



IOWA MONTHLY WEATHER SUMMARY – OCTOBER 2023

General Summary: Temperatures averaged 53.4 degrees, 2.4 degrees above normal while precipitation totaled 3.12 inches or 0.43 inch above normal. October 2023 ties 1902, 1955 and 2011 as the 48th warmest in 151 years of statewide records. It also ties 2012 as the 46th wettest October on record. October 2021 was warmer and wetter.

Temperatures: Iowa's National Weather Service (NWS) stations reported above-average temperatures for the month. October's statewide average maximum temperature was 64.1 degrees, 1.8 degrees above normal while the average minimum temperature was 42.7 degrees, 3.1 degrees above normal. Spencer Municipal Airport (Clay County) reported the month's high temperature of 95 degrees on the 1st, 25 degrees above normal. Primghar (O'Brien County) reported the month's low temperature of 16 degrees on the 30th, 18 degrees below normal.

Heating Degree Days: Home heating requirements, as estimated by heating degree day totals, averaged 20% less than last October and 17% less than normal. Thus far this heating season, heating degree day totals are running 48% less than last year at this time and 24% less than normal.

Precipitation: October broke seven consecutive months of below-average precipitation for Iowa. National Weather Service stations and Community Collaborative Rain, Hail and Snow (CoCoRaHS) gauges in northwest Iowa reported 150-300% of normal precipitation with sections of eastern Iowa in the 125-175% of normal range. Southwestern Iowa was the driest part of the state with widespread 50-75% of normal precipitation totals. Monthly precipitation totals ranged from 0.95 inch in Bloomfield (Davis County) to 7.31 inches in Sioux Rapids (Buena Vista County).

Cloudy skies developed into the morning of the 3rd as gusty southerly winds pumped moisture north in advance of a strong cold front. An initial line of showers formed in western Iowa during the afternoon hours as temperatures over Iowa's eastern half held in the 80s; clouds and light rain produced upper 70s and low 80s in western Iowa. A strong line of thunderstorms fired along the cold front as it pushed over the Iowa-Nebraska border just after sunset, leading to a few initial severe-warned cells. Showers expanded through central and eastern Iowa, though a lack of atmospheric energy allowed the main line to lose strength overnight into the 4th as the cold front pushed out of eastern Iowa. Rainfall totals reported at 7:00 am showed widespread amounts of 0.50 inch or more with 22 stations measuring at least an inch in west-central and northwest Iowa. Much of western Iowa observed at least 0.20 inch with lesser totals moving east. Skies across eastern Iowa remained mostly clear through the day with cloudy conditions developing west. High temperatures varied from the low 80s along the Iowa-Illinois border to mid-60s northwest with westerly winds.

Clouds increased over southern Iowa early on the 11th as showers and a few thunderstorms moved through the area. General totals were under 0.20 inch, though Truro (Madison County) measured 0.26 inch and College Springs (Page County) received 0.36 inch. Additional showers and a few severe thunderstorms fired across eastern Iowa, later expanding farther north and west, ahead of a large low-pressure system that was approaching Iowa. A second wave of showers pushed into western Iowa just before daybreak on the 12th with a broad shield of rain persisting over northern Iowa through the afternoon hours. Initial rainfall totals exceeded 1.00 inch at 60 stations with the highest totals in eastern Iowa and a statewide average of 0.47 inch; a station in Davenport (Scott County) observed 2.02 inches while Camanche (Clinton County) reported 3.05 inches. The low pressure center finally moved into western Iowa after midnight on the 13th with moderate to heavy rain falling from several waves of showers and thunderstorms. Nearly 30 northwest stations observed at least 2.00 inches with 10 stations registering more than 3.00 inches; Milford (Dickinson County) reported 3.09 inches with 3.75 inches

in Storm Lake (Buena Vista County). Totals tapered off farther southeast though most stations across Iowa's northwestern two-thirds observed at least 0.50 inch; the statewide average total was 0.76 inch. Ample instability and atmospheric spin associated with the low-pressure center forced a few tornado-warned thunderstorms, though no rotation was spotted. The system finally exited eastern Iowa early on the 14th with 24-hour totals reported at 7:00 am highest from central to eastern Iowa. More than 30 additional stations hit an inch or more with 2.68 inches in Lowden (Cedar County); general totals at most stations were in the 0.25-0.75 inch range with a statewide average of 0.52 inch.

Winds began shifting to the west as a low-pressure center propagated through Minnesota on the 18th with light showers forming along the attendant cold front as it swept through the state in the late afternoon. Additional showers formed in northwestern Iowa and then reformed over southeastern Iowa before dissipating near sunrise on the 19th. Rainfall totals were widespread, though generally less than 0.20 inch; the highest amounts were found in north-central and southeastern Iowa with 0.32 inch in Swea City (Kossuth County), 0.34 inch in Wapello (Louisa County) and 0.40 inch at Keokuk Lock and Dam (Lee County).

