IOWA DEPARTMENT OF AGRICULTURE & LAND STEWARDSHIP

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IOWA MONTHLY WEATHER SUMMARY – NOVEMBER 2022

General Summary: Temperatures averaged 37.0 degrees or 0.1 degree above normal while precipitation totaled 1.95 inches or 0.13 inch above normal. November 2022 ranks at the 73rd warmest and the 49th wettest in 150 years of statewide records; a warmer November occurred just last year while 2020 was wetter.

Temperatures: Temperatures through the month were generally near normal with southwestern Iowa experiencing slightly cooler conditions with warmer conditions in eastern Iowa. November's statewide average maximum temperature was 47.6 degrees, 1.2 degrees above normal while the average minimum temperature was 26.3 degrees, 1.1 degrees below normal. Lamoni (Decatur County) and Little Sioux (Harrison County) reported the month's high temperature of 80 degrees on the 2nd, on average 24 degrees above normal. Spencer Municipal Airport (Clay County) reported the month's low temperature of two degrees on the 30th, 17 degrees below normal.

Heating Degree Day Totals: Home heating requirements, as estimated by heating degree day totals, averaged 6% more than last November and 1% less than normal. Thus far this heating season, heating degree day totals are running 20% more than last year at this time and 2% less than normal.

Precipitation: November was the only fall month in which the state received above-average precipitation. Stations across the southeastern half of Iowa reported totals on the order of one to two inches above normal. While rain and snow were widespread across northwestern Iowa, negative departures over one inch were observed at several stations. Iowa also received measurable snow from several winter systems with most stations experiencing near-normal to slightly above-average accumulations.

Cloud cover increased west to east into the morning of the 3rd as a low pressure system approached Iowa from the west. Showers began forming in western Iowa after sunset as the low pressure center pushed across Iowa. Widespread showers and some thunderstorms continued overnight and through the 4th leaving behind beneficial totals over much of Iowa. The system held on in eastern Iowa into the afternoon of the 5th as sunshine broke out in western Iowa. Most Iowa stations reported measurable totals from the event with nearly 100 stations measuring at least an inch. More than 50 stations observed two or more inches with stations in south-central Iowa reporting the highest totals; Lamoni (Decatur County) dumped out 3.51 inches while Osceola (Clarke County) reported 4.18 inches.

Showers and a few thunderstorms formed over northwestern Iowa throughout the day on the 8th as gusty southeasterly winds developed statewide. Rain totals were observed across several northwestern counties with two stations in Le Mars (Plymouth County) measuring from 1.00 inch to 1.20 inches; totals tailed off farther southeast with nearly 30 stations dumping out at least 0.25 inches. Southerly winds increased ahead of the cold front sweeping across Iowa on the 10th. Showers expanded over Iowa's southeastern quarter through the rest of the day and overnight into the 11th. More than 20 stations observed at least an inch with general totals of between 0.20 to 0.60 inches at most stations reporting rainfall; Dubuque (Dubuque County) measured 1.06 inches while a gauge near Lisbon (Linn County) observed 1.49 inches. Snow flurries fell over much of Iowa through the 12th as northwesterly winds and

thick stratus clouds persisted. Light snow accumulations were reported at a handful of stations on the 13th with 0.1 inch at Orange City (Sioux County) to 1.0 inch in Waterloo (Black Hawk County).

Light snow showers formed over northwest Iowa but dissipated by early afternoon on the 14th with a broader shield of light to moderate snow pushing into Iowa overnight, reducing visibilities and creating slick road conditions. Snow continued over much of Iowa through the 15th until there was a brief lull in snow showers during the evening hours; light snow redeveloped over most of the state, lending to another morning of treacherous driving conditions. Event snow totals measured at 7:00 am on the 16th were highest over a north-to-south swath of central Iowa where nearly 120 stations observed at least two inches of wet snow; Mount Ayr (Ringgold County) observed 4.5 inches while an observer in Swea City (Kossuth County) reported 5.9 inches with a statewide average of 1.8 inches. Another wave of light snow moved southeast through the later afternoon and evening hours, leaving behind a few tenths of an inch at the majority of stations reporting snow; Webster City (Hamilton County) measured 2.0 inches with 1.5 inches in Algona (Kossuth County). November 17th saw blustery northwesterly winds develop with scattered, light snow showers persisting across portions of northern Iowa.

