ILLINOIS
Illinois State Water Survey
PRAIRIE RESEARCH INSTITUTE

February 2021

ILLINOIS WATER AND CLIMATE SUMMARY

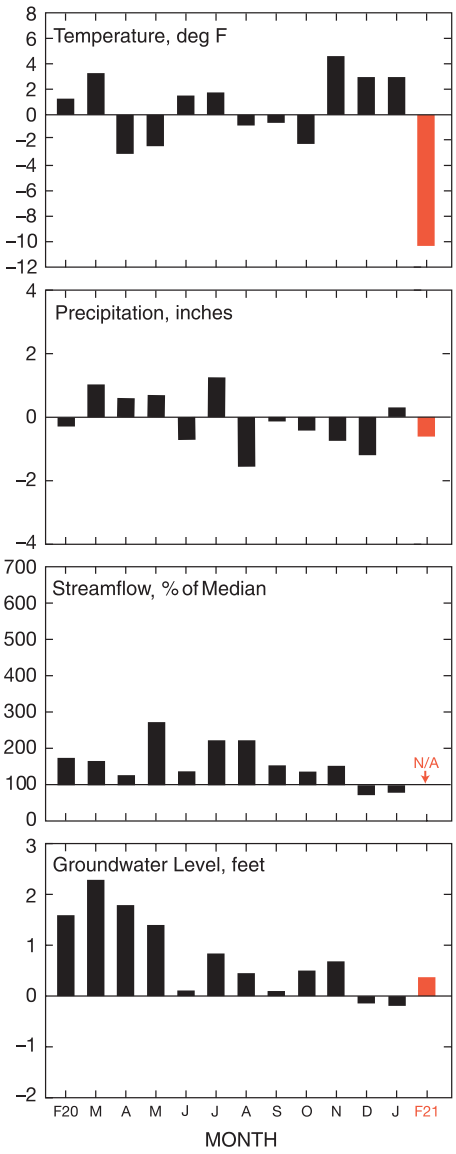

Figure 1. Statewide departures from normal.

FEBRUARY 2021 OVERVIEW

Temperatures and precipitation were below the long-term average in Illinois in February. Aggregate statistics of mean streamflow statewide were not available for this month. Shallow groundwater levels were above the long-term depths.

Air temperatures statewide averaged 20.7°F in February, 10.2° below the long-term average (Figure 1). The southeast crop reporting district (CRD) was the warmest with an average of 27.7°F. The lowest regional average temperature was 13.8°F, reported by the northwest CRD. Departures from average ranged from 8.6° below average in the southeast CRD to 12.4° below average in the northwest CRD.

Precipitation statewide averaged 1.59 inches, 0.47 inches below the long-term average (Figure 1). The southeast CRD was the wettest with an average of 3.01 inches. The driest was the northeast CRD with an average of 0.88 inches. Departures from average ranged from near average in the east-southeast CRD to 0.85 inches below average in the southwest CRD.

Monthly mean provisional streamflows were estimated to range from below normal to above normal for February. Aggregate statistics of mean provisional flow statewide were not available for February 2021 due to persistent frozen conditions at many streamgage stations.

Water surface levels at the end of February were below the full pool or target level at 6 of 25 reporting reservoirs. At the end of February, Lake Shelbyville was 1.6 feet above the winter target level, Carlyle Lake was 1.5 feet above the winter target level, and Rend Lake was 4.5 feet above the spillway level. Lake Michigan's mean level was above its long-term mean for the month.

Shallow groundwater levels statewide were above the long-term average this month with an average departure of 0.37 feet above the period of record (Figure 1). Levels averaged 1.11 feet above January 2021 and 1.48 feet below February 2020 levels.

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Weather/Climate Information

— KEVIN GRADY

The following description of temperatures, precipitation, snow, severe weather, and drought comes from data compiled by networks that report to the National Oceanic and Atmospheric Administration (NOAA). These data are provisional and may change slightly over time.

February in Illinois was much colder and drier than average across most of the state.

Temperatures averaged 20.7°F, 10.2° below the long-term average (Table 1a, Figure 2), making February 2021 the 11th coldest February on record in Illinois back to 1895. The most recent years with February temperatures this low in Illinois were 2014 and 2015, both of which had statewide average February temperatures of 19.4°F (11.5° below average). February 2021 also breaks a streak of three months in a row with well-above average temperatures in Illinois, as statewide averages in November, December, and January were each at least 3° above average. Monthly average temperatures in February 2021 ranged from the lower teens in northern Illinois to the upper 20s in southern Illinois. Departures from average ranged from around 8° below average in parts of southeastern Illinois to over 12° below average in northwestern Illinois.

Temperatures the first week of February were relatively close to average across most of Illinois after a generally close-to-average end of January. However, temperatures plummeted statewide around the first weekend of the month and remained well below average for the next two weeks. During the two-week period on February 7–20, temperatures ranged from 18° below average in eastern Illinois to around 25° below average in western Illinois. Temperatures averaged in the single digits in northern Illinois and in the teens in southern Illinois during this time. All stations in Illinois recorded their monthly minimum temperatures during this period, ranging from around -20° in northwestern Illinois to around 0° in southern Illinois. The coldest reading of the month, -21°F, was recorded at a station near Mount Carroll (Carroll County) on February 7 and a station near Altona (Knox County) on February 8.

After this bitterly cold period, temperatures then warmed up for the last week of the month. On February 22–28, temperatures were generally 3–7° above average across most of Illinois, helping to offset some of the earlier extreme cold in the monthly statistics. Nearly all stations recorded their monthly maximum temperatures during this week, many on February 28, generally ranging from the mid-40s in northern Illinois to the mid-60s in southern Illinois. The warmest reading of the month, 69°F, was recorded at a station in Alexander County on February 24.

