ILLINOIS
Illinois State Water Survey
PRAIRIE RESEARCH INSTITUTE

February 2019

ILLINOIS WATER AND CLIMATE SUMMARY

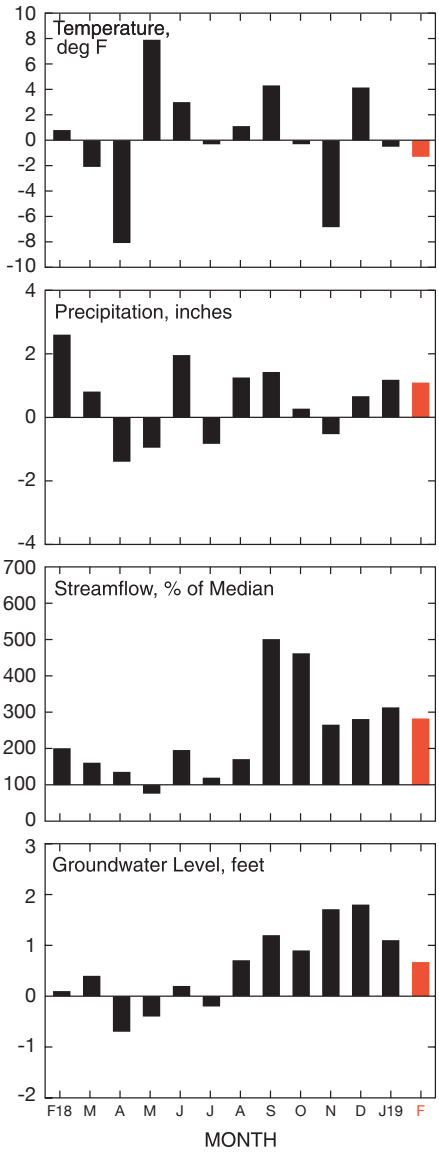

Figure 1. Statewide departures from normal

FEBRUARY 2019 OVERVIEW

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

Air temperatures averaged 29.6°F in February, 1.3° below the long-term average (Figure 1). The southeast crop reporting district (CRD) was the warmest with an average of 38.5°. The lowest regional temperature was 21.8°, reported by the northwest CRD.

Precipitation averaged 3.15 inches, 1.09 inches above the long-term average (Figure 1). The southeast CRD was the wettest with an average of 6.08 inches. The driest was the west CRD with 1.98 inches.

Mean provisional streamflow aggregated statewide was above the long-term median flow for February, about 280% of median (Figure 1). Monthly mean discharge values ranged from above normal to much above normal for February. The Illinois and Ohio Rivers crested above the local flood stages at many locations, and the Mississippi River crested above the local flood stages in southern Illinois.

Water surface levels at the end of February were below the full pool or target level at 5 of 26 reporting reservoirs. At the end of February, Lake Shelbyville was 1.5 feet above the winter target level, Carlyle Lake was 3.5 feet above the winter target level, and Rend Lake was 5.1 feet above the spillway level. The Lake Michigan 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 0.67 feet (Figure 1). A decrease of 0.39 feet in departures was observed from the deviation in normal groundwater levels between January and February. Levels averaged 0.51 feet above January 2019 and 0.65 feet above February 2018 levels.

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Weather/Climate Information

— BRIAN KERSCHNER

The following description of temperatures, 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.

February in Illinois was cooler and significantly wetter than average.

Temperatures averaged 29.6°F, 1.3° below the long-term average (Table 1a, Figure 2). The month began with a notable warming trend in which numerous stations experienced a 70° or greater temperature difference over

Table 1a. Temperature and Precipitation for February 2019

	Temp. (°F)	Departure from long-term avg. (1981–2010)	Precip. (in)	Departure from long-term avg. (1981–2010)
Illinois	29.6	-1.3	3.15	+1.09
CRD 1 (northwest)	21.8	-4.4	3.38	+1.84
CRD 2 (northeast)	24.1	-3.0	2.69	+1.08
CRD 3 (west)	25.8	-3.8	1.98	+0.21
CRD 4 (central)	27.6	-1.9	2.38	+0.57
CRD 5 (east)	28.8	-0.5	2.07	+0.24
CRD 6 (west southwest)	31.2	-1.6	2.44	+0.38
CRD 7 (east southeast)	33.5	+0.6	3.03	+0.68
CRD 8 (southwest)	37.6	+1.2	5.13	+2.33
CRD 9 (southeast)	38.5	+2.2	6.08	+2.99

