552 (253)
Il 6f

STATE OF ILLINOIS

DWIGHT H. GREEN, *Governor*

Illinois

DEPARTMENT OF PUBLIC WORKS AND BUILDINGS Division of

WALTER A. ROSENFIELD, *Director* waterways

The Floods of May 1943 in Illinois

PREPARED IN COOPERATION WITH THE

UNITED STATES DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

U. S. GEOLOGICAL SURVEY
127199
LIBRARY

ISSUED BY

DIVISION OF WATERWAYS

THOMAS B. CASEY, *Acting Chief Engineer*

Printed by Authority of the State of Illinois

14

(70858)

U.S. GEOLOGICAL SURVEY
WASHINGTON
MAY 2 1 1945
LIBRARY

CONTENTS

	Page
Introduction	7
Meteorological analysis of the heavy rains of May 1943 over Illinois	9
Damages	12
Precipitation	14
Stages	17
Daily stages of Mississippi River, May 1943	18
Daily stages of Mississipp River, June 1943	22
Daily stages of Illinois River, May 1943	26
Daily stages of Illinois River, June 1943	30
Daily stages of Wabash River, May and June 1943	34
Flood crest elevations	35
Des Plaines River (head of Illinois River)	36
Illinois River	36
North Fork Vermilion River (head of Vermilion River)	37
Vermilion River	38
Mackinaw River	38
Sangamon River	39
South Fork Sangamon River	40
Salt Creek	40
Jones Fork of Lake Fork	41
Lake Fork Salt Creek	41
Kaskaskia River	42
Wabash River Basin	43
Middle Fork Vermilion River	43
Vermilion River	43
Salt Fork Vermilion River	44
North Fork Vermilion River	44
Embarrass River	44
Little Wabash River	45
Skillet Fork	46
Comparison with previous floods	47
Flood discharges	50
Discharge-station records	52
Upper Mississippi River Basin	52
Mississippi River Main Stem	52
Mississippi River at Keokuk, Iowa	52
Mississippi River at Alton, Ill.	52
Mississippi River at St. Louis, Mo.	53
Mississippi River at Chester, Ill.	54
Mississippi River at Thebes, Ill.	55
The Sny Basin	55
Hadley Creek near Shinn, Ill.	55
Bay Creek at Nebo, Ill.	56
Illinois River Basin	57
Des Plaines River (head of Illinois River) at Lemont, Ill.	57
Illinois River at Marseilles, Ill.	58
Illinois River at Kingston Mines, Ill.	60
Illinois River at Meredosia, Ill.	63
Chicago Sanitary and Ship Canal at Lockport, Ill.	66
Du Page River at Troy, Ill.	66
Kankakee River at Momence, Ill.	68
Kankakee River near Wilmington, Ill.	69
Iroquois River near Chebanse, Ill.	71
Mazon River near Coal City, Ill.	72
Fox River at Dayton, Ill.	73
North Fork Vermilion River near Charlotte, Ill.	74

Page

Discharge-station records—continued.
Upper Mississippi River Basin—continued.
Illinois River Basin—continued.
Vermilion River at Pontiac, Ill. 76
Vermilion River at Lowell, Ill. 77
Bureau Creek at Bureau, Ill. 78
Farm Creek at East Peoria, Ill. 79
Kickapoo Creek at Peoria, Ill. 81
Mackinaw River near Green Valley, Ill. 82
Money Creek above Lake Bloomington, Ill. 83
Money Creek at Lake Bloomington, Ill. 85
Hickory Creek above Lake Bloomington, Ill. 86
Spoon River at Seville, Ill. 88
Sangamon River at Monticello, Ill. 89
Sangamon River at Riverton, Ill. 90
Sangamon River near Oakford, Ill. 91
Salt Creek near Rowell, Ill. 94
Salt Creek near Greenview, Ill. 95
La Moine River at Ripley, Ill. 97
Macoupin Creek near Kane, Ill. 98
Cahokia Creek Basin 100
Indian Creek at Wanda, Ill. 100
Canteen Creek at Caseyville, Ill. 102
Long Lake at Stallings, Ill. 104
Kaskaskia River Basin 106
Kaskaskia River at Shelbyville, Ill. 106
Kaskaskia River at Vandalia, Ill. 107
Kaskaskia River at Carlyle, Ill. 109
Kaskaskia River at New Athens, Ill. 111
Big Muddy River Basin 114
Big Muddy River at Plumfield, Ill. 114
Big Muddy River at Murphysboro, Ill. 114
Ohio River Basin 115
Ohio River Main Stem 115
Ohio River at Evansville, Ind. 115
Ohio River at Golconda, Ill. 116
Ohio River at Metropolis, Ill. 117
Wabash River Basin 118
Wabash River at Terre Haute, Ind. 118
Wabash River at Riverton, Ind. 119
Wabash River at Vincennes, Ind. 119
Wabash River at Mt. Carmel, Ill. 120
Wabash River at New Harmony, Ill. 122
Vermilion River near Catlin, Ill. 124
Vermilion River near Danville, Ill. 126
West Branch Salt Fork at Urbana, Ill. 128
Embarrass River at Newton, Ill. 130
Embarrass River at Ste. Marie, Ill. 133
North Fork Embarrass River near Oblong, Ill. 135
Bonpas Creek at Browns, Ill. 137
Little Wabash River at Wilcox, Ill. 139
Little Wabash River at Carmi, Ill. 140
Skillet Fork at Wayne City, Ill. 142
Saline River Basin 144
Saline River near Junction, Ill. 144
Cache River Basin 145
Cache River at Forman, Ill. 145
Big Creek near Wetaug, Ill. 145
Flood discharges at miscellaneous points, May 1943 146
Influence of flood of 1943 on ground water supplies at Peoria, East St. Louis, and Cairo 147
Sand boils—causes and remedies 152

Page
Appendix: Other recent outstanding floods in Illinois 155
North Fork Vermilion River near Charlotte, Ill., August 1943 156
Vermilion River at Pontiac, Ill., August 1943 156
Farm Creek at East Peoria, Ill., August 1943 156
Money Creek above Lake Bloomington, Ill., August 1943 157
Money Creek at Lake Bloomington, Ill., August 1943 157
Hickory Creek above Lake Bloomington, Ill., August 1943 157
Salt Creek near Rowell, Ill., August 1943 158
Indian Creek at Wanda, Ill., July 1942 158
Canteen Creek at Caseyville, Ill., July 1942 159
Long Lake at Stallings, Ill., July 1942 159
Cache River at Forman, Ill., March 1943 160
Big Creek at Wetaug, Ill., March 1943 160
Flood discharges at miscellaneous points, August 1943 161
Index 162

ILLUSTRATIONS

Page

Surface weather chart of the United States, 1:30 a.m., C.W.T., Thursday, May 6, 1943 ..... Facing 10
Surface weather chart of the United States, 1:30 a.m., C.W.T., Saturday, May 8, 1943 ..... Facing 10
Surface weather chart of the United States, 1:30 a.m., C.W.T., Tuesday, May 11, 1943 ..... Facing 10
Surface weather chart of the United States, 1:30 a.m., C.W.T., Saturday, May 15, 1943 ..... Facing 12
Surface weather chart of the United States, 1:30 a.m., C.W.T., Tuesday, May 18, 1943 ..... Facing 12
Surface weather chart of the United States, 1:30 a.m., C.W.T., Thursday, May 20, 1943 ..... Facing 12
Isohyetal map of Illinois showing total rainfall, in inches, May 6-21, 1943 ..... Facing 12
Relation of peak discharge in second-feet per square mile to size of drainage area ..... Facing 50
Map of Illinois showing location of gaging stations 51
Flood scene at Havana, Ill., May 26, 1943 62
Illinois River at Meredosia, Ill.: A, May 24, 1943; B, September 28, 1943 65
Sangamon River near Oakford, Ill.: A, Break in levee on right bank, just upstream from State Highway 97; B, State Highway 97 fill erosion resulting from levee break 93
Hydrograph of Kaskaskia River at Vandalia, Ill. ..... Facing 108
Flood scene at Vandalia, Ill., May 25, 1943 109
Hydrograph of Kaskaskia River at four stations ..... Facing 110
Kaskaskia River at State Highway 13 at New Athens, Ill., May 23, 1943 113
The Embarrass River: A, Gaging station at bridge on State Highway 33 at Newton, Ill., May 21, 1943; B, Overflow section, gaging station at Ste. Marie, Ill., May 21, 1943 132
Hydrograph of two stations in the Embarrass River Basin ..... Facing 134
Map of ground water well fields in Peoria area ..... Facing 146
Comparison of well water levels with Illinois River elevations and rainfall, Peoria and Pekin area ..... Facing 148
Comparison of well water levels with Illinois River elevations, Peoria area 149
Comparison of well water levels with Illinois River elevations, Pekin area 150
Map of ground water contours in East St. Louis area ..... Facing 150
Changes in water levels, East St. Louis area ..... Facing 150
Cairo: Water levels during 1943 flood 151

INTRODUCTION

In May 1943, Illinois was subjected to a series of floods that reached major intensities in the central part of the State but decreased to minor intensity—less than the maximum for the year—in the northwestern and extreme southern part. All records were broken on lower Illinois River and on its tributaries entering from the east, from Sangamon River south, as well as on Kaskaskia River. These floods were the result of rains during the storm period May 6-21. At no place did it rain continuously for 24 hours and in most places the limit was about half a day. An appropriate description is a series of showers that produced a series of floods on small streams. As the rains continued, the ground became more nearly saturated and the ratio of runoff to rainfall increased. As the small streams entered larger ones, with their peaks arriving at different times, the channel storage of the larger streams smoothed out the minor peaks so that the very large streams had only one peak. The magnitude of channel storage in Illinois River and its adjoining lakes is emphasized by the fact that the peak discharge at Meredosia, lasting about 44 hours, was no greater than the peak discharge of Sangamon River at Oakford, 123,000 second-feet, that lasted about an hour.

When the floods of May 1943 struck, there were within or on the boundaries of Illinois 109 stream-gaging stations. These gaging stations were operated by the U. S. Geological Survey through a program of cooperative financial agreements with the Illinois Departments of Registration and Education, Water Survey Division, and Public Works and Buildings, Division of Waterways, the Corps of Engineers, U. S. Army, and the East Side Levee and Sanitary District. As a result of this program and the work of the cooperating agencies, more data were collected in Illinois for the floods of May 1943 than had ever been collected before for any flood and perhaps more than on all previous floods in Illinois.

A large part of the success in obtaining data on the May floods can be attributed to arrangements worked out between the Geological Survey and the U. S. Weather Bureau whereby the latter reported to the former not only rains as they occurred, but also furnished forecasts of probable flood periods. When the floods struck, half the staff of the Urbana District of the Geological Survey was on military furlough so the remainder of the staff, including the district engineer, was in the field from the beginning. On May 18, from a study of Weather Bureau and gage-reader reports of that morning, it became apparent that a major flood was developing. Through arrangements with the district engineer, J.V.B. Wells, two field parties were obtained from the Louisville district of the Geological Survey. Later in the day, following the receipt from the Chicago Airport station of the Weather Bureau of a telegram forecasting more rain, additional help was obtained in the form of another field party sent by Mr. Wells, and parties from the St. Louis and Peoria offices of the Corps of Engineers. A large party from the Corps of Engineers, Louisville, worked under the supervision of Geological Survey engineers. As a

result, the Urbana district reported that 244 current-meter discharge measurements were made at gaging stations during May, of which 47 were made by the Corps of Engineers. The staff of the Urbana district was in the field almost continuously for three weeks, working at night when critical stages required it.

As the flood subsided and work at regular gaging stations diminished, surveys were made for computation of flood flows by special methods at points on streams where there were no gaging stations. As a result, 8 slope-area measurements, 15 contracted-opening measurements, and 6 computations of flow over dams were made. The work was accomplished by three field parties from the Urbana district assisted by C. E. Knox, associate engineer, who was detailed from the Albany, N. Y., district for that purpose. Financial assistance was provided by the State Division of Waterways.

This report was prepared in the Urbana district of the U. S. Geological Survey, by J. H. Morgan, district engineer, with the assistance of W. D. Mitchell, E. G. Barron, J. H. Montgomery, O. E. Barteldes, Stella V. Tatlock, Kent M. Ogata, and Dora K. Clifford. Records were also furnished by the following Geological Survey districts: Louisville, Ky., J. V. B. Wells, district engineer; Rolla, Mo. (St. Louis office) H. C. Beckman, district engineer; Indianapolis, Ind., D. M. Corbett, district engineer; and Iowa City, Iowa, L. C. Crawford, district engineer.

The cooperative financial agreements were administered for the various agencies as follows:

Illinois Department of Registration and Education, through the Water Survey Division, Dr. A. M. Buswell, chief.

Illinois Department of Public Works and Buildings, through the Division of Waterways, T. B. Casey, Acting Chief Engineer.

Corps of Engineers, U. S. Army, district engineers; Lt. Col. J. H. Peil, Rock Island, Ill.; Col. Chas. Keller, Chicago, Ill.; Col. L. B. Feagin, St. Louis, Mo.; Col. H. F. Hannis, Louisville, Ky.

The Corps of Engineers also furnished records of stages at their gages, and elevations of flood crests for determining flood profiles. The Corps collected information on damage and losses which was made available to the Weather Bureau for summation.

The U. S. Weather Bureau furnished records of regular precipitation stations, supplementary precipitation records, and information of damage and losses.

The Air Corps, U. S. Army, took thousands of aerial photographs for the Corps of Engineers, a few of which have been released for this report.

The Illinois State Water Survey furnished the description of the effect of the floods on ground-water elevations, and the description of sand boils.

The Sanitary District of Chicago furnished the gaging station record for the Chicago Sanitary and Ship Canal at Lockport, Ill.

This report was prepared on the basis of Central War Time. To convert War Time to Standard Time, subtract one hour. In comparing this report with U. S. Weather Bureau reports, note that in the latter Central Standard Time is used.

METEOROLOGICAL ANALYSIS OF THE HEAVY RAINS OF MAY 1943 OVER ILLINOIS

By A. L. Shands,
Hydrometeorological Section, U. S. Weather Bureau
Washington, D. C.

Although only the usual surface weather maps are reproduced with this discussion, frequent reference must be made to conditions aloft. When mention is made of conditions at, for example, 10,000 feet, the pressure distributions or circulation patterns described are in a horizontal plane 10,000 feet above sea level. Atmospheric flow, however, is seldom horizontal. For practical purposes, for durations not greatly in excess of 24 hours, the flow can be considered to take place entirely within a surface of constant potential temperature. Such surfaces are called isentropic, and the isentropic chart contains data plotted in such a surface—one taken as representative of the upper-air flow pattern. The isobars on such a surface are close approximations to contours of elevation and, thus, streamlines of air flow indicate whether the motion is up slope, down slope, or neither. An up-slope motion involves adiabatic cooling, of course, which, if prolonged, will cause condensation and, if rapid, heavy rainfall. Although the fixed-level or isentropic features aloft can often be deduced from the surface weather map, there are enough important variations from any average association of patterns so that conditions at the surface which are similar may result in substantially different weather because of differences aloft.

During the first week in May the circulation aloft east of the Rockies was dominated by an anticyclone centered over the Lower Mississippi Valley. This maintained a flow of polar air from the northwest over the states east of the Mississippi and particularly over the Ohio River. By the end of the week, though, the strong, fairly stationary anticyclone had moved just off the southern Atlantic Coast and the flow over the eastern states, at surface and aloft, became southwesterly. Returning westward and northwestward around the anticyclonic center into Texas and Oklahoma and then towards Illinois and Indiana, the polar air was gradually modified into maritime tropical as it passed over the warm waters of the South Atlantic and Gulf of Mexico. Stations on the Texas Coast reporting dew points in the middle sixties on the 1st were reporting dew points in the middle seventies by the 7th. A similar change took place northward and northwestward. Dew points in the low forties on the 1st were in the sixties in Illinois on the 6th and reached sixty in Indiana on the 7th. The occurrence of non-frontal thunderstorms in Texas the morning of the 7th was evidence that the air mass had acquired the characteristic instability of tropical maritime air.

On the 1:30 A. M. CWT surface weather map of May 6 a low-pressure trough extended southwestward from a center north of Lake Superior. A pre-frontal squall line or cold front aloft appeared in advance of the surface cold front. Upper-air soundings indicated unstable air in advance of the latter front and isentropic flow patterns indicated increasing moisture content in the air mass. The upper front coincided with the axis of the moist tongue moving in from the southwest, as shown on the isentropic chart. West of the cold front, unstable polar maritime air prevailed while northwestward, through North Dakota and Montana, a new cold front showed as the advancing edge of a fresh outbreak of polar continental air.

Rain beginning the early morning of the 6th in northwestern Illinois coincided with the upper-front passage, continued through the surface-front passage, and advanced eastward with the frontal movement. On the morning of the 7th the upper front was no longer discernible and the first surface cold front, now in southern Ohio, Indiana and Illinois, was becoming quasi-stationary—its advance blocked by the warm anticyclone to the southeast. The polar-continental cold front had moved rapidly and was now overtaking the first front. The isentropic chart showed the effect of the new surge of cold air in the steepening of the isentropic surfaces in Missouri and Illinois, and also in the strong up-slope flow in that region. Heavier rain occurred there but over Indiana, where the flow was more parallel to the isentropic contours, rains were lighter. The increased southerly flow resulted in a definite increase in moisture content to above 20,000 feet at St. Louis, for example.

The surface weather map for 1:30 A. M. CWT, May 8, showed the eastern two-thirds of the country dominated by two anticyclones of opposite characteristics. The High to the southeast was warm while the one to the northwest was cold. Because of the more rapid decrease of pressure with height in the colder (therefore denser) air, a cold high-pressure cell becomes a low-pressure cell aloft while a warm cell maintains anticyclonic circulation to great heights. Above the northerly winds in the cold air, the currents shift to south or southwest, so that above the front, or above the surface position of the trough between the two anticyclones, the winds in the warm and cold air tend to become parallel to each other and to the front. Sufficiently strong cyclonic circulation aloft in the cold air, however, will force the originally anticyclonically curving warm, moist air to be deflected cyclonically over the cold. In addition to the up-slope component thus developed in the warm air, the change from anticyclonic to cyclonic flow produces another vertical component due to horizontal convergence imposed upon the air. It can be shown that for the same pressure gradient, density, and latitude, the anticyclonic velocity exceeds the cyclonic, so that a change from the first to the second over a region indicates a net inflow of air into that region which is compensated by upward vertical motion. All upward flow, by reason of the natural decrease of pressure with height, allows the air to expand adiabatically and can therefore cool the contained water vapor to condensation temperatures and below. The intensity of the resulting rainfall depends then, chiefly, on the magnitude of the convergence and the

FORECASTS AND GENERAL WEATHER INFORMATION

UNITED STATES WEATHER BUREAU, WASHINGTON, D. C.

ADMINISTRATIVE OFFICE: 24th and M Streets, NW. AIRPORT OFFICE: Washington National Airport

WEATHER INFORMATION (ALL HOURS) Michigan 1442

LATEST WEATHER FORECASTS BY AUTOMATIC TELEPHONE: Weather 1212

2:30 a.m. E.W.T., Thursday May 6, 1943

NOTE: This map was not released until 7 days after above date

STATE FORECASTS

District of Columbia, much warmer and rather windy this afternoon and to-night.

Maryland, Virginia, and Eastern Pennsylvania, much warmer this afternoon and in east portions to-night; scattered thundershowers and somewhat warmer in west portions to-night; rather windy this afternoon and to-night.

Eastern New York, much warmer this afternoon and to-night; light rain in northeast portion this morning; showers and scattered thundershowers in west and north portions to-night; rather windy to-night.

Western New York and Western Pennsylvania, windy and much warmer this afternoon; showers and thundershowers to-night and beginning in extreme west portions late this afternoon; warmer in east portions; somewhat colder in west portions late to-night; continued windy.

New Jersey and Delaware, much warmer this afternoon and to-night; windy to-night.

West Virginia, warmer this afternoon and in east portion to-night; thundershowers to-night and beginning in extreme west portion late this afternoon; cooler in extreme west portion late to-night; rather windy.

E. M. RAMPEY.

1:30 a.m. C.W.T.

Reproduced by permission of the U. S. Weather Bureau

EXPLANATION OF MAP

At 2:30 a. m., E. W. T., observations of the weather are taken at several hundred stations throughout the United States. Reports from 170 of these stations are inscribed on the above map. Temperature, wind direction and velocity, amount and kind of clouds, state of weather, visibility, amount of precipitation, and other meteorological data are indicated for each station.

The heavy lines are called "fronts" and separate the air masses of different characteristics. The labels which are made up of letter combinations indicate particular types of air masses. Fronts and labels are described to the right.

The light, continuous lines are called isobars and pass through points of equal sea-level pressure. The dashed line (when present) is an isotherm and passes through all points where the current temperature is 32° Fahrenheit. This line is labeled "Freezing" and separates the respective areas which are above and below the freezing temperature of 32° Fahrenheit.

The figures and symbols for the data always occupy approximately the same positions around the station circle, as shown on the adjacent "Station Model."

The geographical area where precipitation is falling at 2:30 a. m., E. W. T., is covered with dot shading. The letter "T" is used to indicate a "Trace" of precipitation, which is an amount too small to measure.

The table values in feet for the figures used for the "height of lower clouds" are as follows: 0 = 0 to 163 feet; 1 = 164 to 327 feet; 2 = 328 to 655; 3 = 656 to 983; 4 = 984 to 1967; 5 = 1968 to 3280; 6 = 3281 to 4920; 7 = 4921 to 6561; 8 = 6562 to 8201; and 9 = above 8202 feet or no clouds.

The table range values in miles for the figures used for "visibility" are as follows: 0 = less than 1-thirty-second mile (55 yards); 1 = from 1-thirty-second up to, but not including, 1-eighth mile (220 yards); 2 = from 1-eighth up to, but not including, 5-sixteenths mile (550 yards); 3 = from 5-sixteenths up to 5-eighths mile (1100 yards); 4 = up to 1 and 1-fourth miles; 5 = up to 2 and 1-half miles; 6 = up to 6 miles; 7 = up to 12 miles; 8 = up to 30 miles; 9 = 30 miles or more.

The symbol within the station circle indicates the total amount of all clouds. A figure is also entered for the "amount of clouds whose height is given by h". The values for N and N_h are as follows: 0 ○, absolutely no clouds; 1 ⦶, sky less than 1-tenth covered; 2 ⦶, 1-tenth covered; 3 ◔, 2- or 3-tenths; 4 ◑, 4-, 5-, or 6-tenths; 5 ◕, 7- or 8-tenths; 6 ◕, 9-tenths; 7 ◕, more than 9-tenths, but with openings; 8 ●, 10-tenths, or completely covered; 9 ⊗, sky obscured.

The symbol directly to the left of the station circle represents the current state of weather and may be any one of 96 separate symbols. The basic symbols for precipitation are: , drizzle; • rain; ✱ snow; ▽ showers; ⛈ thunderstorm. A symbol for current state of weather is always used when precipitation is falling or when unusual conditions are observed. Some of the frequently used symbols are as follows: ∞ haze; ⟨ distant lightning; ═ light fog; ⊂⊃ smoke; ✱] snow in last hour, but not at time of observation; S dust storm; ≡ fog, sky not discernible; ,, continuous moderate drizzle; • intermittent light rain; ✱✱ continuous light snow; ▽ light or moderate rain showers; ⛈ thunderstorm with rain. Symbols are entered singly or in combination, for example, a • represents rain and three bars ≡ represents fog. Three bars and a dot represent rain and fog. The bracket sign] means "in past hour, but not at time of observation."

The shaft of the arrow extends from the station circle in the direction *from which* the wind blows and the feathers on the shaft show the force of the wind on the Beaufort Scale. Each feather represents *two* units of force and each *half feather* represents *one* unit of force. For example, a wind blowing *from the east* at 5 miles an hour would be drawn ○—— and would be described as an "east wind, force 2"; ○ is a "west-southwest wind, force 5."

The Weather Bureau will furnish upon request a "Price List of W. B. Publications" and an "Explanation of Weather Code Figures and Symbols". Inquiries should be addressed to "Chief, U. S. Weather Bureau, Washington, D. C."

The subscription price of this map (daily, including Sundays and holidays) is $3.60 a year, or 30 cents a month. Send subscriptions (check or money order) to "Superintendent of Documents, Washington, D. C."

STATION MODEL

Feathers showing force of wind in Beaufort Scale. *(19 to 24 miles per hour.)*

Arrow shaft showing direction of wind. *(Blowing from northwest.)*

Figures showing temperature in degrees Fahrenheit.

Symbol showing amount of sky covered by clouds. *(Completely covered.)*

Code figure showing visibility. *(1½ miles or more, but less than 2½ miles.)*

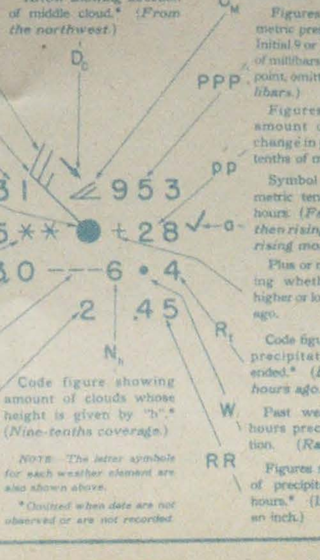
Symbol showing present state of weather.* *(Continuous light snow in flakes.)*

Figures showing dew point in degrees Fahrenheit.

Symbol showing type of low cloud.* *(Fractocumulus.)*

Height of lower clouds, *except* when lower clouds are only fragments below a layer of clouds whose base is below 8,200 feet.* *(328 to 655 feet.)*

Arrow showing direction of middle cloud.* *(From the northwest.)*



Code figure showing amount of clouds whose height is given by "h".* *(Nine-tenths coverage.)*

NOTE—The letter symbols for each weather element are also shown above.

*Omitted when data are not observed or are not recorded.

Symbol showing type of middle cloud.* *(Alto-stratus).*

Figures showing barometric pressure at sea level. Initial 9 or 10 for "hundreds" of millibars, and also decimal point, omitted. *(995.3 millibars.)*

Figures showing net amount of barometric change in past 3 hours. *(In tenths of millibars.)*

Symbol showing barometric tendency in past 3 hours. *(Falling or steady, then rising, or rising, then rising more quickly.)* *

Plus or minus sign showing whether pressure is higher or lower than 3 hours ago.

Code figure showing time precipitation began or ended.* *(Began 3 to 4 hours ago.)*

Past weather during 6 hours preceding observation. *(Rain.)*

Figures showing amount of precipitation in last 6 hours.* *(In hundredths of an inch.)*

FRONTS AND LABELS

The boundary between two different air masses is called a "front." Important changes in weather often occur with the passage of a front. The half circle and triangular points placed on the "front" lines are symbols to indicate the classification of the front and its direction of movement. The boundary of relatively cold air of polar origin advancing into an area occupied by warmer air of tropical origin is called a "cold front." The boundary of relatively warm air advancing into an area occupied by colder air of polar origin is called a "warm front." The line along which a cold front overtakes a warm front is called an "occluded front." A boundary between two air masses which shows little tendency at the time of observation to advance into either the warm or the cold air areas is called a "stationary" front. The front symbols, with arrows to show their direction of movement, are given below:

Warm front at the ground. Warm front above the ground.
Cold front at the ground. Cold front above the ground.
Occluded front. Stationary front.

The words "HIGH" and "LOW" indicate high and low barometric pressure.

Masses of air are classified into several different types which indicate their origin and basic characteristics. For example, the letter "P" denotes the polar type of relatively dry and cold air from northerly or polar regions. The letter "T" denotes the tropical type of relatively moist and warm air from southerly and tropical regions. The letters placed *before* the letters "T" and "P" show that the air mass is classified as Maritime (M) or Continental (C). The letters, placed *after* "T" and "P" show that the air mass is colder (K) or warmer (w) than the surface over which the air is moving. Mixtures of air masses are denoted by plus signs (+), and transitional changes of air masses from one type to another are indicated by arrows (⟹). One air mass superimposed upon another is indicated by placing a line between the two labels.

P = Polar; C = Continental; T = Tropical; M = Maritime; S = Superior (very dry); A = Arctic; K = Colder; w = Warmer.

BEAUFORT SCALE OF WIND FORCE

NO.	SYMBOL	MILES PER HOUR
0	◎	CALM
1		1-3
2		4-7
3		8-12
4		13-18
5		19-24
6		25-31
7		32-38
8		39-46
9		47-54
10		55-63
11		64-75
12		ABOVE 75

1901-W.B.

FORECASTS AND GENERAL WEATHER INFORMATION

UNITED STATES WEATHER BUREAU, WASHINGTON, D. C.

ADMINISTRATIVE OFFICE: 24th and M Streets, NW. AIRPORT OFFICE: Washington National Airport

WEATHER INFORMATION (ALL HOURS) Michigan 1442

LATEST WEATHER FORECASTS BY AUTOMATIC TELEPHONE: Weather 1212

2:30 a.m. E.W.T., Saturday May 8, 1943

NOTE: This map was not released until 7 days after above date

STATE FORECASTS

District of Columbia, continued warm to-day; showers and occasional thunderstorms this afternoon and evening; cooler late to-night; gentle to moderate winds.

Maryland, showers and thunderstorms this afternoon and to-night; cooler by morning.

Virginia, showers and scattered thunderstorms to-night and in west and north portions this afternoon; cooler in west and north portions by morning.

Eastern New York, rain in north portion to-day and to-night; showers and local thunderstorms in south portion this afternoon and evening; cooler.

Western New York, rain and cooler to-day and to-night.

