

ILLINOIS WATER AND CLIMATE SUMMARY

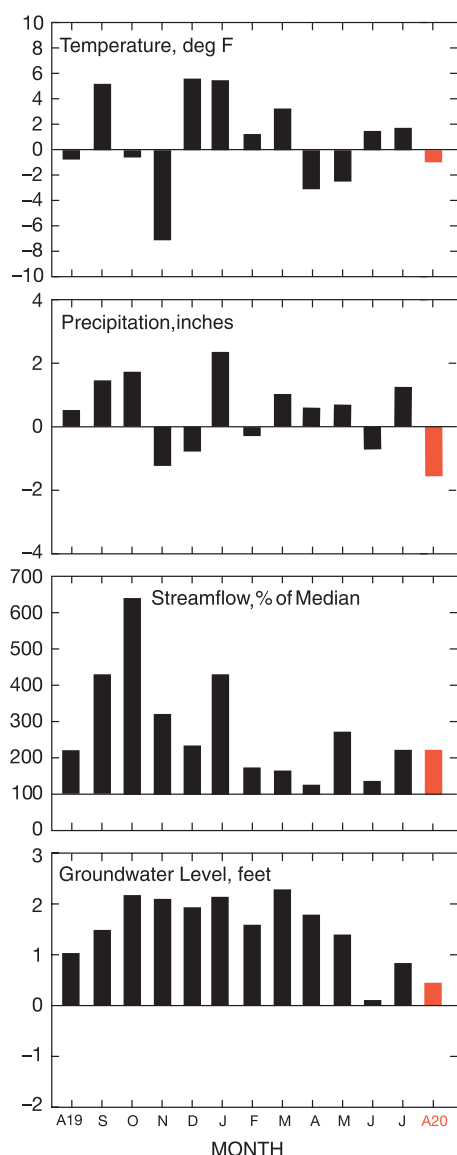


Figure 1. Statewide departures from normal.

AUGUST 2020 OVERVIEW

Temperatures and precipitation were below the long-term average in Illinois in August. Mean streamflow statewide was above the median for the month. Shallow groundwater levels were above the long-term depths.

Air temperatures averaged 72.8°F in August, 0.8° below the long-term average (Figure 1). The southwest crop reporting district (CRD) was the warmest with an average of 74.6°F. The lowest regional temperature was 71.9°F, reported by the east CRD.

Precipitation averaged 1.92 inches, 1.67 inches below the long-term average (Figure 1). The southeast CRD was the wettest with an average of 4.29 inches. The driest was the west CRD with 0.55 inches.

Soil moisture declined at all monitored depths from 2 to 59 inches in August. At the 2-inch depths, moisture levels fell 42% on average. Soil moisture levels in northern and central Illinois were at or near wilting points at the end of the month.

Mean provisional streamflow aggregated statewide was above the long-term median flow for August, about 220% of median (Figure 1). Monthly mean discharge values ranged from below normal to much above normal for August.

Water surface levels at the end of August were below the full pool or target level at 16 of 23 reporting reservoirs. At the end of August, Lake Shelbyville was 3.4 feet above the summer target level, Carlyle Lake was 0.5 feet above the summer target level, and Rend Lake was 1.1 feet above the spillway level. Lake Michigan's mean level exceeded the previous record-high monthly mean level for August (in 102 years of record).

Shallow groundwater levels statewide were above the long-term average this month with an average departure of 0.45 feet from the period of record (Figure 1). A decrease of 0.46 feet in departures was observed from the deviation in normal groundwater levels between July and August. Levels averaged 1.47 feet below July 2020 and 0.78 feet below August 2019 levels.

Weather/Climate Information

— KEVIN GRADY

The following description of temperatures, growing degree days, precipitation, 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.

August in Illinois was cooler and drier than average across most of the state.

Temperatures averaged 72.8°F, 0.8° below the long-term average (Table 1a, Figure 2a). Monthly average temperatures were generally in the low to mid-70s across most of Illinois. This was below average across most of the state, with the highest departures in southern Illinois of up to 2-3° below average. Parts of northern Illinois were slightly above average by up to around 1°, especially in the Chicago area.

After a warmer than average June and July, the first part of August was much cooler than average across most of Illinois, thanks primarily to a persistent trough over the central United States. Temperatures the first three weeks of August were 1-4° below average across most of the state, with departures of 3° or more below average in most areas south of I-72. The monthly minimum temperatures at most stations occurred during this period, generally ranging from the upper 40s in northern Illinois to the mid-50s in southern Illinois. The lowest reading of the month, 45°F, was recorded at a station near Shabbona (DeKalb County) on August 5.

As the trough broke down after mid-month, most of Illinois warmed up considerably, with temperatures the last 10 days of August above average across much of the state. This was especially true in northern Illinois, where temperatures were commonly 7-9° above average north of I-80 during the week of August 22-28. Many stations across Illinois reached their monthly maximum temperatures that week, with all stations reaching the 90s at some point in August. The warmest reading of the month, 99°F, was recorded on August 25 at a station near New Boston (Mercer County). O'Hare Airport in Chicago also notably reached 97°F on August 24. Meanwhile, much of southern Illinois was closer to average near the end of August, leading to higher departures below average for the month as a whole.

Growing degree days (DD, base 50°, from April 1) ranged from over 2400 DD in northern Illinois to just under 3200 DD in far southern Illinois (Figure 2b). This was slightly above the long-term average in most areas to the north of I-74, with the highest departures over 100 DD above average in northeastern Illinois. Most of the southern half of Illinois was below the long-term average by up to 100 DD.

Precipitation averaged 1.92 inches in August, 1.67 inches below the long-term average (Table 1a, Figure 2a), and the 13th driest August on record back to 1895. This also stands in sharp contrast to July, which was the 17th wettest July on record in Illinois. Northern Illinois was very dry in August, with

