IOWA DEPARTMENT OF AGRICULTURE & LAND STEWARDSHIP

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Secretary of Agriculture

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IOWA MONTHLY WEATHER SUMMARY – SEPTEMBER 2022

General Summary: Temperatures averaged 65.1 degrees or 1.4 degrees above normal while precipitation totaled 1.84 inches or 1.64 inches below normal. September 2022 ranks as the 50th warmest and 24th driest September in 150 years of statewide records. A warmer and drier September occurred just last year.

Temperatures: September had generally warmer than average temperatures with the warmest readings located in northwestern Iowa; departures were up to three degrees warmer while near-normal conditions were found in north-central and eastern Iowa. September's statewide average maximum temperature was 77.2 degrees, 1.8 degrees above normal, while the average minimum temperature was 52.9 degrees, 1.0 degree above normal. Little Sioux observed the month's high temperature of 102 degrees on the 20th, 26 degrees above normal. Vinton reported the month's low temperature of 26 degrees on the 28th, on average 19 degrees below normal.

Cooling Degree Days: Home air conditioning requirements, as estimated by cooling degree day totals, averaged 26% less than last September and 16% more than normal. Cooling degree day totals since January are running 7% less than last year at this time and 11% more than normal.

Precipitation: The driest conditions in September were found across portions of northwestern and northeastern Iowa, where precipitation departures approached three inches. Only southeastern Iowa observed wetter than normal conditions. Monthly precipitation totals ranged from 0.22 inch at Sheldon to 6.79 inches near Lucas.

Partly cloudy skies developed early on the 1st as a disturbance approached western Iowa. Initial showers developed and expanded into central Iowa through the evening hours as a few thundershowers also fired. Rainfall dissipated in northeast Iowa through the later morning hours of the 2nd as clearing skies greeted most of Iowa's reporting stations. Rainfall totals were observed along a narrow swath with a handful of stations reported over 0.30 inch; Garwin (Tama County) registered 0.33 inch and Norwalk (Warren County) dumped out 1.02 inches. A few isolated, near-stationary thunderstorms popped in southern Iowa through the evening hours along with more scattered cells along the frontal boundary into nighttime. Cooler air flowed in behind the cold front as winds shifted to the north.

Clouds increased across northwestern Iowa through the 9th as a low-pressure system approached from the west. As the low's attendant cold front swung through light rain showers developed. Thick stratus clouds obscured the sky for the northwestern two thirds of the state, though southeastern Iowa was able to peer at the full Harvest Moon. Moderate rainfall filled in west to east through the 10th as the cold front propagated across Iowa, leaving behind widespread and beneficial totals. A few embedded thundershowers also produced locally heavy downpours. Rainfall totals at 7:00 am on the 11th showed nearly 40 stations measuring at least an inch with most stations reporting at least 0.20 inch; pockets of heavier totals were found in the northwest and southeast corner with Augusta (Lee County) dumping out 1.50 inches while Little Sioux (Harrison County) observed 2.05 inches.

Clouds pushed into western Iowa late in the evening and through much of the 16th as a low pressure center approached the state. Showers and thunderstorms formed ahead of a cold front, leaving measurable rain totals across the western half of Iowa; amounts were generally under 0.20 inch, though Rock Rapids (Lyon County) measured 0.60 inch while Little Sioux (Harrison County) reported 0.83 inch. Thunderstorms formed overnight in western Iowa and pushed through southern Iowa on the 17th. Severe storms refired later in the evening, producing several reports of straight-line winds and large hail; a 3.5-inch diameter hailstone was observed in Carson (Pottawattamie County), producing structural damage. Heavy downpours were observed in stronger storms as

almost 30 stations measured at least an inch of rain with 10 stations reporting more than two inches; a rain gauge in Chariton (Lucas County) dumped out 4.00 inches. Most of southern Iowa received at least 0.50 inch.

Spotty showers and thunderstorms formed late afternoon on the 18th with several cells becoming severe prior to and after sunset. Several reports of 2.5-inch hail were found between Iowa City (Johnson County) and Davenport (Scott County); hail over an inch in diameter was also found in Lee County. Several stations within these swaths also measured rainfall totals from 0.50 inch to 2.00 inches at Oskaloosa (Mahaska County). Event rain totals reported on the morning of the 21st were highest in the southeast counties where a few tenths were observed at multiple stations, though Mount Pleasant (Henry County) measured 0.71 inch from multiple rounds of showers. Wet and chilly weather persisted through the 23rd with steady rain and patchy drizzle. Showers pushed out of southeastern Iowa into the early hours of the 24th. Event rain totals were in the range of 0.10 to 0.25 inch at many stations with locally heavier totals in north-central Iowa; Emmetsburg (Palo Alto) and Swea City (Kossuth County) both observed 0.46 inch. The driest conditions of the growing season were observed over the final week of the month with most of Iowa's National Weather Service stations observing no precipitation.

