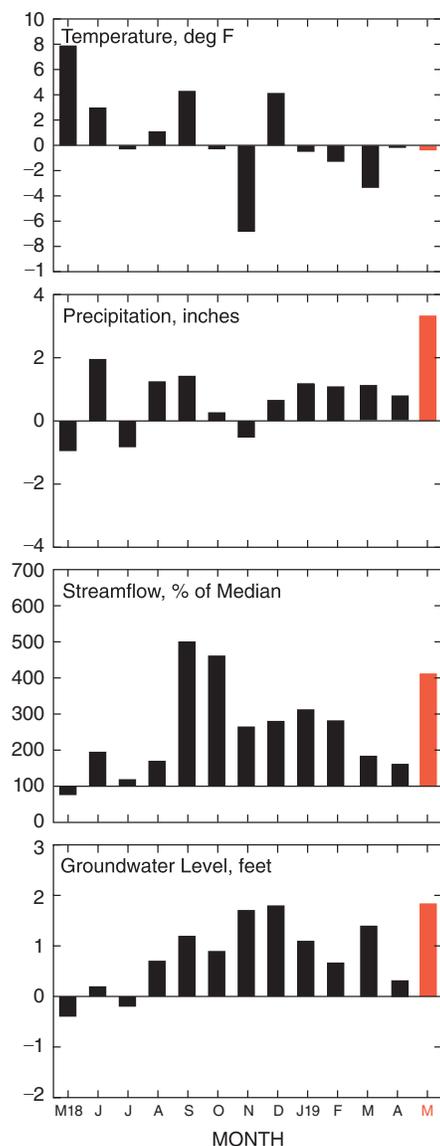


## ILLINOIS WATER AND CLIMATE SUMMARY



**Figure 1. Statewide departures from normal.**

### MAY 2019 OVERVIEW

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

**Air temperatures** averaged 62.5°F in May, 0.2° below the long-term average (Figure 1). The southeast crop reporting district (CRD) was the warmest with an average of 67.3°F. The lowest regional temperature was 57.7° reported by the northeast CRD.

**Precipitation** averaged 7.93 inches, 3.33 inches above the long-term average (Figure 1). The west CRD was the wettest with an average of 10.44 inches. The driest was the east-southeast CRD with 6.51 inches.

**Soil moisture** remained high in May as wet weather continued. Moisture levels declined an average of 7% at 2- and 4-inch depths but still ended the month near or above field capacity for most of the soils monitored.

**Mean provisional streamflow** aggregated statewide was above the long-term median flow for May, about 410% of median (Figure 1). Monthly mean discharge values ranged from above normal to much above normal for May. Monthly mean streamflow values at several gage locations exceeded mean flows recorded in all previous years for the month of May in the respective periods of streamflow record. Illinois River water levels were above the local flood stages throughout May from Havana downstream to the Mississippi River and for nearly the entire month between Ottawa and Havana. The Mississippi River remained above the local flood stages throughout May from Rock Island to the Ohio River and exceeded the local flood stages above Rock Island during parts of the month. The Ohio River remained above the flood stage at Cairo throughout the month.

**Water surface levels** at the end of May were below the full pool or target level at 3 of 26 reporting reservoirs. At the end of May, Lake Shelbyville was 3.3 feet above the summer target level, Carlyle Lake was 5.0 feet above the summer target level, and Rend Lake was 5.2 feet above the spillway level. Lake Michigan's mean level was above its long-term mean for the month.

**Shallow groundwater levels** statewide were above normal this month with an average departure of 1.92 feet from the period of record (Figure 1). An increase of 1.70 feet in departures was observed from the deviation in normal groundwater levels between April and May. Levels averaged 0.29 feet below April 2019 and 1.72 feet above May 2018 levels.

# Weather/Climate Information

— BRIAN KERSCHNER

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

May in Illinois was exceptionally wetter and slightly cooler than average.

**Temperatures** averaged 62.5°F, 0.2° below the long-term average (Table 1a, Figure 2a). The northern third of the state generally saw temperature departures of a degree or two below average, while the southern third of the state reported a degree or two above average, with near average conditions in central Illinois. Monthly highs were generally in the 80s to low 90s with the warmest reading of the month, 93°F, occurring at the Kaskaskia River Navigation Lock (Randolph County) on May 26. Station minimum temperatures ranged from the 30s into the upper 40s. May's lowest temperature was 31°F reported at the Chicago Botanic Garden (Cook County) on May 4.

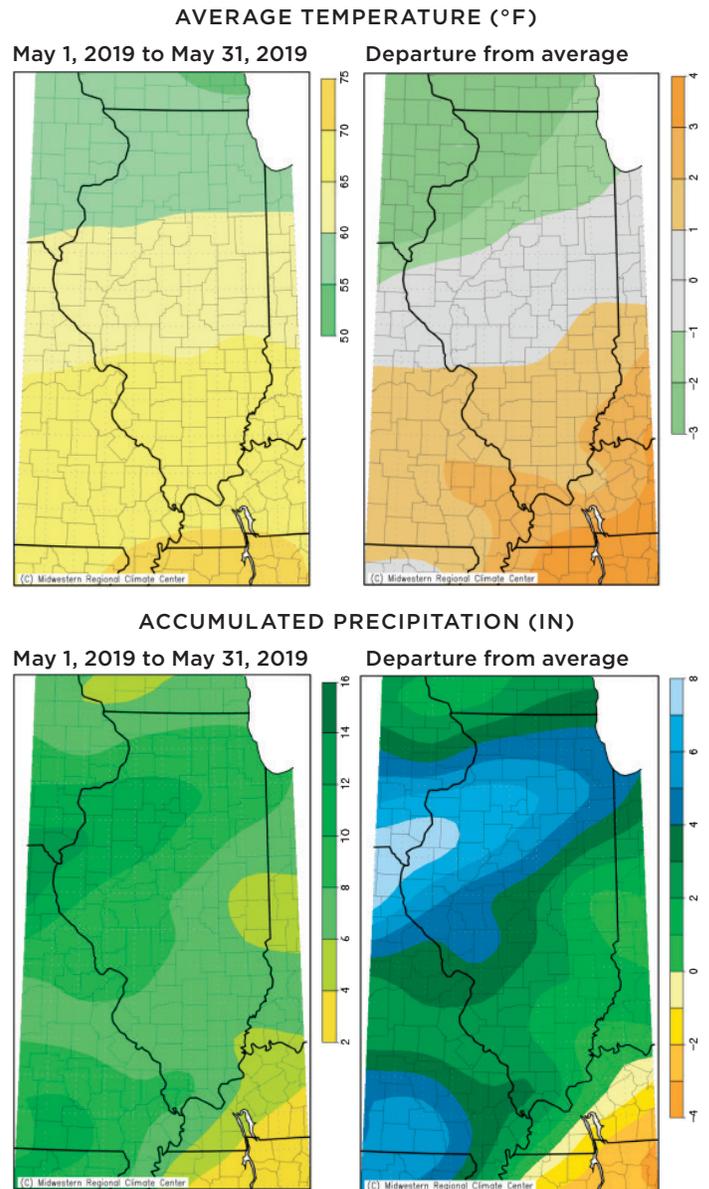
**Growing degree days** (DD, base 50°, from April 1) ranged from near 400 in northern Illinois to above 900 DD in the south (Figure 2b). This is approximately 150 DD below average for areas in northwestern Illinois and nearing the long-term average in the south.

