

ILLINOIS WATER AND CLIMATE SUMMARY

SEPTEMBER 2020 OVERVIEW

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

Air temperatures averaged 65.6°F in September, 0.6° below the long-term average (Figure 1). The southwest crop reporting district (CRD) was the warmest with an average of 68.8°F. The lowest regional temperature was 62.6°F, reported by the northwest CRD.

Precipitation averaged 3.18 inches, 0.05 inches below the long-term average (Figure 1). The northwest CRD was the wettest with an average of 6.65 inches. The driest was the east-southeast CRD with 1.04 inches.

Soil moisture at 2 inches rose 8% overall in September to a state average of 0.22 water fraction by volume (wfv) at the end of the month. Increases also occurred at depths from 4 to 20 inches, while declines were seen at 39 and 59 inches.

Mean provisional streamflow aggregated statewide was above the long-term median flow for September, about 155% of median (Figure 1). Monthly mean discharge values ranged from below normal to above normal for September.

Water surface levels at the end of September were below the full pool or target level at 19 of 23 reporting reservoirs. At the end of September, Lake Shelbyville was 0.2 feet above the seasonal target level, Carlyle Lake was 0.3 feet above the seasonal target level, and Rend Lake was 0.3 feet above the spillway level. Lake Michigan's mean level was above its long-term mean for the month.

Shallow groundwater levels statewide were above the long-term average this month with an average departure of 0.14 feet from the period of record (Figure 1). A decrease of 0.31 feet in departures was observed from the deviation in normal groundwater levels between August and September. Levels averaged 0.89 feet below August 2020 and 1.44 feet below September 2019 levels.

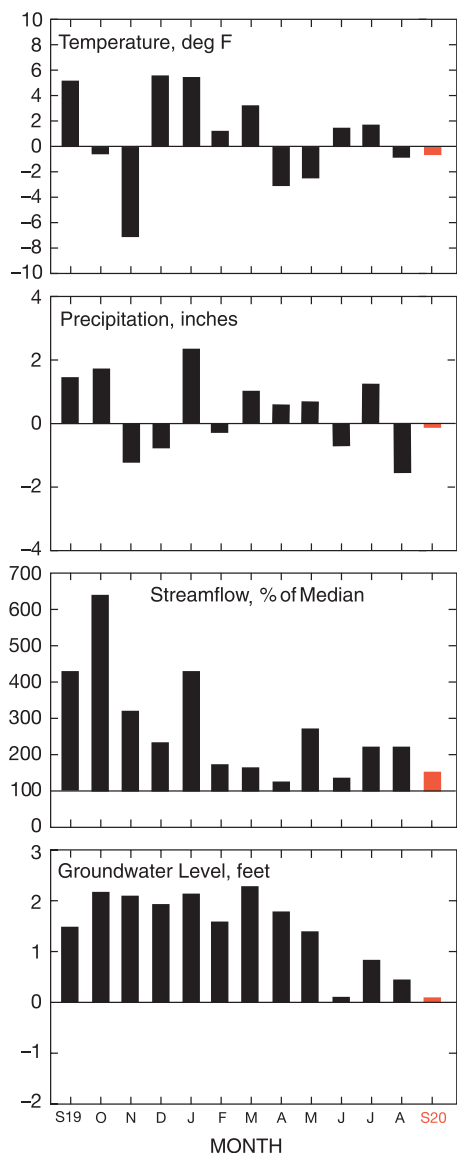


Figure 1. Statewide departures from normal.

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.

September was wetter than average in northern Illinois, drier than average in southern Illinois, and cooler than average across most of the state.

Temperatures averaged 65.6°F, 0.6° below the long-term average (Table 1, Figure 2a). Monthly average temperatures ranged from the low 60s in northern Illinois to around 70° in southern Illinois. After a warm end to August, temperatures cooled down below average for much of September. Most of the northern part of the state was below average for the month with departures of up to around 1.0-1.5° below average. The southernmost part of Illinois was closer to average in September, with some areas slightly above average.

Monthly maximum temperatures generally ranged from the mid-80s in northern Illinois to the low 90s in southern Illinois. The monthly maximum at nearly all stations occurred sometime in the first 11 days of the month, including the warmest reading of the month, 93°F, recorded at a station in Wayne County on September 8. Monthly minimum temperatures generally ranged from the mid-30s in northern Illinois to the mid-40s in southern Illinois. Many of these readings came around the third weekend of the month, including the lowest reading of the month, 34°F, recorded at a station near Shabbona (DeKalb County) on September 19.

Growing degree days (DD, base 50°, from April 1) ranged from over 2700 DD in northern Illinois to over 3600 DD in far southern Illinois (Figure 2b). This was slightly above the long-term average in most areas to the north of I-80, with the highest departures around 100 DD above average near Chicago. Most areas to the south of I-80 were slightly below the long-term average by up to 100 DD.

Precipitation averaged 3.18 inches in August, 0.05 inches below the long-term average (Table 1, Figure 2a). Although the statewide total was near average, a large precipitation gradient existed across the state in September, with southern Illinois very dry and northern and especially northwestern Illinois very wet. This is the opposite pattern from what was seen in August, when northern Illinois was very dry and southern Illinois was wetter than average. Areas along and to the north and west of the I-55 corridor generally received 3 inches or more in September, with the highest totals in northwestern Illinois, where 6 inches or more were common. A station near Geneseo (Henry County) had the highest monthly total of 9.10