Showers pushed into western Iowa through the evening of the 22nd with more thundershowers forming across northern Iowa into the morning of the 23rd. Many north-central stations reported amounts between 0.25-0.75 inch with widespread totals over the state's northern half in the 0.10-0.25 inch range. Isolated strong storms fired in northwestern Iowa just before midnight, leaving behind 1.00-inch hail and 0.34 inch of rain in Spencer (Clay County). Showers streamed into southern and eastern Iowa through the 24th ahead of a low pressure center moving toward the state. Widespread totals of around 0.10 inch were reported with several north-central and southeast stations registering totals in the 0.50-1.00 inch range; Burt (Kossuth County) hit 0.60 inch with 1.32 inches near Keokuk (Lee County). Showers across northern Missouri pushed into Iowa's southeast half through the evening hours and continued overnight into the 26th. Showers and some thunderstorms held on over eastern Iowa into the late evening with additional cells forming as the low pressure system and cold front propagated east. Rain totals for the previous 48 hours reported at 7:00 am on the 27th were above 1.00 inch at more than 120 stations with heavier totals in eastern Iowa; an observer in Cedar Rapids (Linn County) reported 2.02 inches with 2.45 inches in Monticello (Jones County) and a statewide average of 0.83 inch. Overcast skies continued into the 28th as moderate snow showers pushed into northwestern Iowa before daybreak. Light snow and flurries continued over portions of northern Iowa through much of the day; measurable snow was observed at 34 stations and varied from trace amounts to 4.00 inches at Cherokee (Cherokee County), Sioux City (Woodbury County) and Spencer. A southerly shifting wind signaled a fast-moving low-pressure center that brought spotty snow showers across northern Iowa overnight into the 31st. Several stations measured at least a trace with 0.1 inch in Elkader (Clayton County) to 0.9 inch at Waukon (Allamakee County) as winds returned to a gusty northwesterly direction. Halloween trick-or-treaters were greeted with temperatures in the upper 20s and low 30s as clouds cleared over western Iowa.

US Drought Monitor: Drought conditions improved somewhat in October as indicated by the US Drought Monitor. Portions of northwest Iowa saw improvements by two drought categories with eastern Iowa experiencing notable improvement. As of the first week of November, about 24% of Iowa is rated as D3 (Extreme Drought), 30% rated as D2 (Severe Drought) and 29% as D1 (Moderate Drought). Abnormally Dry (D0), which is not technically drought, covers 15% of the state. Portions of Jackson, Clinton and Scott counties along the Mississippi River are the only drought-free portions of the state. This week marks the 183rd week with some classification of drought or dryness in Iowa, dating back to May 5, 2020.

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



Justin Glisan, Ph.D.
Climatology Bureau

October 2023

WEATHER BY DISTRICTS

DISTRICT	TEMPERATURE (F)		HEATING DEGREE DAYS				PRECIPITATION (inches)				SNOWFALL Oct 2023 Average
	October 2023 Average Departure		October 2023 Average Departure		Since Jul., 1, 2023 Average Departure		October 2023 Average Departure		Since Jan. 1, 2023 Average Departure		
Northwest	51.4	+2.1	427	-62	535	-142	5.03	+2.68	27.03	-1.32	1.7
North Central	51.9	+2.8	413	-82	521	-167	3.21	+0.71	24.97	-7.31	0.9
Northeast	52.1	+2.7	407	-80	519	-163	3.22	+0.38	24.56	-9.86	0.0
West Central	53.4	+2.3	368	-68	459	-135	3.06	+0.60	24.34	-6.15	0.4
Central	53.8	+2.7	358	-78	442	-143	2.74	+0.07	24.43	-8.41	0.0
East Central	53.9	+2.3	354	-69	423	-132	3.59	+0.66	23.15	-10.53	0.0
Southwest	54.7	+2.0	332	-58	416	-104	1.79	-1.01	24.95	-7.55	0.0
South Central	55.5	+2.9	311	-83	380	-139	2.20	-0.63	23.81	-9.87	0.0
Southeast	55.3	+2.2	315	-65	380	-107	2.62	-0.31	24.14	-9.81	0.0
STATE	53.4	+2.4	364	-72	449	-138	3.12	+0.43	24.64	-7.72	0.2

* 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.

Average Temperature (°F): Departure from 1991-2020 Normals
October 01, 2023 to October 31, 2023



Accumulated Precipitation (inches)
October 01, 2023 to October 31, 2023

