

## ILLINOIS WATER AND CLIMATE SUMMARY

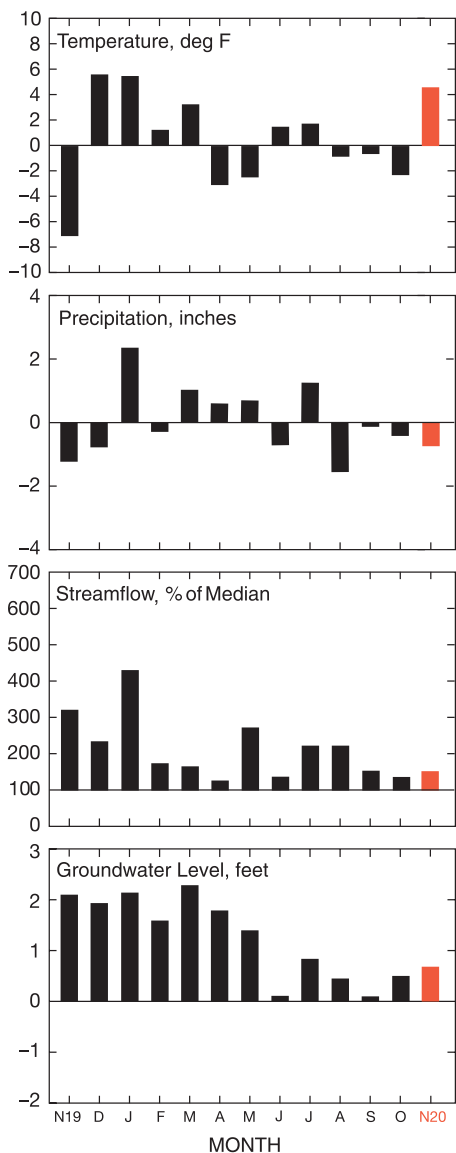


Figure 1. Statewide departures from normal.

### NOVEMBER 2020 OVERVIEW

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

**Air temperatures** averaged 47.1°F in November, 4.6° above the long-term average (Figure 1). The southeast crop reporting district (CRD) was the warmest with an average of 50.1°F. The lowest regional temperature was 44.3°F, reported by the northwest CRD.

**Precipitation** averaged 2.79 inches, 0.68 inches below the long-term average (Figure 1). The east-southeast CRD was the wettest with an average of 4.32 inches. The driest was the northeast CRD with 1.73 inches.

**Mean provisional streamflow** aggregated statewide was above the long-term median flow for November, about 145% of median (Figure 1). Monthly mean discharge values ranged from below normal to much above normal for November.

**Water surface levels** at the end of November were below the full pool or target level at 14 of 24 reporting reservoirs. At the end of November, Lake Shelbyville was 0.3 feet above the December 1 target level, Carlyle Lake was 2.5 feet above the seasonal target level, and Rend Lake was 2.1 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 0.79 feet from the period of record (Figure 1). An increase of 0.30 feet in departures was observed from the deviation in normal groundwater levels between October and November. Levels averaged 0.88 feet above October 2020 and 1.79 feet below November 2019 levels.

