

## SOUTH DAKOTA WEATHER SUMMARY, 2009

### GENERAL

The 2009 year consisted of delayed plantings, slow crop development, and a delayed harvest, with some row crops remaining to be harvested at the end of December. Cool temperatures and untimely precipitation were the causes of these situations. Multiple winter storms in March negatively impacted ranchers in western South Dakota. Moisture levels across the state were slightly above or below average. However, the cooler than normal summer temperatures allowed for above average yield growth, but delayed crop maturity. October recorded high levels of precipitation, allowing little harvest progress. Fall harvest continued through November and December, but was stopped by a 3-day Christmas blizzard that closed both interstate highways.

### JANUARY

Average temperatures ranged from 3°F to 31°F during the month, with all stations reporting a low temperature below 0°F. The low and high temperatures recorded in the state were -47° F and 66° F, respectively. Much of the state received some snowfall during the month.

### FEBRUARY

Major winter storms impacted the state during the month. An early storm dropped over an inch of precipitation, much of it in the form of rain. Then a late month storm produced over a foot of snow in some locations of the state. At the end of the month, most of the northern third of the state had a snow depth of greater than 8 inches. The wettest areas were well over an inch above average and the driest areas were just below average. Monthly temperatures ranged from 4°F below normal in the snow packed areas to 5°F above normal in the western and southern areas of the state. Winner recorded the warmest temperature of the month at 70°F, while Mobridge was the coldest at -19°F.

### MARCH

The western third of South Dakota experienced three major storms during the month, severely impacting ranchers. Rainfall from one of these storms produced over 4 inches of rain from Kingsbury County to Codington and Deuel Counties. Other than the northwestern part of the state, there was very little snow cover at the end of March. There was, however, precipitation amounts varying from .27 of an inch to 3.34 inches for the month.

### APRIL

April started with a major winter storm that added more water to the already wet soil conditions. April, as a whole, was several degrees cooler than the statewide average with near-to-below average GDD accumulation. As the month ended all weather stations reported positive amounts of precipitation. Most of the state ranged from 0.5 to 2.0 inches below average for the month. Soil moisture continued to be adequate, although spring planting was delayed for most of the state.

### MAY

The first half of May presented below average temperatures. As the month continued, several stations reported temperatures in the upper 90's and one 100°F. Several storms crossed parts of the state during late May, which brought some hail reports in the eastern and far southwestern part of the state. At least 25 stations across the state were in the all time top 5 driest for the month. Due to the dryness in the south central and southeast parts of the state, small areas of abnormally dry conditions developed. Row crop planting was finished on schedule.

### JUNE

The first week ended with abnormally cold temperatures. The entire state was between 3°F and 14°F below average that first week. Records for the coldest daytime highs were broken on June 6<sup>th</sup> at many locations. Cold temperatures continued, accompanied by precipitation throughout the state. The southeastern part of the state received the most, with reports of close to 3 inches of rain. The end of June did bring warmer temperatures that were near 6°F above average, helping increase the GDD for growing season. However, most of the state was still below average for GDD's as the month ended.

### JULY

A near record cold month was experienced. Many stations in the state were in the top 5 coolest on record. Severe weather, with high winds and hail across the state, occurred during early July and caused damage to crops. Scattered storms occurred regularly across the state, leaving only a few areas of the far northeastern corner of the state and a small pocket in the center of the state abnormally dry. Accumulation of GDD's along with small grain maturity was behind normal.

### AUGUST

Early August witnessed cooler temperatures and severe weather. Large hail and strong winds damaged crops along storm tracks north of the Black Hills, and from south central to southeastern parts of the state. In late August, there were no severe weather reports and only a small amount of precipitation in the state. However, the cooler days held the GDD accumulation 1-3 weeks behind average and slowed small grain harvest. The highest temperature for the month was reported in Oelrichs at 102°F and the lowest was 37°F reported in Madison, Britton and Sisseton.