Eastern Pennsylvania, showers and local thunderstorms this afternoon and to-night; not so warm this afternoon; cooler to-night.

Western Pennsylvania, cooler, with showers and thunderstorms in south portion and moderate rain in north portion to-day and to-night.

New Jersey, showers and local thunderstorms this afternoon and evening; cooler to-night.

Delaware, showers and occasional thunderstorms this afternoon and to-night; not so warm this afternoon; cooler to-night.

West Virginia, showers and thunderstorms and not so warm to-day; showers and cooler to-night.

K. S. NORQUEST.

1:30 a.m. C.W.T.

Reproduced by permission of the U. S. Weather Bureau

EXPLANATION OF MAP

At 2:30 a. m., E. W. T., observations of the weather are taken at several hundred stations throughout the United States. Reports from 170 of these stations are inscribed on the above map. Temperature, wind direction and velocity, amount and kind of clouds, state of weather, visibility, amount of precipitation, and other meteorological data are indicated for each station.

The heavy lines are called "fronts" and separate the air masses of different characteristics. The labels which are made up of letter combinations indicate particular types of air masses. Fronts and labels are described to the right.

The light, continuous lines are called isobars and pass through points of equal sea-level pressure. The dashed line (when present) is an isotherm and passes through all points where the current temperature is 32° Fahrenheit. This line is labeled "Freezing" and separates the respective areas which are above and below the freezing temperature of 32° Fahrenheit.

The figures and symbols for the data always occupy approximately the same positions around the station circle, as shown on the adjacent "Station Model."

The geographical area where precipitation is falling at 2:30 a. m., E. W. T., is covered with dot shading. The letter "T" is used to indicate a "Trace" of precipitation, which is an amount too small to measure.

The table values in feet for the figures used for the "height of lower clouds" are as follows: 0 = 0 to 163 feet; 1 = 164 to 327 feet; 2 = 328 to 655; 3 = 656 to 983; 4 = 984 to 1967; 5 = 1968 to 3280; 6 = 3281 to 4920; 7 = 4921 to 6561; 8 = 6562 to 8201; and 9 = above 8202 feet or no clouds.

The table range values in miles for the figures used for "visibility" are as follows: 0 = less than 1-thirty-second mile (55 yards); 1 = from 1-thirty-second up to, but not including, 1-eighth mile (220 yards); 2 = from 1-eighth up to, but not including, 5-sixteenths mile (550 yards); 3 = from 5-sixteenths up to 5-eighths mile (1100 yards); 4 = up to 1 and 1-fourth miles; 5 = up to 2 and 1-half miles; 6 = up to 6 miles; 7 = up to 12 miles; 8 = up to 30 miles; 9 = 30 miles or more.

The symbol within the station circle indicates the total amount of all clouds. A figure is also entered for the "amount of clouds whose height is given by h". The values for N and N_h are as follows: 0 ○, absolutely no clouds; 1 ⦶, sky less than 1-tenth covered; 2 ⦶, 1-tenth covered; 3 ◔, 2- or 3-tenths; 4 ◑, 4-, 5-, or 6-tenths; 5 ◕, 7- or 8-tenths; 6 ◕, 9-tenths; 7 ◕, more than 9-tenths, but with openings; 8 ●, 10-tenths, or completely covered; 9 ⊗, sky obscured.

The symbol directly to the left of the station circle represents the current state of weather and may be any one of 96 separate symbols. The basic symbols for precipitation are: ❜ drizzle; • rain; ✳ snow; ▽ showers; ⟦ thunderstorm. A symbol for current state of weather is always used when precipitation is falling or when unusual conditions are observed. Some of the frequently used symbols are as follows: ∞ haze; ⟨ distant lightning; = light fog; ⊂⊃ smoke; ✳] snow in last hour, but not at time of observation; S dust storm; ≡ fog, sky not discernible; ❜❜ continuous moderate drizzle; • intermittent light rain; ✳✳ continuous light snow; ▽ light or moderate rain showers; ⟦ thunderstorm with rain. Symbols are entered singly or in combination, for example, a • represents rain and three bars ≡ represents fog. Three bars and a dot represent rain and fog. The bracket sign] means "in past hour, but not at time of observation."

The shaft of the arrow extends from the station circle in the direction *from which* the wind blows and the feathers on the shaft show the force of the wind on the Beaufort Scale. Each feather represents *two* units of force and each *half feather* represents *one* unit of force. For example, a wind blowing *from the east* at 5 miles an hour would be drawn ○—╮ and would be described as an "east wind, force 2"; ╲╲—○ is a "west-southwest wind, force 5."

The Weather Bureau will furnish upon request a "Price List of W. B. Publications" and an "Explanation of Weather Code Figures and Symbols". Inquiries should be addressed to "Chief, U. S. Weather Bureau, Washington, D. C."

The subscription price of this map (daily, including Sundays and holidays) is $3.60 a year, or 30 cents a month. Send subscriptions (check or money order) to "Superintendent of Documents, Washington, D. C."

STATION MODEL

Feathers showing force of wind in Beaufort Scale. *(19 to 24 miles per hour.)*

Arrow shaft showing direction of wind. *(Blowing from northwest.)*

Figures showing temperature in degrees Fahrenheit.

Symbol showing amount of sky covered by clouds. *(Completely covered.)*

Code figure showing visibility. *(1½ miles or more, but less than 2½ miles.)*

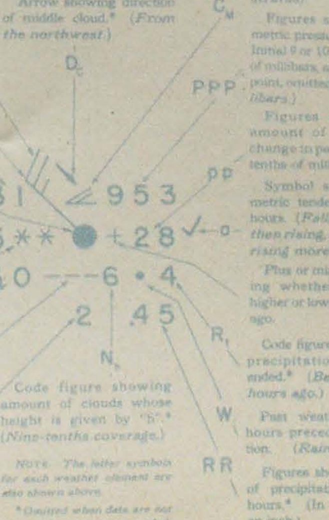
Symbol showing present state of weather.* *(Continuous light snow in flakes.)*

Figures showing dew point in degrees Fahrenheit.

Symbol showing type of low cloud.* *(Fractocumulus.)*

Height of lower clouds, *except* when lower clouds are only fragments below a layer of clouds whose base is below 8,200 feet.* *(328 to 655 feet.)*

Arrow showing direction of middle cloud.* *(From the northwest.)*



Code figure showing amount of clouds whose height is given by "h".* *(Nine-tenths coverage.)*

NOTE. The letter symbols for each weather element are also shown above.

* Omitted when data are not observed or are not recorded.

Symbol showing type of middle cloud.* *(Altostratus.)*

Figures showing barometric pressure at sea level. Initial 9 or 10 for "hundreds" of millibars, and also decimal point, omitted. *(995.3 millibars.)*

Figures showing net amount of barometric change in past 3 hours. (In tenths of millibars.)

Symbol showing barometric tendency in past 3 hours. *(Falling or steady, then rising, or rising, then rising more quickly.)**

Plus or minus sign showing whether pressure is higher or lower than 3 hours ago.

Code figure showing time precipitation began or ended.* *(Began 3 to 4 hours ago.)*

Past weather during 6 hours preceding observation. *(Rain.)*

Figures showing amount of precipitation in last 6 hours.* (In hundredths of an inch.)

FRONTS AND LABELS

The boundary between two different air masses is called a "front." Important changes in weather often occur with the passage of a front. The half circle and triangular points placed on the "front" lines are symbols to indicate the classification of the front and its direction of movement. The boundary of relatively cold air of polar origin advancing into an area occupied by warmer air of tropical origin is called a "cold front." The boundary of relatively warm air advancing into an area occupied by colder air of polar origin is called a "warm front." The line along which a cold front overtakes a warm front is called an "occluded front." A boundary between two air masses which shows little tendency at the time of observation to advance into either the warm or the cold air areas is called a "stationary" front. The front symbols, with arrows to show their direction of movement, are given below:

- Warm front at the ground.
- Cold front at the ground.
- Occluded front.
- Warm front above the ground.
- Cold front above the ground.
- Stationary front.

The words "HIGH" and "LOW" indicate high and low barometric pressure.

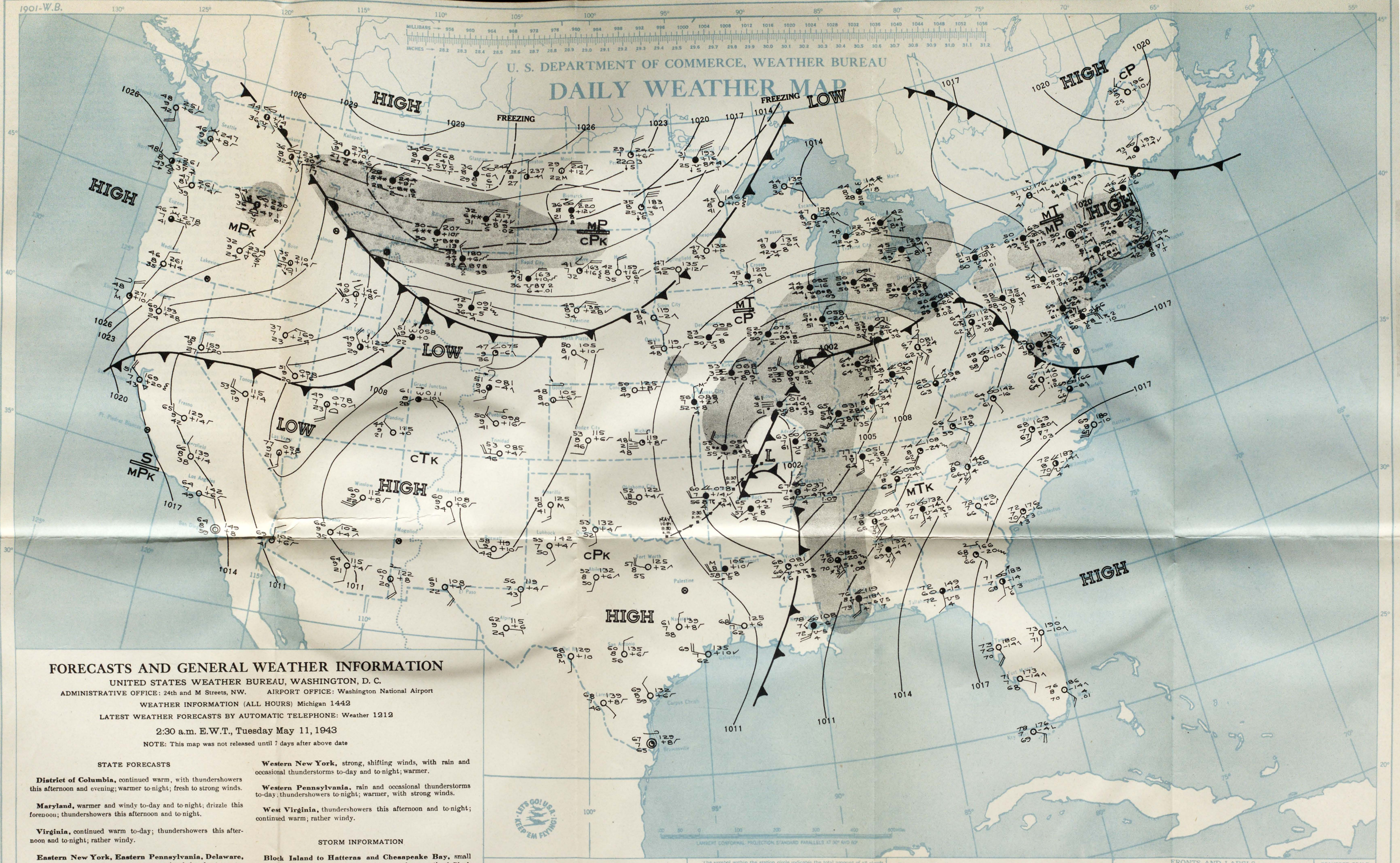
Masses of air are classified into several different types which indicate their origin and basic characteristics. For example, the letter "P" denotes the polar type of relatively dry and cold air from northerly or polar regions. The letter "T" denotes the tropical type of relatively moist and warm air from southerly and tropical regions. The letters placed *before* the letters "T" and "P" show that the air mass is classified as Maritime (M) or Continental (C). The letters placed *after* "T" and "P" show that the air mass is colder (K) or warmer (w) than the surface over which the air is moving. Mixtures of air masses are denoted by plus signs (+), and transitional changes of air masses from one type to another are indicated by arrows (⟹). One air mass superimposed upon another is indicated by placing a line between the two labels.

P = Polar; C = Continental; T = Tropical; M = Maritime; S = Superior (very dry); A = Arctic; K = Colder; w = Warmer.

BEAUFORT SCALE OF WIND FORCE

NO	SYMBOL	MILES PER HOUR
0		CALM
1		1-3
2		4-7
3		8-12
4		13-18
5		19-24
6		25-31
7		32-38
8		39-46
9		47-54
10		55-63
11		64-75
12		ABOVE 75

1901-W.B.



FORECASTS AND GENERAL WEATHER INFORMATION

UNITED STATES WEATHER BUREAU, WASHINGTON, D. C.

ADMINISTRATIVE OFFICE: 24th and M Streets, NW. AIRPORT OFFICE: Washington National Airport

WEATHER INFORMATION (ALL HOURS) Michigan 1442

LATEST WEATHER FORECASTS BY AUTOMATIC TELEPHONE: Weather 1212

2:30 a.m. E.W.T., Tuesday May 11, 1943

NOTE: This map was not released until 7 days after above date

STATE FORECASTS

District of Columbia, continued warm, with thundershowers this afternoon and evening; warmer to-night; fresh to strong winds.

Maryland, warmer and windy to-day and to-night; drizzle this forenoon; thundershowers this afternoon and to-night.

Virginia, continued warm to-day; thundershowers this afternoon and to-night; rather windy.

Eastern New York, Eastern Pennsylvania, Delaware, and New Jersey, rain and warmer; occasional thunderstorms to-day and to-night; strong winds to-night.

Western New York, strong, shifting winds, with rain and occasional thunderstorms to-day and to-night; warmer.

Western Pennsylvania, rain and occasional thunderstorms to-day; thundershowers to-night; warmer, with strong winds.

West Virginia, thundershowers this afternoon and to-night; continued warm; rather windy.

STORM INFORMATION

Block Island to Hatteras and Chesapeake Bay, small craft warnings will be displayed at 8:00 a. m., from south of Block Island to Cape Hatteras, including Chesapeake and Delaware Bays.

K. S. NORQUEST.

1:30 a.m. C.W.T.

Reproduced by permission of the U. S. Weather Bureau

2-1-43

EXPLANATION OF MAP

At 2:30 a. m., E. W. T., observations of the weather are taken at several hundred stations throughout the United States. Reports from 170 of these stations are inscribed on the above map. Temperature, wind direction and velocity, amount and kind of clouds, state of weather, visibility, amount of precipitation, and other meteorological data are indicated for each station.

The heavy lines are called "fronts" and separate the air masses of different characteristics. The labels which are made up of letter combinations indicate particular types of air masses. Fronts and labels are described to the right.

The light, continuous lines are called isobars and pass through points of equal sea-level pressure. The dashed line (when present) is an isotherm and passes through all points where the current temperature is 32° Fahrenheit. This line is labeled "Freezing" and separates the respective areas which are above and below the freezing temperature of 32° Fahrenheit.

The figures and symbols for the data always occupy approximately the same positions around the station circle, as shown on the adjacent "Station Model."

The geographical area where precipitation is falling at 2:30 a. m., E. W. T., is covered with dot shading. The letter "T" is used to indicate a "Trace" of precipitation, which is an amount too small to measure.

The table values in feet for the figures used for the "height of lower clouds" are as follows: 0 = 0 to 163 feet; 1 = 164 to 327 feet; 2 = 328 to 655; 3 = 656 to 983; 4 = 984 to 1967; 5 = 1968 to 3280; 6 = 3281 to 4920; 7 = 4921 to 6561; 8 = 6562 to 8201; and 9 = above 8202 feet or no clouds.

The table range values in miles for the figures used for "visibility" are as follows: 0 = less than 1-thirty-second mile (55 yards); 1 = from 1-thirty-second up to, but not including, 1-eighth mile (220 yards); 2 = from 1-eighth up to, but not including, 5-sixteenths mile (550 yards); 3 = from 5-sixteenths up to 5-eighths mile (1100 yards); 4 = up to 1 and 1-fourth miles; 5 = up to 2 and 1-half miles; 6 = up to 6 miles; 7 = up to 12 miles; 8 = up to 30 miles; 9 = 30 miles or more.

The symbol within the station circle indicates the total amount of all clouds. A figure is also entered for the "amount of clouds whose height is given by h". The values for N and N_h are as follows: 0 ○, absolutely no clouds; 1 ⦶, sky less than 1-tenth covered; 2 ⦶, 1-tenth covered; 3 ◔, 2- or 3-tenths; 4 ◑, 4-, 5-, or 6-tenths; 5 ◕, 7- or 8-tenths; 6 ●, 9-tenths; 7 ●, more than 9-tenths, but with openings; 8 ●, 10-tenths, or completely covered; 9 ⊗, sky obscured.

The symbol directly to the left of the station circle represents the current state of weather and may be any one of 96 separate symbols. The basic symbols for precipitation are: , drizzle; • rain; ✱ snow; ▽ showers; ⊼ thunderstorm. A symbol for current state of weather is always used when precipitation is falling or when unusual conditions are observed. Some of the frequently used symbols are as follows: ∞ haze; ⟨ distant lightning; == light fog; ⊂⊃ smoke; ✱] snow in last hour, but not at time of observation; dust storm; ≡ fog, sky not discernible; continuous moderate drizzle; • intermittent light rain; ✱✱ continuous light snow; ▽ light or moderate rain showers; ⊼ thunderstorm with rain. Symbols are entered singly or in combination, for example, a • represents rain and three bars ≡ represents fog. Three bars and a dot represent rain and fog. The bracket sign] means "in past hour, but not at time of observation."

The shaft of the arrow extends from the station circle in the direction *from which* the wind blows and the feathers on the shaft show the force of the wind on the Beaufort Scale. Each feather represents *two* units of force and each *half feather* represents one unit of force. For example, a wind blowing *from the east* at 5 miles an hour would be drawn ○—— and would be described as an "east wind, force 2"; ——○ is a "west-southwest wind, force 5."

The Weather Bureau will furnish upon request a "Price List of W. B. Publications" and an "Explanation of Weather Code Figures and Symbols". Inquiries should be addressed to "Chief, U. S. Weather Bureau, Washington, D. C."

The subscription price of this map (daily, including Sundays and holidays) is $3.60 a year, or 30 cents a month. Send subscriptions (check or money order) to "Superintendent of Documents, Washington, D. C."

STATION MODEL

Feathers showing force of wind in Beaufort Scale. *(19 to 24 miles per hour.)*

Arrow shaft showing direction of wind. *(Blowing from northwest.)*

Figures showing temperature in degrees Fahrenheit.

Symbol showing amount of sky covered by clouds. *(Completely covered.)*

Code figure showing visibility. *(1¼ miles or more, but less than 2½ miles.)*

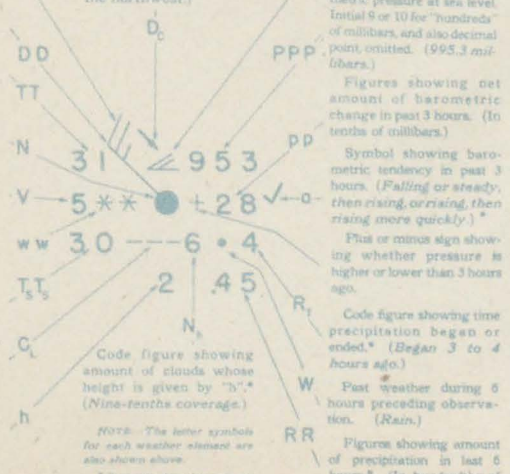
Symbol showing present state of weather.* *(Continuous light snow in flakes.)*

Figures showing dew point in degrees Fahrenheit.

Symbol showing type of low cloud.* *(Fractocumulus.)*

Height of lower clouds, *except* when lower clouds are only fragments below a layer of clouds whose base is below 8,200 feet.* *(328 to 655 feet.)*

Arrow showing direction of middle cloud.* *(From the northwest.)*



Code figure showing amount of clouds whose height is given by "h".* *(Nine-tenths coverage.)*

NOTE: The letter symbols for each weather element are also shown above.

*Omitted when data are not observed or are not recorded.

Symbol showing type of middle cloud.* *(Altostratus).*

Figures showing barometric pressure at sea level. Initial 9 or 10 for "hundreds" of millibars, and also decimal point, omitted. *(995.3 millibars.)*

Figures showing net amount of barometric change in past 3 hours. (In tenths of millibars.)

Symbol showing barometric tendency in past 3 hours. *(Falling or steady, then rising, or rising, then rising more quickly.)**

Plus or minus sign showing whether pressure is higher or lower than 3 hours ago.

Code figure showing time precipitation began or ended.* *(Began 3 to 4 hours ago.)*

Past weather during 6 hours preceding observation. *(Rain.)*

Figures showing amount of precipitation in last 6 hours.* (In hundredths of an inch.)

FRONTS AND LABELS

The boundary between two different air masses is called a "front." Important changes in weather often occur with the passage of a front. The half circle and triangular points placed on the "front" lines are symbols to indicate the classification of the front and its direction of movement. The boundary of relatively cold air of polar origin advancing into an area occupied by warmer air of tropical origin is called a "cold front." The boundary of relatively warm air advancing into an area occupied by colder air of polar origin is called a "warm front." The line along which a cold front overtakes a warm front is called an "occluded front." A boundary between two air masses which shows little tendency at the time of observation to advance into either the warm or the cold air areas is called a "stationary" front. The front symbols, with arrows to show their direction of movement, are given below:

Warm front at the ground. Warm front above the ground.
Cold front at the ground. Cold front above the ground.
Occluded front. Stationary front.

The words "HIGH" and "LOW" indicate high and low barometric pressure.

Masses of air are classified into several different types which indicate their origin and basic characteristics. For example, the letter "P" denotes the polar type of relatively dry and cold air from northerly or polar regions. The letter "T" denotes the tropical type of relatively moist and warm air from southerly and tropical regions. The letters placed *before* the letters "T" and "P" show that the air mass is classified as Maritime (M) or Continental (C). The letters placed *after* "T" and "P" show that the air mass is colder (K) or warmer (w) than the surface over which the air is moving. Mixtures of air masses are denoted by plus signs (+), and transitional changes of air masses from one type to another are indicated by arrows (⟹). One air mass superimposed upon another is indicated by placing a line between the two labels.

$\bar{P}$ = Polar; C = Continental; T = Tropical; M = Maritime; $\bar{S}$ = Superior (very dry); A = Arctic; K = Colder; w = Warmer.

BEAUFORT SCALE OF WIND FORCE

NO.	SYMBOL	MILES PER HOUR
0		CALM
1		1-3
2		4-7
3		8-12
4		13-18
5		19-24
6		25-31
7		32-38
8		39-46
9		47-54
10		55-63
11		64-75
12		ABOVE 75

1901-W.B.

moisture content of the air, its potiential instability being assumed—as it can be, for maritime tropical air.

Such was the flow pattern now being established in the vicinity of Illinois and Indiana. Typical of such a situation are the minor waves or incipient cyclonic vortices that develop along the quasi-stationary front. These are localized areas of extreme convergence, accompanied by intense rainfall, which normally move rapidly eastward along the front (in middle latitudes) without much distortion of the basic frontal pattern. The stagnation of the system over a particular region may cause the recurrence of wave action over the same area to produce the peak-rainfall centers characteristic of the quasi-stationary frontal storm. Aloft the cold low pressure lies to the west of the frontal wave, and the intensification of the former—evidenced in the cyclonic deflection of the warm current aloft—usually precedes the deepening and occlusion of the latter. The heavy rain that accompanies this process is ended by the cold air which is rapidly carried around the deepening Low by the steepening pressure gradient.

On the 10,000-foot chart practically synoptic with the 1:30 a. m. CWT surface may of May 8, the low pressure above the cold air was centered over the tri-state corner of Kansas, Colorado, and Nebraska, inducing cyclonic flow of maritime tropical air nothward and northwestward over Missouri, Iowa and Illinois. Eastward, however, over Indiana and the Ohio River Valley, the flow was still anticyclonic but somewhat up slope. A wave that appeared on the 7:30 a. m. CWT map of May 7 was now crested slightly southeast of St. Louis, producing its locally intense precipitation as it moved rapidly northeastward along the front. Over that area the rain ended with its passage. Southwestward, in Oklahoma, the major pattern of convergent flow persisted.

By 1:30 a. m. CWT of the 9th, the straight eastward extension of the cold air north of the Ohio River resulted in flow aloft that was parallel to the isentropic contours and, occasionally, even down slope. The cold Low aloft was now in northwestern New Mexico (at 10,000 feet) and was inducing cyclonic flow in the warm air all the way to Missouri, resulting in an area of precipitation that also extended that far eastward. Twenty-four hours later, the cold Low aloft had moved to the Texas Panhandle and extended as a closed circulation above 20,000 feet, increasing the cyclonic curvature of the warm air aloft over Oklahoma and causing the winds to become more southerly eastward to Illinois and Indiana and then to flow almost normally up the steep isentropic surfaces. The heavy rains of the 10th and 11th were associated with this distortion of flow which was further accentuated as occlusion and deepening of the system occurred between the 10th and 11th. By 1:30 a. m. CWT of the 11th a deep trough, extending beyond the 20,000-foot level, appeared slightly west of the surface position of the trough. The strong, deep, up-slope thrust of tropical air was now directly over Illinois and Indiana. Twelve hours later the upper trough was over Indiana and by 1:30 a. m. CWT, the 12th, over Ohio, the rain ending with its passage. A fresh, cold outbreak from the northwest, already visible on the 1:30 a. m. CWT map of the 12th, followed but rains were light and scattered. The flow aloft, now

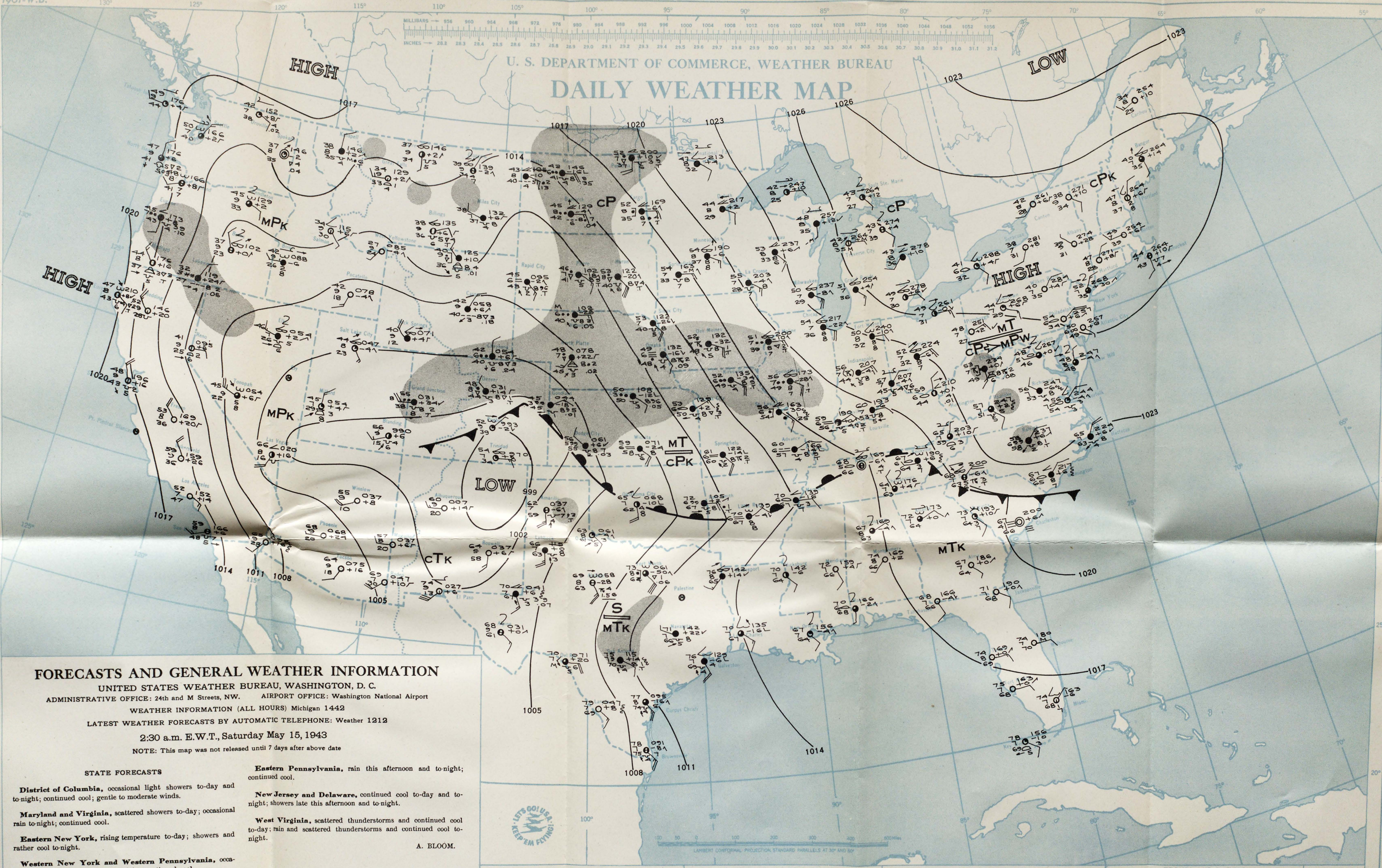
controlled by a south-north rather than an east-west gradient of temperature, had become almost straight westerly, practically parallel to isentropic contours. This type of circulation persisted through most of the 14th, by which time the front separating the warm and cold Highs had again become quasi-stationary. A few moderate showers occurred in connection with minor wave action along the front in southern Indiana.