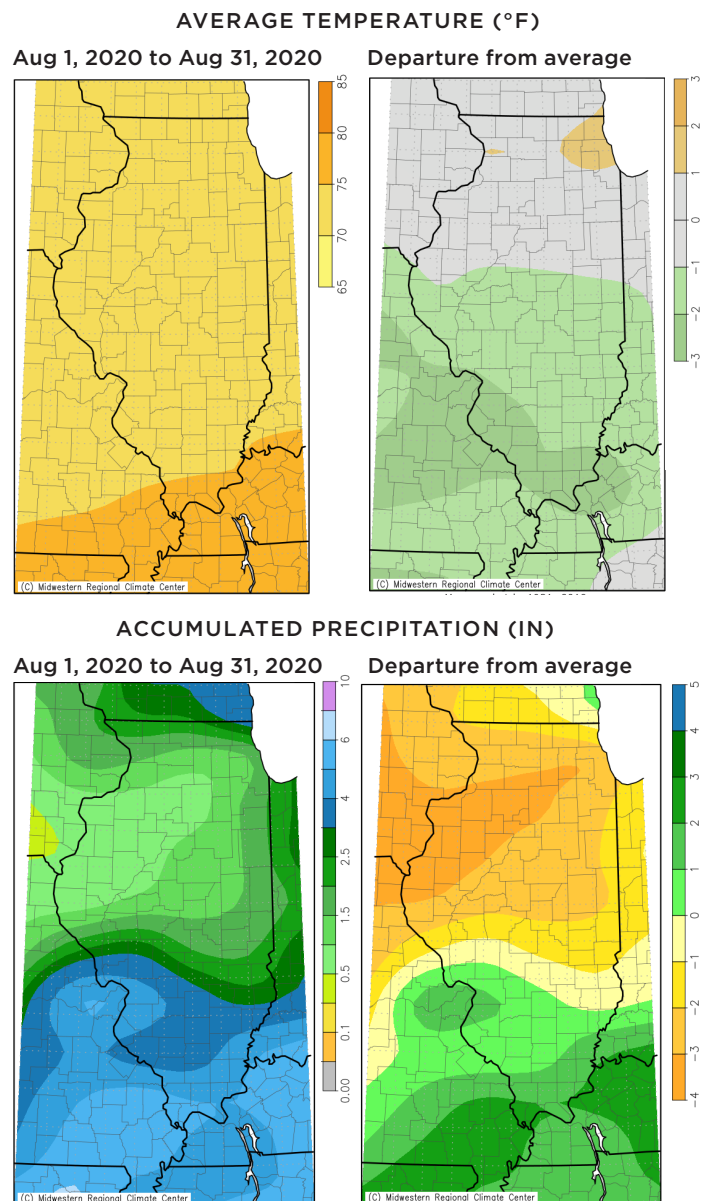


Figure 2a. Illinois temperature and precipitation and their departures from average for August 2020. Source: cli-MATE, Midwestern Regional Climate Center. <http://mrcc.illinois.edu/CLIMATE>. Information accessed on September 10, 2020.

most areas along and to the north of I-72 receiving less than 2 inches of precipitation, 2 inches or more below average in most places. Areas to the south and east of the Quad Cities were especially dry, with widespread reports of precipitation 3-4 inches below average. Most of those areas received less than an inch of precipitation in August, with some stations reporting around half an inch or less, including 0.15 inches at the Quad Cities Airport in Moline, 0.28 inches at a station near Quincy, and 0.59 inches at the Peoria Airport. The Peoria Airport received 9.05 inches the previous month, exemplifying the sharp differences in some areas between July and August.

While northern Illinois was very dry, much of southern Illinois was slightly wetter than average. Precipitation totals south of I-70 were generally 3-5 inches, with the highest totals to the east of St. Louis and in far southern Illinois. Each

Table 1a. Temperature and Precipitation for August 2020

	Temp. (°F)	Departure from long- term avg. (1981–2010)	Precip. (in)	Departure from long- term avg. (1981–2010)
Illinois	72.8	-0.8	1.92	-1.67
CRD 1 (northwest)	72.0	+0.6	1.06	-3.22
CRD 2 (northeast)	72.3	+0.8	1.14	-2.94
CRD 3 (west)	73.0	-0.6	0.55	-3.23
CRD 4 (central)	72.4	-0.5	0.95	-2.70
CRD 5 (east)	71.9	-0.4	1.56	-2.07
CRD 6 (west southwest)	72.8	-2.0	2.41	-0.89
CRD 7 (east southeast)	72.9	-1.6	2.24	-0.97
CRD 8 (southwest)	74.6	-1.8	3.68	+0.60
CRD 9 (southeast)	74.3	-1.8	4.29	+1.18

Data from NOAA's National Centers for Environmental Information, accessed 9/10/2020.

of these areas saw totals 1–2 inches above average. A station near Belleville (Saint Clair County) had the highest monthly total of 10.43 inches. This was in part due to a storm that produced heavy rain as it moved through the Metro East area on August 12.

Severe weather reports: The NOAA Storm Prediction Center recorded 164 severe weather reports for August in Illinois: 13 for tornadoes, 9 for hail, and 142 for wind. (Multiple reports can be generated for a single event.) Nearly all these reports were associated with a derecho that moved across the state on August 10. Northern Illinois was hit especially hard by this storm complex as it raced out of Iowa east across the state toward Indiana. There were widespread reports of 80–100 mph wind gusts as the derecho passed the Quad Cities and areas to their east and northeast, including a 110 mph wind gust near Princeton (Bureau County) and a 100 mph wind gust near Forreston (Ogle County). The National Weather Service also confirmed 14 tornadoes in northeast Illinois from the derecho, all either EFO or EF1, with impacted locations including Rockford, Ottawa, and the north side of Chicago near Rogers Park. Based on initial reports, the derecho was responsible for widespread damage to homes and businesses in both rural and urban areas of Illinois and to 6–10 million acres of crops in Iowa and northern Illinois. The storm also injured at least six people in Illinois.

The rest of August was very quiet for severe weather, however, with only a few reports in Illinois from dates other than August 10.

Drought: August started with pockets of abnormal dryness (D0) in central and southeastern Illinois, including an area of moderate drought (D1) in eastern Lawrence County. Precipitation at the end of July and the first few days of August led the United States Drought Monitor to remove those areas early in the month. However, most of the rest of August was extremely dry for much of northern Illinois, resulting in a gradual spread of abnormally dry conditions

Table 1b. Temperature and Precipitation for Summer (June–Aug) 2020

	Temp. (°F)	Departure from long- term avg. (1981–2010)	Precip. (in)	Departure from long- term avg. (1981–2010)
Illinois	74.6	+1.0	10.84	-1.03
CRD 1 (northwest)	73.3	+1.8	9.01	-3.90
CRD 2 (northeast)	73.3	+1.9	8.51	-3.62
CRD 3 (west)	74.5	+0.9	10.06	-2.36
CRD 4 (central)	74.4	+1.3	8.77	-3.07
CRD 5 (east)	73.7	+1.1	10.55	-1.56
CRD 6 (west southwest)	75.1	+0.4	11.19	-0.22
CRD 7 (east southeast)	74.8	+0.2	13.39	+1.81
CRD 8 (southwest)	76.7	+0.6	12.28	+1.22
CRD 9 (southeast)	76.1	+0.3	14.45	+3.27

Data from NOAA's National Centers for Environmental Information, accessed 9/10/2020.

across the area. The above average temperatures at the end of the month only exacerbated the problem and quickly led to most of northern Illinois between the I-72 and I-90 corridors (54.37% of the state) being classified as D0 or worse on the August 25 map (Figure 4). This included two areas of D1 drought, covering 4.27% of the state, where the agricultural and ecological impacts of the dryness were particularly bad. The first area stretched from the Mississippi River in southern Henderson County east toward Knox County and then southeast toward parts of Mason and Tazewell Counties. The second covered most of DuPage County and stretched into southwestern Cook and northern Will Counties.

