

## ILLINOIS WATER AND CLIMATE SUMMARY

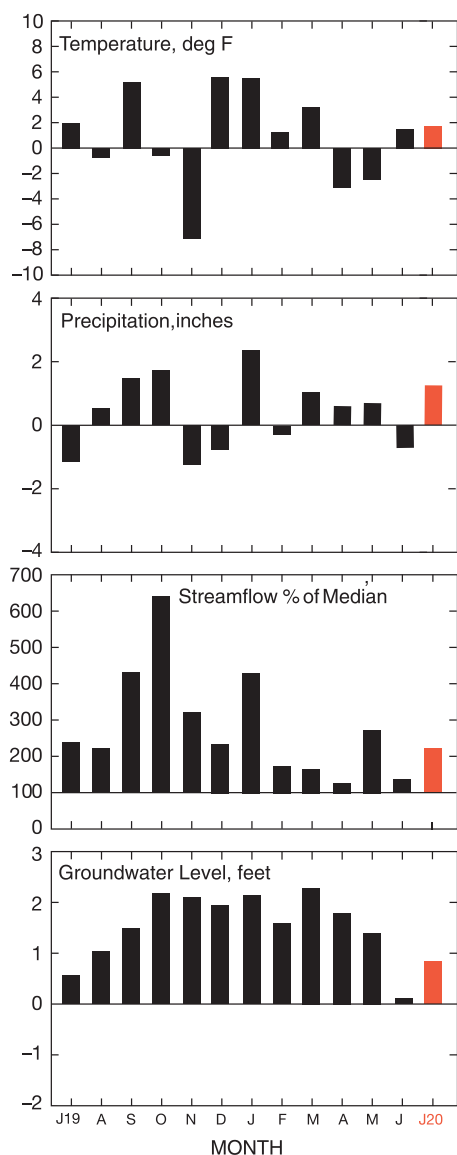


Figure 1. Statewide departures from normal.

### JULY 2020 OVERVIEW

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

**Air temperatures** averaged 77.3°F in July, 1.9° above the long-term average (Figure 1). The southwest crop reporting district (CRD) was the warmest with an average of 79.9°F. The lowest regional temperature was 75.8°F reported by the northwest CRD.

**Precipitation** averaged 5.32 inches, 1.24 inches above the long-term average (Figure 1). The east-southeast CRD was the wettest with an average of 7.72 inches. The driest was the northeast CRD with 3.88 inches.

**Soil moisture** declined 11% overall at 2-inch depths in July. At 4 and 8 inches, moisture levels decreased 11 and 6%, respectively, while remaining steady at depths of 20 inches and greater.

**Mean provisional streamflow** aggregated statewide was above the long-term median flow for July, about 220% of median (Figure 1). Monthly mean discharge values ranged from normal to much above normal for July. The Mississippi River from Quincy to the Illinois River and the lowermost reach of the Illinois River reached local flood stages in early July.

**Water surface levels** at the end of July were below the full pool or target level at 5 of 24 reporting reservoirs. At the end of July, Lake Shelbyville was 6.8 feet above the summer target level, Carlyle Lake was 1.7 feet above the summer target level, and Rend Lake was 1.8 feet above the spillway level. Lake Michigan's mean level exceeded the previous record high monthly mean level for July (in 102 years of record).

**Shallow groundwater levels** statewide were above the long-term average this month with an average departure of 0.91 feet from the period of record (Figure 1). An increase of 0.84 feet in departures was observed from the deviation in normal groundwater levels between June and July. Levels averaged 0.08 feet below June 2020 and 0.25 feet below July 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.

July in Illinois was warmer and wetter than average across most of the state.

**Temperatures** averaged 77.3°F, 1.9° above the long-term average (Table 1, Figure 2a). Monthly average temperatures ranged from the mid-70s in northern Illinois to around 80° in southern Illinois. Similar to June, July temperatures were generally 1–3° above average across the state, with higher departures in northern Illinois, especially north of Chicago. The monthly maximum temperatures at all stations were in the 90s, with the warmest reading of the month, 97°F, recorded on July 7 at stations near Normal (McLean County) and Illinois City (Rock Island County) as well as on July 27 at a station in McHenry County. Monthly minimum temperatures generally ranged from the mid-50s in northern Illinois to the mid-60s in southern Illinois. The lowest reading of the month, 54°F, was recorded at a station near Decatur (Macon County) on July 24.