**Precipitation** was significantly above normal for the month, averaging 7.93 inches or 3.33 inches above the long-term average (Table 1a, Figure 2a). This marked six consecutive months of above average statewide precipitation and ranked May 2019 as the 4th wettest May in state history. Numerous stations set all-time monthly precipitation records for May, including Chicago O'Hare with a reading of 8.25 inches, beating the 8.21-inch reading from May 2018. The month's largest reported total was

**Table 1a. Temperature and Precipitation for May 2019**

	Temp. (°F)	Departure from long-term avg. (1981-2010)	Precip. (in)	Departure from long-term avg. (1981-2010)
Illinois	62.5	-0.2	7.93	+3.33
CRD 1 (northwest)	58.1	-2.3	8.7	+4.51
CRD 2 (northeast)	57.7	-2.0	8.60	+4.47
CRD 3 (west)	61.1	-1.4	10.44	+5.78
CRD 4 (central)	62.3	0.0	8.20	+3.82
CRD 5 (east)	61.4	-0.4	7.10	+2.77
CRD 6 (west southwest)	64.1	+0.3	7.87	+3.25
CRD 7 (east southeast)	64.8	+1.0	6.51	+1.62
CRD 8 (southwest)	67.1	+1.6	6.80	+1.69
CRD 9 (southeast)	67.3	+2.0	7.11	+1.81

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



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

Source: cli-MATE, Midwestern Regional Climate Center. <http://mrcc.illinois.edu/CLIMATE>, accessed on June 6, 2019.

**Table 1b. Temperature and Precipitation for Spring (March-May) 2019**

	Temp. (°F)	Departure from long-term avg. (1981-2010)	Precip. (in)	Departure from long-term avg. (1981-2010)
Illinois	50.8	-1.4	16.54	+5.21
CRD 1 (northwest)	46.8	-2.4	15.51	+5.45
CRD 2 (northeast)	46.7	-2.1	15.25	+5.33
CRD 3 (west)	49.9	-1.9	18.08	+6.98
CRD 4 (central)	50.4	-1.2	16.57	+5.90
CRD 5 (east)	49.4	-1.6	15.05	+4.45
CRD 6 (west southwest)	52.3	-1.3	17.17	+5.85
CRD 7 (east southeast)	52.5	-1.1	16.41	+4.27
CRD 8 (southwest)	55.5	-0.4	17.28	+4.15
CRD 9 (southeast)	55.3	-0.4	18.05	+4.24

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

14.75 inches, which occurred at a station near Dallas City (Hancock County).

**Spring** (March–May) temperatures averaged 50.8°F, -1.4° below the long-term average (Table 1b). Stations reported that seasonal highs were in the 80s and 90s with lows in the -10s to single digits, which occurred during the early March Arctic air outbreak.

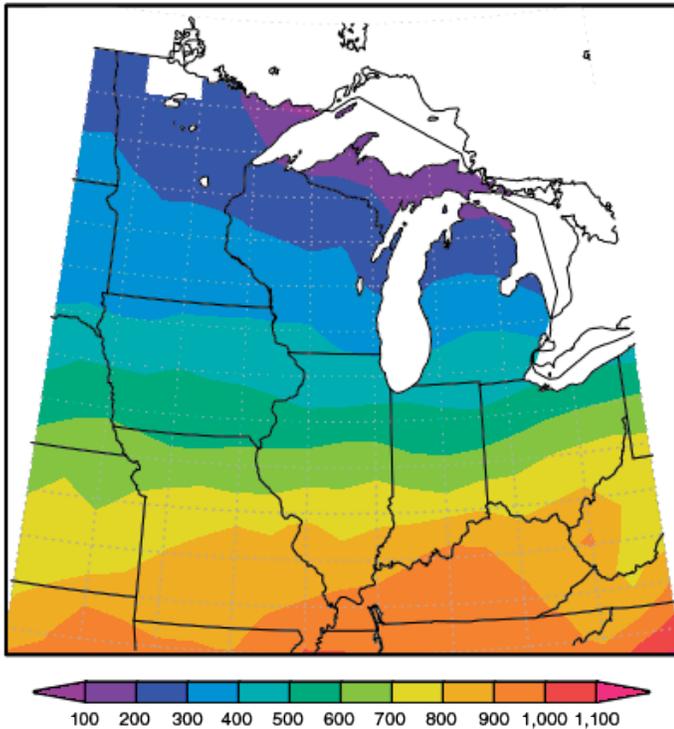
Seasonal precipitation averaged 16.54 inches, 5.21 inches above the long-term average, ranking spring 2019 as the 4th wettest spring in state history (Figure 3). The heaviest precipitation fell in large regions of west-central

and northern Illinois, where seasonal departures of 6 to 8 inches above average were common, with several localities reporting 8 to 10 inches above average.