By the morning of the 15th, a closed, cold cyclonic circulation was observable at 10,000 feet over Montana, with trough extending south-southwestward. This shifted the flow to a southerly or southwesterly type over the Mississippi and Ohio River Valleys, with consequent northward displacement of the frontal system in the region and a spreading of rain in the up-slope flowing tropical air as far east as Illinois at 1:30 a. m. CWT of the 15th. By 1:30 a. m. CWT, the 16th, the Low aloft had moved to Minnesota, deepening, extending vertically above 20,000 feet, and sharply distorting isobars both at the surface and aloft to produce strong cyclonic flow over Illinois and Indiana with consequent heavy rain. Both at the surface and aloft the deepening Low moved to the region of James Bay, by 1:30 CWT of the 17th, while southward the front preceding the cold air drawn from the northwest became quasi-stationary through Indiana and Illinois. Above the frontal surface convergent flow still persisted, with occasional intensification produced by minor-wave passages along the front.

At 1:30 a. m. CWT, the 18th, the isentropic pattern aloft was shifting to west-southwest flow parallel to the isentropic contours over Illinois and Indiana. Despite the similar quasi-stationary frontal appearance, rains were mostly over by the forenoon of the 18th in that region. But by 1:30 a. m. CWT, the 19th, a slight cooling at the surface and aloft over the Illinois-Iowa area plus a corresponding warming eastward caused a flow distortion which produced up-slope flow in the isentropic surfaces. Superimposed on the lifting effect was the minor-wave action. Further cyclonic distortion was imparted by the development of closed Low circulation at 10,000 feet over Iowa by 1:30 a. m. CWT of the 20th, strengthening the up-slope flow. Twenty-four hours later the cold Low was centered over Michigan at 10,000 feet, and colder, drier air was moving in on west and northwest winds down slope over Illinois and Indiana. The southerly flow of warm air and the rains were displaced toward Ohio; over Illinois the the rains were ended.

Damages

The floods which resulted from the heavy rains of May 1943 extended over all except the northwest portions of the State of Illinois. The estimated damage to property and crops amounted to more than 31 million dollars. Of this total, more than 21 millions were accounted for by losses to prospective and matured crops, with a total of about 900,000 acres involved in the crop loss. Considered by basins, the greatest damage occurred along the Mississippi River, mainly from the mouth of the Illinois River to the mouth of the Ohio River. The total loss along the Illinois side of this reach of the Mississippi was



FORECASTS AND GENERAL WEATHER INFORMATION

UNITED STATES WEATHER BUREAU, WASHINGTON, D. C.

ADMINISTRATIVE OFFICE: 24th and M Streets, NW. AIRPORT OFFICE: Washington National Airport

WEATHER INFORMATION (ALL HOURS) Michigan 1442

LATEST WEATHER FORECASTS BY AUTOMATIC TELEPHONE: Weather 1212

2:30 a.m. E.W.T., Saturday May 15, 1943

NOTE: This map was not released until 7 days after above date

STATE FORECASTS

District of Columbia, occasional light showers to-day and to-night; continued cool; gentle to moderate winds.

Maryland and Virginia, scattered showers to-day; occasional rain to-night; continued cool.

Eastern New York, rising temperature to-day; showers and rather cool to-night.

Western New York and Western Pennsylvania, occasional rain this afternoon and to-night; continued cool.

Eastern Pennsylvania, rain this afternoon and to-night; continued cool.

New Jersey and Delaware, continued cool to-day and to-night; showers late this afternoon and to-night.

West Virginia, scattered thunderstorms and continued cool to-day; rain and scattered thunderstorms and continued cool to-night.

A. BLOOM.

1:30 a.m. C.W.T.

Reproduced by permission of the U. S. Weather Bureau

EXPLANATION OF MAP

At 2:30 a. m., E. W. T., observations of the weather are taken at several hundred stations throughout the United States. Reports from 170 of these stations are inscribed on the above map. Temperature, wind direction and velocity, amount and kind of clouds, state of weather, visibility, amount of precipitation, and other meteorological data are indicated for each station.

The heavy lines are called "fronts" and separate the air masses of different characteristics. The labels which are made up of letter combinations indicate particular types of air masses. Fronts and labels are described to the right.

The light, continuous lines are called isobars and pass through points of equal sea-level pressure. The dashed line (when present) is an isotherm and passes through all points where the current temperature is 32° Fahrenheit. This line is labeled "Freezing" and separates the respective areas which are above and below the freezing temperature of 32° Fahrenheit.

The figures and symbols for the data always occupy approximately the same positions around the station circle, as shown on the adjacent "Station Model."

The geographical area where precipitation is falling at 2:30 a. m., E. W. T., is covered with dot shading. The letter "T" is used to indicate a "Trace" of precipitation, which is an amount too small to measure.

The table values in feet for the figures used for the "height of lower clouds" are as follows: 0 = 0 to 163 feet; 1 = 164 to 327 feet; 2 = 328 to 655; 3 = 656 to 983; 4 = 984 to 1967; 5 = 1968 to 3280; 6 = 3281 to 4920; 7 = 4921 to 6561; 8 = 6562 to 8201; and 9 = above 8202 feet or no clouds.

The table range values in miles for the figures used for "visibility" are as follows: 0 = less than 1-thirty-second mile (55 yards); 1 = from 1-thirty-second up to, but not including, 1-eighth mile (220 yards); 2 = from 1-eighth up to, but not including, 5-sixteenths mile (550 yards); 3 = from 5-sixteenths up to 5-eighths mile (1100 yards); 4 = up to 1 and 1-fourth miles; 5 = up to 2 and 1-half miles; 6 = up to 6 miles; 7 = up to 12 miles; 8 = up to 30 miles; 9 = 30 miles or more.

The symbol within the station circle indicates the total amount of all clouds. A figure is also entered for the "amount of clouds whose height is given by h". The values for N and N_h are as follows: 0 ◯, absolutely no clouds; 1 ◯, sky less than 1-tenth covered; 2 ◯, 1-tenth covered; 3 ◯, 2- or 3-tenths; 4 ◯, 4-, 5-, or 6-tenths; 5 ◯, 7- or 8-tenths; 6 ◯, 9-tenths; 7 ◯, more than 9-tenths, but with openings; 8 ●, 10-tenths, or completely covered; 9 ⊗, sky obscured.

The symbol directly to the left of the station circle represents the current state of weather and may be any one of 96 separate symbols. The basic symbols for precipitation are: , drizzle; • rain; ✱ snow; ▽ showers; ⊼ thunderstorm. A symbol for current state of weather is always used when precipitation is falling or when unusual conditions are observed. Some of the frequently used symbols are as follows: ∞ haze; ⟨ distant lightning; ═ light fog; ⊂⊃ smoke; ✱] snow in last hour, but not at time of observation; S dust storm; ≡ fog, sky not discernible; ,, continuous moderate drizzle; • intermittent light rain; ✱✱ continuous light snow; ▽ light or moderate rain showers; ⊼ thunderstorm with rain. Symbols are entered singly or in combination; for example, a • represents rain and three bars ≡ represents fog. Three bars and a dot represent rain and fog. The bracket sign] means "in past hour, but not at time of observation."

The shaft of the arrow extends from the station circle in the direction *from which* the wind blows and the feathers on the shaft show the force of the wind on the Beaufort Scale. Each feather represents *two* units of force and each *half feather* represents *one* unit of force. For example, a wind blowing *from the east* at 5 miles an hour would be drawn ◯— and would be described as an "east wind, force 2"; is a "west-southwest wind, force 5."

The Weather Bureau will furnish upon request a "Price List of W. B. Publications" and an "Explanation of Weather Code Figures and Symbols". Inquiries should be addressed to "Chief, U. S. Weather Bureau, Washington, D. C."

The subscription price of this map (daily, including Sundays and holidays) is $3.60 a year, or 30 cents a month. Send subscriptions (check or money order) to "Superintendent of Documents, Washington, D. C."

STATION MODEL

Feathers showing force of wind in Beaufort Scale. *(19 to 24 miles per hour.)*

Arrow shaft showing direction of wind. *(Blowing from northwest.)*

Figures showing temperature in degrees Fahrenheit.

Symbol showing amount of sky covered by clouds. *(Completely covered.)*

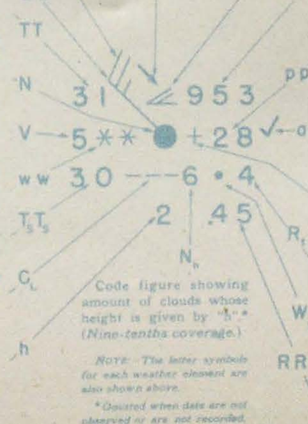
Code figure showing visibility. *(1½ miles or more, but less than 2½ miles.)*

Symbol showing present state of weather.* *(Continuous light snow in flakes.)*

Figures showing dew point in degrees Fahrenheit.

Symbol showing type of low cloud.* *(Fractocumlus.)*

Height of lower clouds *except* when lower clouds are only fragments below a layer of clouds whose base is below 8,200 feet.* *(328 to 655 feet.)*



Symbol showing type of middle cloud.* *(Altostratus).*

Figures showing barometric pressure at sea level. Initial 9 or 10 for "hundreds" of millibars, and also decimal point, omitted. *(995.3 millibars.)*

Figures showing net amount of barometric change in past 3 hours. (In tenths of millibars.)

Symbol showing barometric tendency in past 3 hours. *(Falling or steady, then rising, or rising, then rising more quickly.)* *

Plus or minus sign showing whether pressure is higher or lower than 3 hours ago.

Code figure showing time precipitation began or ended.* *(Began 3 to 4 hours ago.)*

Past weather during 6 hours preceding observation. *(Rain.)*

Figures showing amount of precipitation in last 6 hours.* (In hundredths of an inch.)

FRONTS AND LABELS

The boundary between two different air masses is called a "front." Important changes in weather often occur with the passage of a front. The half circle and triangular points placed on the "front" lines are symbols to indicate the classification of the front and its direction of movement. The boundary of relatively cold air of polar origin advancing into an area occupied by warmer air of tropical origin is called a "cold front." The boundary of relatively warm air advancing into an area occupied by colder air of polar origin is called a "warm front." The line along which a cold front overtakes a warm front is called an "occluded front." A boundary between two air masses which shows little tendency at the time of observation to advance into either the warm or the cold air areas is called a "stationary" front. The front symbols, with arrows to show their direction of movement, are given below:

Warm front at the ground. — Warm front above the ground.
Cold front at the ground. — Cold front above the ground.
Occluded front. — Stationary front.

The words "HIGH" and "LOW" indicate high and low barometric pressure.

Masses of air are classified into several different types which indicate their origin and basic characteristics. For example, the letter "P" denotes the polar type of relatively dry and cold air from northerly or polar regions. The letter "T" denotes the tropical type of relatively moist and warm air from southerly and tropical regions. The letters placed *before* the letters "T" and "P" show that the air mass is classified as Maritime (M) or Continental (C). The letters placed *after* "T" and "P" show that the air mass is colder (K) or warmer (w) than the surface over which the air is moving. Mixtures of air masses are denoted by plus signs (+), and transitional changes of air masses from one type to another are indicated by arrows (⟹). One air mass superimposed upon another is indicated by placing a line between the two labels.

P = Polar; C = Continental; T = Tropical; M = Maritime; S = Superior (very dry); A = Arctic; K = Colder; w = Warmer.

BEAUFORT SCALE OF WIND FORCE

NO.	SYMBOL	MILES PER HOUR
0		CALM
1		1-3
2		4-7
3		8-12
4		13-18
5		19-24
6		25-31
7		32-38
8		39-46
9		47-54
10		55-63
11		64-75
12		ABOVE 75

1901-W.B

FORECASTS AND GENERAL WEATHER INFORMATION

UNITED STATES WEATHER BUREAU, WASHINGTON, D. C.

ADMINISTRATIVE OFFICE: 24th and M Streets, NW. AIRPORT OFFICE: Washington National Airport

WEATHER INFORMATION (ALL HOURS) Michigan 1442

LATEST WEATHER FORECASTS BY AUTOMATIC TELEPHONE: Weather 1212

2:30 a.m. E.W.T., Tuesday May 18, 1943

NOTE: This map was not released until 7 days after above date

STATE FORECASTS

District of Columbia, continued warm to-day and to-night; thundershowers late this afternoon ending early to-night; gentle winds.

Maryland and Delaware, scattered thundershowers this afternoon ending early to-night; continued warm.

Virginia, scattered thundershowers in north portion this afternoon ending early to-night; continued warm.

Eastern New York, light rain in north portion, showers and thundershowers in south portion this afternoon and to-night; cooler to-day and to-night.

Western New York, rain to-day and to-night; little change in temperature.

Eastern Pennsylvania, showers and thundershowers and cooler to-day and to-night.

Western Pennsylvania, showers and thundershowers to-day and to-night; slightly cooler in south portion.

New Jersey, showers and thundershowers this afternoon and to-night; cooler in north portion.

West Virginia, showers and thundershowers to-day ending in south portion early to-night; continued warm.

A. BLOOM.

1:30 a.m. C.W.T.

Reproduced by permission of the U. S. Weather Bureau

2-1-43

EXPLANATION OF MAP

At 2:30 a. m., E. W. T., observations of the weather are taken at several hundred stations throughout the United States. Reports from 170 of these stations are inscribed on the above map. Temperature, wind direction and velocity, amount and kind of clouds, state of weather, visibility, amount of precipitation, and other meteorological data are indicated for each station.

The heavy lines are called "fronts" and separate the air masses of different characteristics. The labels which are made up of letter combinations indicate particular types of air masses. Fronts and labels are described to the right.

The light, continuous lines are called isobars and pass through points of equal sea-level pressure. The dashed line (when present) is an isotherm and passes through all points where the current temperature is 32° Fahrenheit. This line is labeled "Freezing" and separates the respective areas which are above and below the freezing temperature of 32° Fahrenheit.

The figures and symbols for the data always occupy approximately the same positions around the station circle, as shown on the adjacent "Station Model."

The geographical area where precipitation is falling at 2:30 a. m., E. W. T., is covered with dot shading. The letter "T" is used to indicate a "Trace" of precipitation, which is an amount too small to measure.

The table values in feet for the figures used for the "height of lower clouds" are as follows: 0 = 0 to 163 feet; 1 = 164 to 327 feet; 2 = 328 to 655; 3 = 656 to 983; 4 = 984 to 1967; 5 = 1968 to 3280; 6 = 3281 to 4920; 7 = 4921 to 6561; 8 = 6562 to 8201; and 9 = above 8202 feet or no clouds.

The table range values in miles for the figures used for "visibility" are as follows: 0 = less than 1-thirty-second mile (55 yards); 1 = from 1-thirty-second up to, but not including, 1-eighth mile (220 yards); 2 = from 1-eighth up to, but not including, 5-sixteenths mile (550 yards); 3 = from 5-sixteenths up to 5-eighths mile (1100 yards); 4 = up to 1 and 1-fourth miles; 5 = up to 2 and 1-half miles; 6 = up to 6 miles; 7 = up to 12 miles; 8 = up to 30 miles; 9 = 30 miles or more.

The symbol within the station circle indicates the total amount of all clouds. A figure is also entered for the "amount of clouds whose height is given by h". The values for N and N_h are as follows: 0 ◯, absolutely no clouds; 1 ◯, sky less than 1-tenth covered; 2 ◯, 1-tenth covered; 3 ◯, 2- or 3-tenths; 4 ◑, 4-, 5-, or 6-tenths; 5 ◯, 7- or 8-tenths; 6 ◯, 9-tenths; 7 ◯, more than 9-tenths, but with openings; 8 ●, 10-tenths, or completely covered; 9 ⊗, sky obscured.

The symbol directly to the left of the station circle represents the current state of weather and may be any one of 96 separate symbols. The basic symbols for precipitation are: ❜ drizzle; • rain; ✱ snow; ▽ showers; ⌈< thunderstorm. A symbol for current state of weather is always used when precipitation is falling or when unusual conditions are observed. Some of the frequently used symbols are as follows: ∞ haze; < distant lightning; = light fog; ⊂⊃ smoke; ✱] snow in last hour, but not at time of observation; S dust storm; ≡ fog, sky not discernible; ❜❜ continuous moderate drizzle; • intermittent light rain; ✱✱ continuous light snow; ▽ light or moderate rain showers; ⌈< thunderstorm with rain. Symbols are entered singly or in combination, for example, a • represents rain and three bars ≡ represents fog. Three bars and a dot represent rain and fog. The bracket sign] means "in past hour, but not at time of observation."

The shaft of the arrow extends from the station circle in the direction *from which* the wind blows and the feathers on the shaft show the force of the wind on the Beaufort Scale. Each feather represents *two* units of force and each *half feather* represents *one* unit of force. For example, a wind blowing *from the east* at 5 miles an hour would be drawn ◯— and would be described as an "east wind, force 2"; ◯ is a "west-southwest wind, force 5."

The Weather Bureau will furnish upon request a "Price List of W. B. Publications" and an "Explanation of Weather Code Figures and Symbols". Inquiries should be addressed to "Chief, U. S. Weather Bureau, Washington, D. C."

The subscription price of this map (daily, including Sundays and holidays) is $3.60 a year, or 30 cents a month. Send subscriptions (check or money order) to "Superintendent of Documents, Washington, D. C."

STATION MODEL

Feathers showing force of wind in Beaufort Scale. *(19 to 24 miles per hour.)*

Arrow shaft showing direction of wind. *(Blowing from northwest.)*

Figures showing temperature in degrees Fahrenheit.

Symbol showing amount of sky covered by clouds. *(Completely covered.)*

Code figure showing visibility. *(1½ miles or more, but less than 2½ miles.)*

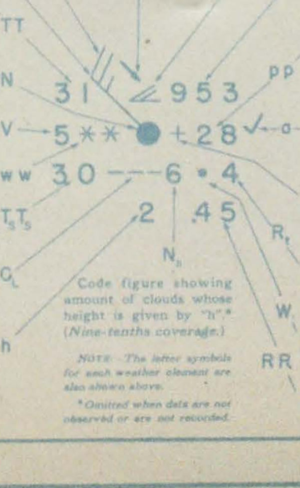
Symbol showing present state of weather.* *(Continuous light snow in flakes.)*

Figures showing dew point in degrees Fahrenheit.

Symbol showing type of low cloud.* *(Fractocumulus.)*

Height of lower clouds, *except* when lower clouds are only fragments below a layer of clouds whose base is below 8,200 feet.* *(328 to 655 feet.)*

Arrow showing direction of middle cloud.* *(From the northwest.)*



Code figure showing amount of clouds whose height is given by "h".* *(Nine-tenths coverage.)*

NOTE.—The letter symbols for each weather element are also shown above.

*Omitted when data are not observed or are not recorded.

Symbol showing type of middle cloud.* *(Altostratus).*

Figures showing barometric pressure at sea level. Initial 9 or 10 for "hundreds" of millibars, and also decimal point, omitted. *(995.3 millibars.)*

Figures showing net amount of barometric change in past 3 hours. (In tenths of millibars.)

Symbol showing barometric tendency in past 3 hours. *(Falling or steady, then rising, or rising, then rising more quickly.)* *

Plus or minus sign showing whether pressure is higher or lower than 3 hours ago.

Code figure showing time precipitation began or ended.* *(Began 3 to 4 hours ago.)*

Past weather during 6 hours preceding observation. *(Rain.)*

Figures showing amount of precipitation in last 6 hours.* (In hundredths of an inch.)

FRONTS AND LABELS

The boundary between two different air masses is called a "front." Important changes in weather often occur with the passage of a front. The half circle and triangular points placed on the "front" lines are symbols to indicate the classification of the front and its direction of movement. The boundary of relatively cold air of polar origin advancing into an area occupied by warmer air of tropical origin is called a "cold front." The boundary of relatively warm air advancing into an area occupied by colder air of polar origin is called a "warm front." The line along which a cold front overtakes a warm front is called an "occluded front." A boundary between two air masses which shows little tendency at the time of observation to advance into either the warm or the cold air areas is called a "stationary" front. The front symbols, with arrows to show their direction of movement, are given below:

Warm front at the ground. Warm front above the ground.
Cold front at the ground. Cold front above the ground.
Occluded front. Stationary front.

The words "HIGH" and "LOW" indicate high and low barometric pressure.

Masses of air are classified into several different types which indicate their origin and basic characteristics. For example, the letter "P" denotes the polar type of relatively dry and cold air from northerly or polar regions. The letter "T" denotes the tropical type of relatively moist and warm air from southerly and tropical regions. The letters placed *before* the letters "T" and "P" show that the air mass is classified as Maritime (M) or Continental (C). The letters placed *after* "T" and "P" show that the air mass is colder (K) or warmer (w) than the surface over which the air is moving. Mixtures of air masses are denoted by plus signs (+), and transitional changes of air masses from one type to another are indicated by arrows (⟹). One air mass superimposed upon another is indicated by placing a line between the two labels.

P = Polar; C = Continental; T = Tropical; M = Maritime; S = Superior (very dry); A = Arctic; K = Colder; w = Warmer.

BEAUFORT SCALE OF WIND FORCE

NO.	SYMBOL	MILES PER HOUR
0		CALM
1		1-3
2		4-7
3		8-12
4		13-18
5		19-24
6		25-31
7		32-38
8		39-46
9		47-54
10		55-63
11		64-75
12		ABOVE 75

1901-W.B.

U. S. DEPARTMENT OF COMMERCE, WEATHER BUREAU

DAILY WEATHER MAP

FORECASTS AND GENERAL WEATHER INFORMATION

UNITED STATES WEATHER BUREAU, WASHINGTON, D. C.

ADMINISTRATIVE OFFICE: 24th and M Streets, NW. AIRPORT OFFICE: Washington National Airport

WEATHER INFORMATION (ALL HOURS) Michigan 1442

LATEST WEATHER FORECASTS BY AUTOMATIC TELEPHONE: Weather 1212

2:30 a.m. E.W.T., Thursday May 20, 1943

NOTE: This map was not released until 7 days after above date

STATE FORECASTS

District of Columbia, continued warm to-day and to-night; thundershowers this afternoon and evening; gentle winds.

Maryland, Virginia, and Delaware, continued warm to-day and to-night; thundershowers this afternoon and early to-night.

Eastern New York, occasional rain in central and south portions to-day and to-night; little change in temperature.

Western New York, occasional rain to-day and to-night; little change in temperature.

Eastern Pennsylvania, Western Pennsylvania, and New Jersey, showers and scattered thunderstorms to-day and to-night; little change in temperature.

West Virginia, thundershowers this afternoon and early to-night; somewhat cooler in west portion to-night.

D. R. HARRIS.

1:30 a.m. C.W.T.

Reproduced by permission of the U. S. Weather Bureau

2-1-43

EXPLANATION OF MAP

At 2:30 a. m., E. W. T., observations of the weather are taken at several hundred stations throughout the United States. Reports from 170 of these stations are inscribed on the above map. Temperature, wind direction and velocity, amount and kind of clouds, state of weather, visibility, amount of precipitation, and other meteorological data are indicated for each station.

The heavy lines are called "fronts" and separate the air masses of different characteristics. The labels which are made up of letter combinations indicate particular types of air masses. Fronts and labels are described to the right.

The light, continuous lines are called isobars and pass through points of equal sea-level pressure. The dashed line (when present) is an isotherm and passes through all points where the current temperature is 32° Fahrenheit. This line is labeled "Freezing" and separates the respective areas which are above and below the freezing temperature of 32° Fahrenheit.

The figures and symbols for the data always occupy approximately the same positions around the station circle, as shown on the adjacent "Station Model."

The geographical area where precipitation is falling at 2:30 a. m., E. W. T., is covered with dot shading. The letter "T" is used to indicate a "Trace" of precipitation, which is an amount too small to measure.

The table values in feet for the figures used for the "height of lower clouds" are as follows: 0 = 0 to 163 feet; 1 = 164 to 327 feet; 2 = 328 to 655; 3 = 656 to 983; 4 = 984 to 1967; 5 = 1968 to 3280; 6 = 3281 to 4920; 7 = 4921 to 6561; 8 = 6562 to 8201; and 9 = above 8202 feet or no clouds.

The table range values in miles for the figures used for "visibility" are as follows: 0 = less than 1-thirty-second mile (55 yards); 1 = from 1-thirty-second up to, but not including, 1-eighth mile (220 yards); 2 = from 1-eighth up to, but not including, 5-sixteenths mile (550 yards); 3 = from 5-sixteenths up to 5-eighths mile (1100 yards); 4 = up to 1 and 1-fourth miles; 5 = up to 2 and 1-half miles; 6 = up to 6 miles; 7 = up to 12 miles; 8 = up to 30 miles; 9 = 30 miles or more.

The symbol within the station circle indicates the total amount of all clouds. A figure is also entered for the "amount of clouds whose height is given by h". The values for N and N_h are as follows: 0 ○, absolutely no clouds; 1, sky less than 1-tenth covered; 2, 1-tenth covered; 3, 2- or 3-tenths; 4, 4-, 5-, or 6-tenths; 5, 7- or 8-tenths; 6, 9-tenths; 7, more than 9-tenths, but with openings; 8 ●, 10-tenths, or completely covered; 9 ⊗, sky obscured.

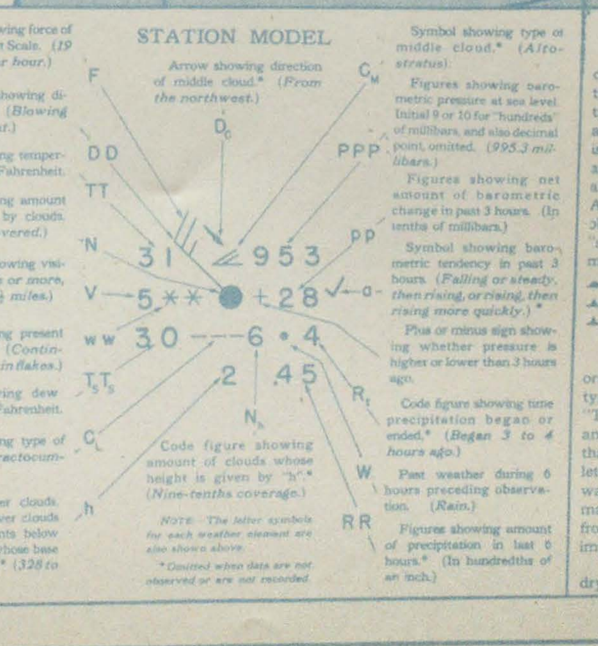
The symbol directly to the left of the station circle represents the current state of weather and may be any one of 96 separate symbols. The basic symbols for precipitation are: , drizzle; • rain; ✱ snow; ▽ showers; thunderstorm. A symbol for current state of weather is always used when precipitation is falling or when unusual conditions are observed. Some of the frequently used symbols are as follows: ∞ haze; ‹ distant lightning; = light fog; smoke;] snow in last hour, but not at time of observation; dust storm; ≡ fog, sky not discernible; continuous moderate drizzle; • intermittent light rain; ✱✱ continuous light snow; light or moderate rain showers; thunderstorm with rain. Symbols are entered singly or in combination, for example, a • represents rain and three bars ≡ represents fog. Three bars and a dot represent rain and fog. The bracket sign] means "in past hour, but not at time of observation."

The shaft of the arrow extends from the station circle in the direction *from which* the wind blows and the feathers on the shaft show the force of the wind on the Beaufort Scale. Each feather represents *two* units of force and each *half feather* represents *one* unit of force. For example, a wind blowing *from the east* at 5 miles an hour would be drawn O—, and would be described as an "east wind, force 2"; —O is a "west-southwest wind, force 5."

The Weather Bureau will furnish upon request a "Price List of W. B. Publications" and an "Explanation of Weather Code Figures and Symbols". Inquiries should be addressed to "Chief, U. S. Weather Bureau, Washington, D. C."

The subscription price of this map (daily, including Sundays and holidays) is $3.60 a year, or 30 cents a month. Send subscriptions (check or money order) to "Superintendent of Documents, Washington, D. C."

STATION MODEL



FRONTS AND LABELS

The boundary between two different air masses is called a "front." Important changes in weather often occur with the passage of a front. The half circle and triangular points placed on the "front" lines are symbols to indicate the classification of the front and its direction of movement. The boundary of relatively cold air of polar origin advancing into an area occupied by warmer air of tropical origin is called a "cold front." The boundary of relatively warm air advancing into an area occupied by colder air of polar origin is called a "warm front." The line along which a cold front overtakes a warm front is called an "occluded front." A boundary between two air masses which shows little tendency at the time of observation to advance into either the warm or the cold air areas is called a "stationary" front. The front symbols, with arrows to show their direction of movement, are given below:

Warm front at the ground. Warm front above the ground.
Cold front at the ground. Cold front above the ground.
Occluded front. Stationary front.

The words "HIGH" and "LOW" indicate high and low barometric pressure.