Summer (June–August) was warmer than average across most of Illinois. Seasonal temperatures averaged 74.6°F, 1.0° above the long-term average (Table 1b), with nearly the entire state averaging in the mid-70s. The largest departures above average were in northern Illinois, where many areas to the north of I-80 were around 2° above average. Temperatures in southern Illinois were closer to but still slightly above average. Following a below average spring, June and July were both warmer than average across most of Illinois. August was mostly cooler than average across most of the state, except near the end of the month when temperatures climbed well above average, especially in northern Illinois. Many stations saw their seasonal high temperatures in the first 10 days of July or the last 10 days of August, with all stations reaching the 90s at some point. Seasonal low temperatures ranged from the mid-40s in northern Illinois to the mid-50s in southern Illinois.

Summer precipitation averaged 10.84 inches, 1.03 inches below average (Table 1b, Figure 3). The northern half of Illinois was drier than average over the summer, while the southern half was wetter than average. Many areas to the north of the I-72 corridor received less than 10 inches during the season, with a widespread area of totals 3–4 inches

below average. Meanwhile, many areas to the south of the I-70 corridor received over 13 inches of precipitation over the summer, 2 inches or more above average in most areas. The wettest part of the state was southeastern Illinois where totals were generally over 14-15 inches and 3-7 inches above average. The highest seasonal total was 23.44 inches at a station near Belleville (Saint Clair County). June was

generally dry across the state, followed by a generally wet July. August was then dry in the north and wet in the south, making it largely responsible for the seasonal pattern. Despite the seasonal wetness, there was an area of moderate drought in southeastern Illinois for part of July, while abnormally dry conditions expanded throughout northern Illinois in August.

TOTAL MGDD FROM 4/1/2020 TO 8/31/2020

MGDD DEPARTURE FROM 4/1/2020 TO 8/31/2020

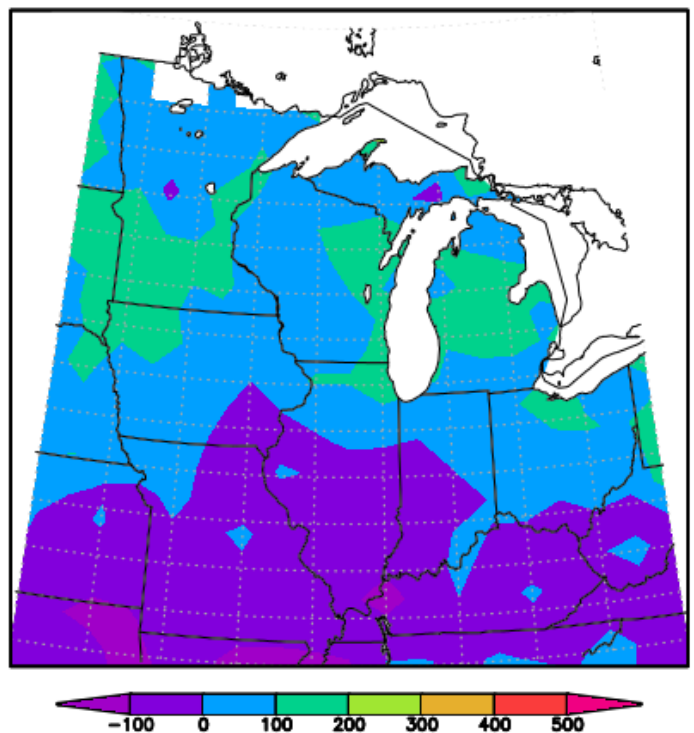
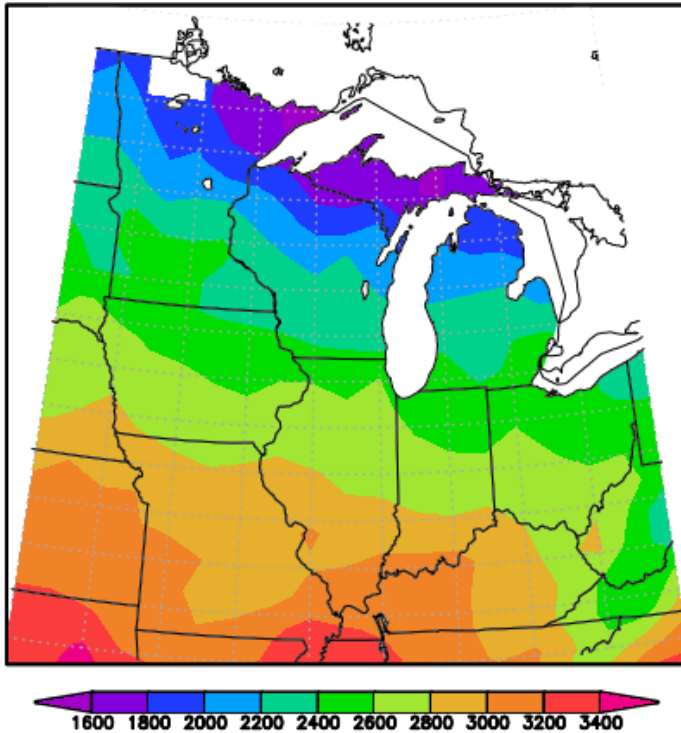
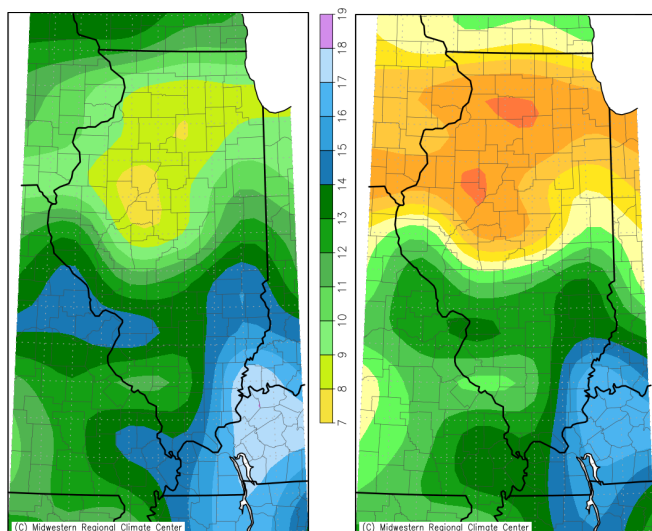
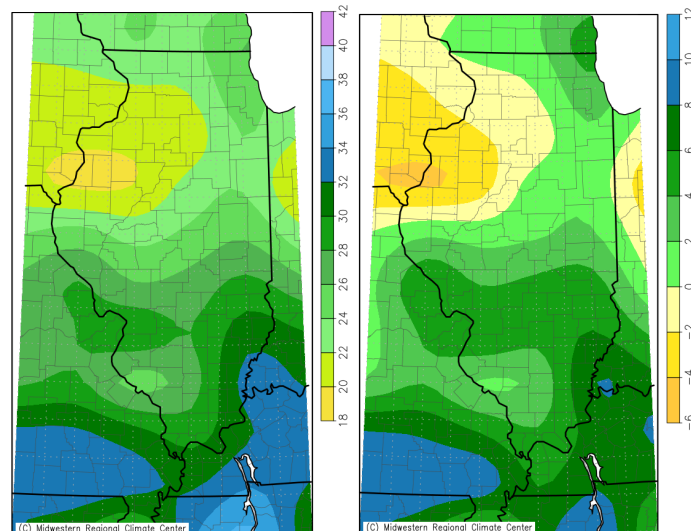


