

IOWA MONTHLY WEATHER SUMMARY – AUGUST 2020

General Summary: Temperatures averaged 71.9 degrees or 0.4 degrees above normal while precipitation totaled 1.15 inches or 3.05 inches below normal. August 2020 ties 1921 as the 72nd warmest on record with a warmer August last occurring in 2016. The month ranked as the 3rd driest August in 148 years of statewide records with a drier one last occurring in 2003.

Temperatures: For the month, positive departures of one to three degrees were reported across northwestern Iowa with near normal conditions across the rest of the state. August's statewide average maximum temperature was 84.2 degrees, 2.0 degrees above normal while the average minimum temperature was 59.6 degrees, 1.2 degrees below normal. Lake Park (Dickinson County) reported the month's high temperature of 100 degrees on the 24th, 18 degrees above normal. Mason City Municipal Airport (Cerro Gordo County) reported the month's low temperature of 44 degrees on the 4th, 17 degrees below normal.

Cooling Degree Days: Home air conditioning requirements, as estimated by cooling degree day totals, average 31% more than last August and 5% more than normal. Cooling degree day totals since January are running 20% more than last year at this time and 14% more than normal.

Precipitation: Precipitation deficits of two to four inches were reported across much of Iowa during August leading to an intensification and expansion of dryness and drought. Some stations in southeastern Iowa observed deficits over four inches. Monthly precipitation totals ranged from 0.11 inch at Salem 1 S (Henry County) to 5.31 inches at Lake Mills (Winnebago County).

Scattered showers and a few thunderstorms continued to push through southern Iowa into the afternoon of the 2nd as skies cleared north to south with a northerly wind. Where rain fell, totals were generally under a few tenths of an inch, though some stations reported higher totals where storms lingered; Chariton (Lucas County) reported 1.05 inches. A small disturbance pushed into western Iowa during the night into early Wednesday (5th) morning bringing light but measurable rainfall before dissipating as it moved into central Iowa. Rainfall was under 0.20 inch for a majority of the stations though gauges in northwest Iowa collected higher amounts; a station in Le Mars (Plymouth County) reported 0.24 inch while Denison (Crawford County) observed 0.44 inch.

Widely scattered thunderstorms formed in western Iowa early on the 6th and persisted through the afternoon hours. Some storms in central Iowa turned severe with a report of 1.50-inch hail in Coon Rapids (Carroll County). Rain totals were highest in central Iowa with reports between 0.20 inch and 0.50 inch. Heavier rainfall was observed in west-central Iowa from stronger thunderstorms with seven stations reporting over an inch; Perry (Dallas County) reported 1.00 inch while Madrid (Boone County) observed 1.59 inches. A line of strong thunderstorms pushed into western Iowa during the early morning hours on Sunday (9th) ahead of a warm front. Additional storms fired across southwestern Iowa and continued to push towards central Iowa. These thunderstorms continued to move through eastern Iowa during the late afternoon before clearing the state. Rain totals were heaviest in northwest Iowa with widespread amounts above 0.50 – 0.75 inch. A handful of stations also reported totals above one inch with Guttenberg Lock and Dam (Clayton County) reporting 1.32 inches.

Monday, August 10th, will go down as a significant weather day in state history. A derecho, which is a convectively initiated straight-line windstorm, propagated through Iowa's central west-to-east corridor. This derecho was one of

the strongest and most widespread to hit Iowa. Damage to crops, grain bins and structures was catastrophic with millions of acres of damaged corn and soybeans. Urban areas from Des Moines (Polk County), Cedar Rapids (Linn County) to the Quad Cities reported substantial and long lasting power outages along with severe damage to trees and structures from extremely strong sustained winds. Preliminary wind gusts along the derecho's path ranged from 58 mph to well over 100 mph; according to the National Weather Service, "maximum recorded wind speeds were around 110 mph over portions of Benton and Linn Counties in eastern Iowa." A personal weather station in Atkins (Benton County) reported a gust of 126 mph. Moderate to heavy rain fell across sections of Iowa with general totals above 0.50 inch and locally heavier amounts in eastern Iowa; a rain gauge in Hopkinton (Delaware County) recorded 2.23 inches while the statewide average was 0.40 inch.

