

ILLINOIS WATER AND CLIMATE SUMMARY

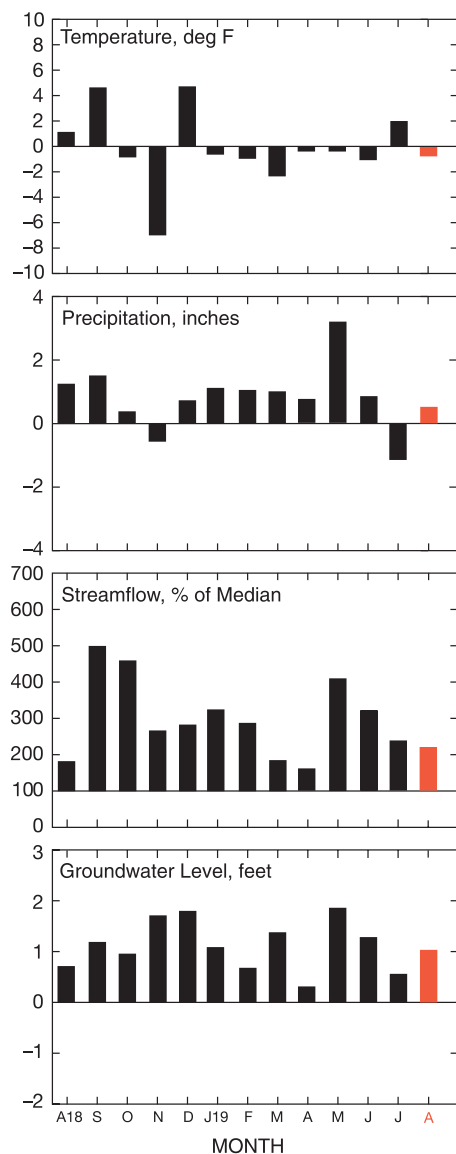


Figure 1. Statewide departures from normal.

AUGUST 2019 OVERVIEW

Temperatures were below and precipitation was above 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 73.0°F in August, 0.6° below the long-term average (Figure 1). The southwest crop reporting district (CRD) was the warmest with an average of 76.4°F. The lowest regional temperature was 70.7°F, reported by the northwest CRD.

Precipitation averaged 3.97 inches, 0.38 inches above the long-term average (Figure 1). The west-southwest CRD was the wettest with an average of 5.88 inches. The driest was the east CRD with 2.13 inches.

Soil moisture increased 12 to 20% at the 2- to 8-inch depths while remaining relatively steady at depths of 20 inches and greater.

Mean provisional streamflow aggregated statewide was above the long-term median flow for August, about 215% of median (Figure 1). Monthly mean discharge values ranged primarily from normal to above normal for August.

Water surface levels at the end of August were below the full pool or target level at 11 of 22 reporting reservoirs. At the end of August, Rend Lake was 1.8 feet above the spillway level, Lake Shelbyville was 1.6 feet above the seasonal target level, and Carlyle Lake was 5.1 feet above the seasonal target level. Lake Michigan's mean level was above its long-term mean for the month.

Shallow groundwater levels statewide were above normal this month with an average departure of 1.01 feet from the period of record (Figure 1). An increase of 0.53 feet in departures was observed from the deviation in normal groundwater levels between July and August. Levels averaged 0.38 feet below July 2019 and 0.72 feet above August 2018 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 slightly cooler than average. Precipitation was mixed across the state and generally drier than average along and north of Interstate 74 and south of Interstate 64, but wetter than average between those two interstates.

Temperatures averaged 73.0°F, or 0.6° below the long-term average (Table 1a, Figure 2a). Generally, the northern and western parts of the state had slightly larger departures below average up to a degree or so, and the southernmost part of the state was closer to average. Monthly highs were generally in the upper 80s to mid-90s with the warmest reading of the month, 98°F, occurring in Pulaski County on August 20. Station minimum temperatures ranged from the upper 40s to the low 60s. The lowest temperature in August of 48°F occurred near Shabbona (DeKalb County) on August 2.

Growing degree days (DD, base 50°, from April 1) ranged from above 2100 in northern Illinois to just under 3300 in far southern Illinois (Figure 2b). The northern half of the state was below the long-term average by up to 100 DD, and the southern half of the state was above the long-term average by up to 100 DD.

Precipitation averaged 3.97 inches in August, 0.38 inches above the long-term average (Table 1a, Figure 2a). However, while the statewide value was relatively close to average, many areas were far from it, ranging from a couple of inches below average to several above, depending on location.

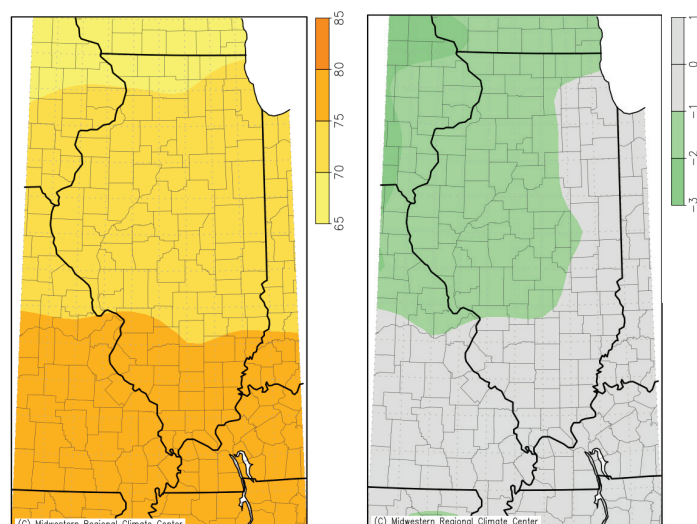
The driest parts of Illinois were the northern and far southern sections of the state, generally along and north of Interstate 74 and along and south of Interstate 64. Parts of

