

South Dakota Climate Summary
April 2009
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The state of South Dakota saw typical spring weather in April, including two major winter storms, some hail, flooding and some dry conditions. Total precipitation ranged from less than 0.5" in the northeast to over 4 inches in the southwest. These totals in northeastern South Dakota were as little as 25% of average precipitation to as much as 200% of average in the southwest. Generally areas east of a line from Gregory County to the northwest corner were drier than average. Areas west were wetter. Drought is not an issue. With the precipitation in the southwest there is no area in South Dakota experiencing drought. Excessive wetness has been a continuing issue. This wetness is part of a continual trend from last fall leaving many of the soils in the state very wet.

Average temperatures ranged from 38 F in the northwest to 47 F in the southeast. These temperatures were below average for everyone. The state was 2 - 6 F below average for the month. This slowed soil warm-up and growing degree day accumulation for agriculture interests. Daily temperatures had some wide extremes from setting record low temperatures early in the month to record high temperatures on the 23rd.

Winter weather

Several major winter storms moved through South Dakota during April. The first system moved through the state April 3 -5 bringing snow. The greatest amount reported was 20" south central South Dakota at Mission. Ten to 20 inches were reported in the western and south central portions of the state with single digits totals to just a few inches in the southeast.

Snow was reported on April 25th and 26th. The western quarter of the state reported 6" to 12". A second area around Jerauld County reported 4" at Jerauld with the surrounding counties receiving 2" or less.

Severe Spring Weather

The state also saw some spring severe weather. During the evening of April 29, hail was reported southwest of Aberdeen at Mission Ridge and moved northeastward through Mina, the Aberdeen area, Bath, Groton, Eden and North Pickerel Lake.

Impact

Despite the generally dry conditions over much of the state, cool temperatures and wet conditions slowed planting progress for small grains over most of the state. Corn planting made rapid progress over the latter few days of the month. Many cattle were lost because of the late spring winter storms. Total numbers are still pending. But the numbers will be in the thousands.

For the first time in nearly eight years, the state had no depiction on the US Drought Monitor map. The last of the D0 in the far southwest corner of the state was removed with the April 21, 2009 map. The last time the state had no DM depiction was in July 2001.

Flooding continued along the James River primarily because of emergency releases of water from reservoirs in North Dakota that were flowing over emergency spillways. Releases from these rivers are likely to keep the James at flood level well into the summer.

Flooding was also reported along many streams in the northwest part of the state during the melt-off of snow in the middle of the month. On April 11 – 12th flooding was reported in Perkins and Meade Counties. Flash Flooding was reported on the 14th in Harding county and flooding again in Perkins County. The USGS gauge at Camp Crook set an all time record flood level on the 17th. Some livestock were lost to flooding. Most of the losses were road damages to culverts and loss of road surfaces.

The wet period has filled nearly all reservoirs in the state including Bureau of Reclamation reservoirs and Army Corps of Engineers reservoirs on the Missouri River. The only reservoir not at or above main pool was Angostura just south of the Black Hills.

Daily Records

Record Daily Maximum Water Equivalent

Sisseton	1.17 inches on 1st	(0.86 inches in 2007)
Rapid City	1.04 inches on 5th	(0.58 inches in 1997)
East Rapid City	1.15 inches on 5 th	(0.94 inches in 1955)
Rapid City Airport	0.68 inches on 10 th	(0.42 inches in 1950)
Sisseton	1.3 inches on 30 th	(1.26 inches in 1994)

Record Daily Maximum snowfall

Aberdeen	10.2 inches on 1st	(3 inches in 1932)
Watertown	5.1 inches on 1 st	(3 inches in 2008)
Sisseton	12.2 inches on 1 st	(8 inches in 1947)
Rapid City Airport	12.4 inches on 5 th	(4.5 inches in 1986)
East Rapid City	13.9 inches on 5 th	(5.6 inches in 1957)
Mitchell	9.8 inches on 4 th	(6 inches in 1957)
East Rapid City	5.4 inches on 26 th	(5 inches in 1971)

Record Daily Low Temperature

Rapid City Airport	8 on 1 st	(10 in 2008)
Rapid City Airport	6 on 6th	(Tied with 2007)

Record Daily High Temperature

Aberdeen	90 on 23 rd	(87 in 1994)
Mobridge	89 on 23rd	(87 in 1990)
Pierre	88 on 23rd	(87 in 1990)
Sioux City	92 on 23rd	(87 in 1939)
Huron	91 on 23rd	(89 in 1990)
Sioux Falls	91 on 23rd	(87 in 1939)
Yankton	90 on 23rd	(88 in 1990)