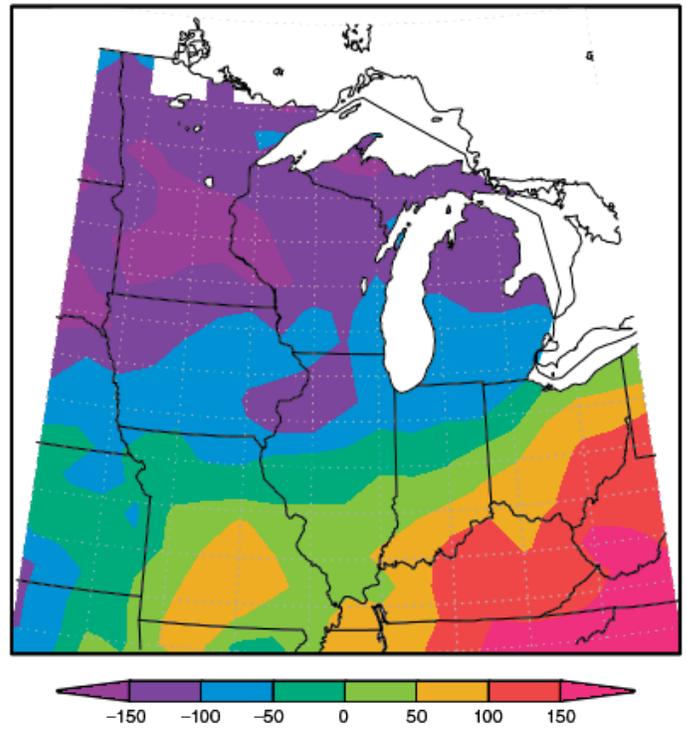
**Severe weather:** The NOAA Storm Prediction Center recorded 218 severe weather reports for the month, 20 for tornadoes, 52 for hail, and 146 for wind. (Multiple reports can be generated for a single event.)

**Drought:** Illinois remained drought free in May. The U.S. Drought Monitor’s May 28 map showed no part of the state listed in the drought or abnormally dry categories (Figure 4).

TOTAL MGDD FROM 4/1/2019 TO 5/31/2019

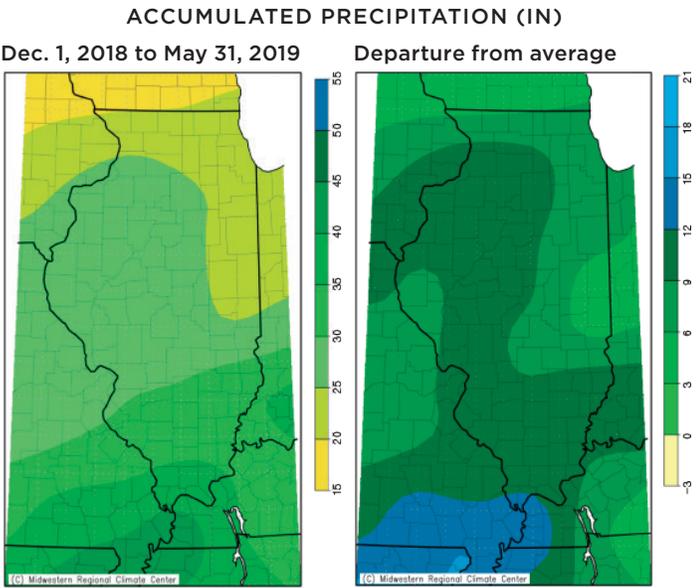
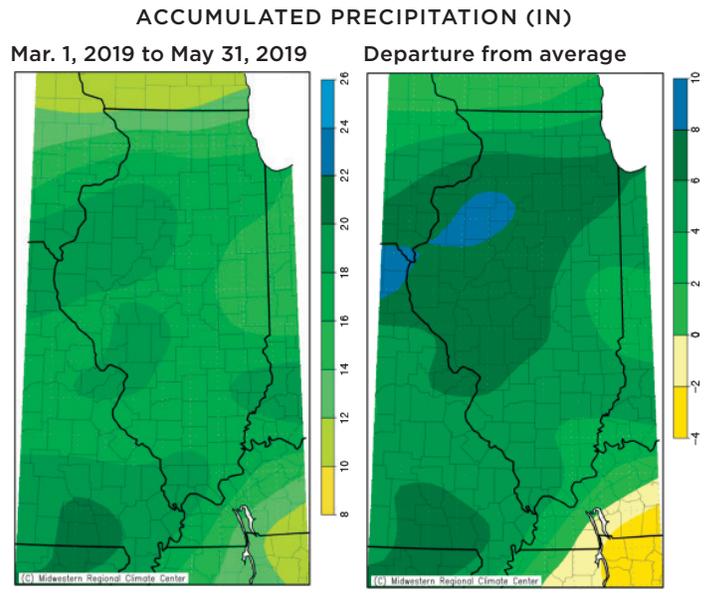
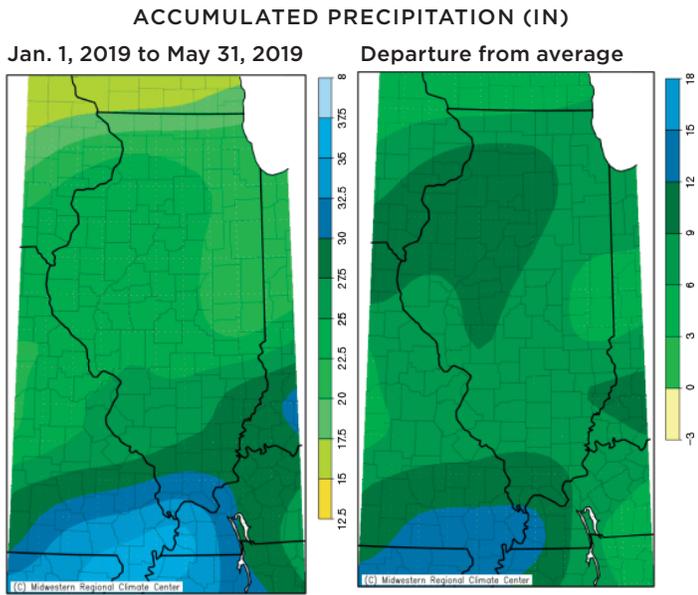


MGDD DEPARTURE FROM 4/1/2019 TO 5/31/2019



**Figure 2b. Illinois growing degree days and departure from average through the end of May.**

Source: Midwestern Regional Climate Center. <http://mrcc.illinois.edu>, accessed on June 6, 2019.