Figure 2b. Illinois growing degree days and departure from average through the end of August. Source: Midwestern Regional Climate Center. <http://mrcc.illinois.edu>, accessed on September 1, 2020.

ACCUMULATED PRECIPITATION (IN)
June 1, 2020 to Aug 31, 2020 Departure from average



ACCUMULATED PRECIPITATION (IN)
Mar 1, 2020 to Aug 31, 2020 Departure from average



ACCUMULATED PRECIPITATION (IN)
Jan 1, 2020 to Aug 31, 2020 Departure from average

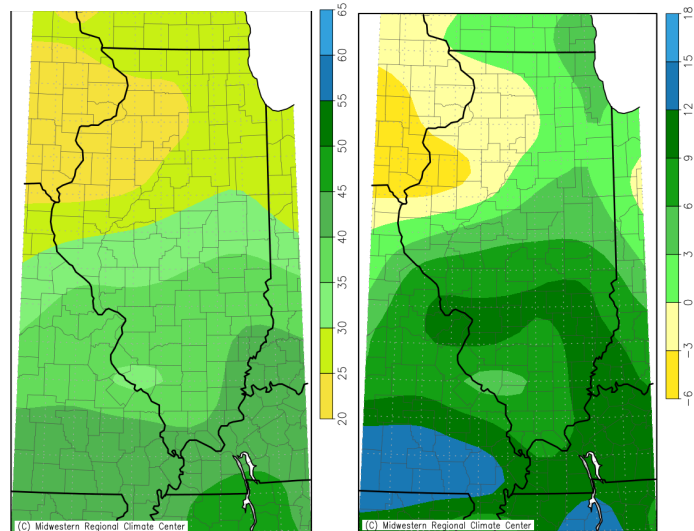
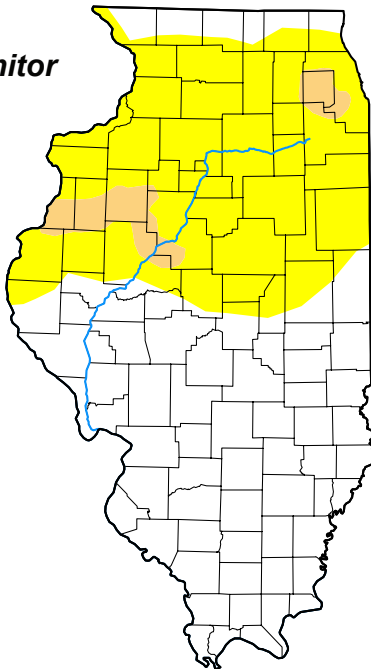


Figure 3. Illinois precipitation and precipitation departure from average for last 3 months (top left), last 6 months (top right) and year-to-date (bottom). Source: cli-MATE, Midwestern Regional Climate Center. <http://mrcc.illinois.edu/CLIMATE>. Information accessed on September 10, 2020.

U.S. Drought Monitor Illinois



August 25, 2020
(Released Thursday, Aug. 27, 2020)
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0	D1	D2	D3	D4
Current	54.37	41.36	4.27	0.00	0.00	0.00
Last Week 08-18-2020	84.58	15.42	0.00	0.00	0.00	0.00
3 Months Ago 05-26-2020	100.00	0.00	0.00	0.00	0.00	0.00
Start of Calendar Year 12-31-2019	100.00	0.00	0.00	0.00	0.00	0.00
Start of Water Year 10-01-2019	82.16	7.06	10.59	0.19	0.00	0.00
One Year Ago 08-27-2019	63.65	28.71	7.63	0.00	0.00	0.00

Intensity:

None	D2 Severe Drought
D0 Abnormally Dry	D3 Extreme Drought
D1 Moderate 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>

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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 August are presented in Table 2.

Wind speeds averaged 4.0 mph in August, 0.2 mph lower than in July and 0.5 mph less than the network's long-term average. ICN Monmouth had the highest monthly average at 6.0 mph. The highest recorded wind gust was 60.3 mph, reported by ICN St. Charles on August 10 as a derecho moved through the area.

Air temperatures averaged 72.5° for the month, 0.6° lower than the long-term average. Fluctuations of more than 40° were seen throughout Illinois with station highs in the low to mid-90s and lows in the 40s and 50s. The month's highest temperature was 94.8°, recorded at ICN Rend Lake on August 24. The lowest was 45.6°, measured at ICN St. Charles on August 5.

Soil temperatures fell 3 to 4° from July to averages in the mid- to high 70s, 0.5 to 1° above the long-term averages. Under bare soil, temperatures ranged from 55.5 to 107.9° at depths of 2 inches and 60.6 to 99.1° at 4 inches. Temperatures under sod ranged from 65.5 to 94.3° at 4 inches and 67.3 to 87.7° at 8 inches.