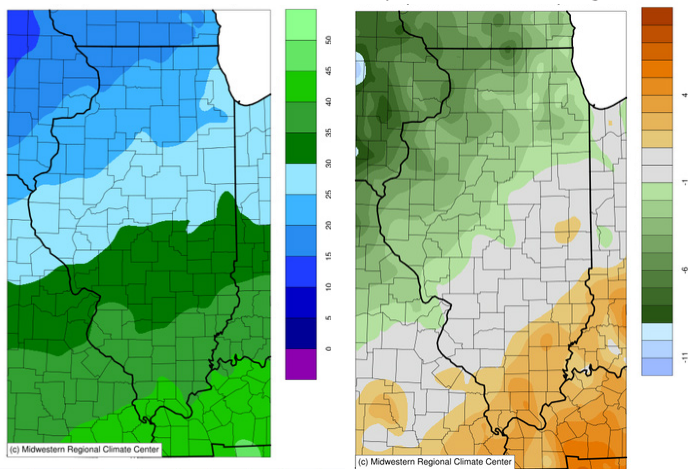
Table 1b. Temperature and Precipitation for Winter (December–February) 2018/19

	Temp. (°F)	Departure from long-term avg. (1981–2010)	Precip. (in)	Departure from long-term avg. (1981–2010)
Illinois	29.9	+0.8	9.67	+2.85
CRD 1 (northwest)	23.8	-0.5	8.41	+3.41
CRD 2 (northeast)	25.4	0.0	7.30	+1.82
CRD 3 (west)	27.4	-0.3	6.72	+1.09
CRD 4 (central)	28.1	+0.4	8.58	+2.44
CRD 5 (east)	28.6	+1.1	7.93	+1.65
CRD 6 (west southwest)	31.4	+0.7	9.14	+2.34
CRD 7 (east southeast)	32.7	+1.6	10.45	+2.57
CRD 8 (southwest)	36.5	+2.2	14.26	+5.19
CRD 9 (southeast)	37.1	+2.7	16.08	+6.06

Data from NOAA's National Centers for Environmental Information, accessed 03/06/2019.

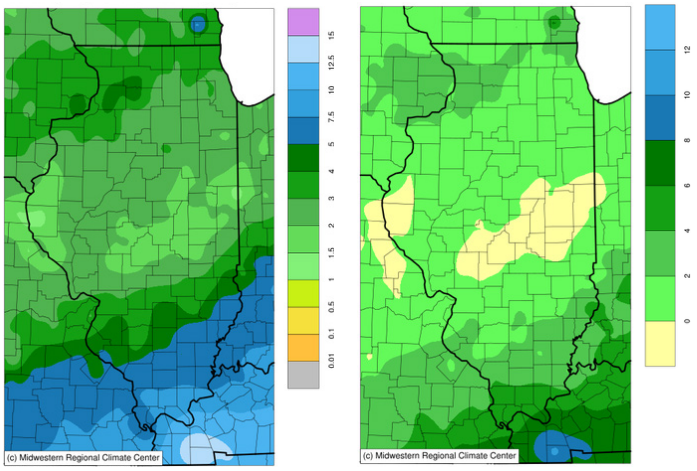
AVERAGE TEMPERATURE (°F)

Feb. 1, 2019 to Feb. 28, 2019 | Departure from average



ACCUMULATED PRECIPITATION (IN)

Feb. 1, 2019 to Feb. 28, 2019 | Departure from average



ACCUMULATED SNOWFALL (IN)

Feb. 1, 2019 to Feb. 28, 2019 | Departure from average

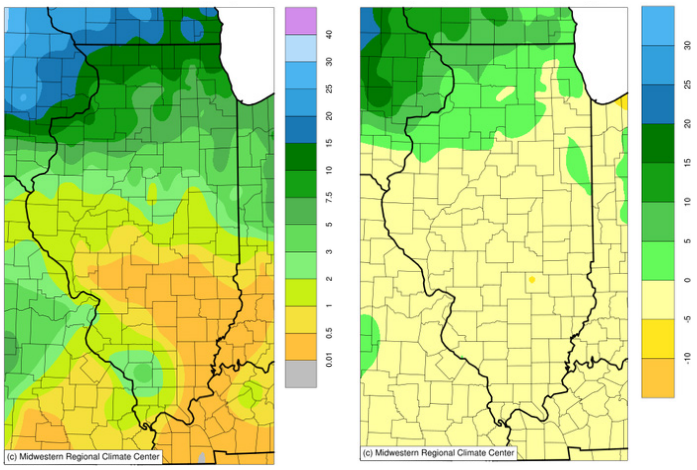


Figure 2. Illinois temperature, precipitation, and their departures from average for February 2019
Source: cli-MATE, Midwestern Regional Climate Center. http://mrcc.illinois.edu/CLIMATE, accessed on Mar. 6, 2019.

