IOWA DEPARTMENT OF AGRICULTURE & LAND STEWARDSHIP

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Secretary of Agriculture

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IOWA MONTHLY WEATHER SUMMARY – APRIL 2024

General Summary: Temperatures averaged 50.7 degrees or 2.1 degrees above normal while precipitation totaled 4.16 inches, 0.49 inch above normal. April 2024 ties 1971 and 2015 as the 41st warmest and ranks as the 32nd wettest in 152 years of statewide observational records. A warmer April occurred in 2012 while April 2014 was wetter.

Temperatures: Temperatures through April varied from one to three degrees above average over a majority of Iowa's reporting stations; only pockets of northeast Iowa had near-normal temperatures.

Vivid blue skies dimmed as the Moon blotted out over 80% of the Sun at 1:58 pm CDT during the last total solar eclipse for the United States until 2044. Surface air temperatures cooled noticeably from the lack of incoming solar radiation but rebounded into the low 50s north to upper 60s south.

April's statewide average maximum temperature was 62.3 degrees, 2.2 degrees above normal while the average minimum temperature was 39.0 degrees, 1.9 degree below normal. Spencer Municipal Airport (Clay County) and Winterset (Madison County) reported the month's high temperature of 89 degrees on the 13th and 14th, respectively, on average 30 degrees above average. Elkader (Clayton County) reported the month's low temperature of nine degrees on the 6th, 10 degrees below normal.

Heating Degree Days: Home heating requirements, as estimated by heating degree day totals, averaged 7% less than last April and 12% less than normal. Heating degree day totals are running 15% less than last year at this time and 16% less than normal.

Precipitation: For the second month in a row, unseasonably wet conditions were reported across Iowa. The wettest conditions were found in northwest and southeastern Iowa where precipitation was 150-300% of normal. Swaths of west-central and east-central Iowa saw departures of 75% of normal with smaller pockets of 50-75% of normal. Monthly precipitation totals ranged from 2.02 inches at Audubon Municipal Airport (Audubon County) to 8.99 inches in Bloomfield (Davis County).

Light showers formed over northern Iowa into the morning of the 1st with additional storms forming to the southeast. Winds shifted to a northerly direction after midnight with widespread showers across Iowa as a low pressure center propagated northeast through Missouri. Rain totals reported at 7:00 am on the 2nd indicated that most stations accumulated at least 0.20 inch with nearly 100 southeastern stations collecting 0.50 inch or more; several Bloomfield (Davis County) gauges had totals ranging from 0.98 inch to 2.70 inches with a statewide average of 0.43 inch. Snow showers wrapped in behind the low pressure center, accumulating at 130 stations with totals ranging from 0.1 inch in Clive (Polk County) to 5.7 inches in Dubuque (Dubuque County). Spotty rain and snow showers continued into the 3rd as strong northerly winds built in across the state with sustained winds in the 20-40 mph range; airports in Algona (Kossuth County) and Cedar Rapids (Linn County) reported 52-mph wind gusts. Precipitation gradually pushed out of eastern Iowa into the evening hours with Bellevue Lock and Dam (Jackson County) collecting 3.0 inches of snow along with an additional 0.50 inch of rain in Bloomfield. A thin line of thundershowers formed in the evening hours of the 6th in west-central Iowa followed by a broader swath of showers overnight into the 7th. Rain totals were generally under 0.20 inch though amounts approaching 0.50 inch were found in north-central Iowa.

A low pressure system propagating across Nebraska pushed several waves of showers and thunderstorms into Iowa through Sunday (7th) afternoon. With enough atmospheric spin and instability, a weak tornado formed in Blairsburg

(Hamilton County) causing some barn damage; the thunderstorm also produced one-inch hail in Wright County. Widespread rainfall was observed across most of Iowa with the highest totals at northwestern and north-central stations; Lake Mills (Winnebago County) registered 0.50 inch while Milford (Dickinson County) collected 0.78 inch. Many of the state's remaining stations had totals under 0.20 inch. Spotty showers associated with a low pressure center developed overnight over Iowa's eastern two-thirds and continued through much of the 11th. Event totals were under 0.50 inch with most stations reporting less than a tenth of an inch; eastern Iowa stations received the most moisture varying from 0.42 inch at Davenport (Scott County) to 0.47 inch at Monticello (Jones County).

