

ILLINOIS WATER AND CLIMATE SUMMARY
January 1999

January 1999 Overview (Bob Scott)

Temperatures across Illinois in January were slightly above average while precipitation was well above average. Soil moisture within the top 40 inches of soil was above the long-term statewide average. Mean streamflows were well above the median level. Shallow ground-water levels were well above the long-term average.

Temperatures across Illinois (Figure 1) for January were slightly above average (a +0.6-degree departure), but there was a large variation in averages across the state. Temperatures by crop reporting districts (Table 1) ranged from 3.1 degrees above average (southeast) to 1.2 degrees below average (northwest). Despite the marginal warmth for the month, on January 5, Congerville set a new all-time record for the coldest temperature ever recorded for the state, -36°F.

Precipitation amounts (Figure 1) were well above the long-term average value for the month. The statewide average of 4.65 inches represents a +2.91-inch departure or 268 percent of average. District totals were considerable (Table 1), ranging from 2.72 inches (northwest) to 7.93 inches (southeast), 214 to 306 percent of average, respectively. Individual site totals exceeded 10 inches for the month.

Soil moisture across Illinois in the 0- to 40-inch (0- to 100-centimeter) layer at the end of January (Figure 1) was above normal (a +0.75-inch departure). Conditions were close to normal near the surface across all of Illinois and slightly above normal in deeper layers over western and southeastern Illinois. Total soil moisture amounts increased greatly during the month across much of the state throughout all layers (Table 2).

Mean provisional streamflow statewide was well above the median flow, 344 percent of median (Figure 1). Stations throughout Illinois recorded mean flows notably above the normal range. Peak stages along most of the Illinois River exceeded flood stage. The Ohio River at Cairo peaked more than 8 feet above flood stage. Mississippi River stations along the Illinois border recorded peak stages below flood stage.

Water surface levels at 41 reporting reservoirs at the end of January were at normal pool (target operating level) at 15 reservoirs, above normal pool at 23 reservoirs, and below normal pool at 3 reservoirs. Water surface levels at Carlyle Lake, Lake Shelbyville, and Rend Lake were 4 feet or more above target operating levels. **Lake Michigan's** January mean level was below the long-term average.

Statewide, **shallow ground-water levels** at all observation sites were above average for January (a +3.1-foot departure). Greatest deviations occurred in western Illinois. Levels averaged about 3.0 feet above those of last month and were approximately 2.5 feet above January levels last year.

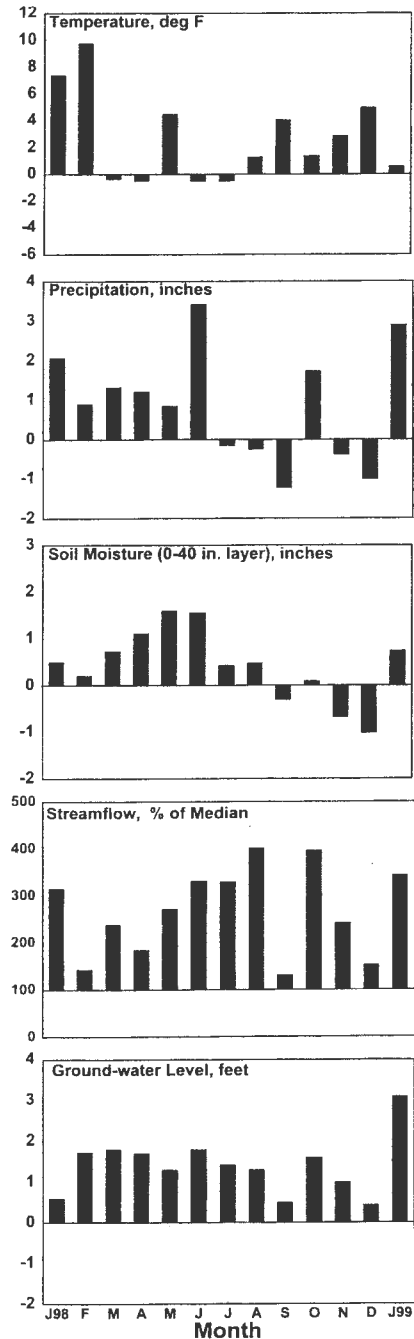


Figure 1. Statewide departures from normal

Note: The WARM Network maps will appear only in the January and July issues.

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Weather/Climate Information (Nancy Westcott, Jim Angel, and Bob Scott)

Cook County Precipitation. Amounts for December precipitation (Figure 2) were very light, with most precipitation falling on December 6. Site values for the month ranged from 1.59 inches at site 13 (near 75th Street) to 0.12 inches at site 1 (Northbrook area). Heavier precipitation occurred in the central and southeastern regions of the network, and the lightest precipitation occurred in the northern portion. The December 1998 network average of 1.22 inches was 73 percent of the nine-year (1989-1997) December network average of 1.66 inches.

Temperatures during January were above average in the southern half of Illinois and near to below average in the northern half of Illinois (Figure 3 and Table 1). Positive anomalies were on the order of 2 to 3°F in the south while the state as a whole was 0.6°F above average. The coldest period occurred during the first ten days of January, while temperatures for the rest of the month were near average to above average.

An exceptionally cold air mass followed an intense snowstorm across the state on January 4. The combination of clear skies, calm winds, and a heavy snow cover across much of central and northern Illinois created optimum conditions for strong radiational cooling on January 5 (Figure 3). Readings less than -20°F were common across the area, with several sites reporting temperatures near -30°F. Congerville (between Bloomington and Peoria) reported the coldest temperature, -36°F, setting a new all-time record low temperature for the state of Illinois. The old record was -35°F at both Elizabeth (on 2/3/1996) and Mt. Carroll (on 1/22/1930).

Temperatures warmed considerably beginning about mid-month. The warmest reading for January was 69°F observed at both Cairo on January 22 and Belleville on January 27.

Precipitation in January averaged 4.65 inches statewide, well above the 1.77-inch average for the state (Figure 3 and Table 1), and ranked the month as the eighth wettest January since 1895. Highest amounts fell in southern Illinois with reports of 10.66 inches at Anna and 10.06 inches at Rend Lake. Most of this precipitation occurred between January 20-23.