Precipitation averaged 1.59 inches in February, 0.47 inches below the long-term average (Table 1a, Figure 2). Monthly totals generally ranged from less than an inch in parts of northern Illinois to over 3 inches in parts of southeastern Illinois. Due to the cold temperatures, much of the precipitation

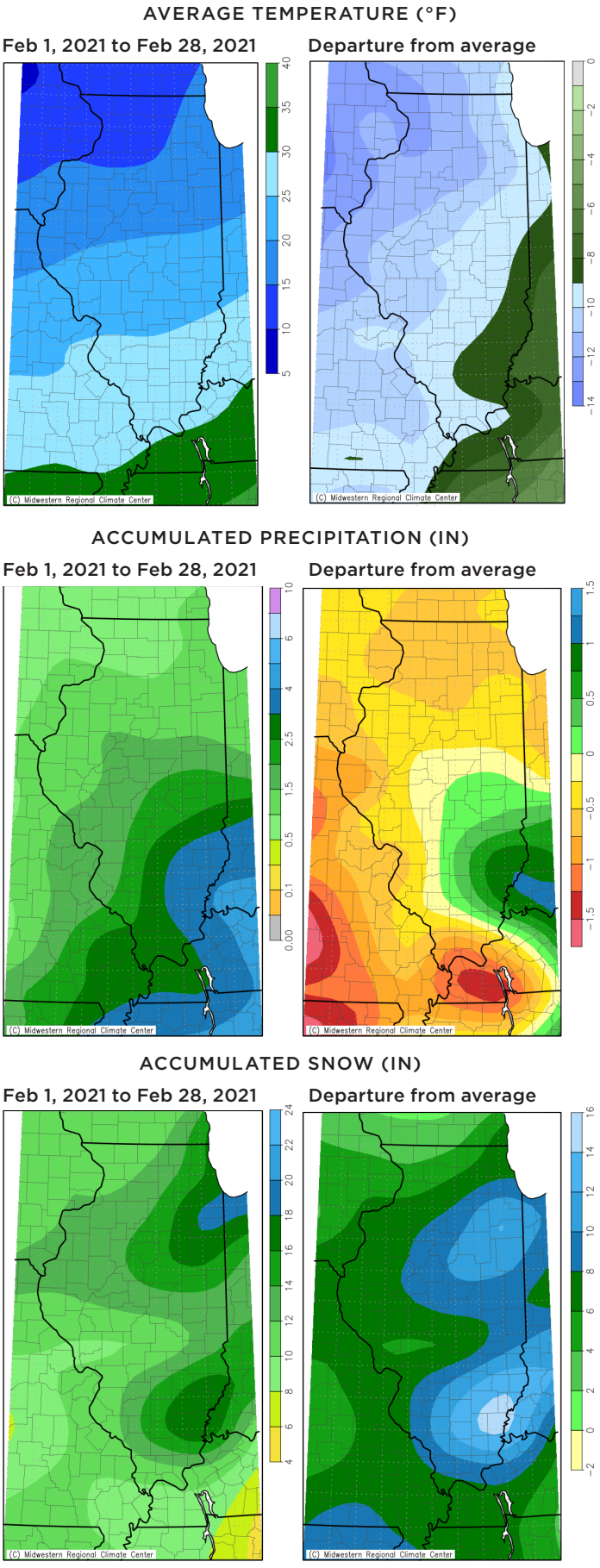


Figure 2. Illinois temperature, precipitation, snow and their departures from average for February 2021. Source: cli-MATE, Midwestern Regional Climate Center. https://mrcc.illinois.edu/CLIMATE. Information accessed on March 8, 2021.

that fell in February in Illinois was snow. However, a notable rain event occurred the last weekend of February across much of central and southern Illinois, with most areas along and to the south of I-72 receiving at least half an inch of rain and areas generally along and to the east of I-57 in this area receiving an inch or more. This event helped an area centered around the I-64 corridor in the eastern part of the state to finish February with above average precipitation by up to an inch, especially near the Indiana border. Most of the rest of Illinois received near or below average precipitation generally up to half an inch or more below average in February, especially in northern, west central, and far southern Illinois. A station near New Burnside (Johnson County) had the highest monthly total of 5.24 inches.

Snow: In February, nearly every part of Illinois received at least 10 inches of snow for the month (Figure 2). The heaviest totals were around Chicago and the area to its south, where monthly totals of around 18 inches were common with higher amounts possible locally. There were many stations around Cook County that recorded over 2 feet of snow for February, with the highest monthly total of 33.7 inches recorded at a station near Oak Park (Cook County). Another one of the snowiest areas was in southeastern Illinois around the I-64 corridor near the Indiana border, where totals of around 16 inches were common. Every part of the state was much snowier than average, with most of Illinois receiving more than half a foot of snow above average in February. The highest departures were in eastern Illinois with some areas of northeastern and southeastern Illinois receiving closer to a foot above average.

These large totals were the result of snow falling frequently across the entire state the first three weeks of February. The position of the winter storm track across Illinois brought multiple heavy snow events to the state as temperatures fell much below average. One of the largest events occurred February 14–16 when most areas to the east of the Illinois River received 5–10 inches of snow. Some stations in Cook County recorded around a foot or more of snow from this event. A significant warm-up occurred during the last week of the month, so only northernmost Illinois received measurable snow that week.

Severe weather reports: The NOAA Storm Prediction Center (SPC) did not record any severe weather reports for February in Illinois. Thus, there were no severe weather reports in Illinois for the entire winter season (December–February).