US Drought Monitor:

Drought conditions gradually degraded and expanded across Iowa through September. As of the first week of the month, 40% of Iowa was classified as experiencing D1 (Moderate Drought) to D3 (Extreme Drought) with 22% of the state in D0 (Abnormally Dry) conditions. While widespread rain fell over much of the state, warm and unseasonably dry weather allowed D3 conditions to spread into southeastern Iowa, but were quickly improved upon by above-normal rainfall. As of the first week of October, the breakdown of drought categories was as follows: D0 – 33%, D1 – 26% and D2 – 20%., D3 – 5%

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September 2022

WEATHER BY DISTRICTS

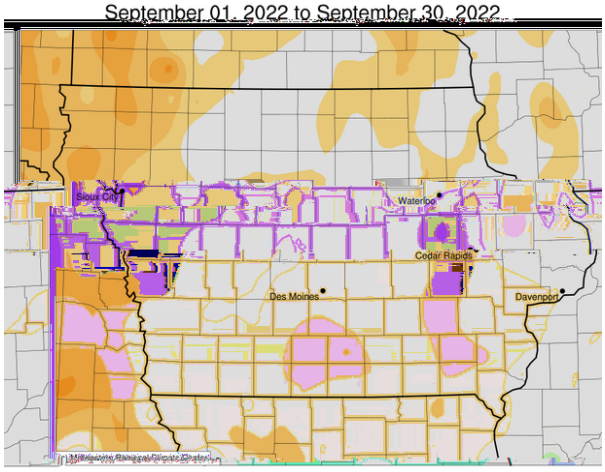
DISTRICT	TEMPERATURE (F)		COOLING DEGREE DAYS				PRECIPITATION (inches)			
	September 2022		September 2022		Since Jan., 1, 2022		September 2022		Since Jan.1, 2022	
	Average	Departure*	Average	Departure*	Average	Departure*	Average	Departure*	Average	Departure*
Northwest	64.2	+1.7	81	+17	837	+107	0.79	-2.36	17.17	-8.83
North Central	63.1	+0.9	59	+4	723	+57	1.16	-2.21	23.79	-6.00
Northeast	63.1	+1.0	55	+5	662	+26	1.12	-2.67	28.29	-3.30
West Central	65.6	+1.8	101	+22	957	+129	1.69	-1.56	19.80	-8.23
Central	65.0	+1.2	84	+12	916	+108	1.73	-1.73	23.67	-6.49
East Central	65.2	+1.1	82	+11	877	+70	2.01	-1.64	25.19	-5.56
Southwest	66.7	+1.6	121	+21	1072	+107	2.00	-1.44	21.99	-7.71
South Central	66.9	+1.9	121	+25	1090	+149	3.15	-0.54	22.45	-8.39
Southeast	66.5	+1.1	108	+14	1048	+91	3.54	-0.08	21.21	-9.81
STATE	65.1	+1.4	86	+12	891	+88	1.84	-1.64	22.58	-7.10

* 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.

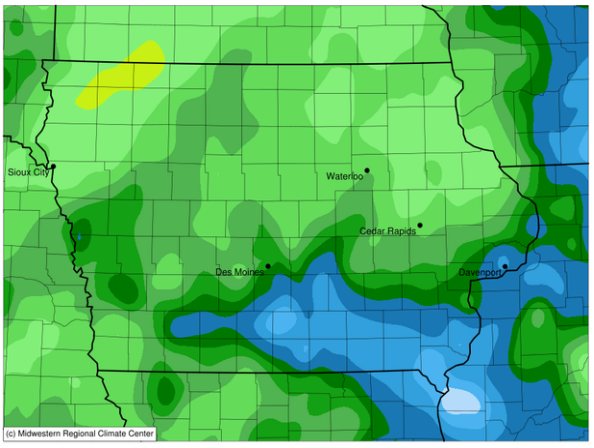
Average Temperature (°F): Departure from 1991-2020 Normals

September 01, 2022 to September 30, 2022



Accumulated Precipitation (in)

September 01, 2022 to September 30, 2022



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