# Weather/Climate Information

— KEVIN GRADY

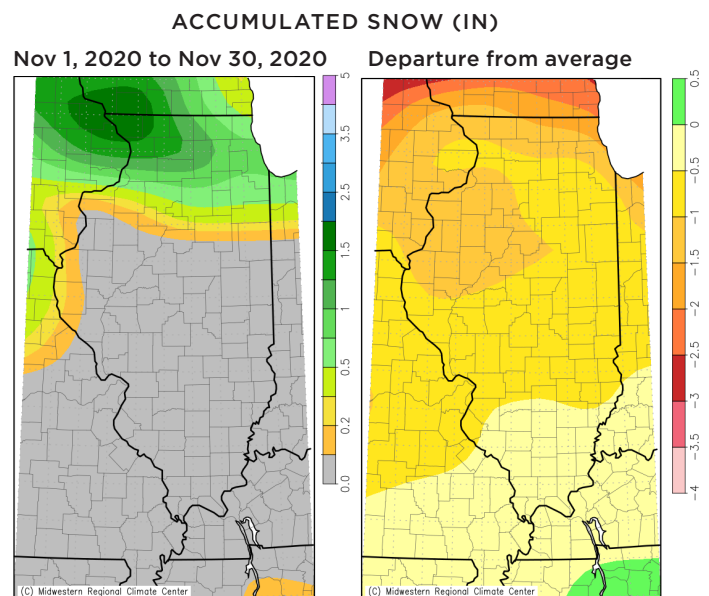
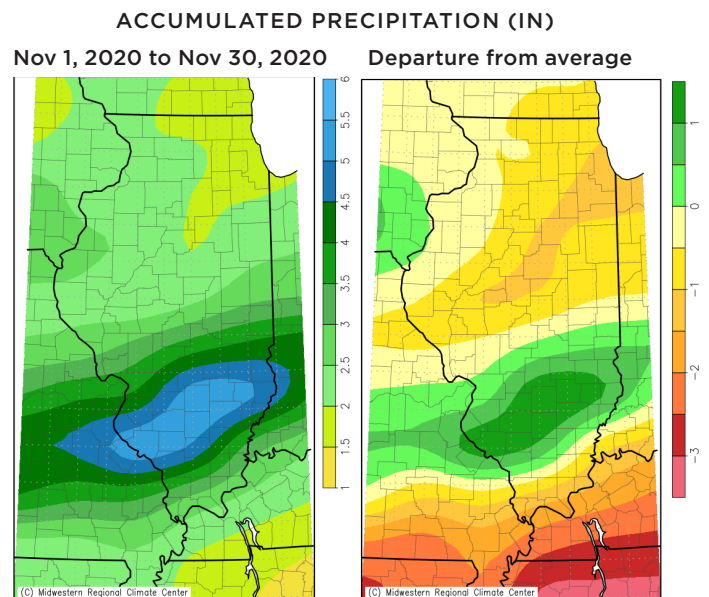
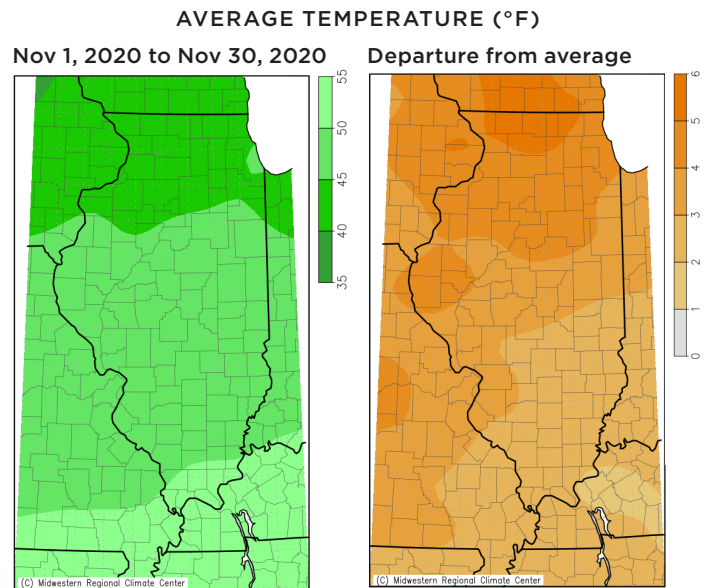
The following description of temperatures, precipitation, snow, severe weather, and drought comes from data compiled by networks that report to the National Oceanic and Atmospheric Administration (NOAA). These data are provisional and may change slightly over time.

November in Illinois was drier and much warmer than average across most of the state.

**Temperatures** averaged 47.1°F, 4.6° above the long-term average (Table 1a, Figure 2), making November 2020 the seventh warmest November on record in Illinois back to 1895. This stands in sharp contrast to the previous two years, both of which had Novembers in the top 15 coldest on record. November 2020 was 10.9° and 11.5° on average warmer than November 2019 and 2018, respectively, in Illinois. This also contrasts with earlier in autumn, when both September and October 2020 were cooler than average. Monthly average temperatures in November 2020 ranged from the mid-40s in northern Illinois to the lower 50s in southern Illinois. These temperatures were 3 to 6° above average across most of the state, with the largest departures above average in northern Illinois.

One of the coldest periods of November was the first couple of days of the month, continuing from a cold end to October. Many stations reached their monthly minimum temperatures during the first three days of the month, generally ranging from the upper teens in northern Illinois to the mid-20s in southern Illinois. The lowest reading of the month, 18°F, was recorded at several stations in the northern half of Illinois on November 1 and 2. This cold was then followed by about seven days of well above average temperatures. Especially notable were November 8-10 when average temperatures across most of Illinois were 18-24° above average. Nearly all stations recorded their monthly maximum temperatures on one of these days, ranging from the mid-70s in northern Illinois to the lower 80s in southern Illinois. The warmest reading of the month, 82°F, was recorded at stations near Dixon Springs (Pope County) on November 8 and near Harrisburg (Saline County) on November 9. Temperatures would moderate somewhat after November 10 but would generally remain above average across Illinois for the rest of November.

**Precipitation** averaged 2.79 inches in November, 0.68 inches below the long-term average (Table 1a, Figure 2). Dry conditions continued from October in the northern part of Illinois, with most areas to the north of I-70 receiving below average precipitation in November. Monthly totals were generally less than 3 inches north of the I-72 corridor, up to around an inch below average in many areas. One of the driest parts of Illinois was roughly centered along the I-55 corridor between Springfield and the Chicago area, where November totals were up to 2 inches below average in some places.



**Figure 2. Illinois temperature, precipitation, snow and their departures from average for November 2020.** Source: cli-MATE, Midwestern Regional Climate Center. <https://mrcc.illinois.edu/CLIMATE>. Information accessed on December 8, 2020.

The wettest part of Illinois in November was an area along and to the south of the I-70 corridor. Monthly totals here were generally 4–6 inches, up to around an inch or so above average in some places. A station near Mt. Vernon (Jefferson County) had the highest monthly total of 6.68 inches. A large amount of the precipitation in this area came around the third weekend of the month and the following days leading up to Thanksgiving, with much of the region receiving over 2 inches of precipitation between November 21 and 25. The above average precipitation did not extend to far southern Illinois, however, which ended November up to 2 inches below average in some areas. For example, a station near Cairo (Alexander County) only received 2.41 inches for the month.