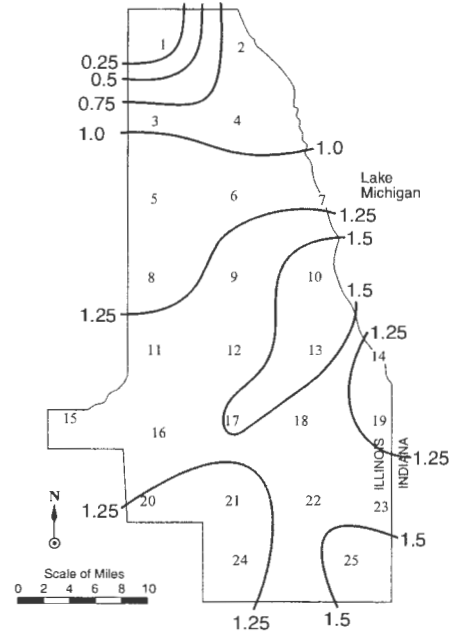


Figure 2.
Cook County precipitation (inches) during December 1998

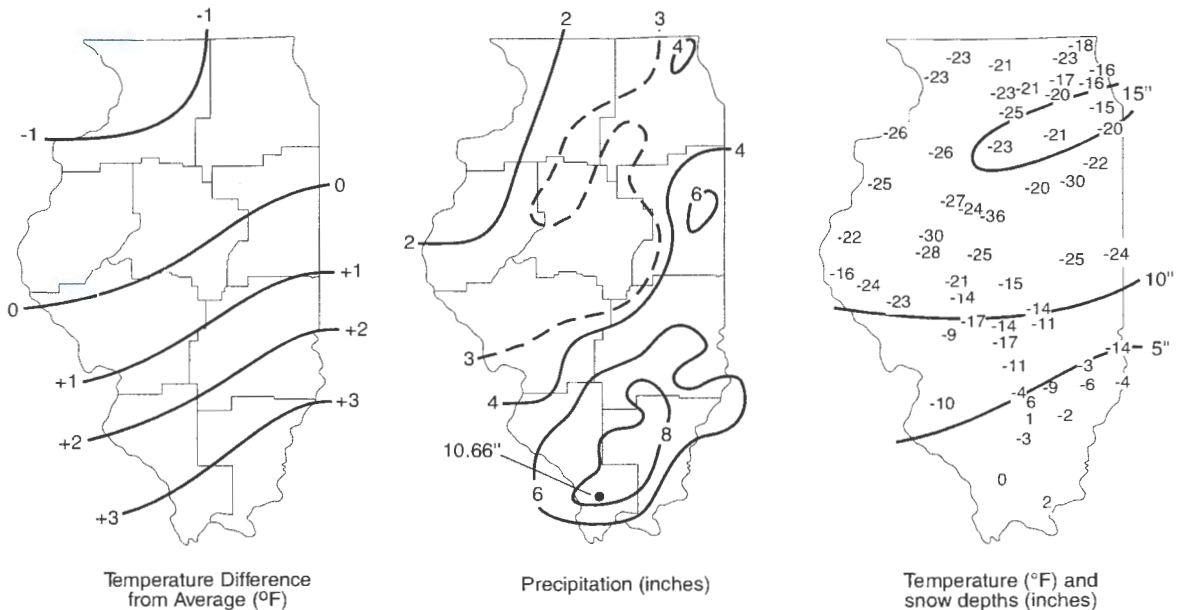


Figure 3. Illinois temperatures and precipitation during January 1999, and minimum temperatures and snow depths on January 5, 1999, day of the new all-time record low temperature for Illinois

Table 1. Illinois Precipitation (inches) and Temperature (°F) by Crop Reporting District

Crop Reporting District	Last Month			Last 3 Months			Last 6 Months			Last 12 months		
	Jan 99 Amount	% Avg	Temp Dev	Nov 98- Jan 99	% Avg	Temp Dev	Aug 98- Jan 99	% Avg	Temp Dev	Feb 98- Jan 99	% Avg	Temp Dev
Northwest	2.72	214	-1.2	6.21	113	+2.9	21.43	131	+2.5	45.09	126	+2.7
Northeast	3.67	248	-0.5	7.35	114	+3.5	19.29	115	+3.0	40.50	112	+3.1
West	3.35	239	-0.5	8.83	145	+2.6	20.05	118	+2.4	48.37	130	+2.0
Central	3.49	225	-0.1	7.50	110	+2.9	15.83	94	+2.5	42.10	114	+2.3
East	4.90	297	+0.2	8.44	116	+3.1	14.92	88	+2.8	44.38	119	+2.6
West-southwest	3.51	217	+0.6	7.95	108	+2.5	16.55	97	+2.6	45.35	120	+2.2
East-southeast	6.32	308	+1.8	11.15	125	+2.7	19.65	107	+2.6	49.05	122	+2.3
Southwest	7.25	318	+2.8	12.48	126	+3.0	19.97	102	+2.9	50.28	119	+2.4
Southeast	7.93	306	+3.1	13.52	130	+2.8	21.19	107	+2.6	41.41	117	+2.2
State Average	4.65	268	+0.6	9.06	121	+2.9	18.72	107	+2.6	46.06	120	+2.4

Note: Data are provisional. Complete, quality controlled data are available about three months after a given month.

January was a very active month in terms of snowfall. Chicago at O'Hare Airport reported a three-day total snowfall (January 1-3) of 21.6 inches, second only in Chicago's history to the 23 inches that fell in the 1967 big snowstorm. In general, many communities in the north and central regions received in excess of 12 inches during the month while snowfall tapered off to about 1 inch or less over southern Illinois.

Extended climate outlooks issued by the U.S. Department of Commerce, National Atmospheric and Oceanic Administration, Climate Prediction Center for February call for slight chances of above normal temperatures across the southern half of the state with equal chances of below, above, and normal temperatures elsewhere, and equal chances of below, above, and normal precipitation over all of Illinois. The February-April outlooks call for equal chances of below, above, and normal temperatures and precipitation across the state.