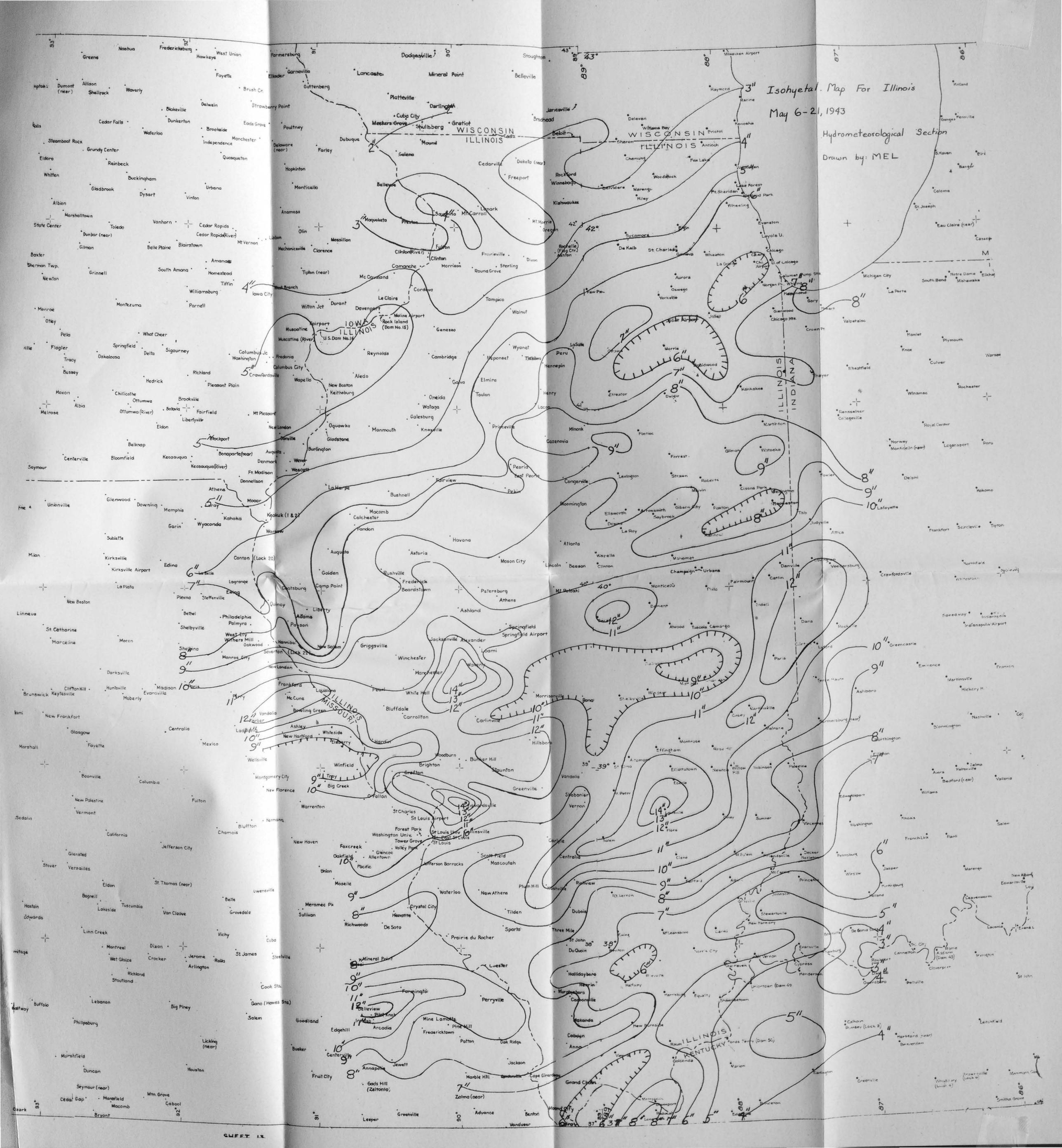
Masses of air are classified into several different types which indicate their origin and basic characteristics. For example, the letter "P" denotes the polar type of relatively dry and cold air from northerly or polar regions. The letter "T" denotes the tropical type of relatively moist and warm air from southerly and tropical regions. The letters placed *before* the letters "T" and "P" show that the air mass is classified as Maritime (M) or Continental (C). The letters placed *after* "T" and "P" show that the air mass is colder (K) or warmer (w) than the surface over which the air is moving. Mixtures of air masses are denoted by plus signs (+), and transitional changes of air masses from one type to another are indicated by arrows (⇒). One air mass superimposed upon another is indicated by placing a line between the two labels.

P = Polar; C = Continental; T = Tropical; M = Maritime; S = Superior (very dry); A = Arctic; K = Colder; w = Warmer.

BEAUFORT SCALE OF WIND FORCE

NO.	SYMBOL	MILES PER HOUR
0	◎	CALM
1		1-3
2		4-7
3		8-12
4		13-18
5		19-24
6		25-31
7		32-38
8		39-46
9		47-54
10		55-63
11		64-75
12		ABOVE 75

1901-W.B.


Isohyetal Map For Illinois
May 6-21, 1943
Hydrometeorological Section
Drawn by: MEL
WISCONSIN
ILLINOIS
IOWA
MISSOURI
INDIANA
KENTUCKY

SHEET 12

about $13,000,000; the Illinois and Kaskaskia River basins sustained losses of about 10 and 4 million, respectively; the Wabash River drainage in Illinois, about $2,600,000; and along the Ohio River, less than $2,000,000. The details are shown in the following table:

FLOOD LOSSES—MAY 1943

Class of Damage	River Basins in Illinois				
	Illinois[2]	Kaskaskia	Miss.[3]	Wabash	Ohio[4]
Tangible property[1]	$2,837,000	$ 339,500	$3,334,250	$ 449,540	$ 251,120
Crops	5,906,000	3,871,500	8,863,000	1,956,750	1,036,100
Livestock	16,000	3,500	91,500	107,600	1,200
Suspension of business	1,001,500	71,000	639,500	88,700	540,200
Total	$9,760,500	$4,285,500	$12,928,250	$2,602,590	$1,828,620
Grand Total (State of Illinois)					$31,405,460

[1] Including buildings, fences, factories, highways, railroads, etc., totally or partially destroyed.
[2] Estimates are provisional, subject to correction.
[3] Reach of river at and below mouth of Illinois River, except Alexander County.
[4] Including Alexander County along Mississippi River.

A more comprehensive analysis of the storm for the entire area of heavy rainfall will appear in a forthcoming supplementary Hydrologic Bulletin to be issued by the Fort Worth Hydrologic Office of the Weather Bureau. Other major storms of the same quasi-stationary frontal type are the noted ones of March 1913, April 1927 and January 1937, the first and last centering over the Ohio River and the second over the Mississippi and its tributaries.

The isohyetal map accompanying this analysis was prepared in Hydrometeorological Section of the Weather Bureau. Estimates of flood damages were by the Kansas City Office of the Weather Bureau. The selected weather maps reproduced are the official daily weather maps of the U. S. Weather Bureau, Washington, D. C. The writer also gratefully acknowledges assistance given by R. C. Schmidt, Weather Bureau Airport Station, Chicago, Illinois, and by D. C. Cameron, War Advisory Council on Meteorology, Washington, D. C., both of whom had previously written descriptions of these storms.

PRECIPITATION

By Wm. D. Mitchell,
Associate Engineer, U. S. Geological Survey
Urbana, Illinois

This discussion is intended to supplement the meteorological analysis by summarizing the precipitation data. The isohyetal chart accompanying the article by Mr. Shands presents an over-all picture of precipitation; the present article attempts only to present more detailed information with respect to time of occurrence and to stream basins affected, thereby furnishing a preview of runoff conditions to be expected. The data on which this study is based are: (1) the isohyetal map mentioned above, (2) daily records of precipitation as published in the Illinois section of the U. S. Weather Bureau "Climatological Data" and (3) hourly records of precipitation as compiled by the U. S. Weather Bureau in cooperation with the Corps of Engineers, U. S. Army, and presented in "Hydrologic Bulletins" covering the Upper Mississippi River Basin and the Ohio River Basin. These data are too voluminous to be included here.

In accordance with the meteorological analysis, as well as in conformance with the runoff pattern, the rains have been grouped into the following series of storm periods: (1) May 6-8, (2) May 10-11, (3) May 15 through the morning of May 16, (4) evening of May 16 to May 19, (5) May 20, (6) May 23-24. In general, these periods are separated by appreciable intervals of time in which little or no precipitation occurred. Such rains as occurred on May 9 (few and scattered) have been included in the first group. There is some basis for placing the rains of May 19 in the fifth group; to place them in the fourth group, however, conforms more closely with information contained in a telegram from the forecasting office of the Weather Bureau dated May 18, which read in part:

> "Light rain continuing northern Illinois gradually ending tonight (May 18) and moderate to heavy showers southern Illinois ending for a while Wednesday (May 19). Next rain period beginning late Wednesday afternoon or night, probably moderate to heavy again southern and central and light to moderate extreme northern Illinois."

On this basis, it has been considered that rains on May 19, except at those few points at which they began in the late evening, and continued without interruption into May 20, were a part of the fourth storm period. The amounts of precipitation, and the general geographical distribution for each of these periods are separately discussed in the paragraphs which follow.

On May 6 the first precipitation was in the early morning in the northwestern portion of the state, but here the total was not great.

Amounts gradually increased in a southerly direction, reaching a maximum along a line extending generally from St. Louis, Missouri, to Terre Haute, Indiana, and passing across the central portion of the Kaskaskia Basin, the upper portion of the Little Wabash Basin, and practically the whole of the Embarrass Basin. The heaviest precipitation was across the central part of the Embarrass Basin, where by the morning of May 8 the accumulated total for this first storm period was in excess of 4 inches. To the south of the above-mentioned line the amount of precipitation decreased rapidly; to the northwest the decrease also was rapid, except for a small area near the headwaters of Macoupin Creek which received slightly more than 4 inches.

Although there were minor rains on the morning of May 10, the second storm period (May 10-11) was characterized by intense rainfall on the late afternoon of May 10. At many points amounts in excess of an inch fell within an hour, and 1½ inches within 2 hours was not uncommon; a continuation, at lower rate, into the early hours of May 11 was the general rule. The heavy falls were generally along a line extending northeastward from Chester, Illinois, toward Terre Haute, Indiana, passing over the headwaters of the Big Muddy River and the central portions of the Little Wabash Basin and the Embarrass Basin, where the total again was in excess of 4 inches. To the southeast of this line, amounts were approximately 3 inches, but to the nortwest they dropped off rapidly toward the central part of the state, where they were about 1 inch. Toward the northwest part of the state they were still less although toward the northeast, rain falling mostly on the morning of May 11 approached 3 inches at a few stations. An interesting feature of this storm is that along the Chester-Terre Haute line the high rate of precipitation occurred at approximately the same hour at all points, rather than showing a gradual movement along the path.

For the third storm period (May 15 through the morning of May 16) the rains were comparatively light and well distributed over the state. There was a hint of an area of maximum precipitation extending generally along the Illinois River from near the mouth to the vicinity of Ottawa, thence upstream along the Fox River; there was about 2½ inches in vicinity of Jacksonville.

The fourth period (from the evening of May 16 through May 19) produced a rainfall pattern of far greater complexity than any of the others, due in part, perhaps, to the inclusion of more than one storm into this period. Maximum precipitation occurred along a curved path extending generally from East St. Louis through Decatur to Danville, and ranged from more than 7 inches near Edwardsville to more than 5 inches near Danville. Rains were particularly heavy on the lower tributaries of the Kaskaskia River and the central portions of the Sangamon and Vermilion (Wabash tributary) Basins. In order to gain a better picture of these falls with respect to time, a "mean time of occurrence" was computed for a number of stations. This was obtained in a manner similar to that used for computation of center of gravity of an area. Each hour was assigned a number in accordance with its temporal distance from an arbitrarily chosen date line. The precipitation during this hour was multiplied by the

assigned number, and the sum of the products was divided by the total precipitation. It was found that this mean time of occurrence at Danville and Urbana was 10 a. m. May 17, and that the date became progressively later toward the west and toward the south. This time, together with the time and amount of the greatest 2-hour precipitation, at representative points is shown in the following table:

PRECIPITATION DURING FOURTH STORM PERIOD

Station	Mean time of occurrence	Maximum reported for two-hour period	
		Amount	Period Ending
Danville	10 a.m. May 17	1.68	1 a.m. May 17
Urbana	10 a.m. May 17	1.58	1 a.m. May 17
Maroa	1 p.m. May 17	1.15	2 a.m. May 17
Springfield (City)	5 p.m. May 17	1.33	12 p.m. May 17
Rockbridge	6 p.m. May 17	1.71	12 p.m. May 17
Carpenter	6 p.m. May 17	1.05	8 a.m. May 17
Collinsville	5 a.m. May 18	1.04	3 a.m. May 18
Louisville	4 p.m May 18	1.48	7 a.m. May 19
Richview	12 p.m. May 18	1.12	4 a.m. May 19

As in the preceding storm periods, the total precipitation for this period decreased rapidly toward the northern end of the state and decreased appreciably toward the southern end.

On May 20, although there was minor precipitation in the central and southern parts of the state, the significant rains were confined to the northern part. Along a line extending generally from Quincy to Kankakee, and crossing the basins of the LaMoine and Spoon Rivers, Kickapoo and Farm Creeks, and the lower portions of the Vermilion (Illinois River tributary) and Kankakee Rivers, maximum totals of about 2 inches were reported. In the lower portion of the Rock River Basin amounts were about half as great. An interesting feature of this storm is that the time of occurrence of the most intense precipitation varied in a most uniform manner; during the maximum two-hour period there was 1.39 inches ending at 4 a. m. at Augusta, 0.92 ending at 7 a. m. at Peoria, 0.65 ending at 11 a. m. at Dwight, and 0.83 ending at 1 p. m. at Crete.

Although the end had come for rains that were widespread in extent there was a local rain of great intensity on the night of May 23-24. Precipitation of 1.46 inches within an hour was reported at Newton. Newspaper accounts and reports of local residents indicate the storm was centered somewhat to the west of Newton and extended generally along a line from Centralia to Marshall. Unofficial reports indicate the rainfall was excessive in the vicinity of Wheeler. This report is borne out by a discharge determination made for Muddy Creek at that point and by a similar determination for Bishop Creek near Eberle. (See page 146 of this report).

The effect of this distribution of precipitation with regard both to time and to location, is generally reflected in the discharge records, particularly for the smaller areas. An outstanding example is that of the North Fork Embarrass River near Oblong. (See graph

facing page 134 of the report). Recession from the storm of May 6-8 was interrupted by the runoff from the storm of May 10-11. Since this area lay directly in the path of each of these storms, there resulted on May 11 a peak discharge which was maximum both for the May floods and for the period of record. That the storm of May 23-24 extended well into this basin is also shown by the rapid rise and comparatively high crest occurring on May 24.

It is of interest to note that, for the fourth storm period, the precipitation was such as to tend to magnify peak discharge beyond what would have occurred for uniform distribution. Urbana, situated as it is at the source of the Vermilion, Embarrass, Kaskaskia, and Sangamon Rivers, received the major part of the rain from this storm well in advance of areas further downstream, so that the runoff and precipitation tended to travel downstream together.

The explanation for the later-than-expected crests of the upper Illinois River and its tributaries also is found in the storm analysis; these crests were produced by the storm of May 20. This may be regarded as a fortunate occurrence, since it may be considered as a storm traveling upstream with opportunity for runoff to be accomplished (or at least in progress) from the lower reaches before the arrival of runoff from the headwaters.

STAGES

In addition to the records of stage which are associated with the records of discharge at the river-measurement stations as given in a later section of this report, there are many records of stage only. Most of these are at points on the Mississippi and Illinois Rivers; a few of them are for points on the Wabash River. These records are obtained by the Corps of Engineers, U. S. Army. Usually no discharge records are computed at these stations. The gage readings are used primarily as aids in the operation of navigation works and in preparing flood warnings.

The records of stage as here presented include 42 points on the Mississippi River above the mouth of the Ohio River, as furnished by the Corps of Engineers, U. S. Army, from their district office at St. Louis, 38 points on the Illinois River as furnished by the Corps of Engineers from their district office at Chicago, and 2 points on the Wabash River as furnished by the Corps of Engineers from their district office in Louisville.

These detailed records of gage heights along the length of the rivers are useful in studying the passage of flood waves, the effects of backwater, and the effects of channel storage.

DAILY STAGES AT 8 A.M., IN FEET ABOVE MEAN SEA LEVEL (DATUM OF 1929) OF MISSISSIPPI RIVER FOR MAY, 1943, AT LOCATIONS INDICATED IN THE COLUMN BOX HEAD.[1]

Date	Mundys Landing, Mo. Mi. 293.0	Louisiana, Mo.[2] Mi. 282.1	Lock and Dam No. 24 Clarksville, Mo. Upper Mi. 273.5	Lock and Dam No. 24 Clarksville, Mo. Lower Mi. 273.2	Rip Rap Landing, Ill. Mi. 265.0	Mosier Landing, Ill. Mi. 260.3	Sterling Landing, Mo. Mi. 250.8	Lock and Dam No. 25 Cap Au Gris, Mo. Upper Mi. 241.5	Lock and Dam No. 25 Cap Au Gris, Mo. Lower Mi. 241.2	Dixon Landing, Ill. Mi. 228.3	Grafton, Ill.[3] Mi. 218.0
1	455.75	450.79	447.00	446.48	442.63	440.80	436.10	432.53	431.96	425.32	420.29
2	55.05	50.17	46.43	45.90	42.03	40.30	35.70	32.11	31.57	25.12	20.19
3	54.35	49.46	45.68	45.19	41.63	39.60	35.10	31.49	30.97	24.72	19.99
4	53.65	49.21	46.29	44.20	40.23	38.60	34.20	30.48	30.06	24.02	19.59
5	53.05	49.21	47.20	43.31	39.53	37.80	33.30	29.72	28.96	23.12	19.29
6	52.35	49.13	47.58	42.46	38.73	37.00	32.80	29.71	28.04	22.32	19.09
7	51.85	48.96	47.70	42.07	38.33	36.60	32.60	29.75	28.27	22.82	19.69
8	51.95	48.46	48.01	42.82	38.83	36.90	32.40	29.80	27.94	22.92	20.09
9	52.85	49.71	47.72	43.89	39.93	38.10	33.20	29.80	29.35	23.82	20.49
10	52.05	49.17	47.23	43.31	39.63	37.80	33.30	29.94	29.57	24.12	20.49
11	52.35	49.04	47.28	43.37	39.63	37.70	33.00	29.72	29.21	23.72	20.09
12	52.35	49.29	47.20	43.63	39.83	38.10	33.40	30.17	29.81	24.32	20.39
13	51.35	48.79	47.18	42.42	38.73	37.20	33.10	29.96	29.61	24.52	20.89
14	51.35	48.71	47.59	41.26	38.53	35.80	31.90	29.67	27.17	22.42	19.99
15	51.25	48.75	47.93	40.73	[4]38.03	35.30	31.70	29.71	26.40	21.62	19.19
16	52.35	49.58	47.68	43.85	39.63	38.00	32.90	29.16	28.77	23.32	20.19
17	54.55	50.46	47.49	45.59	42.23	39.70	34.40	31.07	30.68	25.12	21.69
18	56.85	52.63	48.88	48.21	44.33	42.30	37.30	34.21	33.73	28.22	24.89
19	58.25	53.88	50.23	49.51	45.63	43.60	39.10	36.64	36.25	31.22	28.19
20	58.75	54.54	51.01	50.27	46.43	44.50	40.20	37.79	37.33	32.42	29.89
21	59.05	54.75	51.24	50.48	46.53	44.80	40.50	38.15	37.67	32.92	30.59
22	58.25	54.54	51.07	50.37	46.63	44.80	40.60	38.27	37.75	33.42	31.39
23	57.05	53.21	49.82	49.14	45.53	44.00	40.20	38.10	37.65	34.02	32.49
24	55.35	51.33	47.90	47.36	44.13	42.70	39.30	37.36	36.99	34.12	32.79
25	53.85	49.58	46.12	45.63	42.53	41.10	37.90	36.23	35.93	33.62	32.39
26	52.75	48.54	45.36	44.12	40.53	39.60	36.50	34.89	34.60	32.62	31.49
27	52.05	48.46	46.56	42.65	39.83	38.00	34.90	33.17	32.92	31.22	30.19
28	51.65	48.71	47.37	41.88	38.43	36.80	33.40	31.48	31.25	29.52	28.49
29	51.55	48.96	47.92	41.29	37.63	36.00	32.20	30.00	29.80	27.92	26.89
30	51.35	48.96	48.00	41.13	37.43	35.70	31.80	29.61	28.50	26.42	25.39
31	51.25	48.96	47.94	41.08	37.13	35.60	31.80	29.65	27.72	25.22	23.99

[1] Miles indicate distances above mouth of Ohio River.
[2] Read at 6 a.m.
[3] Read at 7 a.m.
[4] Reading changed by comparative hydrographs 0.5 foot or more.

DAILY STAGES AT 8 A.M., IN FEET ABOVE MEAN SEA LEVEL (DATUM OF 1929) OF MISSISSIPPI RIVER FOR MAY, 1943, AT LOCATIONS INDICATED IN THE COLUMN BOX HEAD.[1]

Date	Lock and Dam No. 26 Alton, Ill.		Hartford, Ill.	Chain of Rocks, Mo.	Bissell Point, Mo.	St. Louis, Mo.	Engineer Depot, Mo.	Mo. Pac. Elevator, Mo.	Jefferson Barracks, Mo.	Waters Point, Mo.	Brickeys, Mo.
	Upper Mi. 203.0	Lower Mi. 202.7	Mi. 196.8	Mi. 190.4	Mi. 183.3	Mi. 179.6	Mi. 176.8	Mi. 172.6	Mi. 169.3	Mi. 158.5	Mi. 136.0
1	415.55	412.41	409.30	404.61	401.95	400.24	398.93	396.92	395.19	389.49	376.48
2	15.47	12.31	09.23	04.61	01.85	00.14	98.88	96.72	94.99	89.39	76.43
3	15.59	11.85	08.79	04.01	01.35	399.64	98.38	96.32	94.74	[2]88.99	76.28
4	15.53	11.12	07.90	03.11	00.45	98.69	98.08	95.42	93.89	88.29	[2]75.58
5	16.03	09.99	06.69	01.91	399.05	97.44	96.28	94.52	92.74	87.29	74.68
6	16.52	08.96	05.69	00.91	97.85	96.24	95.28	93.32	91.74	86.29	73.48
7	17.64	08.95	05.20	00.51	97.45	95.84	94.68	[2]92.82	91.24	85.69	72.78
8	18.00	09.77	06.39	01.71	98.75	97.14	95.88	94.02	92.34	86.69	73.48
9	17.51	11.18	07.61	03.21	400.35	98.64	[3]97.33	95.22	93.54	87.79	74.58
10	16.57	13.02	10.46	05.81	03.05	401.34	99.98	97.72	96.09	90.09	76.88
11	16.04	13.26	10.97	06.61	04.15	02.24	400.98	98.92	97.34	91.89	79.48
12	15.79	15.00	13.20	09.11	06.35	04.44	02.98	400.72	99.24	93.39	80.78
13	16.88	16.21	14.71	10.71	08.05	06.34	04.88	02.62	401.14	95.39	82.58
14	16.32	15.88	14.86	10.71	08.05	06.34	05.08	02.82	01.44	95.99	83.43
15	16.11	14.33	13.21	09.31	07.05	05.24	03.88	01.72	00.44	[2]94.69	82.88
16	16.44	15.69	14.31	10.31	07.85	05.84	04.28	01.92	00.54	94.79	82.43
17	17.90	17.00	15.71	11.71	09.15	07.14	05.38	03.22	01.64	95.59	83.08
18	21.29	20.34	19.45	14.11	12.35	10.24	08.58	06.02	04.49	98.49	85.58
19	24.74	23.63	22.91	18.21	15.25	12.94	11.08	08.52	07.04	400.89	87.93
20	26.86	25.79	25.11	20.81	17.75	15.24	13.38	10.72	09.44	03.19	90.58
21	28.04	27.09	26.51	22.41	19.35	16.79	14.83	12.32	10.94	04.64	91.98
22	29.22	28.26	27.64	23.81	20.55	17.59	15.53	12.82	11.44	04.79	92.28
23	30.06	29.10	28.38	24.81	21.15	18.34	16.28	13.62	12.19	05.39	93.98
24	30.35	29.58	28.69	25.21	21.45	18.74	16.68	13.82	12.49	05.59	94.68
25	30.01	29.35	28.32	24.91	21.25	18.44	16.30	13.52	12.11	05.29	94.33
26	29.12	28.47	27.36	23.91	20.50	17.74	15.59	12.82	11.34	04.79	94.08
27	27.69	27.25	26.02	22.61	19.75	16.74	14.63	11.92	10.39	04.09	93.23
28	26.00	25.58	24.32	20.91	18.15	15.44	13.23	10.62	09.19	03.09	92.08
29	24.27	23.86	22.55	18.91	16.35	13.94	11.88	09.22	07.79	01.89	90.78
30	22.37	22.07	20.54	16.81	14.45	12.24	10.38	07.82	06.29	00.59	89.38
31	20.49	20.14	18.44	14.71	12.45	10.44	08.73	06.22	04.59	399.19	87.78

[1] Miles indicate distances above mouth of Ohio River.
[2] Reading changed by comparative hydrographs 0.5 foot or more.
[3] Changed less than 0.5 foot.

DAILY STAGES AT 8 A.M., IN FEET ABOVE MEAN SEA LEVEL (DATUM OF 1929) OF MISSISSIPPI RIVER FOR MAY, 1943, AT LOCATIONS INDICATED IN THE COLUMN BOX HEAD.[1]

Date	Little Rock Landing, Mo. Mi. 125.5	East Kaskaskia, Ill. Mi. 116.2	Chester, Ill. Mi. 109.5	Bishop Landing, Mo. Mi. 100.8	Red Rock Landing, Mo. Mi. 94.1	Cumberland Rocks, Mo. Mi. 87.0	Grand Tower, Ill. Mi. 79.8	Crawford Landing, Mo. Mi. 72.9	Moccasin Springs, Mo. Mi. 66.3	Devils Island, Ill. Mi. 57.3	Cape Girardeau, Mo. Mi. 52.1
1	369.89	363.94	360.95	356.01	352.82	348.60	343.83	340.98	337.19	332.33	329.87
2	69.89	64.04	60.85	55.91	52.92	48.70	44.13	41.08	37.29	32.33	29.87
3	69.79	63.84	60.75	55.91	52.72	48.70	[3]44.03	40.98	37.24	32.33	29.87
4	69.09	63.24	60.15	55.41	52.12	48.20	43.63	40.48	36.74	31.83	29.37
5	68.09	62.24	59.25	54.51	51.32	47.20	42.73	39.48	35.89	31.03	28.47
6	67.09	61.04	58.15	53.41	50.12	46.30	41.73	38.58	34.89	29.93	27.37
7	66.29	60.24	57.35	52.51	49.22	45.30	40.73	37.38	33.89	29.03	26.47
8	66.79	60.54	57.65	52.61	49.37	45.20	40.63	37.08	33.64	28.53	25.97
9	67.89	61.64	58.55	53.51	50.32	46.00	[3]41.23	37.68	34.29	[3]29.13	26.47
10	70.09	63.74	60.65	55.21	52.22	47.60	42.93	39.38	35.59	[3]30.33	27.57
11	[4]72.89	67.54	64.55	59.31	56.62	52.40	[3]47.33	44.38	40.09	35.03	31.87
12	74.19	68.94	66.05	61.01	58.02	53.80	48.93	45.98	41.94	37.23	34.27
13	75.79	70.14	66.85	61.71	58.72	54.40	49.43	46.48	42.44	37.73	34.77
14	76.69	71.24	67.95	62.81	59.88	55.50	50.43	47.38	43.39	38.63	35.57
15	76.49	71.14	[4]68.15	63.11	60.10	56.00	50.83	47.88	43.89	39.13	36.17
16	76.09	70.74	67.65	62.71	59.82	55.70	50.73	47.78	43.79	39.03	36.07
17	76.59	71.24	68.05	63.01	60.12	55.80	50.83	47.88	43.89	39.13	36.07
18	78.59	72.84	69.55	64.61	61.42	57.10	51.93	48.58	44.69	[3]39.93	36.77
19	[3]80.79	75.14	71.85	67.11	63.84	59.40	53.83	50.88	46.74	[3]41.93	38.77
20	83.09	77.84	74.65	70.31	66.90	62.30	56.43	53.08	48.89	44.43	40.97
21	84.69	79.94	76.65	72.11	69.06	64.10	58.03	54.78	50.79	[3]46.33	42.87
22	85.29	80.64	77.15	72.61	69.22	64.50	58.53	55.58	51.49	[4]47.03	43.57
23	86.89	82.34	78.75	74.01	70.32	65.90	59.63	56.38	52.34	47.93	44.17
24	87.49	82.54	78.55	74.01	70.80	67.00	60.93	56.98	53.34	49.13	45.22
25	87.19	82.34	78.95	75.12	71.50	67.50	60.93	56.78	53.34	[2]49.13	45.13
26	86.89	[2]82.04	78.85	75.12	71.60	68.10	61.53	57.18	53.79	[2]49.53	45.62
27	86.29	81.54	78.35	73.91	71.18	67.80	61.23	57.38	54.19	[2]49.93	47.07
28	85.09	80.44	77.45	[2]72.91	70.54	67.00	60.73	56.58	53.89	[2]49.83	47.02
29	84.19	79.34	76.55	[2]72.11	69.64	66.00	60.03	55.78	53.14	[2]49.03	46.47
30	82.99	78.04	75.25	[2]71.01	68.66	64.90	58.93	55.18	52.14	[2]48.03	45.57
31	[3]81.29	[3]76.84	74.15	[2]69.81	67.42	63.50	57.93	54.08	51.14	[2]47.13	44.62

[1] Miles indicate distances above mouth of Ohio River.
[2] No reading—interpolated by comparative hydrographs.
[3] Reading changed by comparative hydrographs 0.5 foot or more.
[4] Changed less than 0.5 foot.