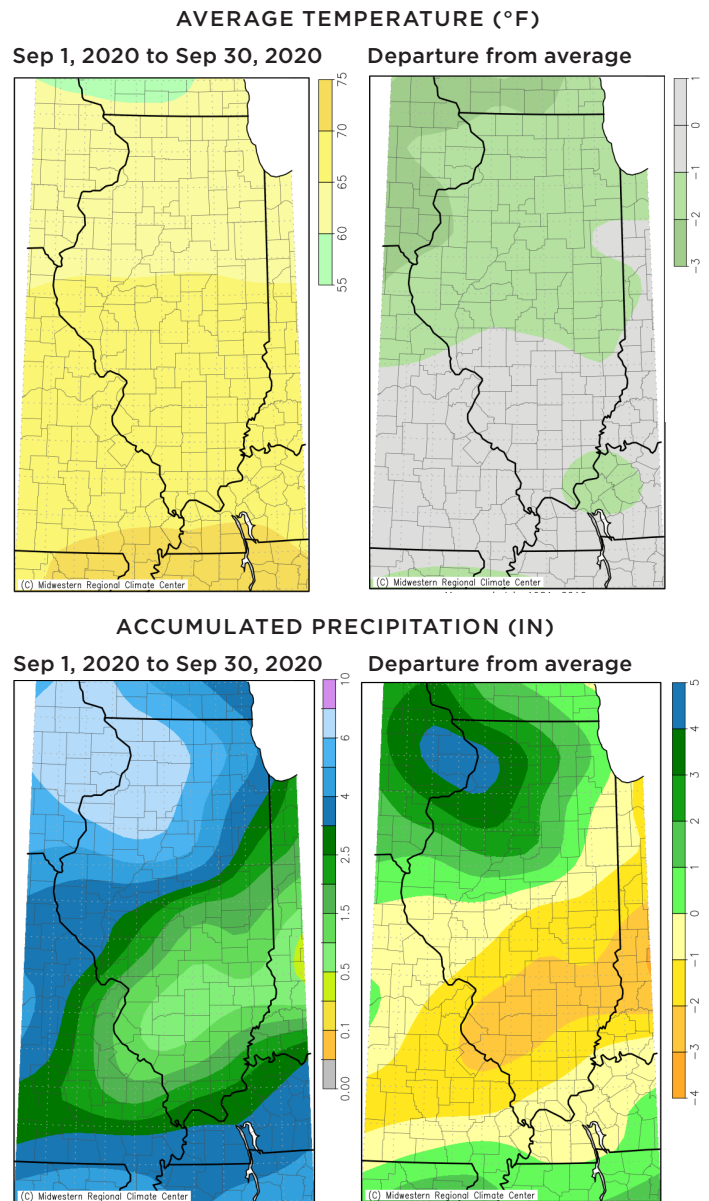


Figure 2a. Illinois temperature and precipitation and their departures from average for September 2020. Source: cli-MATE, Midwest Regional Climate Center. <http://mrcc.illinois.edu/CLIMATE>. Information accessed on October 7, 2020.

inches. Notably, the Quad Cities Airport in Moline reported 6.52 inches in September after receiving only 0.15 inches in August, highlighting the difference between the two months in this area. Much of northern Illinois received 1-4 inches above average in September, with the highest departures above average in northwestern Illinois. Most precipitation in this area came during the first half of the month, with most areas receiving less than 1 inch in the second half.

Meanwhile, most of central and southern Illinois received below average precipitation for September. The driest part of the state was an area along and to the south of the I-70 corridor and to the north of the I-64 corridor. Much of this

Table 1 Temperature and Precipitation for September 2020

	Temp. (°F)	Departure from long- term avg. (1981-2010)	Precip. (in)	Departure from long- term avg. (1981-2010)
Illinois	65.6	-0.6	3.18	-0.05
CRD 1 (northwest)	62.6	-1.1	6.65	+3.30
CRD 2 (northeast)	63.5	-0.6	4.34	+1.04
CRD 3 (west)	64.7	-1.1	4.36	+0.84
CRD 4 (central)	65.1	-0.6	3.83	+0.70
CRD 5 (east)	65.1	-0.4	2.78	-0.20
CRD 6 (west southwest)	66.5	-0.6	2.18	-1.07
CRD 7 (east southeast)	66.9	-0.4	1.04	-2.07
CRD 8 (southwest)	68.8	+0.3	1.32	-1.95
CRD 9 (southeast)	68.7	+0.1	1.62	-1.51

Data from NOAA's National Centers for Environmental Information, accessed 10/7/2020.

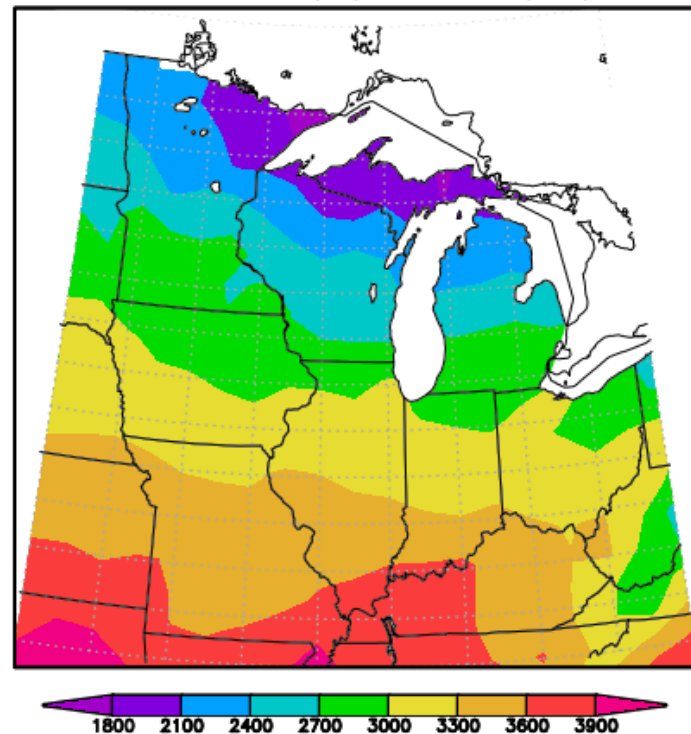
area received less than 1 inch for the month, 2 inches or more below average in most places. Some stations in the eastern part of this area received less than half an inch in September, including 0.34 inches at a station near Paris (Edgar County) and 0.39 inches at a station near Effingham (Effingham County).