A cold front slowly moved into Iowa during the late afternoon and evening hours of the 14th, bringing a few stronger storms into western Iowa. The front re-fired showers and thunderstorms from the northeast into central Iowa overnight into the 15th. The highest totals were reported in Des Moines, ranging from 0.80 to 1.22 inches. Widespread rain also fell through northeastern Iowa, though common totals were around a few tenths of an inch. Cloud cover increased in northern Iowa late on the 21st as a line of thunderstorms pushed over the Iowa-Minnesota border just after midnight. The complex moved slowly over north-central Iowa and into eastern Iowa during late morning. Additional showers and thunderstorms fired over portions of the state through the evening hours. Sluggish thunderstorms persisted in eastern Iowa overnight into the 23rd. Measurable rainfall was reported at nearly 80 stations with many of those observations below 0.20 inch; a handful of stations reported an inch or more with Mason City Municipal Airport (Cerro Gordo County) registering 1.22 inches while Northwood (Worth County) observed 1.65 inches. De Witt (Clinton County) and Maquoketa (Jackson County), two stations in eastern Iowa, both reported 2.05 inches.

One of the last systems of the month propagated along the Iowa-Minnesota border over the evening hours of the 27th into the 28th, firing showers and thunderstorms. Some of the thunderstorms were strong, leaving behind measurable rain across the northern first tier of counties. Totals were light ranging from 0.01 inch in Spencer (Clay County) to 0.78 inch in Elma (Howard County). The low pressure center's attendant cold front moved through Iowa during the day and fired thunderstorms through the evening hours in eastern Iowa, some turning severe. There were a handful of reports of one-inch hail and straight-line winds causing isolated structural and tree damage in Hopkinton (Delaware County). Widespread measurable rain also fell across the state with totals of up to 0.75 inch in De Witt (Clinton County) and Osage (Mitchell County). Many stations that did report rain generally observed a few tenths of an inch with a statewide average total of 0.07 inch.

Summer Summary: Temperatures for the three summer months of June, July and August averaged 73.4, which is 1.8 degrees above normal. Precipitation totaled 8.97 inches or 4.74 inches below normal. This ranks as the 17th driest and 31st warmest summer in 148 years of records. A warmer summer last occurred in 2012 while 2013 was drier.

Outlooks: September climatological outlooks show elevated chances of unseasonably cool temperatures across Iowa. On the precipitation side, short-term outlooks through the first 10 days of September indicated wetter than normal chances. As of this final report update on September 9th, widespread rain has fallen across much of the state over the last few days, bringing much needed relief to drought stricken parts of Iowa. In terms of the monthly outlook, there's a slightly elevated chance of drier than normal conditions. The current September-October-November outlooks show elevated chances of warmer temperatures and Equal Chances (EC) of above, below or near-average precipitation.

US Drought Monitor: As of August 4th, D3 (Extreme Drought) conditions were introduced across several counties in west-central Iowa as timely rainfall had yet materialized. This was the first D3 introduction since July 17th, 2018. Abnormally dryness also expanded across most of northeast Iowa. Drought conditions continue to expand from the west-central core in all directions. The most recent drought depiction released on September 1st showed that 99% of Iowa was in the D0-D3 category which was the largest expanse since August 27th, 2013. Moderate Drought to Severe Drought (D2-D3) condition covered 37% of the state with D3 condition over 15% of Iowa.

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

August 2020										
WEATHER BY DISTRICTS										
DISTRICT	TEMPERATURE (F)		COOLING DEGREE DAYS				PRECIPITATION (inches)			
	August 2020		August 2020		Since Jan., 1, 2020		August 2020		Since Jan. 1, 2020	
	Average	Departure*	Average	Departure*	Average	Departure*	Average	Departure*	Average	Departure*
Northwest	72.0	+1.7	234	-41	842	+178	1.12	-2.66	15.71	-6.78
North Central	70.7	+1.1	199	-21	738	+119	2.16	-1.95	21.13	-4.51
Northeast	70.2	+0.0	187	-8	679	+95	1.38	-3.25	24.62	-1.95
West Central	72.8	+1.2	257	-31	926	+174	1.14	-2.75	14.67	-10.02
Central	72.1	+0.7	237	-17	849	+114	1.30	-3.16	19.63	-7.32
East Central	71.7	-0.1	225	-1	806	+71	0.92	-3.58	22.52	-3.78
Southwest	72.8	-0.3	259	+7	966	+105	0.74	-3.07	17.12	-9.32
South Central	72.9	-0.1	261	+6	945	+101	0.92	-3.37	21.35	-6.05
Southeast	72.5	-1.2	249	+21	886	+14	0.42	-3.84	23.12	-4.29
STATE	71.9	+0.4	231	-10	832	+102	1.15	-3.05	19.86	-6.04

* Departures are computed from 1981-2010 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 1981-2010 Normals
August 01, 2020 to August 31, 2020

Accumulated Precipitation (in)
August 01, 2020 to August 31, 2020