DAILY STAGES AT 8 A.M., IN FEET ABOVE MEAN SEA LEVEL (DATUM OF 1929) OF MISSISSIPPI RIVER FOR MAY, 1943, AT LOCATIONS INDICATED IN THE COLUMN BOX HEAD.[1]

Date	Grays Point, Mo. Mi. 46.3	Thebes, Ill. Mi. 43.7	Counterfeit Rock, Mo. Mi. 42.3	Commerce, Mo. Mi. 39.5	Powers Island, Mo. Mi. 35.2	Price Landing, Mo. Mi. 30.0	Thompson Landing, Mo. Mi. 20.2	Beechridge, Ill. Mi. 13.2	Birds Point, Mo. Mi. 2.0
1	326.28	324.70	324.05	322.83	320.95	319.55	316.73	315.18	313.33
2	26.28	24.68	24.05	22.83	20.95	19.15	16.13	14.88	12.93
3	26.18	24.60	23.95	22.63	20.75	19.05	15.83	14.08	11.93
4	25.58	24.04	23.35	21.93	19.95	18.15	14.93	12.58	10.13
5	24.68	23.08	22.35	[3]20.83	18.75	16.75	13.23	10.18	07.73
6	23.48	21.82	20.85	19.33	17.05	14.75	11.13	07.98	04.83
7	22.28	20.66	19.75	18.33	15.75	13.15	08.93	05.78	02.23
8	21.78	20.00	19.15	17.83	14.75	12.25	07.03	04.18	00.23
9	22.28	20.44	19.55	18.33	15.15	12.65	06.93	03.58	299.03
10	23.38	21.50	20.65	19.43	16.35	13.55	08.13	03.98	98.73
11	27.78	25.90	25.05	23.33	20.55	17.45	11.83	07.68	301.23
12	30.18	28.44	27.55	25.93	23.55	20.75	15.43	10.98	05.33
13	30.68	29.02	28.15	26.63	24.15	21.55	16.43	12.18	06.63
14	31.48	29.80	28.95	27.33	24.95	22.35	17.33	13.28	07.83
15	31.98	30.44	29.55	28.03	25.65	23.05	18.33	14.48	09.23
16	32.08	30.58	29.65	28.13	25.85	23.35	18.93	15.38	10.53
17	32.08	30.62	29.75	28.33	26.05	23.75	19.33	15.98	11.43
18	32.78	31.24	30.35	28.93	26.65	24.55	20.03	16.68	12.13
19	34.58	33.06	32.15	30.83	28.45	26.15	21.33	18.18	13.23
20	36.48	34.96	33.85	32.63	[3]30.05	27.85	22.93	19.68	14.63
21	38.08	36.60	[4]35.35	34.13	[3]31.55	29.25	24.33	21.68	16.23
22	38.78	37.30	35.95	34.78	[2]32.25	30.05	25.13	23.18	17.83
23	39.28	37.80	36.35	35.23	[2]32.75	30.45	25.83	24.08	18.83
24	40.18	38.58	37.05	35.73	[2]33.25	31.05	26.43	25.18	19.73
25	[4]40.08	38.40	36.85	35.53	[2]33.25	31.15	26.83	25.68	20.53
26	40.48	38.74	37.15	35.78	[2]33.35	31.25	27.23	26.28	21.23
27	41.98	40.00	38.35	36.73	[2]34.25	32.05	28.43	27.58	22.43
28	42.18	40.10	38.45	36.83	[2]34.55	32.55	29.13	28.58	23.63
29	41.88	39.84	38.15	36.53	[2]34.35	32.55	29.28	28.88	24.13
30	41.38	39.24	37.75	36.13	[2]34.05	32.25	28.98	28.58	24.33
31	40.58	38.58	37.15	35.63	[2]33.45	31.65	28.43	27.98	24.03

[1] Miles indicate distances above mouth of Ohio River.
[2] No reading—interpolated by comparative hydrographs.
[3] Reading changed by comparative hydrographs 0.5 foot or more.
[4] Changed less than 0.5 foot.

DAILY STAGES AT 8 A.M., IN FEET ABOVE MEAN SEA LEVEL (DATUM OF 1929) OF MISSISSIPPI RIVER FOR JUNE 1943, AT LOCATIONS INDICATED IN THE COLUMN BOX HEAD.[1]

Date	Mundys Landing, Mo. Mi. 293.0	Louisiana, Mo.[2] Mi. 282.1	Lock and Dam No. 24 Clarksville, Mo. Upper Mi. 273.5	Lock and Dam No. 24 Clarksville, Mo. Lower Mi. 273.2	Rip Rap Landing, Ill. Mi. 265.0	Mosier Landing, Ill. Mi. 260.3	Sterling Landing, Mo. Mi. 250.8	Lock and Dam No. 25 Cap Au Gris, Mo. Upper Mi. 241.5	Lock and Dam No. 25 Cap Au Gris, Mo. Lower Mi. 241.2	Dixon Landing, Ill. Mi. 228.3	Grafton, Ill.[3] Mi. 218.0
1	451.05	448.88	448.00	440.72	[4]436.83	435.30	431.60	429.64	426.94	424.02	422.69
2	50.95	48.83	48.02	40.44	[4]36.53	35.00	31.40	29.66	26.28	22.92	21.49
3	50.95	48.79	47.99	40.43	[4]36.43	34.90	31.30	29.64	25.97	22.12	20.49
4	51.35	48.88	47.89	41.25	37.43	35.60	31.60	29.20	26.98	22.32	20.39
5	52.15	49.00	47.62	42.25	[4]38.43	36.40	32.00	29.04	27.94	23.42	20.99
6	53.05	49.21	47.45	43.05	39.23	37.30	32.60	29.10	28.79	24.12	21.39
7	54.45	49.88	46.66	45.07	40.93	39.00	34.00	30.44	30.09	25.12	22.19
8	55.15	50.29	46.43	45.90	41.93	40.10	35.20	31.66	31.21	26.02	22.99
9	55.75	50.75	46.89	46.37	42.33	40.50	35.70	32.23	31.78	26.52	23.59
10	55.65	50.92	47.20	46.65	[4]42.83	40.90	36.30	32.78	32.31	27.02	24.19
11	55.75	51.29	47.54	46.98	43.13	41.30	36.70	33.53	33.03	27.82	25.09
12	56.15	51.67	47.89	47.30	43.43	41.60	37.00	33.75	33.25	28.22	25.49
13	56.45	51.96	48.19	47.58	43.63	41.80	37.20	33.98	33.46	28.32	25.69
14	56.85	51.96	48.24	47.63	43.83	41.90	37.40	34.21	33.68	28.52	25.79
15	57.25	52.04	48.33	47.71	43.83	42.00	37.40	34.31	33.77	28.62	25.89
16	57.35	52.25	48.51	47.89	43.93	42.20	37.60	34.53	33.97	28.82	26.09
17	57.65	52.38	48.61	47.97	44.03	42.20	37.70	34.62	34.06	28.88	26.19
18	58.15	52.92	49.12	48.45	[4]44.43	42.60	38.00	34.86	34.28	29.01	26.29
19	58.45	53.17	49.44	48.74	[4]44.63	42.90	38.30	35.23	34.64	29.23	26.39
20	58.05	53.04	49.39	48.70	[4]44.63	43.00	38.50	35.42	34.84	29.41	26.49
21	57.45	52.54	48.93	48.28	[4]44.33	42.70	38.40	35.42	34.86	29.56	26.69
22	56.65	51.96	48.30	47.69	[4]43.83	42.20	37.90	34.96	34.45	29.36	26.59
23	56.45	51.58	47.89	47.30	[4]43.43	41.80	37.50	34.58	34.08	29.12	26.49
24	56.25	51.29	47.52	46.95	[4]43.13	41.40	37.10	34.02	33.54	28.72	26.29
25	56.15	51.29	47.47	46.90	[4]42.93	41.30	36.80	33.72	33.26	28.59	26.29
26	55.65	50.83	47.09	46.52	[4]42.63	41.00	36.60	33.58	33.13	28.60	26.49
27	55.25	50.29	46.48	45.97	[4]42.23	40.50	36.20	33.16	32.75	28.42	26.39
28	55.15	50.08	46.22	45.70	[4]41.83	40.20	35.80	32.68	32.28	27.92	25.99
29	55.25	50.13	46.22	45.69	[4]41.83	40.10	35.60	32.34	31.95	27.42	25.19
30	55.45	50.25	46.29	45.81	[4]41.93	40.10	35.50	32.16	31.76	26.82	24.19

[1] Miles indicate distances above mouth of Ohio River.
[2] Read at 6 a.m.
[3] Read at 7 a.m.
[4] No reading—interpolated by comparative hydrographs.
[5] Changed less than 0.5 foot.

DAILY STAGES AT 8 A.M., IN FEET ABOVE MEAN SEA LEVEL (DATUM OF 1929) OF MISSISSIPPI RIVER FOR JUNE 1943, AT LOCATIONS INDICATED IN THE COLUMN BOX HEAD.[1]

Date	Lock and Dam No. 26 Alton, Ill.		Hartford, Ill.	Chain of Rocks, Mo.	Bissell Point, Mo.	St. Louis, Mo.	Engineer Depot, Mo.	Mo. Pac. Elevator, Mo.	Jefferson Barracks, Mo.	Waters Point, Mo.	Brickeys, Mo.
	Upper Mi. 203.0	Lower Mi. 202.7	Mi. 196.8	Mi. 190.4	Mi. 183.3	Mi. 179.6	Mi. 176.8	Mi. 172.6	Mi. 169.3	Mi. 158.5	Mi. 136.0
1	418.67	418.32	416.52	[2]413.21	410.55	408.64	407.08	404.42	[2]402.89	397.59	386.08
2	16.88	16.54	14.45	10.91	08.25	06.64	05.13	02.62	01.09	95.79	83.88
3	15.31	14.93	12.53	08.71	06.35	04.54	03.28	00.92	399.24	93.79	81.98
4	15.51	13.55	10.78	06.71	04.25	02.69	01.38	399.12	97.39	92.09	79.98
5	15.01	13.97	10.80	[3]06.51	04.15	02.44	01.08	98.82	97.09	91.49	78.93
6	15.57	14.81	11.86	07.91	05.45	03.74	02.18	99.92	98.09	92.79	79.58
7	17.30	16.60	14.35	10.71	08.35	06.54	04.68	402.22	400.49	94.79	81.68
8	18.52	17.85	15.68	12.21	09.95	07.94	06.18	03.62	01.84	96.19	83.18
9	19.43	18.76	17.22	13.21	10.85	08.94	07.08	04.52	02.74	97.19	84.18
10	20.41	19.76	18.52	14.51	12.15	10.14	08.18	05.52	03.84	97.99	85.08
11	21.75	21.16	20.01	16.01	13.65	11.44	09.53	06.72	05.04	99.19	86.18
12	22.36	21.76	20.65	16.71	14.45	12.04	10.08	07.22	05.64	99.79	86.93
13	22.56	21.96	20.83	16.91	14.55	12.14	10.28	07.42	05.84	99.79	87.15
14	22.69	22.09	20.97	17.01	14.75	12.34	10.38	07.52	05.89	99.89	87.28
15	22.83	22.20	21.11	17.21	14.85	12.49	10.58	07.62	06.09	400.04	87.43
16	23.05	22.46	21.36	17.41	15.15	12.74	10.68	07.82	06.24	00.19	87.58
17	23.18	22.58	21.52	[3]17.71	15.25	12.94	10.78	08.02	06.34	00.29	87.73
18	23.37	22.76	21.73	18.01	15.55	13.09	10.98	08.12	06.49	00.39	87.83
19	23.55	22.94	21.90	18.11	15.75	13.24	11.18	08.32	06.64	00.54	87.98
20	23.67	23.05	22.03	18.21	15.85	13.34	11.38	08.52	06.79	00.69	88.08
21	23.85	23.22	22.20	18.41	16.05	13.64	11.58	08.72	06.99	00.89	88.33
22	23.89	23.28	22.29	18.51	16.15	13.74	11.78	08.82	07.14	00.99	88.50
23	23.88	23.28	22.33	18.61	16.20	13.74	11.78	08.82	07.14	00.99	88.50
24	23.93	23.38	22.54	18.81	16.45	13.99	11.93	09.02	07.26	01.09	88.56
25	24.29	23.78	23.04	19.31	16.95	14.44	12.33	09.32	07.64	01.39	88.78
26	24.64	24.14	23.44	19.81	17.45	14.84	12.78	09.62	08.09	01.79	89.13
27	24.54	24.05	23.28	[3]19.71	17.35	14.84	12.98	09.92	08.17	01.84	89.46
28	23.97	23.48	22.68	19.11	16.75	14.34	12.48	09.52	07.79	01.59	89.23
29	22.91	22.46	21.37	17.91	15.65	13.44	11.68	08.72	07.04	00.89	88.73
30	21.48	21.07	19.95	16.31	14.15	12.14	10.58	[2]07.62	05.89	399.99	87.88

[1] Miles indicate distances above mouth of Ohio River.
[2] Reading changed by comparative hydrographs 0.5 foot or more.
[3] Changed less than 0.5 foot.

DAILY STAGES AT 8 A.M., IN FEET ABOVE MEAN SEA LEVEL (DATUM OF 1929) OF MISSISSIPPI RIVER FOR JUNE 1943, AT LOCATIONS INDICATED IN THE COLUMN BOX HEAD.[1]

Date	Little Rock Landing, Mo. Mi. 125.5	East Kaskaskia, Ill. Mi. 116.2	Chester, Ill. Mi. 109.5	Bishop Landing, Mo. Mi. 100.8	Red Rock Landing, Mo. Mi. 94.1	Cumberland Rocks, Mo. Mi. 87.0	Grand Tower, Ill. Mi. 79.8	Crawford Landing, Mo. Mi. 72.9	Moccasin Springs, Mo. Mi. 66.3	Devils Island, Ill. Mi. 57.3	Cape Girardeau, Mo. Mi. 52.1
1	[4]379.89	375.44	372.85	[2]368.61	366.16	362.30	356.93	352.98	350.04	[2]346.13	343.47
2	78.69	74.24	71.45	[2]67.21	64.76	60.80	55.63	52.38	48.89	[2]45.03	42.37
3	76.79	72.14	69.55	[2]65.21	62.66	58.90	54.23	51.18	47.54	[2]43.63	40.97
4	74.69	69.74	67.35	[2]62.91	60.30	56.30	52.03	49.58	45.69	[2]41.83	39.17
5	73.39	68.14	65.65	[2]61.01	58.32	54.30	[4]49.83	47.28	43.64	[2]39.73	37.17
6	73.69	67.84	65.15	[2]60.31	57.32	53.10	48.43	45.78	41.99	[2]38.08	35.47
7	[3]75.09	69.34	66.45	[2]61.51	58.52	53.90	49.33	45.98	42.14	[2]37.88	35.07
8	76.79	70.94	67.95	[2]62.91	59.82	55.20	50.53	47.28	43.19	[2]38.73	35.77
9	77.69	71.94	68.95	[2]63.91	60.86	56.30	51.43	[4]48.18	44.14	[2]39.58	36.57
10	78.39	72.74	69.75	[2]64.71	61.70	[4]57.10	52.03	48.78	44.74	[2]40.18	37.17
11	79.39	73.64	70.65	[2]65.51	62.44	[4]57.90	52.73	49.38	45.39	[2]40.73	37.67
12	80.09	74.34	71.35	[2]66.21	63.12	58.60	53.43	49.98	45.99	[2]41.33	38.27
13	80.29	74.64	71.75	[2]66.71	63.68	59.10	53.93	50.38	46.49	[2]41.78	38.72
14	80.59	74.84	71.95	[2]67.01	64.12	59.60	54.33	50.88	46.84	[2]42.13	39.07
15	80.69	75.04	72.15	[2]67.21	64.36	59.80	54.53	51.08	47.09	[2]42.38	39.27
16	80.89	75.14	72.35	[2]67.41	64.54	60.10	54.73	51.38	[4]47.24	[2]42.53	39.47
17	80.89	75.24	72.45	[2]67.51	64.78	60.30	54.93	51.58	47.44	[2]42.73	39.67
18	81.09	75.34	72.55	[2]67.61	64.90	60.40	54.93	51.78	47.54	[2]42.88	39.84
19	81.19	75.44	72.65	[2]67.71	64.94	60.60	55.13	51.88	47.64	[2]43.03	39.97
20	81.19	75.54	72.75	67.91	65.10	60.70	55.23	51.98	47.74	43.13	40.07
21	81.49	75.74	72.95	[2]68.11	65.34	60.90	55.43	52.08	47.89	43.33	40.19
22	81.59	76.04	73.25	[4]68.41	65.68	61.30	55.73	52.28	48.09	43.63	40.47
23	81.69	76.04	73.25	[2]68.41	65.74	61.40	55.83	52.48	48.19	43.83	40.67
24	81.69	76.04	73.25	68.41	65.76	61.40	55.93	52.48	48.24	43.93	40.77
25	81.89	76.24	73.35	[2]68.51	65.82	61.50	56.03	52.68	48.29	44.03	40.87
26	82.19	76.34	73.55	[2]68.71	65.98	61.70	56.13	52.78	48.44	44.13	40.97
27	82.39	76.64	73.75	69.11	66.24	61.90	56.33	52.88	48.56	[2]44.28	41.12
28	82.29	76.64	73.95	69.21	66.36	62.10	56.53	53.08	48.70	[2]44.43	41.27
29	81.99	76.34	73.65	[2]68.81	66.32	62.10	56.43	53.08	48.79	[2]44.53	41.44
30	81.49	75.74	73.15	68.41	65.92	61.70	56.23	52.78	48.59	[2]44.43	41.37

[1] Miles indicate distances above mouth of Ohio River.
[2] No reading—interpolated by comparative hydrographs.
[3] Reading changed by comparative hydrographs 0.5 foot or more.
[4] Changed less than 0.5 foot.

NOTE—The Bishop Ldg. gage reader moved out because of Claryville, Mo. levee crevasse.
The Devils Isl. gage reader was forced by high water to leave the Island.

DAILY STAGES AT 8 A.M., IN FEET ABOVE MEAN SEA LEVEL (DATUM OF 1929) OF MISSISSIPPI RIVER FOR JUNE 1943, AT LOCATIONS INDICATED IN THE COLUMN BOX HEAD.[1]

Date	Grays Point, Mo. Mi. 46.3	Thebes, Ill. Mi. 43.7	Counterfeit Rock, Mo. Mi. 42.3	Commerce, Mo. Mi. 39.5	Powers Island, Mo. Mi. 35.2	Price Landing, Mo. Mi. 30.0	Thompson Landing, Mo. Mi. 20.2	Beechridge, Ill. Mi. 13.2	Birds Point, Mo. Mi. 2.0
1	339.68	337.78	336.35	334.83	[2]332.75	330.85	327.53	327.18	323.43
2	38.68	36.78	35.55	34.13	[2]31.95	29.95	26.73	26.18	22.53
3	37.28	35.60	34.35	33.03	[2]30.95	29.05	25.63	24.78	21.23
4	35.73	34.14	33.05	31.83	[2]29.85	28.05	24.43	23.18	19.83
5	33.88	32.43	31.45	30.93	[2]28.75	26.75	23.13	21.98	18.33
6	32.18	30.68	29.95	29.33	[2]27.05	24.95	21.83	19.48	16.33
7	31.58	29.96	29.25	27.43	[2]25.55	23.95	20.43	17.78	14.43
8	32.18	30.48	29.75	27.83	[2]25.25	23.85	19.63	16.88	12.93
9	32.88	31.12	30.25	28.63	[2]26.35	24.25	19.43	16.58	11.83
10	33.38	31.58	30.55	29.03	[2]26.65	24.45	19.63	16.38	11.13
11	33.83	32.02	30.95	29.43	[2]27.05	24.75	19.83	16.28	10.63
12	34.28	32.52	31.35	29.73	[2]27.35	25.05	20.03	16.28	10.33
13	34.68	32.98	31.75	30.13	[2]27.75	25.45	20.23	16.38	10.03
14	35.08	33.28	32.05	30.43	[2]28.05	25.75	20.43	16.38	09.83
15	35.28	33.50	32.35	30.73	[2]28.35	25.95	20.53	16.48	09.63
16	35.43	33.66	32.45	30.83	[2]28.45	26.05	20.63	16.48	09.53
17	35.63	33.86	32.55	31.13	[2]28.75	26.15	20.73	16.48	09.43
18	35.78	34.02	32.75	31.23	[2]28.90	26.35	20.78	16.48	09.23
19	35.93	34.14	32.95	31.33	[2]28.95	26.35	20.78	16.38	08.83
20	36.03	34.24	32.95	31.43	29.05	26.45	20.80	16.28	08.63
21	36.18	34.38	33.05	31.53	29.15	26.55	20.88	16.28	08.43
22	36.38	34.61	33.35	31.73	29.25	26.65	20.98	16.38	08.43
23	36.58	34.80	33.55	31.88	29.35	26.85	21.07	16.48	08.43
24	36.68	34.91	33.65	31.98	29.45	26.95	21.17	16.58	08.43
25	36.78	35.00	33.72	32.03	28.45	27.05	21.18	16.58	08.23
26	36.88	35.07	33.80	32.13	29.55	27.05	21.15	16.28	07.63
27	36.98	35.16	[3]33.90	32.21	29.65	27.05	21.14	16.18	07.13
28	37.18	35.32	34.05	32.33	29.75	[3]27.15	21.17	16.08	07.03
29	37.28	35.42	34.15	32.51	29.90	27.35	21.28	16.28	07.03
30	37.18	35.40	34.15	32.43	[3]29.80	27.35	21.33	16.38	07.33

[1] Miles indicate distances above mouth of Ohio River.
[2] No reading—interpolated by comparative hydrographs.
[3] Changed less than 0.5 foot.
NOTE—The Powers Island gage reader was forced by high water to leave the island.

DAILY STAGES AT 8 A.M., IN FEET ABOVE MEAN SEAL LEVEL (ADJUSTMENT OF 1912) OF ILLINOIS RIVER FOR MAY 1943, AT LOCATION INDICATED IN THE COLUMN BOX HEAD.[1]

Date	Dresden Island		Morris	Seneca Bridge	Marseilles Dam		Gage on Rapids	Marseilles Lock		Ottawa Bridge
	Upper 271.5L	Lower 271.4L	263.1R	252.7R	Upper 247.1R	Lower 247.0R	245.8L	Upper 244.6R	Lower 244.5R	239.7R
1	505.1	490.1	488.9	485.7	483.3	472.5	467.0	483.2	462.3	460.7
2	05.1	89.5	88.2	85.3	83.6	72.4	66.4	83.6	61.8	60.6
3	05.0	88.7	87.6	85.1	83.6	71.9	66.0	83.4	61.4	60.6
4	05.3	88.1	86.9	84.6	83.3	71.6	65.7	83.2	61.1	60.2
5	05.3	87.8	86.2	84.2	83.3	71.4	65.4	83.2	60.8	60.3
6	05.4	87.0	85.0	84.2	83.5	71.1	64.5	83.4	60.6	60.3
7	05.2	86.9	85.0	84.2	83.5	71.4	64.8	83.4	60.5	59.9
8	05.4	89.5	87.8	85.0	83.7	71.8	65.8	83.6	61.2	60.4
9	05.2	91.0	89.6	86.0	83.4	73.0	67.4	83.6	62.8	60.6
10	05.2	90.0	89.3	85.7	83.3	72.1	66.5	83.6	62.2	60.8
11	05.0	496.4	93.5	87.8	83.4	73.8	69.4	83.4	64.1	61.7
12	03.8	500.6	98.6	91.4	83.5	77.6	74.1	83.8	68.1	64.2
13	04.1	499.2	97.4	90.9	83.2	77.4	74.1	83.6	68.1	64.2
14	04.5	97.5	95.4	90.0	83.4	76.0	71.5	83.2	66.2	62.7
15	04.8	95.6	93.7	88.5	82.2	75.5	70.4	82.2	65.2	61.9
16	05.1	95.8	93.3	87.9	82.3	75.4	70.1	82.2	64.8	62.6
17	05.0	96.6	94.5	89.0	83.2	75.0	70.2	83.6	65.4	62.7
18	04.8	93.3	95.6	89.8	83.4	76.0	71.8	83.6	65.8	63.2
19	04.5	99.8	97.6	91.4	83.3	77.3	73.1	83.6	67.9	64.0
20	04.8	499.8	497.5	91.4	83.4	77.5	73.4	83.8	68.0	64.6
21	03.8	502.4	500.0	93.4	83.4	79.2	75.9	83.9	70.2	66.6
22	03.8	501.0	499.5	92.9	83.2	80.4	75.8	83.8	70.7	67.2
23	06.1	498.6	96.6	90.9	84.0	77.0	73.4	84.0	67.9	64.4
24	06.1	97.5	95.0	89.8	83.9	75.7	72.8	84.2	66.8	63.6
25	06.0	97.6	95.2	89.8	84.1	75.5	71.5	84.2	66.5	63.6
26	05.8	96.2	94.3	89.0	83.9	75.2	70.8	84.0	66.0	63.1
27	05.8	94.6	92.6	88.0	84.1	74.2	69.4	84.0	64.7	62.5
28	05.9	93.0	91.1	87.1	84.0	73.8	68.4	84.0	63.9	62.1
29	06.4	89.0	87.9	86.2	83.2	73.2	67.5	83.0	64.3	62.3
30	05.6	91.1	89.4	85.8	83.2	73.5	67.4	83.2	63.0	61.6
31	05.6	90.6	88.9	85.5	83.4	72.8	67.0	83.2	62.7	60.9

[1] Figures indicate miles above mouth. Letters indicate left or right bank.

DAILY STAGES AT 8 A.M., IN FEET ABOVE MEAN SEA LEVEL, OF ILLINOIS RIVER FOR MAY 1943, AT LOCATION INDICATED IN THE COLUMN BOX HEAD.[1]

Date	Adjustment of 1912		Datum of 1929						
	Starved Rock								
	Upper 231.0L	Lower 230.9L	Utica 229.6R	LaSalle 224.7R	Spring Valley 218.4R	Hennepin 207.6L	Henry 195.6	Chillicothe 180.3R	Peoria U. S. Boatyard 164.2R
1	459.7	451.0	450.4	449.6	448.3	446.9	445.4	444.4	444.1
2	59.7	50.1	49.5	48.9	47.8	46.8	45.6	44.7	44.3
3	59.6	49.6	49.0	48.4	47.4	46.4	45.5	44.8	44.6
4	59.6	48.8	48.1	47.7	47.0	46.1	45.2	44.8	44.4
5	59.6	48.2	47.6	47.4	46.7	45.9	45.1	44.6	44.0
6	59.6	47.8	47.2	47.0	46.3	45.7	44.8	44.2	43.7
7	59.5	47.3	46.7	46.5	46.0	45.3	44.4	43.9	43.8
8	59.7	47.8	47.2	46.8	45.5	45.2	44.2	43.8	43.8
9	59.8	50.5	49.2	48.9	46.9	45.5	44.4	43.7	43.5
10	59.6	50.2	49.5	48.9	47.3	46.0	44.7	44.0	43.8
11	59.6	52.7	51.9	51.1	48.7	47.1	45.4	44.7	44.5
12	59.7	57.2	56.6	53.6	51.3	49.1	46.9	45.8	45.6
13	59.5	58.5	57.4	54.8	53.3	50.9	48.8	47.5	47.2
14	59.3	56.6	55.8	54.4	53.1	51.5	50.2	49.0	48.8
15	59.4	55.7	54.8	53.9	52.7	51.5	50.6	49.8	49.7
16	59.4	56.0	55.3	54.5	53.1	52.7	51.3	50.5	50.0
17	59.5	56.6	55.8	54.8	53.5	52.7	51.5	50.9	50.7
18	59.5	57.6	56.7	55.6	54.1	53.3	52.3	51.6	51.5
19	59.7	59.0	58.0	56.9	55.4	54.6	53.1	52.5	52.3
20	60.1	59.7	58.6	57.6	56.4	55.4	54.4	53.6	53.5
21	62.2	61.6	60.0	59.8	58.0	56.9	56.0	55.2	55.0
22	63.3	62.6	61.8	61.0	59.6	[2]58.2	57.3	56.5	56.2
23	61.9	61.4	60.7	60.5	59.4	[2]58.6	58.1	57.4	57.2
24	61.0	60.7	60.0	59.5	59.0	[2]58.4	58.0	57.4	57.2
25	60.7	60.5	59.8	59.8	58.8	[2]58.1	57.9	57.3	57.0
26	60.6	60.0	59.5	59.4	58.6	[2]57.9	57.7	57.1	56.8
27	60.7	59.1	58.6	58.5	58.0	57.6	57.2	56.8	56.5
28	60.7	58.4	57.7	57.5	57.3	56.9	56.6	56.2	56.1
29	60.8	57.8	57.2	56.9	56.6	56.3	56.0	55.7	55.3
30	60.5	56.9	56.4	56.2	55.9	55.6	55.4	55.0	54.8
31	59.8	56.3	55.8	55.6	55.4	55.0	54.7	54.4	54.2

[1] Figures indicate miles above mouth. Letters indicate left or right bank.
[2] Regular gage under water; approximate readings on temporary gage.