Table 1a. Temperature and Precipitation for August 2019

	Temp. (°F)	Departure from long- term avg. (1981-2010)	Precip. (in)	Departure from long- term avg. (1981-2010)
Illinois	73.0	-0.6	3.97	+0.38
CRD 1 (northwest)	70.7	-0.7	3.88	-0.40
CRD 2 (northeast)	71.0	-0.5	3.13	-0.95
CRD 3 (west)	72.8	-0.8	3.93	+0.15
CRD 4 (central)	72.4	-0.5	3.72	+0.07
CRD 5 (east)	71.9	-0.4	2.13	-1.50
CRD 6 (west southwest)	73.7	-1.1	5.88	+2.58
CRD 7 (east southeast)	73.7	-0.8	5.06	+1.85
CRD 8 (southwest)	76.4	0.0	3.45	+0.37
CRD 9 (southeast)	75.9	-0.2	3.66	+0.55

Data from NOAA's National Centers for Environmental Information, accessed 9/6/2019.

AVERAGE TEMPERATURE (°F)
Aug 1, 2019 to Aug 31, 2019 Departure from average



ACCUMULATED PRECIPITATION (IN)
Aug 1, 2019 to Aug 31, 2019 Departure from average

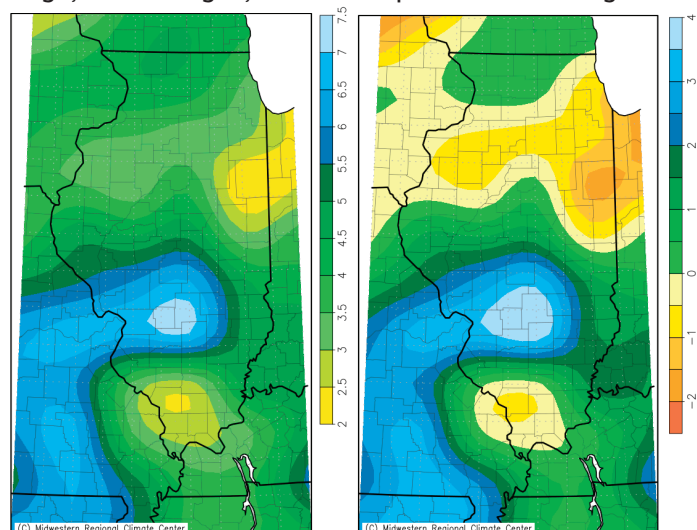


Figure 2a. Illinois temperature, precipitation, and their departures from average for August 2019.

Source: cli-MATE, Midwestern Regional Climate Center.

<http://mrcc.illinois.edu/CLIMATE>, accessed on September 6, 2019.

Table 1b. Temperature and Precipitation for Summer (June-Aug) 2019

	Temp. (°F)	Departure from long- term avg. (1981-2010)	Precip. (in)	Departure from long- term avg. (1981-2010)
Illinois	73.8	+0.1	12.11	+0.24
CRD 1 (northwest)	72.1	+0.6	11.00	-1.91
CRD 2 (northeast)	71.7	+0.3	11.55	-0.58
CRD 3 (west)	74.0	+0.4	10.57	-1.85
CRD 4 (central)	73.6	+0.5	10.00	-1.84
CRD 5 (east)	72.9	+0.2	9.33	-2.78
CRD 6 (west southwest)	74.4	-0.3	14.02	+2.61
CRD 7 (east southeast)	74.3	-0.2	14.81	+3.23
CRD 8 (southwest)	76.1	-0.1	13.66	+2.60
CRD 9 (southeast)	75.7	-0.2	13.43	+2.25

Data from NOAA's National Centers for Environmental Information, accessed 9/6/2019.

east-central Illinois were especially dry in August, with some areas in Vermilion and Iroquois Counties receiving less than an inch for the month. One station in Hoopeston (Vermilion County) received only 0.67 inches for the month, 3.39 inches below average.

The wettest part of the state was an area to the east and northeast of the St. Louis metro area. Many locations in this area saw August totals of 6 to 8 inches or even more locally, often 2 to 4 inches or higher above average. The highest monthly total of 14.28 inches was recorded near Patoka (Marion County). One storm on the morning of August 12 produced some exceptionally high local amounts of rain in this area, including two stations near Granite City (Madison County) reporting over 8 inches and Patoka reporting nearly 7 inches for that one day.

Summer: (June–August) was drier and slightly warmer than average in the northern part of Illinois, but wetter and slightly cooler than average in the southern part (Table 1b). Seasonal temperatures averaged 73.8°F statewide, 0.1° above the long-term average. Stations reported that seasonal highs were in the 90s, with many of these occurring during a strong heat wave that affected the entire state the third weekend of July. Seasonal lows typically ranged from the mid-40s to the mid-50s, with many of these occurring around Father’s Day weekend in June.

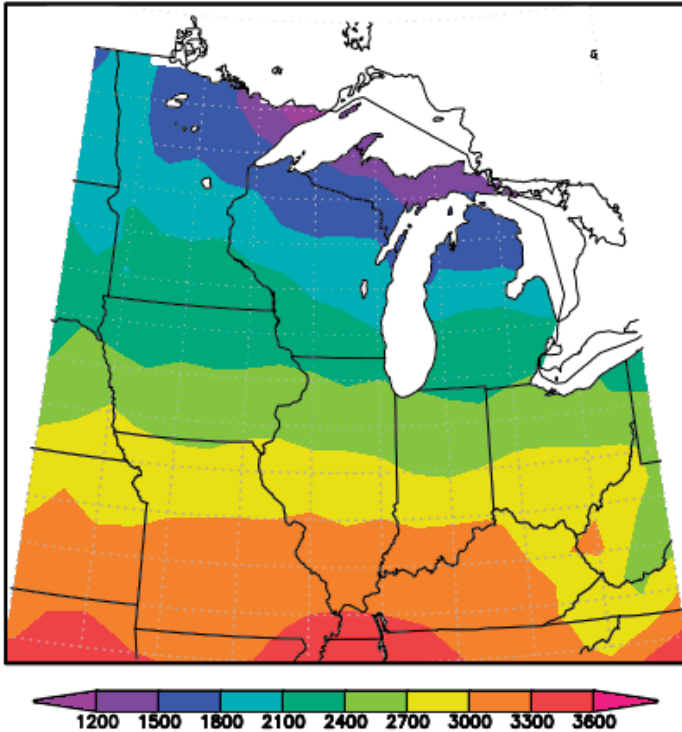
Summer precipitation averaged 12.11 inches, 0.24 inches above the long-term average. The season started wet in June in many areas coming off a wet spring and winter before drying out in northern Illinois by July. Many areas in the northern half of the state saw seasonal precipitation