### SEPTEMBER

Generally warmer than average temperatures for the month helped aid in the final maturity of crops and closed the GDD shortfall caused by the cool summer. Row crop harvest was behind normal at the month's end. No sub-freezing temperatures had occurred outside of the Black Hills through September 27<sup>th</sup>. The entire state received at least some precipitation during the month.

### OCTOBER

The month began much cooler with average temperatures for most of the state in the upper 40's F. For most locations, the average temperatures were the coldest on record for the first half of October. Persistent precipitation and cool weather delayed final maturity and slowed harvest progress, which was over 40 percentage points behind normal.

### NOVEMBER

Much needed dry weather and mild temperatures were welcomed during the month. Mid-November was warm with temperatures ranging from 5°F to 13°F above average. Significant harvest progress was made, but corn harvest was still 35 percentage points behind average on November 30<sup>th</sup>.

### DECEMBER

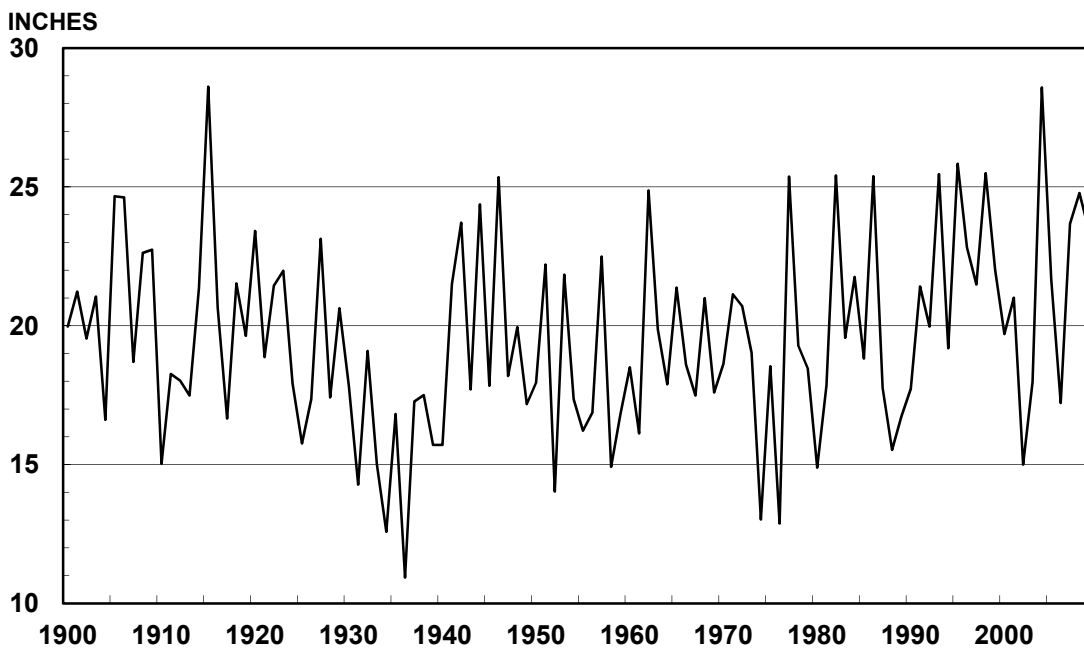
Very cold temperatures statewide, averaging in the teens, and snow dominated most of the month. A Christmas blizzard produced an average of 15.4 inches of snow statewide. The blizzard and other storms produced a very significant snow cover in all but the southwestern areas of the state. Corn harvest continued until the Christmas blizzard, with only 93 percent of the harvest completed at the end of the month.