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

# U.S. Drought Monitor Illinois



**May 28, 2019**  
(Released Thursday, May. 30, 2019)  
Valid 8 a.m. EDT

	Drought Conditions (Percent Area)					
	None	D0	D1	D2	D3	D4
<b>Current</b>	100.00	0.00	0.00	0.00	0.00	0.00
<b>Last Week</b> 05-21-2019	100.00	0.00	0.00	0.00	0.00	0.00
<b>3 Months Ago</b> 02-26-2019	100.00	0.00	0.00	0.00	0.00	0.00
<b>Start of Calendar Year</b> 01-01-2019	100.00	0.00	0.00	0.00	0.00	0.00
<b>Start of Water Year</b> 09-25-2018	96.92	3.08	0.00	0.00	0.00	0.00
<b>One Year Ago</b> 05-29-2018	82.67	16.07	1.26	0.00	0.00	0.00

**Intensity:**

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

**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 May are presented in Table 2.

**Wind speeds** declined from April to an average of 6.8 mph, 0.4 mph lower than the month's long-term average. ICN Bondville was May's windiest station with an average of 11.0 mph. The highest recorded wind gust was 56.1 mph, measured at the Monmouth station on May 28.

**Air temperatures** were near normal for the month with an average of 63.3°F, 0.1° higher than the long-term average. Monthly lows were in the 30s and 40s with ICN Freeport reporting the month's lowest temperature of 36.8 on May 3. Highs were in the 80s and 90s. Two stations – ICN Belleville and Snicarte – recorded highs of 91.3° on May 16, the highest temperature for May.

**Soil temperatures** continued to rise in May as temperatures averaged 11 to 12° above the April average. Temperatures for the month ranged from 42.0 to 100.8° at depths of 2 inches and 43.1 to 90.8°F at 4 inches under bare soil. Under sod, temperatures ranged from 47.9 to 84.2° at 4 inches and 46.7 to 84.2° at 8 inches.

**Precipitation** remained high in May with a network average of 7.39 inches, 3.37 inches above the long-term average. All stations reported monthly totals of more than 5 inches. ICN Monmouth had the month's highest total with 10.29 inches.

**Soil moisture** remained high throughout the month. At depths of 2 to 4 inches, moisture levels declined an average of 7% during May, but ended the month near or above field capacity for most of the soils monitored. Slight increases were observed at the 39 and 59 inch depths which ended the month with averages of 0.48 and 0.45 water fraction by volume (wfv), respectively.

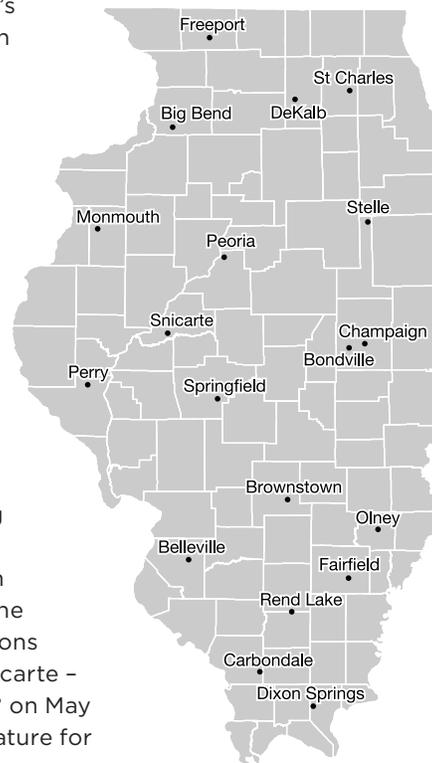


Figure 4. U.S. Drought Monitor report for Illinois. Source: U.S. Drought Monitor. Author: Richard Heim, NCEI/NOAA <http://droughtmonitor.unl.edu>, accessed on June 7, 2019.

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

Station	Wind			Air Temperature (°F)			Total Solar Radiation (MJ/m <sup>2</sup> )
	Avg. Speed (mph)	Avg. Direction (°)	Max. Gust (mph)	Max.	Min.	Avg.	
Belleville	6.8	178.9	44.6	91.3	43.1	67.1	646.9
Big Bend	7.9	169.2	43.9	89.1	39.4	59.7	541.7
Bondville	11.0	181.1	51.8	88.1	39.3	63.3	636.8
Brownstown	6.3	181.9	46.1	88.6	42.2	65.3	618.5
Carbondale	5.7M	198.5M	29.9M	88.6M	39.9M	67.5M	617.3M
Champaign	3.9	174.4	40.4	87.3	40.9	63.7	591.7
DeKalb	9.3	166.1	48.0	80.2	37.4	57.5	560.9
Dixon Springs	3.0	178.9	31.6	90.4	39.2	67.8	604.4
Fairfield	5.8	183.7	33.8	88.2	42.4	66.6	616.8
Freeport	4.6M	173.8M	40.6M	82.3M	36.8M	57.8M	552.8M
Monmouth	10.1	176.2	56.1	90.5	37.4	60.3	553.2
Olney	5.5	186.6	36.8	88.4	41.1	66.3	627.4
Peoria	7.2	174.6	34.0	88.5	41.4	61.9	580.3
Perry	5.8	184.6	34.8	88.3	39.0	63.8	561.4
Rend Lake	4.0	192.7	29.4	89.2	43.5	67.4	604.1
Snicarte	9.1	179.0	52.5	91.3	39.8	64.0	627.1
Springfield	5.6	176.2	33.3	88.8	44.0	64.7	615.7
St. Charles	6.4	157.9	38.1	80.2	37.2	57.4	545.9
Stelle	10.4	165.8	45.7	84.2	39.6	60.2	575.2

**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	81.4	6.35	60.4	5.2	66.3	64.8	71.5	66.0
Big Bend	80.0	9.84	52.8	4.1	62.6	60.8	63.7	62.3
Bondville	78.0	5.31	55.7	5.1	63.6	63.9	67.2	64.7
Brownstown	78.2	6.55	57.7	5.0	65.9	63.0	67.5	66.8
Carbondale	82.4M	6.62M	61.7M	5.0M	69.5M	67.1M	68.9M	68.5M
Champaign	75.7	5.20	55.2	4.7	66.2	64.8	68.1	67.0
DeKalb	79.2	8.36	50.6	4.1	58.3	56.6	60.8	60.7
Dixon Springs	78.0	6.75	59.9	4.9	70.4	69.0	71.6	70.0
Fairfield	78.1	8.72	58.9	5.0	67.2	66.0	70.6	69.4
Freeport	78.1	7.05M	50.7M	4.0M	59.8M	56.7M	60.4M	59.6M
Monmouth	82.1	10.29	54.2	4.1	60.5	58.2	61.5	61.3
Olney	77.3	7.15	58.2	5.1	67.2	66.3	69.0	69.3
Peoria	75.3	9.52	53.3	4.6	62.2	57.3	63.9	62.3
Perry	81.2	5.93	57.2	4.4	62.9	61.5	66.0	64.7
Rend Lake	77.1	6.96	59.2	5.0	69.7	69.6	69.7	69.0
Snicarte	73.9	7.05	54.8	5.1	68.1	66.7	70.4	67.9
Springfield	76.2	5.54	56.3	4.9	66.5	64.0	67.1	65.8
St. Charles	76.6	7.77	49.5	4.0	59.4	57.1	60.8	61.0
Stelle	76.9	9.54	52.4	4.4	60.5	59.2	62.4	61.6

M = Missing data.

