

IOWA ANNUAL WEATHER SUMMARY – 2002

General Summary. Temperatures averaged 49.1° or 0.8° above normal while precipitation totaled 29.97 inches or 3.14 inches less than normal. This ranks as the 33rd warmest and 44th driest year among 130 years of state records.

Temperatures. 2002 began on the mild side with temperatures averaging well above normal in January and February. Webster City missed the state record high temperature for January by only 1° with a 72° maximum on January 26. This mild January-February combination completed the warmest November through February period on record in Iowa. Temperatures over this 4 month period averaged 34.1° while the previous record was 32.9° set Nov. 1930 – Feb. 1931 (normal is 25.4°). However, the three spring months were all colder than normal. The lowest temperature of the year was recorded at Elkader on March 4 with a -18° reading. There were also several unseasonably late freezes during May including a 27° minimum at Elkader on May 21 which was the lowest temperature recorded so late in the spring in Iowa since 1965. Once again there was a prolonged change in the weather as temperatures averaged well above normal for much of the period from late May through early August. Glenwood recorded the year's highest temperature with a 104° reading on July 21. However, only about 10% of the state's reporting points, mainly in far western Iowa, reached the century mark during 2002. Nevertheless, the heat was persistent. At Sioux City there were 42 days with temperatures of 90° or higher (but none reaching 100°). This was their greatest annual total of 90° days since 1988 and well in excess of the normal total of 24. The June-July period of 2002 was Iowa's hottest for that time frame since 1988 and ranked 11th hottest June-July in 130 years of state records. However, plentiful rainfall in most areas held August temperatures one-half degree below normal. The heat returned in September with temperatures reaching as high as the mid 90's across western Iowa during the first week of the month. A much colder weather pattern prevailed later in the fall with Iowa experiencing its coldest October in 77 years. Finally, unseasonably mild weather returned for the final three weeks of the year. This was Iowa's fifth consecutive warmer than normal year and follows a period of six consecutive cooler than normal years from 1992 to 1997.

Precipitation. The year began with Iowa on pace to have a record dry January until a major winter storm finally arrived on the 30th. Overall, there were several extended periods with very little precipitation during the first three months of the year. The late January storm, as well as two in mid-February and another pair in early March provided nearly all of the precipitation recorded during the first one-quarter of the year. Precipitation finally became much more frequent in April and May. The frequent rain made spring planting difficult in some areas owing to persistently wet topsoil but also greatly minimized flooding problems since moisture was very evenly distributed through the period. However, heavy rain deluged east central Iowa on June 3rd-4th resulting in severe flooding in the area roughly bounded by Dubuque, Cedar Rapids and Davenport. The latter part of June was characterized by the opposite extreme as no rain was recorded in some areas over the last 17 days of the month. Hot and dry weather persisted into the first week and one-half of July with crops being severely stressed across much of the western two-thirds of the state. Thankfully, widespread thunderstorm activity began on

the 10th with frequent rain in most areas through the rest of July and well into August. Portions of southwest Iowa; however, failed to receive adequate rainfall until the fourth week of July and crop yields were significantly impacted in that area of the state. Record monthly rainfall totals were attained in some parts of northwest Iowa during August including an 11.88 inch total at Carroll. The combination of warm and wet summer weather allowed the statewide average corn yield to set a record in 2002 (160.0 bushels per acre, old record 152.0 in 1994) while the state average soybean yield tied for the third highest of record (46.0 bushels per acre; record 50.5 in 1994). A delay in the onset of rain in July, such as was experienced in southwest Iowa, would have had a dramatic impact on statewide agricultural production. Unseasonably dry weather prevailed for most of the final one-third of the year. September precipitation averaged only about one-half of normal while November was Iowa's driest month since March 1994 and December was the second driest December ever. The exception to the dry pattern was in October. The first week of October was Iowa's wettest week in 17 months while the second half of the month brought frequent snowfall to northwest Iowa. Monthly snowfall was the fifth highest of record (2.1 inches) for October while December snowfall (0.4 inch) tied with 1979 for the least of record for that month. For the year as a whole preliminary precipitation totals varied from 20.29 inches at Sheldon up to 45.52 inches at Cascade. Compared to normal, precipitation totals varied from 13.24 inches less than normal at Blockton to 12.27 inches above normal at Cascade.

Severe Weather. 2002 was a rather quiet year for severe weather in Iowa. There were 31 tornadoes reported during the year compared to our average annual total of 45. All of the 31 reported storms were small with 5 estimated to be F1 and 26 as F0 on the Fujita intensity scale. There were no reported injuries associated with these tornadoes. The most damaging storm events of the year were the flash floods in east central Iowa on June 3rd-4th; the July 10 windstorm centered upon Carroll County and the October 1 hail storm centered upon Clay County.

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