**Snow:** Most areas in the northern third of Illinois received measurable snow in November (Figure 2). The highest monthly totals were in the northwestern corner of Illinois, where totals of up to around 2 inches were common. Totals gradually decreased to around an inch or less in areas to the east and south, with locally higher amounts in some places. Most of this snow came from a system that moved through the area on November 23 and 24. The highest total for November was 3.0 inches, recorded at stations near Mount Carroll (Carroll County) and near Aurora (Kane County). Areas as far south as the I-72 corridor received only a trace of snow for November if they had snow at all.

**Severe weather reports:** The NOAA Storm Prediction Center recorded 73 severe weather reports for November in Illinois: 14 for tornadoes, 3 for hail, and 56 for wind. (Multiple reports can be generated for a single event.) All these reports came on November 10 from parts of western and northern Illinois as a storm system moved across the state. The National Weather Service confirmed six EF1 tornadoes in the Quad Cities area, along with two EF0 tornadoes in DeKalb and Kane Counties. There were also widespread wind reports in northern Illinois, including a 78 mph wind gust recorded just offshore of Navy Pier in Chicago. This was the first widespread severe weather event in Illinois in the three months since the August 10 derecho. It was also the only significant event in autumn, with September and October recording only four severe weather reports in Illinois combined.

**Drought:** November started with much of central Illinois classified as abnormally dry (D0) or worse by the United States Drought Monitor, after most of the area had received below average precipitation since August. This included an area of moderate drought (D1) from the Springfield and Lincoln areas east along the I-72 corridor to the Indiana border. As the dry conditions continued into November, an area of severe drought (D2) was introduced on the November 10 map in the area between Springfield and Decatur, just to the west of where the D2 conditions occurred briefly in October. The area in and around this region has largely been dry for much of the year, with six-month precipitation deficits of over 6 inches in some places (Figure 3), or about 65–75% of their average precipitation. Dry conditions throughout November allowed these areas to largely persist and also permitted the D0 conditions to expand northward. However, the above average precipitation near I-70 did help improve

**Table 1a. Temperature and Precipitation for November 2020**

	Temp. (°F)	Departure from long-term avg. (1981–2010)	Precip. (in)	Departure from long-term avg. (1981–2010)
Illinois	47.1	+4.6	2.79	-0.68
CRD 1 (northwest)	44.3	+5.4	1.98	-0.71
CRD 2 (northeast)	45.1	+5.3	1.73	-1.31
CRD 3 (west)	46.8	+5.3	2.27	-0.68
CRD 4 (central)	46.3	+4.8	2.03	-1.22
CRD 5 (east)	46.1	+4.6	2.24	-1.15
CRD 6 (west southwest)	47.8	+3.8	2.74	-0.89
CRD 7 (east southeast)	48.0	+3.9	4.32	+0.36
CRD 8 (southwest)	50.0	+3.8	3.96	-0.27
CRD 9 (southeast)	50.1	+3.8	4.12	-0.16

Data from NOAA's National Centers for Environmental Information, accessed 12/8/2020.

**Table 1b. Temperature and Precipitation for Autumn (Sep - Nov) 2020**

	Temp. (°F)	Departure from long-term avg. (1981–2010)	Precip. (in)	Departure from long-term avg. (1981–2010)
Illinois	54.9	+0.6	9.00	-0.94
CRD 1 (northwest)	51.8	+0.4	11.25	+2.29
CRD 2 (northeast)	52.7	+0.7	8.87	-0.42
CRD 3 (west)	54.0	+0.2	7.95	-1.55
CRD 4 (central)	54.3	+0.6	7.50	-1.97
CRD 5 (east)	54.1	+0.6	7.21	-2.35
CRD 6 (west southwest)	55.7	+0.1	7.13	-2.98
CRD 7 (east southeast)	56.3	+0.6	9.68	-0.91
CRD 8 (southwest)	58.0	+0.6	10.30	-0.91
CRD 9 (southeast)	58.3	+0.9	11.59	+0.48

Data from NOAA's National Centers for Environmental Information, accessed 12/8/2020.

conditions there, including eliminating a narrow area of D1 drought from Effingham east. On the November 24 map (Figure 4), most areas from around I-80 to just north of I-70 were classified as D0 or worse, covering approximately 50% of Illinois, and with 1.68% classified as D2 drought.