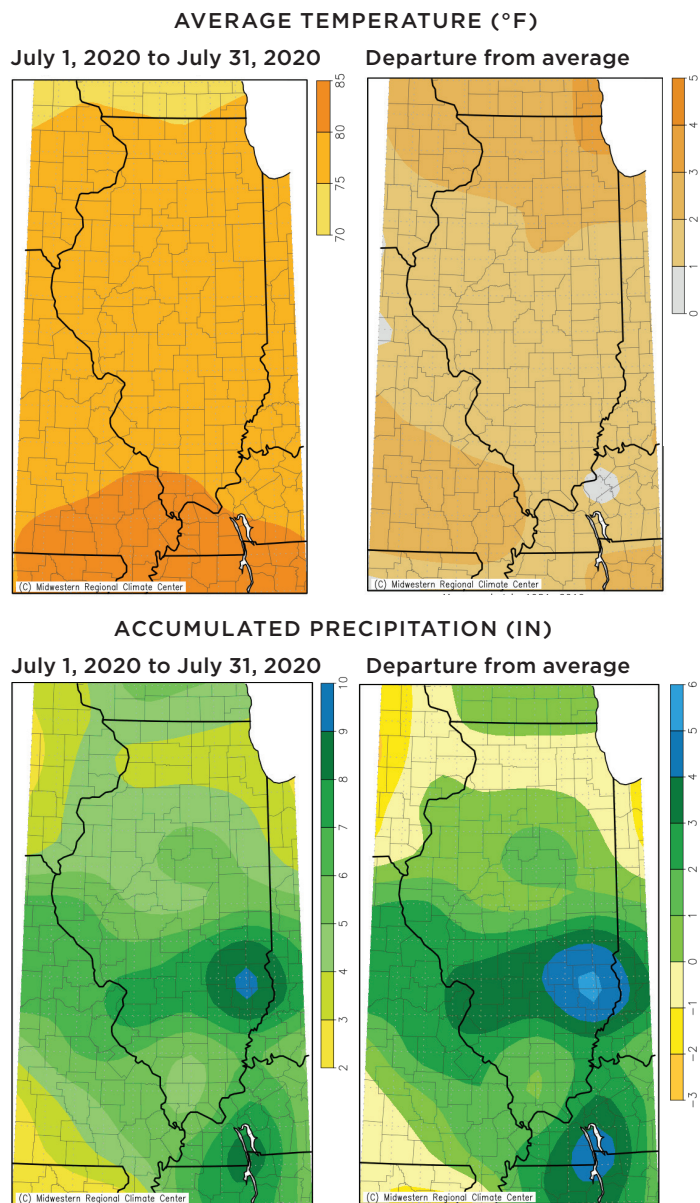
**Growing degree days** (DD, base 50°, from April 1) ranged from around 1800 DD in northern Illinois to just under 2400 DD in far southern Illinois (Figure 2b). This was slightly above the long-term average in most of the northern half of Illinois, with the highest departures around 100 DD above average near Chicago. Most of the southern half of Illinois was below the long-term average by up to 100 DD.

**Precipitation** averaged 5.32 inches in July, 1.24 inches above the long-term average (Table 1, Figure 2a), and the 18th wettest July on record back to 1895. This also stands in sharp

**Table 1. Temperature and Precipitation for July 2020**

	Temp. (°F)	Departure from long- term avg. (1981–2010)	Precip. (in)	Departure from long- term avg. (1981–2010)
Illinois	77.3	+1.9	5.32	+1.24
CRD 1 (northwest)	75.8	+2.4	3.92	–0.12
CRD 2 (northeast)	75.9	+2.5	3.88	–0.11
CRD 3 (west)	77.0	+1.5	5.06	+0.82
CRD 4 (central)	77.0	+2.2	5.70	+1.59
CRD 5 (east)	76.3	+2.1	4.72	+0.38
CRD 6 (west southwest)	77.8	+1.4	5.81	+1.82
CRD 7 (east southeast)	77.4	+1.2	7.72	+3.55
CRD 8 (southwest)	79.9	+2.1	5.53	+1.66
CRD 9 (southeast)	79.4	+1.9	5.17	+1.21

Data from NOAA's National Centers for Environmental Information, accessed 8/7/2020.



**Figure 2a. Illinois temperature and precipitation and their departures from average for July 2020.** Source: cli-MATE, Midwestern Regional Climate Center. <http://mrcc.illinois.edu/CLIMATE>. Information accessed on August 7, 2020.

contrast to June, which was drier than average across most of Illinois. In July, except for the slightly drier than average area to the north of I-80, most parts of the state were wetter than average, with most areas to the south of I-72 generally receiving at least an inch above average. This was especially true along the I-70 corridor, where totals of over 7–8 inches were common, including some local totals over 10 inches. A station near Centreville (Saint Clair County) had the highest monthly total of 13.46 inches. Totals along I-70 were generally more than 3 inches above average, especially near and to the east of Effingham, where departures of 4–5 inches were common.

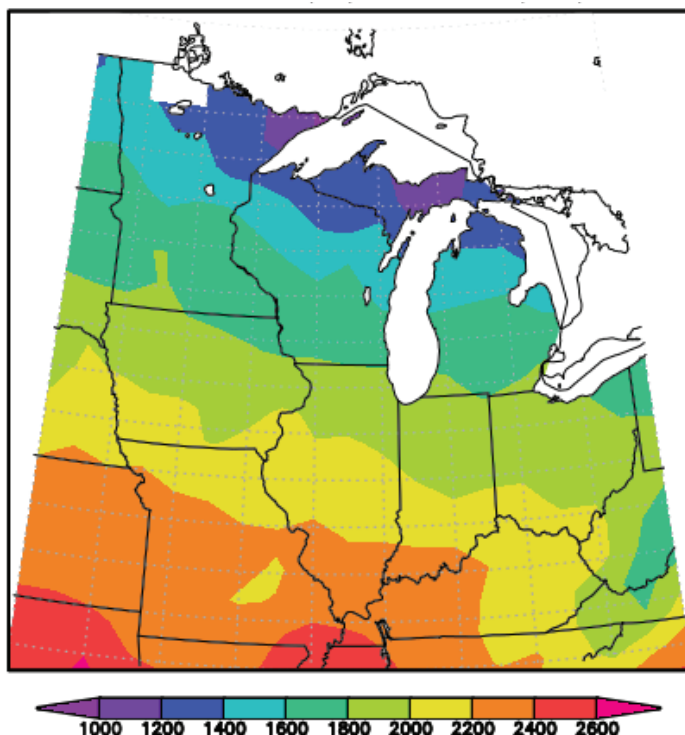
Another wet part of the state was the area between Bloomington and Peoria. June was especially dry in this area, with many stations in Woodford and Tazewell Counties reporting less than 2 inches for the month. In sharp contrast, many July totals in these two counties were over 7 inches, including over 10 inches at some sites in Woodford County. A large contributing factor for these totals was a storm that affected the area on July 15, producing 4–6 inches of rain and leading to flash flooding. A station near El Paso (Woodford County) reported 7.05 inches from that storm, and the Peoria Airport reported 5.19 inches. The El Paso station had 12.45 inches total for the month.