DAILY STAGES AT 8 A.M., IN FEET ABOVE MEAN SEA LEVEL (DATUM OF 1929) OF ILLINOIS RIVER FOR MAY 1943, AT LOCATIONS INDICATED IN THE COLUMN BOX HEAD.[1]

Date	Peoria Lock		Pekin Highway Bridge	Kingston Mines	Copperas Creek	Liverpool	Havana	Bath	Browning	Beardstown Highwway Bridge
	Upper 157.7L	Lower 157.6L	152.9L	145.5R	136.8R	128.0R	119.6L	111.3	97.3R	88.6L
1	442.6	442.5	441.8	441.0	439.8	438.7	437.9	436.2	433.9	432.2
2	42.8	42.7	42.0	41.1	40.1	39.1	38.2	36.6	34.1	32.6
3	43.2	43.1	42.3	41.4	40.4	39.4	38.5	36.8	34.4	32.9
4	43.1	43.0	42.4	41.4	40.5	39.5	38.7	37.0	34.6	33.1
5	42.8	42.6	42.0	41.1	40.4	39.5	38.8	37.0	34.6	33.3
6	42.6	42.4	41.8	41.0	40.2	39.4	38.6	37.0	34.7	33.4
7	42.5	42.4	41.8	40.9	40.2	39.3	38.5	37.0	34.7	33.4
8	42.7	42.6	42.0	41.2	40.4	39.4	38.7	37.1	35.0	33.9
9	42.6	42.5	41.9	41.2	40.4	39.6	38.9	37.3	35.5	34.6
10	42.8	42.7	42.0	41.4	40.5	39.7	39.1	37.4	36.0	35.1
11	43.9	43.8	43.1	42.1	41.3	40.4	39.8	37.9	36.7	36.0
12	44.8	44.6	43.9	42.8	41.9	41.0	40.3	38.6	37.8	37.1
13	46.0	45.9	45.2	44.0	42.6	41.7	40.8	39.3	38.5	37.8
14	47.5	47.4	46.8	45.2	43.6	42.7	41.8	40.0	39.8	38.4
15	48.4	48.3	47.5	46.0	44.3	43.4	42.5	40.9	40.6	39.2
16	48.9	48.8	48.0	46.7	45.2	44.1	43.3	41.9	41.0	40.2
17	49.5	49.4	48.7	47.3	----------	44.8	44.1	42.7	42.2	41.5
18	50.4	50.3	49.7	48.2	46.6	45.8	45.3	44.0	43.5	42.9
19	51.4	51.2	50.7	49.2	47.4	46.8	46.4	45.4	45.0	44.7
20	52.8	52.6	52.2	50.7	48.7	48.3	47.9	46.8	46.3	45.9
21	54.2	54.0	53.5	52.1	Gage	50.1	49.8	48.9	[2]48.3	47.6
22	55.2	55.2	54.6	53.2	Under	51.1	50.6	49.5	[2]49.0	48.5
23	56.0	55.9	55.2	53.7	Water	51.3	50.7	[3]49.1	[3]48.7	[3]48.3
24	56.0	55.9	55.2	53.9	----------	51.8	51.3	50.1	[2]49.5	49.2
25	56.0	55.8	55.2	54.0	----------	52.1	51.5	50.5	[2]49.9	49.5
26	55.8	55.7	55.0	53.9	----------	52.1	51.5	50.6	[2]50.1	49.5
27	55.5	55.4	54.8	53.7	----------	51.9	51.3	50.5	[2]49.9	49.4
28	55.1	55.0	54.4	53.3	----------	51.6	51.1	50.2	[2]49.7	49.1
29	54.4	54.4	53.8	52.8	----------	51.2	50.8	49.8	[2]49.2	48.7
30	53.9	53.8	53.2	52.3	----------	50.7	50.2	49.3	[2]48.8	48.3
31	53.3	53.2	52.6	51.7	----------	50.2	49.8	48.8	[2]48.2	47.6

[1] Figures indicate miles above mouth. Letters indicate left or right bank.
[2] Regular gage under water; approximate readings on temporary gage.
[3] Drop caused by levee breaks.

DAILY STAGES AT 8 A.M., IN FEET ABOVE MEAN SEA LEVEL (DATUM OF 1929) OF ILLINOIS RIVER FOR MAY 1943, AT LOCATION INDICATED IN THE COLUMN BOX HEAD.[1]

Date	New LaGrange Lock		Meredosia	Valley City	Florence	Pearl	Kampsville	Hardin	Grafton[2]
	Upper 80.2R	Lower* 80.1R	71.1C	61.6C	56.0R	43.2C	31.5R	21.6L	0.0L
1	430.4	430.1	428.6	426.9	426.0	423.7	422.2	421.4	420.3
2	30.8	30.6	29.0	27.4	26.4	24.1	22.5	21.5	20.2
3	31.0	30.8	29.3	27.6	26.6	24.1	22.4	21.4	20.0
4	31.4	31.1	29.5	27.8	26.7	24.2	22.4	21.3	19.6
5	31.6	31.3	29.8	28.0	27.0	24.3	22.3	21.1	19.3
6	31.6	31.4	29.9	28.1	27.0	24.4	22.2	21.0	19.1
7	31.8	31.5	30.0	28.4	27.3	24.7	22.8	21.6	19.7
8	32.4	32.2	31.0	29.6	28.4	25.7	23.6	22.2	20.1
9	33.2	33.0	31.5	29.9	28.8	26.2	24.1	22.9	20.5
10	33.6	33.3	31.8	30.1	29.0	26.4	24.6	23.2	20.5
11	34.5	34.3	32.8	31.2	29.9	27.0	24.9	23.3	20.1
12	35.5	35.4	34.0	32.2	30.8	27.6	25.6	23.8	20.4
13	36.1	36.0	34.7	32.9	31.5	28.3	26.1	24.3	20.9
14	36.5	36.4	35.1	33.2	31.8	28.7	26.4	24.3	20.0
15	37.0	37.0	35.7	33.8	32.2	28.9	26.3	24.0	19.2
16	38.4	38.2	37.3	35.4	33.9	30.2	27.3	24.9	20.2
17	39.5	39.4	38.6	36.6	34.9	31.2	28.5	26.2	21.7
18	41.3	41.2	40.5	38.9	37.7	34.4	31.6	29.3	24.9
19	43.2	43.1	42.6	41.1	39.6	36.7	34.6	32.3	28.2
20	43.2	43.1	41.8	40.0	38.7	36.0	34.2	32.6	29.9
21	44.3	44.1	42.8	40.6	39.0	36.1	34.1	32.7	30.6
22	45.2	45.1	43.7	41.5	39.7	36.4	34.5	33.2	31.4
23	45.9	45.8	44.9	43.0	41.1	37.7	35.6	34.2	32.5
24	46.5	46.4	45.7	43.9	41.9	38.4	36.2	34.7	32.8
25	47.0	46.9	46.4	44.6	42.6	39.0	36.6	34.8	32.4
26	47.2	47.1	46.7	44.9	42.8	39.1	36.4	34.3	31.5
27	47.2	47.0	46.6	44.8	42.6	38.6	35.8	33.5	30.2
28	46.9	46.8	46.4	44.5	42.3	38.2	35.1	32.6	28.5
29	46.5	46.4	46.0	44.1	41.9	37.6	34.3	31.6	26.9
30	46.0	45.9	45.5	43.5	41.4	37.0	33.6	30.8	25.4
31	45.5	45.3	44.9	43.0	40.9	36.4	33.0	30.0	24.0

[1] Figures indicate miles above mouth. Letters indicate left or right bank.
[2] 7 a.m.

DAILY STAGES AT 8 A.M., IN FEET ABOVE MEAN SEA LEVEL (ADJUSTMENT OF 1912) OF ILLINOIS RIVER FOR JUNE 1943, AT LOCATION INDICATED IN THE COLUMN BOX HEAD.[1]

Date	Dresden Island		Morris	Seneca Bridge	Marseilles Dam		Gage on Rapids	Marseilles Lock		Ottawa Bridge
	Upper 271.5L	Lower 271.4L	263.1R	252.7R	Upper 247.1R	Lower 247.0R	245.8L	Upper 244.6R	Lower 244.5R	239.7R
1	506.0	487.8	487.0	484.8	483.3	472.8	466.9	482.8	462.5	461.6
2	05.6	90.4	88.8	85.6	83.6	72.4	66.8	83.5	62.3	61.1
3	05.6	89.6	88.1	85.2	83.6	72.0	66.7	83.3	62.8	60.7
4	05.2	92.3	90.3	86.3	83.7	72.4	67.2	84.0	62.4	61.5
5	03.2	90.8	89.1	85.4	82.0	73.2	67.3	82.3	62.1	60.4
6	05.0	88.9	87.4	84.8	83.3	71.9	65.5	83.3	61.0	60.0
7	04.9	89.8	88.4	85.3	83.3	72.9	66.6	83.7	61.5	60.2
8	05.1	88.8	87.6	84.8	83.2	72.4	66.0	83.1	61.1	60.0
9	05.1	88.4	87.2	85.0	83.7	72.4	65.9	83.6	61.0	59.9
10	05.3	88.2	86.8	84.5	83.8	72.2	65.2	83.4	60.5	59.8
11	05.3	87.9	86.7	84.8	83.7	72.0	65.4	83.6	60.6	59.6
12	04.6	88.5	87.0	85.0	83.7	72.2	65.6	83.7	60.7	59.7
13	05.3	87.6	86.4	84.6	83.7	72.2	65.1	83.6	60.6	60.2
14	05.5	87.4	86.2	84.4	83.4	71.6	65.0	83.5	60.2	59.7
15	05.2	87.2	86.0	84.2	83.4	71.4	64.7	83.4	60.1	59.6
16	05.0	87.5	86.3	84.4	83.5	71.7	65.2	83.3	60.5	59.8
17	05.2	86.9	85.8	84.1	83.5	71.0	64.0	83.4	59.8	59.7
18	05.3	86.9	85.8	84.2	83.5	71.2	64.3	83.6	60.0	59.8
19	05.2	86.6	85.5	84.0	83.3	71.2	64.3	83.1	60.1	59.7
20	05.2	86.3	85.3	83.9	83.4	71.4	64.1	83.4	59.9	59.4
21	05.3	86.5	85.5	84.1	83.5	71.0	64.1	83.6	60.0	59.5
22	05.3	86.5	85.5	84.1	83.6	71.0	64.0	83.6	59.9	59.6
23	05.3	86.2	85.3	84.0	83.5	71.0	64.0	83.3	59.8	59.5
24	05.2	86.2	85.4	84.1	83.6	71.0	63.9	83.6	59.8	59.6
25	05.3	86.4	85.6	84.1	83.5	71.2	64.4	83.5	60.0	59.6
26	05.2	86.3	85.5	84.2	83.7	71.0	64.1	83.7	60.1	59.7
27	05.4	85.9	85.0	83.8	83.4	71.2	63.7	83.4	59.8	59.6
28	05.2	86.6	85.6	84.1	83.5	71.2	64.0	83.4	59.9	59.6
29	05.3	86.0	85.0	83.9	83.5	70.6	63.7	83.4	59.7	59.5
30	05.3	85.9	84.9	83.8	83.4	70.6	63.7	83.2	59.8	59.7

[1] Figures indicate miles above mouth. Letters indicate left or right bank.

DAILY STAGES AT 8 A.M., IN FEET ABOVE MEAN SEA LEVEL, OF ILLINOIS RIVER FOR JUNE 1943, AT LOCATION INDICATED IN THE COLUMN BOX HEAD.[1]

Date	Adjustment of 1912		Datum of 1929						
	Starved Rock								
	Upper 231.0L	Lower 230.9L	Utica 229.6R	LaSalle 224.7R	Spring Valley 218.4R	Hennepin 207.6L	Henry 195.6	Chillicothe 180.3R	Peoria U. S. Boatyard 164.2R
1	460.1	455.8	455.2	455.0	454.7	454.5	454.0	453.7	453.4
2	60.0	55.1	54.5	54.2	54.0	53.7	53.4	53.1	52.8
3	59.8	54.3	53.9	53.7	53.4	53.2	52.8	52.5	52.1
4	59.8	54.8	54.1	53.8	53.2	52.8	52.5	52.1	51.8
5	59.0	54.3	53.8	53.7	52.9	52.6	52.2	51.8	51.6
6	59.1	53.0	52.5	52.3	52.0	51.9	51.6	51.3	51.1
7	59.0	52.8	52.2	51.9	51.6	51.3	51.0	50.7	50.6
8	59.2	52.1	51.7	51.2	51.1	50.8	50.5	50.1	50.0
9	59.1	51.4	51.0	50.7	50.4	50.0	49.9	49.7	49.5
10	59.2	51.1	50.5	50.3	49.9	49.6	49.4	49.1	49.0
11	58.9	50.4	49.9	49.6	49.4	49.2	49.0	48.6	48.5
12	58.9	50.2	49.6	49.2	49.0	48.8	48.5	48.1	47.8
13	59.4	49.8	49.1	48.9	48.5	48.3	48.0	47.7	47.5
14	59.1	49.0	48.6	48.4	48.2	47.9	47.7	47.4	47.2
15	59.0	49.2	48.7	48.4	47.9	47.6	47.2	46.8	46.6
16	59.2	48.6	48.0	47.8	47.5	47.1	46.9	46.5	46.3
17	58.9	48.3	47.8	47.5	47.2	46.8	46.5	46.1	45.8
18	59.0	47.8	47.2	47.1	46.7	46.4	45.9	45.6	45.4
19	59.1	47.3	46.8	46.7	46.3	45.9	45.5	45.2	44.9
20	59.1	47.2	46.6	46.4	45.9	45.4	45.0	44.8	44.4
21	59.1	47.0	46.5	46.2	45.5	45.2	44.8	44.4	44.2
22	59.1	46.3	45.8	45.6	45.2	44.9	44.4	44.1	43.8
23	59.1	45.8	45.3	45.1	44.8	44.5	44.0	43.7	43.6
24	59.1	45.4	45.0	44.8	44.4	44.3	43.7	43.4	43.2
25	59.0	45.5	45.0	44.7	44.4	43.9	43.4	43.0	42.8
26	59.2	45.1	44.4	44.3	43.8	43.5	43.0	42.7	42.4
27	59.1	44.7	44.1	44.0	43.5	43.2	42.7	42.4	42.1
28	59.1	44.7	44.2	44.1	43.4	42.9	42.4	42.0	41.8
29	59.0	44.2	43.5	43.4	43.1	42.5	42.1	41.7	41.5
30	59.3	43.9	43.2	43.1	42.5	42.1	41.6	41.4	41.2

[1] Figures indicate miles above mouth. Letters indicate left or right bank.

DAILY STAGES AT 8 A.M., IN FEET ABOVE MEAN SEA LEVEL (DATUM OF 1929) OF ILLINOIS RIVER FOR JUNE 1943, AT LOCATION INDICATED IN THE COLUMN BOX HEAD.[1]

Date	Peoria Lock		Pekin Highway Bridge	Kingston Mines	Copperas Creek	Liverpool	Havana	Bath	Browning	Beardstown Highway Bridge
	Upper 157.7L	Lower* 157.6L	152.9L	145.5 R	136.8R	128.0R	119.6L	111.3	97.3R	88.6L
1	452.6	452.5	452.0	451.1	----------	449.7	449.2	448.3	447.6	447.2
2	52.0	51.9	51.4	50.6	449.4	49.2	48.7	47.7	47.4	46.7
3	51.3	51.2	50.7	49.9	48.9	48.6	48.1	47.2	46.8	46.1
4	50.9	50.8	50.3	49.4	48.3	48.1	47.6	46.7	46.2	45.6
5	50.6	50.5	50.0	49.0	47.9	47.6	47.2	46.1	45.6	45.0
6	50.2	50.2	49.6	48.7	47.6	47.3	46.8	45.7	45.0	44.6
7	49.6	49.6	49.1	48.0	47.1	46.8	46.2	45.3	44.5	44.2
8	49.1	49.0	48.6	47.5	46.6	46.4	45.7	44.9	44.1	43.8
9	48.6	48.4	48.0	47.0	46.2	45.9	45.2	44.4	43.8	43.3
10	48.0	47.9	47.5	46.5	45.8	45.4	44.5	44.0	43.4	42.9
11	47.6	47.5	47.0	46.1	45.4	45.0	44.6	43.6	43.0	42.5
12	47.0	46.9	46.6	45.6	45.1	44.6	44.2	43.2	42.6	42.1
13	46.6	46.5	46.2	45.1	44.6	44.1	43.8	42.8	42.2	41.7
14	46.2	46.1	45.8	44.8	44.1	43.8	43.3	42.4	41.9	41.4
15	45.7	45.6	45.2	44.3	43.8	43.4	43.0	42.0	41.4	40.9
16	45.4	45.3	44.8	44.0	43.4	43.0	42.7	41.6	41.0	40.5
17	44.9	44.8	44.4	43.6	43.1	42.6	42.1	41.2	40.5	40.0
18	44.5	44.4	44.0	43.1	42.5	42.1	41.6	40.8	40.0	39.5
19	44.0	43.9	43.5	42.7	42.2	41.7	41.2	40.3	39.5	39.0
20	43.6	43.5	43.0	42.3	41.8	41.3	40.8	39.9	39.1	38.6
21	43.5	43.4	43.1	42.1	41.3	41.1	40.6	39.5	38.7	38.1
22	43.0	42.9	42.5	41.8	41.0	40.8	40.3	39.1	38.4	37.8
23	42.7	42.6	42.2	41.5	40.5	40.4	40.0	38.8	38.3	37.4
24	42.2	42.2	41.8	41.2	40.2	40.1	39.7	38.5	38.0	37.1
25	41.9	41.9	41.4	40.9	40.1	39.8	39.4	38.1	37.6	36.8
26	41.5	41.5	41.0	40.5	39.7	39.4	38.9	37.8	37.3	36.4
27	41.2	41.2	40.8	40.2	39.5	39.1	38.5	37.5	36.9	36.0
28	40.8	40.8	40.4	39.8	39.2	38.8	38.2	37.2	36.4	35.6
29	40.6	40.6	40.1	39.6	39.0	38.5	38.0	37.0	35.9	35.2
30	40.2	40.2	39.8	39.3	38.8	38.2	37.7	36.7	35.5	34.8

[1] Figures indicate miles above mouth. Letters indicate left or right bank.
* Lower Readings (above 444.0) estimated.

DAILY STAGES AT 8 A.M., IN FEET ABOVE MEAN SEA LEVEL (DATUM OF 1929) OF ILLINOIS RIVER FOR JUNE 1943, AT LOCATION INDICATED IN THE COLUMN BOX HEAD.[1]

Date	New LaGrange Lock		Meredosia	Valley City	Florence	Pearl	Kampsville	Hardin	Grafton[2]
	Upper 80.2R	Lower* 80.1R	71.1C	61.6C	56.0R	43.2C	31.5R	21.6L	0.0L
1	445.1	445.0	444.4	442.4	440.3	435.9	432.3	429.3	422.7
2	44.6	44.4	43.8	41.8	39.8	35.3	31.7	28.7	21.5
3	44.0	43.9	43.3	41.4	39.3	34.7	31.3	28.2	20.5
4	43.6	43.4	42.7	40.8	38.9	34.5	31.1	28.1	20.4
5	43.0	42.9	42.2	40.4	38.5	34.2	30.8	28.0	21.0
6	42.6	42.5	41.9	40.0	38.2	34.0	30.7	28.0	21.4
7	42.4	42.4	41.6	39.7	37.9	33.8	30.6	27.9	22.2
8	41.9	41.8	41.1	39.2	37.5	33.5	30.5	28.0	23.0
9	41.5	41.4	40.7	38.7	37.1	33.2	30.4	28.1	23.6
10	41.1	40.9	40.2	38.3	36.7	33.0	30.2	28.1	24.2
11	40.6	40.4	39.8	38.0	36.5	32.9	30.5	28.5	25.1
12	40.2	40.1	39.5	37.6	36.1	32.8	30.4	28.7	25.5
13	39.9	39.8	39.1	37.2	35.8	32.6	30.2	28.6	25.7
14	39.7	39.6	38.8	37.0	35.5	32.4	30.0	28.6	25.8
15	39.2	39.0	38.4	36.6	35.2	32.2	30.0	28.5	25.9
16	38.8	38.7	38.0	36.3	35.0	32.1	30.0	28.6	26.1
17	38.4	38.2	37.6	35.9	34.6	31.9	29.9	28.5	26.2
18	37.9	37.8	37.2	35.5	34.3	31.6	29.8	28.5	26.3
19	37.5	37.4	36.7	35.1	33.9	31.3	29.6	28.4	26.4
20	37.0	36.9	36.2	34.7	33.5	31.1	29.4	28.4	26.5
21	36.6	36.6	35.8	34.3	33.2	30.9	29.4	28.4	26.7
22	36.3	36.2	35.4	33.9	32.9	30.7	29.2	28.3	26.6
23	36.0	35.8	35.1	33.6	32.6	30.4	29.1	28.1	26.5
24	35.7	35.6	34.8	33.4	32.4	30.2	28.8	27.8	26.3
25	35.4	35.2	34.4	33.0	32.0	29.9	28.6	27.7	26.3
26	35.0	34.8	34.0	32.6	31.7	29.8	28.6	27.7	26.5
27	34.6	34.5	33.6	32.3	31.4	29.6	28.4	27.6	26.4
28	34.3	34.1	33.2	31.9	31.1	29.2	28.1	27.2	26.0
29	33.9	33.7	32.8	31.4	30.6	28.8	27.6	26.7	25.2
30	33.5	33.3	32.3	30.9	30.1	28.2	26.9	25.9	24.2

[1] Figures indicate miles above mouth. Letters indicate left or right bank.
* Lower readings estimated.
[2] 7 a.m.

STAGE, IN FEET, ABOVE MEAN SEA LEVEL (DATUM OF 1929) OF WABASH RIVER AT SOUTHERN RAILWAY BRIDGE AT MT. CARMEL, ILL., FOR MAY 1943.

Date	6 a.m.	6 p.m.	Date	6 a.m.	6 p.m.	Date	6 a.m.	6 p.m.	Date	6 a.m.	6 p.m.
1	376.91	376.94	9	378.12	379.32	17	394.43	394.70	25	399.00	398.91
2	6.94	6.93	10	380.04	380.53	18	4.97	5.24	26	8.74	8.41
3	6.85	6.74	11	2.26	4.90	19	5.46	5.66	27	8.06	7.71
4	6.60	6.40	12	6.84	8.11	20	5.81	5.87	28	7.31	6.96
5	6.22	6.04	13	9.33	390.46	21	6.05	5.98	29	6.61	6.26
6	5.83	5.75	14	391.63	2.31	22	6.18	7.51	30	5.92	5.58
7	5.49	5.41	15	2.85	3.44	23	8.35	8.26	31	5.28	4.81
8	5.34	6.21	16	3.85	4.13	24	8.25	8.75			

STAGE, IN FEET, ABOVE MEAN SEA LEVEL (DATUM OF 1929) OF WABASH RIVER AT SOUTHERN RAILWAY BRIDGE AT MT. CARMEL, ILL., FOR JUNE, 1943.

Date	6 a.m.	6 p.m.	Date	6 a m.	6 p,m.	Date	6 a.m.	6 p.m.	Date	6 a.m.	6 p.m.
1	394.44	394.01	9	384.01	384.01	17	380.46	380.77	25	377.66	377.81
2	3.51	2.89	10	3.96	3.94	18	0.88	0.64	26	7.87	7.84
3	2.19	1.40	11	3.92	3.79	19	0.18	379.78	27	7.91	7.93
4	0.71	0.05	12	3.45	2.86	20	379.46	9.22	28	7.90	7.85
5	389.50	388.87	13	2.18	1.45	21	8.98	8.66	29	7.79	7.72
6	8.07	6.99	14	0.79	0.29	22	8.29	7.99	30	7.49	7.24
7	5.97	5.05	15	379.90	379.76	23	7.80	7.69			
8	4.35	4.01	16	380.04	380.25	24	7.57	7.55			

STAGE, IN FEET, ABOVE MEAN SEA LEVEL (DATUM OF 1929) OF WABASH RIVER AT GRAYVILLE, ILL., FOR MAY, 1943.

Date	7 a.m.	4 p.m.	Date	7 a.m.	4 p.m.	Date	7 a.m.	4 p.m.	Date	7 a.m.	4 p.m.
1	363.27	363.26	9	362.51	364.38	17	378.82	379.03	25	383.79	384.13
2	3.27	3.27	10	5.83	6.33	18	9.44	9.72	26	4.23	4.07
3	3.30	3.28	11	7.87	9.12	19	381.03	380.31	27	3.78	3.43
4	3.11	3.05	12	372.05	373.10	20	0.63	0.77	28	2.89	2.49
5	2.86	2.76	13	4.29	4.82	21	0.91	1.01	29	2.06	1.73
6	2.47	2.31	14	5.64	6.10	22	1.09	1.16	30	1.26	0.92
7	2.09	1.99	15	7.08	7.38	23	2.10	2.95	31	0.63	0.39
8	1.76	1.73	16	8.03	8.34	24	3.42	3.43			

STAGE, IN FEET, ABOVE MEAN SEA LEVEL (DATUM OF 1929) OF WABASH RIVER AT GRAYVILLE, ILL., FOR JUNE 1943.

Date	7 a.m.	4 p.m.	Date	7 a.m.	4 p.m.	Date	7 a.m.	4 p.m.	Date	7 a.m.	4 p.m.
1	380.04	379.71	9	370.74	370.46	17	366.95	367.07	25	363.89	364.04
2	379.21	8.86	10	0.37	0.32	18	7.18	7.19	26	3.38	4.38
3	8.46	8.04	11	0.26	0.19	19	6.87	6.62	27	4.68	4.70
4	7.48	7.06	12	0.07	369.38	20	6.18	5.65	28	4.31	4.25
5	6.38	6.02	13	369.15	8.63	21	5.57	5.37	29	4.11	3.98
6	5.54	4.88	14	7.77	7.32	22	4.97	4.80	30	3.95	3.84
7	4.27	3.09	15	6.57	6.51	23	4.49	4.34			
8	2.39	1.38	16	6.54	6.94	24	4.17	3.89			

FLOOD CRESTS

During and immediately after the floods of May 1943, systematic observations were made for the purpose of determining crest stages reached the the rivers in the flood aeras. In certain instances, parties in the vicinity at the time of the flood crest established reference points and recorded the measured vertical distance to the water surface. In other instances, reconnaissance parties, arriving only a few days, or even a few hours, after the crest, established similar reference points and by levels determined the difference in elevation to floodmarks which were still well defined. Many non-recording gages, maintained by various agencies for records of stage only, and including both permanent and temporary installations, were carefully observed to insure that crest readings were obtained. As rapidly as possible, after the floods had abated, all these marks were referred to the mean sea level datum of the United States Coast and Geodetic Survey, and at the same time many additional floodmarks were added to the records.

The Corps of Engineers, U. S. Army, were especially active in this work. With certain exceptions, as noted in the descriptions, the data in the following table of flood-crest elevations have been furnished by this organization. Data for rivers in the Illinois River Basin have been furnished by the Corps from their district office in Chicago, with a note that considerable parts of the information were taken from contract surveys by the firm of Warren & Van Praag. Data for the Kaskaskia River were furnished by the Corps from their district office in St. Louis; those from streams tributary to the Wabash River were furnished by the district office in Louisville, Ky. The Chicago and Louisville offices also have furnished descriptive information and profiles from which a part of the information with respect to previous floods has been compiled.

The relative position of the floodmarks have been identified by distances along the rivers, measured in miles upstream from the mouth. For more detailed location, a description of each point has been prepared with respect to local features, giving whenever possible, the approximate airline distance from a point shown on the U. S. Geological Survey base map for Illinois (scale 1,500,000). The arrangement of the tables is the same "downstream order" as is used in the presentation of the gaging-station records.

These records of flood-crest elevations are of special interest in presenting a limiting factor in planning future developments along the rivers; in furnishing basic information as to valley or flood-channel storage, the effects of channel constrictions, natural or artificial, and other aspects of river behavior.