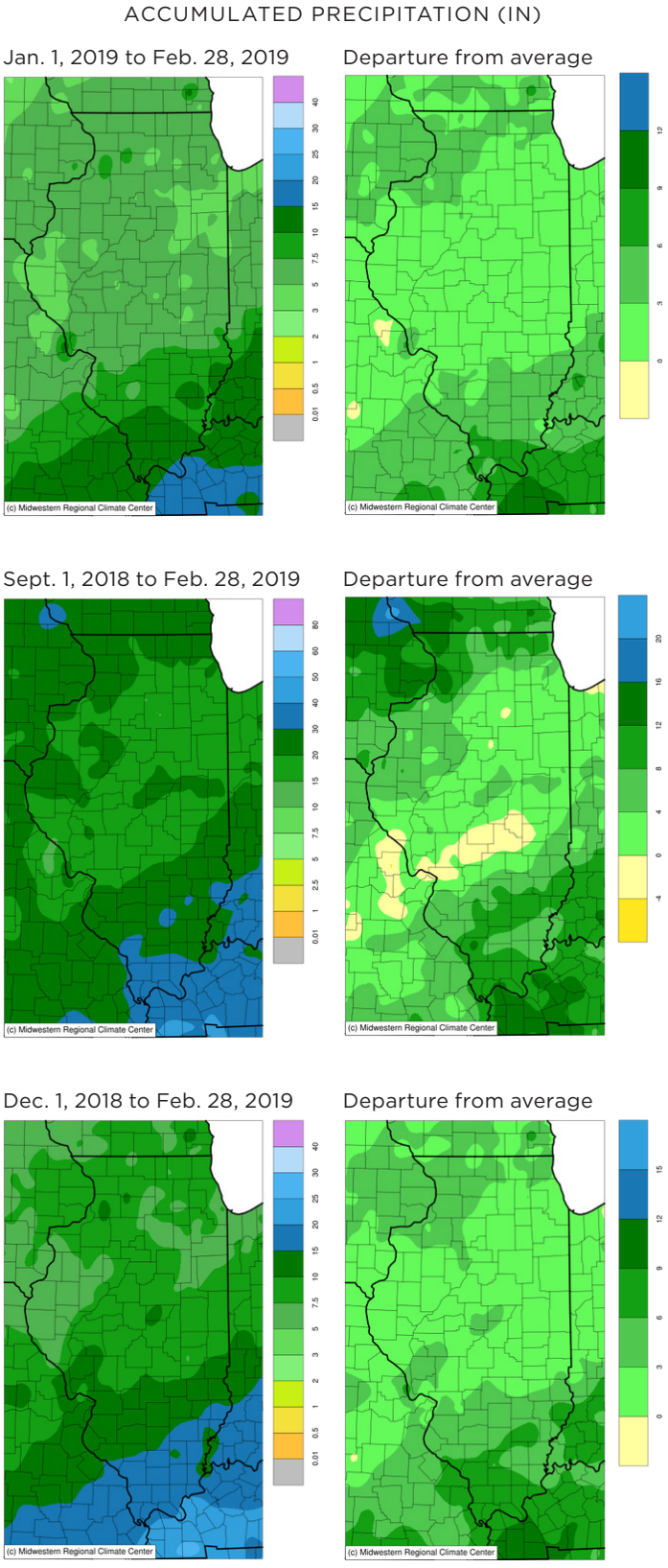


Figure 3. Illinois precipitation and precipitation departure from average for year to date (top), last 6 months (middle), and last 3 months (bottom) Source: cli-MATE, Midwestern Regional Climate Center. http://mrcc.illinois.edu/CLIMATE, accessed on Mar. 6, 2019.

a four-day period. Station highs generally ranged from the low 40s to the high 60s. The highest for February was 70° at two stations, Dixon Springs (Pope County) on February 3, and Kaskaskia River Lock (Randolph County) on February 4.

Despite short-lived periods of warmer temperatures, a continuation of unseasonably cool weather occurred in February. Numerous stations reported lows at or below -20°, and three stations reported -30° or colder. Mount Carroll (Carroll County) had the coldest reading in the state, recording -36°F on February 1.

Precipitation was above normal for the month, averaging 3.15 inches or 1.09 inches above the long-term average (Figure 2). The heaviest fell in southern Illinois, where 10 stations received at least 7 inches. The highest total occurred at Smithland Dam (Pope County) with 10.68 inches. The abundant precipitation led to localized flooding toward the end of the month, along with a major flooding event on the lower Ohio River.

Snow occurred statewide during February. Accumulations of at least 12 inches were common in counties along the Illinois/Wisconsin border. A station near Galena (Jo Daviess County) had the month's largest reported total with 25.8 inches.

Winter (December–February) temperatures averaged 29.9°F, 0.8° above the long-term average. Large variations occurred with seasonal highs in the 70s and lows in the -30s. Through the first week of January, temperature departures were 3 to 8° above the long-term average. A historic cold outbreak in the last two days of January produced statewide temperature departures of 20 to 30° below average. The Mt. Carroll (Carroll County) observation of -38°F on January 31 was determined to be valid, and it now stands as the record minimum temperature for Illinois.