Drought: Drought and abnormally dry conditions persisted in some areas of central Illinois throughout February. However, the month began with improvements in conditions in the area following late January storms. In their first couple of maps for February, the United States Drought Monitor reduced the areas of abnormal dryness (D0) and moderate drought (D1) in central Illinois in response to these improving conditions. This also included the removal of an area of severe drought (D2) centered in Logan County that had persisted since mid-November. The cold and snow led to few changes in drought conditions later in the month, resulting in no changes to the later February drought maps from the earlier ones. On the February 23 United States Drought Monitor Map (Figure 4), about 26% of Illinois was classified as D0 or worse, mostly in central Illinois east of the Illinois River. This included a corridor of moderate drought (D1) along and to the north of the I-72 corridor from Sangamon and Logan counties east-northeast to Iroquois and Vermilion Counties, covering about 7% of the state.

Table 1a. Temperature and Precipitation for February 2021

	Temp. (°F)	Departure from long-term avg. (1981–2010)	Precip. (in)	Departure from long-term avg. (1981–2010)
Illinois	20.7	-10.2	1.59	-0.47
CRD 1 (northwest)	13.8	-12.4	0.92	-0.62
CRD 2 (northeast)	16.9	-10.2	0.88	-0.73
CRD 3 (west)	18.6	-11.0	1.10	-0.67
CRD 4 (central)	19.5	-10.0	1.39	-0.42
CRD 5 (east)	19.3	-10.0	1.30	-0.53
CRD 6 (west southwest)	22.3	-10.5	1.62	-0.44
CRD 7 (east southeast)	23.6	-9.3	2.35	0.00
CRD 8 (southwest)	26.8	-9.6	1.95	-0.85
CRD 9 (southeast)	27.7	-8.6	3.01	-0.08

Table 1b. Temperature and Precipitation for Winter (Dec-Feb) 2020/2021

	Temp. (°F)	Departure from long-term avg. (1981–2010)	Precip. (in)	Departure from long-term avg. (1981–2010)
Illinois	27.7	-1.3	5.74	-1.08
CRD 1 (northwest)	22.6	-1.7	4.77	-0.23
CRD 2 (northeast)	24.7	-0.7	4.47	-1.01
CRD 3 (west)	26.0	-1.7	4.82	-0.81
CRD 4 (central)	26.6	-1.0	5.25	-0.89
CRD 5 (east)	26.6	-0.9	4.88	-1.40
CRD 6 (west southwest)	29.0	-1.7	5.60	-1.20
CRD 7 (east southeast)	29.9	-1.2	6.83	-1.05
CRD 8 (southwest)	32.6	-1.7	7.11	-1.96
CRD 9 (southeast)	33.1	-1.3	8.51	-1.51

Data from NOAA's National Centers for Environmental Information, accessed 3/8/2021.

Winter (December-February) was colder than average across most of Illinois. Seasonal temperatures averaged 27.7°F statewide, 1.3° below the long-term average (Table 1b), ranging from the lower 20s in northwestern Illinois to the mid-30s in southern Illinois. For most of the state this was about 1–2° below average. Winter started much warmer than average in Illinois, with both the December and January statewide average temperatures around 3° above average. However, the extreme cold in the middle of February that was 18–25° below average more than offset these earlier warmer temperatures, resulting in winter overall being colder than average across Illinois. Nearly all stations recorded their seasonal lows during this February period, ranging from around -20° in northwestern Illinois to around 0° in southern Illinois, as February ended as the 11th coldest February on record in Illinois.

Winter precipitation averaged 5.74 inches statewide, 1.08 inches below average (Table 1b, Figure 3). Seasonal precipitation totals ranged from around 4 inches in northwestern Illinois to around 10 inches in far southern

Illinois. The highest seasonal total was 10.98 inches at a station near New Burnside (Johnson County). These totals were below average across most of the state, including central Illinois where totals were often an inch below average. An area of moderate drought (D1) persisted in central Illinois along the I-72 corridor throughout the winter, including an area of severe drought (D2) centered in southern Logan County through the end of January. Far southern Illinois was also drier than average for the season by 2–3 inches in some areas. Northern Illinois was closer to average, with a small area near the Quad Cities slightly wetter than average. December and February were both drier than average across most of the state. January was largely drier than average too until a series of storms near the end of the month helped push monthly totals slightly above average across most of Illinois.

Winter snowfall totals ranged from around a foot in southern Illinois and near St. Louis to over 3 feet in northern Illinois (Figure 3). Even higher local amounts were common around Chicago, with the largest seasonal total of 57.2 inches recorded at a station near Oak Park (Cook County). These totals were above average across most of the state, with the highest departures in northern Illinois and parts of southeastern Illinois, where totals were around a foot above average for the season. Departures in central Illinois were generally up to around half a foot above average. December snow totals were well below average outside of northwestern Illinois. January totals were well above average in far northern Illinois while more moderate to below average farther south. However, a very snowy February across the entire state helped push seasonal totals well above average across most of Illinois.