**PRECIPITATION,  
SOUTH DAKOTA, 2008-2009**

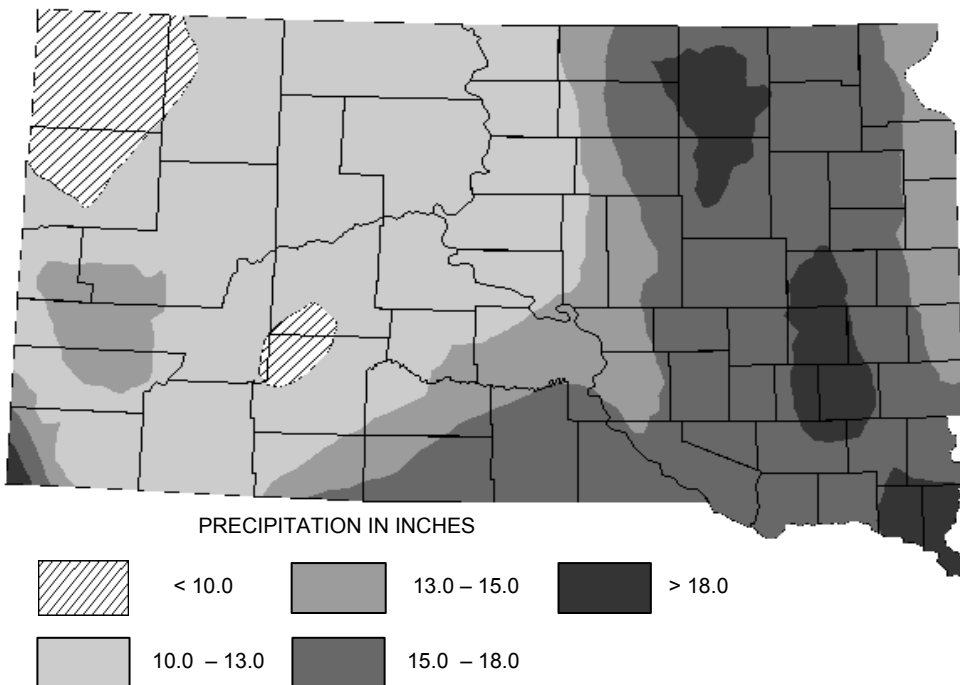
DIST.	STATION	GROWING SEASON				ANNUAL			
		APR 1-SEP 30, 2008		APR 1-SEP 30, 2009		2008		2009	
		TOTAL	DEPARTURE FROM NORMAL	TOTAL	DEPARTURE FROM NORMAL	TOTAL	DEPARTURE FROM NORMAL	TOTAL	DEPARTURE FROM NORMAL
		-----INCHES-----							
NW	CAMP CROOK	15.71	4.96	7.75	-3.00	19.10	5.25	13.22	-0.63
	NEWELL	18.41	6.58	10.45	-1.38	23.94	8.56	16.56	1.18
	LEMMON	15.55	2.80	15.07	2.32	21.22	4.53	22.60	5.91
	DUPREE	20.29	7.91	12.79	0.41	25.18	8.77	19.46	3.05
NC	MOBRIDGE	14.62	1.79	11.60	-1.23	18.90	2.21	17.29	0.60
	FAULKTON	19.72	5.05	15.07	0.40	24.86	5.58	25.25	5.97
	ABERDEEN	16.45	0.52	15.80	-0.13	24.45	2.97	24.27	2.79
NE	WAUBAY	16.10	-0.22	13.96	-2.36	23.35	2.29	23.87	2.81
	WATERTOWN	18.12	1.77	13.63	-2.72	25.29	3.93	24.62	3.26
	MILBANK	22.20	5.45	14.93	-1.82	28.54	6.12	27.81	5.39
WC	SPEARFISH	26.23	11.26	17.73	2.76	34.57	13.74	20.85	0.02
	RAPID CITY	16.24	3.95	12.57	0.28	20.55	4.42	18.64	2.51
	COTTONWOOD	17.15	4.91	8.89	-3.35	22.48	6.43	17.13	1.08
	MILESVILLE	24.95	10.76	11.44	-2.75	31.28	12.52	21.50	2.74
C	PIERRE	18.19	4.85	11.53	-1.81	23.65	6.10	20.31	2.76
	HIGHMORE	18.25	3.57	18.21	3.53	23.53	4.59	27.21	8.27
	HURON	16.89	1.80	14.81	-0.28	25.44	5.41	23.20	3.17
EC	MITCHELL	16.40	-0.77	12.21	-4.96	25.36	2.50	22.27	-0.59
	BROOKINGS	14.64	-2.17	14.52	-2.29	22.64	1.35	23.49	2.20
	SIOUX FALLS	16.18	-2.82	13.30	-5.70	25.47	0.06	23.06	-2.35
SW	ORAL	16.72	4.16	14.20	1.64	19.83	3.48	20.26	3.91
	PORCUPINE	15.03	1.65	12.76	-0.63	18.83	1.17	22.75	5.09
SC	MURDO	16.71	3.15	15.50	1.94	22.06	3.74	23.91	5.59
	KENNEBEC	15.10	1.65	13.84	0.39	20.35	2.72	21.21	3.58
	WINNER	6.24	-9.91	17.53	1.38	12.96	-8.43	23.80	2.41
SE	PARKSTON	10.53	-8.77	15.29	-4.01	18.67	-4.86	21.71	-1.82
	YANKTON	19.80	1.38	13.22	-5.20	30.76	6.33	23.49	-0.94