Illinois Climate Network (ICN) Data. Average daily wind speeds across Illinois for January (Figure 4) ranged from 5.7 mph at Dixon Springs to 12.9 mph at Stelle. Highest wind gusts for the month were 51 mph on January 2 at Stelle and 48 mph at Monmouth on January 18. The prevailing wind direction during the month was generally southwesterly across southeastern Illinois, veering to northwesterly over northwestern Illinois. Wind speeds in excess of 8 mph displayed a considerable range, varying from just over 150 hours at Dixon Springs to over 530 hours at Stelle and Monmouth. (January has 744 hours.) Due to heavy snow cover to the north, average temperatures across the state also showed a large range from 19°F at Freeport to 35°F in the far south. Solar radiation remained relatively low during the month, ranging from 168 Mega-Joules per meter squared (MJ/m²) at Fairfield to 217 MJ/m² at Bondville. Potential evapotranspiration varied from a low of 0.8 inches at St. Charles to just over 1 inch at Belleville and Carbondale. Soil temperatures at both the 4- and 8-inch levels across the state continued a seasonal decline and ranged from near 30°F over northern Illinois to near 40°F in the far south.

Notes: The Cook County Network is a 25-site weighing-bucket raingage array operated by the Illinois State Water Survey for the U.S. Army Corps of Engineers and the U.S. Geological Survey since 1989. The network is located in the Lake Michigan and Des Plaines River watersheds of Cook County to provide accurate precipitation measurements for modeling storm runoff, a crucial parameter used to compute the amount of water diverted from Lake Michigan.

Illinois temperature and precipitation data are observed at selected Cooperative Observer Network sites of the National Weather Service or NWS (www.nws.noaa.gov/index.html), an agency of the National Oceanic and Atmospheric Administration (NOAA), U.S. Department of Commerce (USDOD). The Midwest Climate Center or MCC (mcc.sws.uiuc.edu) at the Water Survey receives near real-time, provisional data via the NWS Remote Observation Surface Automation system. The National Climatic Data Center or NCDC (www.ncdc.noaa.gov), NOAA, USDOD provide complete, quality controlled data about three months after a given month. The Climate Prediction Center or CPC (nic.fb4.noaa.gov:80/index.html3), NOAA, USDOD produce monthly and seasonal extended climate outlooks based on an extensive source of timely climate information. Because of CPC's emphasis on providing data as quickly as possible, many values are only preliminary. Final data are available from NCDC and MCC at a later date.

The Illinois Climate Network is a 19-station array of automated weather sites scattered across Illinois and operated by Water Survey staff. The network provides enhanced temporal weather observations on atmospheric

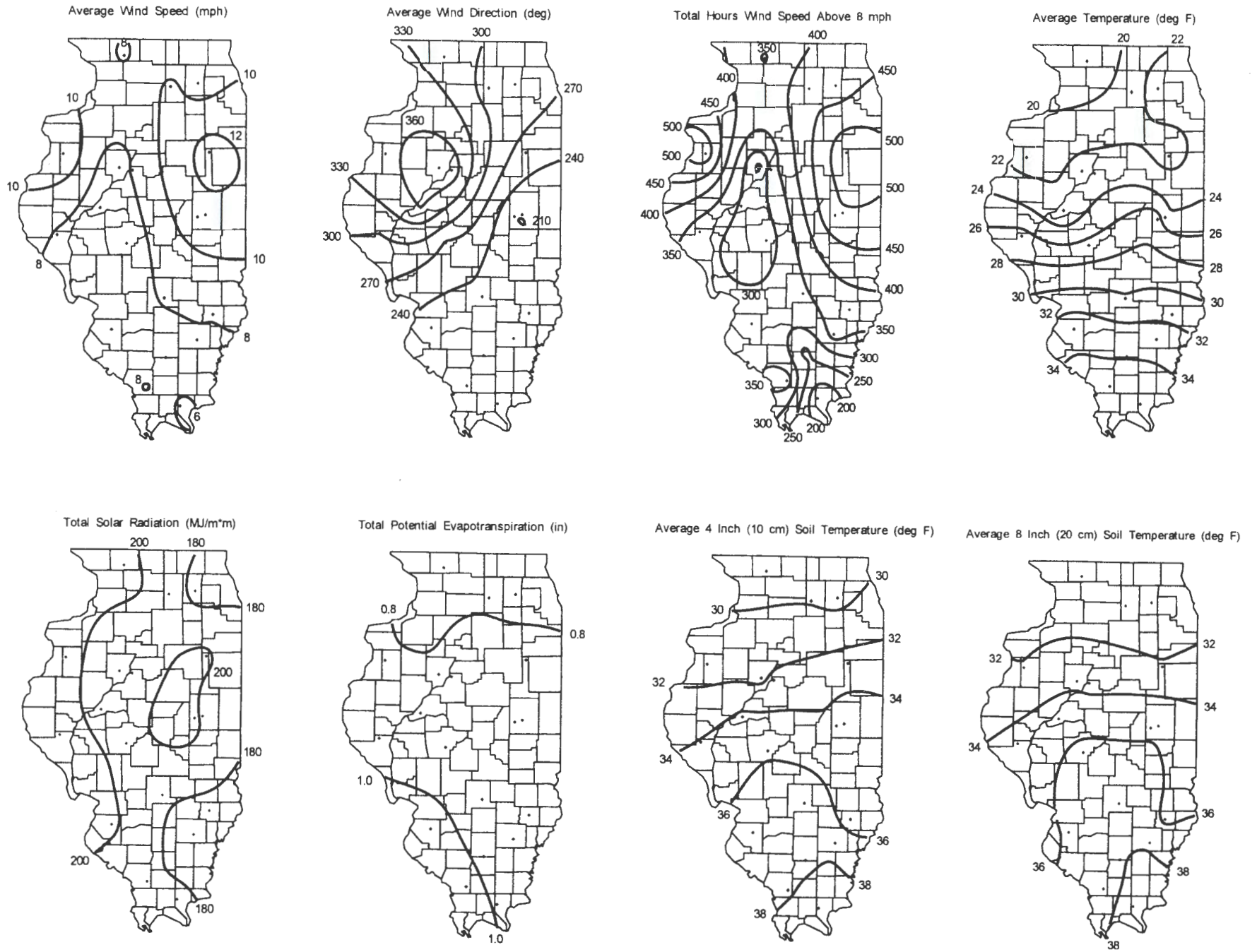


Figure 4. January monthly averages and totals as collected by the Illinois Climate Network

pressure, air temperature, relative humidity, wind speed and direction, solar radiation, precipitation, and soil temperatures at several depths. Sites are located primarily at Illinois community colleges and university agricultural experimental farms. Data are polled automatically every 10 seconds, averaged by hour and day, and downloaded to a Water Survey computer once a day. The ICN provides valuable information on extreme and usual weather events, suggesting short- and long-term trends in Illinois water resources.