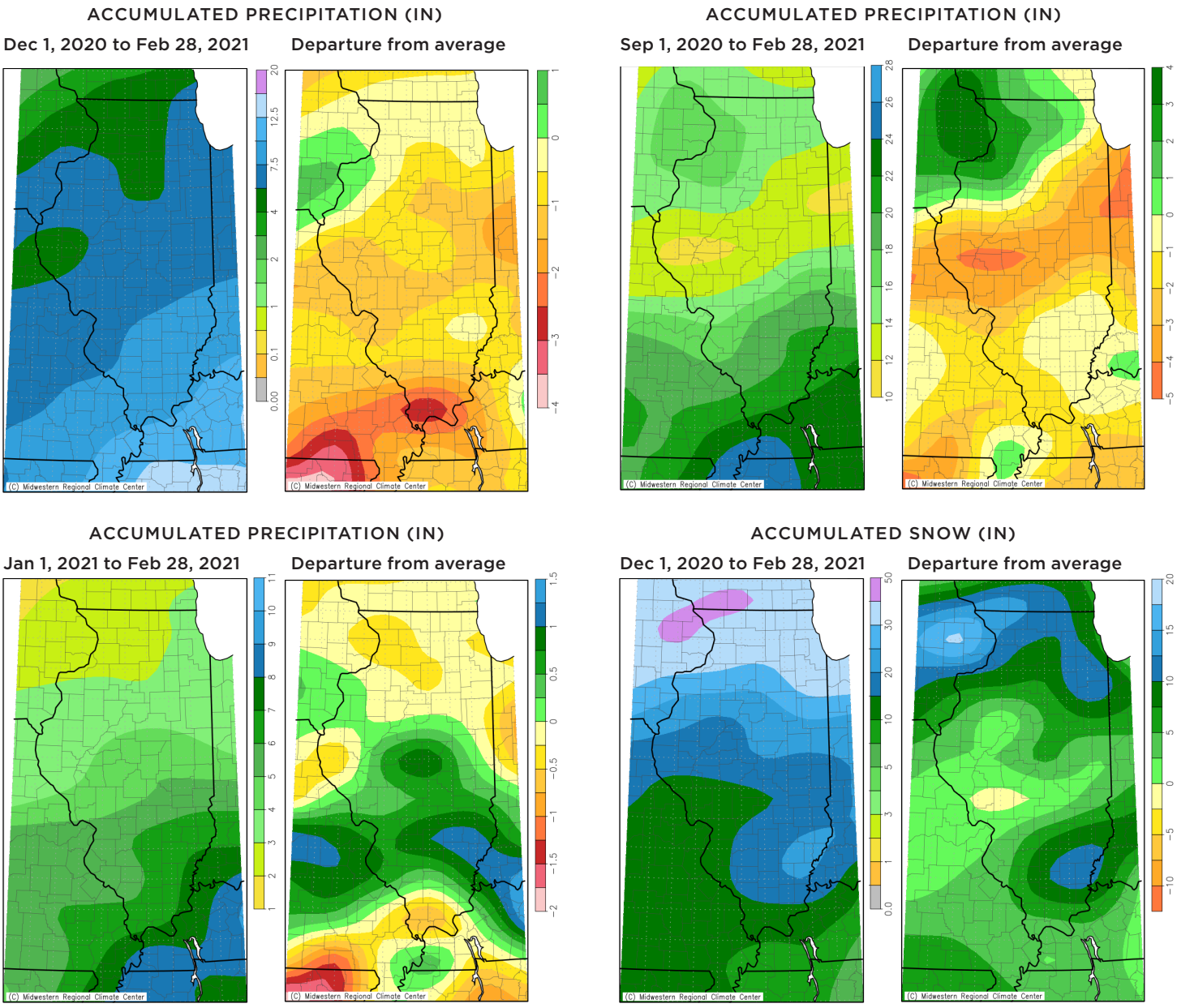
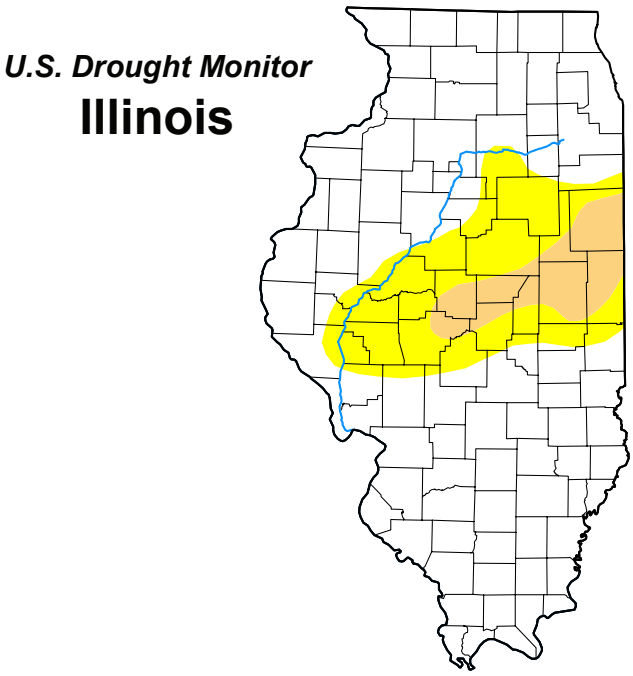


Figure 3. Illinois precipitation and precipitation departure from average for last 3 months (top left), last 6 months (top right), year-to-date (bottom left), and snow and snow departure from average for the last 3 months (bottom right) Source: cli-MATE, Midwestern Regional Climate Center. https://mrcc.illinois.edu/CLIMATE. Information accessed on March 8, 2021.



Drought Conditions (Percent Area)

	None	D0	D1	D2	D3	D4
Current	74.32	18.31	7.37	0.00	0.00	0.00
Last Week *02-16-2021*	74.32	18.31	7.37	0.00	0.00	0.00
3 Months Ago *11-24-2020*	49.78	37.68	10.86	1.68	0.00	0.00
Start of Calendar Year *12-29-2020*	54.89	28.75	14.34	2.02	0.00	0.00
Start of Water Year *09-29-2020*	42.28	54.03	3.69	0.00	0.00	0.00
One Year Ago *02-25-2020*	100.00	0.00	0.00	0.00	0.00	0.00

Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to https://droughtmonitor.unl.edu/About.aspx