Severe weather reports: The NOAA Storm Prediction Center recorded three severe weather reports for September in Illinois, one for hail and two for wind. (Multiple reports can be generated for a single event.)

Drought: September started with most of the northern half of Illinois classified as abnormally dry (D0) or worse by the United States Drought Monitor, with a large area of moderate drought (D1) between the I-80 and I-90 corridors. This reflected the August precipitation pattern, which was very dry in northern Illinois and wet in southern Illinois. However, as September progressed, this pattern flipped such that northern Illinois was wet and southern Illinois was dry. As a result, conditions steadily improved in northern Illinois so that by the end of the month, only the easternmost counties in northern Illinois were still classified as D0, along with a small area of D1 drought in parts of Cook, DuPage, and Will Counties.

At the same time, conditions deteriorated in central and southern Illinois so that by the end of September most areas to the south of I-74 were classified as D0 or worse, except for far southern Illinois and an area to the north of St. Louis. This included two areas of D1 drought, one between Lincoln and Decatur and another covering most of Edgar County. On the September 29 map (Figure 4), 57.72% of Illinois was classified as D0 or worse, with 3.69% classified as D1 drought.

TOTAL MGDD FROM 4/1/2020 TO 9/30/2020



MGDD DEPARTURE FROM 4/1/2020 TO 9/30/2020

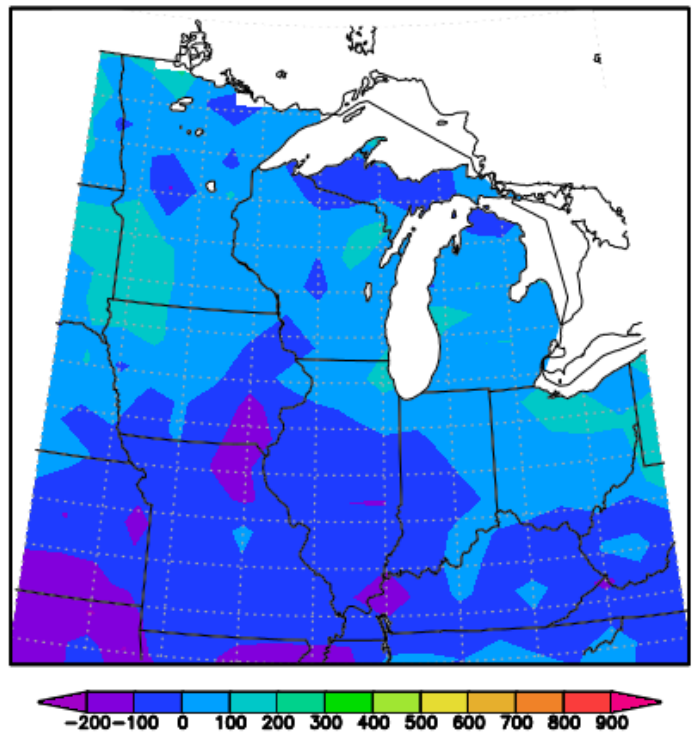


Figure 2b. Illinois growing degree days and departure through the end of September. Source: Midwestern Regional Climate Center. <http://mrcc.illinois.edu>, accessed on October 1, 2020.

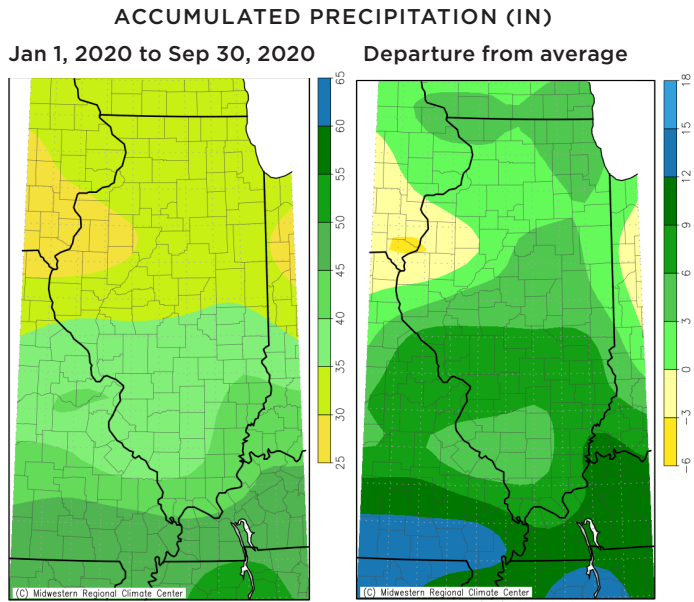
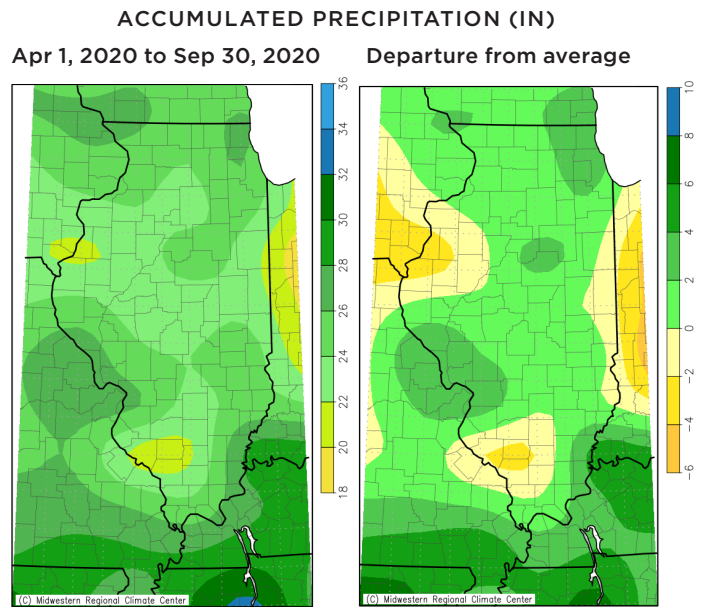
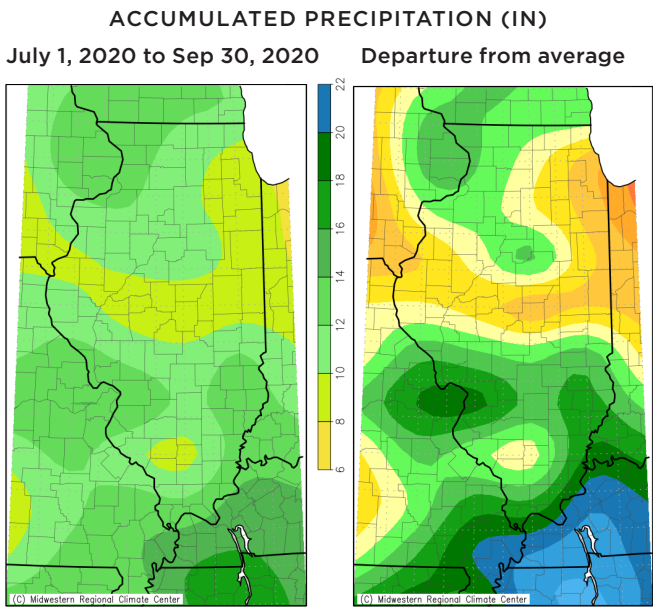
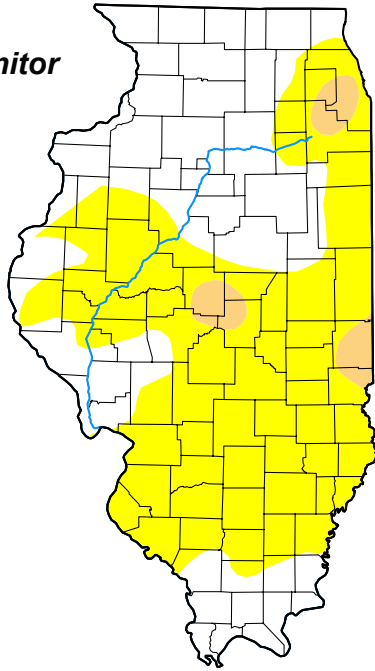