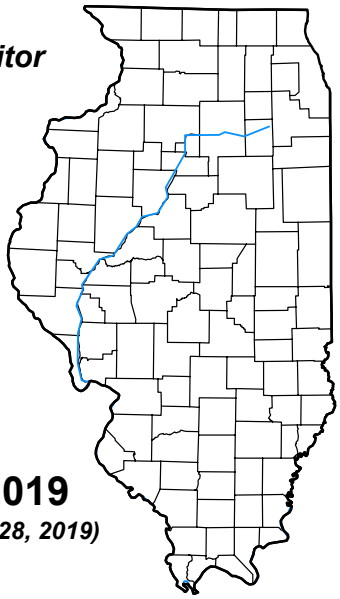
Seasonal precipitation averaged 9.67 inches, 2.85 inches above the long-term average. Above average precipitation occurred every month throughout the season, with locations south of I-70 receiving the greatest amounts. The highest seasonal precipitation was reported at Smithland Dam (Pope County) with 21.18 inches. Snowfall accumulations were below average for December and generally near to or above average in both January and February. Totals ranged from 1 to 10 inches in southern Illinois, 10 to 20 inches in central Illinois, and 20 to over 40 inches in northern Illinois.

Severe weather: The NOAA Storm Prediction Center recorded three severe weather reports for the month, all for wind. (Multiple reports can be generated for a single event.)

Drought: Illinois remained drought-free (Figure 4). The U.S. Drought Monitor's February 26 map showed no part of the state listed as in drought or as abnormally dry.

U.S. Drought Monitor

Illinois



February 26, 2019

(Released Thursday, Feb. 28, 2019)

Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0	D1	D2	D3	D4
Current	100.00	0.00	0.00	0.00	0.00	0.00
Last Week *02-19-2019*	100.00	0.00	0.00	0.00	0.00	0.00
3 Months Ago *11-27-2018*	100.00	0.00	0.00	0.00	0.00	0.00
Start of Calendar Year *01-01-2019*	100.00	0.00	0.00	0.00	0.00	0.00
Start of Water Year *09-25-2018*	96.92	3.08	0.00	0.00	0.00	0.00
One Year Ago *02-27-2018*	89.54	10.46	0.00	0.00	0.00	0.00

Intensity:

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

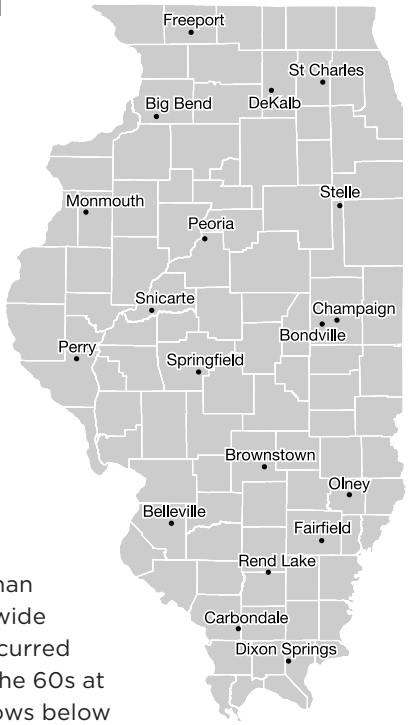
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

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 Mar. 6, 2019.

Illinois Climate Network (ICN)

— JENNIE ATKINS

The Illinois Climate Network (ICN) consists of 19 stations across the state that collect hourly weather and soil information. ICN data for February are presented in Table 2.



Wind speeds averaged 8.1 mph in February, 0.2 mph lower than the network's long-term average. ICN Bondville was the month's windiest station with an average wind speed of 12.5 mph. The highest measured wind gust was 56.6 mph, recorded at ICN Stelle on February 24.

Air temperatures warmed slightly compared with those in January. Temperatures averaged 30.4°F, 1.4° below the long-term average but 4.8° higher than in the previous month. A wide range of temperatures occurred in the state with highs in the 60s at the southern stations to lows below 0 at the northern ones. The highest temperature of the month was 69.5°, measured at ICN Dixon Springs on February 3. The month's lowest was -4.0°, recorded just two days before at ICN Freeport.

Soil temperatures averaged in the mid-30s, 2 to 3° below the long-term average. All depths reported temperatures below freezing with highs in the 50s.

Under bare soil, temperatures ranged from 15.8 to 57.9° at depths of 2 inches and 18.0 to 55.9°F at 4 inches. Temperatures under sod ranged from 21.2 to 52.6° at 4 inches and 23.8 to 51.7° at 8 inches.

Precipitation totals were higher than normal for most ICN stations in February. The network average was 3.89 inches for the month, 1.96 inches higher than the long-term average and 0.62 inches more than in January. The highest monthly totals were in southern Illinois where ICN Dixon Springs measured 8.67 inches, the highest of the month.