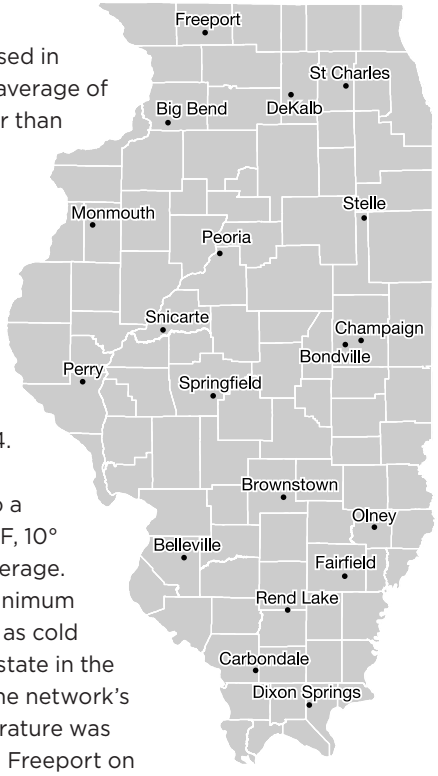
Author:
David Miskus
NOAA/NWS/NCEP/CPC

Figure 4. U.S. Drought Monitor report for Illinois. Source: U.S. Drought Monitor. Author: David Miskus, NOAA/NWS/NCEP/CPC https://droughtmonitor.unl.edu, accessed on March 8, 2021.

Illinois Climate Network (ICN)

— JENNIE ATKINS

The Illinois Climate Network (ICN) collects hourly weather and soil information from 19 stations across the state. ICN data for February are presented in Table 2.



Wind speeds increased in February to a monthly average of 7.7 mph, 0.8 mph higher than in January but 0.6 mph less than the network's long-term average. ICN Stelle was the windiest station of the month with both the highest average at 11.5 mph and the highest reported wind gust of 49.4 mph on February 4.

Air temperatures fell 8°F from January to a monthly average of 22°F, 10° below the long-term average. All stations reported minimum temperatures below 0° as cold weather blanketed the state in the middle of the month. The network's lowest recorded temperature was -18.5°F, reported at ICN Freeport on February 7. Warmer weather moved into the state at the end of the month, leading to highs from the 40s to the 60s. ICN Dixon Springs reported a daily maximum of 67°F on February 28, the month's highest.

Soil temperatures declined up to 2°F in February to averages in the mid-30s, 1° below the long-term average. Temperatures below freezing were reported at all depths, but the snow cover helped to keep soils warmer. Under bare soil, temperatures ranged from 25 to 66°F at the 2-inch depths and 26 to 56°F at 4 inches. Temperatures under sod ranged from 24 to 53°F at 4 inches and 31 to 57°F at 8 inches.

Precipitation averaged 2.05 inches in February, 0.12 inches above the long-term average. Southern Illinois had the highest totals with a regional average of 3.33 inches, 1.42 inches of which fell on February 28. ICN Dixon Springs reported 4.66 inches, the highest for the month.

Soil moisture data will return to the IWCS in Spring 2021.

Table 2. Data from the Illinois Climate Network (ICN), February 2021

Station	Wind			Air Temperature (°F)			Total Solar Radiation (MJ/m²)
	Avg. Speed (mph)	Avg. Direction (°)	Max. Gust (mph)	Max.	Min.	Avg.	
Belleville	9.1	192.8	35.8	61.8	–5.4	25.6	320..8
Big Bend	7.1	232.7	32.3	46.3	–16.6	14.5	320.0
Bondville	12.8	205.1	49.5	58.9	–10.1	20.5	337.0
Brownstown	8.6	183.7	38.2	59.8	–3.8	24.9	315.4
Carbondale	7.5	211.4	33.8	66.2	–4.6M	28.3	296.2
Champaign	6.1	207.2	34.2	59.4	–8.6	21.1	322.2
DeKalb	9.0	238.6	36.1	47.4	–15.1	13.5	373.6
Dixon Springs	5.4	182.2	30.1	66.9	–1.5	29.5	249.5
Fairfield	8.3	177.4	32.9	64.2	–2.4	26.9	334.0
Freeport	5.6	247.4	27.2	43.0	–18.5	13.3	306.4
Monmouth	10.9	222.7	39.8	55.9	–14.5	16.1	358.8
Olney	6.2	154.1	31.7	63.1	–7.1	26.7	328.9
Peoria	7.4	232.9	35.3	57.9	–10.3	18.8	321.3
Perry	6.6	222.5	33.0	59.4M	–11.3	20.7	296.2
Rend Lake	5.7	197.0	29.0	66.5	–4.2	27.9	308.0
Snicarte	9.8	210.4	45.8	59.2	–13.2	20.6	318.9
Springfield	7.2	201.6	30.3	58.2	–5.8	21.8	306.2
St. Charles	6.5	225.8	39.7	49.1	–16.4	16.0	314.3
Stelle	11.5	246.6	49.4	54.4	–15.6	16.7	360.0

Table 2. continued

Station	Average Relative Humidity (%)	Total Precip. (in)	Average Dew Point (°F)	Total Potential Evapotranspiration (in)	Average Soil Temperature (°F) at			
					4" under Sod	8" under Sod	4" under Bare Soil	2" under Bare Soil
Belleville	73.9	1.72	18.1	1.50	35.0	35.6	35.5	35.0
Big Bend	80.4	1.08	9.4	0.99	32.1	31.9	33.3	31.8
Bondville	84.2	1.81	16.4	1.13	29.8	33.6	32.0	31.8
Brownstown	75.7	2.38	18.1	1.40	37.3	36.0	35.2	35.1
Carbondale	80.2	3.44	22.4	1.44	37.7	36.5	36.0	35.6
Champaign	82.1	2.21	16.3	1.22	33.3	34.2	33.9	33.7
DeKalb	82.4	0.62	9.1	1.07	33.1	32.0	33.7	32.6
Dixon Springs	77.3	4.66	22.7	1.27	36.3	37.5	35.4	37.1
Fairfield	78.9	3.16	20.9	1.45	37.3	37.7	37.5	38.3
Freeport	79.6	0.82	8.0	0.96	34.2	34.1	33.3	33.1
Monmouth	82.5	1.02	11.6	1.08	30.5	31.0	31.5	30.0
Olney	76.2	4.13	19.9	1.47	36.0	36.9M	37.6	37.3
Peoria	76.7	1.03	12.5	1.20	33.3	32.9	32.4	32.2
Perry	75.2	1.55	13.8	1.26	34.2	34.6	34.2	34.4
Rend Lake	74.2	3.80	20.3	1.51	36.4	37.4	39.2	37.0
Snicarte	78.3	1.31	14.7	1.24	32.9	33.5	32.6	32.8
Springfield	77.0	1.44	15.4	1.26	33.9	33.4	33.5	33.3
St. Charles	78.2	1.33	10.2	1.09	32.6	33.0	33.8	32.4
Stelle	83.1	0.95	12.4	1.07	32.6	32.7	31.9	31.3