Several waves of strong to severe thunderstorms brought beneficial rain across broad south-to-north swaths on the 16th, particularly in northern and southeastern Iowa, with more than 110 stations collecting at least an inch; a station in Burlington (Des Moines County) reported 1.92 inches while Postville (Allamakee County) observed 2.62 inches with a statewide average of 0.74 inch. Another weather disturbance brought additional rainfall to Iowa late on the 17th and through the 18th with most stations observing at least 0.30 inch. The wettest conditions were found in the northwest and along the Iowa-Missouri border with numerous one-inch or greater totals; Le Mars (Plymouth County) measured an inch on the dot while two stations in Bloomfield (Davis County) recorded 1.93 to 1.97 inches.

Another potent low pressure system impacted the state on the 26th, producing widespread severe weather. The system lost energy in eastern Iowa and cleared the state by daybreak on the 27th. Rain totals were highest across three swaths of western, central and southeastern Iowa with nearly 80 stations reporting an inch; 50% of Iowa's rain gauges had at least 0.46 inch; 1.83 inches was observed in Madrid (Polk County) while Missouri Valley (Harrison County) registered 1.94 inches. The 27th was another active weather day with strong to severe thunderstorms firing over southeast Iowa through the afternoon and evening hours; there were several severe hail and high wind reports along with heavy rain. Most stations received an additional 0.25-0.50 inch with locations along the Iowa-Missouri border receiving more than an inch; two stations in Lee County, Augusta and Donnellson, observed 2.03 and 2.15-inch totals, respectively.

Showers remained in eastern Iowa with additional redevelopment in western Iowa ahead of a low pressure center through the 28th. As the system propagated towards the Great Lakes, winds shifted westerly on the morning of the 29th. Widespread rain totals were reported at 7:00 am with the highest amounts in pockets of northwest and northeast Iowa; Dyersville (Dubuque County) measured 1.01 inches while Storm Lake (Buena Vista County) collected 1.21 inches with a statewide average of 0.35 inch. Winds became variable after midnight as starry skies reigned ahead of another approaching strong weather disturbance. Initial morning showers on the 30th fizzled in eastern Iowa as a warm front lifted across southern Iowa, pumping in moisture and increasing atmospheric instability. Discrete supercells fired rapidly along the cold front near the Iowa-Nebraska line around 3:00 pm; these storms tracked east-northeast and became severe-warned almost immediately. Reports of large hail and isolated straight-line winds followed the consolidating line east with 2.00-inch hail in Massena (Cass County) and a weak tornado near Millerton (Wayne County).

Severe Weather: Thundershowers pushed into southwestern Iowa towards midnight on the 15th, expanding into northern Iowa before daybreak on the 16th. A second, stronger line formed during the later morning hours with embedded strong to severe thunderstorms. The first tornado of the day formed near Minburn (Dallas County) and traveled nearly seven miles, producing some structural damage. As the initial line strengthened and moved northeast, a more narrow but equally strong line formed behind, producing several severe and tornado-warned storms in eastern Iowa. Enough wind shear and instability over northwestern Iowa fired off shallow-topped supercells that spun up a few weak tornadoes; Rockwell City (Calhoun County) experienced an EF-1-rated tornado with wind speeds estimated at 100 mph. A longer track EF-2 was observed near Salem (Henry County), producing winds near 130 mph and lasting for 42 miles. Numerous hail and high wind events were reported across the state as well.

Showers and thunderstorms pushed into western Iowa during the early morning hours of the 26th ahead of a warm front draped over southern Iowa. Rainfall overspread much of the state into the afternoon with overcast skies holding highs in the low to mid 50s; upper 60s and low 70s were reported in southwestern Iowa where clearing skies and higher dewpoints were amping up atmospheric instability. Intense supercells that blasted through eastern Nebraska crossed into Iowa, spawning several long-track, multi-vortex tornadoes. As the tornadoes plowed northeast, several towns experienced substantial damage along with heavy rain. Minden (Pottawattamie County) took a direct hit and experienced extensive damage to more than 75 homes. These storms eventually coalesced into a line that produced additional tornadoes, many rated EF-2, in central Iowa causing additional damage across Union, Clarke, Madison and Polk counties.

US Drought Monitor: The US Drought Monitor showed significant improvement across Iowa in April. As of the first week of April, 90% of Iowa was rated at some level of dryness or drought. A large area of Extreme Drought (D3) was found in northeast Iowa, covering 12% of the state. Severe Drought (D2), at 22%, covered a vast area of eastern to south-central Iowa. Moderate Drought (D1) had the largest aerial extent from northeast to southwest at 37%. By the end of the month, D0-D3 conditions diminished by nearly 21% with drought improving by 33%; the categorical breakdown is as follows: D0 - 20%, D1 - 28%, D2 – 20% and D3 – 2%.