Soil moisture information will return to the IWCS in spring 2019.

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

Station	Wind			Air Temperature (°F)			Total Solar Radiation (MJ/m²)
	Avg. Speed (mph)	Avg. Direction (°)	Max. Gust (mph)	Max.	Min.	Avg.	
Belleville	7.9	175.9	42.8	67.1	14.2	35.5	240.2
Big Bend	8.8	178.2	41.1	48.3	-2.1	23.4	260.6
Bondville	12.5	178.4	52.5	54.4	7.2	29.4	249.8
Brownstown	8.3	173.8	47.2	64.1	10.7	33.5	222.7
Carbondale	7.4	173.4	42.6	68.5	15.4	38.7	232.5
Champaign	6.2	174.7	38.9	56.3	7.4	29.9	234.0
DeKalb	9.4M	175.1M	42.8M	43.0	-2.1	22.7	257.9
Dixon Springs	4.7	154.1	34.1	69.5	16.6	41.8	202.5
Fairfield	7.3	166.0	41.9	65.6	13.5	36.4	229.9
Freeport	5.6M	171.9M	32.9M	43.7	-4.0	21.6	246.4
Monmouth	10.2	176.5	48.9	49.6	-0.9	24.0	274.1
Olney	6.6	172.1	38.9	64.3	13.9	35.7	225.9
Peoria	8.7	176.2	41.6	53.3	5.1	27.5	239.1
Perry	7.2	183.9	36.3	58.3	8.0	29.6	242.3
Rend Lake	5.9	173.2	35.1	68.0	14.7	37.5	220.5
Snicarte	10.7	172.9	50.0	56.2	7.9	28.8	255.7
Springfield	6.9	172.1	40.1	59.1	9.6	31.3	235.9
St. Charles	7.4	169.4	46.8	44.7	-0.9	24.3	219.9
Stelle	12.0	179.0	56.6	49.0	2.1	26.3	245.3

Table 2. continued

Station	Average Relative Humidity (%)	Total Precip. (in)	Average Dew Point (°F)	Total Potential Evapotranspiration (in)	Average Soil Temperature (°F) at			
					4" under Sod	8" under Sod	2" under Bare Soil	4" under Bare Soil
Belleville	83.9	4.66	30.8	1.3	36.4	36.5	33.9	37.8
Big Bend	84.5	3.82	19.3	0.9	32.0	31.6	30.6	31.5
Bondville	85.2	2.00	25.4	1.0	30.3	33.5	32.5	33.8
Brownstown	80.2	3.79	27.8	1.2	35.9	35.0	34.5	34.5
Carbondale	80.7	6.89	32.7	1.4	41.6	40.2	40.4	39.8
Champaign	81.8	2.13	24.9	1.1	32.1	32.9	32.7	32.6
DeKalb	88.2	2.83	19.6	0.8M	32.8	32.2	35.0	33.8
Dixon Springs	77.7	8.67	34.6	1.3	42.1	42.5	41.8	40.2
Fairfield	80.0	6.27	30.5	1.3	38.0	38.3	38.3	39.8
Freeport	86.2	3.75	18.0	0.8M	34.8	32.9	31.5	31.1
Monmouth	84.8	2.83	20.0	1.0	29.8	29.5	29.8	29.2
Olney	79.5	4.13	29.7	1.2	36.4	36.9	39.3	38.8
Peoria	78.9	3.01	21.6	1.0	31.5	28.6	30.9	31.3
Perry	82.9	2.94	24.8	1.1	31.6	32.6	32.4	32.1
Rend Lake	80.1	5.35	31.5	1.3	38.9	39.5	40.2	39.7
Snicarte	77.8	2.78	22.6	1.2	31.0	31.3	30.2	31.7
Springfield	81.3	2.20	26.0	1.1	32.5	31.4	32.1	32.5
St. Charles	82.5	3.37	19.5	0.9	32.1	32.9	32.0	30.4
Stelle	84.0	2.42	22.1	0.9	32.3	32.3	31.0	29.9

M = Missing data.