Spotty light rain showers formed as a cold front swept west to east, clearing skies in western Iowa and shifting winds to the northwest. Isolated rain totals were reported at several stations with a general range of 0.01 to 0.05 inch in the southeast; a station near Drakesville (Davis County) measured 0.15 inches. A low pressure center moving through Missouri spun rain showers through southern Iowa later in the evening and into the morning of the 27th. Many stations receiving rain registered under 0.10 inch with a swath of heavier totals in southeastern Iowa where showers held on; a few stations in Lee County measured totals from 0.28 inches in Donnellson to 0.65 in Augusta.

Monthly precipitation totals ranged from 0.24 inch at Community Collaborative Rain, Hail and Snow (CoCoRaHS) network gauge near Manson (Calhoun County) to 4.87 inches at a CoCoRaHS gauge in Bloomfield (Davis County). The statewide average snowfall was 2.4 inches, 0.3 inch below average. Swea City (Kossuth County) reported the highest monthly snowfall at 14.0 inches.

Fall Summary: Temperatures over the three autumn months (September-October-November) averaged 50.8 degrees or 0.3 degree above normal while precipitation totaled 4.77", 3.22" below normal. Fall 2022 ranks as the 77th (74th) warmest (coldest) fall among the period of record; it was also the 19th driest fall on record. Fall 2021 was warmer while 2011 was drier.

US Drought Monitor: The US Drought Monitor (USDM) showed some improvement in conditions across eastern Iowa. The improvements were one-class improvements (D2 to D1, D1 to D0, or D0 to no designation). The remainder of the state showed "status quo" conditions with small areas of one-class degradation. Currently, 7.4 percent of Iowa has no drought or abnormal dryness, compared to none of Iowa one month ago. The area designated as D0 (Abnormally Dry) is at 19 percent, up from 11 percent one month ago. The area designated as D1 (Moderate Drought) is largely unchanged at 43 percent, down from 44 percent one month ago. The area designated as D2 (Severe Drought) has shown the largest reduction and stands at 18 percent of Iowa (down from 34% last month. The areas of D3 (Extreme Drought) and D4

(Exceptional Drought) are nearly unchanged over the last month at 11 percent and 0.6 percent, respectively. Consistent precipitation is needed to continue this improvement.

Winter Outlooks: The December-January-February outlooks are taking on the classic La Niña pattern (the third consecutive winter) with higher probabilities of wetter conditions in the Ohio Valley/Great Lakes and Pacific Northwest; drier conditions across the southern states. 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, slightly elevated chances for colder conditions across the Upper Midwest (including most of Iowa) through the Pacific Northwest with warmer conditions across the southern states and East Coast. In terms of snowfall potential, Iowa expects near-normal snowpack during LN winters. If we look at analog years in which the strength of LN is strong (colder SST anomalies in the tropical Pacific Niño regions), Iowa has historically received less snow; in weak LN winters, we have had years in which we receive above-average snowpack.

