

## PRELIMINARY IOWA WEATHER SUMMARY – 2013

General Summary. Temperatures averaged 46.5° or 1.6° below normal while precipitation totaled 35.41 inches or 0.14 inches above normal. This ranks as the 25<sup>th</sup> coolest and 37<sup>th</sup> wettest year among 141 years of records. The annual temperature was a 5.4° drop from 2012 and is the largest year-to-year temperature change (up or down) on record (old record was a 5.0 degree decline between 1931 and 1932).

Temperatures. The lowest temperature of the 2012-2013 winter arrived on New Year's Day with a -15° reading at Elkader. This -15° reading tied with the winter of 1930-1931 for the highest statewide winter extreme minimum temperature. Relatively mild winter weather prevailed until February 15 when a cold (and mostly wet) pattern began. Statewide daily temperatures averaged below normal on 73 of the 106 days between February 15 and June 10. However, in the midst of this cold and wet pattern strong southwesterly winds allowed exceptionally hot and dry air to briefly push into Iowa on May 14. Triple-digit heat spread across about the northwest one-third of Iowa with Sioux City reaching 106°. This was to be the highest temperature for the calendar year in Iowa. The previous earliest date for temperatures of 106 or higher in Iowa came on May 29, 1934. However, this was not the earliest date that the statewide annual maximum temperature extreme has been recorded. During the mild summer of 1994 Logan recorded Iowa's highest temperature of the year with a 99° reading on April 18. Relatively cool weather continued through much of the summer with Battle Creek recording a morning low temperature of 39° on July 27 while Cresco saw an afternoon high of only 58° that day. Temperatures were below normal for all but one day between July 23<sup>rd</sup> and August 19<sup>th</sup>. However, the heat finally did return with triple-digit temperatures recorded over portions of southern Iowa on August 28 & 30 and September 7, 9 and 10. The highest late summer temperatures were recorded at Des Moines and Fort Madison with 104° readings on August 30 while Iowa City recorded the year's highest heat index at 108° on August 28. The late summer heat helped to speed crop maturity which was greatly lagging the normal pace owing to late planting and relatively cool summer weather. However, the heat also greatly increased moisture stress on the crops. Fortunately, the first freeze of the fall season came later than usual across most of Iowa. A hard freeze was recorded over portions of northern Iowa on October 13 (about two weeks later than usual) with nearly all of the state seeing a freeze by October 25. The second one-half of October was mostly on the cold side and temperatures remained below normal for much of the final two months of the year. The first subzero temperature (-1°) of the winter was recorded at Spencer on the morning of November 12 and was the earliest such occurrence since November 4, 1991. There were six dates in November when temperatures dropped to zero or lower in Iowa which equaled the total of the previous twelve Novembers combined. The lowest temperatures of 2013 came in December with Sheldon recording a wind chill of -38° on the 11<sup>th</sup> and Osceola having the lowest actual temperature at -27° on the 24<sup>th</sup>. These were the lowest temperatures and wind chills recorded in the state in nearly four years (January 2, 2010).

Precipitation. Iowa entered 2013 with large drought concerns. However, the first three months of the year each brought slightly more precipitation than normal. The weather then turned exceptionally wet beginning April 8 with Iowa recording the wettest April among 141 years of records, as well as its wettest May. Swisher reported the most rain in April with 10.24 inches while Zearing reported 16.63 inches during May. Flooding was widespread, particularly in May and over the northeast one-half of the state. Thanks to the record April and May precipitation totals Iowa registered its wettest spring of record with 17.58 inches of rain, 7.36 inches more than normal and 2.22 inches more than the previous record total set in 1892. Needless to say the heavy rains erased all trace of the 2011-2012 drought. Snow was frequent in April across northwest Iowa where Sibley reported 16.5 inches. Snow also made

a record appearance over the first three days of May. Britt and Forest City set new one-day snow records for May with 11 inches on the 1<sup>st</sup>-2<sup>nd</sup> while Osage set a new state record for May monthly snowfall with 13 inches. All but the far eastern portion of Iowa recorded measurable snow with a new record statewide average snowfall of 3.4 inches, nearly triple the previous record of 1.2 inches set in 1947 (which all fell on May 28!). The very wet weather pattern continued well into June across northeast and east central Iowa with 14.16 inches of rain falling at Dorchester during June. However, the weather began to dry over portions of western and southern Iowa during June. The dry weather was welcomed at first but became problematic as dryness intensified in July and August. A few locations set record low July rain totals such as at Carroll with just 0.18 inches. August was even drier with numerous record low totals set including Keokuk and Mount Pleasant where no rain occurred. Excellent sub soil moisture reserves from the heavy spring rain, plus mild mid-summer temperatures allowed crop yields to be much better than in 2012 despite seeing the second driest July to September period of record in 2013. Better rains finally returned in October but were followed by lower than normal totals in November and December. Nevertheless, soil moisture reserves going into the 2013-2014 winter were better over most of the state than was seen at the end of the 2011 and 2012 growing seasons. Annual precipitation totals varied from 20.15 inches at Spirit Lake to 54.04 inches at Saint Ansgar. At Cresco and Lake Mills this was the second wettest year on record. The 2013 statewide average precipitation was 8.87 inches greater than in 2012. However, there were a few scattered locations over far western Iowa where more precipitation fell in 2012 than in 2013.

Severe Weather. An Iowa record of 359 consecutive days without a tornado finally came to an end on May 19, 2013. More records seemed possible as the 2013 tornado season appeared to be destined to be the shortest known with no tornadoes after June 26. However, a late season outbreak on October 4 brought 11 tornadoes to western Iowa, including one EF-4 storm near Pierson in Woodbury County. This was the state's largest late-season tornado outbreak since November 12, 2005. Nevertheless the annual total of 26 twisters was barely more than one-half the typical total.

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