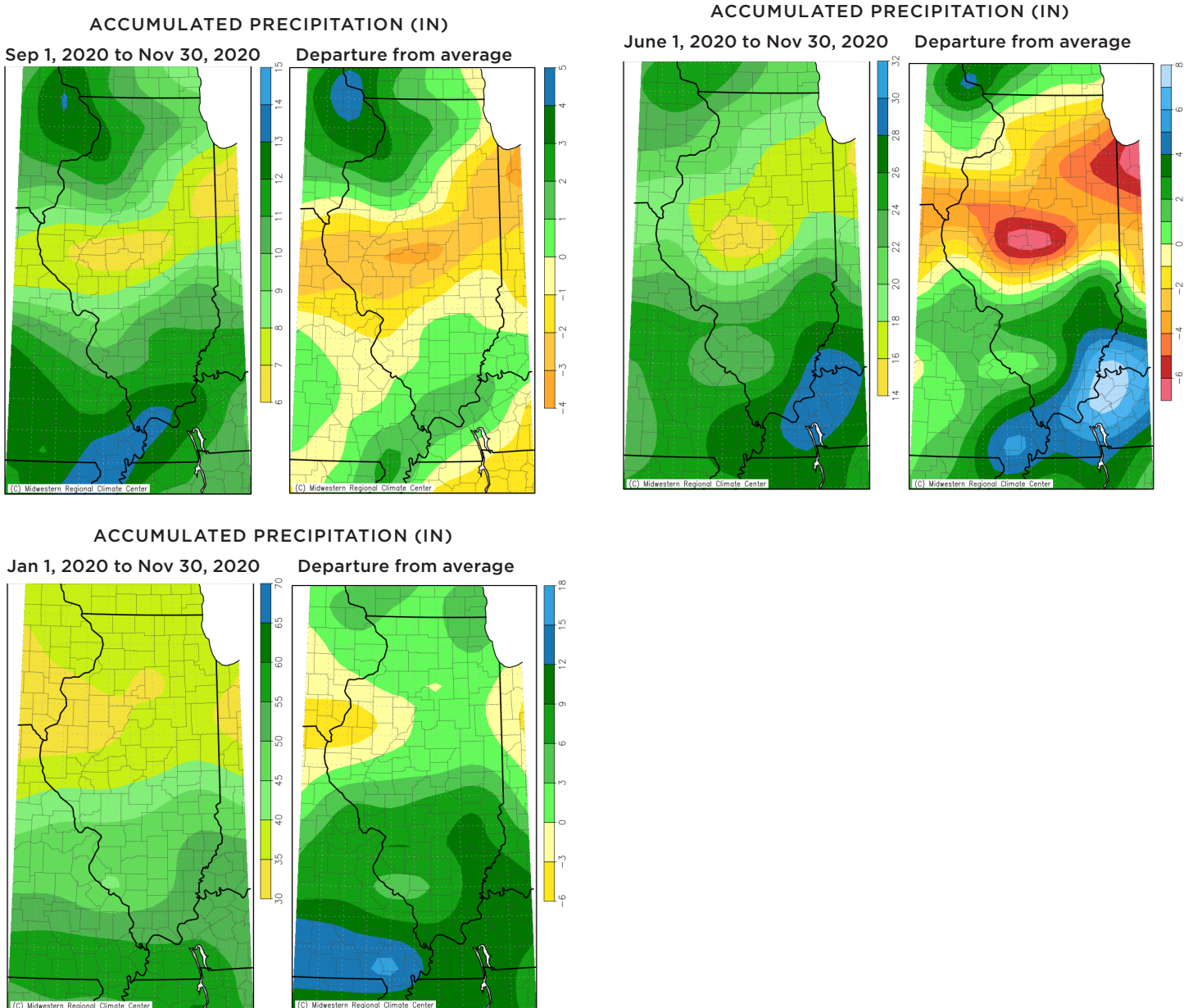
**Autumn** (September–November) was slightly warmer than average across most of Illinois. Seasonal temperatures averaged 54.9°F statewide, 0.6° above the long-term average (Table 1b), ranging from around 50° in northern Illinois to around 60° in southern Illinois. For most of the state this was near to slightly above average by up to about 1°. These above average temperatures were largely due to a much warmer than average November, as September and especially October were cooler than average across most of Illinois.

Autumn precipitation averaged 9.00 inches statewide, 0.94 inches below average (Table 1b, Figure 3). The driest part of the state was central Illinois, especially around the

I-72 corridor, which was consistently dry all three months. As a result, drought was present in some part of central Illinois throughout autumn, including some areas of severe drought (D2) in the later parts of the season. Seasonal totals in this area were often less than 8 inches, 2-4 inches or more below average, especially near Springfield and Decatur. Southern Illinois was also dry in September and the first half of October before a very wet end to October and a mostly wetter than average November erased any lingering dryness. As a result, seasonal totals were generally 10-12 inches or more, around an inch or so above average in some places. Northwestern Illinois was also wetter than average for the season, thanks in large part to a very wet September,

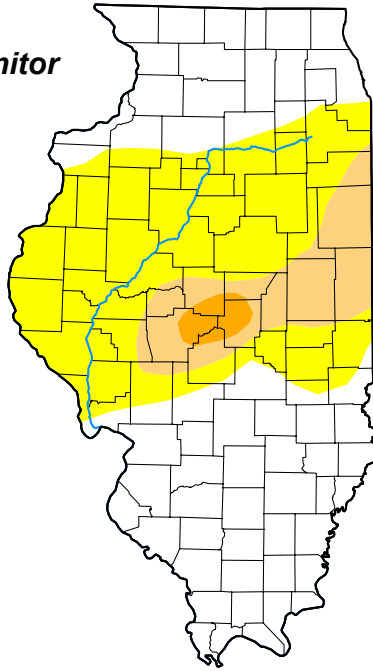
2-4 inches or more above average in some places. Despite October and November being dry in the area, autumn still finished with totals of 10-12 inches here as well, more than 2 inches above average in some places. The highest seasonal total was 14.96 inches at a station near Geneseo (Henry County).