Figure 3. Illinois precipitation and precipitation departure from average for last 3 months (top left), last 6 months (top right) and year-to-date (bottom). Source: cli-MATE, Midwestern Regional Climate Center. <http://mrcc.illinois.edu/CLIMATE>. Information accessed on October 7, 2020.

**U.S. Drought Monitor
Illinois**



September 29, 2020
(Released Thursday, Oct. 1, 2020)
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0	D1	D2	D3	D4
Current	42.28	54.03	3.69	0.00	0.00	0.00
Last Week <i>09-22-2020</i>	42.49	51.73	5.78	0.00	0.00	0.00
3 Months Ago <i>06-30-2020</i>	72.91	27.09	0.00	0.00	0.00	0.00
Start of Calendar Year <i>12-31-2019</i>	100.00	0.00	0.00	0.00	0.00	0.00
Start of Water Year <i>10-01-2019</i>	82.16	7.06	10.59	0.19	0.00	0.00
One Year Ago <i>10-01-2019</i>	82.16	7.06	10.59	0.19	0.00	0.00

Intensity:

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

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

Author:

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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 September are presented in Table 2.

Wind increased slightly in September to an average of 5.0 mph, 1.0 mph greater than in August and 0.1 mph lower than the long-term average. ICN Stelle had the windiest month with both the highest network average at 7.9 mph and the highest recorded wind gust, 46.3 mph, reported on September 30.

Air temperatures averaged 64.9° for the month, 7.6° less than in August and 0.5° less than the long-term average. Temperatures ranged from station highs in the 80s and 90s to lows in the 30s and 40s. The highest temperature was 93.0°, recorded at ICN Rend Lake on September 9. The lowest was 34.7° from ICN DeKalb on September 19.

Soil temperatures declined 6 to 10° from August to averages in the high 60s to low 70s, 0.2-0.7° below the long-term averages. Under bare soil, temperatures ranged from 48.6 to 100.9° at depths of 2 inches and 52.1 to 92.2° at 4 inches. Temperatures under sod ranged from 54.8 to 85.5° at 4 inches and 59.2 to 82.2 at 8 inches.

Precipitation increased to an average of 3.38 inches, 1.26 inches higher than in August and 0.45 inches more than the long-term average. The northern stations had a significantly wetter month with totals of more than 5 inches. ICN Big Bend had the month's highest total of 8.21 inches.

Southern Illinois had a much drier September. Four stations received less than 1 inch. ICN Brownstown recorded only 0.50 inches, the lowest for the month.

Soil moisture rose in every region except the south. Overall, soil moisture at 2 inches increased 8%. Heavy rain in the north caused moisture levels there to more than double. Dry weather in southern Illinois, however, led to a 29% percent decrease for the region, though most stations still ended the month with levels above the wilting points.

Soil moisture increased at depths from 4 to 20 inches. Slight declines were observed at 39 and 59 inches, but overall, levels remained high.

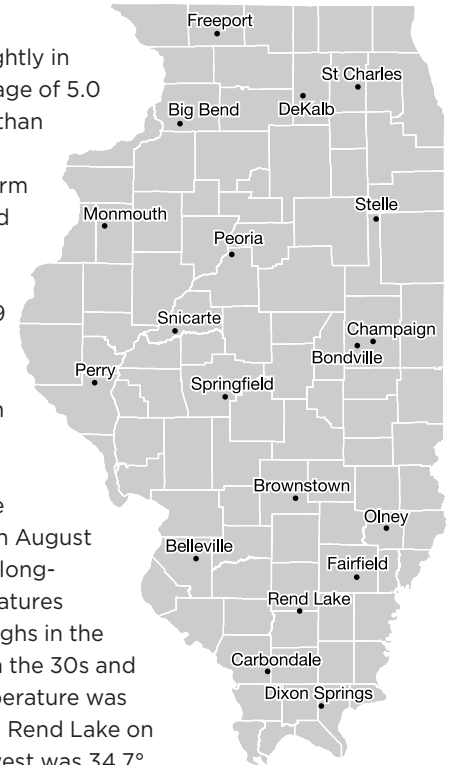


Figure 4. U.S. Drought Monitor report for Illinois. Source: U.S. Drought Monitor. Author: Brad Rippey, U.S. Department of Agriculture <http://droughtmonitor.unl.edu>, accessed on October 7, 2020.