Precipitation was low across northern and central Illinois in August. Four stations received less than 1 inch for the month. ICN Peoria reported only 0.35 inches, 3.00 inches below its long-term average and the lowest total for the month. Southern Illinois saw significantly wetter conditions. ICN Belleville measured 7.53 inches, the highest for month, despite a lightning strike to the station that resulted in an incomplete data record. Overall, the network averaged 2.12 inches of rain for the month, 1.00 inch less than average.

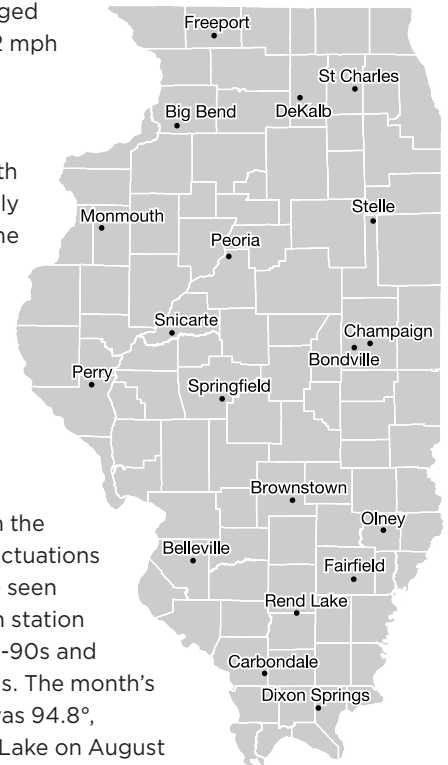


Figure 4. U.S. Drought Monitor report for Illinois. Source: U.S. Drought Monitor. Author: David Simeral, Western Regional Climate Center
<http://droughtmonitor.unl.edu>, accessed on September 10, 2020.

Soil moisture declined in all regions of the state in August. Moisture levels declined 42% at depths of 2 inches to a state average of 0.19 water fraction by volume (wfv). The largest decreases were in southern Illinois. However, due to near or above average rainfalls at most stations, levels remained well above wilting points. In central and northern Illinois, soils dried out to the wilting points at most stations.

Moisture declines were observed through all monitored depths from 2 to 59 inches. Despite the declines, overall moisture levels remained high at depths of 20 inches and greater, ending the month with averages near field capacities for most of the soils monitored.

Table 2. Data from the Illinois Climate Network (ICN), August 2020

Station	Wind			Air Temperature (°F)			Total Solar Radiation (MJ/m ²)
	Avg. Speed (mph)	Avg. Direction (°)	Max. Gust (mph)	Max.	Min.	Avg.	
Belleville	3.8M	162.2M	49.3M	94.5M	53.7M	74.8M	651.9M
Big Bend	4.4	182.3	47.0	94.1	49.8	71.3	719.3
Bondville	5.5	174.0	43.1	91.4	49.4	71.1	729.5
Brownstown	3.6M	158.9M	33.0M	91.8M	51.7M	72.4M	684.6
Carbondale	3.5	192.1	38.1	93.3M	53.3	74.4	639.2
Champaign	2.3	161.4	31.3	93.8	53.2	73.2	715.3
DeKalb	4.5	210.2	34.4	93.1	46.7M	70.1	717.5
Dixon Springs	2.2	177.4	33.4	91.3	55.4	73.7	618.0
Fairfield	3.9	140.5	31.2	92.4	53.5	73.2	668.5
Freeport	3.3	208.3	33.3	92.9	52.0	71.1	672.3
Monmouth	6.0	193.8	57.3	91.9	50.0	71.3	740.3
Olney	3.3	147.2	21.8	92.6	52.7	73.4	693.4
Peoria	4.6	170.8	44.1	92.8	51.1	72.7	732.0
Perry	3.5	196.7	28.2	94.2	50.3	72.3	699.5
Rend Lake	2.8	163.0	35.4	94.8	51.8	74.1	636.0
Snicarte	4.8	179.0	40.9	94.2	51.2	72.5	732.8
Springfield	3.6	160.2	33.4	91.9	53.5	73.2	698.5
St. Charles	4.3	179.3	60.3	93.5	45.6	72.0	701.3
Stelle	5.5	187.5	58.2	93.4	47.2	71.0	722.3

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	84.3M	7.53M	69.2M	4.57M	79.9M	76.7M	75.9M	78.5M
Big Bend	78.0	1.11	63.1	5.85	79.2	77.1	81.0	84.2
Bondville	81.5	1.23	64.4	5.87	76.7	77.2	80.0	80.0
Brownstown	82.5	1.91	66.4M	5.29M	77.0	73.8	76.6	77.1
Carbondale	88.6	3.20	70.2	5.19	78.4	76.7	76.0	76.0
Champaign	77.2	1.25	64.8	5.86	77.4	77.0	81.0	81.7
DeKalb	79.2	0.87	62.5	5.81	74.1M	73.4M	78.2M	78.9M
Dixon Springs	86.6	4.61	68.9	5.05	77.4	77.2	78.8	81.9
Fairfield	84.5	2.50	67.7	5.37	78.7	78.1	79.4	81.4
Freeport	76.7	3.16	62.6	5.50	75.6	73.4	75.3	76.4
Monmouth	82.0	1.19	64.9	5.93	76.0	74.8	79.5	79.4
Olney	82.2	2.95	66.9	5.63	78.4	79.0M	78.8	78.7
Peoria	75.3	0.35	63.7	6.02	75.9	75.0	78.4	79.3
Perry	82.8	1.86	66.0	5.68	76.2	75.8	78.4	79.5
Rend Lake	78.8	2.57	66.3	5.34	77.0	77.6	77.1	77.0
Snicarte	78.2	0.66	64.6	6.02	81.4	80.6	82.1	84.6
Springfield	78.0	0.81	65.4	5.70	76.8	75.4	79.5	80.5
St. Charles	73.9	1.51	62.1	5.85	74.5	72.3	78.0	76.6
Stelle	77.7	1.02	62.8	5.90	75.4	74.1	80.2	80.7

M = Missing data.