Soil Moisture Information (Bob Scott)

Soil moisture at the end of January (Figure 5) was close to normal in the near surface layers (0- to 6- and 6- to 20-inch depth) across all of Illinois. This is in sharp contrast to the dry conditions observed across northern and northeastern Illinois in recent months. Conditions at depths of 20 to 40 inches and 40 to 72 inches also showed near normal soil moisture across most of the state, but an increase in moisture with depth toward the west and southeast. Totals in these areas maximized at about 150 percent of normal in the deepest layer. Although regions of moderate

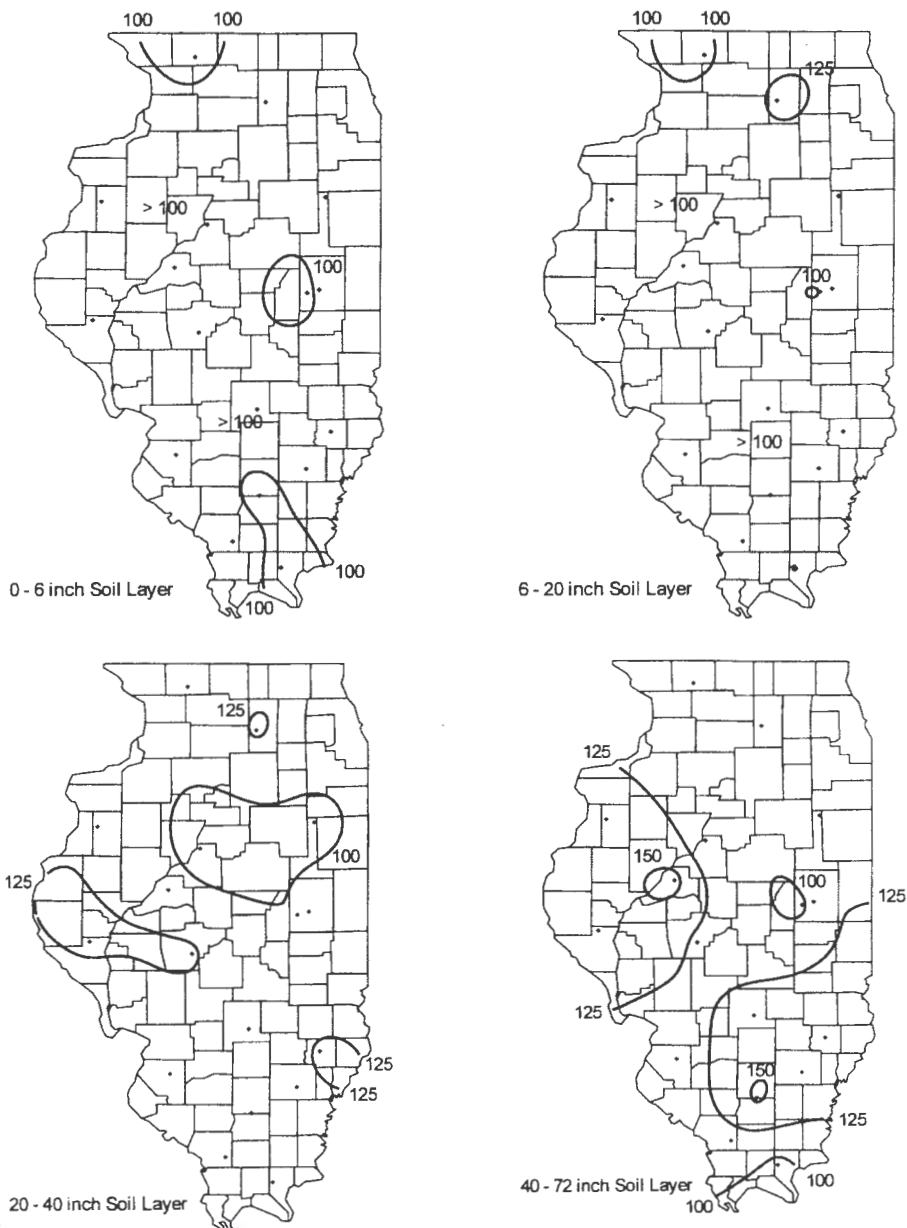


Figure 5. February 1 observed percent-of-normal soil moisture based on 1985-1992 mean

moisture have been reported over southern Illinois for several months, the areas of considerably drier conditions that dominated central and northeastern Illinois over the last several reports were no longer present. Overall, throughout the first 40 inches of depth, statewide soil moisture at the end of January averaged above the 1985-1995 mean for the month (Figure 1).

Compared to one month ago, soil moisture during January increased substantially in all layers (Table 2). Within the first 6 inches of depth, increases of 35 to 55 percent dominated the northern part of the state, with increases of 10 to 25 percent being common elsewhere. Similar increases occurred within the 6- to 20- and 20- to 40-inch layers, maximizing in central Illinois. Only sites in far south Illinois reported moisture values that were relatively unchanged from last month.

Notes: Soil moisture is monitored at 17 sites across the state, mostly co-located with the Illinois Climate Network. Data are collected twice monthly during the growing season (March-October) and monthly during the remainder of the year. The information pinpoints areas and extents of unusual soil moisture and its impacts on Illinois agriculture. These data become especially important during prolonged periods of weather extremes.