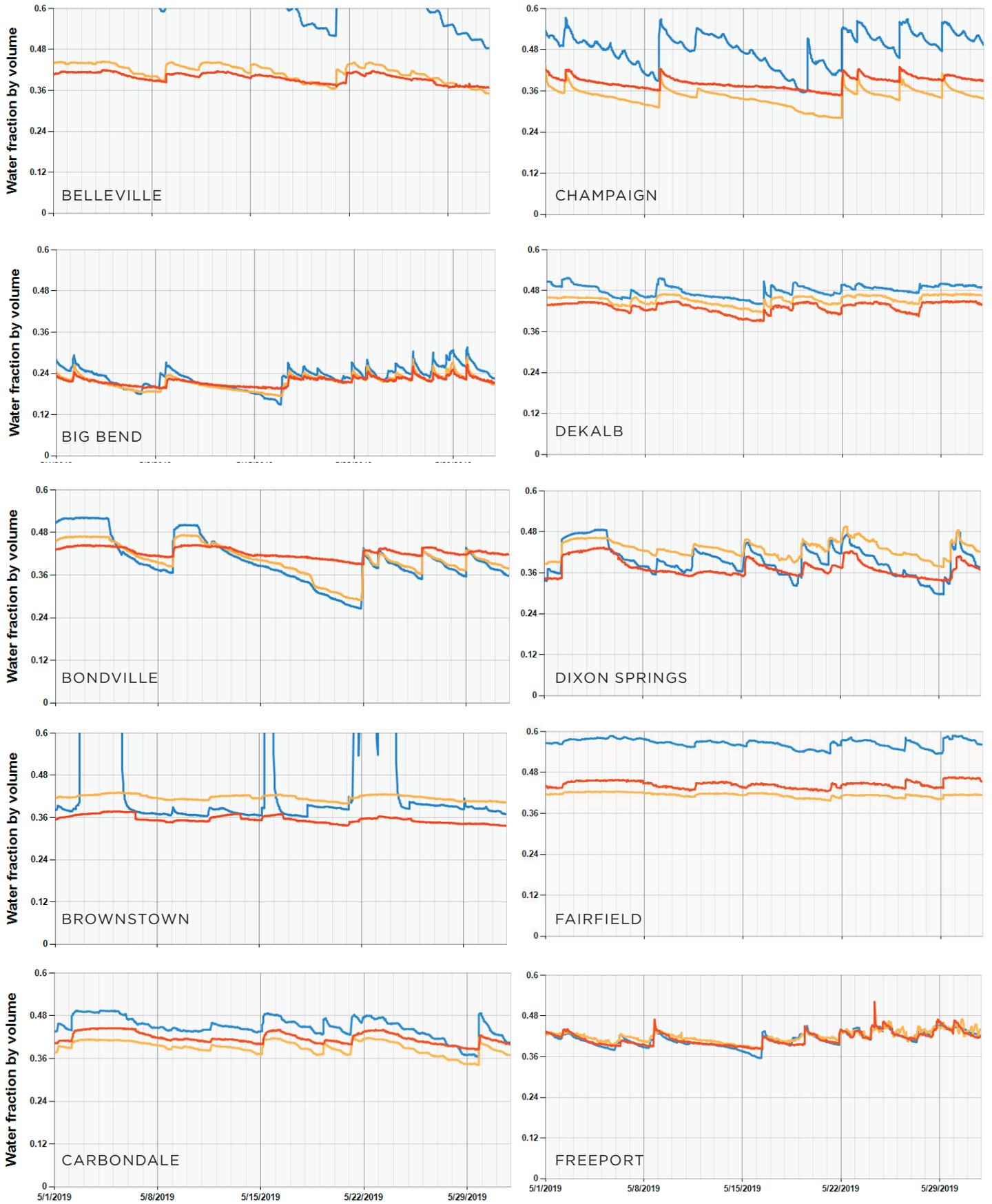


Figure 5. May soil moisture levels at ICN stations: — 2 in, — 4 in, and — 8 in

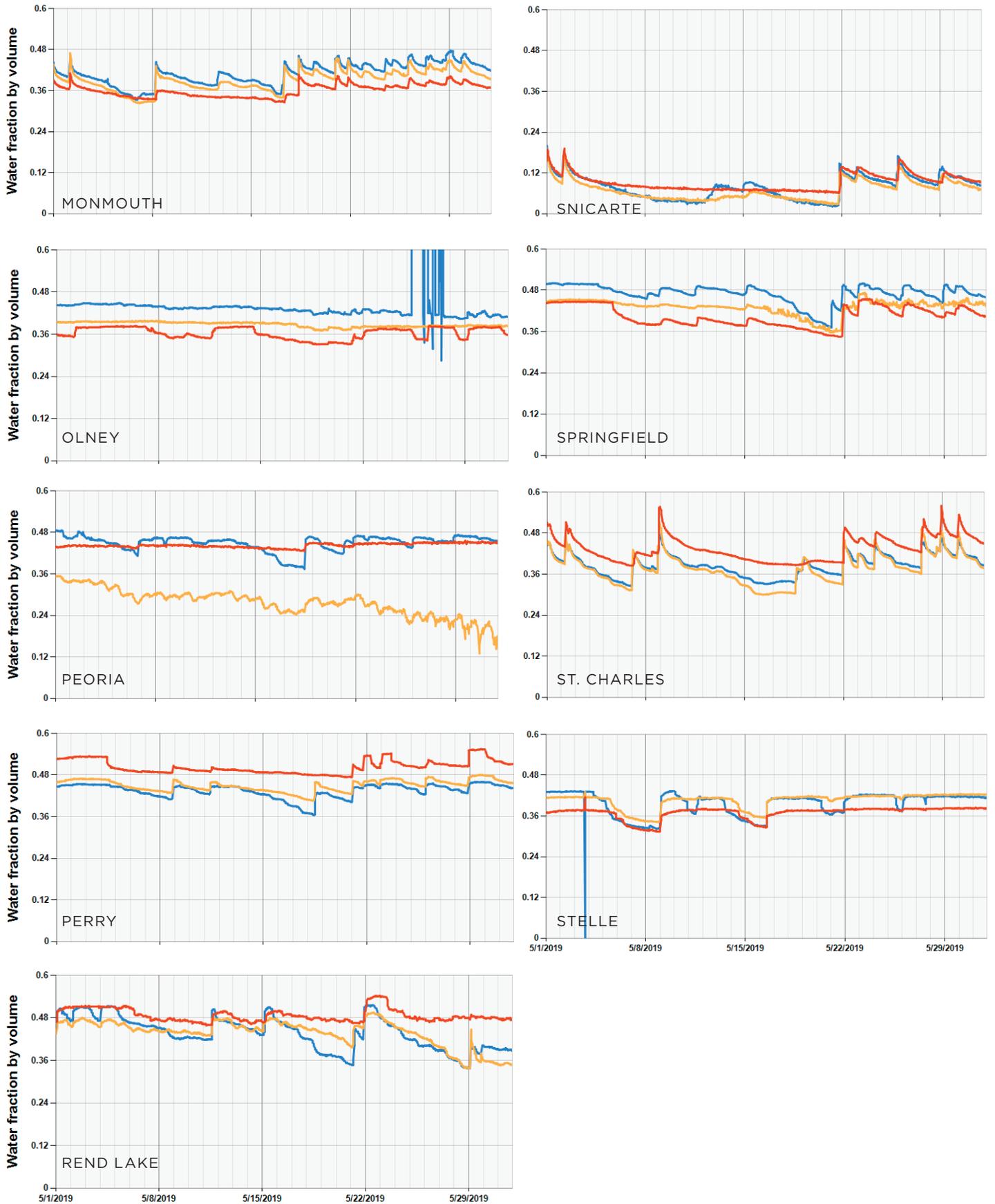


Figure 5. May soil moisture levels at ICN stations: — 2 in, — 4 in, and — 8 in

## Other Precipitation Networks

— ERIN BAUER

**Imperial Valley.** The average network precipitation for May 2019 was 7.12 inches, which is well above the previous 26-year network average (Figure 5A). The largest monthly gage total was in the northwest portion of the network. Monthly gage totals varied 3.89 inches across the network, from 5.60 inches at site #16, north of Mason City, to 9.49 inches at site #4, near Goofy Ridge. The 1981–2010 30-year average precipitation amounts for May at Havana and Mason City are 3.67 and 4.07 inches, respectively. The May 2019 network average of 7.12 inches is 171 percent of the 26-year (1993–2018) IVWA May network average of 4.16 inches.

**Cook County.** During May 2019, precipitation in Cook County was well above average (Figure 5B). Precipitation was highest in the southwestern region of the network. The lowest precipitation was in the northern end of the network. Precipitation values ranged from 4.83 inches at site #2 (Winnetka, near Hibbard St. and Willow Rd.) to 9.01 inches at site #15 (Lemont, near Main St. and Walker Rd.). Across the network, precipitation varied 4.18 inches. The network average of 7.15 inches is about 177 percent of the 29-year (1990–2018) May network average of 4.04 inches.

