

## PRELIMINARY IOWA WEATHER SUMMARY – 2012

General Summary. Temperatures averaged 51.9° or 3.8° above normal while precipitation totaled 26.31 inches or 8.96 inches below normal. This ranks as the 3<sup>rd</sup> warmest and 19<sup>th</sup> driest year among 140 years of records.

Temperatures. Unusually warm weather was the rule throughout most of 2012. Temperatures were well above normal for each of the first seven months of the year. March was especially noteworthy as temperatures averaged 15.2° above normal and 2.4° above the previous record for the month set in 1910. This was 2.2° warmer than the typical April and the largest positive deviation from normal of any calendar month on record. The previous record was 13.7° above normal in December 1877 while there have been three months with larger negative departures (Feb 1875, Jan 1912 and Jan 1936). The very mild March weather allowed vegetation to develop nearly a month ahead of usual with the state's apple crop almost completely wiped out when freezing weather finally returned in April. The other noteworthy month was July which was the hottest calendar month since August 1947 and hottest July since 1936. Statewide there was an average of 42 days with daily maximum temperatures of 90° or higher with half of those days coming in July. A typical year brings 23 days with temperatures of 90 or above. A larger total of hot days was last recorded in 1988 (48 days of  $\geq 90^\circ$ ). The year's highest temperatures were reported on July 23 with Donnellson, Fairfield and Keokuk all reaching 107°. On the other extreme Elkader reported a low of -21° on January 21.

Precipitation. A very dry late summer and fall in 2011 set the stage for drought in Iowa in 2012. Many have mistakenly blamed the lack of snow in the winter of 2011-2012 as a major contributor to the drought. However, unseasonably heavy rain in December 2011 and February 2012 more than offset the lack of snowfall and resulted in the 19<sup>th</sup> wettest winter of record in Iowa. The spring of 2012 brought slightly below normal rainfall to most of Iowa, but record high spring temperatures (0.8° above the previous record warm spring in 1977) accelerated drought problems by allowing greater evaporation. The drought rapidly intensified in June with several northwestern Iowa locations recording their driest June on record, as did many west central Iowa sites in July. Underwood in Pottawattamie County had the misfortune of recording 39 consecutive days with no measurable rainfall (less than 0.01 inch) from June 30 through August 7. Overall, 2012 brought the fifth lowest summer precipitation total among 140 years of records based upon statewide averages (1886, 1894, 1927 and 1936 were lower) with a few far northwest Iowa locations recording their lowest summer rain totals of record. Crop yields were greatly reduced owing to the heat and dryness. Some fields were total losses while a few areas receiving timely rains managed record yields. Overall, the percentage reduction in yield in 2012 was less than seen in previous major droughts. Many historical droughts in Iowa have been followed by relatively abundant rainfall in September, but such was not the case this year. Nevertheless, portions of eastern Iowa saw near normal autumn precipitation to help replenish soil moisture levels. However, far northwestern Iowa saw less than one-half the usual amount of fall rain. Annual precipitation totals across the state exhibited much less variability than usually seen with

most locations seeing totals of 23 to 30 inches. The lowest total was recorded at the Mason City Airport with 20.45 inches while Red Oak was the only location to report above normal precipitation with a 39.28 inch total. This was Mason City's lowest total since 1989 and followed a meager 2011 total of just 22.77 inches (normal is 35.20). Flooding was almost nonexistent in the state with the greatest storm-total rain of 5.65 inches reported at Red Oak on April 14-15. The winter snow season came to a very early end in 2012 with the last accumulation coming on March 4. The next snow season also got off to a late start. There were a few isolated accumulations in October and November but nothing widespread until December 8. The statewide average snowfall for the year was 23.2 inches or 9.0 inches less than normal. This ranks as the 28<sup>th</sup> lowest annual total among 125 years of records.

Severe Weather. The National Weather Service reported only 16 confirmed tornadoes in Iowa during 2012 with none occurring after May 24. This is the smallest annual total since at least 1963 and the first time since the drought year of 1988 that no tornadoes occurred in June, typically the most active tornado month of the year in Iowa. The two most damaging tornadoes of 2012 both came on the evening of April 14 with the first striking Thurman and the second hitting portions of Creston. Drought was easily the most damaging weather phenomena of the year. Preliminary data indicate that the state average corn yield declined 19 to 20% below the five year average and the soybean yield was down 12 to 13% from recent years. The yield reductions were surprisingly low considering the severity of the summer drought (in 1988 Iowa corn yields declined by 33% and soybeans by 20%). Nevertheless, these relatively low percentage losses amount to several billion dollars of lost income.

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