



## IOWA MONTHLY WEATHER SUMMARY – SEPTEMBER 2024

General Summary: Temperatures averaged 67.0 degrees or 3.3 degrees above normal while precipitation totaled 0.72 inches or 2.76 inches below normal. September 2024 ties 1922 as the 22<sup>nd</sup> warmest on record with a warmer September last occurring in 2019 (9<sup>th</sup> warmest). The month also ranks as the driest September in 152 years of statewide records.

Temperatures: Iowa's National Weather Service (NWS) co-op stations reported positive temperature departures in September. Conditions were warmer across northern and central Iowa where temperatures were four to five degrees warmer than the climatological average. September's statewide average maximum temperature was 80.3 degrees, 4.9 degrees above normal, while the average minimum temperature was 54.9 degrees, 1.6 degrees above normal. Osceola (Clarke County) and Washington (Washington County) reported the month's high temperature of 94 degrees on the 20<sup>th</sup>, on average 18 degrees above normal. Lake Park (Dickinson County) reported the month's low temperature of 36 degrees on the 23<sup>rd</sup>, 12 degrees below normal.

Cooling Degree Days: Home air conditioning requirements, as estimated by cooling degree day totals, averaged 5% less than last September and 55% more than normal. Cooling degree day totals since January are running 2% less than last year at this time and 10% more than normal.

Precipitation: September was a particularly dry month for Iowa, breaking the record set back in 1939; 25 National Weather Service (NWS) co-op stations with a period of record of more than 100 years reported their driest September on record. Most NWS stations and Community Collaborative Rain, Hail and Snow (CoCoRaHS) gauges across Iowa reported 25% of normal precipitation with sections of eastern-central and western Iowa below 5% of normal. Monthly precipitation totals ranged from no measurable totals at multiple stations in eastern Iowa to 4.44 inches in Lamoni (Decatur County).

Scattered showers and a few thunderstorms developed along a cold front as it entered northwest Iowa into the early morning hours of the 5<sup>th</sup>. The line continued to move over northern Iowa through late morning with showers persisting in eastern Iowa after noon. Gusty northwesterly winds ushered in cooler air behind the front as clouds cleared from northwest to southeast. Event rain totals were generally under 0.10 inch where rain fell though stations in north-central Iowa registered higher amounts. Charles City (Floyd County) observed 0.39 inch while Northwood (Worth County) added an additional 0.22 inch at 7:00 am on the 6<sup>th</sup> after an initial 1.12 inches was reported the previous morning. Persistent, spotty showers spun in on the backside of a low pressure center over northern Iowa; several stations reported some rainfall with the highest total of 0.10 inch at Bellevue Lock and Dam (Jackson County) and Swea City (Kossuth County).

Clouds increased over central and northern Iowa overnight into the 10<sup>th</sup> as an upper level disturbance brought showers to northern Iowa towards daybreak. Scattered showers continued to move east through the daytime hours. Rainfall totals were under 0.10 inch with totals ranging from 0.01 inch in Orange City (Sioux County) to 0.09 inch in Waterloo (Black Hawk County). A narrow line of showers formed in central Iowa into the evening hours of the 13<sup>th</sup>, though much of the rain evaporated before hitting the surface. Additional showers formed in northeastern Iowa very early on the 14<sup>th</sup> with lighter totals reported at several stations; Charles City registered 0.14 inch while Mason City (Cerro Gordo County) recorded 0.30 inch. Spotty thundershowers formed along the Iowa-Illinois border around sunset with measurable totals at a handful of stations; the National Weather Service office in Davenport (Scott County) collected 0.09 inch.

Light showers formed in eastern Iowa towards sunset on the 15<sup>th</sup> with 0.07 inch collected at Salem (Henry County). Two rounds of showers moved through western Iowa overnight into the 17<sup>th</sup> before dissipating in the late morning. Several stations in Sioux County observed measurable totals ranging from 0.13 inch at an Orange City Community Collaborative Rain, Hail and Snow (CoCoRaHS) gauge to 0.76 inch in Sioux Center. Spencer Municipal Airport (Clay County) reported 0.50 inches with lesser amounts at surrounding stations.

