



IOWA MONTHLY WEATHER SUMMARY – NOVEMBER 2023

General Summary: Temperatures averaged 39.0 degrees or 2.1 degrees above normal while precipitation totaled 0.30 inch or 1.52 inches below normal. November 2023 ties 1948, 1965 and 2012 as the 47th warmest in 151 years of statewide records; it was also the 12th driest on record. A warmer November occurred in 2021 while 2007 was drier and the 4th driest.

Temperatures: Overall monthly average temperatures were warmest in northwest Iowa with some stations registering positive departures approaching six degrees. Near-normal conditions were reported in eastern Iowa along with a pocket in southwestern Iowa. November's statewide average maximum temperature was 50.8 degrees, 4.5 degrees above normal while the average minimum temperature was 27.0 degrees, 0.4 degrees below normal. Several southern stations reported the month's high temperature of 72 degrees on the 6th, on average 19 degrees above normal. Fayette (Fayette County) reported the month's low temperature of -5 degrees on the 28th, 24 degrees below normal.

Heating Degree Day Totals: Home heating requirements, as estimated by heating degree day totals, averaged 6% less than last November and 7% less than normal. Thus far this heating season, heating degree day totals are running 12% less than last year at this time and 7% less than normal.

Precipitation: November was the second fall month and the eighth month of 2023 in which the state received below-average precipitation. Most stations reported at most 25% of their normal expected precipitation for November, which is climatologically the fourth driest month of the year.

A weak low-pressure center pushed across the state through the daylight hours of the 3rd as light rain showers formed in southeastern Iowa; Keokuk Lock and Dam (Lee County) measured a 0.01-inch total with 0.02 inch in Mount Pleasant (Henry County). The next round of isolated rain came as a cold front dropped across the state, firing a narrow band of showers in eastern Iowa towards the late afternoon on the 7th; rain totals were under 0.20 inch with 0.12 inch Maquoketa (Jackson County) to 0.19 inch in Davenport (Scott County) and Clinton (Clinton County). Rain showers finally returned to western Iowa along a weak cold front after sunset and continued into eastern Iowa after midnight on the 16th. Only seven stations across northern and eastern Iowa reported a trace of rainfall with 0.02 inch at Oelwein Municipal Airport (Fayette County) and 0.04 inch in Lee County.

Light showers moved into western Iowa on the 19th as a large low-pressure center propagated from Oklahoma through Missouri. Rainy conditions continued through the 20th as the disturbance pushed into Illinois with moderate showers spinning into eastern Iowa on the backside of the low. Event rain totals were highest in the state's southwest and southeast corners as many northwestern stations missed out on measurable amounts. More than one-third of Iowa's stations reported between 0.20 to 0.45 inch; Pacific Junction (Mills County) registered 0.51 inch while 0.60 inch was reported in Clarinda (Page County). Iowans woke up to overcast skies and snowflakes in western Iowa on the 25th as another low pressure center moved across the region. Snow showers spread over the state into the evening hours and continued overnight into the 26th. Snow totals were highest in south-central and eastern Iowa while widespread one to two-inch amounts were observed over Iowa's southeastern two-thirds; Cedar Rapids (Linn County) measured 3.7 inches while Osceola (Clarke County) hit 4.0 inches. On the final day of the month, a low pressure system spun rain and isolated snow showers into southeastern Iowa; rain totals were heaviest in Lee County where with Keokuk measuring 0.55 inch while 0.85 inch was observed in Augusta. A handful of stations measured some snow, ranging from 0.5 inch at Ottumwa Industrial Airport (Wapello County) to 2.0 inches in Bloomfield (Davis County).

Monthly precipitation totals ranged from 0.01 inch at Sibley (Osceola County) to 1.01 inches near College Springs (Page County). The statewide average snowfall was 1.7 inches, 1.0 inches below average. Muscatine (Muscatine County) reported the highest monthly snowfall at 4.5 inches.

Fall Summary: Temperatures over the three autumn months (September-October-November) averaged 50.8 degrees or 2.7 degrees above normal while precipitation totaled 5.61 inches, 2.38 inches below normal. Fall 2023 ties 1954, 1990 and 2005 as the 19th warmest fall among the period of record; it also tied 1895 as the 34th driest fall on record. Fall 2021 was warmer while 2022 was drier.

