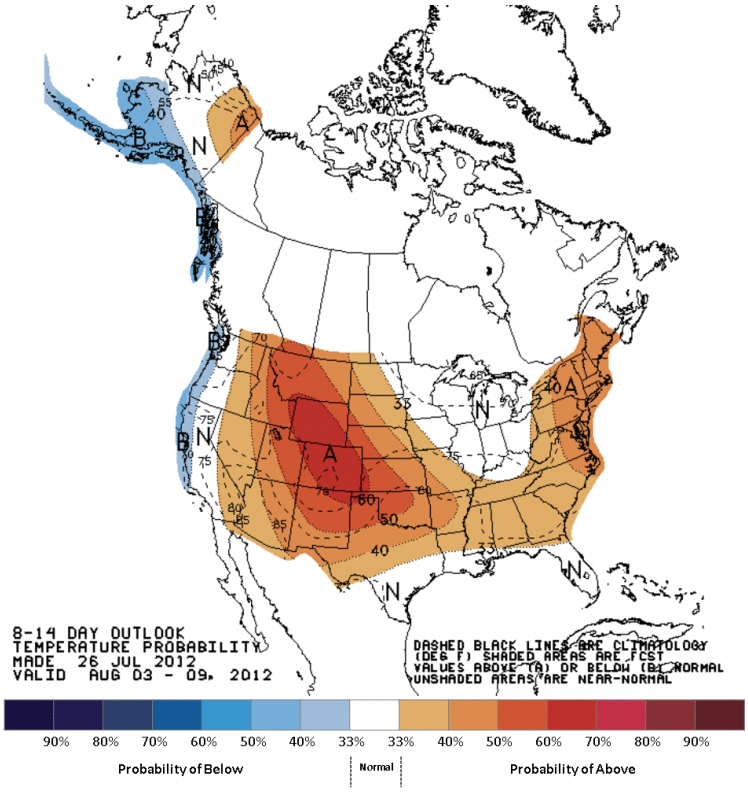
Site	1/1/12-7/25/12 average temp (ranking)	Record average temp, or next closest year
Aberdeen	48.6 degrees (2)	48.8 degrees; 1931
Mobridge	48.6 degrees (2)	49.2 degrees; 2006
Pierre	51.3 degrees (1)	50.5 degrees; 1981
Watertown	48.1 degrees (2)	49.1 degrees; 1987
Sisseton	48.6 degrees (1)	48.9 degrees; 1987
Wheaton	47.3 degrees (1)	46.2 degrees; 1990
Murdo	53.0 degrees (1)	51.1 degrees; 1987

Additionally, we are in what is typically the warmest time of the year. Below is a table that shows what the normal average temperature is for July the 25th, what the current average temperature is through the 25th, and what the record average temperature is through the 25th.

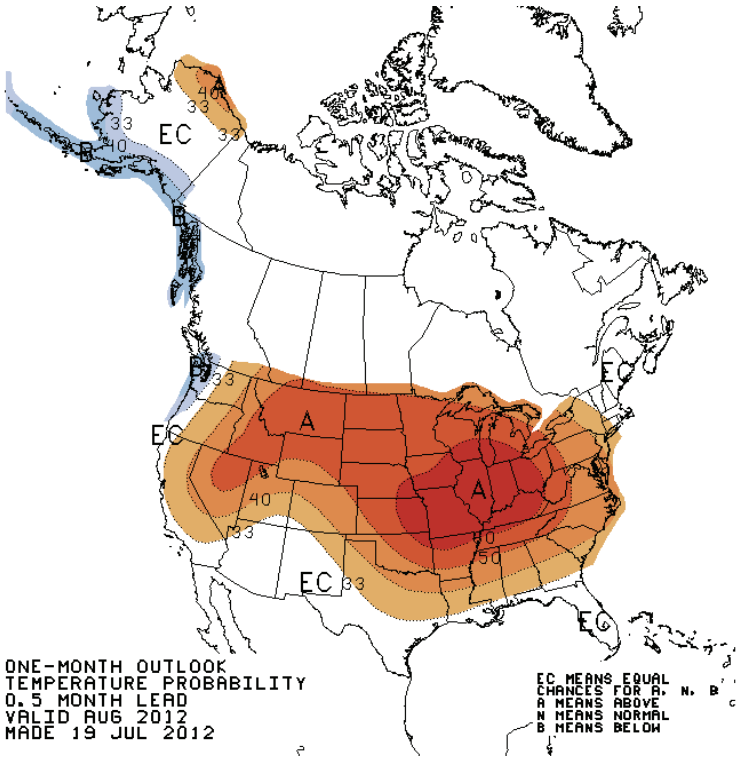
Site	Normal Average Temp (7/1 through 7/25)	Current Average Temp (departure from normal)	Record Average Temp (7/1 through 7/25)
Aberdeen	71.2 degrees	77.9 degrees (+6.7)	86.3 degrees (1936)
Mobridge	72.4 degrees	79.1 degrees (+6.7)	88.4 degrees (1936)
Pierre	75.1 degrees	82.1 degrees (+7.0)	89.2 degrees (1936)
Watertown	71.1 degrees	78.2 degrees (+7.1)	82.9 degrees (1936)
Sisseton	71.1 degrees	76.7 degrees (+5.6)	82.1 degrees (1936)
Wheaton	71.6 degrees	76.7 degrees (+5.1)	78.0 degrees (1966)
Murdo	74.8 degrees	83.3 degrees (+8.5)	83.3 degrees (2012)