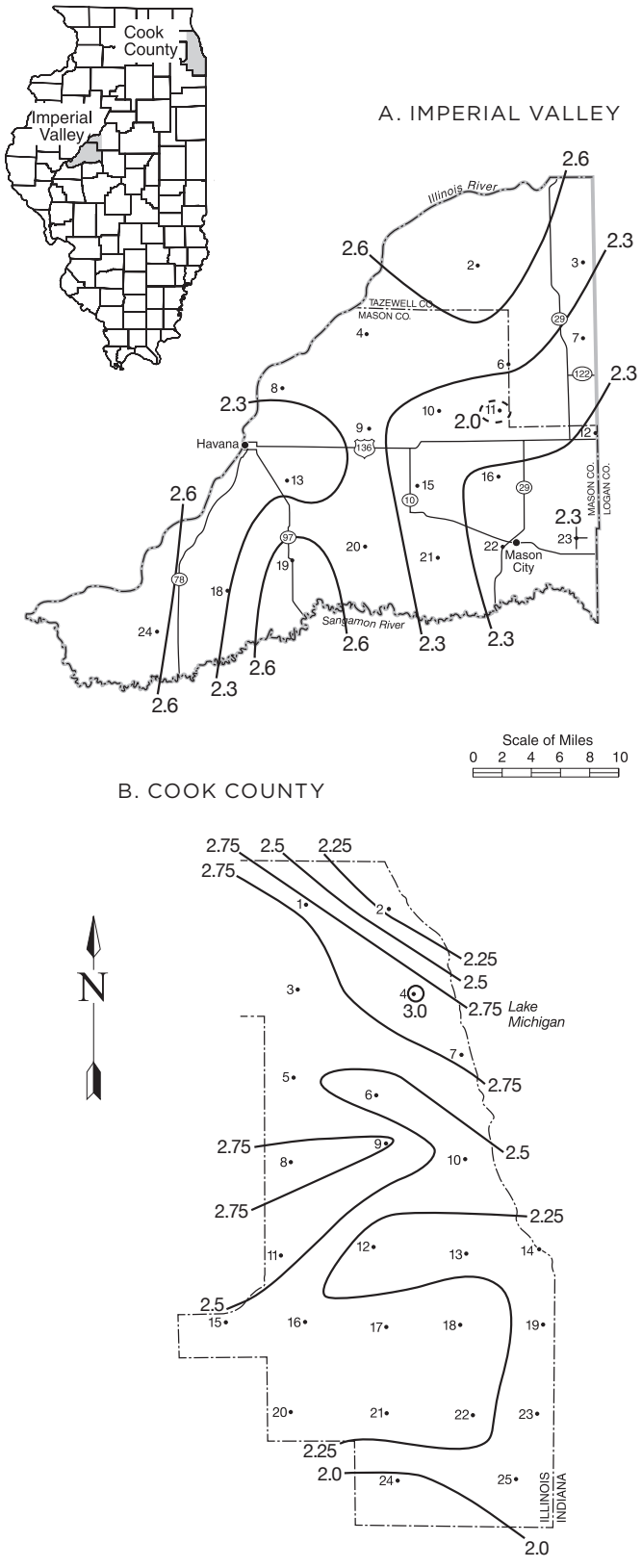


Figure 5. Precipitation totals (inches) for (a) Imperial Valley Water Authority and (b) Cook County raingage networks February 2019

Other Precipitation Networks

— ERIN BAUER

Imperial Valley. The average network precipitation for February 2019 was 2.36 inches, which is above the previous 26-year network average (Figure 5a). The largest monthly gage total was in the northern portion of the network. Monthly gage totals varied 0.86 inches across the network, from 1.94 inches at site #11, between Forest City and San Jose, to 2.83 inches at site #2, north of Manito. The 1981–2010 30-year average precipitation amounts for February at Havana and Mason City are 2.10 and 1.61 inches, respectively. The February 2019 network average of 2.36 inches is 139 percent of the 26-year (1993–2017) IVWA February network average of 1.70 inches. The Imperial Valley Water Authority funds this 20-station precipitation network operated by the Illinois State Water Survey.

Cook County. During February 2019, precipitation in Cook County was above average (Figure 5b). Regionally, precipitation was highest in the west-central third of the network. The region with the lowest precipitation was in the southeastern portion of the county, south of Lake Michigan. Precipitation values ranged from 1.95 inches at site #24 (Matteson, near 211th St. and Cicero Ave.) to 3.02 inches at site #4 (Skokie, near Howard St. and Hamlin Ave.). Across the network, precipitation varied 1.07 inches. The network average of 2.41 inches is about 120 percent of the 29-year (1990–2018) February network average of 2.01 inches. The Illinois State Water Survey operates this 25-station precipitation network funded by the U.S. Army Corps of Engineers.

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.