US Drought Monitor: The US Drought Monitor (USDM) showed degradation in conditions portions of southern Iowa through the month. The remainder of the state showed “status quo” conditions. Currently, 99% of Iowa is in drought or abnormal dryness, compared to 98% at the beginning of November. The area designated as D0 (Abnormally Dry) is at 15%, down from 16% one month ago. The area designated as D1 (Moderate Drought) is at 22%, down from 29% one month ago. The area designated as D2 (Severe Drought) stands at 35% of Iowa, up from 30% last month. The area of D3 (Extreme Drought) has increased by 3% to 27%. Consistent, above-normal precipitation for multiple months, if not more than a year, is needed to see significant improvements in the structural drought regions.

Winter Outlooks: After three consecutive La Niña winters, the El Niño-Southern Oscillation (ENSO) transitioned several months ago to the warm phase, known as El Niño (EN). There is now a 54% chance that this EN will be “historically strong,” meaning oceanic temperatures in the eastern Tropical Pacific are anomalously warm.

The December-January-February outlooks are taking on the classic EN pattern with higher probabilities of drier conditions in the Ohio Valley/Great Lakes and the northern reaches of the High Plains; wetter conditions are expected along the Gulf Coast states and up the Eastern Seaboard. Iowa is in the middle of these two probabilistic features and hence, it will depend on where the storm track sets up: Equal Chances (33%/33%/34%) of above/below/near-average precipitation. On the temperature side, there are elevated chances for warmer conditions across much of the northern half of the United States. In terms of snowfall potential, Iowa expects below-normal snowpack during EN winters, but not necessarily drier-than-normal conditions.

If we consider the last seven strong EL events since 1950, six were wetter than average for much of Iowa; winter is the driest season of the year, so it doesn't take a lot to be above or below average. The last three EL winters, which occurred in 2010, 2016 and 2019, were all unseasonably wet; strong EL events occurred in 2010 and 2016, with 2016 ranking as an anomalously strong, or “monster” EN. A borderline weak to moderate event occurred in 2019, producing the 3rd wettest winter on record.

Justin Glisan, Ph.D.
State Climatologist of Iowa
Iowa Dept. of Agriculture & Land Stewardship
Wallace State Office Bldg.
Des Moines, IA 50319
Telephone: (515) 281-8981
E-mail: Justin.Glisan@IowaAgriculture.gov

November 2023

WEATHER BY DISTRICTS

DISTRICT	TEMPERATURE (F)		HEATING DEGREE DAYS				PRECIPITATION (inches)				SNOWFALL Nov 2023 Average
	November 2023 Average Departure ¹		November 2023 Average Departure ¹		Since Jul., 1, 2023 Average Departure ¹		November 2023 Average Departure ¹		Since Jan. 1, 2023 Average Departure ¹		
Northwest	37.9	3.6	813	-107	1352	-245	0.07	-1.33	27.32	-2.43	0.5
North Central	37.4	2.8	828	-83	1346	-253	0.11	-1.54	25.09	-8.85	1.0
Northeast	36.6	1.3	852	-38	1370	-201	0.26	-1.78	24.82	-11.65	1.9
West Central	39.3	2.7	771	-81	1232	-214	0.16	-1.32	24.63	-7.35	1.2
Central	39.4	2.3	768	-70	1208	-215	0.19	-1.66	24.64	-10.04	1.4
East Central	39.3	1.4	771	-43	1186	-183	0.59	-1.59	23.87	-11.99	2.3
Southwest	40.0	1.2	750	-37	1169	-137	0.48	-1.21	25.42	-8.77	2.3
South Central	40.7	1.4	729	-43	1117	-174	0.42	-1.58	24.22	-11.46	2.0
Southeast	40.6	0.9	732	-26	1108	-138	0.58	-1.65	24.69	-11.49	1.8
STATE	39.0	2.1	779	-57	1225	-198	0.30	-1.52	25.00	-9.18	1.7

¹ Departures are computed from 1991-2020 normals.

The weather data in this report are based upon information collected by the U. S. Dept. of Commerce, NOAA National Weather Service.