FLOOD-CREST ELEVATIONS

Stream and location	Miles above mouth	Day and hour	Elevation above mean sea level (Datum of 1929)
ILLINOIS RIVER BASIN			
Des Plaines River (head of Illinois River):			
Lockport lock, lower gage	291.0R	May 22 12 m.	[1]541.4
Brandon Road Lock, upper gage	286.0L	May 22 12 m.	[1]540.3
Brandon Road lock, lower gage	285.9L	May 20 7-8 p.m.	[1]508.4
U. S. Highway 66 bridge, upstream side	278.0L	May 24 8 a.m.	[1]506.6
Illinois River:			
Dresden Island lock, upper gage	271.5L	May 23 6 p.m.	[1]506.2
Dresden Island lock, lower gage	271.4L	May 21 7 a.m. to 3 p.m.	[1]502.4
Morris, Ill., basement wall of Kindelspire residence, left bank of Ill. and Mich. canal, 450 feet upstream from bridge	263.4R	May 21 11 a.m. (about)	[1]500.9
Morris, Ill., C. of E. gage about 1000 feet downstream from bridge	263.1R	May 21 11 a.m. (about)	[1]500.6
Hill Croft Farm, 100 feet east of bridge to	261.7R	May 21	[1]500.2
Seneca, Ill., highway bridge, downstream	252.7R	May 21 6 p.m.	[1]493.8
Marseilles, Ill., upper gage at dam	247.1R	May 23 4 p.m.	[1]484.2
Marseilles, Ill., lower gage at dam	247.0R	May 21 5 p.m.	[1]480.5
Marseilles, Ill., Geological Survey gage	246.6R	May 21 8 p.m.	[1]477.2
Marseilles, Ill., "Rapids" gage	245.8L	May 21 6 p.m.	[1]476.1
Marseilles, Ill., upper gage at lock	244.6R	May 21 9 p.m.	[1]484.4
Marseilles, Ill., lower gage at lock	244.5R	May 22 1-3 a.m.	[1]471.2
Ottawa, Ill., highway bridge, downstream	239.7R	May 21	[1]467.6
Starved Rock lock, upper gage	231.0L	May 22 1-6 a.m.	[1]463.4
Starved Rock lock, lower gage	230.9L	May 22 1-6 a.m.	462.3
Utica, Ill., highway bridge, downstream	229.6R	May 22	461.9
Oglesby, Ill., Marquette Cement Company washroom; cross cut in wall	226.5L		461.5
LaSalle, Ill., highway bridge, downstream	224.7R	May 22 8 a.m.	461.0
LaSalle, Ill., Illinois Zinc Company pumphouse	223.1R		460.6
Peru, Ill., highway bridge, downstream	222.4R	May 22 7 a.m.	460.6
Peru, Ill., near; 100 feet south of CRI&P RR signal house and private road crossing	219.6R		459.9
Spring Valley, Ill., highway bridge, downstream	218.4R	May 22 8 a.m.	459.6
Spring Valley, Ill., near	217.3R		459.5
Hennepin, Ill., near	211.7L		459.0
Hennepin, Ill., near; 100 feet streamward from Greenhead Gun Club House	209.0L		458.7
Hennepin, Ill., highway bridge	207.6L	May 23 8 a.m.	458.6
Hennepin, Ill., on duck house near Princeton Gun Club; in backwater nearly two miles from channel	207.1R		458.6
Henry, Ill., step at Club House	198.6R		458.2
Henry, Ill., highway bridge	196.0R	May 23 8 a.m.	458.1
Lacon, Ill., NE cor. C. & A. R. depot	189.1L		457.8
Chillicothe, Ill., near: on State Highway 29, 350 feet NE of residence of W. Crews	185.1R		457.6
Chillicothe, Ill., near: steel drum housing 2nd pole north from Coogan gravel pit	182.1R		457.5
Chillicothe, Ill., gage	180.3R	May 24 8 a.m.	457.4
Peoria Heights, Ill., house in rear of "Middle Port Lodge," on Popular Lane	168.0R		457.3
Peoria, Ill., waterworks, on SW corner of pumphouse No. 2	166.1R		457.2
Peoria, Ill., Boat yard gage	164.2R	May 23 6 p.m. to May 24 4 a.m	457.2
Peoria, Ill., brass plate on Liberty St. power plant of Central Ill. Light Co.	162.4R		457.2
Peoria, Ill., Weather Bureau, Franklin St.	162.3R	May 24 7 a.m.	456.9
Peoria, Ill., SW bin Pabst Brewing Co., No. 2	161.6R		456.4
Peoria, Ill., NW corner of garage at residence of E. Henderson, foot of Darst St.	160.7R		456.3
Peoria lock, upper gage	157.7L	May 24 4 p.m.	456.1
Allied Mills, first house south of	157.0R		455.9
Pekin, Ill., upper flank of Pekin-LaMarsh levee, 80 feet from curve of river	155.3R		455.7
Pekin, Ill., highway bridge, upstream	152.9L	May 24 6 p.m.	455.3
Pekin, Ill., Corn Products pump plant	151.6L		455.2
Pekin, Ill., 51 feet downstream from lower discharge pipe, Rocky Ford pump house	149.8L		454.8

[1] Upstream from Starved Rock dam elevations are given to datum of 1912. To convert 1912 to 1929 at Starved Rock, subtract 0.49 foot.

FLOOD-CREST ELEVATIONS—Continued.

Stream and location	Miles above mouth	Day and hour	Elevation above mean sea level (Datum of 1929)
ILLINOIS RIVER BASIN—Continued			
Illinois River—Continued			
Kingston Mines, Ill., immediately downstream from mouth of Mackinaw River	147.6L		454.5
Kingston Mines, Ill., Geological Survey gage	145.3R	May 24 12 p.m. to May 25 4 a.m.	454.0
Kingston Mines, near	141.5L		453.3
Copperas Creek, near	139.2L		452.9
Copperas Creek, Geological Survey gage	137.4R	May 25 3 p.m.	452.7
Copperas Creek lock (abandoned) gage	136.9R		
Club House, downstream end, river corner	135.2R		452.5
	134.0		452.4
Woodyard Slough duck ground	132.3R		452.3
Liverpool, Ill., gage	128.0R	May 25, 26	452.1
Upstream from entrance to borrow pit	124.8R		452.0
Spoon River, near mouth of cottonwood tree at lower end of and approximately 190 feet from Thomspon Lake levee	120.8R		451.6
Havana, Ill., Weather Bureau gage	119.6L	May 26 7 a.m.	451.5
Havana, Ill., poplar tree 20 feet from West Matanzas Levee	119.1R		451.4
	118.1		451.3
West Matanzas pump house, boat spike in 10" cottonwood opposite first farm upstream	116.5R		451.2
West Matanzas pump house, about half a mile downstream from, boat spike in 12" birch 30' upstream from C.I.P.S. Co. transformer and 20 feet from West Matanzas levee	114.4R		450.9
West Matanzas levee, 150 feet upstream from lower flank, boat spike in 14" pecan	112.0R		450.7
Bath Chute gage, east side of Grand Island	111.3L	May 26 8 a.m.	450.6
Holmes landing, boat spike in 12" poplar	108.2R		450.6
Boat spike in 12" poplar 40 feet from Kelly Lake levee	101.7R		450.3
Kelly Lake levee, near downstream end, boat spike in 12" poplar	100.4R		450.2
Browning, Ill., temporary gage	97.3L		450.1
Sugar Creek Island, 700 feet downstream from lower end, boat spike in 2 ft. maple	94.2L		450.0
Beardstown, Ill., 1.5 miles upstream from CB&Q Ry. bridge, boat spike in 10" willow	90.2R		449.9
Beardstown, Ill., CB&Q Ry. bridge, upstream	88.8L		449.7
Beardstown, Ill., highway bridge, upstream	88.6L	May 26 1 a.m.	449.6
Beardstown, Ill., opposite downstream end of Sanitary District levee and 75 feet from levee; boat spike in 6" poplar	87.4L		449.4
South Beardstown levee, near; boat spike in tall 18" elm tree (group of three) 1800 feet upstream from T-road	84.9L		448.9
Reich Landing, across river from, 400 feet from South Beardstown levee	83.2L		448.5
New LaGrange dam, 2 miles upstream from, boat spike in 9" maple, 100 feet upstream from east-west road running from State Highway No. 100 to South Beardstown levee	82.3L		448.3
New LaGrange dam, 1 mile upstream from, boat spike in 36" maple downstream from opening to borrow pit	81.3L		448.0
New LaGrange lock, upper gage	80.2R	May 26 2 a.m.	447.3
Meredosia, Ill., Geological Survey gage	71.1L	May 26 12 m	446.6
Valley City, Ill., Geological Survey gage	61.6L	May 26 8 a.m. to 12 m.	445.0
Florence, Ill., highway bridge, downstream	56.0	May 26 8 a.m.	442.8
Pearl, Ill., C. & A. R. R. bridge, downstream	43.2	May 26 8 a.m.	439.1
Kampsville lock (abandoned) gage	31.5R	May 25 8 a.m.	436.6
Hardin, Ill., highway bridge, upstream	21.6L	May 25 8 a.m.	434.8
Grafton, Ill., mouth	0.0L	May 24 7 a.m.	432.8
North Fork Vermilion River (head of Vermilion):			
Charlotte, Ill., 1.8 miles northeast of, debris at level of low steel of highway bridge	92.7		654.4
Charlotte, Ill., 1.3 miles northeast of, line on inclined truss member of highway bridge	91.6		654.1
Charlotte, Ill., 1.1 miles north of, line on upstream side deck girder railroad bridge	91.1		654.0
Charlotte, Ill., Geological Survey gage	90.6R	May 18 12 m	653.5
Charlotte, Ill., 2.6 miles northwest of, line on southwest tubular pier of Kewley bridge	88.2		652.8

FLOOD-CREST ELEVATIONS—Continued.

Stream and location	Miles above mouth	Day and hour	Elevation above mean sea level (Datum of 1929)
ILLINOIS RIVER BASIN—Continued			
North Fork Vermilion River—Continued			
Wing, Ill., 1.5 miles east of, line on southeast tubular pier of Brown bridge	85.9		651.6
Wing, Ill., 1.5 miles northwest of, line on abutment State Highway No. 47 bridge	83.2		651.0
Wing, Ill., 2.7 miles northwest of, debris and marks 1.4 feet above floor of Veily Bridge	78.6		650.8
Lodemia, Ill., 3.3 miles east of, debris at bend in road upstream from junction South Fork	75.2		649.3
Vermilion River:			
McDowell, Ill., 3.5 miles east of, debris 0.7 foot above low steel of Smith bridge	73.2		648.8
McDowell, Ill., 2.5 miles southeast of, boat spike in hollow elm 400 feet northwest of farmhouse at Tucker's ford	70.7		648.2
McDowell, Ill., 0.5 mile east of, marks on abutments 4.0 feet below low steel of bridge	67.7		643.0
McDowell, Ill., 1.9 miles northeast of, debris on road at Howder's ford	64.5		641.0
Pontiac, Ill., Wabash Railroad bridge	60.9		636.8
Pontiac, Ill., Geological Survey gage	59.4	May 19 12 m.	654.3
Lowell, Ill., Geological Survey gage	10.4	May 21 10 a.m.	511.3
Oglesby, Ill., mouth	0		461.5
Mackinaw River:			
Congerville, Ill., 3.4 miles north of, debris 0.5 foot above low steel of Reel bridge	64.4		633.7
Congerville, Ill., 1.8 miles northwest of, bottom of concrete pump base, Knapp farm	60.6		626.1
Congerville, Ill., 2.0 miles northwest of, line on pier of U. S. Highway No. 150 bridge	59.6		623.2
Goodfield, Ill., 1.8 miles southeast of	57.3		618.3
Goodfield, Ill., 3.0 miles south of, mark on building near highway bridge	54.7		613.0
Goodfield, Ill., 3.8 miles southwest of	53.0R		606.8
Mackinaw, Ill., 2.3 miles northeast of, boat spike on power pole near Tyrrell bridge	49.2		596.8
Mackinaw, Ill., 0.7 mile north of, debris on abutments of highway bridge	46.3		590.6
Mackinaw, Ill., 0.9 mile northwest of	45.6		589.7
Mackinaw, Ill., 0.9 mile west of, at Pennsylvania Railroad bridge	44.3		585.5
Mackinaw, Ill., 0.9 mile west of, marks on west pier, 3.2 feet below low steel of highway bridge	44.2		585.1
Mackinaw, Ill., 2.2 miles southwest of, marks at upstream end right abutment 1.1 feet below low steel of CCC & St. L. Railway bridge	42.7		579.4
Mackinaw, Ill., 2.2 miles southwest of, line on west abutment 5.3 feet below low steel of State Road No. 9 bridge	42.6		578.3
Mackinaw, Ill., 2.9 miles southwest of, line on each abutment of private road bridge	41.5		573.8
Mackinaw, Ill., 4.3 miles southwest of, Vaughter bridge	38.3		565.7
Hopedale, Ill., 3 miles north of, on 24" double walnut, north side of road, 100 feet west of Bolinger bridge	36.3		558.5
Hopedale, Ill., 3½ miles northwest of, line on poles at Mat Smith bridge	34.6		553.6
Hopedale, Ill., 3 miles northwest of, mark on pier of State Road No. 121 bridge	29.7		542.3
Hopedale, Ill., 3¾ miles northwest of, in sec. 19, Hopedale Twp., at top of fence	28.6		538.0
Delavan, Ill., 6.1 miles northeast of, at Town Line highway bridge	27.2		533.2
Delavan, Ill., 5.4 miles north of, line on trees near Dillon & Delavan highway bridge	23.2		523.8
Delavan, Ill., 4.9 miles north of, spike in maple tree near center sec. 16	21.2		518.8
Green Valley, Ill., 4.2 miles northeast of, line on tree near highway bridge	19.4		512.7
Green Valley, Ill., 4.0 miles northeast of, debris on fence near highway bridge	17.2		505.3
Green Valley, Ill., 2.7 miles north of, at Chicago and Alton Railroad bridge	14.4		495.8

FLOOD-CREST ELEVATIONS—Continued.

Stream and location	Miles above mouth	Day and hour	Elevation above mean sea level (Datum of 1929)
ILLINOIS RIVER BASIN—Continued			
Mackinaw River—Continued			
Green Valley, Ill., 2.6 miles north of, at Illinois Central Railroad bridge	13.8		493.1
Green Valley, Ill., 2.7 miles north of, near Chicago and Northwestern Railroad bridge	13.4		491.6
Green Valley, Ill., Geological Survey gage	13.2	May 19 6 p.m.	491.3
Green Valley, Ill., 2.5 miles northwest of, on road near south quarter-corner sec. 16	11.8		486.3
Parkland, Ill., 3.2 miles southeast of, marks on north pier, 4.1 feet below top of concrete of Wagonseller bridge	10.1		479.7
Parkland, Ill., 1.8 miles southeast of, on road near southeast corner sec. 12	8.5		472.5
Parkland, Ill., 1.7 miles northeast of, line on west abutment of highway bridge, 4.7 feet below top of concrete	6.3		464.7
Parkland, Ill., 2.1 miles northeast of, gage on Chicago & Illinois Midland Railroad bridge	5.8	May 19	461.9
Kingston Mines, Ill., mouth	0		454.5
Sangamon River:			
Centerville, Ill., highway bridge	175.8		*660.4
Centerville, Ill., half a mile south of, at highway bridge	175.2		*659.1
White Heath, Ill., 1.1 miles northwest of, on northeast wingwall of Illinois Central Railroad bridge, 15" below 1926 high-water mark	172.7		*656.0
White Heath, Ill., 1.2 miles northwest of, bottom of concrete floor of Ross bridge	172.6		*655.9
White Heath, Ill., 2.4 miles southwest of, at bridge north of Slabtown school	170.1		*652.3
Monticello, Ill., Geological Survey gage	164.6	May 18 4 p.m.	643.6
Monticello, Ill., 9 miles southwest of, 10" below floor of Hog Chute bridge	155.8		636.5
Cerro Gordo, Ill., 4 miles north of, bottom of floor of Cronninger bridge	152.2		632.0
Cerro Gordo, Ill., 4.5 miles northwest of, at S. A. highway bridge	146.0		624.4
Cerro Gordo, Ill., 5.5 miles northwest of, at highway bridge south of Kirby school	142.7		622.8
Decatur, Ill., 5.6 miles northeast of, at Rea bridge	138.2		619.9
Decatur, Ill., 4.6 miles northeast of, base of white poplar at Faries Park	137.1		619.3
Decatur, Ill., above waterworks dam	130.7		616.8
Decatur, Ill., Illinois Central Railroad bridge	130.5		607.1
Decatur, Ill., gage at sewage disposal plant	126.8		601.8
	124.0		598.8
Harristown, Ill., bridge 3 miles south of	119.6		597.0
Lincoln Trail bridge	116.7		590.7
	111.7		581.5
Illiopolis, Ill., bridge 2½ miles south of	108.6		573.8
	107.8		571.3
Mechanicsburg, Ill., 4 miles southeast of, at Bolivia bridge	102.3		560.0
Mechanicsburg, Ill., 4½ miles south of, boat spike in large soft maple 200 feet north of Roby bridge	98.8		555.6
	97.7		554.5
	96.1		551.5
Riverton, Ill., 6½ miles southeast of, at old Buckhart bridge	92.5		546.8
Riverton, Ill., 4 miles southeast of, line on telephone junction box at Long bridge	88.5		542.9
Riverton, Ill., 1½ miles south of, line on glass of house northeast of Clear Lake bridge	84.9		541.0
Riverton, Ill., Geological Survey gage	82.3	May 19 8 a.m.	539.9
Riverton, Ill., Wabash Railway bridge	82.1		539.5
Riverton, Ill., 1 mile northwest of, at U. S. Highway No. 54 bridge	80.8		538.0
Riverton, Ill., 1.1 mile northwest of, on cabin	80.7		537.6
Riverton, Ill., 3.5 miles northwest of, marks on embankment of Illinois Terminal Railroad	76.1		529.8
Springfield, Ill., 4 miles north of, at Chicago and Illinois Midland Railroad bridge	73.5		527.9
Springfield, Ill., 5 miles north of, at Walnut street road, State Highway No. 29	70.7		526.2

* Elevations upstream from Monticello are approximate.

FLOOD-CREST ELEVATIONS—Continued.

Stream and location	Miles above mouth	Day and hour	Elevation above mean sea level (Datum of 1929)
ILLINOIS RIVER BASIN—Continued			
Sangamon River—Continued			
Springfield, Ill., 5 miles north of, at Chinquapin bridge	70.2		525.7
Athens, Ill., 3.7 miles south of, Irwin bridge	57.4		516.8
Athens, Ill., 2.3 miles west of, Wiseman bridge	52.3		514.4
Petersburg, Ill., 1.8 miles south of, Abe Lincoln (Dixon Memorial) bridge	46.3		510.2
Petersburg, Ill., 1.1 miles south of, Chicago and Illinois Midland Railroad bridge	45.4		509.1
Petersburg, Ill., Corps of Engineers staff gage	44.0		507.9
Petersburg, Ill., 2.8 miles north of, Chicago and Alton Railroad bridge	40.4		501.2
Petersburg, Ill., 5.3 miles north of, Altig bridge	37.4		497.5
Petersburg, Ill., 8.1 miles north of, at mouth of Salt Creek	33.0		493.4
Oakford, Ill., 6.6 miles northeast of	30.7		488.8
Oakford, Ill., 2.6 miles northeast of, at old Oakford bridge	26.7		482.7
Oakford, Ill., Geological Survey gage	24.3	May 20 2 a.m.	478.5
Oakford, Ill., 1.7 miles northwest of	23.9		478.0
	20.9		473.2
Chandlerville, Ill., highway bridge	14.0		462.5
	10.0		455.8
Browning, Ill., mouth, temporary gage	0		450.1
South Fork Sangamon River:			
Taylorville, Ill., southeast of, about 1 mile	59.5		579.0
Taylorville, Ill., 2 miles south of, at "Iron" bridge	57.0		576.6
Taylorville, Ill., 4 miles southwest of, at Wabash Railway bridge	54.1		571.0
Taylorville, Ill., 3½ miles west of, in Sec. 31	49.6		566.9
Taylorville, Ill., 4 miles west of, near mouth of Panther Creek	47.4		566.1
Kincaid, Ill., 1 mile northeast of, at bridge	39.5		563.7
Kincaid, Ill., 1½ miles north of, upstream from bridge	37.9		562.7
	33.7		560.4
Edinburg, Ill., 2¾ miles southwest of, at bridge near Greenwood school	33.5		559.3
Edinburg, Ill., 2½ miles west of, at bridge	29.5		553.0
Edinburg, Ill., 5½ miles northwest of, boat spike in vertical plank at northeast approach Cascade bridge	21.6		548.5
	21.0		547.8
Rochester, Ill., 4½ miles south of, at bridge 1½ miles northeast of New City	18.8		547.2
Rochester, Ill., 4 miles south of, at bridge 1 mile north of New City	14.8		545.1
Rochester, Ill., 2 miles southwest of, at bridge	8.9		544.1
Rochester, Ill., 1¾ miles west of, at bridge near Poffenberger school	6.4		543.2
Rochester, Ill., 2 miles north of, at bridge	3.1		542.1
Riverton, Ill., 2 miles south of, at mouth (interpolated from Sangamon River elevations)	0		541.2
Salt Creek:			
Rowell, Ill., Geological Survey gage	63.8	May 18 2 p.m.	*634.8
Kenney, Ill., 1 mile north of, at bridge	61.4		628.1
Kenney, Ill., 1½ miles northwest of, at Pennsylvania Railroad bridge	58.2		621.8
Kenney, Ill., 2 miles northwest of, at highway bridge (site of former Geological Survey gage)	57.5		*619.5
Chestnut, Ill., 2 miles north of, at bridge	51.4		605.5
Chestnut, Ill., 2 miles west of, Donnan bridge	48.1		596.8
Mt. Pulaski, Ill., 3¼ miles north of, at State Highway No. 121 bridge	42.6		583.8
Mt. Pulaski, Ill., 4 miles northwest of, at bridge near Sugar Grove School	38.8		573.2
Mt. Pulaski, Ill., 4¾ miles northwest of, at Timm Road bridge	37.2		571.3
Lincoln, Ill., 5 miles south of, at Fitzimons bridge	34.6		563.6
Lincoln, Ill., 3½ miles south of, on Lake Fork near mouth	32.5		561.6
Lincoln, Ill., 5 miles west of, at Rankin bridge	23.8		544.1
Middletown, Ill., 2 miles east of, at bridge across old channel	17.6		529.9
Middletown, Ill., 1½ miles north of, at farmhouse northwest of highway bridge	15.3		525.4

* Determined by Geological Survey.

FLOOD-CREST ELEVATIONS—Continued.

Stream and location	Miles above mouth	Day and hour	Elevation above mean sea level (Datum of 1929)
ILLINOIS RIVER BASIN—Continued			
Salt Creek—Continued			
Middletown, Ill., 1½ miles north of, at Chicago and Alton Railroad bridge	14.9		524.7
Mason City, Ill., 3 miles southeast of, at Hubley bridge, 4.4 feet below top of upstream handrail, near center of stream	8.9		*509.6
Greenview, Ill., Geological Survey gage	4.9		499.5
Greenview, Ill., 3½ miles northwest of, at highway bridge	2.0		494.9
Petersburg, Ill., 8.1 miles north of, mouth	0		493.4
Jones Fork:			
Mt. Pulaski, Ill., 8¼ miles southeast of, near field bridge in sec. 12	†26.6		597.7
Mt. Pulaski, Ill., 7¾ miles southeast of, at S. A. Highway No. 4 bridge	25.8		595.8
Mt. Pulaski, Ill., 7½ miles southeast of, 2 feet above top of northeast tubular pier of bridge east of cemetery	25.0		594.4
Mt. Pulaski, Ill., 7½ miles southeast of, 0.3 foot above transverse I-beams of bridge	24.0		591.6
Mt. Pulaski, Ill., 6 miles southeast of, 2.0 feet below top of northeast tubular pier of S. A. Highway No. 4 bridge	22.0		587.2
Lake Fork:			
Mt. Pulaski, Ill., 4½ miles south of, at bridge in sec. 12	19.1		582.8
Cornland, Ill., 6 miles east of, 0.5 foot below low steel, upstream end of right abutment of Primm bridge (S. A. Highway No. 1)	17.7		580.8
Cornland, Ill., 5 miles east of, 0.6 foot above bridge floor	16.7		579.3
Cornland, Ill., 4 miles east of, about 0.5 foot above bridge floor	15.6		578.5
Cornland, Ill., 2½ miles northeast of, 1.68 feet above left upstream tubular pier of bridge	13.8		577.5
Cornland, Ill., 1½ miles northeast of, 0.7 foot below low steel of U. S. Highway No. 54 bridge	12.53		577.3
Cornland, Ill., 1½ miles northeast of, mark in yellow keel on upstream side of right flood span 60 feet from right abutment of Illinois Central Railroad bridge	12.5		577.5
Cornland, Ill., 1½ miles northeast of, debris and wash marks at upstream end of right abutment of Illinois Central R. R. bridge	12.5		577.0
Cornland, Ill., 1½ miles northeast of, on upstream side of left flood span, 0.5 foot above low concrete, Illinois Central Railroad bridge	12.5		577.0
Cornland, Ill., 1½ miles northeast of, debris and wash marks, upstream end of left abutment Illinois Central Railroad bridge	12.5		576.9
Cornland, Ill., 1½ miles northeast of, mark in yellow keel "H. W. 5-17-43" upstream end left abutment, 0.24 foot above low concrete	12.5		576.8
Cornland, Ill., 1½ miles northeast of, debris and wash marks at downstream end of right abutment of Illinois Central Railroad bridge	12.5		576.7
Cornland, Ill., 1½ miles northeast of, debris and wash marks at downstream end of left abutment of Illinois Central Railroad bridge	12.5		576.6
Cornland, Ill., 1½ miles northeast of, 1.5 feet above top of southeast tubular pier of bridge on gravel road	12.4		576.6
Cornland, Ill., 2½ miles north of, 2.1 feet above floor of bridge near center sec. 35	10.2		573.6
Cornland, Ill., 3½ miles north of, 0.7 foot above floor of bridge over old channel	9.1R		573.3
Cornland, Ill., 3½ miles north of, 2.9 feet above floor of bridge over dredged channel	9.1L		572.7
Cornland, Ill., 4¼ miles north of, at bridge near center of sec. 23	7.9		572.0
Cornland, Ill., 4½ miles north of, 4.0 feet above floor of bridge near northwest corner sec. 23	7.2		571.4
Broadwell, Ill., 2 miles south	4.4		570.3
Broadwell, Ill., 2.0 feet above bridge floor	2.3		568.7
Broadwell, Ill., 2 miles northeast of, at bridge	0.5		564.2
Lincoln, Ill., 3½ miles south of, mouth	0		561.6

* Determined by Geological Survey.

† Miles run continuously from mouth of Lake Fork; mouth of Jones Fork is Mile 21.0.

FLOOD-CREST ELEVATIONS—Continued.

Stream and location	Miles above mouth	Day and hour	Elevation above mean sea level (Datum of 1929)
Kaskaskia River Basin			
Kaskaskia River:			
Chesterville, Ill., Pennsylvania R. R. bridge	287.5		646.7
	287.2		646.2
State Highway No. 121 bridge, 1.8 miles upstream from Jonathan Creek	258.2		615.3
State Highway No. 32 bridge, 0.8 mile downstream from Whitley (Apple) Creek	249.1		600.8
County bridge, 0.8 mile downstream from West Okaw Creek	238.6		580.9
	234.5		577.9
County bridge, 2.1 miles upstream from Sand Creek	232.3		572.9
	228.0		568.4
	224.0		560.6
Shellenbarger bridge, Geological Survey gage	223.9		560.5
	221.55		557.1
Shelbyville, State Highway No. 16 bridge, Geological Survey gage	221.45	May 19 8 a.m.	557.0
	221.25		556.7
	216.85		550.2
County bridge, 0.5 mile upstream from Robinson Creek	213.5		544.4
County bridge, 1.4 miles upstream from Jordan Creek	208.4		536.4
Point 0.7 mile upstream from Howe Creek	205.5		529.0
County Bridge	200.85		524.4
Point 0.05 mile upstream from N. Y. C. & St. L. Railroad bridge	199.0		522.3
County bridge 0.6 mile downstream from State Highway No. 128 bridge	196.50		517.3
Point 0.6 mile downstream from Fanny Branch	193.00		514.4
Mitchell Creek	185.00		504.2
Point 2.2 miles downstream from Hog (Wolf) Creek	182.00		499.6
County bridge 2.75 miles upstream from Big Creek	181.85		499.3
Point 2.7 miles upstream from Ash Creek	178.50		495.3
Point 0.1 mile downstream from Suck Creek	174.00		492.6
Point 1 mile upstream from Ramsey (Boaz) Creek	173.50		490.7
	172.00		489.3
Steel truss bridge	168.00		487.4
	166.10		485.6
	162.25		480.8
Pennsylvania Railroad bridge	160.90		479.0
Vandalia, Ill., Geological Survey gage	160.85	May 17 7 p.m.	478.6
	158.50		473.6
	158.00		471.2
Point 0.5 mile upstream from Richland Creek	154.50		468.7
Bridge	153.50		467.7
	152.00		464.3
	151.1		462.5
County bridge 0.3 mile downstream from Buck Creek	147.6		460.6
	143.25		457.6
Point 2.75 miles upstream from Hurricane Creek	138.25		451.6
	133.00		448.2
Point 0.1 mile downstream from East Fork	128.00		445.8
Chicago, Burlington & Quincy Railroad bridge	124.43		444.5
	119.00		441.8
Point 1.45 miles upstream from Allan Branch	115.25		439.9
	108.50		438.7
Point 0.1 mile upstream from U. S. Highway No. 50 bridge	105.85		437.0
Carlyle, Ill., Geological Survey gage	105.75	May 21 3 a.m.	436.6
Point 0.05 mile downstream from State Highway No. 127 bridge	100.15		430.1
Point 1.7 miles downstream from Stone Quarry Creek	97.50		426.9
Point 0.05 mile upstream from Southern Railway bridge	96.45		426.3
Point 0.2 mile downstream from State Highway No. 161 bridge	96.10		425.5
Wells Ferry bridge	93.90		424.7
	91.50		424.1
	91.25		423.6
Point 1.55 miles downstream from Crooked Creek	87.35		420.3
	86.00		418.7
	83.00		416.7
	79.75		414.5

FLOOD-CREST ELEVATIONS—Continued.