In February, the Illinois River crested above the local flood stages downstream of Ottawa. The Mississippi River crested above the local flood stages from Chester downstream to the confluence of the Ohio River. The Ohio

River level exceeded the local flood stages along the Illinois border, and was above the local flood stage at Cairo during most of the 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; 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 February 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

Table 3. Peak Stages for Major Rivers during February 2019

River	Station	River mile*	Flood stage (feet)*	Peak stage (feet)**	Date
Illinois	Morris	263.1	16	14.4	08
	La Salle	224.7	20	24.6	09
	Peoria	164.6	18	19.7	various
	Havana	119.6	14	18.8	17
	Beardstown	88.6	14	19.5	17
	Hardin	21.5	25	25.6	27
Mississippi	Dubuque	579.9	17	10.7	05
	Keokuk	364.2	16	15.6	10
	Quincy	327.9	17	13.7	25
	Grafton	218.0	18	17.8	02
	St. Louis	180.0	30	23.8	09
	Chester	109.9	27	27.2	09
	Thebes	43.7	33	33.8	28
Ohio	Cairo	2.0	40	56.3	28

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, February 2019

Station	Drainage area (sq mi)	Years of record	2019 mean flow (cfs)	Long-term flows		Flow condition	Percent chance of exceedence	Days of data this month
				Mean* (cfs)	Median (cfs)			
Rock River at Rockton	6363	82	N/A	4,014	3,426	N/A	N/A	N/A
Rock River near Joslin	9549	74	N/A	6,715	5,854	N/A	N/A	N/A
Pecatonica River at Freeport	1326	98	2,500	1,126	915	much above normal	6	24
Green River near Geneseo	1003	79	2,450	774	723	much above normal	2	26
Edwards River near New Boston	445	79	1,329	372	318	much above normal	4	28
Kankakee River at Momence	2294	100	5,522	2,576	2,492	much above normal	2	28
Iroquois River near Chebanse	2091	93	4,632	2,545	2,080	above normal	17	28
Fox River at Dayton	2642	98	5,260	2,113	1,824	much above normal	5	26
Vermilion River at Pontiac	579	73	1,422	522	389	much above normal	8	28
Spoon River at Seville	1636	100	4,236	1,455	1,336	much above normal	3	28
LaMoine River at Ripley	1293	94	2,746	1,029	745	much above normal	9	28
Bear Creek near Marceline	349	73	756	263	166	much above normal	8	28
Mackinaw River near Congerville	767	68	1,965	665	540	much above normal	6	28
Salt Creek near Greenview	1804	75	4,364	1,713	1,352	much above normal	9	28
Sangamon River at Monticello	550	105	1,279	589	443	above normal	12	28
South Fork Sangamon near Rochester	867	68	1,990	874	602	above normal	14	24
Illinois River at Valley City	26,743	78	51,521	25,069	23,518	much above normal	6	28
Macoupin Creek near Kane	868	88	1,209	755	490	above normal	27	28
Vermilion River near Danville	1290	95	2,806	1,472	1,063	above normal	19	28
Kaskaskia River at Vandalia	1940	47	4,553	2,779	2,398	above normal	22	28
Shoal Creek near Breese	735	73	1,545	900	583	above normal	24	28
Embarras River at Ste. Marie	1516	103	3,558	1,946	1,591	above normal	16	28
Skillet Fork at Wayne City	464	97	1,793	650	498	much above normal	8	28
Little Wabash below Clay City	1131	102	3,511	1,530	1,183	above normal	11	28
Big Muddy at Plumfield	794	46	3,446	1,009	1,030	much above normal	2	28
Cache River at Forman	244	93	1,743	487	430	much above normal	2	28

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.

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 February (approximately 280 percent of the median) and above the mean for February (approximately 230 percent of the mean). Monthly mean discharge values ranged from above normal to much above normal for February. Due to ice conditions, some streamflow data this month are unavailable and are partly approximated at some stations.

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-January water levels at 24 reservoirs for which levels were reported last month and this month, reported end-of-February water levels were lower at 9 reservoirs, higher at 5 reservoirs, and about the same as at the end of last month at 10 reservoirs. For the 26 reservoirs with measurements reported at the end of February, water levels were below normal target pool or spillway level at 5 reservoirs, above normal target pool or spillway level at 12 reservoirs, and at about full pool level at 9 reservoirs.