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

Station	Wind			Air Temperature (°F)			Total Solar Radiation (MJ/m ²)
	Avg. Speed (mph)	Avg. Direction (°)	Max. Gust (mph)	Max.	Min.	Avg.	
Belleville	4.3M	150.2M	29.3M	91.1M	40.4M	67.9M	524.9M
Big Bend	5.9M	171.1M	37.2M	87.3M	37.5M	62.1M	449.3M
Bondville	7.0	170.4	33.8	86.7	38.9	63.8	481.4M
Brownstown	4.6M	162.6M	27.6M	87.3M	41.2M	67.0M	515.4M
Carbondale	3.8	196.7	23.0	91.3	40.0	67.7	534.7
Champaign	2.8	160.2	25.6	87.6	42.8	65.2	471.5
DeKalb	6.3	181.9	31.3	85.6	34.7	61.2	457.2
Dixon Springs	2.3	149.7	26.1	90.7	41.8M	68.1	513.7
Fairfield	4.6	138.0	25.3	89.2	40.6	67.1	535.2
Freeport	4.3	184.5	26.5	83.2	38.3	60.9	426.4
Monmouth	7.9	175.2	36.3	88.5	40.5	63.1	477.0
Olney	4.0	163.4	23.8	90.3	41.9	66.7	523.3
Peoria	5.7	161.9	32.1	84.3	42.6	64.0	470.4
Perry	4.2	189.3	31.0	88.6	39.8	64.5	482.7
Rend Lake	3.4	162.8	19.1	93.0	41.6	67.9	522.7
Snicarte	5.9	176.0	34.1	88.6	39.4	64.7	481.1
Springfield	4.4	165.2	30.5	87.5	43.1	66.4	496.7
St. Charles	5.5	163.8	33.5	86.1	38.4	61.9	446.7
Stelle	7.9	169.5	46.3	86.9	39.0	63.1	454.1

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	81.6	0.61M	61.1M	4.26M	71.2M	72.2M	70.9M	73.2M
Big Bend	78.9	8.21M	54.2M	3.60M	68.3M	67.7M	68.8M	71.1M
Bondville	80.2	2.24	56.6	3.83M	68.2	70.2	69.7	69.4
Brownstown	75.4	0.50	58.0M	4.16M	71.7	70.1	71.4	71.5
Carbondale	86.2	1.03	62.7	4.17	72.7	71.2	70.5	70.2
Champaign	78.0	2.87	57.1	3.69	70.2	70.7	71.1	70.7
DeKalb	79.6	5.04	53.8	3.58	65.9	65.6	68.9	67.2
Dixon Springs	82.3	1.84	61.7	4.05	72.0	72.6	73.6	76.0
Fairfield	78.6	0.62	59.3	4.27	73.2	73.4	73.4	75.4
Freeport	79.2	7.06	53.5	3.31	67.6	65.6	63.9	64.0
Monmouth	80.1	6.07	55.9	3.83	66.9	66.6	68.0	66.7
Olney	77.9	0.70	58.6	4.19	71.2	72.0	72.1	71.6
Peoria	77.9	6.60	56.3	3.72	68.5	67.2	67.4	67.3
Perry	82.8	3.31	58.3	3.77	69.2	69.4	69.4	69.7
Rend Lake	74.8	1.91	58.7	4.29	73.0	74.2	70.2	69.7
Snicarte	78.2	3.83	56.7	3.90	71.9	72.4	71.3	72.7
Springfield	75.9	1.96	57.7	4.01	71.3	70.5	71.6	71.9
St. Charles	78.9	5.72	54.2	3.49	66.6	65.8	67.4	66.5
Stelle	76.3	4.04	54.6	3.76	68.1	67.9	68.5	68.0

M = Missing data.