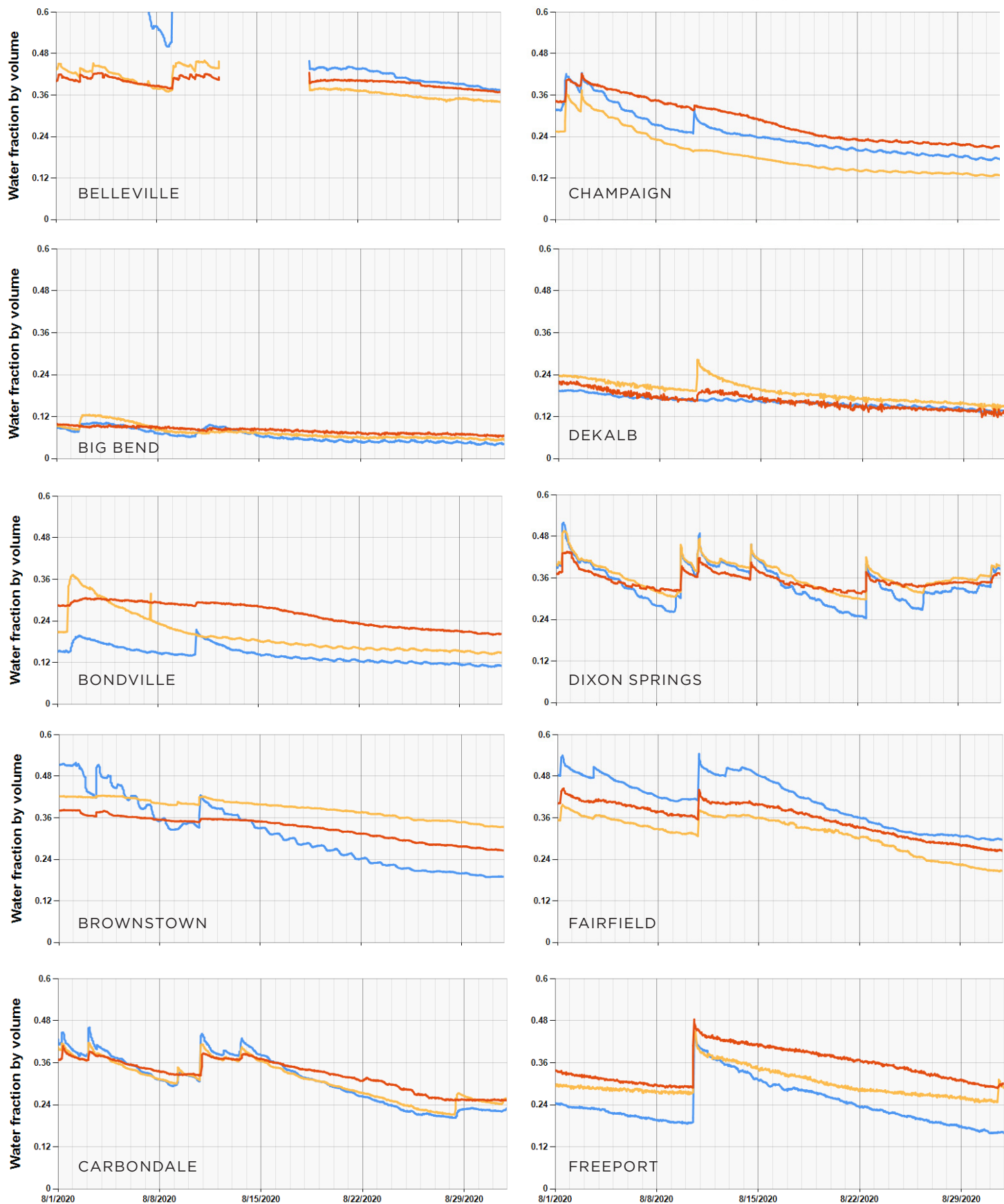


Figure 5. August soil moisture levels at ICN stations: — 2 in, — 4 in, and — 8 in

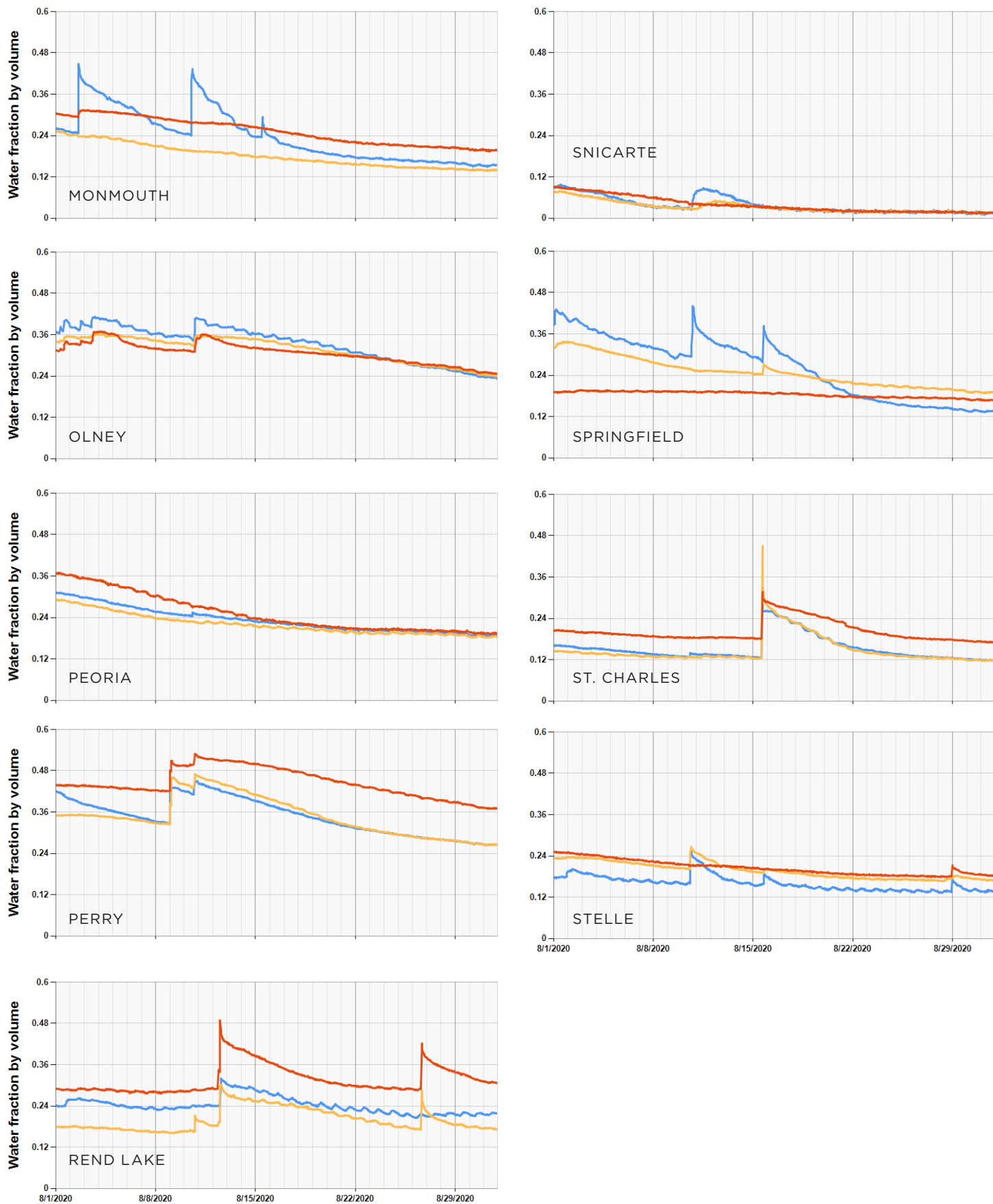


Figure 5 (continued). August soil moisture levels at ICN stations: — 2 in, — 4 in, and — 8 in

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.)