Table 5. Reservoir Levels in Illinois, February 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	January reported pumpage (million gallons)
Altamont	Effingham	582.0	+0.1	+0.1	-1.1	35	5.8
Bloomington	McLean	719.5	+0.5	0.0	-1.0	32	N/A
Carlinville	Macoupin	571.1	+0.1	-0.1	-0.2	33	22.0
Carlyle[1]	Clinton	443.0	+3.5	-1.1	+1.6	41	N/A
Decatur[1,3]	Macon	612.5	-0.2	-0.1	+0.5	35	980.5
Evergreen[4]	Woodford	720.0	0.0	0.0	-1.3	28	N/A
Glenn Shoals[2]	Montgomery	590.0	0.0	-1.0	+0.2	24	w/Hillsboro
Highland	Madison	500.0	-0.1	-0.1	+0.1	30	36.7
Hillsboro[2]	Montgomery	589.0	N/A	N/A	+0.1	24	35.8
Jacksonville[2]	Morgan	644.0	N/A	N/A	-0.4	17	w/Mauvaise Terre
Kinkaid	Jackson	420.0	-0.3	+0.8	0.0	30	57.2
Lake of Egypt	Williamson	500.0	+0.3	+0.1	+0.2	23	N/A
Mattoon	Coles	632.0	0.0	0.0	-0.1	20	w/Paradise
Mauvaise Terre[2]	Morgan	588.5	N/A	N/A	+0.1	22	no meter
Mt. Olive (new)	Macoupin	600.0	0.0	N/A	-0.5	12	w/Mt. Olive (old)
Mt. Olive (old)	Macoupin	654.0	0.0	N/A	-0.2	21	5.1
Pana	Christian	641.6	+0.1	0.0	-0.6	33	N/A
Paradise	Coles	685.0	0.0	0.0	-0.1	28	55.7
Paris (east)	Edgar	660.0	+0.2	0.0	-0.1	34	Not PWS
Paris (west)	Edgar	660.1	+0.2	0.0	+0.2	24	w/Paris (east)
Raccoon[1]	Marion	477.0	-0.3	-0.4	N/A	N/A	94.1
Rend	Franklin	405.0	+5.1	0.0	+2.9	41	N/A
Salem[3]	Marion	546.5	0.0	+0.1	-0.4	23	21.1
Shelbyville[1]	Shelby	594.0	+1.5	-4.3	+2.9	41	Not PWS
Sparta[3]	Randolph	497.0	-0.2	0.0	-0.5	21	N/A
Spring[3,4]	McDonough	654.0	+0.1	+0.1	0.0	31	45.4
Springfield[1,3]	Sangamon	559.6	0.0	-0.1	-1.1	35	599.9
Taylorville	Christian	590.0	+0.1	-0.1	-0.2	25	51.9
Vermilion[4]	Vermilion	581.7	0.0	0.0	-0.2	33	203.8

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 March 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.

Table 6. Month-End Shallow Groundwater Level Data Sites, February 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	18.29	2.49	3.23	0.26	2.72
2	Mt. Morris	Ogle	55.00	NA	NA	NA	NA	NA
3	Crystal Lake	McHenry	18.00	3.37	1.15	1.75	0.31	-0.04
4	Fermi Lab	DuPage	17.00	4.99	0.48	0.45	1.24	-2.88
5	Good Hope	McDonough	30.00	4.00	2.07	2.80	0.43	0.73
6	Snicarte	Mason	42.00	38.03	-0.58	-0.74	-0.63	-3.35
7	Coffman	Pike	28.00	11.89	-0.87	-0.94	0.88	4.65
8	Greenfield	Greene	20.70	9.18	2.18	0.67	1.38	9.21
9	Janesville	Coles	11.00	4.61	-0.20	-0.07	-0.05	-1.46
10	St. Peter	Fayette	15.00	1.77	-0.54	-0.18	NA	NA
11	SWS #2	St. Clair	80.00	NA	NA	NA	NA	NA
12	Boyleston	Wayne	23.00	4.26	-1.32	-1.81	NA	-1.06
13	Sparta	Randolph	27.00	2.98	0.98	2.60	NA	-0.58
14	SE College	Saline	11.00	1.26	0.33	0.25	0.61	0.74
15	Bondville	Champaign	21.00	2.92	0.15	0.00	0.64	-0.93
				Averages	**0.49**	**0.67**	**0.51**	**0.65**

Notes: N/A = Data not available.

Major Reservoirs. Compared to water levels at the end of January, at the end of February the water level at Lake Shelbyville was 4.3 feet lower, Carlyle Lake was 1.1 feet lower, and Rend Lake was at about the same level as at the end of January. At the end of February, Lake Shelbyville was 1.5 feet above the winter target level, Carlyle Lake was 3.5 feet above the winter target level, and Rend Lake was 5.1 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 February 2019 mean level for Lake Michigan was 580.1 feet. The monthly mean level one year ago (February 2017) was 579.9 feet. The long-term average lake level for February is 578.4 feet, based on 1918–2017 data. In this period of record, the lowest mean level for Lake Michigan for February occurred in 1964 at 576.1 feet, and the highest level for February occurred in 1986 at 581.1 feet. The month-end level of Lake Michigan was 580.2 feet. All values are provided by the U.S. Army Corps of Engineers Detroit District.

Groundwater Information

— JENNIE ATKINS

Comparison to Average Levels. Shallow groundwater levels in 13 observation wells, which are remote from pumping centers, were above normal for the month of February. Levels averaged 0.67 feet above normal and ranged from 0.94 below to 3.23 feet above normal levels (Table 6).

Comparison to Previous Month. Shallow groundwater levels were above those of the previous month. Levels averaged 0.51 feet above and ranged from 0.63 feet below to 1.38 feet above January levels.

Comparison to Same Month, Previous Year. Shallow groundwater levels in February were above levels from one year ago. Levels averaged 0.65 feet above and ranged from 3.35 feet below to 9.21 feet above levels from February 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

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