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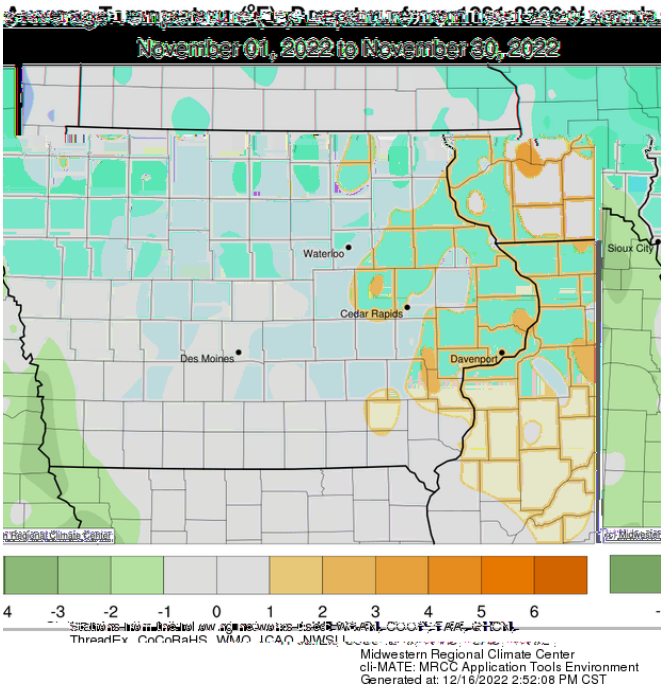
November 2022

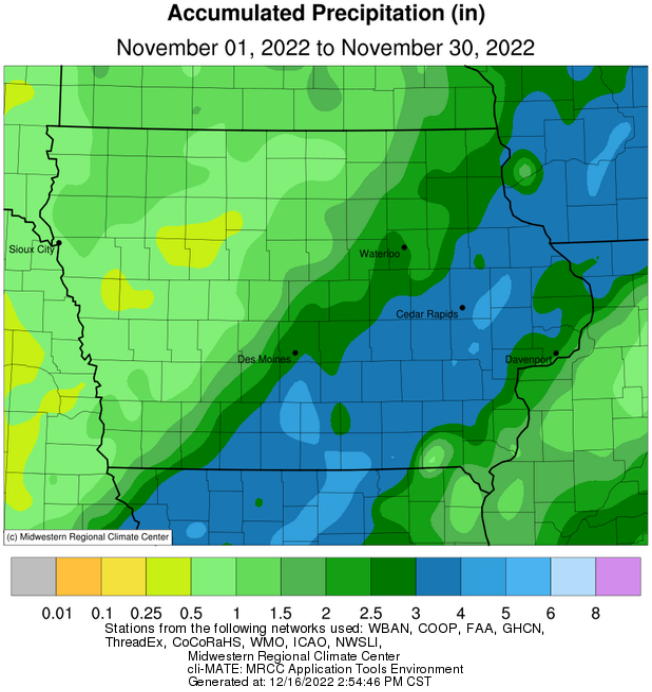
WEATHER BY DISTRICTS

DISTRICT	TEMPERATURE (F)		HEATING DEGREE DAYS				PRECIPITATION (inches)				
	November 2022		November 2022		Since Jul., 1, 2022		November 2022		Since Jan.1, 2022		SNOWFALL Nov 2022
	Average	Departure*	Average	Departure*	Average	Departure*	Average	Departure*	Average	Departure*	Average
Northwest	33.5	-0.8	945	+25	1555	-42	0.94	-0.46	18.72	-11.03	4.3
North Central	34.9	0.3	903	-8	1565	-34	1.04	-0.61	25.59	-8.35	3.9
Northeast	36.3	1.0	861	-29	1526	-45	2.62	+0.58	31.86	-4.61	2.1
West Central	36.2	-0.4	864	+12	1411	-35	0.65	-0.83	21.07	-10.91	2.1
Central	37.1	0.0	837	-1	1399	-24	2.01	+0.16	26.98	-7.70	2.7
East Central	38.9	1.0	783	-31	1340	-29	2.94	+0.76	29.34	-6.52	1.4
Southwest	38.6	-0.2	792	+5	1290	-16	1.25	-0.44	23.93	-10.26	1.2
South Central	39.0	-0.3	780	+8	1270	-21	3.61	+1.61	27.60	-8.08	2.7
Southeast	39.9	0.2	753	-5	1251	+5	2.94	+0.71	25.89	-10.29	1.8
STATE	37.0	0.1	828	-8	1397	-27	1.95	+0.13	25.56	-8.62	2.4

* 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.





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