**Severe weather reports:** The NOAA Storm Prediction Center recorded 186 severe weather reports for July in Illinois: 10 for tornadoes, 22 for hail, and 154 for wind. (Multiple reports can be generated for a single event.) This made July by far the most active month of the year yet for severe weather in Illinois, having more total reports than May and June combined. The middle of July was especially active, with at least three notable severe weather events.

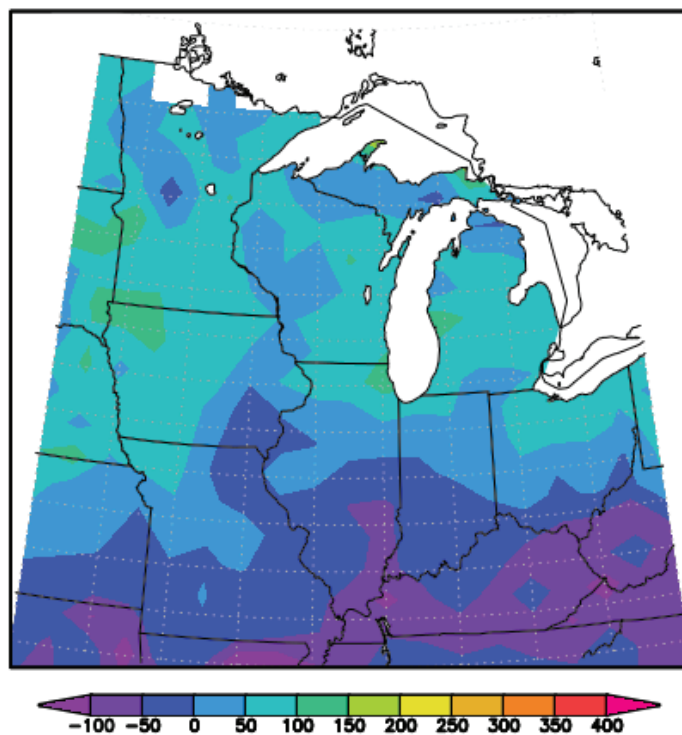
On July 11, a series of severe thunderstorms moved from near the Quad Cities southeast through east central Illinois, producing numerous hail and wind reports, including 2.5-inch hail near Bartonville (Peoria County) and an 80 mph wind gust reported at the Quad City Airport. Six of the ten tornado reports came on July 15 from storms in the central part of the state. Severe thunderstorms also moved across northern Illinois, including the Chicago area, on July 19, producing an 84 mph wind gust in Henderson County. The end of the month, however, was quiet, with no severe weather reports the last 10 days of July.

**Drought:** Following a drier than average June, July started with two main areas of abnormal dryness (D0), an area along and to the east of the Illinois River in central Illinois as well as an area near and to the east-southeast of Effingham in southeast Illinois. Continued early month dryness led the United States Drought Monitor to introduce an area of moderate drought (D1) in parts of Tazewell, Woodford, McLean, and Mason Counties on the July 7 map as well as another area of D1 drought in the Effingham area on the July 14 map. These areas covered 4.14% of the state at their peak and marked the first time Illinois has had areas of D1 drought since late October 2019. However, mid-month storms quickly improved conditions in both these areas so that by the end of the month only a small part of Lawrence County (0.24% of the state) was still experiencing D1 conditions. D0 conditions also remained in parts of Logan, DeWitt, and surrounding counties, Carroll and Whiteside Counties, as well as small parts of Vermilion County. Altogether, these areas accounted for about 6% of the state on the July 28 map (Figure 4).