Table 2. Soil Moisture in Various Layers on February 1, 1999

<i>Location</i>	<i>Feb 1 0 - 6 (inches)</i>	<i>Change from Jan 1 (%)</i>	<i>Feb 1 6 - 20 (inches)</i>	<i>Change from Jan 1 (%)</i>	<i>Feb 1 20 - 40 (inches)</i>	<i>Change from Jan 1 (%)</i>
Freeport (NW)	2.4	49	4.6	29	7.1	5
DeKalb (NE)	2.8	54	6.2	34	7.8	14
Monmouth (W)	2.7	35	5.1	10	6.8	-2
East Peoria (C)	2.5	34	5.4	10	7.7	13
Topeka (C)	1.6	45	3.0	26	3.5	24
Stelle (E)	2.3	27	5.7	76	6.6	40
Champaign (E)	2.6	12	5.7	16	6.9	27
Bondville (E)	2.2	-5	5.1	24	8.0	31
Perry (WSW)	2.5	8	5.7	18	8.4	15
Springfield (WSW)	2.2	10	5.3	10	8.4	14
Brownstown (ESE)	2.8	27	5.2	25	8.4	7
Olney (ESE)	2.9	12	4.9	1	7.3	1
Belleville (SW)	2.4	15	5.4	23	8.8	15
Carbondale (SW)	2.7	40	5.7	29	8.1	13
Ina (SE)	2.6	4	5.3	4	7.7	2
Fairfield (SE)	3.0	11	5.6	3	7.6	-1
Dixon Springs (SE)	2.4	5	5.3	4	8.4	2

Surface Water Information (Sally McConkey)

River and stream discharge and stage data are obtained from gaging stations operated and maintained by the U.S. Geological Survey (USGS) or the U.S. Army Corps of Engineers (USACOE). The USGS gaging station network is supported in part by the Illinois Department of Natural Resources (Office of Water Resources and the Illinois State Water Survey) and USACOE. Provisional discharge data are obtained from direct computer access to USGS. Peak stage data are obtained from readings posted on the Internet by USGS and USACOE. Values reported do not reflect final or official discharges and stages.

Table 3 lists streamgaging stations located on the Illinois, Mississippi, and Ohio Rivers. Along the Illinois River, the peak stage recorded at stations upstream of the Mississippi River confluence were above flood stage and occurred during the last week of the month. The Mississippi River peaked below flood stage at stations along the Illinois border with peak stages occurring during the last week of the month. The Ohio River at Cairo recorded a peak stage about 8 feet above flood stage on January 28.

Table 4 lists 18 streamgaging stations located throughout Illinois. Provisional monthly mean flows posted by USGS are listed if available; otherwise, daily discharge data posted by USGS were used to estimate the mean flow for the month. Long-term mean flows for each month also are published by USGS. The month's median flow for each station listed in Table 4 is determined by ranking the January mean flow for each year of record, and selecting the middle value. The current month's flow condition (above normal to below normal) is determined on the basis of its

Table 3. Peak Stages for Major Rivers, January 1999

River	Station	River mile ¹	Flood stage (feet) ¹	Peak stage (feet) ²	Date
Illinois	Morris ³	263.1	13	17.9	24
	La Salle	224.7	20	23.8	26
	Peoria ⁴	164.6	18	20.1	31
	Havana	119.6	14	18.0	31
	Beardstown	88.6	14	17.9	31
	Meredosia	71.3	14	15.9	31
	Hardin	21.5	25	24.0	31
Mississippi	Dubuque	579.9	17	9.1	24
	Keokuk	364.2	16	6.5	25
	Quincy	325	17	12.2	27
	Grafton	218	18	16.3	23
	St. Louis	180	30	18.4	25
	Chester	109.9	27	21.6	25
	Thebes	43.7	33	28.8	26
Ohio	Cairo	2.0	40	48.2	28

Notes:

¹River mile and flood stage from *River Stages in Illinois: Flood and Damage Data*, Illinois Department of Natural Resources, Office of Water Resources, July 1998.

²Peak stage based on daily a.m. readings, not instantaneous peak.

³Data available for January 1-25 only.

⁴Data missing from January 1-20.

Table 4. Provisional Mean Flows, January 1999

Station	Drainage area (sq mi)	Years of record	1999 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	63	5980	3218	2464	much above normal	09	31
Rock River near Joslin	9549	55	6029	5278	3970	normal	35	31
Pecatonica River at Freeport	1326	80	937	757	618	above normal	23	31
Green River near Geneseo	1003	59	1504	532	357	above normal	11	31
Edwards River near New Boston	445	60	680	238	139	much above normal	10	19
Kankakee River at Momence	2294	80	5460	2217	2053	much above normal	04	30
Fox River at Dayton	2642	79	3530	1462	1105	much above normal	04	29
Vermilion River at Pontiac	579	54	419	374	156	above normal	30	31
Spoon River at Seville	1636	81	3500	998	666	much above normal	07	29
LaMoine River at Ripley	1293	74	2116	617	359	much above normal	08	31
Mackinaw River near Congerville	767	49	670	473	262	above normal	24	25
Sangamon River at Monticello	550	85	455	423	250	normal	32	31
Vermilion River near Danville	1290	54	2640	1145	673	above normal	13	27
Kaskaskia River at Vandalia	1940	28	3350	2459	2179	above normal	30	30
Shoal Creek near Breese	735	54	1300	675	327	above normal	18	30
Embaras River at Ste. Marie	1516	84	4233	1665	1056	above normal	11	31
Skillet Fork at Wayne City	464	78	2232	645	317	much above normal	09	31
Big Muddy at Plumfield	794	83	1780	898	627	above normal	20	23

Notes:

*As reported in U.S. Geological Survey (USGS) Water Resources Data, Illinois, Water Year 1997.

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.

rank relative to the historical record for the month as defined by the exceedence probability. Terms describing flow condition are defined in the notes following Table 4.

Throughout Illinois, January flows were above the normal range. Stations on the Rock, Edwards, Kankakee, Fox, Spoon, LaMoine, and Skillet Fork Rivers were much above the discharges typically experienced in January. Average discharges reported for the Kankakee River at Momence and the Fox River at Dayton ranked in the top three highest flows for January over the last 80 and 79 years of record, respectively. Average discharges reported for the Spoon River at Seville and the LaMoine River at Ripley ranked in the top six highest flows recorded for January over the last 81 and 74 years of record, respectively. The discharge recorded for the Skillet Fork River at Wayne City is provisionally the seventh highest flow recorded in January in the past 78 years. The statewide average is above the median (344 percent of the median) as well as above the mean (216 percent of mean).