Finally, most areas of northern Illinois received measurable snow in November, with some parts of northwestern Illinois receiving some in October as well. Seasonal totals were generally 2 inches or less and quickly tapered off south of I-80. The largest seasonal totals were in northwestern Illinois, with a station near Mount Carroll (Carroll County) recording 4.7 inches.



**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. <https://mrcc.illinois.edu/CLIMATE>. Information accessed on December 8, 2020.

**U.S. Drought Monitor  
Illinois**



**November 24, 2020**  
(Released Wednesday, Nov. 25, 2020)  
Valid 7 a.m. EST

*Drought Conditions (Percent Area)*

	None	D0	D1	D2	D3	D4
<b>Current</b>	49.78	37.68	10.86	1.68	0.00	0.00
<b>Last Week</b> <i>11-17-2020</i>	58.50	28.96	10.86	1.68	0.00	0.00
<b>3 Months Ago</b> <i>08-25-2020</i>	54.37	41.36	4.27	0.00	0.00	0.00
<b>Start of Calendar Year</b> <i>12-31-2019</i>	100.00	0.00	0.00	0.00	0.00	0.00
<b>Start of Water Year</b> <i>09-29-2020</i>	42.28	54.03	3.69	0.00	0.00	0.00
<b>One Year Ago</b> <i>11-26-2019</i>	100.00	0.00	0.00	0.00	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:**

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 November are presented in Table 2.

**Wind** increased in November to an average of 7.9 mph, 1.7 mph higher than in October and equal to the network's long-term average. ICN Monmouth had the windiest month with an average of 12.2 mph. The highest reported wind gust of 56.0 mph was recorded at ICN St. Charles on November 10.

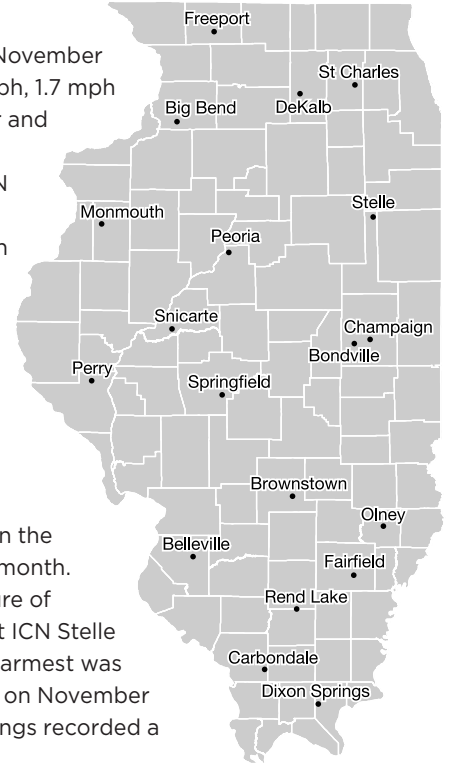
**Air temperatures** changed greatly over November, especially in the first two weeks of the month. The coldest temperature of 18.0°F was recorded at ICN Stelle on November 2. The warmest was reported six days later on November 8 when ICN Dixon Springs recorded a high of 80.9°.

**Soil temperatures** declined 8 to 9°F from October to monthly averages in the high 40s to low 50s. Temperatures were 2 to 3° warmer than the long-term averages. Soils remained above freezing at most stations with temperatures below 32° only seen at the 2-inch depths. Under bare soil, temperatures ranged from 31.1 to 75.1° at 2 inches and 33.0 to 68.7° at 4 inches. Temperatures under sod ranged from 36.0 to 65.0° at 4 inches and 39.1 to 62.8° at 8 inches.

**Precipitation** averaged 3.31 inches for the month, an increase of 0.04 inches from in October and 0.24 inches above the long-term average. Wet weather continued in southern Illinois in November as the region received 4.69 inches. ICN Olney had the highest total of the month, recording 5.60 inches, 2.01 inches more than usual for the station.

The totals were lower in the west-central region with an average of 2.64 inches. However, the region saw the largest increases with an average increase of 78% from October. Both ICN Monmouth and ICN Perry had totals of more than double that from last month.

Soil moisture will return to the IWCS in Spring 2021.



**Figure 4. U.S. Drought Monitor report for Illinois.** Source: U.S. Drought Monitor. Author: Richard Heim, NCEI/NOAA <https://droughtmonitor.unl.edu>, accessed on December 8, 2020.