TOTAL MGDD FROM 4/1/2020 TO 7/31/2020

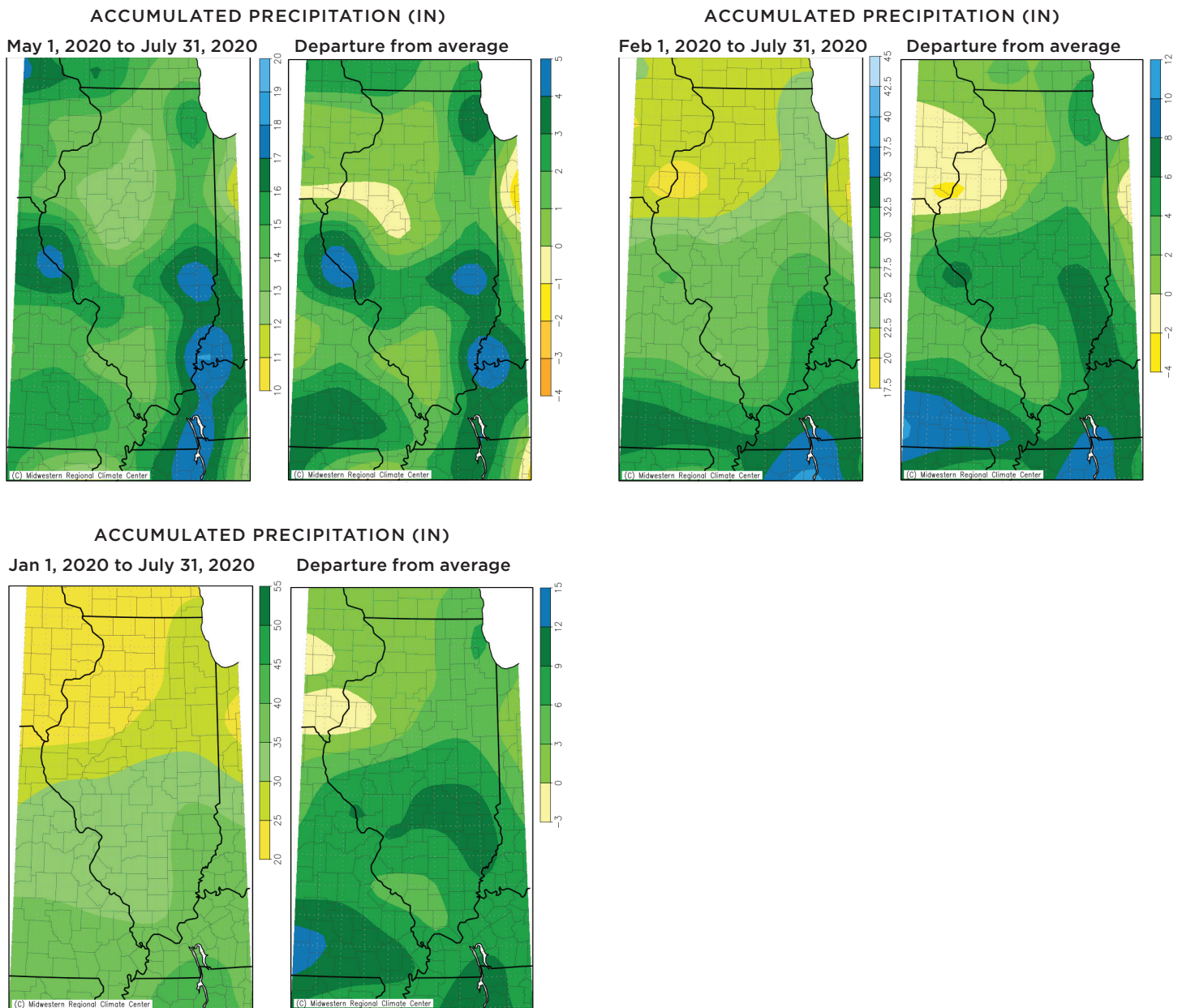


MGDD DEPARTURE FROM 4/1/2020 TO 7/31/2020



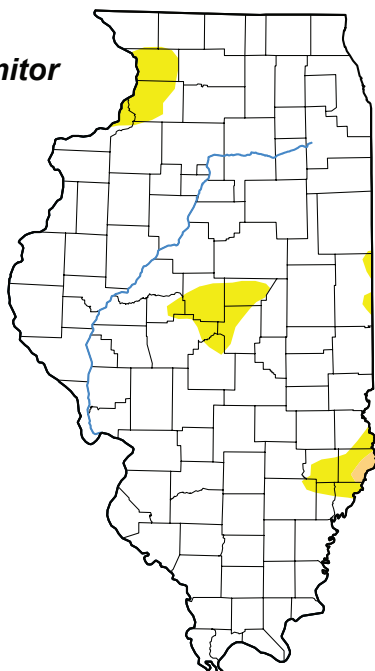
**Figure 2b. Illinois growing degree days and departure from average through the end of July.** Source: Midwestern Regional Climate Center. <http://mrcc.illinois.edu>, accessed on August 1, 2020.





**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, Midwest Regional Climate Center. <http://mrcc.illinois.edu/CLIMATE>. Information accessed on August 7, 2020.

## U.S. Drought Monitor Illinois



**July 28, 2020**

(Released Thursday, Jul. 30, 2020)

Valid 8 a.m. EDT

### Drought Conditions (Percent Area)

	None	D0	D1	D2	D3	D4
<b>Current</b>	94.05	5.71	0.24	0.00	0.00	0.00
<b>Last Week</b> 07-21-2020	87.20	12.12	0.68	0.00	0.00	0.00
<b>3 Months Ago</b> 04-28-2020	100.00	0.00	0.00	0.00	0.00	0.00
<b>Start of Calendar Year</b> 12-31-2019	100.00	0.00	0.00	0.00	0.00	0.00
<b>Start of Water Year</b> 10-01-2019	82.16	7.06	10.59	0.19	0.00	0.00
<b>One Year Ago</b> 07-30-2019	81.86	18.14	0.00	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>

### Author:

Richard Heim  
NCEI/NOAA

## 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 July are presented in Table 2.

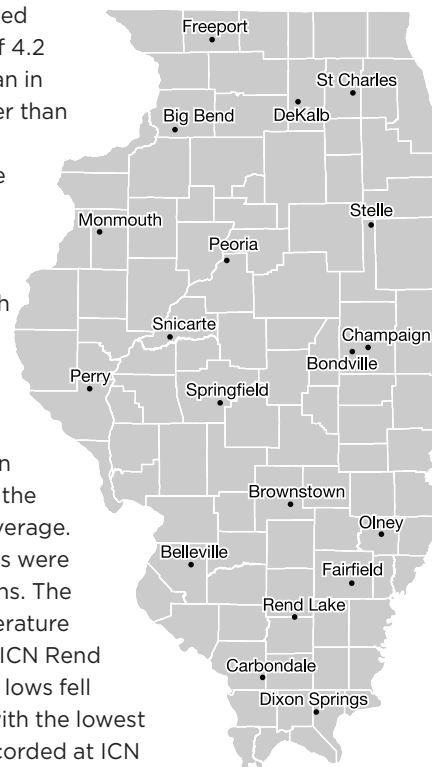
**Wind** speeds declined in July to an average of 4.2 mph, 1.6 mph lower than in June and 0.7 mph lower than the long-term average. ICN Monmouth had the windiest month with an average of 6.1 mph. The highest reported wind gust was 53.1 mph recorded on July 11 at ICN Stelle.

**Air temperatures** averaged 77.0° for the month, 3.0° higher than in June and 1.9° above the network's long-term average. Maximum temperatures were in the 90s for all stations. The highest monthly temperature was 98.3° recorded at ICN Rend Lake on July 8. Station lows fell into the 50s and 60s with the lowest temperature, 55.9°, recorded at ICN DeKalb on July 24.

**Soil temperatures** rose 5–6° from June to averages from the high 70s to low 80s, 2–3° above the long-term network averages. Under bare soil, temperatures ranged from 64.2 to 110.6° at 2 inches and 67.2 to 105.1° at 4 inches. Temperatures under sod ranged from 69.3 to 97.9° at 4 inches and 71.6 to 90.3° at 8 inches..