Given that the latest 8 to 14 day and 30 day outlooks calls for above normal temperatures to continue through August, odds are that the record or near record average temperatures for the year to date are only going to get warmer. (See next page.)

Hot (cont.)



8-14 day temperature outlook...valid August 3rd-8th.



Temperature outlook for the month of August

Drought Conditions Persist Across South Dakota

As of July 24, the U.S. Drought Monitor places a majority (~92%) of South Dakota in at least *Moderate Drought*. Small sections of far northeastern and north-central South Dakota are characterized as *Abnormally Dry* (see Figure 1*)*.

The drought situation across South Dakota is the result of a dry autumn, below normal snowfall during the winter, and a very dry and abnormally warm growing season. The moisture deficits have been exacerbated over the past few weeks due to extremely hot and very dry conditions – especially over southern South Dakota.

What is even more interesting is examining just how rapidly this drought has developed. Figure 2 compares the Drought Monitor over South Dakota from 24 July 2012 vs. 26 July 2011. Notice that in 2011 there were **no areas** experiencing any drought conditions due to much above rainfall in spring and early summer. Compare that to this year where almost 60% of the state is experiencing at least *Severe Drought*, and over 20% of the state experiencing Extreme Drought. What a difference a year makes!

Drought (cont.)

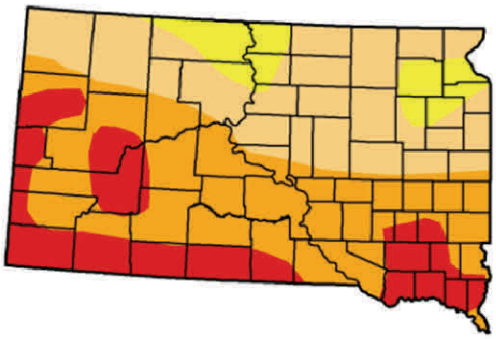
U.S. Drought Monitor

July 24, 2012
Valid 7 a.m. EST

South Dakota

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	91.99	59.15	20.38	0.00
Last Week (07/17/2012 map)	0.00	100.00	90.37	44.93	0.00	0.00
3 Months Ago (04/24/2012 map)	39.81	60.19	34.10	0.00	0.00	0.00
Start of Calendar Year (12/27/2011 map)	48.14	51.86	13.86	2.11	0.00	0.00
Start of Water Year (09/27/2011 map)	71.37	28.63	7.36	0.00	0.00	0.00
One Year Ago (07/19/2011 map)	100.00	0.00	0.00	0.00	0.00	0.00



Intensity:

- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

http://droughtmonitor.unl.edu

Released Thursday, July 26, 2012
Richard Heim, National Climatic Data Center, NOAA

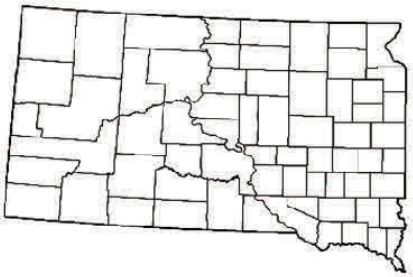
Figure 1

Figure 2

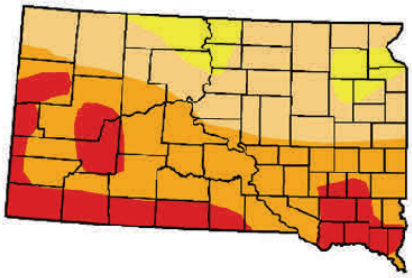
Maps | Tables | Animations | 1999 Archive | GIS Data