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

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	7.4	194.2	43.7	78.8M	24.0M	49.8M	284.9
Big Bend	8.9	214.2	54.4	76.5	20.2	44.2	257.3
Bondville	12.2M	211.6M	48.6M	78.0M	18.9M	45.1M	266.9M
Brownstown	7.2	197.8	40.3	78.7	21.6	48.4	277.2
Carbondale	6.7	202.1	42.5	80.3	22.3M	50.2	310.6
Champaign	4.9	209.8	40.8	78.5	21.7	45.7	262.8
DeKalb	10.2	218.5	48.2	75.5	18.5	43.0	260.6
Dixon Springs	4.3	186.4	33.9	80.9	23.6	50.5	282.7
Fairfield	6.7	191.1	36.3	79.7M	22.5M	49.1M	301.1
Freeport	6.6	221.2	34.5	74.8	19.5	42.6	214.9
Monmouth	12.2	218.0	51.8	76.1	18.5	44.3	270.1
Olney	5.9	202.3	44.2	79.9	22.1	48.9	298.0
Peoria	8.4	211.0	41.6	77.1	20.1	46.4	271.0
Perry	7.2	207.0	34.9	78.1M	20.6M	47.4M	278.9
Rend Lake	5.2	196.4	33.4	80.5M	25.0M	49.9M	293.1
Snicarte	10.7M	193.4M	42.9M	77.0M	20.9M	49.1M	247.9M
Springfield	6.6	207.5	34.4	76.5	24.3	47.5	274.7
St. Charles	7.8	219.1	56.0	75.9	19.8	43.8	251.9
Stelle	11.7	217.1	51.2	77.5	18.0	44.0	249.4

**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	73.0	5.10	40.3M	2.18M	50.5	51.2	47.8	48.4
Big Bend	73.7	2.89	35.5	1.89	46.9	46.5	46.1	44.9
Bondville	77.2M	2.58M	37.5M	2.01M	46.1M	50.3M	46.6M	46.0M
Brownstown	67.7	5.23	37.1	2.15	53.1	52.0	47.6	47.2
Carbondale	74.2	3.62	40.8	2.32	53.9	52.7	50.5	49.4
Champaign	75.6	2.48	37.6	1.76	49.2	50.5	47.8	46.8
DeKalb	76.9	2.85	35.6	1.83	47.4	47.0	46.2	45.1M
Dixon Springs	69.3	2.93	39.4	2.04	52.9	54.0	50.9	52.1
Fairfield	71.0	4.70	39.0M	2.19M	52.8	53.4	50.3	51.5
Freeport	74.7	2.12	34.6	1.53	46.3	46.3	42.5	42.2
Monmouth	76.1	3.15	36.5	1.98	46.4	46.7	46.5	44.7
Olney	70.2	5.60	38.5	2.17	50.7	52.4M	49.6	49.0
Peoria	68.8	2.59	35.8	2.11	48.8	49.0	46.5	46.0
Perry	70.1	2.53	36.9M	2.11M	49.1	49.9	47.8	47.7
Rend Lake	68.4	5.58	38.7M	2.16M	50.7	52.3	51.4	49.6
Snicarte	65.7M	2.06M	37.0M	2.14M	50.3M	51.1M	49.1M	50.4M
Springfield	69.3	2.65	37.0	2.05	50.3	50.1	48.1	47.7
St. Charles	73.9	2.17	35.2	1.79	46.0	47.0	45.2	44.1
Stelle	76.1	2.04	36.2	1.93	47.5	48.0	46.0	44.8

M = Missing data.

# 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 November (approximately 145 percent of the median) and below the mean for November (approximately 85 percent of the mean). Monthly mean discharge values ranged mostly from below normal (in central and east-central Illinois) to above normal for November. Monthly mean streamflow was much above normal in parts of southeastern Illinois.

**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-October water levels at 24 reservoirs for which levels were reported last month and this month, reported end-of-November water levels were lower at 6 reservoirs, higher at 16 reservoirs, and about the same as at the end of October at 2 reservoirs. For the 24 reservoirs with measurements reported at the end of November, water levels were below normal target pool or spillway level at 14 reservoirs, above normal target pool or spillway level at 7 reservoirs, and at about full pool level at 3 reservoirs. Pana Lake level remained intentionally drawn down to facilitate construction. Carlville supply resumed from Lake 1. At the end of November, the City of Decatur issued a press release requesting voluntary water conservation measures by users due to dry conditions.

**Major Reservoirs.** Compared to water levels at the end of October, at the end of November the water level at Lake Shelbyville was 0.2 feet higher, Carlyle Lake was 2.0 feet higher, and Rend Lake was 2.0 feet higher. At the end of November, Lake Shelbyville was 0.3 feet above the December 1 target level, Carlyle Lake was 2.5 feet above the seasonal target level, and Rend Lake was 2.1 feet above the spillway level.

**Great Lakes.** Current month mean and end-of-month values are provisional and are relative to International Great Lakes Datum 1985. The November 2020 mean level for Lake Michigan was 581.4 feet. The monthly mean level one year ago (November 2019) was 581.6 feet. The long-term average lake level for November is 578.7 feet, based on 1918–2019 data. In this period of record, the lowest mean level for Lake Michigan for November occurred in 1964 at 576.3 feet, and the highest mean level for November occurred in 1986 at 582.0 feet. The month-end level of Lake Michigan was 581.2 feet. All values are provided by the U.S. Army Corps of Engineers Detroit District.