Water-Supply Lakes and Major Reservoirs. Table 5 lists reservoirs in Illinois and their month-end water surface elevation, normal pool, and other data related to observed variations in water surface elevations. Normal pool elevation is the elevation of the spillway crest unless releases are controlled and/or adjusted to meet target operating levels. Water withdrawals from public water-supply reservoirs are reported for the previous month as available. Most of the reservoirs listed in Table 5 serve as public water supplies, with the exceptions noted in the last column.

Compared to levels at the end of December at 38 reservoirs, the water surface elevation at the end of January had risen at 32 reservoirs and remained the same at 6 reservoirs. No reservoirs reported decreases. At the end of January for the 41 reservoirs reporting this month, 23 of the reported water surface levels were above the spillway crest or target operating level, 15 levels were at normal pool, and 3 levels were below normal pool.

Major Reservoirs. The water level at Carlyle Lake, Lake Shelbyville, and Rend Lake all increased since the end of December by 3 feet or more. At the end of January, water surface levels at these major reservoirs were all at least 4 feet above target operating levels.

Great Lakes. Current month mean and end-of-month values are provisional and are relative to International Great Lakes Datum 1985. The January mean level for Lake Michigan was 578.17 feet, compared to a mean level of 579.86 feet in 1998. The long-term average lake level for January is 578.58 feet, based on 1918-1996 data. Historically, the lowest mean level for Lake Michigan in January occurred in 1965 at 576.12 feet, and the highest level occurred in 1987 at 581.30 feet. The month-end level of Lake Michigan was 578.20 feet.

Notes: River stage observations are reported in terms of water surface height, registered in feet above gage datum. The river stage is not the same as the depth of its flow. Stage may be converted to a commonly used vertical datum by adding the stage value to the gaging station datum. Flood stage is typically defined as the level at which a river goes out of its banks.

Reservoir levels are obtained from a network of cooperating reservoir operators who are contacted each month by Water Survey staff for current water levels. The Water Survey has been collecting month-end water surface elevations at reservoirs for more than 11 years, and the number of reporting stations has increased over time. The month-end average water surface elevation for the current month for each reservoir is the arithmetic average of the month-end levels for the period of record. The number of years of data is also tabulated.

Ground-Water Information (Ken Hlinka)

Comparison to Average Levels. Shallow ground-water levels in 15 observation wells, which are remote from pumping centers, were above normal levels for January (Table 6). Levels averaged 3.1 feet above, and ranged from 0.4 feet to 7.5 feet above average. The greatest deviations above normal occurred all along the western part of the state.

Comparison to Previous Month. Statewide, shallow ground-water levels this month were above those of last month. Levels averaged 3 feet higher, and ranged from 1.6 feet to 8 feet higher. Levels in all but the extreme north-western part of Illinois were well above those of December 1998.

Comparison to Same Month, Previous Year. Shallow ground-water levels throughout Illinois in January were above those of January 1998. Levels averaged 2.5 feet higher and ranged from 0.1 to 8.1 feet above ground-water levels one year ago.

Notes: The Water Survey operates a network of 16 shallow ground-water monitoring wells sited in rural locations remote from pumping stations to assess both short- and long-term trends in water-table levels under natural conditions. These data assist in our understanding of the effect and extent of phenomena such as droughts and floods in Illinois, and in particular their lingering impacts on the water resources of the state.

Table 5. Reservoir Levels in Illinois, January 1999

<i>Reservoir</i>	<i>County</i>	<i>Normal pool or target level (feet)</i>	<i>Current level (feet)</i>	<i>Monthly change (feet)</i>	<i>Difference from normal or target (feet)</i>	<i>Month- end average (feet)</i>	<i>Years of record</i>	<i>December raw pumpage (gallons)</i>
Altamont	Effingham	582.0	582.0	3.0	0.0	580.5	14	7,570,000
Bloomington	McLean	719.5	716.4	6.1	-3.1	717.5	15	no pumpage
Canton	Fulton	577.5	577.6	2.2	0.1	575.4	9	N/A
Carlinville	Macoupin	570.6	570.9	0.8	0.3	569.9	10	24,761,000
Carlyle ¹	Clinton	443.0	447.1	3.9	4.1	444.7	15	28,911,000
Coulterville ²	Randolph	491.2	491.2	1.0	0.0	489.1	4	3,979,000
Crab Orchard	Williamson	405.0	406.1	0.8	1.1	405.1	10	not public water
Decatur ¹	Macon	612.5	612.7	0.8	0.2	612.5	13	1,082,480,000
Devils Kitchen	Williamson	510.0	511.0	0.8	1.0	N/A	N/A	not public water
Evergreen ^{3,4}	Woodford	720.0	720.0	1.8	0.0	714.8	8	366,700,000
Georgetown	Vermilion	612.0	N/A	N/A	N/A	612.2	13	N/A
Glenn Shoals	Montgomery	590.0	590.1	0.0	0.1	590.9	5	w/Hillsboro
Greenfield ²	Greene	566.2	566.3	0.4	0.1	565.4	5	2,869,000
Highland	Madison	500.0	500.0	0.0	0.0	500.1	10	35,449,000
Hillsboro	Montgomery	589.0	589.1	0.0	0.1	589.8	5	34,216,000
Jacksonville	Morgan	644.0	644.0	N/A	0.0	N/A	N/A	w/Mauvaise Terre
Kinkaid	Jackson	420.0	420.7	3.5	0.7	419.8	10	62,895,000
Lake of Egypt	Williamson	500.0	500.1	0.7	0.1	500.0	5	N/A
Little Grassy	Williamson	500.0	500.8	1.4	0.8	N/A	N/A	not public water
Mattoon	Coles	632.5	632.7	1.3	0.2	632.1	10	no meter
Mauvaise Terre	Morgan	588.5	588.8	0.3	0.3	588.5	4	no meter
Mt. Olive (old)	Macoupin	654.0	654.0	1.7	0.0	N/A	N/A	7,042,400
Nashville	Washington	503.8	503.8	1.1	0.0	503.7	13	16,622,000
Pana	Christian	642.2	642.2	N/A	0.0	641.0	13	19,375,000
Paradise	Coles	684.1	684.2	0.8	0.1	684.1	10	81,774,000
Paris (east)	Edgar	660.0	660.3	0.2	0.3	660.1	13	51,450,000
Paris (west)	Edgar	660.1	660.4	0.2	0.3	660.2	4	no meter
Pinckneyville	Perry	445.0	445.0	2.0	0.0	444.7	7	17,066,000
Pittsfield	Pike	596.0	596.2	0.2	0.2	595.6	10	18,756,000
Raccoon ¹	Marion	477.0	476.8	1.2	-0.2	475.9	14	107,742,000
Rend	Franklin	405.0	409.8	5.2	4.8	407.7	16	391,732,000
Salem	Marion	546.5	546.5	2.2	0.0	544.8	39	34,875,000
Shelbyville ¹	Shelby	594.0	598.0	3.7	4.0	597.2	16	not public water
Shipman	Macoupin	606.5	606.6	N/A	0.0	606.3	4	not public water
Sorento ²	Bond	553.5	553.5	0.3	0.0	553.2	4	1,452,000
Sparta	Randolph	497.5	497.5	2.3	0.0	N/A	N/A	14,874,000
Spring ⁴	McDonough	654.0	654.3	0.3	0.3	653.6	13	56,954,000
Springfield ¹	Sangamon	559.6	558.5	0.0	-1.1	558.2	13	576,000,000
Taylorville	Christian	590.0	591.0	4.9	1.0	590.2	5	75,614,400
Vermilion	Vermilion	581.7	581.7	0.1	0.0	581.5	13	232,500,000
Virginia	Cass	575.0	575.1	0.0	0.1	574.9	12	not public water
White Hall	Greene	560.0	560.0	0.0	0.0	557.8	15	not public water