2 to 4 inches or more below average with some locally higher departures. Cissna Park (Iroquois County) had one of the lowest summer totals with only 4.88 inches. On the other hand, many areas in the southern half of the state saw precipitation 2 to 5 inches or more above average, again with some locally higher departures. Patoka (Marion County) also had one of the highest summer precipitation totals with 27.04 inches.

Severe weather: The NOAA Storm Prediction Center recorded 91 severe weather reports for August in Illinois, 2 for tornadoes (both in Christian County on August 12), 9 for hail, and 80 for wind. (Multiple reports can be generated for a single event.)

Drought: As the below average precipitation continued into August for the northern half of the state, the U.S. Drought Monitor classified parts of east central and northwest Illinois as in drought, starting with the August 13 map. This was the first time any part of the state had received this designation since September 2018, breaking the longest streak of consecutive weeks (48) with no drought anywhere in Illinois since the Drought Monitor began 20 years ago. These conditions also stand in sharp contrast to the first six months of 2019, which saw a new statewide record for precipitation. In the U.S. Drought Monitor’s August 27 report, 7.63% of the state was under moderate drought (Figure 4). The area listed as abnormally dry also grew in August to cover 28.71% of the state in the August 27 report, stretching from around the Quad Cities southeast to the Champaign and Danville areas.

TOTAL MGDD FROM 4/1/2019 TO 8/31/2019



MGDD DEPARTURE FROM 4/1/2019 TO 8/31/2019

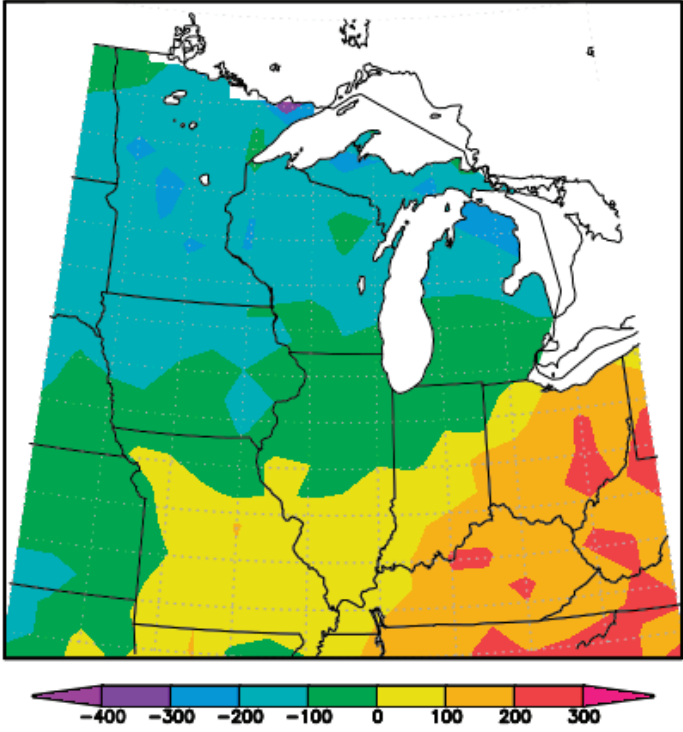


Figure 2b. Illinois growing degree days and departure from average through the end of August. Source: Midwestern Regional Climate Center. <http://mrcc.illinois.edu>, accessed on September 1, 2019.