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

River	Station	River mile*	Flood stage (feet)*	Peak stage (feet)**	Date
Illinois	Morris	263.1	16	5.6	11
	La Salle	224.7	20	12.3	28
	Peoria	164.6	18	12.5	17, 30
	Havana	119.6	14	6.8	30
	Beardstown	88.6	14	9.8	02, 17
	Hardin	21.5	25	20.2	various
Mississippi	Dubuque	579.9	17	10.7	16
	Keokuk	364.2	16	6.3	27
	Quincy	327.9	17	12.3	15
	Grafton	218.0	18	16.2	19
	St. Louis	180.0	30	10.0	26, 29
	Chester	109.9	27	15.0	27
	Thebes	43.7	33	19.7	27, 28
Ohio	Cairo	2.0	40	29.6	02

**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, November 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	81	6,378	3,843	3,439	above normal	14	30
Rock River near Joslin	9,549	81	8,164	5,632	4,988	above normal	18	30
Pecatonica River at Freeport	1,326	106	1,280	806	698	above normal	13	30
Green River near Geneseo	1,003	84	464	467	340	normal	36	30
Edwards River near New Boston	445	86	95	170	85	normal	45	25
Kankakee River at Momence	2,294	106	814	1,629	1,372	below normal	82	30
Iroquois River near Chebanse	2,091	96	117	1,011	530	below normal	86	30
Fox River at Dayton	2,642	105	1,662	1,580	1,375	normal	38	30
Vermilion River at Pontiac	579	78	16	253	70	below normal	74	30
Spoon River at Seville	1,636	106	208	623	330	normal	61	30
LaMoine River at Ripley	1,293	99	93	529	198	normal	63	30
Bear Creek near Marceline	349	76	19	153	25	normal	54	30
Mackinaw River near Congerville	767	76	55	299	75	normal	56	30
Salt Creek near Greenview	1,804	79	167	833	340	below normal	73	30
Sangamon River at Monticello	550	111	17	252	86	below normal	81	30
South Fork Sangamon near Rochester	867	71	12	298	73	below normal	81	30
Illinois River at Valley City	26,743	82	6,468	15,194	11,715	below normal	85	30
Macoupin Creek near Kane	868	92	75	330	89	normal	57	30
Vermilion River near Danville	1,290	99	107	638	313	below normal	78	30
Kaskaskia River at Vandalia	1,940	51	909	900	655	normal	43	30
Shoal Creek near Breese	735	79	508	329	127	above normal	17	30
Embarras River at Ste. Marie	1,516	110	834	737	332	above normal	30	30
Skillet Fork at Wayne City	464	104	995	267	90	much above normal	8	30
Little Wabash River below Clay City	1,131	106	1,851	586	262	much above normal	7	30
Big Muddy River at Plumfield	794	50	403	393	148	normal	33	30
Cache River at Forman	244	98	467	196	89	above normal	13	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, November 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	October reported pumpage (million gallons)
Altamont	Effingham	582.0	-0.7	+1.0	-2.2	37	6.0
Bloomington	McLean	719.5	-4.5	-0.9	-3.6	34	N/A
Carlinville	Macoupin	571.1	0.0	+1.0	-1.0	35	24.9
Carlyle <sup>(1)</sup>	Clinton	445.0	+2.5	+2.0	+3.1	42	N/A
Decatur <sup>(1,3)</sup>	Macon	612.5	-1.3	-0.8	+0.4	37	1,092.5
Evergreen <sup>(4)</sup>	Woodford	720.0	-1.9	-0.2	-3.0	30	N/A
Glenn Shoals <sup>(2)</sup>	Montgomery	590.0	-1.5	+0.3	-0.6	26	w/Hillsboro
Highland	Madison	500.0	-0.5	-0.1	-0.2	32	35.0
Hillsboro <sup>(2)</sup>	Montgomery	589.0	N/A	N/A	-0.2	24	38.0
Jacksonville <sup>(2)</sup>	Morgan	644.0	N/A	N/A	-0.5	14	w/Mauvaise Terre
Kinkaid	Jackson	420.0	0.0	0.0	-0.7	32	49.7
Lake of Egypt	Williamson	500.0	+0.3	+0.3	-0.8	26	N/A
Mattoon	Coles	632.0	-0.1	+0.9	-0.8	27	w/Paradise
Mauvaise Terre <sup>(2)</sup>	Morgan	588.5	N/A	N/A	-0.1	18	no meter
Mt. Olive (new)	Macoupin	600.0	N/A	N/A	-0.2	10	w/Mt. Olive (old)
Mt. Olive (old)	Macoupin	654.0	-1.5	+0.1	-0.7	22	5.1
Pana	Christian	641.6	N/A	N/A	-1.6	36	N/A
Paradise	Coles	685.0	0.0	+1.3	-0.4	30	59.0
Paris (east) <sup>(5)</sup>	Edgar	660.0	+0.2	+0.1	-0.7	9	Not PWS
Paris (west) <sup>(5)</sup>	Edgar	660.1	+0.2	+0.1	0.0	9	w/Paris (east)
Raccoon <sup>(1)(5)</sup>	Marion	477.0	+0.7	+0.2	-0.7	12	91.4
Rend	Franklin	405.0	+2.1	+2.0	+0.8	42	N/A
Salem <sup>(3)</sup>	Marion	546.5	-0.1	-0.2	-0.7	25	35.5
Shelbyville <sup>(1)</sup>	Shelby	599.7	+0.3	+0.2	+2.7	42	Not PWS
Sparta <sup>(3)</sup>	Randolph	497.0	-0.7	+1.0	-1.1	24	N/A
Spring <sup>(3,4)</sup>	McDonough	654.0	-0.1	+0.3	-0.7	37	51.5
Springfield <sup>(1,3)</sup>	Sangamon	559.6	-2.1	-0.3	-1.6	37	587.5
Taylorville	Christian	590.0	-0.6	0.0	-0.9	27	47.3
Vermilion <sup>(4)</sup>	Vermilion	581.7	-0.5	+0.4	-0.3	35	191.2