Notes:

Current levels reported represent water surface levels at the end of the month, not monthly average. Datum: NGVD 1929.

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

¹Target operating level; may vary seasonally.

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

³Natural inflow supplemented by other sources.

⁴Normal pool elevations have changed during period of record reported; month-end averages adjusted by adding difference to previous levels.

N/A = not available

Table 6. Month-End Shallow Ground-Water-Level Data Sites, January 1999

<i>Number</i>	<i>Well name</i>	<i>County</i>	<i>This month's reading (depth to water, feet)</i>	<i>Avg. level (feet)</i>	<i>Deviation from Previous month (feet)</i>	<i>Previous year (feet)</i>
1	Galena	JoDaviess	21.39	+0.40	-0.03	+0.63
2	Mt. Morris	Ogle	14.15	+5.86	-1.57	+0.95
3	Crystal Lake	McHenry	NA	NA	NA	NA
4	Cambridge	Henry	2.23	+7.47	+3.61	+2.82
5	Fermi Lab	DuPage	2.39	+4.05	+5.41	+1.13
6	Good Hope	McDonough	2.50	+6.49	+4.10	+4.13
7	Snicarte	Mason	36.07	+0.94	+0.17	+3.19
8	Coffman	Pike	5.58	+7.16	+7.99	+8.13
9	Greenfield	Greene	10.52	+0.46	+3.28	+0.13
10	Janesville	Cumberland	4.17	+0.87	+2.14	+1.04
11	St. Peter	Fayette	0.99	+1.04	+1.50	+0.55
12	SWS #2	St. Clair	11.95	+3.17	+0.19	+1.27
13	Boyleston	Wayne	1.20	+1.78	+5.09	+0.39
14	Sparta	Randolph	2.29	+5.14	+7.15	+4.89
15	SE College	Saline	1.47	+0.80	+3.19	+2.02
16	Dixon Springs	Pope	1.49	+0.40	+2.52	+6.61

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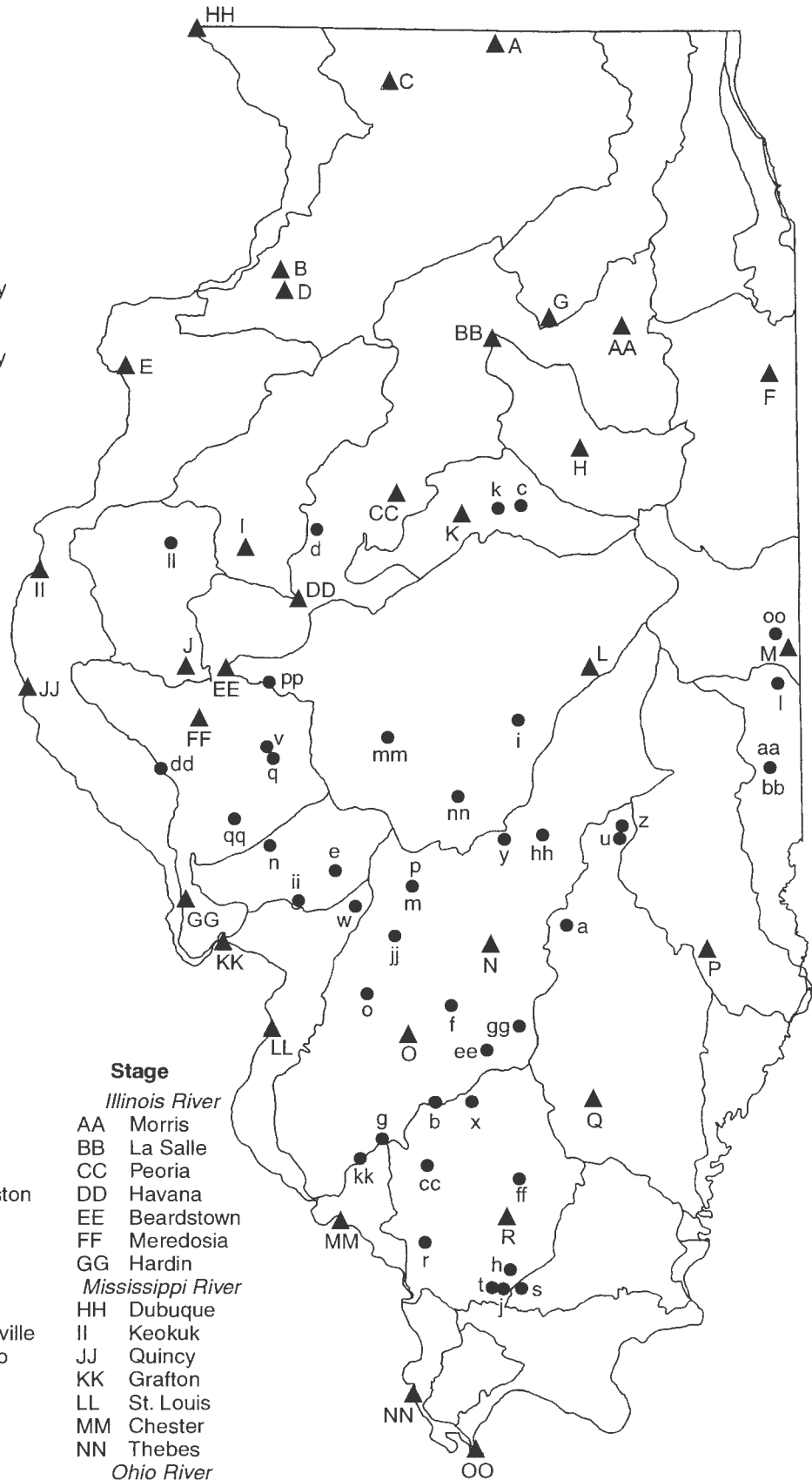
● RESERVOIRS