**Precipitation** varied greatly across the network in July. ICN Peoria had the highest total with 9.86 inches or more than three times its long-term monthly average. The driest station was ICN Rend Lake with 2.02 inches or just 58% of its long-term average. Overall precipitation averaged 5.24 inches across the network, 1.88 inches more than the long-term average.

**Soil moisture** declined overall in July. At 2-inch depths, moisture levels fell 11%. The largest declines were in northern Illinois where soil moisture ended the month at 0.18 water fraction by volume (wfv) or 40% below the July 1 average. Similar decreases occurred at 4 and 8 inches. Moisture levels remained relatively steady at depths of 20 inches and greater.



**Figure 4. U.S. Drought Monitor report for Illinois.** Source: U.S. Drought Monitor. Author: Richard Heim, NCEI/NOAA <http://droughtmonitor.unl.edu>, accessed on August 7, 2020.

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

Station	Wind			Air Temperature (°F)			Total Solar Radiation (MJ/m²)
	Avg. Speed (mph)	Avg. Direction (°)	Max. Gust (mph)	Max.	Min.	Avg.	
Belleville	4.1	161.8	31.4	95.8	63.7	79.6	743.1
Big Bend	4.9	167.9	36.5	93.0	58.0	75.7	739.0
Bondville	6.0	167.2	43.6	92.2	58.9	76.1	781.0
Brownstown	4.1	156.7	41.7	94.0	60.9	77.6	752.7
Carbondale	3.6	190.7	36.1	95.0	61.8	79.0	752.4
Champaign	2.2	159.7	27.4	94.3	60.6	77.2	742.7
DeKalb	4.6	186.3	30.8	91.5	55.9	74.4	769.8
Dixon Springs	2.2	176.6	34.5	93.1	60.7	78.4	741.6
Fairfield	4.4	154.5	35.0	92.2	60.5	78.2	774.4
Freeport	3.3	189.9	27.8	91.3	56.5	75.1	755.7
Monmouth	6.1M	173.6M	48.7M	91.3M	58.3M	75.8M	761.9M
Olney	3.6	156.8	27.6	93.7	60.4	77.9	756.7
Peoria	4.9	168.6	49.8	94.1	61.2	77.1	768.5
Perry	3.7	183.9	26.9	92.5M	59.6	76.9	736.7
Rend Lake	3.1	173.4	23.5	98.3	61.8	79.0	720.1
Snicarte	4.4M	171.7M	33.1M	94.3M	62.9M	76.1M	736.9
Springfield	3.8	157.6	31.4	92.6	63.5	78.1	745.4
St. Charles	4.3	175.4	34.6	93.8	57.6	75.7	765.4
Stelle	5.9	171.3	53.1	93.7	56.1	75.3	761.3

**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	83.2	9.10	73.4	6.45	80.5	78.7	81.3	83.8
Big Bend	78.3	3.13	67.6	6.26	81.5	79.5	82.8	85.2
Bondville	80.1	4.17	68.8	6.59	79.9	79.7	83.3	83.6
Brownstown	81.0	9.03	70.7	6.45	80.0	76.9	81.0	81.7
Carbondale	87.7	5.07	74.4	6.42	82.0	79.9	80.5	81.4
Champaign	78.9	4.62	69.4	6.33	80.5	79.5	83.7	84.9
DeKalb	80.4	4.39	67.4	6.43	78.0	76.8	80.3	82.1
Dixon Springs	84.1	3.38	72.6	6.35	81.0	79.7	84.8	87.6
Fairfield	81.6	8.00	71.4	6.61M	80.0	79.0M	86.2M	86.3
Freeport	78.2	3.12	67.2	6.31	78.9	76.3	80.1	80.9
Monmouth	84.2M	4.06M	70.0M	5.36M	79.9M	77.4M	81.7M	81.9M
Olney	80.2	9.10	70.6	6.50	82.1	81.5M	83.0	82.8
Peoria	74.4	9.86	67.6	6.65	77.4	77.3	80.8	81.9
Perry	84.0	5.41	71.1	6.23	80.2	79.1	82.4	83.8
Rend Lake	77.1	2.02	70.5	6.34	79.6	80.4	81.4	82.3
Snicarte	80.6	2.72M	69.0M	4.52M	84.8	83.7	84.8	87.2
Springfield	76.9	4.09	69.6	6.42	80.9	79.2	83.8	85.2
St. Charles	75.6	3.61	66.6	6.53	78.0	75.2	81.6	80.6
Stelle	78.5	4.67	67.4	6.45	77.6	75.7	82.4	83.1

M = Missing data.