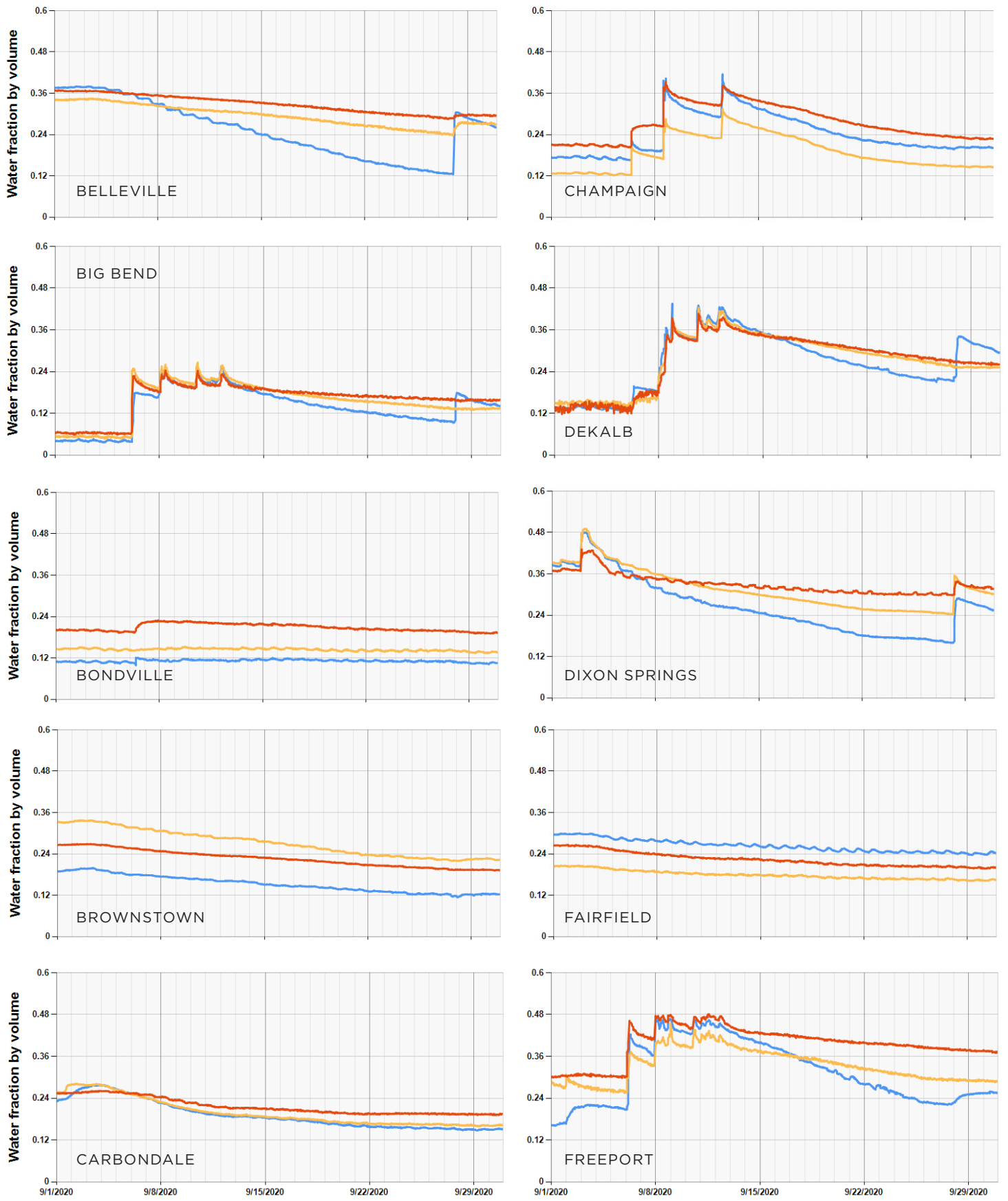


Figure 5. September soil moisture levels at ICN stations: — 2 in, — 4 in, and — 8 in

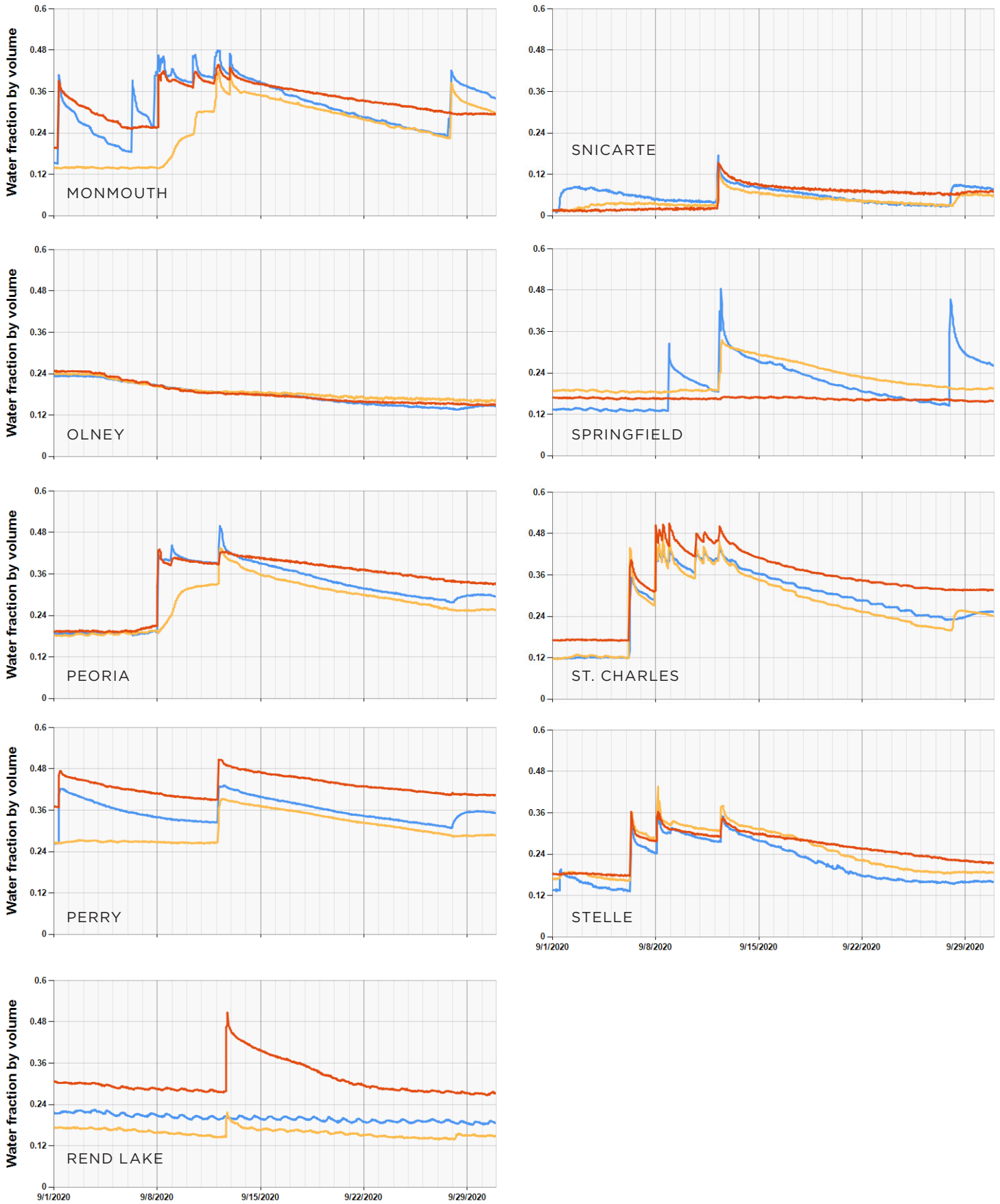


Figure 5 (continued). September soil moisture levels at ICN stations: — 2 in, — 4 in, and — 8 in

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 September (approximately 155 percent of the median) and below the mean for September (approximately 75 percent of the mean). Monthly mean discharge values ranged from below normal to above normal for September.