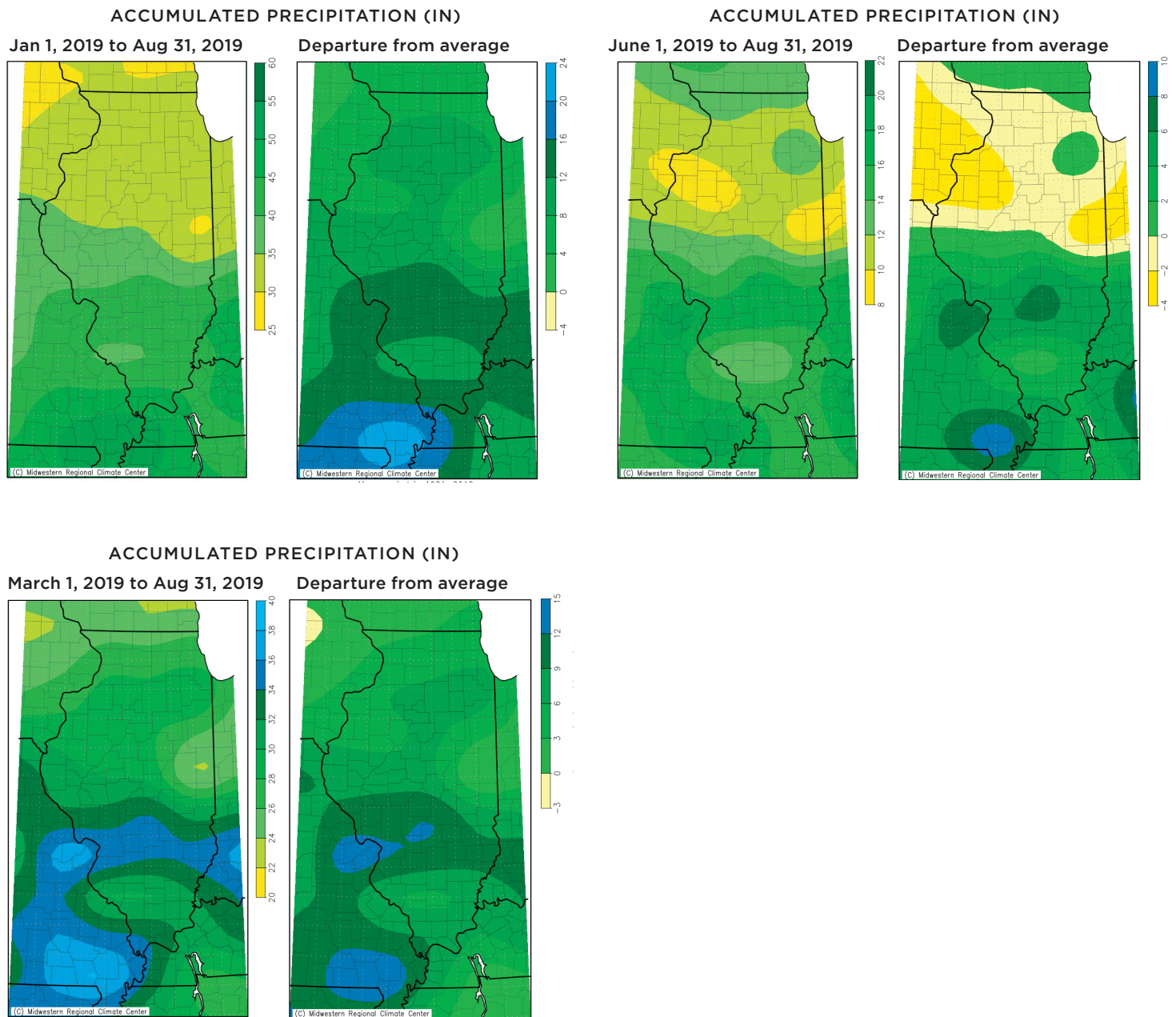
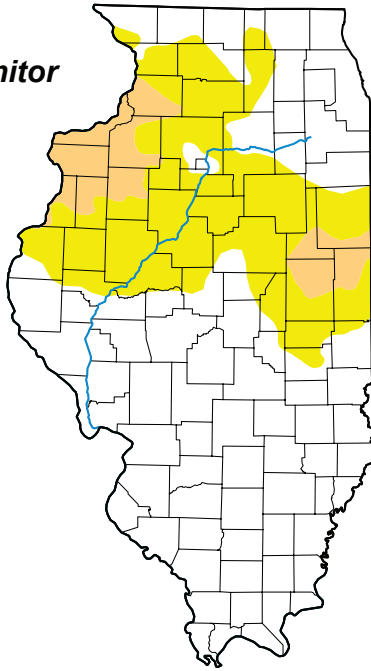


Figure 3. Illinois precipitation and precipitation departure from average for year to date (top left), last 3 months (top right), and last 6 months (bottom). Source: cli-MATE, Midwestern Regional Climate Center. <http://mrcc.illinois.edu/CLIMATE>, accessed on September 6, 2019.

U.S. Drought Monitor Illinois



August 27, 2019
(Released Thursday, Aug. 29, 2019)
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0	D1	D2	D3	D4
Current	63.65	28.71	7.63	0.00	0.00	0.00
Last Week 08-20-2019	57.86	34.63	7.51	0.00	0.00	0.00
3 Months Ago 05-28-2019	100.00	0.00	0.00	0.00	0.00	0.00
Start of Calendar Year 01-01-2019	100.00	0.00	0.00	0.00	0.00	0.00
Start of Water Year 09-25-2018	96.92	3.08	0.00	0.00	0.00	0.00
One Year Ago 08-28-2018	70.29	24.43	3.47	1.81	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. See accompanying text summary
for forecast statements.

Author:

Jessica Blunden
NCEI/NOAA



Figure 4. U.S. Drought Monitor report for Illinois. Source: U.S. Drought Monitor. Author: Jessica Blunden, NCEI/NOAA <http://droughtmonitor.unl.edu>, accessed on September 6, 2019.

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 fell to an average of 4.2 mph for the month, 0.3 mph lower than the network's long-term average. ICN Stelle had the highest monthly average with 6.3 mph. The highest wind gust was 46.7 mph, recorded at ICN Monmouth on August 20.

Air temperatures rose 1.4° over July to a network average of 72.6°, or 0.5° below the long-term average. Station highs were in the high 80s and low 90s with lows mainly in the 50s. The highest temperature was 94.0, recorded at ICN Rend Lake on August 19. The lowest was 48.3°, reported by ICN DeKalb on August 2.

Soil temperatures declined 3 to 5° from July to averages in the mid- to high 70s. For most of August, soil temperatures were declining, ending the month with network averages from 4 to 8° lower than in the beginning. Temperatures under bare soil ranged from 54.4 to 110.0° at depths of 2 inches and 60.7 to 102.5° at 4 inches. Under sod, temperatures ranged from 61.1 to 98.4° at 4 inches and 63.0 to 92.7° at 8 inches.

Precipitation was wetter overall, averaging 4.07 inches across the network, or 0.95 inches more than the long-term average. However, rainfall was uneven. Seven stations received less than normal amounts for the month. ICN Champaign had the lowest total with 2.08 inches, 55% of its long-term average for August. Other stations recorded significantly higher amounts. ICN Fairfield measured 8.60 inches, or 5.73 inches more than normal.