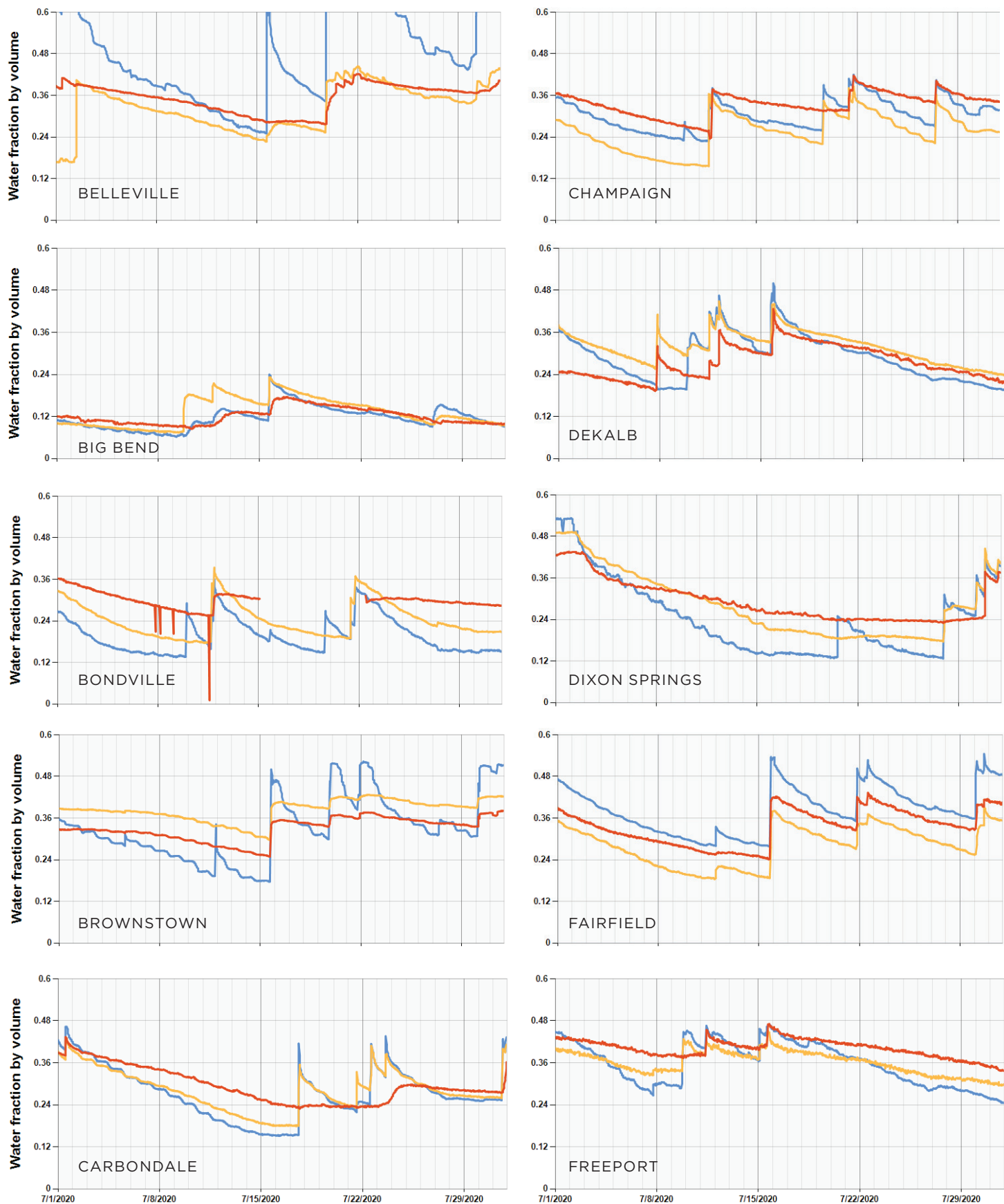


Figure 5. July soil moisture levels at ICN stations: — 2 in, — 4 in, and — 8 in

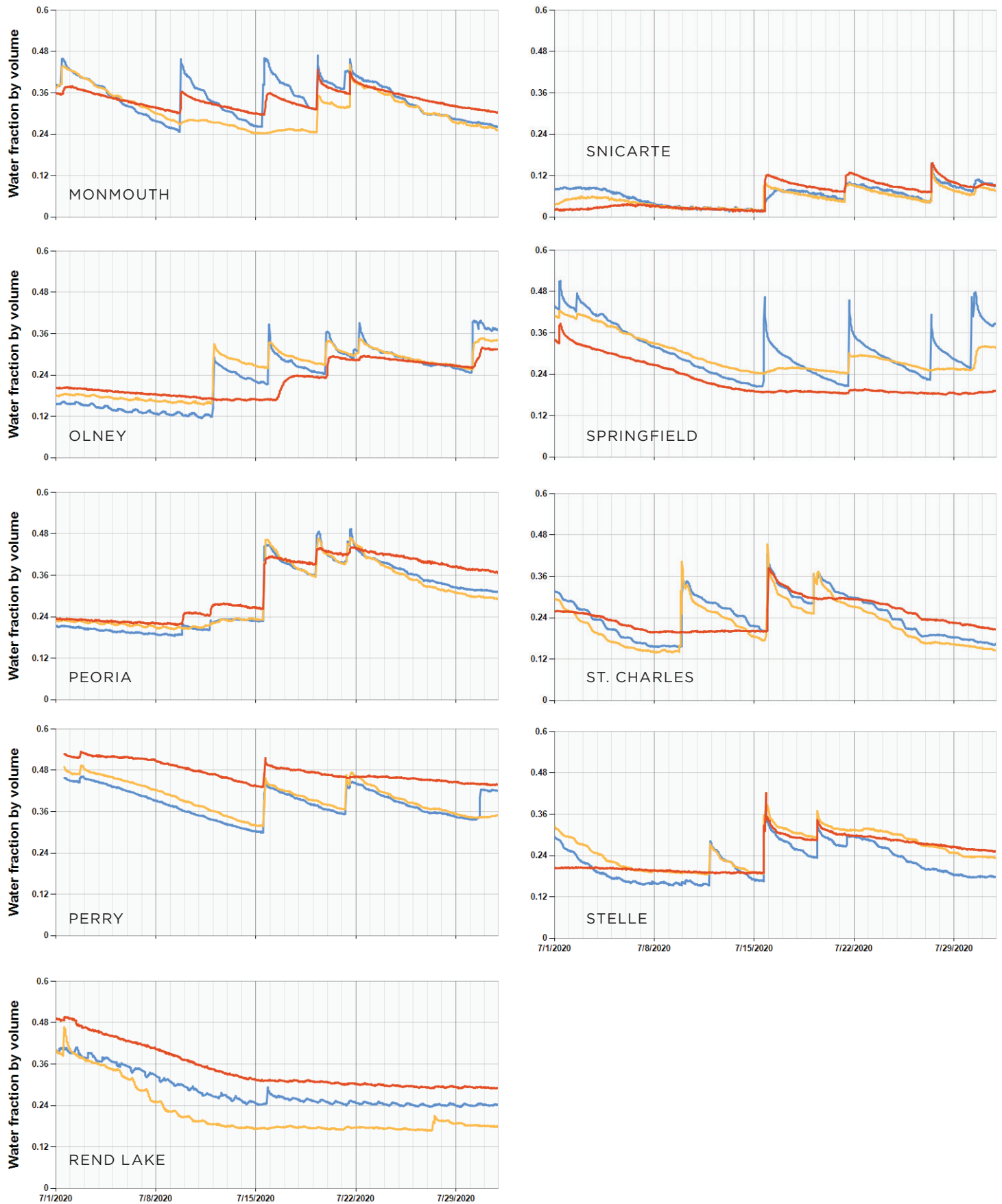


Figure 5. July soil moisture levels at ICN stations: — 2 in, — 4 in, and — 8 in



# 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.

The Mississippi River reached local flood stages at locations downstream of Quincy to the Illinois River in early July, as did the lowermost reach of the Illinois River.