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-August water levels at 22 reservoirs for which levels were reported last month and this month, reported end-of-September water levels were lower at 19 reservoirs and higher at 3 reservoirs. For the 23 reservoirs with measurements reported at the end of September, water levels were below normal target pool or spillway level at 19 reservoirs and above normal target pool or spillway level at 4 reservoirs. The Pana Lake level had been intentionally drawn down to facilitate maintenance. Carlinville's supply has recently been from its Lake 2, with a reported water level of about 1 foot below full. Salem Lake and Spring Lake reported lake levels reflect inflow from supplemental sources.

Major Reservoirs. Compared to water levels at the end of August, at the end of September the water level at Lake Shelbyville was 3.3 feet lower, Carlyle Lake was 0.2 feet lower, and Rend Lake was 0.8 feet lower. At the end of September, Lake Shelbyville was 0.2 feet above the seasonal target level, Carlyle Lake was 0.3 feet above the seasonal target level, and Rend Lake was 0.3 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 September 2020 mean level for Lake Michigan was 581.8 feet. The monthly mean level one year ago (September 2019) was 581.6 feet. The long-term average lake level for September is 579.1 feet, based on 1918-2019 data. In this period of record, the lowest mean level for Lake Michigan for September occurred in 1964 at 576.6 feet, and the highest mean level for September occurred in 1986 at 582.0 feet. The month-end level of Lake Michigan was 581.7 feet. All values are provided by the U.S. Army Corps of Engineers Detroit District.

Table 3. Peak Stages for Major Rivers during September 2020

River	Station	River mile*	Flood stage (feet)*	Peak stage (feet)**	Date
Illinois	Morris	263.1	16	5.8	12
	La Salle	224.7	20	12.5	13
	Peoria	164.6	18	12.6	08
	Havana	119.6	14	8.3	13
	Beardstown	88.6	14	10.1	13-14
	Hardin	21.5	25	20.5	14
Mississippi	Dubuque	579.9	17	9.8	03-04
	Keokuk	364.2	16	6.7	15
	Quincy	327.9	17	12.5	13
	Grafton	218.0	18	16.2	13-14
	St. Louis	180.0	30	11.0	15
	Chester	109.9	27	13.1	16
	Thebes	43.7	33	17.3	17
Ohio	Cairo	2.0	40	22.7	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, September 2020

Station	Drainage area (sq mi)	Years of record*	2020 mean flow (cfs)	Long-term flows*		Flow condition	Percent chance of exceedance	Days of data this month
				Mean (cfs)	Median (cfs)			
Rock River at Rockton	6,363	80	6,232	3,302	2,787	above normal	11	30
Rock River near Joslin	9,549	80	8,109	4,831	4,054	above normal	13	30
Pecatonica River at Freeport	1,326	105	1,483	831	669	above normal	11	30
Green River near Geneseo	1,003	84	355	379	183	normal	31	30
Edwards River near New Boston	445	85	94	144	53	normal	33	30
Kankakee River at Momence	2,294	106	769	1,099	832	normal	55	30
Iroquois River near Chebanse	2,091	97	108	608	130	normal	60	30
Fox River at Dayton	2,642	105	1,343	1,121	712	above normal	26	30
Vermilion River at Pontiac	579	77	23	133	17	normal	39	30
Spoon River at Seville	1,636	106	295	601	203	normal	38	30
LaMoine River at Ripley	1,293	99	192	465	121	normal	39	30
Bear Creek near Marceline	349	76	45	154	20	normal	32	30
Mackinaw River near Congerville	767	75	96	234	27	above normal	25	30
Salt Creek near Greenview	1,804	78	248	470	208	normal	45	30
Sangamon River at Monticello	550	111	14	123	29	below normal	71	30
South Fork Sangamon near Rochester	867	71	12	181	23	normal	67	30
Illinois River at Valley City	26,743	81	7,202	12,364	8,337	normal	67	30
Macoupin Creek near Kane	868	92	14	206	48	below normal	82	30
Vermilion River near Danville	1,290	99	72	303	113	normal	67	30
Kaskaskia River at Vandalia	1,940	50	779	550	362	above normal	21	30
Shoal Creek near Breese	735	78	130	171	46	normal	31	30
Embarras River at Ste. Marie	1,516	108	63	357	118	below normal	72	30
Skillet Fork at Wayne City	464	103	3.6	87	18	below normal	76	30
Little Wabash River below Clay City	1,131	106	31	239	63	normal	65	30
Big Muddy River at Plumfield	794	49	105	185	106	normal	51	30
Cache River at Forman	244	96	60	56	13	above normal	22	30

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

Much below normal flow = 90-100% chance of exceedance.

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

Normal flow = 30-70% chance of exceedance.