M = Missing data.

Surface Water Information

— BILL SAYLOR

River and stream discharge and stage data are obtained from gaging stations operated by the U.S. Geological Survey (USGS) or the U.S. Army Corps of Engineers (USACE). The USGS gaging station network is supported, in part, by the Illinois Department of Natural Resources Office of Water Resources, the Illinois State Water Survey (ISWS), and the USACE. Provisional discharge data are obtained from the USGS.

Table 3 lists the provisional peak stage for the current month compared to flood stage at selected streamgaging stations located on the Illinois, Mississippi, and Ohio Rivers. Peak stage is represented here by morning readings posted daily by the USACE or the National Weather Service. Flood stage is defined locally for each gage location.

Provisional monthly mean flows for this month for 26 streamgaging stations located throughout Illinois are shown in Table 4, compared to statistics of past record of monthly mean flows at those stations for the same month. Both recent and long-term data are retrieved from USGS online data services following the end of the month. Years of record values in Table 4 represent the number of past monthly values included in the Table 4 statistics; at some stations, the available record may not be continuous. Additional source data may be available from USGS.

The statewide percent of historical mean flow and percent of historical median flow are calculated by dividing the sum of the average flows this month at stations in Table 4 by the sum of the historical mean and median flows calculated for the month, respectively, at the same stations. This method is intended to weight individual observations proportionately in the aggregate comparison. (The Illinois River and Rock River stations are excluded from the statewide calculation because other rivers listed in Table 4 contribute to their flow.)

Aggregate statistics of monthly mean provisional streamflow statewide were not available for February 2021 due to persistent frozen conditions at many streamgage stations, limiting the availability of reliable data (including possibly at some Table 4 stations for which values are presented this month). From posted and estimated data, monthly mean discharge values appeared to range from below normal to above normal for February.

Water-Supply Lakes and Major Reservoirs. Table 5 lists reservoirs in Illinois, their normal pool or target water surface elevation, and other data related to observed variations in water surface elevations. Reservoir levels are obtained from a network of cooperating reservoir operators who are contacted each month by ISWS staff for the current water levels. Reservoir levels are reported in terms of their difference from normal pool (or target level). The average of the month-end readings for the period of record is reported in terms of the difference from normal pool or target level (column 6 of Table 5), and the number of years of record for each reservoir also is given (column 7). Most reservoirs serve as public water supplies, with the exceptions noted in the last column.

Compared to end-of-January water levels at 24 reservoirs for which levels were reported last month and this month, reported end-of-February water levels were lower at 4 reservoirs, higher at 16 reservoirs, and about the same as at the end of January at 4 reservoirs. For the 25 reservoirs with measurements reported at the end of February, water levels were below normal target pool or spillway level at 6 reservoirs, above normal target pool or spillway level at 14 reservoirs, and at about full pool level at 5 reservoirs.

Major Reservoirs. Compared to water levels at the end of January, at the end of February the water level at Lake Shelbyville was 0.6 feet higher, Carlyle Lake was 0.3 feet higher, and Rend Lake was 1.2 feet higher. At the end of February, Lake Shelbyville was 1.6 feet above the winter target level, Carlyle Lake was 1.5 feet above the winter target level, and Rend Lake was 4.5 feet above the spillway level.

Great Lakes. Current month mean and end-of-month values are provisional and are relative to International Great Lakes Datum 1985. The February 2021 mean level for Lake Michigan was 580.7 feet. The monthly mean level one year ago (February 2020) was 581.5 feet. The long-term average lake level for February is 578.4 feet, based on 1918-2020 data. In this period of record, the lowest mean level for Lake Michigan for February occurred in 1964 at 576.1 feet, and the highest mean level for February occurred in 2020 at 581.5 feet. The month-end level of Lake Michigan was 580.6 feet. All values are provided by the U.S. Army Corps of Engineers Detroit District.

Table 3. Peak Stages for Major Rivers during February 2021

River	Station	River mile*	Flood stage (feet)*	Peak stage (feet)**	Date
Illinois	Morris	263.1	16	8.7	28
	La Salle	224.7	20	16.2	28
	Peoria	164.6	18	12.3	26
	Havana	119.6	14	11.2	28
	Beardstown	88.6	14	10.0	24
	Hardin	21.5	25	20.9	25-28
Mississippi	Dubuque	579.9	17	8.9	05-06
	Keokuk	364.2	16	6.2	28
	Quincy	327.9	17	12.3	28
	Grafton	218.0	18	16.4	25
	St. Louis	180.0	30	13.2	01
	Chester	109.9	27	17.6	02
	Thebes	43.7	33	22.2	02-03
Ohio	Cairo	2.0	40	33.9	28

Notes:
*** River mile and flood stage from** *River Stages in Illinois: Flood and Damage Data*, **Illinois Department of Natural Resources, Office of Water Resources, August 2004 (and Addendum, February 2007).**
****Peak stage based on daily a.m. readings, not instantaneous peak. Stage data obtained from U.S. Army Corps of Engineers.**