Brookings	88 on 23rd	(86 in 1962)
Rapid City Airport	85 on 23rd	(83 in 1962)
Huron	91 on 23rd	(89 in 1990)
Mitchell	92 on 23rd	(Tied with 1939)
Academy	95 on 23rd	(92 in 1990)
Menno	92 on 23rd	(Tied with 1939)

Monthly records

Wet

Station	Amount	Rank
Porcupine 11N	3.58	5 th
Mt. Rushmore	5.34	2 nd
Wind Cave	4.11	2 nd

Dry

Station	Amount	Rank
Big Stone City 2 NW	0.37"	2 nd driest
Summit 1W	0.38"	2 nd
Waubay	0.36"	4 th

Seasonal snow record

East Rapid City 90.2 inches in 2008-09 winter (80.3 inches in 1969-70 winter)

Water year (October-April) precipitation records

Station	Amount	Rank
Bison	12.36	1 st
Pollock	11.12	1 st
Dupree	10.49	2 nd
Lemmon	9.17	3 rd
Newell	9.97	2 nd
Cottonwood	8.94	3 rd
Ft. Meade	12.00	3 rd
Rapid City Airport	9.72	4 th
Martin	10.60	3 rd
Sisseton	13.14	2 nd

Reports include information from:

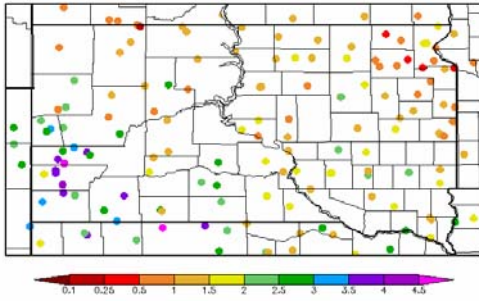
National Weather Service

High Plains Regional Climate Center

National Drought Mitigation Center

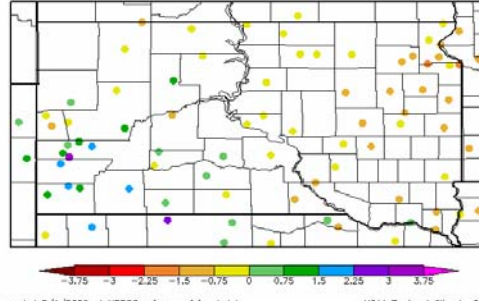
Advanced Hydrologic Prediction System web page

Precipitation (in)
4/1/2009 - 4/30/2009



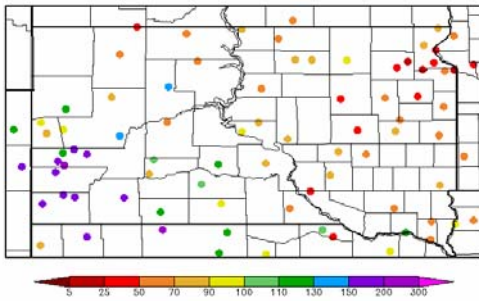
Generated 5/1/2009 at HPRDC using provisional data. NOAA Regional Climate Centers

Departure from Normal Precipitation (in)
4/1/2009 - 4/30/2009



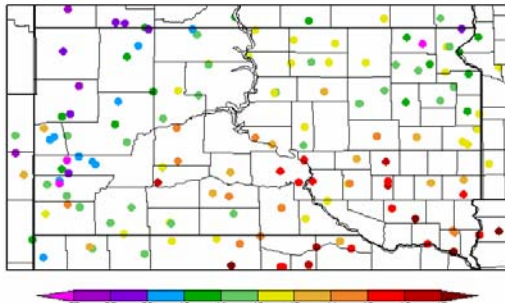
Generated 5/1/2009 at HPRDC using provisional data. NOAA Regional Climate Centers

Percent of Normal Precipitation (%)
4/1/2009 - 4/30/2009



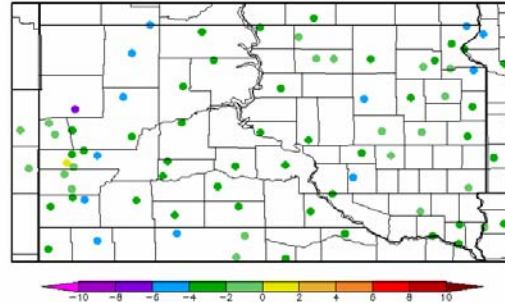
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Temperature (F)
4/1/2009 - 4/30/2009