## Surface Water Information

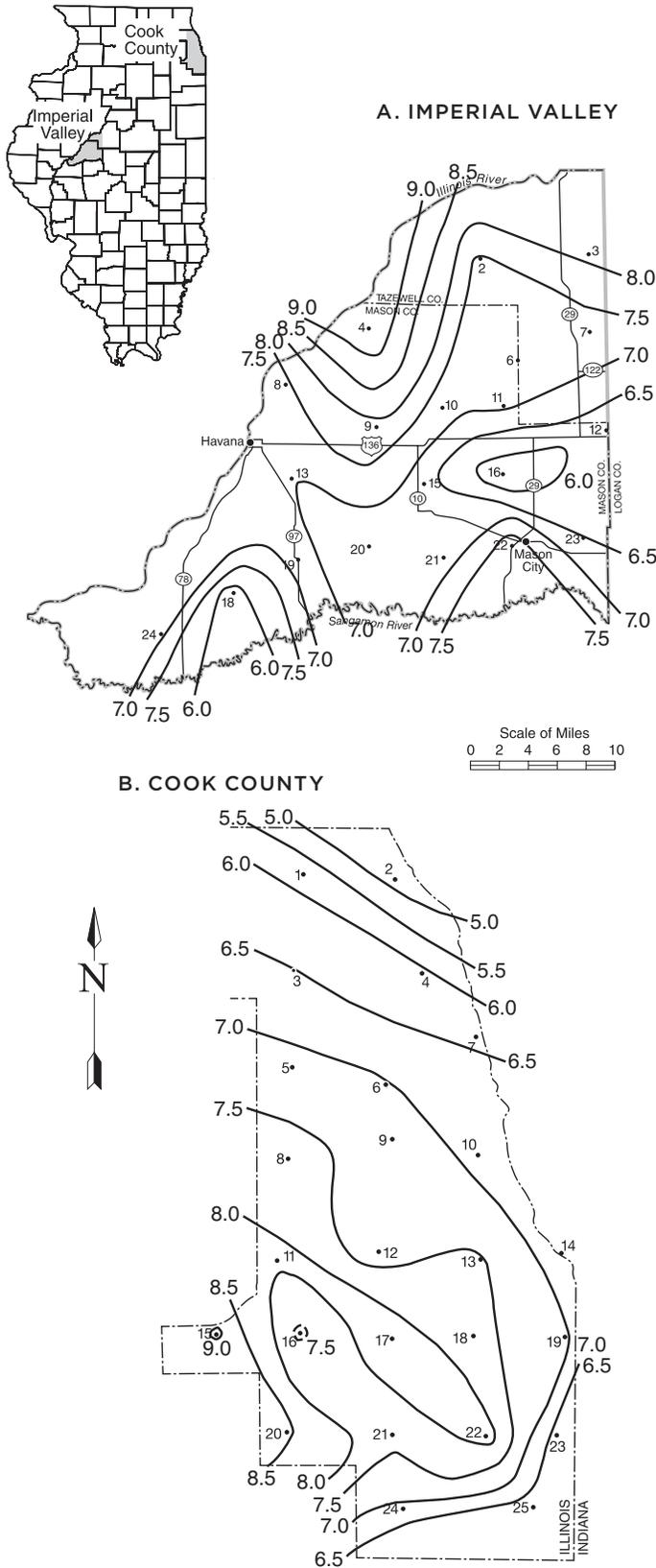
— BILL SAYLOR

**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.

Based on data posted by the USACE, the Mississippi River remained above the local flood stages throughout the month from Rock Island to the Ohio River and in early and late May between Dubuque, Iowa and Rock Island. The Illinois River remained above the local flood stages throughout May from Havana downstream to the Mississippi River and rose above the local flood stages for nearly the entire month between Ottawa and Havana. The Ohio River remained above the flood stage at Cairo for the entire month.

**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;



**Figure 5. Precipitation totals (inches) for (A) Imperial Valley Water Authority and (B) Cook County raingage networks May 2019.**

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 May 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 May (approximately 410 percent of the median) and above the mean for May (approximately 300 percent of the mean). Monthly mean discharge values ranged from above normal to much above normal for May.

**Table 3. Peak Stages for Major Rivers during May 2019**

River	Station	River mile*	Flood stage (feet)*	Peak stage (feet)**	Date
Illinois	Morris	263.1	16	22.8	02
	La Salle	224.7	20	32.0	03
	Peoria	164.6	18	27.9	06-07
	Havana	119.6	14	26.7	08
	Beardstown	88.6	14	28.8	09
	Hardin	21.5	25	38.2	31
Mississippi	Dubuque	579.9	17	22.5	01
	Keokuk	364.2	16	25.1	30
	Quincy	327.9	17	30.1	30
	Grafton	218.0	18	32.7	31
	St. Louis	180.0	30	42.7	31
	Chester	109.9	27	43.9	30
	Thebes	43.7	33	41.8	08
Ohio	Cairo	2.0	40	50.5	08

**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, May 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	6,363	82	11,406	5,788	5,176	much above normal	10	31
Rock River near Joslin	9,549	74	21,294	9,112	8,254	much above normal	4	31
Pecatonica River at Freeport	1,326	98	2,455	1,073	822	much above normal	5	31
Green River near Geneseo	1,003	79	~4,900	1,040	883	much above normal	(1)	29
Edwards River near New Boston	445	79	3,474	544	371	much above normal	(1)	31
Kankakee River at Momence	2,294	100	6,472	2,924	2,807	much above normal	(2)	31
Iroquois River near Chebanse	2,091	93	6,870	2,749	2,228	much above normal	5	31
Fox River at Dayton	2,642	98	10,298	2,601	2,192	much above normal	(2)	31
Vermilion River at Pontiac	579	73	2,782	759	587	much above normal	3	31
Spoon River at Seville	1,636	100	9,205	1,864	1,278	much above normal	(1)	31
LaMoine River at Ripley	1,293	94	7,567	1,481	837	much above normal	2	31
Bear Creek near Marceline	349	73	3,080	414	190	much above normal	(2)	31
Mackinaw River near Congerville	767	68	3,633	943	772	much above normal	4	26
Salt Creek near Greenview	1,804	75	6,377	2,415	1,868	much above normal	4	31
Sangamon River at Monticello	550	105	1,615	723	493	much above normal	10	31
South Fork Sangamon near Rochester	867	68	2,985	1,072	682	much above normal	4	31
Illinois River at Valley City	26,743	78	85,530	37,200	34,625	much above normal	(2)	31
Macoupin Creek near Kane	868	88	>4,000	965	450	much above normal	4	31
Vermilion River near Danville	1,290	95	2,813	1,694	1,271	above normal	18	31
Kaskaskia River at Vandalia	1,940	47	4,354	1,991	1,551	above normal	12	31
Shoal Creek near Breese	735	73	3,366	882	593	much above normal	7	31
Embarras River at Ste. Marie	1,516	103	2,358	1,966	1,238	above normal	25	31
Skillet Fork at Wayne City	464	97	1,355	660	338	above normal	16	31
Little Wabash below Clay City	1,131	102	2,648	1,475	796	above normal	16	31
Big Muddy at Plumfield	794	46	2,751	1,459	937	above normal	17	31
Cache River at Forman	244	93	864	439	314	above normal	15	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.

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.

(1) Highest monthly mean flow value in the period of record of the streamgage for any calendar month.

(2) Highest monthly mean flow value in the period of record of the streamgage for the month of May.

Of the Table 4 stations, the May 2019 monthly mean streamflow values were the highest of any calendar month in the respective periods of record for the following stations: the Green River near Geneseo, the Edwards River near New Boston, and the Spoon River at Seville. The May 2019 monthly mean streamflow values were the highest for the month of May in the respective periods of record of the following stations: Bear Creek near Marcelline, the Fox River at Dayton, the Kankakee River at Momence, and the Illinois River near Valley City. The May 2019 mean streamflow of the LaMoine River at Ripley was the second highest value for the month of May and for the period of record of the station. Readers are reminded that all recent values are provisional and may be adjusted later by the USGS.

**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-April water levels at 26 reservoirs for which levels were reported last month and this month, reported end-of-May water levels were lower at 10 reservoirs, higher at 10 reservoirs, and about the same as at the end of last month at 6 reservoirs. For the 26 reservoirs with measurements reported at the end of May, water levels were below normal target pool or spillway level at 3 reservoirs, above normal target pool or spillway level at 16 reservoirs, and at about full pool level at 7 reservoirs.