Soil moisture increased 12 to 20% in August at the 2- to 8-inch depths, ending the month with network averages of 0.26 to 0.28 water fraction by volume (wfv) (Figure 5). The largest increases were seen in southern Illinois with 4.80 inches of rain in August. Moisture levels remained relatively steady during the month with no significant changes.

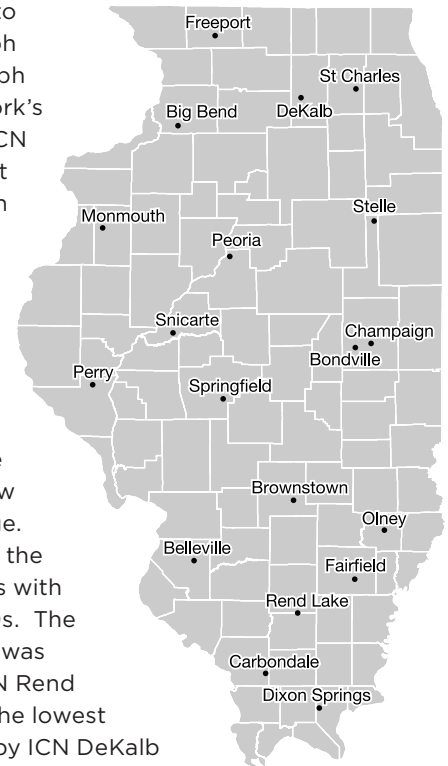


Table 2. Data from the Illinois Climate Network (ICN), August 2019

Station	Wind			Air Temperature (°F)			Total Solar Radiation (MJ/m²)
	Avg. Speed (mph)	Avg. Direction (°)	Max. Gust (mph)	Max.	Min.	Avg.	
Belleville	3.8	159.5	46.4	92.9	57.7	74.7	656.1
Big Bend	4.7	179.1	27.8	89.2	51.5	70.7	663.7
Bondville	6.0	186.1	40.0	88.3	51.9	71.2	685.8
Brownstown	4.1	162.1	37.3	90.5	57.9	73.5	639.9
Carbondale	3.7	201.0	45.9	93.5	56.5M	75.9	667.4
Champaign	2.7	174.4	35.3	91.8	54.1	73.5	630.2
DeKalb	4.7	192.0	30.8	87.3	48.3	68.9	690.8
Dixon Springs	2.2	183.7	24.3	93.6	53.6	74.5	660.6
Fairfield	4.3	161.6	38.2	90.3	57.0	74.6	663.3
Freeport	2.8	194.5	26.6	88.3	51.8	69.4	645.5
Monmouth	5.8	181.3	46.7	89.3	52.8	70.9	655.7
Olney	3.9	174.9	29.3	90.8	57.1	74.2	672.3
Peoria	5.0	176.2	34.2	89.9M	54.7M	72.9M	651.6
Perry	3.6	197.0	27.6	92.1	53.2	72.3	628.7
Rend Lake	3.0	179.6	32.1	94.0	54.7	76.0	631.4
Snicarte	5.4	178.2	43.5	91.3	53.0	72.3	636.4
Springfield	4.1	173.6	34.7	90.1M	57.6M	74.0M	648.9
St. Charles	4.2	169.9	28.5	87.9M	50.5M	70.0M	636.2
Stelle	6.3M	191.8M	33.7M	88.8M	50.7M	70.7M	656.9M

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	2" under Bare Soil	4" under Bare Soil
Belleville	82.6	5.97	68.4	5.47	75.8	75.0	82.0	77.1
Big Bend	79.3	3.86	62.9	5.35	78.5	77.0	81.9	79.8
Bondville	81.2	2.44	64.5	5.55	76.0	76.5	79.5	79.0
Brownstown	81.6	6.32M	67.0	5.25	75.6	73.0	76.8	76.6
Carbondale	85.0	2.77	70.4	5.58	78.8	76.9	79.4	79.2
Champaign	73.5	2.08	63.8	5.28	77.7	77.4	81.1	80.6
DeKalb	79.5	4.40	61.5	5.51	72.9	72.6	76.8	77.0
Dixon Springs	79.5	2.81	67.0	5.51	77.3	76.6	82.3	80.8
Fairfield	80.9	8.60	67.7	5.49	77.3	76.9	81.5	78.1
Freeport	79.5	4.29	62.0	5.15	75.8	73.3	76.1	75.7
Monmouth	81.3	3.85	64.1	5.32	75.8	74.8	77.9	78.5
Olney	79.6	4.84	66.8	5.57	78.0	77.9	79.4	79.8
Peoria	72.6M	3.07	62.7M	5.49M	77.5	74.0	77.5	76.5
Perry	82.7	4.38	66.1	5.09	76.9	76.3	78.9	78.3M
Rend Lake	75.8	2.22	66.9	5.46	82.9	83.0	81.7	81.3
Snicarte	76.2	4.08	63.7	5.32	81.2	80.6	82.9	80.9
Springfield	77.3M	5.63	65.9M	5.36M	78.6	77.2	79.9	79.4
St. Charles	75.0	3.03	60.7M	5.19M	73.9	72.4	76.5	76.5
Stelle	77.0	2.69M	62.5M	5.45M	74.1M	72.7M	78.7M	78.7M

M = Missing data.