South Dakota

Drought Severity
D0 - Abnormally Dry
D1 Drought - Moderate
D2 Drought - Severe
D3 Drought - Extreme
D4 Drought - Exceptional



July 26, 2011



July 24, 2012

Week	Nothing	D0-D4	D1-D4	D2-D4	D3-D4	D4
July 26, 2011	100.00	0.00	0.00	0.00	0.00	0.00
July 24, 2012	0.00	100.00	91.99	59.15	20.38	0.00

100 Year or Older Records

This year has been exceptionally warm across the Northern Plains with several all-time monthly high temperatures tied or broken in January and March. Many more daily records have been broken so far this year as well. While new records are seemingly set all the time, there are still surprisingly several daily and monthly records that have been in place for a 100 plus years. Below is a list of all-time monthly records that are 100 years or older which are still intact.

Aberdeen
January 12th, 1912: A low temperature of 46 degrees below zero was recorded. This is currently the coldest temperature ever recorded in Aberdeen. However the - 46 degrees also occurred on February 8th, 1895.
April 13th, 1912: A precipitation amount of 3.65 inches.
May 7th in 1907: Snowfall amount of 8.0 inches.
June 7th, 1901: Lowest temperature of 28 degrees.
August 29th, 1893: Lowest temperature of 30 degrees.
September 13th, 1903: Snowfall amount of 0.5 inches.
October 30th, 1896: Snowfall amount of 6.0 inches.
November 5th, 1904: Highest temperature of 79 degrees.

Kennebec
January 12th, 1912: Lowest temperature of 42 degrees below zero.
February 11th, 1899: Lowest temperature of 41 degrees below zero.
March 22nd, 1911: Highest temperature of 91 degrees.
May 17th, 1898: A precipitation amount of 4.45 inches.
September 9th, 1904: Highest temperature of 110 degrees.
October 19th, 1908: A precipitation amount of 3.23 inches.

Mobridge
January 13th, 1912: Low temperature of 42 degrees below zero.
March 20th in 1911: Highest temperature of 85 degrees.

Timber Lake
January 12th, 1912: Lowest temperature of 46 degrees below zero.

Sisseton
April 13th, 1912: A precipitation amount of 3.66 inches.
June 31st, 1901: Lowest temperature of 31 degrees,
July 2nd, 1903: A precipitation record of 3.65 inches.

Watertown
April 14th, 1912: A precipitation record of 3.25 inches.
May 3rd, 1907: Lowest temperature of 16 degrees.
June 7th, 1897: Lowest temperature of 25 degrees.
July 3rd, 1905: A precipitation amount of 3.40 inches.
September 29th, 1899: Lowest temperature of 9 degrees. The 9 degrees is the only time the low temperature in Watertown was in the single digits for September.

New Radar Coming to Aberdeen

Beginning around the 1st of August, your National Weather Service office in Aberdeen will begin the upgrade of its Doppler radar to Dual Polarization, or Dual-Pol. This much anticipated upgrade is part of the overall National Weather Service vision to build a Weather-Ready Nation. From the outside, not much will change in how the radar looks, but on the inside, all new technology will help forecasters to identify the type of precipitation that is falling as well as improve rainfall estimates. Another advantage of dual-pol radar is that it can detect and identify the presence of tornado debris. This is especially helpful at nighttime or with tornadoes that are rain-wrapped, essentially whenever reliable spotter reports are unavailable.

For more information on this exciting technology, please see the following page: http://www.crh.noaa.gov/dualpol/index.php?wfo=abr

Heat Index Chart

Temperature (°F)

Relative Humidity (%)	80	82	84	86	88	90	92	94	96	98	100	102	104	106	108	110
40	80	81	83	85	88	91	94	97	101	105	109	114	119	124	130	136
45	80	82	84	87	89	93	96	100	104	109	114	119	124	130	137	
50	81	83	85	88	91	95	99	103	108	113	118	124	131	137		
55	81	84	86	89	93	97	101	106	112	117	124	130	137			
60	82	84	88	91	95	100	105	110	116	123	129	137				
65	82	85	89	93	98	103	108	114	121	128	136					
70	83	86	90	95	100	105	112	119	126	134						
75	84	88	92	97	103	109	116	124	132							
80	84	89	94	100	106	113	121	129								
85	85	90	96	102	110	117	126	135								
90	86	91	98	105	113	122	131									
95	86	93	100	108	117	127										
100	87	95	103	112	121	132										

Likelihood of Heat Disorders with Prolonged Exposure or Strenuous Activity

Caution Extreme Caution Danger Extreme Danger

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Summertime is always the best of what might be.

~ Charles Bowden