**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 July (approximately 220 percent of the median) and above the mean for July (approximately 145 percent of the mean). Monthly mean discharge values ranged from normal to much above normal for July.

**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-June water levels at 22 reservoirs for which levels were reported last month and this month, reported end-of-July water levels were lower at 8 reservoirs, higher at 9 reservoirs, and about the same as last month at 5 reservoirs. For the 24 reservoirs with measurements reported at the end of July, water levels were below the normal target pool or spillway level at 5 reservoirs, above the normal target pool or spillway level at 11 reservoirs, and at about the full pool level at 8 reservoirs.

**Major Reservoirs.** Compared to water levels at the end of June, at the end of July the water level at Lake Shelbyville was 2.3 feet lower, Carlyle Lake was 0.9 feet higher, and Rend Lake was 0.8 feet lower. At the end of July, Lake Shelbyville was 6.8 feet above the summer target level, Carlyle Lake was 1.7 feet above the summer target level, and Rend Lake was 1.8 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 July 2020 mean level for Lake Michigan was 582.2 feet. The monthly mean level one year ago (July 2019) was 581.9 feet. The long-term average lake level for July is 579.4 feet, based on 1918–2019 data. In this period of record, the lowest mean level for Lake Michigan for July occurred in 1964 at 576.7 feet, and the highest mean level for July occurred in 1986 at 582.0 feet. The month-end level of Lake Michigan was 582.2 feet. All values are provided by the U.S. Army Corps of Engineers Detroit District.

**Table 3. Peak Stages for Major Rivers during July 2020**

River	Station	River mile*	Flood stage (feet)*	Peak stage (feet)**	Date
Illinois	Morris	263.1	16	9.2	01
	La Salle	224.7	20	16.8	01
	Peoria	164.6	18	12.7	22
	Havana	119.6	14	12.3	04
	Beardstown	88.6	14	13.0	04
	Hardin	21.5	25	25.2	02
Mississippi	Dubuque	579.9	17	11.8	10
	Keokuk	364.2	16	12.7	01
	Quincy	327.9	17	16.9	02
	Grafton	218.0	18	19.4	03
	St. Louis	180.0	30	23.1	05
	Chester	109.9	27	25.7	05
	Thebes	43.7	33	29.3	04
Ohio	Cairo	2.0	40	35.0	04

**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, July 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	7,318	4,311	3,089	above normal	15	31
Rock River near Joslin	9,549	80	10,182	6,807	5,133	above normal	21	31
Pecatonica River at Freeport	1,326	105	1,817	991	742	above normal	11	31
Green River near Geneseo	1,003	84	600	623	442	normal	35	31
Edwards River near New Boston	445	85	191	318	191	normal	50	31
Kankakee River at Momence	2,294	106	1,493	1,576	1,382	normal	41	31
Iroquois River near Chebanse	2,091	97	1,300	1,377	749	normal	31	31
Fox River at Dayton	2,642	105	2,325	1,455	1,058	above normal	20	31
Vermilion River at Pontiac	579	77	248	339	176	normal	42	31
Spoon River at Seville	1,636	105	845	1,045	689	normal	40	31
LaMoine River at Ripley	1,293	99	1,296	806	342	above normal	18	31
Bear Creek near Marceline	349	76	964	253	72	much above normal	9	31
Mackinaw River near Congerville	767	75	1,234	379	225	much above normal	6	31
Salt Creek near Greenview	1,804	78	798	1,251	868	normal	53	31
Sangamon River at Monticello	550	111	158	301	167	normal	52	31
South Fork Sangamon near Rochester	867	71	422	375	208	above normal	29	31
Illinois River at Valley City	26,743	81	26,229	23,309	19,910	normal	34	31
Macoupin Creek near Kane	868	92	765	346	131	above normal	14	31
Vermilion River near Danville	1,290	99	616	786	519	normal	46	31
Kaskaskia River at Vandalia	1,940	50	1,903	1,373	1,271	normal	40	31
Shoal Creek near Breese	735	77	615	329	141	above normal	20	31
Embaras River at Ste. Marie	1,516	108	1,914	780	506	much above normal	10	31
Skillet Fork at Wayne City	464	104	680	177	70	much above normal	8	31
Little Wabash River below Clay City	1,131	105	2,115	512	273	much above normal	5	31
Big Muddy River at Plumfield	794	49	553	504	399	normal	33	31
Cache River at Forman	244	96	645	105	40	much above normal	4	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, July 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	June reported pumpage (million gallons)
Altamont	Effingham	582.0	-0.1	+0.7	-1.3	34	7.3
Bloomington	McLean	719.5	+0.1	-0.1	-1.0	33	N/A
Carlinville	Macoupin	571.1	0.0	0.0	-0.7	34	24.0
Carlyle <sup>(1)</sup>	Clinton	445.0	+1.7	+0.9	+1.4	42	N/A
Decatur <sup>(1,3)</sup>	Macon	614.3	+0.1	+0.1	-0.3	36	1,067.4
Evergreen <sup>(4)</sup>	Woodford	720.0	0.0	+0.5	-1.6	30	N/A
Glenn Shoals <sup>(2)</sup>	Montgomery	590.0	N/A	N/A	-0.6	23	w/Hillsboro
Highland	Madison	500.0	+0.3	+0.4	-0.3	31	37.3
Hillsboro <sup>(2)</sup>	Montgomery	589.0	N/A	N/A	-0.3	23	N/A
Jacksonville <sup>(2)</sup>	Morgan	644.0	N/A	N/A	-0.4	20	w/Mauvaise Terre
Kinkaid	Jackson	420.0	-1.3	-1.7	-0.3	31	52.5
Lake of Egypt	Williamson	500.0	0.0	-1.7	-0.4	25	N/A
Mattoon	Coles	632.0	0.0	0.0	-0.4	26	w/Paradise
Mauvaise Terre <sup>(2)</sup>	Morgan	588.5	N/A	N/A	-0.2	22	no meter
Mt. Olive (new)	Macoupin	600.0	0.0	N/A	-0.4	6	w/Mt. Olive (old)
Mt. Olive (old)	Macoupin	654.0	0.0	N/A	-0.9	23	5.8
Pana	Christian	641.6	+0.1	0.0	-0.7	36	N/A
Paradise	Coles	685.0	0.0	0.0	-0.4	29	64.0
Paris (east) <sup>(5)</sup>	Edgar	660.0	+0.3	+0.1	-0.1	10	Not PWS
Paris (west) <sup>(5)</sup>	Edgar	660.1	+0.3	+0.1	-0.1	10	w/Paris (east)
Raccoon <sup>(1)(5)</sup>	Marion	477.0	+0.5	+0.2	+0.1	12	100.1
Rend	Franklin	405.0	+1.8	-0.8	+1.8	42	N/A
Salem <sup>(3)</sup>	Marion	546.5	-0.1	+0.1	-0.8	25	32.4
Shelbyville <sup>(1)</sup>	Shelby	599.7	+6.8	-2.3	+3.1	42	Not PWS
Sparta <sup>(3)</sup>	Randolph	497.0	N/A	N/A	-1.3	22	N/A
Spring <sup>(3,4)</sup>	McDonough	654.0	-0.1	-0.4	-0.4	36	47.1
Springfield <sup>(1,3)</sup>	Sangamon	560.0	+0.1	-0.2	-0.6	36	746.0
Taylorville	Christian	590.0	-0.2	-0.1	-0.3	27	50.3
Vermilion <sup>(4)</sup>	Vermilion	581.7	0.0	0.0	-0.3	34	209.0