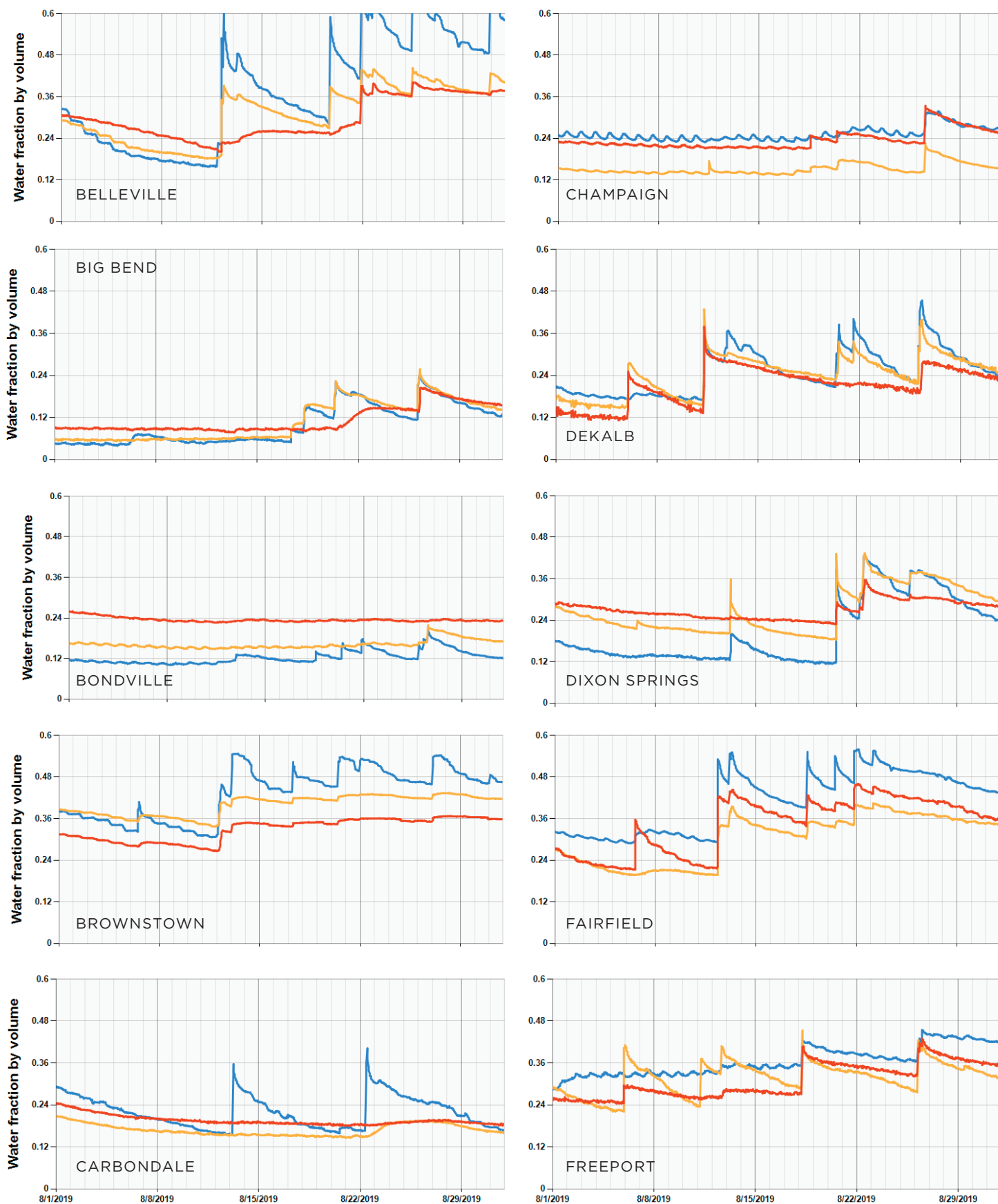


Figure 5. August soil moisture levels at ICN stations: — 2 in, — 4 in, and — 8 in

