

Late Summer Heat in Iowa

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An unusually warm and prolonged late summer heat wave began across much of Iowa on the weekend of August 24 and persisted through the end of the month, especially across about the southern half of the state. Here are the high temperatures recorded at Des Moines during this heat wave:

	<i>High Temperature</i>	<i>Date</i>
	95	08/24
	96	08/25
<u>Daily High Temperature</u>	99	08/26
<u>Record Tied or Broken</u>	99	08/27
	99	08/28
	96	08/29
	104*	08/30
	94	08/31

*The high of 104 degrees on August 30, 2013, was the warmest reading ever recorded in Des Moines this late in the year. The previous latest date of a 104 degree reading or higher was on August 26, 1983. This was also the latest first 100+ degree day in Des Moines on record (the city had not reached 100 degrees all year before that day). The previous record was August 24, 2003.

Certainly, a prolonged heat wave of this magnitude is unusual so late in the season, but it is not unprecedented. Here is a look at some relevant records for Des Moines as well as several notable late summer heat waves from past years.

At Des Moines, where records go back to 1878, the temperature had previously reached 100 degrees on August 26 or later only six times before this heat wave, most recently in 1984. Three of the six days occurred in the same year, 1939:

<i>High Temperature</i>	<i>Date</i>
104	08/26/1983
101	09/07/1939
101	09/03/1939
100	08/28/1984
100	09/06/1939
100	08/26/1881

Des Moines also experienced an unusually long streak of seven consecutive days of 95 degree or higher temperatures. The last time that at least seven consecutive days of 95 degrees or greater were recorded at Des Moines this late in the year was in 1927:

<i>Number of Days</i>	<i>Beginning Date</i>
9	09/08/1927
7	08/31/1913
7	08/24/2013
5	08/29/1953
5	09/06/1931
5	09/01/1897

Following are some notes on a few of the more notable late summer heat waves on record in Iowa. It should be pointed out that in many (but not all) cases, extreme heat in late August and early September has been followed by early freezes and even snow later in September, as described below. This is certainly not an assurance that an early freeze will occur next month, but given the history of similar events, it is a possibility.

In 1983, persistent late summer heat made August one of the hottest months in Iowa since the Dust Bowl of the 1930s, culminating on the 16th when Des Moines reached 108 degrees. The heat persisted well into September with Des Moines reporting highs of 96 and 97 on the 8th and 9th. Just a couple of weeks later, much cooler weather sent the temperature down to 32 degrees at Des Moines (only one day later than the earliest fall freeze on record, see 1913 below) and as low as 22 degrees at Mason City.

In 1976, a heat wave peaked on September 6-7 when temperatures reached as high as 103 degrees at Le Mars. Amazingly, a strong cold front swept across Iowa a couple of days later and on the morning of the 10th frost was reported in the lowlands with freezing temperatures at a few locations, ranging down to a low of 29 degrees at Elkader. At Sibley high temperatures of 102 degrees on the 6th and 99 degrees on the 7th were followed by a low of 33 degrees on the 10th.

In 1939, one of the hottest summers on record across Iowa persisted all the way into September, with a heat wave peaking on the 3rd-7th. Des Moines recorded three days of triple digit heat as listed above, and readings of 107 degrees at Logan on the 6th and 7th tied the Iowa September record set in 1913. An amazing cold blast then sent the temperature plummeting to 16 degrees at Sibley on the 30th, only one degree above the Iowa September record, with light snow and sleet reported at a few northern Iowa stations in the last few days of the month.

In 1913, the first week of September was very heat with temperatures in the 90s and 100s every day. On the 5th Bedford recorded a high of 107 degrees, setting the September record for Iowa that would be tied in 1939. An early statewide freeze and killing frost followed just a couple of weeks later, on the morning of September 22, when temperatures fell to as low as 19 degrees at Rock Rapids and Des Moines posted its earliest freeze on record with a low of 32 degrees.

In 1895, late summer heat brought the temperature all the way up to 103 degrees at Sioux City, Glenwood and Rock Rapids on September 17. The month would end with a cold wave that resulted in scattered frost on September 25-29 and a widespread killing frost and freeze on the 30th, when temperatures fell to as low as 22 degrees at Atlantic.

In 1881, a heat wave at the end of August sent the temperature up to 100 degrees at Des Moines on the 26th and 97 and 99 degrees on the 27th and 28th. Less than three weeks later, on September 16, the earliest fall snow on record dropped several inches across parts of western Iowa with many tree branches broken by the weight of the snow and an estimated 4-6 inches reported between Stuart and Avoca.