Mean provisional flow aggregated statewide, using the available monthly mean data shown this month in Table 4, was above the median value for August (approximately 220 percent of the median) and above the mean for August (approximately 135 percent of the mean). Monthly mean discharge values ranged from below normal to much above normal for August.

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-July water levels at 22 reservoirs for which levels were reported last month and this month, reported end-of-August water levels were lower at 18 reservoirs, higher at 1 reservoir, and about the same as last month at 3 reservoirs. For the 23 reservoirs with measurements reported at the end of August, water levels were below normal target pool or spillway level at 16 reservoirs, above normal target pool or spillway level at 4 reservoirs, and at about full pool level at 3 reservoirs. The Pana Lake level is intentionally drawn down to facilitate maintenance. The Carlinville supply has recently been taken from its Lake 2.

Major Reservoirs. Compared to water levels at the end of July, at the end of August the water level at Lake Shelbyville was 3.4 feet lower, Carlyle Lake was 1.2 feet lower, and Rend Lake was 0.7 feet lower. At the end of August, Lake Shelbyville was 3.4 feet above the summer target level, Carlyle Lake was 0.5 feet above the summer target level, and Rend Lake was 1.1 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 August 2020 mean level for Lake Michigan was 582.1 feet. The monthly mean level one year ago (August 2019) was 581.8 feet. The long-term average lake level for August is 579.3 feet, based on 1918-2019 data. In this period of record, the lowest mean level for Lake Michigan for August occurred in 1964 at 576.7 feet, and the highest mean level for August occurred in 1986 at 582.0 feet. The month-end level of Lake Michigan was 582.0 feet. All values are provided by the U.S. Army Corps of Engineers Detroit District.

Table 3. Peak Stages for Major Rivers during August 2020

River	Station	River mile*	Flood stage (feet)*	Peak stage (feet)**	Date
Illinois	Morris	263.1	16	6.1	03
	La Salle	224.7	20	12.9	11
	Peoria	164.6	18	12.1	various
	Havana	119.6	14	8.0	01
	Beardstown	88.6	14	10.2	05
	Hardin	21.5	25	20.2	01
Mississippi	Dubuque	579.9	17	11.6	05
	Keokuk	364.2	16	8.1	04
	Quincy	327.9	17	12.2	11
	Grafton	218.0	18	15.7	09
	St. Louis	180.0	30	19.3	03
	Chester	109.9	27	22.1	06
	Thebes	43.7	33	26.0	04
Ohio	Cairo	2.0	40	30.2	05

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, August 2020

Station	Drainage area (sq mi)	Years of record*	2020 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	80	4,810	3,296	2,914	above normal	18	31
Rock River near Joslin	9,549	80	6,031	5,009	4,217	above normal	27	31
Pecatonica River at Freeport	1,326	105	1,337	792	625	above normal	14	31
Green River near Geneseo	1,003	84	288	403	259	normal	47	31
Edwards River near New Boston	445	85	59	159	84	normal	67	31
Kankakee River at Momence	2,294	106	780	1,156	942	below normal	72	31
Iroquois River near Chebanse	2,091	97	223	497	240	normal	55	31
Fox River at Dayton	2,642	105	1,590	1,062	704	above normal	17	31
Vermilion River at Pontiac	579	77	36	127	34	normal	48	31
Spoon River at Seville	1,636	106	176	498	304	below normal	70	31
LaMoine River at Ripley	1,293	99	114	347	199	normal	63	31
Bear Creek near Marceline	349	75	19	98	53	normal	61	31
Mackinaw River near Congerville	767	75	79	161	61	normal	39	31
Salt Creek near Greenview	1,804	77	277	625	361	normal	63	31
Sangamon River at Monticello	550	111	29	142	51	normal	64	31
South Fork Sangamon near Rochester	867	71	307	203	53	above normal	21	31
Illinois River at Valley City	26,743	81	8,965	13,828	11,930	below normal	75	31
Macoupin Creek near Kane	868	92	412	197	71	above normal	11	31
Vermilion River near Danville	1,290	99	264	393	165	normal	34	31
Kaskaskia River at Vandalia	1,940	50	2,152	912	716	above normal	13	31
Shoal Creek near Breese	735	77	382	202	68	above normal	20	31
Embarras River at Ste. Marie	1,516	108	1,574	398	180	much above normal	5	31
Skillet Fork at Wayne City	464	104	256	134	24	above normal	14	31
Little Wabash River below Clay City	1,131	105	1,481	337	106	much above normal	7	30
Big Muddy River at Plumfield	794	49	261	292	217	normal	37	31
Cache River at Forman	244	96	146	71	24	above normal	15	31

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 exceedence.

Below normal flow = 70-90% chance of exceedence.

Normal flow = 30-70% chance of exceedence.

Above normal flow = 10-30% chance of exceedence.

Much above normal flow = 0-10% chance of exceedence.

*As calculated from past monthly mean flow values retrieved from U.S. Geological Survey (USGS) data services this month.