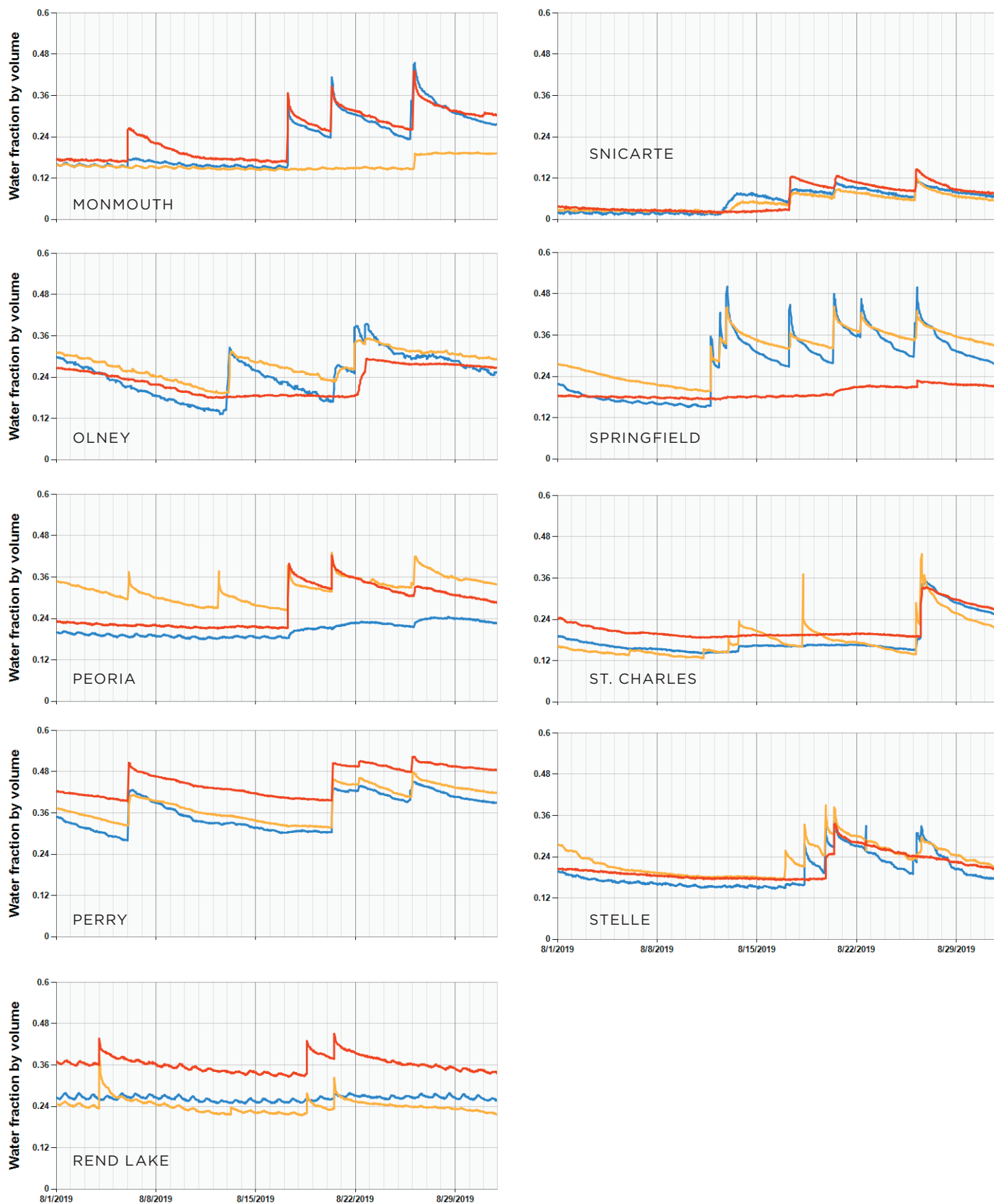


Figure 5. August soil moisture levels at ICN stations: — 2 in, — 4 in, and — 8 in

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 26 streamgaging stations located throughout Illinois are shown in Table 4. Mean values posted by the USGS are listed if available; otherwise, daily mean discharge data posted by the USGS are used to estimate the mean flow for the month. Long-term mean flows for each month are published by the USGS. The month’s median flow for each station listed in Table 4 was determined by ranking the August mean flow for each year of record, and selecting the middle value, 50 percent exceedence probability.

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 215 percent of the median) and above the mean for August (approximately 125 percent of the mean). Monthly mean discharge values ranged primarily from normal to above normal for August. Some southern Illinois streamgages recorded monthly mean streamflows that were much above normal for August, and some central Illinois streamgages recorded below normal streamflows for the month.

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 11 reservoirs, and higher at 11 reservoirs. For the 22 reservoirs with measurements reported at the end of August, water levels were below normal target pool or spillway level at 11 reservoirs, above normal target pool or spillway level at 8 reservoirs, and at about full pool level at 3 reservoirs.

Major Reservoirs. Compared to water levels at the end of July, at the end of August the water level at Rend Lake was 0.9 feet lower, Lake Shelbyville was 3.9 feet lower, and Carlyle Lake was 1.8 feet higher. At the end of August, Rend Lake was 1.8 feet above the spillway level, Lake Shelbyville was 1.6 feet above the seasonal target level, and Carlyle Lake was 5.1 feet above the seasonal target level.

Great Lakes. Current month mean and end-of-month values are provisional and are relative to International Great Lakes Datum 1985. The August 2019 mean level for Lake Michigan was 581.8 feet. The monthly mean level one year ago (August 2018) was 580.5 feet. The long-term average lake level for August is 579.3 feet, based on 1918–2018 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 581.6 feet. All values are provided by the U.S. Army Corps of Engineers Detroit District.

Table 3. Peak Stages for Major Rivers during August 2019

River	Station	River mile*	Flood stage (feet)*	Peak stage (feet)**	Date
Illinois	Morris	263.1	16	6.3	19
	La Salle	224.7	20	12.9	19
	Peoria	164.6	18	12.4	various
	Havana	119.6	14	8.9	01
	Beardstown	88.6	14	10.2	02
	Hardin	21.5	25	22.1	01
Mississippi	Dubuque	579.9	17	14.3	01
	Keokuk	364.2	16	10.6	01
	Quincy	327.9	17	13.8	02
	Grafton	218.0	18	17.2	01
	St. Louis	180.0	30	26.5	01
	Chester	109.9	27	28.9	01
	Thebes	43.7	33	31.7	01
	Cairo	2.0	40	31.0	01
Ohio	Cairo	2.0	40	31.0	01

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 2019

Station	Drainage area (sq mi)	Years of record	2019 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	6363	82	5,136	3,159	2,609	above normal	11	31
Rock River near Joslin	9549	74	6,982	4,831	3,968	above normal	16	31
Pecatonica River at Freeport	1326	98	1,355	769	605	above normal	12	31
Green River near Geneseo	1003	79	439	402	252	above normal	23	31
Edwards River near New Boston	445	79	86	160	79	normal	46	31
Kankakee River at Momence	2294	100	1,339	1,154	942	above normal	26	31
Iroquois River near Chebanse	2091	93	188	500	257	normal	62	31
Fox River at Dayton	2642	98	1,555	1,042	683	above normal	17	31
Vermilion River at Pontiac	579	73	23	131	35	normal	60	31
Spoon River at Seville	1636	100	285	506	311	normal	53	31
LaMoine River at Ripley	1293	94	206	349	194	normal	49	31
Bear Creek near Marceline	349	73	89	97	50	normal	33	31
Mackinaw River near Congerville	767	72	110	165	62	normal	34	31
Salt Creek near Greenview	1804	75	380	636	364	normal	48	31
Sangamon River at Monticello	550	105	15	145	55	below normal	84	31
South Fork Sangamon near Rochester	867	67	151	205	53	normal	33	31
Illinois River at Valley City	26,743	78	9,987	13,880	11,802	normal	68	31
Macoupin Creek near Kane	868	88	299	196	71	above normal	18	31
Vermilion River near Danville	1290	95	93	398	165	below normal	70	31
Kaskaskia River at Vandalia	1940	47	1,634	907	591	above normal	22	31
Shoal Creek near Breese	735	73	1,523	186	66	much above normal	**	31
Embarras River at Ste. Marie	1516	103	200	402	170	normal	46	31
Skillet Fork at Wayne City	464	97	654	129	24	much above normal	7	31
Little Wabash below Clay City	1131	102	703	333	102	above normal	11	31
Big Muddy at Plumfield	794	46	313	298	220	normal	33	31
Cache River at Forman	244	93	28	72	25	normal	48	31

Notes:

Source streamflow data are obtained from the U.S. Geological Survey.