SOURCE: SOUTH DAKOTA STATE CLIMATOLOGIST.

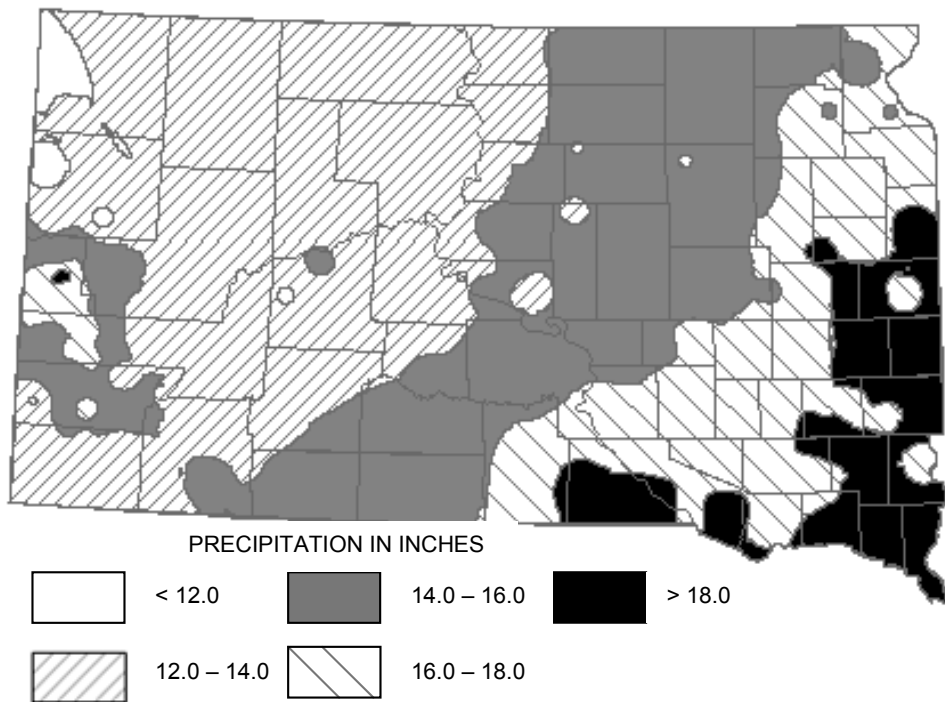
**AVERAGE ANNUAL PRECIPITATION,  
SOUTH DAKOTA, 1900-2009**



**GROWING SEASON PRECIPITATION,  
SOUTH DAKOTA, APRIL THROUGH SEPTEMBER, 2009**



**GROWING SEASON PRECIPITATION,  
SOUTH DAKOTA, APRIL THROUGH SEPTEMBER AVERAGE, 1971-2000**



SOURCE: STATE CLIMATE OFFICE OF SOUTH DAKOTA