Table 5. Reservoir Levels in Illinois, August 2020

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	July reported pumpage (million gallons)
Altamont	Effingham	582.0	-0.3	-0.2	-1.9	36	7.1
Bloomington	McLean	719.5	-0.2	-0.3	-2.0	34	N/A
Carlinville	Macoupin	571.1	0.0	0.0	-1.0	35	25.2
Carlyle ⁽¹⁾	Clinton	445.0	+0.5	-1.2	+0.4	42	N/A
Decatur ^(1,3)	Macon	614.3	-0.5	-0.7	-0.6	36	1,091.7
Evergreen ⁽⁴⁾	Woodford	720.0	-1.6	-1.5	-2.4	30	N/A
Glenn Shoals ⁽²⁾	Montgomery	590.0	N/A	N/A	-0.6	24	w/Hillsboro
Highland	Madison	500.0	-0.1	-0.4	-0.5	32	37.6
Hillsboro ⁽²⁾	Montgomery	589.0	N/A	N/A	-0.4	24	42.4
Jacksonville ⁽²⁾	Morgan	644.0	N/A	N/A	-0.5	20	w/Mauvaise Terre
Kinkaid	Jackson	420.0	-0.3	+1.0	-0.5	32	53.2
Lake of Egypt	Williamson	500.0	-0.5	-0.5	-0.8	26	N/A
Mattoon	Coles	632.0	-0.5	-0.5	-0.5	24	w/Paradise
Mauvaise Terre ⁽²⁾	Morgan	588.5	N/A	N/A	-0.2	22	no meter
Mt. Olive (new)	Macoupin	600.0	N/A	N/A	-0.3	4	w/Mt. Olive (old)
Mt. Olive (old)	Macoupin	654.0	-0.5	-0.5	-1.1	21	5.2
Pana	Christian	641.6	N/A	N/A	-1.1	35	N/A
Paradise	Coles	685.0	0.0	0.0	-0.6	29	65.2
Paris (east) ⁽⁵⁾	Edgar	660.0	-0.2	-0.4	-0.3	10	Not PWS
Paris (west) ⁽⁵⁾	Edgar	660.1	0.0	-0.3	-0.2	10	w/Paris (east)
Raccoon ⁽¹⁾⁽⁵⁾	Marion	477.0	+0.4	-0.2	-0.1	12	104.2
Rend	Franklin	405.0	+1.1	-0.7	+1.2	42	N/A
Salem ⁽³⁾	Marion	546.5	-1.0	-0.9	-0.9	25	28.3
Shelbyville ⁽¹⁾	Shelby	599.7	+3.4	-3.4	+0.4	42	Not PWS
Sparta ⁽³⁾	Randolph	497.0	-0.1	N/A	-1.4	19	N/A
Spring ^(3,4)	McDonough	654.0	-0.4	-0.3	-0.6	36	47.5
Springfield ^(1,3)	Sangamon	560.0	-0.6	-0.7	-1.2	36	765.0
Taylorville	Christian	590.0	-0.2	0.0	-0.5	27	52.9
Vermilion ⁽⁴⁾	Vermilion	581.7	-0.1	-0.1	-0.4	35	223.4

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 September 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 28 observation wells were near the long-term average for August. Levels averaged 0.45 feet above average and ranged from 2.36 feet below to 2.62 feet above normal levels (Table 6).

Comparison to July 2020. Shallow groundwater levels were below those of the previous month. Levels averaged 1.47 feet below and ranged from 3.70 feet below to 1.22 feet above July 2020 levels.

Comparison to August 2019. Shallow groundwater levels in August were below levels from one year ago. Levels averaged 0.78 feet below and ranged from 3.06 feet below to 1.16 feet above August 2019 levels.

Table 6. Month-End Shallow Groundwater Level Data Sites, August 2020

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)	Previous month (feet)	Previous year (feet)
Belleville	St Clair	15.00	3.52	2.11	1.97	-0.06	0.77
Bondville	Champaign	21.00	7.55	-1.49	-1.94	-1.43	-0.18
Bondville (ICN)	Champaign	20.00	5.86	-0.33	-0.36	-1.09	-0.68
Boyleston	Wayne	23.00	7.56	-1.42	-1.08	-2.49	-1.20
Brownstown	Fayette	15.00	3.07	0.52	0.63	-3.06	-1.62
Carbondale	Jackson	26.00	6.17	1.26	1.24	-0.09	-0.62
Coffman	Pike	28.00	13.21	-0.36	0.47	-2.21	-2.96
Crystal Lake	McHenry	18.00	4.46	-0.07	0.83	-0.71	-0.21
DeKalb	DeKalb	25.00	6.86	-2.33	-2.36	-1.80	-1.42
Fairfield	Wayne	21.00	4.63	0.85	0.84	-0.81	-0.67
Fermi Lab	DuPage	15.00	8.94	-0.79	-0.81	-0.79	-0.87
Freeport	Stephenson	26.00	17.80	-0.98	-0.96	-1.77	-1.36
Galena	JoDaviess	25.00	19.79	-0.29	1.05	-0.76	-0.39
Good Hope	McDonough	30.00	8.38	-1.43	-0.15	-2.92	-2.33
Greenfield	Greene	21.00	13.02	1.31	1.20	-1.22	0.92
Janesville	Coles	11.00	6.12	0.25	0.26	-3.70	0.01
Monmouth	Warren	27.00	11.69	-1.09	-1.18	-1.93	-0.97
Mt. Morris	Ogle	55.00	18.03	-1.21	0.28	-2.08	-1.20
Olney	Richland	19.00	4.18	1.02	0.93	-0.96	0.16
Perry	Pike	20.00	6.21	2.48	2.29	-1.37	-0.29
Rend Lake	Jefferson	21.00	4.35	0.95	0.91	-0.98	0.57
SE College	Saline	11.00	6.00	1.79	1.43	-0.57	0.12
Snicarte	Mason	42.00	36.07	1.15	0.99	-1.22	1.16
Sparta	Randolph	27.00	6.16	1.61	2.62	-1.18	N/A
Springfield	Sangamon	20.00	8.17	-1.09	-0.15	-2.71	-2.38
St. Charles	Kane	21.00	20.93	0.68	1.28	-2.33	-3.06
St. Peter	Fayette	15.00	3.73	-0.12	0.59	-2.14	N/A
SWS #2	St. Clair	80.00	13.11	0.60	1.80	-1.25	-1.67
				0.13	0.45	-1.47	-0.78

Notes: N/A = Data not available.

Data sources for this publication include the following:

CPC - Climate Prediction Center, <http://www.cpc.ncep.noaa.gov/index.php>

ISWS - Illinois State Water Survey, <http://www.isws.illinois.edu>

MRCC - Midwestern Regional Climate Center, <http://mrcc.illinois.edu>

NCEI - National Centers for Environmental Information, <http://www.ncei.noaa.gov>

NWS - National Weather Service, <http://www.nws.noaa.gov>

SPC - Storm Prediction Center, <http://www.spc.noaa.gov>

USACE - U.S. Army Corps of Engineers, <http://rivergages.com>, <https://www.lre.usace.army.mil>

USGS - U.S. Geological Survey, <http://waterdata.usgs.gov/il/nwis>

WARM - Water and Atmospheric Resources Monitoring Program, <http://www.isws.illinois.edu/warm>

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