**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 December 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 above the long-term average for November. Levels were 0.79 feet above average and ranged from 4.65 feet below to 5.53 feet above normal levels (Table 6).

**Comparison to October 2020.** Shallow groundwater levels were above those of the previous month. Levels averaged 0.88 feet above and ranged from 3.21 feet below to 4.90 feet above October 2020 levels.

**Comparison to November 2019.** Shallow groundwater levels in November were below levels from one year ago. Levels averaged 1.79 feet below and ranged from 9.21 feet below to 3.38 feet above November 2019 levels.

**Table 6. Month-End Shallow Groundwater Level Data Sites, November 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	1.18	5.89	5.53	1.77	3.38
Bondville	Champaign	21.00	9.97	-4.09	-4.65	-0.39	-4.59
Bondville (ICN)	Champaign	20.00	8.33	-1.75	-1.86	-0.65	-4.21
Boyleston	Wayne	23.00	6.13	-0.99	-0.32	2.32	-2.21
Brownstown	Fayette	15.00	0.11	3.74	3.65	2.59	2.16
Carbondale	Jackson	26.00	3.23	3.99	4.05	2.00	3.23
Coffman	Pike	28.00	n/a	N/A	N/A	N/A	N/A
Crystal Lake	McHenry	18.00	4.05	0.60	1.42	0.31	-0.38
DeKalb	DeKalb	25.00	7.06	-1.55	-1.58	1.04	-5.17
Fairfield	Wayne	21.00	1.30	2.93	2.71	4.90	0.45
Fermi Lab	DuPage	15.00	9.53	-2.97	-2.53	0.17	-6.08
Freeport	Stephenson	26.00	18.43	0.06	0.17	-0.33	-6.86
Galena	JoDaviess	25.00	20.57	-0.47	0.60	-0.78	-3.05
Good Hope	McDonough	30.00	9.69	-1.79	-0.78	0.31	-4.09
Greenfield	Greene	21.00	16.39	-1.23	-1.80	0.18	-1.33
Janesville	Coles	11.00	4.30	0.87	1.06	0.97	1.10
Monmouth	Warren	27.00	12.54	-0.87	-1.03	0.24	-3.28
Mt. Morris	Ogle	55.00	21.50	-2.35	-1.53	-1.03	-8.05
Olney	Richland	19.00	0.64	3.11	2.91	2.81	1.53
Perry	Pike	20.00	12.45	0.59	-0.38	-3.21	-1.06
Rend Lake	Jefferson	21.00	2.42	2.76	2.57	1.99	2.01
SE College	Saline	11.00	2.20	3.19	3.09	0.77	2.14
Snicarte	Mason	42.00	35.60	0.83	1.94	0.10	1.85
Sparta	Randolph	27.00	3.50	3.06	5.24	4.77	-1.27
Springfield	Sangamon	20.00	10.20	-2.71	-1.27	-0.01	-6.14
St. Charles	Kane	21.00	24.01	-0.45	0.12	-0.95	-9.21
St. Peter	Fayette	15.00	1.97	0.03	0.66	2.89	0.97
SWS #2	St. Clair	80.00	11.72	1.48	3.40	1.10	-0.18
				<b>0.44</b>	<b>0.79</b>	<b>0.88</b>	<b>-1.79</b>

Notes: N/A = Data not available.

**Data sources for this publication include the following:**

- CPC - Climate Prediction Center, <https://www.cpc.ncep.noaa.gov/index.php>
- ISWS - Illinois State Water Survey, <https://www.isws.illinois.edu>
- MRCC - Midwestern Regional Climate Center, <https://mrcc.illinois.edu>
- NCEI - National Centers for Environmental Information, <https://www.ncei.noaa.gov>
- NWS - National Weather Service, <https://www.nws.noaa.gov>
- SPC - Storm Prediction Center, <https://www.spc.noaa.gov>
- USACE - U.S. Army Corps of Engineers, <http://rivergages.com>, <https://www.lre.usace.army.mil>
- USDM - U.S. Drought Monitor, <https://droughtmonitor.unl.edu>
- USGS - U.S. Geological Survey, <https://waterdata.usgs.gov/il/nwis>
- WARM - Water and Atmospheric Resources Monitoring Program, <https://www.isws.illinois.edu/warm>

ILLINOIS STATE WATER SURVEY

[WWW.ISWS.ILLINOIS.EDU](http://WWW.ISWS.ILLINOIS.EDU)

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