**Table 5. Reservoir Levels in Illinois, May 2019**

Reservoir	County	Normal pool or target level (feet)	Current level difference from normal or target (feet)	Monthly change (feet)	Average difference from normal or target (feet)	Years of record	April reported pumpage (million gallons)
Altamont	Effingham	582.0	+0.2	+0.1	-0.7	35	5.8
Bloomington	McLean	719.5	+0.3	0.0	-0.4	32	N/A
Carlinville	Macoupin	571.1	0.0	-0.7	0.0	33	21.9
Carlyle <sup>(1)</sup>	Clinton	444.0	+5.0	+4.9	+2.2	41	N/A
Decatur <sup>(1,3)</sup>	Macon	612.5	+0.2	+0.1	-0.1	35	976.0
Evergreen <sup>(4)</sup>	Woodford	720.0	+0.3	+0.2	-0.9	28	N/A
Glenn Shoals <sup>(2)</sup>	Montgomery	590.0	+1.0	+1.0	0.0	25	w/Hillsboro
Highland	Madison	500.0	0.0	-0.3	+0.1	30	28.4
Hillsboro <sup>(2)</sup>	Montgomery	589.0	N/A	N/A	0.0	25	35.1
Jacksonville <sup>(2)</sup>	Morgan	644.0	N/A	N/A	-0.1	20	w/Mauvaise Terre
Kinkaid	Jackson	420.0	-0.1	-1.3	+0.2	30	53.5
Lake of Egypt	Williamson	500.0	+0.2	-0.3	0.0	25	N/A
Mattoon	Coles	632.0	0.0	0.0	-0.1	25	w/Paradise
Mauvaise Terre <sup>(2)</sup>	Morgan	588.5	N/A	N/A	+0.1	22	no meter
Mt. Olive (new)	Macoupin	600.0	0.0	0.0	-0.4	13	w/Mt. Olive (old)
Mt. Olive (old)	Macoupin	654.0	0.0	0.0	-0.3	22	4.6
Pana	Christian	641.6	+0.1	-0.1	-0.3	35	N/A
Paradise	Coles	685.0	0.0	0.0	-0.2	29	57.7
Paris (east)	Edgar	660.0	+0.1	-0.2	+0.2	34	Not PWS
Paris (west)	Edgar	660.1	+0.1	-0.2	+0.2	24	w/Paris (east)
Raccoon <sup>(1)</sup>	Marion	477.0	+0.8	+0.5	N/A	N/A	82.1
Rend	Franklin	405.0	+5.2	-0.3	+3.2	41	N/A
Salem <sup>(3)</sup>	Marion	546.5	-0.4	-0.4	-0.6	24	20.3
Shelbyville <sup>(1)</sup>	Shelby	596.0	+3.3	+5.9	+3.7	41	Not PWS
Sparta <sup>(3)</sup>	Randolph	497.0	-0.7	-0.8	-0.8	21	N/A
Spring <sup>(3,4)</sup>	McDonough	654.0	+0.5	+0.3	+0.1	35	47.2
Springfield <sup>(1,3)</sup>	Sangamon	560.0	+0.5	+0.1	+0.1	35	546.1
Taylorville	Christian	590.0	+0.6	+0.5	0.0	26	61.8
Vermilion <sup>(4)</sup>	Vermilion	581.7	0.0	0.0	-0.1	34	194.5

**Notes:**

Normal pool and target level datum is NGVD 1929.

Current levels reported represent water surface levels at the end of the month, not the monthly average.

Average difference from normal or target level is the arithmetic average of reported month-end values for the period of record indicated.

Years of record = total number of monthly readings included in month-end average. Total period of record may be longer.

Not PWS = not a public water supply.

N/A = not available.

<sup>(1)</sup> Target operating level may vary. Seasonal target levels this month represent June 1 values.

<sup>(2)</sup> Instrumentation not available to measure height of water elevation above spillway.

<sup>(3)</sup> Natural inflow can be supplemented by other sources.

<sup>(4)</sup> Normal pool elevations have changed during period of record reported.

**Table 6. Month-End Shallow Groundwater Level Data Sites, May 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	17.05	2.29	3.34	0.02	4.20
2	Mt. Morris	Ogle	55.00	4.68	10.64	11.78	N/A	N/A
3	Crystal Lake	McHenry	18.00	2.48	1.10	1.53	0.85	0.86
4	Fermi Lab	DuPage	15.00	1.81	3.54	3.63	-0.12	2.10
5	Good Hope	McDonough	30.00	3.15	1.25	2.30	0.25	2.27
6	Snicarte	Mason	42.00	40.13	-2.87	-3.76	-1.29	-4.57
7	Coffman	Pike	28.00	6.32	3.46	2.74	4.49	9.61
8	Greenfield	Greene	20.70	6.22	2.70	2.13	-0.38	5.87
9	Janesville	Coles	11.00	5.01	0.26	0.31	-0.27	0.79
10	St. Peter	Fayette	15.00	N/A	N/A	N/A	N/A	N/A
11	SWS #2	St. Clair	80.00	11.37	0.43	1.86	N/A	0.22
12	Boyleston	Wayne	23.00	5.11	-1.44	-1.30	0.38	N/A
13	Sparta	Randolph	27.00	N/A	N/A	N/A	N/A	N/A
14	SE College	Saline	11.00	2.89	1.11	0.89	-1.12	-2.51
15	Bondville	Champaign	21.00	4.12	0.10	-0.50	0.35	0.11
<b>Averages</b>					<b>1.74</b>	<b>1.92</b>	<b>0.29</b>	<b>1.72</b>

Notes: N/A = Data not available.

**Major Reservoirs.** Compared to water levels at the end of April, at the end of May the water level at Lake Shelbyville was 5.9 feet higher, Carlyle Lake was 4.9 feet higher, and Rend Lake was 0.3 feet lower. At the end of May, Lake Shelbyville was 3.3 feet above the summer target level, Carlyle Lake was 5.0 feet above the summer target level, and Rend Lake was 5.2 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 May 2019 mean level for Lake Michigan was 581.3 feet. The monthly mean level one year ago (May 2018) was 580.5 feet. The long-term average lake level for May is 579.0 feet, based on 1918-2018 data. In this period of record, the lowest mean level for Lake Michigan for May occurred in 1964 at 576.6 feet, and the highest mean level for May occurred in 1986 at 581.6 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.

## 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 May. Levels averaged 1.92 feet above normal and ranged from 3.76 below to 11.78 feet above normal levels (Table 6).

**Comparison to April 2019.** Shallow groundwater levels were above those of the previous month. Levels averaged 0.29 feet above and ranged from 1.29 feet below to 4.49 feet above April levels.

**Comparison to May 2018.** Shallow groundwater levels in May were above levels from one year ago. Levels averaged 1.72 feet above and ranged from 4.57 feet below to 9.61 feet above levels in May 2018.

#### 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