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

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

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

Table 5. Reservoir Levels in Illinois, September 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	August reported pumpage (million gallons)
Altamont	Effingham	582.0	-1.3	-1.0	-2.2	37	7.9
Bloomington	McLean	719.5	-1.7	-1.5	-3.0	34	N/A
Carlinville	Macoupin	571.1	-0.8	-0.8	-1.4	34	24.8
Carlyle ⁽¹⁾	Clinton	445.0	+0.3	-0.2	+0.2	42	N/A
Decatur ^(1,3)	Macon	614.3	-1.4	-0.8	-0.9	36	1,148.3
Evergreen ⁽⁴⁾	Woodford	720.0	-1.4	+0.2	-2.7	30	N/A
Glenn Shoals ⁽²⁾	Montgomery	590.0	-1.7	-0.7	-0.9	26	w/Hillsboro
Highland	Madison	500.0	-0.5	-0.4	-0.7	32	34.2
Hillsboro ⁽²⁾	Montgomery	589.0	N/A	N/A	-0.5	24	39.9
Jacksonville ⁽²⁾	Morgan	644.0	N/A	N/A	-1.0	19	w/Mauvaise Terre
Kinkaid	Jackson	420.0	-0.4	-0.1	-0.7	32	53.4
Lake of Egypt	Williamson	500.0	N/A	N/A	-1.2	27	N/A
Mattoon	Coles	632.0	-1.5	-1.0	-0.9	26	w/Paradise
Mauvaise Terre ⁽²⁾	Morgan	588.5	N/A	N/A	-0.4	20	no meter
Mt. Olive (new)	Macoupin	600.0	N/A	N/A	-0.6	9	w/Mt. Olive (old)
Mt. Olive (old)	Macoupin	654.0	N/A	N/A	-1.4	23	5.0
Pana	Christian	641.6	-3.2	N/A	-1.6	34	N/A
Paradise	Coles	685.0	-1.5	-1.5	-0.7	30	63.4
Paris (east) ⁽⁵⁾	Edgar	660.0	-0.5	-0.3	-0.5	10	Not PWS
Paris (west) ⁽⁵⁾	Edgar	660.1	-0.3	-0.3	-0.3	10	w/Paris (east)
Raccoon ⁽¹⁾⁽⁵⁾	Marion	477.0	+0.1	-0.3	-0.2	12	97.4
Rend	Franklin	405.0	+0.3	-0.8	+0.7	42	N/A
Salem ⁽³⁾	Marion	546.5	-0.1	+0.9	-0.9	25	28.3
Shelbyville ⁽¹⁾	Shelby	599.7	+0.2	-3.3	-0.1	42	Not PWS
Sparta ⁽³⁾	Randolph	497.0	-1.0	-0.9	-1.6	23	N/A
Spring ^(3,4)	McDonough	654.0	-0.2	+0.2	-0.8	36	51.2
Springfield ^(1,3)	Sangamon	560.0	-1.5	-0.9	-1.7	36	764.2
Taylorville	Christian	590.0	-0.5	-0.3	-0.7	26	50.4
Vermilion ⁽⁴⁾	Vermilion	581.7	-0.6	-0.6	-0.7	35	207.0

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 October 1 values.

(2) Instrumentation not available to measure height of water elevation above spillway.

(3) Natural inflow can be supplemented by other sources.

(4) Normal pool elevations have changed during period of record reported.

(5) Years of record and average since supply switched to different source. Period of reporting is longer.

Groundwater Information

— JENNIE ATKINS

Comparison to Period of Record. Shallow groundwater levels in 27 observation wells were near the long-term average for September. Levels averaged 0.14 feet above average and ranged from 2.59 feet below to 2.50 feet above normal levels (Table 6).

Comparison to August 2020. Shallow groundwater levels were below those of the previous month. Levels averaged 0.89 feet below and ranged from 2.51 feet below to 1.29 feet above August 2020 levels.

Comparison to September 2019. Shallow groundwater levels in September were below levels from one year ago. Levels averaged 1.44 feet below and ranged from 7.37 feet below to 1.28 feet above September 2019 levels.

Table 6. Month-End Shallow Groundwater Level Data Sites, September 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	4.53	1.86	1.66	-1.01	-0.13
Bondville	Champaign	21.00	8.56	-2.10	-2.59	-1.01	-0.26
Bondville (ICN)	Champaign	20.00	6.77	-0.59	-0.76	-0.91	-0.59
Boyleston	Wayne	23.00	8.27	-1.40	-0.92	-0.71	-0.83
Brownstown	Fayette	15.00	4.44	-0.11	0.00	-1.37	-1.03
Carbondale	Jackson	26.00	7.51	1.04	1.00	-1.34	0.19
Coffman	Pike	28.00	N/A	N/A	N/A	N/A	N/A
Crystal Lake	McHenry	18.00	4.14	0.52	1.37	0.32	-0.84
DeKalb	DeKalb	25.00	7.86	-2.33	-2.36	-1.00	-5.37
Fairfield	Wayne	21.00	5.85	0.02	-0.04	-1.22	-1.20
Fermi Lab	DuPage	15.00	9.85	-1.68	-1.70	-0.91	-7.37
Freeport	Stephenson	26.00	16.51	0.78	0.85	1.29	-4.24
Galena	JoDaviess	25.00	19.76	-0.04	1.14	0.03	-1.79
Good Hope	McDonough	30.00	8.45	-0.77	0.53	-0.07	-3.64
Greenfield	Greene	21.00	15.53	-0.33	-0.22	-2.51	-0.09
Janesville	Coles	11.00	6.90	-0.34	-0.42	-0.78	0.03
Monmouth	Warren	27.00	12.33	-0.71	-0.78	-0.64	0.35
Mt. Morris	Ogle	55.00	18.96	-1.33	0.09	-0.93	-5.81
Olney	Richland	19.00	5.46	0.48	0.37	-1.28	-0.48
Perry	Pike	20.00	7.33	3.01	2.50	-1.12	0.13
Rend Lake	Jefferson	21.00	5.23	0.69	0.61	-0.88	0.82
SE College	Saline	11.00	7.02	1.37	0.96	-1.02	1.28
Snicarte	Mason	42.00	35.88	1.02	1.28	0.19	1.21
Sparta	Randolph	27.00	8.44	-0.65	0.84	-2.28	N/A
Springfield	Sangamon	20.00	9.52	-2.08	-1.07	-1.35	-2.97
St. Charles	Kane	21.00	21.93	0.48	1.09	-1.00	-2.91
St. Peter	Fayette	15.00	5.19	-1.07	-0.49	-1.46	N/A
SWS #2	St. Clair	80.00	14.18	0.01	0.97	-1.07	-0.34
				-0.16	0.14	-0.89	-1.44

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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