Table 4. Provisional Mean Flows, February 2021

Station	Drainage area (sq mi)	Years of record*	2021 mean flow (cfs)	Long-term flows*		Flow condition	Percent chance of exceedence	Days of data this month
				Mean (cfs)	Median (cfs)			
Rock River at Rockton	6,363	81	5,389	4,221	3,533	normal	33	28
Rock River near Joslin	9,549	81	8,733	7,045	5,877	normal	33	28
Pecatonica River at Freeport	1,326	105	N/A	1,159	904	N/A	N/A	N/A
Green River near Geneseo	1,003	84	711	804	711	normal	50	24
Edwards River near New Boston	445	86	N/A	383	312	N/A	N/A	N/A
Kankakee River at Momence	2,294	106	N/A	2,631	2,548	N/A	N/A	N/A
Iroquois River near Chebanse	2,091	96	N/A	2,633	2,133	N/A	N/A	N/A
Fox River at Dayton	2,642	106	N/A	2,184	1,940	normal	N/A	N/A
Vermilion River at Pontiac	579	78	241	550	402	normal	63	23
Spoon River at Seville	1,636	106	1,056	1,474	1,336	normal	58	28
LaMoine River at Ripley	1,293	99	836	1,044	745	normal	47	28
Bear Creek near Marceline	349	76	N/A	268	169	N/A	N/A	N/A
Mackinaw River near Congerville	767	76	>600	683	535	normal	N/A	23
Salt Creek near Greenview	1,804	79	624	1,745	1,352	below normal	73	28
Sangamon River at Monticello	550	109	99	604	444	below normal	86	28
South Fork Sangamon near Rochester	867	71	~ 250	883	602	normal	67	25
Illinois River at Valley City	26,743	82	13,236	25,615	24,400	below normal	73	28
Macoupin Creek near Kane	868	92	N/A	754	490	N/A	N/A	N/A
Vermilion River near Danville	1,290	99	N/A	1,523	1,081	N/A	N/A	N/A
Kaskaskia River at Vandalia	1,940	51	N/A	2,815	2,398	N/A	N/A	N/A
Shoal Creek near Breese	735	78	910	902	588	normal	41	28
Embarras River at Ste. Marie	1,516	109	< 1,900	1,960	1,609	normal	N/A	14
Skillet Fork at Wayne City	464	103	< 1,100	667	511	above normal	N/A	14
Little Wabash River below Clay City	1,131	106	< 2,100	1,549	1,183	above normal	N/A	19
Big Muddy River at Plumfield	794	49	1,078	1,077	1,077	normal	49	27
Cache River at Forman	244	98	< 550	506	433	normal	N/A	16

Notes:
Source streamflow data are obtained from the U.S. Geological Survey.
N/A = not available (e.g., due to ice or equipment problems).

Much below normal flow = 90-100% chance of exceedance.
Below normal flow = 70-90% chance of exceedance.
Normal flow = 30-70% chance of exceedance.
Above normal flow = 10-30% chance of exceedance.
Much above normal flow = 0-10% chance of exceedance.
***As calculated from past monthly mean flow values retrieved from U.S. Geological Survey (USGS) data services this month.**
Note: Several stations affected by ice in February.

Table 5. Reservoir Levels in Illinois, February 2021

Reservoir	County	Normal pool or target level (feet)	Current level difference from normal or target)	Monthly change (feet)	Average difference from normal or target (feet)	Years of record	January reported pumpage (million gallons)
Altamont	Effingham	582.0	+0.4	0.0	–1.1	37	5.6
Bloomington	McLean	719.5	+0.2	+3.5	–0.9	34	N/A
Carlinville	Macoupin	571.1	0.0	–0.1	–0.2	35	25.1
Carlyle[1]	Clinton	443.0	+1.5	+0.3	+1.8	43	N/A
Decatur[1,3]	Macon	612.5	+0.7	+2.0	+0.4	37	1,014.4
Evergreen[4]	Woodford	720.0	–1.0	+2.0	–1.2	30	N/A
Glenn Shoals[2]	Montgomery	590.0	+1.3	+1.3	+0.1	26	w/Hillsboro
Highland	Madison	500.0	+1.3	0.0	+0.1	32	27.7
Hillsboro[2]	Montgomery	589.0	N/A	N/A	+0.1	24	36.7
Jacksonville[2]	Morgan	644.0	N/A	N/A	–0.4	17	w/Mauvaise Terre
Kinkaid	Jackson	420.0	+0.5	+0.2	0.0	32	48.6
Lake of Egypt	Williamson	500.0	+1.5	+1.1	+0.2	25	N/A
Mattoon	Coles	632.0	0.0	0.0	–0.1	22	w/Paradise
Mauvaise Terre[2]	Morgan	588.5	N/A	N/A	+0.1	22	no meter
Mt. Olive (new)	Macoupin	600.0	N/A	N/A	–0.5	13	w/Mt. Olive (old)
Mt. Olive (old)	Macoupin	654.0	0.0	+0.4	–0.2	23	5.0
Pana	Christian	641.6	+0.2	+2.0	–0.5	35	N/A
Paradise	Coles	685.0	0.0	–0.1	–0.1	30	54.3
Paris (east)[5]	Edgar	660.0	+0.3	+0.2	+0.2	10	Not PWS
Paris (west)[5]	Edgar	660.1	+0.3	+0.2	+0.2	10	w/Paris (east)
Raccoon[1,5]	Marion	477.0	–0.2	–0.3	+0.1	13	93.7
Rend	Franklin	405.0	+4.5	+1.2	+3.0	43	N/A
Salem[3]	Marion	546.5	–0.2	–0.3	–0.3	25	23.5
Shelbyville[1]	Shelby	594.0	+1.6	+0.6	+2.9	43	Not PWS
Sparta[3]	Randolph	497.0	–0.1	N/A	–0.5	23	N/A
Spring[3,4]	McDonough	654.0	+0.1	+0.1	0.0	33	46.7
Springfield[1,3]	Sangamon	559.6	–1.1	+0.9	–1.1	37	566.1
Taylorville	Christian	590.0	0.0	+0.2	–0.2	27	48.8
Vermilion[4]	Vermilion	581.7	–0.1	0.0	–0.2	35	197.5