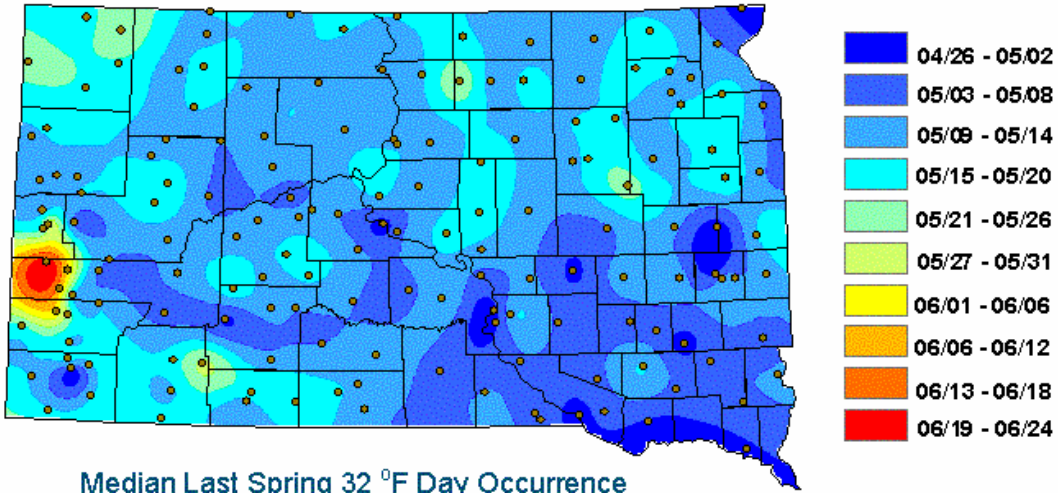
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Departure from Normal Temperature (F)
4/1/2009 - 4/30/2009



Generated 5/1/2009 at HPRDC using provisional data. NOAA Regional Climate Centers

50% probability that the last spring 32° F temperature will occur on or before this day (period of record)



Median Last Spring 32 °F Day Occurrence

Below is a table that summarizes the date when the last temperature of a given threshold is expected to be reached.

ABERDEEN		36	32	28	24
	90th	7-Jun	27-May	18-May	9-May
	75th	29-May	19-May	12-May	1-May
	50th	24-May	13-May	3-May	19-Apr
	Mean	23-May	13-May	3-May	21-Apr

PIERRE		36	32	28	24
	90th	27-May	16-May	10-May	4-May
	75th	20-May	13-May	2-May	24-Apr
	50th	13-May	7-May	23-Apr	14-Apr
	Mean	13-May	5-May	25-Apr	15-Apr

WATERTOWN		36	32	28	24
	90th	11-Jun	1-Jun	20-May	10-May
	75th	4-Jun	24-May	12-May	2-May
	50th	25-May	16-May	4-May	21-Apr
	Mean	26-May	16-May	4-May	23-Apr

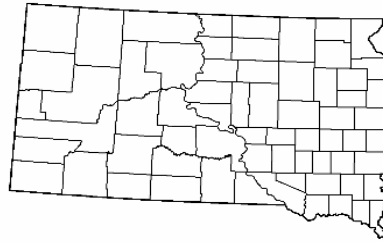
MOBRIDGE		36	32	28	24
	90th	1-Jun	22-May	15-May	29-Apr
	75th	24-May	14-May	7-May	28-Apr
	50th	17-May	9-May	28-Apr	15-Apr
	Mean	18-May	8-May	29-Apr	18-Apr

U.S. Drought Monitor

South Dakota

April 28, 2009
Valid 7 a.m. EST

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	100.0	0.0	0.0	0.0	0.0	0.0
Last Week (04/21/2009 map)	100.0	0.0	0.0	0.0	0.0	0.0
3 Months Ago (02/03/2009 map)	99.4	0.6	0.0	0.0	0.0	0.0
Start of Calendar Year (01/06/2009 map)	99.5	0.5	0.0	0.0	0.0	0.0
Start of Water Year (10/07/2008 map)	73.9	26.1	0.8	0.0	0.0	0.0
One Year Ago (04/29/2008 map)	45.5	54.5	41.5	11.6	0.0	0.0