Scattered thundershowers developed in the northwest after midnight with a second complex forming in west-central Iowa towards sunrise on the 19<sup>th</sup>. Scattered showers and thunderstorms continued across portions of Iowa through the day with multiple severe-warned cells in northern and south-central Iowa. More than 30 stations observed at least an inch with central to east-central stations reporting the highest totals. Pella (Marion County) registered 1.05 inches while Davis City (Decatur County) reported 2.67 inches; the statewide average rainfall was 0.30 inches. On the 21<sup>st</sup>, a low pressure center and its attendant cold front entered northwestern Iowa through the morning hours and continued across the state through the day. A narrow band of thunderstorms developed along the boundary bringing widespread rainfall to the state's southeastern half. The highest amounts were observed in the northeast and south-central portions of Iowa; 7:00 am reports on 22<sup>nd</sup> ranged from 0.25 inches in Decorah (Winneshiek County) to 2.44 inches in Lamoni (Decatur County). Light showers persisted into the afternoon the cold front pushed southeast across Iowa. Additional rain totals were generally under a tenth of an inch over southern Iowa though multiple stations reported higher totals; Davis City (Decatur County) registered 0.30 inch while Council Bluffs (Pottawattamie County) observed 0.56 inch. Showers formed along the Iowa-Illinois border around midnight and pushed farther east as showers along a second cold front moved into western Iowa close to sunrise on Tuesday the 24<sup>th</sup>. The complex of showers continued east through the day as isolated thundershowers popped into the afternoon and evening hours over southern Iowa. Rain totals were highest in east-central and southeastern Iowa with more than 30 stations observing at least 0.25 inches along with multiple gauges in Lee County collecting moderate amounts; Fort Madison observed 0.32 inches with a 0.64-inch reading in Keokuk. Most of the stations that received rainfall reported an average of 0.06 inch.

US Drought Monitor: Abnormally dry (D0) conditions that began developing during the latter part of August expanded across western and northeastern Iowa during early September. By the middle of the month, 96% of the state was categorized in D0. Pockets of Moderate Drought (D1) returned to northeast and extreme southwest Iowa and expanded through the end of the month. As of the first week of October, about 22% of Iowa is rated as D1, with a small pocket of D2 (Severe Drought) in Harrison and Monona counties. Abnormally Dry (D0), which is not technically drought, covers 71% of the state. Portions of 11 counties in southern Iowa remain free of drought and abnormal dryness.

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# September 2024

## WEATHER BY DISTRICTS

DISTRICT	TEMPERATURE (F)		COOLING DEGREE DAYS				PRECIPITATION (inches)			
	September 2024 Average Departure*		September 2024 Average Departure*		Since Jan., 1, 2024 Average Departure*		September 2024 Average Departure*		Since Jan. 1, 2024 Average Departure*	
Northwest	62.5	+4.3	119	+55	811	+81	0.47	-2.68	31.38	+5.38
North Central	62.3	+3.5	98	+43	716	+50	0.76	-2.61	34.30	+4.50
Northeast	62.1	+3.4	90	+40	683	+45	0.79	-3.00	32.40	+0.81
West Central	63.8	+3.5	129	+50	898	+72	0.47	-2.78	25.87	-2.15
Central	63.8	+3.4	119	+44	881	+73	0.72	-2.74	30.55	+0.38
East Central	64.1	+3.0	113	+42	911	+104	0.24	-3.41	31.97	+1.22
Southwest	65.1	+2.5	136	+36	1031	+66	0.82	-2.62	26.96	-2.75
South Central	65.0	+2.3	128	+32	1058	+116	1.86	-1.83	30.33	-0.51
Southeast	65.4	+1.7	118	+24	1020	+63	0.58	-3.04	31.79	+0.76
STATE	63.7	+3.3	115	+41	881	+78	0.72	-2.76	30.64	+0.95

\* 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**

September 01, 2024 to September 30, 2024

**Accumulated Precipitation (in)**

September 01, 2024 to September 30, 2024