	Name	County
a	Altamont	Effingham
b	Ashley Lake	Washington
c	Bloomington	McLean
d	Canton	Fulton
e	Carlinville	Macoupin
f	Carlyle	Clinton
g	Coulterville	Randolph
h	Crab Orchard	Williamson
i	Decatur	Macon
j	Devils Kitchen	Williamson
k	Evergreen	Woodford
l	Georgetown	Vermilion
m	Glenn Shoals	Montgomery
n	Greenfield	Greene
o	Highland	Madison
p	Hillsboro	Montgomery
q	Jacksonville	Morgan
r	Kinkaid	Jackson
s	Lake of Egypt	Williamson
t	Little Grassy	Williamson
u	Mattoon	Coles
v	Mauvaise Terre	Morgan
w	Mt. Olive (old)	Macoupin
x	Nashville	Washington
y	Pana	Christian
z	Paradise	Coles
aa	Paris (east)	Edgar
bb	Paris (west)	Edgar
cc	Pinckneyville	Perry
dd	Pittsfield	Pike
ee	Raccoon	Marion
ff	Rend	Franklin
gg	Salem	Marion
hh	Shelbyville	Shelby
ii	Shipman	Macoupin
jj	Sorento	Bond
kk	Sparta	Randolph
ll	Spring	McDonough
mm	Springfield	Sangamon
nn	Taylorville	Christian
oo	Vermilion	Vermilion
pp	Virginia	Cass
qq	White Hall	Greene

▲ RIVER STATIONS

	Discharge
A	Rock River at Rockton
B	Rock River near Joslin
C	Pecatonica River at Freeport
D	Green River near Geneseo
E	Edwards River near New Boston
F	Kankakee River at Momence
G	Fox River at Dayton
H	Vermilion River at Pontiac
I	Spoon River at Seville
J	LaMoine River at Ripley
K	Mackinaw River near Congerville
L	Sangamon River at Monticello
M	Vermilion River near Danville
N	Kaskaskia River at Vandalia
O	Shoal Creek near Breese
P	Embarras River at Ste. Marie
Q	Skillet Fork at Wayne City
R	Big Muddy at Plumfield

	Stage
<i>Illinois River</i>	
AA	Morris
BB	La Salle
CC	Peoria
DD	Havana
EE	Beardstown
FF	Meredosia
GG	Hardin
<i>Mississippi River</i>	
HH	Dubuque
II	Keokuk
JJ	Quincy
KK	Grafton
LL	St. Louis
MM	Chester
NN	Thebes
<i>Ohio River</i>	
OO	Cairo



Illinois WARM Network

▲ SOIL MOISTURE & SOIL TYPE

Location: City, County	Soil Type
A Freeport, Stephenson	Dubuque
B Fairfield, Wayne	Cisne
C DeKalb, DeKalb	Flanagan/Drummer
D Monmouth, Warren	Muscatine
F Stelle, Ford	Bryce
G East Peoria, Tazewell	Clinton
H Topeka, Mason	Plainfield/Onarga
I Bondville, Champaign	Elburn/Flanagan
J Champaign, Champaign	Flanagan
K Perry, Pike	Clarksdale
L Springfield, Sangamon	Ipava
M Brownstown, Fayette	Fayette
N Belleville, St. Clair	Weir
O Olney, Richland	Bluford
P Ina, Jefferson	Cisne
Q Carbondale, Jackson	Weir
R Dixon Springs, Pope	Grantsburg

● SHALLOW GROUND WATER SITES

Well Name	County
1 Galena	JoDaviess
2 Mt. Morris	Ogle
3 Crystal Lake	McHenry
4 Cambridge	Henry
5 Fermi Lab	DuPage
6 Good Hope	McDonough
7 Snicarte	Mason
8 Coffman	Pike
9 Greenfield	Greene
10 Janesville	Cumberland
11 St. Peter	Fayette
12 SWS No. 2	St. Clair
13 Boyleston	Wayne
14 Sparta	Randolph
15 S.E. College	Saline
16 Dixon Springs	Pope

▶ CLIMATE NETWORK SITES

GIS#	Station	County
9	Bondville	Champaign
19	Dixon Springs	Pope
13	Brownstown	Fayette
11	Perry	Pike
2	DeKalb	DeKalb
4	Monmouth	Warren
8	Kilbourne	Mason
6	East Peoria	Tazewell
12	Springfield	Sangamon
14	Belleville	St. Clair
18	Carbondale	Jackson
15	Olney	Richland
1	Freeport	Stephenson
16	Ina	Jefferson
7	Stelle	Ford
5	Wildlife Park	Peoria
3	St. Charles	Kane
17	Fairfield	Wayne
10	Champaign	Champaign