**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 August 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 July. Levels averaged 0.91 feet above average and ranged from 1.77 feet below to 3.40 feet above normal levels (Table 6).

**Comparison to June 2020.** Shallow groundwater levels were below those of the previous month. Levels averaged 0.08 feet below and ranged from 2.41 feet below to 2.97 feet above June 2020 levels.

**Comparison to July 2019.** Shallow groundwater levels in July were below levels from one year ago. Levels averaged 1.55 feet below and ranged from 3.55 feet below to 3.36 feet above July 2019 levels.

**Table 6. Month-End Shallow Groundwater Level Data Sites, July 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	3.46	0.95	-0.87	0.86	0.50
Bondville	Champaign	21.00	6.12	-0.87	-1.32	-0.63	0.24
Bondville (ICN)	Champaign	20.00	4.77	-0.21	-0.26	-0.78	-1.05
Boyleston	Wayne	23.00	5.07	-0.03	0.37	1.73	1.71
Brownstown	Fayette	15.00	0.01	2.68	2.76	2.97	1.20
Carbondale	Jackson	26.00	6.08	-0.17	-0.19	-0.90	-1.66
Coffman	Pike	28.00	11.00	0.46	1.29	-1.56	1.50
Crystal Lake	McHenry	18.00	3.75	0.14	1.04	-0.43	-0.20
DeKalb	DeKalb	25.00	5.06	-1.72	-1.77	-0.92	-0.93
Fairfield	Wayne	21.00	3.82	1.79	1.75	0.67	-0.57
Fermi Lab	DuPage	15.00	8.15	-1.07	-0.76	-0.49	-0.56
Freeport	Stephenson	26.00	16.03	0.05	0.04	-2.41	-2.60
Galena	JoDaviess	25.00	19.03	-0.31	1.35	-0.63	-0.50
Good Hope	McDonough	30.00	5.46	0.29	1.39	-0.72	-0.29
Greenfield	Greene	21.00	11.80	0.65	0.22	-1.73	0.09
Janesville	Coles	11.00	2.42	3.11	3.40	2.86	3.36
Monmouth	Warren	27.00	9.76	-0.60	-0.62	-0.40	-0.49
Mt. Morris	Ogle	55.00	15.95	-0.27	1.34	-1.92	-1.36
Olney	Richland	19.00	3.22	0.99	0.96	1.28	-0.15
Perry	Pike	20.00	4.84	1.74	1.62	-0.56	-0.98
Rend Lake	Jefferson	21.00	3.37	1.13	1.09	-0.56	0.44
SE College	Saline	11.00	5.43	1.00	1.07	-0.34	0.82
Snicarte	Mason	42.00	37.29	-0.50	-0.68	0.67	0.42
Sparta	Randolph	27.00	4.98	1.89	2.59	1.83	N/A
Springfield	Sangamon	20.00	5.46	-0.29	0.62	-0.95	-1.94
St. Charles	Kane	21.00	18.60	2.04	2.60	-1.94	-3.55
St. Peter	Fayette	15.00	1.59	1.23	2.29	2.16	N/A
SWS #2	St. Clair	80.00	11.86	1.19	2.47	0.62	0.44
				<b>0.55</b>	<b>0.91</b>	<b>-0.08</b>	<b>-1.55</b>

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>

## ILLINOIS STATE WATER SURVEY

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