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April 2024

WEATHER BY DISTRICTS

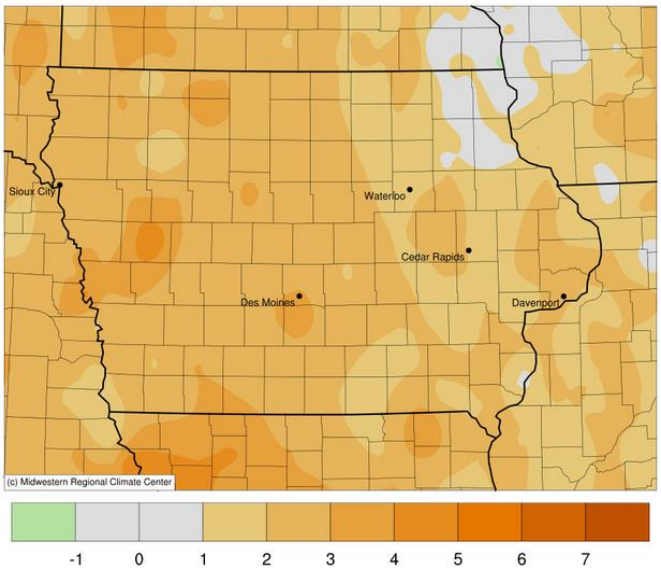
DISTRICT	TEMPERATURE (F)		HEATING DEGREE DAYS				PRECIPITATION (inches)				
	April 2024		April 2024		Since Jul., 1, 2023		April 2024		Since Jan.1, 2024		SNOWFALL Apr 2024
	Average	Departure*	Average	Departure*	Average	Departure*	Average	Departure*	Average	Departure*	Average
Northwest	49.0	+2.2	480	-69	6032	-1127	4.62	+1.37	8.42	+1.95	0.0
North Central	48.9	+2.2	483	-69	5966	-1250	4.32	+0.55	8.33	+0.70	0.1
Northeast	48.0	+1.4	510	-42	5904	-1180	4.11	+0.20	8.51	+0.21	0.9
West Central	50.9	+2.1	428	-62	5625	-982	2.93	-0.51	7.39	+0.40	0.0
Central	51.1	+2.2	421	-65	5471	-1124	3.61	-0.18	8.18	+0.35	0.1
East Central	51.0	+1.8	420	-57	5364	-1064	4.79	+1.01	10.02	+1.37	0.7
Southwest	52.9	+3.7	370	-66	5257	-822	2.60	-0.91	6.68	-0.75	0.0
South Central	53.1	+2.4	363	-69	5080	-973	3.92	+0.03	8.76	+0.45	0.0
Southeast	52.3	+1.3	386	-38	5060	-902	6.79	+3.08	13.11	+4.13	0.0
STATE	50.7	+2.1	430	-59	5505	-1073	4.16	+0.49	8.76	+0.96	0.3

* 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.

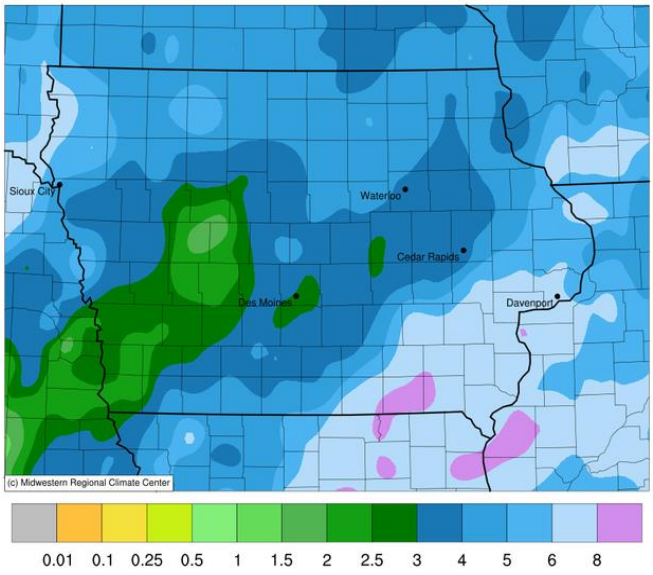
Average Temperature (°F): Departure from 1991-2020 Normals

April 01, 2024 to April 30, 2024



Accumulated Precipitation (in)

April 01, 2024 to April 30, 2024



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