

IOWA PRELIMINARY MONTHLY WEATHER SUMMARY – JANUARY 2010

General Summary. Temperatures averaged 13.7° or 4.1° below normal while precipitation totaled 1.33 inches or 0.38 inches above normal. This ranks as the 33rd coldest and 37th wettest January among 138 years of records.

Temperatures. The new year began with exceptionally cold weather. Temperatures averaged 16.0 degrees below normal over the first 12 days of the month. At Spencer Airport the temperature fell to -37° on the morning of the 2nd while wind chill readings dropped to -53° at Estherville. The Spencer temperature extreme was exceeded just a year ago when Coggon reported -40° on January 16. However, the Estherville wind chill reading was the lowest recorded in Iowa since February 1, 1996. After the very cold start to the month, the statewide average temperature was above normal every day from the 13th through the 25th, averaging 9.7° above normal for this 13 day period. Highest temperatures were 45° readings recorded at Ankeny, Donnellson, Keosauqua and Leon on the 13th and again at Burlington, Shenandoah and Sidney on the 23rd. A lower statewide calendar month maximum temperature has been recorded only twice in the past 138 years (40° maximum in both January 1979 and December 1983). Colder weather returned with temperatures averaging below normal on each of the last six days of the month with Spencer and Sheldon recording lows of -17° on the morning of the 29th.

Heating Degree Days. Home heating requirements, as estimated by heating degree day totals, averaged 9% more than normal, but 1% less than last January. Degree day totals thus far this heating season are running 2% more than normal and 2% less than last season at this time.

Precipitation. January brought only near normal snowfall totals, but much of it came from only two strong storms. The first event on the 6th-7th brought a statewide average of 5.1 inches of snow and was accompanied by wind gusts of 35 to 45 mph. Greatest snow fell from northwest, through central, into east central Iowa where up to 8 inches accumulated, while the highest winds were over the northwest. The second storm brought a statewide average of only 2.1 inches of snow. However, the storm was accompanied by widespread wind gusts over 40 mph with Sioux City reporting winds to 55 mph. Meanwhile another storm brought freezing rain to nearly all of Iowa on the 20th. Rain amounts exceeded an inch over parts of far southeastern Iowa but the worst icing conditions were over west central and central parts of the state where lower temperatures allowed an icy glaze of about one-half inch thick. The ice, along with wind gusts over 35 mph, brought down many tree limbs and power lines. Another storm on the 23rd/24th brought an average of nearly one-half inch of rain to the state with greatest amounts exceeding an inch over some far eastern Iowa locations. Fortunately temperatures were mostly above freezing with this storm. However, these two rain events created a very icy crust on the considerable snowcover that remained over the northwestern two-thirds of Iowa. This icy surface may have enhanced the blowing snow conditions of the storm that came on the 24th-25th. This again resulted in blizzard conditions over most of northern and central Iowa. There was a statewide average of 7.7 inches of snowfall during January. This total is 0.5 inches less than normal, yet ranks

48th greatest January total among 123 years of records. Thanks to the near-record December 2009 snowfall, the season-to-date statewide average snowfall amount stands at 31.6 inches or 12.2 inches above normal for the fourth highest total of record at this point in the season.

Outlook. El Niño typically brings Iowa milder than normal mid-winter temperatures; however, such conditions have yet to materialize this winter. Snow cover remains over all but far southeastern Iowa and is substantial over about the northwestern one-half of the state. Although only temporary, a large area of snow and ice extends across the southern plains states through the mid-Mississippi valley thanks to the passage of a major winter storm in late January. The snow cover will slow the rate of warming across Iowa but does not guarantee a continuation of a colder than normal weather pattern. A growing worry is the extensive moisture-rich snow pack across Iowa. The amount of water stored in the snowpack varies from 2 to 4 inches over most of the northwest one-half of the state. River levels are at near-record levels for this time of year over most of Iowa. Soil moisture levels are also above normal statewide, with the wettest conditions over the east central and southeast districts. All of these factors increase the odds of substantial flooding this spring. The one bit of good news is that frost depths are unusually shallow (thanks to heavy snow coming prior to the arrival of very cold weather), thus some of the snow water may be able to percolate into the soil. The later the snow cover remains into the spring the greater the odds of flooding. This is because the odds of a major warm-up increase as the days grow longer, thus melting the snow more rapidly. Also, the probability of receiving substantial rainfall increases as we pass later in the spring, enhancing the chances of substantial rainfall coinciding with the snow melt.

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