Intensity:

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

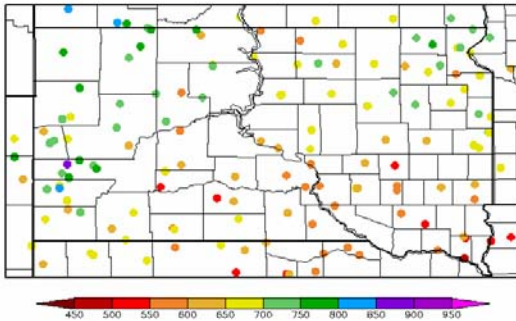
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements

<http://drought.unl.edu/dm>



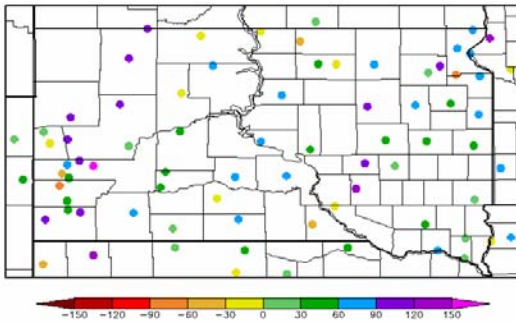
Released Thursday, April 30, 2009
Author: Brad Rippey, U.S. Department of Agriculture

Heating Degree Days (base 65)
4/1/2009 - 4/30/2009



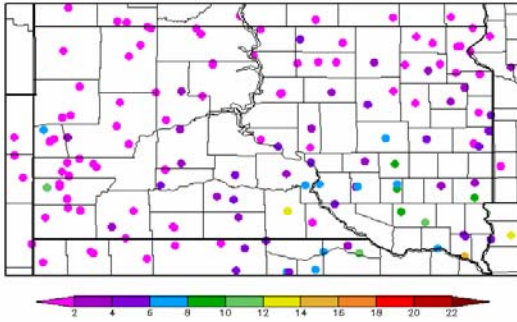
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Departure from Normal HDD (base 65)
4/1/2009 - 4/30/2009



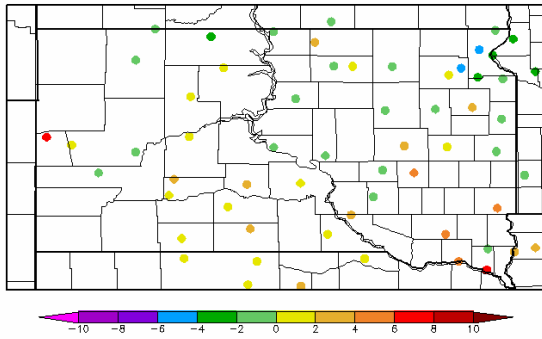
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Cooling Degree Days (base 65)
4/1/2009 - 4/30/2009



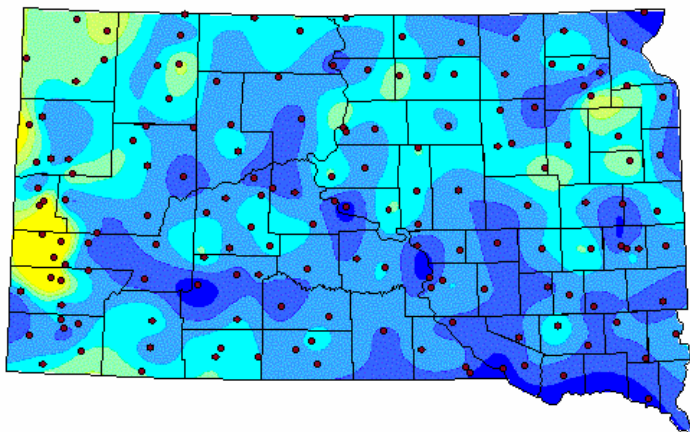
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Departure from Normal CDD (base 65)
4/1/2009 - 4/30/2009



Generated 5/1/2009 at HPRCC using provisional data. NOAA Regional Climate Centers

90% probability that the last spring 32° F temperature
will occur on or before this day (period of record)



- 05/12 - 05/17
- 05/18 - 05/22
- 05/23 - 05/28
- 05/29 - 06/02
- 06/03 - 06/07
- 06/08 - 06/12
- 06/13 - 07/04

90 Percentile Last Spring 32°F Day Occurrence