Notes:
Normal pool and target level datum is NGVD 1929.
Current levels reported represent water surface levels at the end of the month, not the monthly average.
Average difference from normal or target level is the arithmetic average of reported month-end values for the period of record indicated.
Years of record = total number of monthly readings included in month-end average. Total period of record may be longer.
Not PWS = not a public water supply.
N/A = not available.
(1) Target operating level may vary. Seasonal target levels this month represent March 1 values.
(2) Instrumentation not available to measure height of water elevation above spillway.
(3) Natural inflow can be supplemented by other sources.
(4) Normal pool elevations have changed during period of record reported.
(5) Years of record and average since supply switched to different source. Period of reporting is longer.

Groundwater Information

— JENNIE ATKINS

Comparison to Period of Record. Shallow groundwater levels in 27 observation wells were above the long-term average for February. Levels were 0.37 feet above average and ranged from 4.04 feet below to 4.49 feet above normal levels (Table 6).

Comparison to January 2021. Shallow groundwater levels were above those of the previous month. Levels averaged 1.11 feet above and ranged from 1.36 feet below to 14.39 feet above January 2021 levels.

Comparison to February 2020. Shallow groundwater levels in February were below levels from one year ago. Levels averaged 1.48 feet below and ranged from 11.33 feet below to 2.59 feet above February 2020 levels.

Table 6. Month-End Shallow Groundwater Level Data Sites, February 2021

Well name	County	Well depth (feet)	This month's reading (depth to water, feet)	15-year avg. level (feet)	Deviation from Period of record avg. (feet)	Deviation from Previous month (feet)	Deviation from Previous year (feet)
Belleville	St Clair	15.00	1.00	1.73	1.49	–0.90	–0.03
Bondville	Champaign	21.00	7.08	–3.74	–4.04	2.99	–3.66
Bondville (ICN)	Champaign	20.00	5.93	–2.99	–2.95	3.11	–4.24
Boyleston	Wayne	23.00	3.95	–0.67	–1.40	0.04	0.90
Brownstown	Fayette	15.00	0.00	1.28	1.32	0.00	0.01
Carbondale	Jackson	26.00	2.31	0.19	0.15	–0.19	–0.09
Coffman	Pike	28.00	n/a	N/A	N/A	N/A	N/A
Crystal Lake	McHenry	18.00	4.07	0.24	1.01	–0.04	–0.18
DeKalb	DeKalb	25.00	4.60	–1.40	–1.59	0.26	–2.33
Fairfield	Wayne	21.00	0.42	1.49	1.38	–0.08	0.25
Fermi Lab	DuPage	15.00	4.15	1.23	1.27	3.44	1.91
Freeport	Stephenson	26.00	20.11	–1.39	–1.36	–0.56	–5.40
Galena	JoDaviess	25.00	21.10	–0.57	0.37	0.19	–1.81
Good Hope	McDonough	30.00	5.69	0.14	1.04	2.05	–0.69
Greenfield	Greene	22.00	13.33	–2.34	–3.51	2.07	–8.81
Janesville	Coles	11.00	1.95	2.19	2.54	0.52	2.30
Monmouth	Warren	27.00	6.45	3.99	3.88	3.12	2.59
Mt. Morris	Ogle	55.00	23.25	–4.29	–3.03	–0.48	–7.71
Olney	Richland	19.00	0.00	1.05	1.02	0.00	0.26
Perry	Pike	20.00	3.51	4.96	–4.49	14.39	–2.79
Rend Lake	Jefferson	21.00	0.94	2.15	2.18	–0.32	0.18
SE College	Saline	11.00	0.00	1.42	1.46	0.10	1.19
Snicarte	Mason	42.00	35.73	1.68	1.55	–0.24	2.34
Sparta	Randolph	27.00	1.30	2.38	4.18	0.09	2.53
Springfield	Sangamon	20.00	6.50	–0.87	–0.87	2.51	–5.25
St. Charles	Kane	21.00	26.40	–3.45	–2.79	–0.68	–11.33
St. Peter	Fayette	15.00	1.47	–0.20	0.12	0.04	0.24
SWS #2	St. Clair	80.00	12.04	0.55	2.17	–1.36	–0.47
				0.18	**0.37**	**1.11**	**–1.48**

Notes: N/A = Data not available.

Data sources for this publication include the following:
CPC - Climate Prediction Center, https://www.cpc.ncep.noaa.gov/index.php
ISWS - Illinois State Water Survey, https://www.isws.illinois.edu
MRCC - Midwestern Regional Climate Center, https://mrcc.illinois.edu
NCEI - National Centers for Environmental Information, https://www.ncei.noaa.gov
NWS - National Weather Service, https://www.nws.noaa.gov
SPC - Storm Prediction Center, https://www.spc.noaa.gov
USACE - U.S. Army Corps of Engineers, http://rivergages.com, https://www.lre.usace.army.mil
USDM - U.S. Drought Monitor, https://droughtmonitor.unl.edu
USGS - U.S. Geological Survey, https://waterdata.usgs.gov/il/nwis
WARM - Water and Atmospheric Resources Monitoring Program, https://www.isws.illinois.edu/warm

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