N/A = not available (due to ice or equipment problems).

*As reported in U.S. Geological Survey (USGS) Water Resources Data, Illinois, Water Year 2016.

** Highest monthly mean flow for August in the period of record of the streamgage.

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.

Table 5. Reservoir Levels in Illinois, August 2019

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	-0.4	+0.2	-1.9	35	7.8
Bloomington	McLean	719.5	-0.4	-0.4	-2.1	33	N/A
Carlinville	Macoupin	571.1	0.0	+1.2	-1.0	34	27.6
Carlyle ⁽¹⁾	Clinton	445.0	+5.1	+1.8	+0.3	41	N/A
Decatur ^(1,3)	Macon	614.3	-0.5	-0.5	-0.7	35	1,150.1
Evergreen ⁽⁴⁾	Woodford	720.0	-2.0	-1.0	-2.4	29	N/A
Glenn Shoals ⁽²⁾	Montgomery	590.0	N/A	N/A	-0.6	24	w/Hillsboro
Highland	Madison	500.0	+1.1	+1.2	-0.5	31	36.2
Hillsboro ⁽²⁾	Montgomery	589.0	N/A	N/A	-0.4	24	40.7
Jacksonville ⁽²⁾	Morgan	644.0	N/A	N/A	-0.5	20	w/Mauvaise Terre
Kinkaid	Jackson	420.0	-0.4	-0.1	-0.5	31	47.6
Lake of Egypt	Williamson	500.0	N/A	N/A	-0.8	25	N/A
Mattoon	Coles	632.0	-1.0	-0.5	-0.5	23	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	N/A	N/A	-1.1	21	4.9
Pana	Christian	641.6	+0.1	+0.3	-1.1	34	N/A
Paradise	Coles	685.0	-0.3	-0.3	-0.6	28	73.0
Paris (east)	Edgar	660.0	+0.1	+0.1	-0.5	34	Not PWS
Paris (west)	Edgar	660.1	+0.1	+0.1	0.1	24	w/Paris (east)
Raccoon ⁽¹⁾	Marion	477.0	+0.3	-0.3	N/A	N/A	99.2
Rend	Franklin	405.0	+1.8	-0.9	+1.1	41	N/A
Salem ⁽³⁾	Marion	546.5	-0.5	+0.2	-0.9	24	25.5
Shelbyville ⁽¹⁾	Shelby	599.7	+1.6	-3.9	+0.3	41	Not PWS
Sparta ⁽³⁾	Randolph	497.0	0.0	+0.7	-1.5	18	N/A
Spring ^(3,4)	McDonough	654.0	0.0	+0.1	-0.6	35	64.7
Springfield ^(1,3)	Sangamon	560.0	-0.1	+0.1	-1.2	35	778.0
Taylorville	Christian	590.0	-0.3	-0.4	-0.5	26	63.4
Vermilion ⁽⁴⁾	Vermilion	581.7	-0.4	-0.1	-0.4	34	218.2

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.

Groundwater Information

— JENNIE ATKINS

Comparison to Period of Record. Shallow groundwater levels in 13 observation wells, which are remote from pumping centers, were above normal for the month of August. Levels averaged 1.01 feet above normal and ranged from 1.81 feet below to 3.50 feet above normal levels (Table 6).

Comparison to July 2019. Shallow groundwater levels were below those of the previous month. Levels averaged 0.38 feet below and ranged from 2.24 feet below to 2.25 feet above July levels.

Comparison to August 2018. Shallow groundwater levels in August were above levels from one year ago. Levels averaged 0.72 feet above and ranged from 3.32 feet below to 7.38 feet above August 2018 levels.

Table 6. Month-End Shallow Groundwater Level Data Sites, August 2019

No.	Well name	County	Well depth (feet)	This month's reading (depth to water, feet)	Deviation from			
					15-year avg. level (feet)	Period of record avg. (feet)	Previous month (feet)	Previous year (feet)
1	Galena	JoDaviess	25.00	19.40	0.23	1.46	-0.87	-0.01
2	Mt. Morris	Ogle	55.00	16.83	0.51	1.49	-2.24	NA
3	Crystal Lake	McHenry	18.00	4.25	0.28	1.05	-0.70	0.07
4	Fermi Lab	DuPage	15.00	8.07	0.20	0.03	-0.48	0.11
5	Good Hope	McDonough	30.00	6.05	1.00	2.17	-0.88	1.02
6	Snicarte	Mason	42.00	37.23	0.26	-0.16	0.48	-2.12
7	Coffman	Pike	28.00	10.25	2.78	3.44	2.25	7.38
8	Greenfield	Greene	20.70	13.94	0.63	0.30	-2.05	2.15
9	Janesville	Coles	11.00	6.13	0.32	0.25	-0.35	-0.51
10	St. Peter	Fayette	15.00	NA	NA	NA	NA	NA
11	SWS #2	St. Clair	80.00	11.44	2.31	3.50	0.86	0.89
12	Boyleston	Wayne	23.00	6.36	-0.24	0.09	0.42	NA
13	Sparta	Randolph	27.00	NA	NA	NA	NA	NA
14	SE College	Saline	11.00	6.12	1.58	1.35	0.13	2.29
15	Bondville	Champaign	21.00	7.37	-1.33	-1.81	-1.49	-3.32
Averages					0.66	1.01	-0.38	0.72

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>

NCDC - National Climatic Data Center, <http://www.ncdc.noaa.gov>

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

WWW.ISWS.ILLINOIS.EDU

2204 Griffith Drive
Champaign, IL 61820
(217) 333-2210