Stream and location	Miles above mouth	Day and hour	Elevation above mean sea level (Datum of 1929)
KASKASKIA RIVER BASIN—Continued			
Kaskaskia River—Continued			
Point 0.4 mile downstream from Plum Creek	77.00		413.4
Point 0.05 mile upstream from Shoal Creek	75.25		412.5
Point 0.1 mile downstream from Sugar Creek	73.00		410.4
State Highway No. 15 bridge	70.50		409.8
	70.50		408.9
	68.00		407.7
Point 0.8 mile downstream from Elkhorn Creek	61.50		405.2
	56.00		404.6
State Highway No. 110 bridge	50.80		402.4
	50.65		401.6
Point 0.1 mile downstream from Mud Creek	48.00		401.6
	46.50		401.3
Illinois Central Railroad bridge, 0.35 mile downstream from Silver Creek	41.65		399.4
State Highway No. 13 bridge	41.50		399.1
New Athens, Ill., Geological Survey gage	40.90	May 23 2 p.m.	398.8
Point 4.5 miles downstream from Lively Branch	35.50		397.6
	31.00		397.3
Point 0.8 mile downstream from Richland Creek	27.00		395.2
Gulf, Mobile & Ohio Railroad bridge, 3.1 miles downstream from Doza Creek	21.50		393.6
Point 0.2 mile downstream from State Highway No. 154 bridge	21.10		393.5
Point 2.3 miles upstream from Plum Creek	16.50		392.0
Point 0.26 miles downstream from Horse Creek	12.34		390.4
State Highway No. 3 bridge	11.60		389.9
	5.50		386.8
Missouri and Illinois Railroad bridge	4.15		386.1
	3.90		385.8
	2.90		385.4
Point 0.05 mile downstream from Missouri Pacific Railroad bridge	2.65		385.1
	1.00		384.3
Wabash River Basin			
Middle Fork Vermilion River (head of Vermilion):			
Danville, Ill., 6 miles west of, upstream from highway bridge	33.6		562.4
Downstream from highway bridge	33.6		562.1
Danville, Ill., 5½ miles west of, upstream from Peoria and Eastern Railroad bridge	31.7		555.5
Downstream from railroad bridge	31.7		555.2
Danville, Ill., 5½ miles west of, upstream from U. S. Highway No. 150 bridge	31.6		553.5
Downstream from highway bridge	31.6		553.2
Vermilion River:			
Catlin, Ill., Geological Survey gage	30.3	May 18 12 p.m.	550.4
Downstream from highway bridge	30.3		550.3
Danville, Ill., 2 miles west of, upstream from industrial railroad bridge (Western Brick Co.)	25.3		546.7
Downstream from industrial railroad bridge	25.2		545.9
Danville, Ill., upstream from New York Central railroad bridge	23.5		543.1
Downstream from railroad bridge	23.4		542.6
Danville, Ill., upstream from highway bridge	22.7		540.4
Downstream from highway bridge	22.7		540.4
Danville, Ill., upstream from Illinois Terminal railroad bridge	22.4		540.0
Downstream from railroad bridge	22.4		539.5
Danville, Ill., upstream from Wabash Railway bridge	22.1		539.0
Downstream from railroad bridge	22.1		538.5
Danville, Ill., upstream from highway bridge	21.8		538.0
Downstream from highway bridge	21.8		537.9
Danville, Ill., 2½ miles southeast of, upstream from Chicago and Eastern Illinois railroad bridge	19.8		531.2
Downstream from railroad bridge	19.7		530.8
Danville, Ill., Geological Survey gage	19.4	May 19 2 a.m.	530.4
Danville, Ill., 3½ miles southeast of, at highway bridge	18.2		528.3
	13.3		520.9
Danville, Ill., 7½ miles southeast of, upstream from highway bridge	13.2		520.7

FLOOD-CREST ELEVATIONS—Continued.

Stream and location	Miles above mouth	Day and hour	Elevation above mean sea level (Datum of 1929)
WABASH RIVER BASIN—Continued			
Vermilion River—Continued			
Downstream from highway bridge	13.2		520.1
Eugene, Ind., 4 miles northwest of, upstream from highway bridge	7.9		511.1
Downstream from highway bridge	7.8		510.4
Eugene, Ind., upstream from highway bridge	3.1		502.9
Eugene, Ind., downstream from highway bridge	3.1		502.8
	3.0		502.5
Cayuga, Ind., upstream from Chicago and Eastern Illinois Railroad bridge	1.5		499.2
Downstream from railroad bridge	1.5		498.7
Cayuga, Ind., upstream from State Highway No. 63 bridge	0.6		498.6
Downstream from highway bridge	0.6		498.6
Salt Fork Vermilion River:			
Oakwood, Ill., 2¼ miles south of, upstream from highway bridge	6.2		569.1
Downstream from highway bridge, 20 feet	6.2		568.8
Downstream from highway bridge, 140 feet	6.2		568.1
North Fork Vermilion River:			
Danville, Ill., upstream from bridge	2.8		543.9
Danville, Ill., downstream from bridge	2.8		543.8
	2.7		543.4
Danville, Ill., upstream from Peoria and Eastern Railroad bridge	1.2		543.3
Downstream from railroad bridge	1.2		541.1
	1.1		541.0
	1.0		541.0
	0.6		540.8
	0.5		540.4
	0.4		540.0
Embarrass River:			
Falmouth, Ill., 2 miles west of, near bridge	66.4		495.2
	66.3		494.6
	62.9		490.1
Newton, Ill., ½ mile north of, near highway bridge	60.5		487.9
Newton, Ill., ½ mile north of, near Illinois Central Railroad bridge	60.4		487.6
Newton, Ill., upstream from State Highway No. 33 bridge	59.6		486.1
Newton, Ill., Geological Survey gage	59.5	May 20 1 p.m.	485.9
Newton, Ill., 300 feet downstream from State Highway No. 33 bridge	59.5		485.8
Newton, Ill., 2½ miles southeast of, upstream from Illinois Central Railroad bridge	56.9		482.3
Downstream from Railroad bridge	56.9		481.7
	51.6		475.8
Ste. Marie, Ill., upstream from highway bridge	47.2		470.2
Ste. Marie, Ill., Geological Survey gage	47.2	May 20 10 p.m.	470.1
Ste. Marie, Ill., 2¾ miles southeast of, 0.6 mile downstream from North Fork, near Yeager bridge	42.9		464.7
	42.8		464.6
Pierceburg, Ill., 7 miles southwest of, upstream from highway bridge	38.8		457.8
Downstream from highway bridge	38.8		456.9
Pierceburg, Ill., 6 miles southwest of, upstream from highway bridge	35.9		456.1
Downstream from highway bridge	35.9		455.1
Pierceburg, Ill., 4 miles south of, upstream from Green Briar highway bridge	31.1		449.3
Downstream from Green Briar highway bridge	31.1		448.4
	29.9		447.2
Hardinville, Ill., 2½ miles southwest of, 0.3 mile downstream from Big Creek, upstream from Spencer highway bridge	28.1		445.0
Downstream from Spencer highway bridge	28.1		443.4
Point 1.2 miles downstream from Honey Creek	22.3		437.8
Westport, Ill., near highway bridge	17.2		435.0
	17.1		434.7
Point near mouth of Eagle Branch	15.1		431.9

FLOOD-CREST ELEVATIONS—Continued.

Stream and location	Miles above mouth	Day and hour	Elevation above mean sea level (Datum of 1929)
WABASH RIVER BASIN—Continued			
Embarrass River—Continued			
Pinkstaff, Ill., 3¾ miles southwest of, upstream from highway bridge	12.2		427.7
Downstream from highway bridge	12.2		427.6
	9.7		426.9
	9.5		426.4
Lawrenceville, Ill., upstream from Cleveland, Cincinnati, Chicago and St. Louis Railroad bridge	8.3		425.3
Downstream from railroad bridge	8.3		425.3
	8.0		425.1
	7.2		424.9
Lawrenceville, Ill., upstream from Baltimore and Ohio Railroad bridge	6.3		424.3
Downstream from railroad bridge	6.3		424.0
Billett, Ill., 1 mile east of, near highway bridge	1.7		421.3
	1.6		420.6
St. Francisville, Ill., 4 miles northeast of	0.1		420.5
Little Wabash River:			
Louisville, Ill., 1 mile north of, downstream side of highbridge	*154		*451.9
Clay City, Ill., 1¾ miles east of, upstream from Baltimore and Ohio Railroad bridge	137.4		424.1
	137.1		423.4
Clay City, Ill., 2 miles east of, downstream from U. S. Highway No. 50 bridge	136.8		422.6
	132.5		420.5
Wilcox, Ill., Geological Survey gage	128.4	May 20 6 a.m.	418.1
	123.7		412.9
Wynoose, Ill., 1 mile south of, upstream from highway bridge	118.2		409.0
Downstream from highway bridge	118.2		408.6
	114.0		407.7
Blood, Ill., upstream from highway bridge	106.0		404.2
Downstream from highway bridge	106.0		403.8
Upstream from highway bridge	105.3		402.5
Downstream from highway bridge	105.3		402.4
	104.6		401.8
Blood, Ill., 1¼ miles south of, upstream from highway bridge	103.8		397.9
Downstream from highway bridge	103.8		397.7
Blood, Ill., 4 miles south of, upstream from highway bridge	97.8		396.1
Downstream from highway bridge	97.8		396.0
	94.8		391.5
Golden Gate, 5½ miles north of, upstream from highway bridge	92.1		388.8
Downstream from highway bridge	92.1		388.7
Golden Gate, 2½ miles north of, upstream from highway bridge	85.8		388.1
Downstream from highway bridge	85.7		387.8
Golden Gate, Ill., 1¾ miles northwest of, upstream from State Highway No. 15 bridge	81.5		387.3
Downstream from highway bridge	81.5		387.0
Golden Gate, Ill., 1 mile west of, upstream from Southern Railroad bridge	80.4		387.0
Downstream from railroad bridge	80.4		386.6
Golden Gate, Ill., upstream from highway bridge	79.3		386.3
Downstream from highway bridge	79.3		386.2
Golden Gate, Ill., 2 miles south of, upstream from highway bridge	76.1		386.2
Downstream from highway bridge	76.1		386.0
Golden Gate, Ill., 4 miles south of, upstream from highway bridge	71.7		385.3
Downstream from highway bridge	71.7		385.2
Golden Gate, Ill., 4¾ miles southeast of, upstream from highway bridge	70.4		385.2
Downstream from highway bridge	70.4		385.1
	70.2		385.0
	67.5		384.6
Grayville, Ill., 7½ miles west of, near Puntney highway bridge	62.5		384.3
Grayville, Ill., 6 miles west of, upstream from Heights highway bridge	57.4		384.2
Downstream from highway bridge	57.3		384.2

* Determined by Geological Survey.

FLOOD-CREST ELEVATIONS—Continued.

Stream and location	Miles above mouth	Day and hour	Elevation above mean sea level (Datum of 1929)
WABASH RIVER BASIN—Continued			
Little Wabash River—Continued			
Calvin, Ill., 4 miles west of, upstream from Hanks Ferry highway bridge	53.2		382.9
Downstream from highway bridge	53.1		382.5
	51.6		382.2
Crossville, Ill., 2¼ miles northwest of, upstream from Cherry highway bridge	47.9		381.5
Downstream from highway bridge	47.8		381.3
	43.7		380.7
	41.7		380.5
Point 1.0 mile downstream from Skillet Fork	38.9		378.5
	38.5		378.2
Carmi, Ill., upstream from Cleveland, Cincinnati, Chicago and St. Louis Railroad bridge	34.0		377.6
Downstream from railroad bridge	33.9		376.0
Carmi, Ill., downstream from highway bridge Geological Survey gage (auxiliary)	33.7		375.9
Carmi, Ill., Geological Survey gage	30.6	May 25 7 a.m. to 3 p.m.	374.1
Carmi, Ill., 2 miles south of, downstream from Possum highway bridge	30.5		373.9
	27.5		372.8
	23.3		370.4
	18.7		366.7
	16.1		365.2
	13.5		364.2
Concord, Ill., ¾ mile southwest of, upstream from highway bridge	10.0		362.3
Downstream from highway bridge	9.9		362.2
	6.4		359.4
New Haven, Ill., gage at highway bridge	2.9		358.6
New Haven, Ill., 2 miles southeast of, gage at mouth	0		357.8
Skillet Fork:			
Wayne City, Ill., 3¼ miles northwest of, upstream from highway bridge	47.5		407.8
Downstream from highway bridge	47.5		407.6
Wayne City, Ill., 1 mile north of, upstream from State Highway No. 15 bridge	42.5		405.2
Downstream from highway bridge	42.4		405.0
Wayne City, Ill., Geological Survey gage	41.9	May 12 6 a.m. & May 20 12 m.	404.4
Wayne City, Ill., 1 mile northeast of, upstream from Southern Railroad bridge	40.9		402.1
Downstream from railroad bridge	40.9		401.8
Wayne City, Ill., 1½ miles east of, upstream from highway bridge	38.5		399.3
Downstream from highway bridge	38.4		399.2
Wayne City, Ill., 3¾ miles southeast of, upstream from highway bridge	34.4		392.7
Downstream from highway bridge	34.4		392.5
Wayne City, Ill., 6½ miles southeast of, upstream from highway bridge	27.8		385.0
Downstream from highway bridge	27.8		384.5
Mill Shoals, Ill., 4½ miles northwest of, downstream from highway bridge	24.4		380.4
Mill Shoals, Ill., ¾ mile west of, upstream from highway bridge	19.8		380.3
Downstream from highway bridge	19.8		380.1
Mill Shoals, Ill., 1¼ mile south of, near Baltimore and Ohio Railroad bridge	18.4		380.1
Enfield, Ill., 5½ miles northeast of, upstream from highway bridge	11.5		380.1
Downstream from highway bridge	11.5		380.0
Sumpter, Ill., upstream from highway bridge	7.2		380.0
Downstream from highway bridge	7.1		379.7
Sumpter, Ill., 3½ miles east of, upstream from highway bridge	3.4		379.2
Downstream from highway bridge	3.4		378.8

COMPARISON WITH PREVIOUS FLOODS

This section does not purport to present records of previous floods in a comprehensive or exhaustive manner. It is intended to serve as a partial bibliography of the meager data which heretofore have been prepared, and to preserve and make available certain fragmentary bits of information which otherwise might not be published.

Systematic observation of the stage and discharge of rivers in the United States covers only a short period of time, and has been said to be comparatively in its infancy. This is particularly true in Illinois. Except at a few points on the boundary streams, observations were not begun until 1903. Records on a few of the smaller streams were obtained from 1908 to 1912, but the program was then largely discontinued until the disastrous flood of March 1913 produced a renewal of public interest and a reestablishement of some of these stations in 1914. Most of the stations, however, were established at much more recent dates; many of them within the last 10 years.

Information regarding those floods which have occurred since the establishment of the gaging stations is published currently in the water-supply papers of the U. S. Geological Survey. In this series of papers for the water year 1939 there also appears special summaries of yearly discharge for all gaging stations, both active and discontinued, at which 10 or more complete years of record have been collected and published. These summaries include the maximum daily discharge for each water year and each calendar year from date of earliest published record through the water year 1939. It should be noted, however, that these tables are not suitable for flood frequency studies, since they contain only the one highest discharge in each year.

Water-Supply Paper 771, "Floods in the United States—magnitude and frequency" contains an extensive compilation, from water-supply papers and other sources, of records of floods on certain streams covered in this report. These streams are, in general, those for which the periods of systematic observation had exceeded 25 or 30 years at the time of preparation of the report.

The reports of the Corps of Engineers, U.S. Army, on the development and utilization of many of the rivers of the country, published under the provisions of law contained in House Document 308, 69th Congress, 1st session, are sources of information regarding historical floods, and contain data with regard to both stage and discharge.

The "Daily River Stages" of the U. S. Weather Bureau contain records of Weather Bureau gages on many of the larger streams.

For the gaging stations which appear in this report, each description provides a statement concerning the maximum stage and discharge of the floods of 1943 and the maximum previously known, thereby offering a comprehensive basis for comparisons. The data which conprise the remainder of this discussion are presented to give a more general picture, and in certain instances, to provide a definite basis of comparison at specific points not included among the active gaging stations. The information is presented in the same "downstream order" as is used in the arrangement of the gaging station records and the table of flood-crest elevations.

Along the Illinois River, from Starved Rock to the mouth, all previously recorded stages were exceeded in May 1943.

Along the Vermilion River from Charlotte to Pontiac, the May 1943 stages were exceeded in 1902 and 1933, and also in August 1943.

For the Mackinaw River, the stages of August 1943 closely approached those for May 1943 at points upstream from the village of Mackinaw, but were not highest of record. At Green Valley and at the Chicago and Illinois Midland Railroad bridge, the stages appear to be the same as those of 1927. Upstream from Green Valley the May 1943 flood was exceeded at all points in 1927, and at many points in 1924 and 1929. At the Bollinger bridge (mile 36.3) a flood in 1883 is said to have reached an elevation of 563.6, or 5.1 feet higher than that for 1943.

Upstream from a point near the Macon-Piatt County line, the Sangamon River reached a higher stage in 1926. The records for Monticello, however, indicate the discharge was greater in 1943 than in 1926. Downstream from the above-mentioned point, both the stage and discharge of 1943 were the greatest known.

Near Taylorville, on the South Fork of the Sangamon, the 1943 stage was practically the same as that of 1922, although further downstream the 1943 marks were lower by a foot or two. At site of former station at Kincaid the 1943 stage was 26.7 feet (from floodmarks), compared with observed stages of 26.60 feet at 9:30 a.m. Mar. 15, 1922, and 26.25 feet on Oct. 4, 1926. (A stage of 27.3 feet is reported to have occurred here on Jan. 31, 1916). Near the mouth, the stages of 1943 definitely exceeded those of 1922, due largely to backwater from the Sangamon River.

On Salt Creek, upstream from Rankins Bridge (mile 23.8), the highwater of 1943 appears to have ranged from one to two feet below that of 1926. At the site of the former gaging station near Kenney, for which the datum of the gage was 603.72 feet above mean sea level (datum of 1929), crest stages have been as follow:

Date	Stage (feet)
May 13, 1908	15.0
October 1926	17.2 (approximate)
May 18, 1943	15.8

The highwater of 1882 is said to have been about 1.5 feet higher at the site of the Kenney gage than the stage in the spring of 1908. Channel changes, including dredging operations, preclude comparison of discharges. On this stream in vicinity of Middletown, stages for 1926 and 1943 were substantially the same. Downstream from Hubley bridge (Mile 8.9) stages for 1943 exceeded those for 1926.

The stages of 1943 on Lake Fork and Jones Fork are reported to be the highest ever known.

On the Kaskaskia River at the site of the former gaging station at the Bagdad bridge, 4 miles west of Arcola, marks for the flood of 1943, when tied to old station datum, indicate stage of 20.2 feet, compared with a maximum for the period 1908-12 of 17.3 feet on May 8, 1908. At Shelbyville, the stages for these two floods were substantially the same. On the lower reaches of the river, the 1943 stages exceeded those previously known by amounts ranging up to 4 feet.

On the Embarass River, at the site of the former gaging station at the Antioch bridge, 2 miles northwest of Oakland, flood marks indicate a stage of 24.5 feet, gage datum, for May 19, 1943. A spike in a telephone pole, said by local residents to indicate the height of the 1939 flood, is at elevation 22.57 feet. Statements taken from description of the old gaging station indicate the flood of 1897 reached a stage of 24.0 feet. Further information is not available at this site, but at the Pennsylvania Railroad bridge about two miles downstream, marks have been painted on downstream end of a pier as record of several floods. Assuming a datum which, for the 1943 flood, would give the same stage at this point as was found at the Antioch bridge, the elevation of these marks is as follows:

Date	Stage (feet)
1943	24.5
1888	23.7
1913	23.3
1908	22.9
1939	22.9
1927	22.4

Construction of a highway fill (State Highway No. 133) a short distance below the Pennsylvania Railroad bridge, which probably occurred between the floods of 1927 and 1939, may have some slight effect on the relation between these stages and their respective discharges. For the lower portion of the Embarrass River attention is invited to the data appearing in Water Supply Papers 771 and 873, indicating the 1943 flood to have been exceeded by that of 1927, but by none other within the period of record.

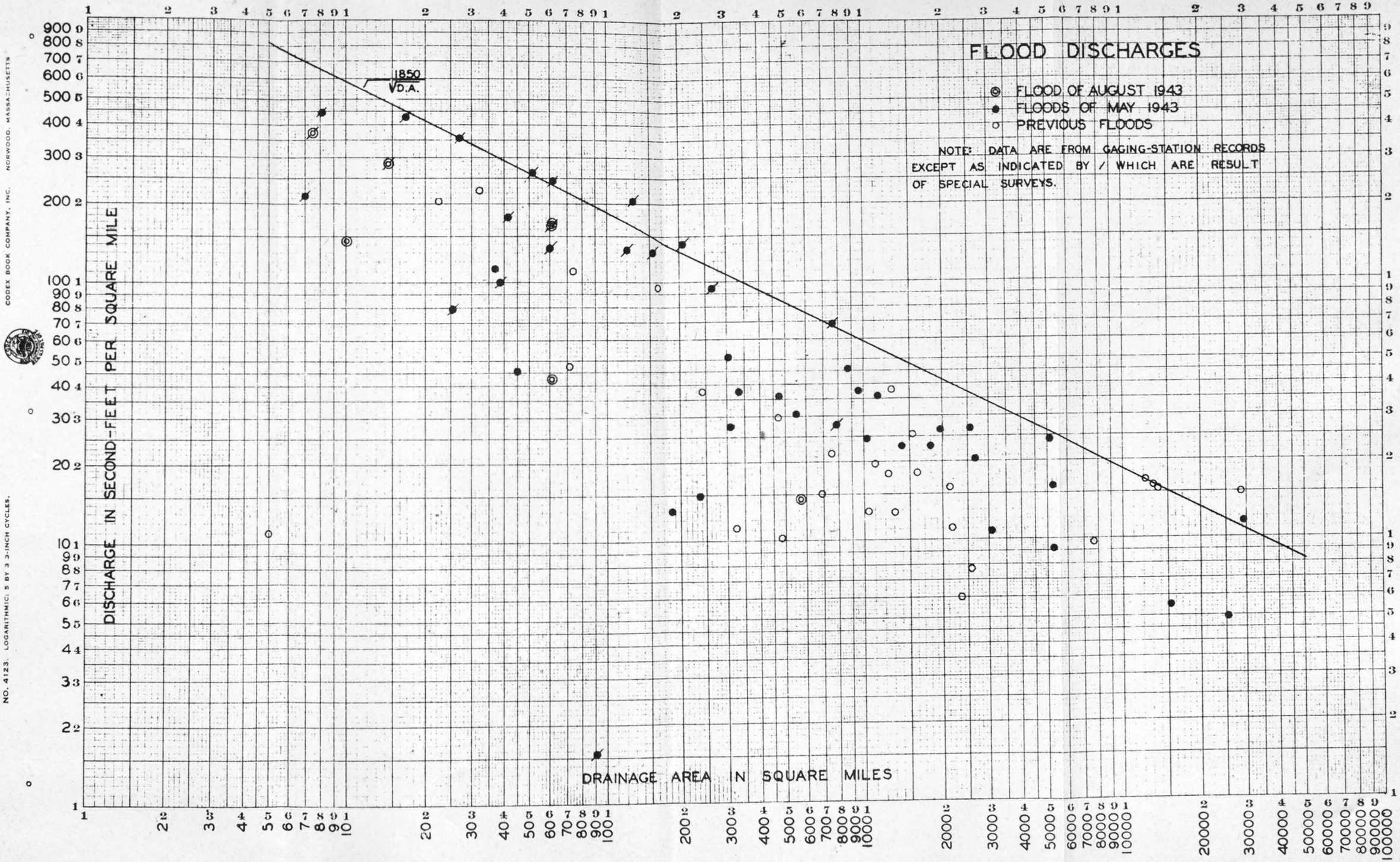
Along the upper reaches of the Little Wabash River, the stage of May 1943 exceeded that of March 1913 and January 1937, and was about the same as that of August 1915. Further downstream, at the site of the former gaging station, at the Southern Railroad bridge near Golden Gate, the following comparison results from a combination of gaging station data and Corps of Engineers, U. S. Army profiles:

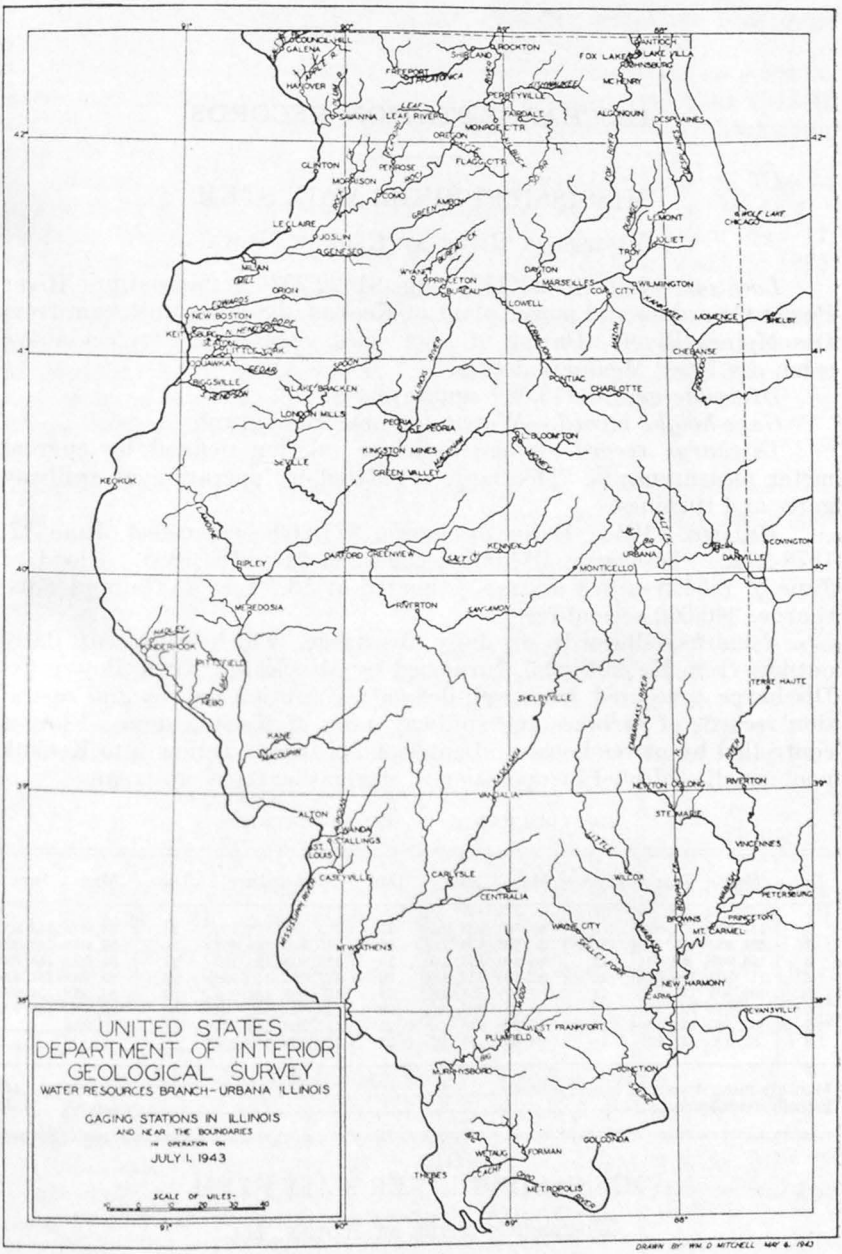
Date	Elevation, former gage datum
May 1908	29.2*
March 1913	29.9
January 1937	27.1
May 1943	29.1

Just above Carmi, the stages for 1913, 1937 and 1943 were within a few tenths of the same value. From there to the mouth, the divergence becomes progressively greater, due largely to difference in backwater conditions, so that near the mouth the 1913 stage exceeded that for 1943 by about 7 feet, and the 1937 stage exceeded that for 1943 by about 18 feet.

For the Skillet Fork in the vicinity of Wayne City, the stage of 1943 exceeded that of 1937 by about 1.5 feet, and exceeded that of August 1915 by a lesser amount. Profiles by the Corps of Engineers,

* On May 9, 1908, Hidinger and Baxter, of the U. S. Department of Agriculture made a discharge measurement from the Southern Railroad bridge, for which the gage height was 28.5 feet (rising) and the discharge computed to be 35,900 second-feet.


FLOOD DISCHARGES
FLOOD OF AUGUST 1943
FLOODS OF MAY 1943
PREVIOUS FLOODS
NOTE: DATA ARE FROM GAGING-STATION RECORDS EXCEPT AS INDICATED BY / WHICH ARE RESULT OF SPECIAL SURVEYS.
1850 / √D.A.
DISCHARGE IN SECOND-FEET PER SQUARE MILE
DRAINAGE AREA IN SQUARE MILES
CODEX BOOK COMPANY, INC. NORWOOD, MASSACHUSETTS
NO. 4123. LOGARITHMIC: 5 BY 3 3-INCH CYCLES.


UNITED STATES
DEPARTMENT OF INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES BRANCH - URBANA ILLINOIS
GAGING STATIONS IN ILLINOIS
AND NEAR THE BOUNDARIES
IN OPERATION ON
JULY 1, 1943
SCALE OF MILES
DRAWN BY WM. D. MITCHELL MAR. 6, 1943
GALENA
DUBUQUE
ROCKFORD
FOX LAKE
LAKE VILLA
WAUKEGAN
HANOVER
MCHENRY
PERRYVILLE
FARIDALE
ALGONQUIN
DES PLAINES
LEAF RIVERS
MONROE CTR
ORIENTON
FLAGG CTR
CLINTON
PERROSE
MORRISON
LEMONT
WOLF LAKE
CHICAGO
LE CLAIRE
JOSLIN
GENESEO
JOLIET
TROY
DAYTON
WHEATON
PRINCETON
MARSEILLES
COAL CITY
WILMINGTON
ORION
EDWARDS
LOWELL
NEW BOSTON
MOMENCE
SHELBY
CHEBANSE
BRIGGSVILLE
BLACK BRACKEN
PONTIAC
CHARLOTTE
LONDON MILLS
PEORIA
BLOOMINGTON
KINGSTON MINES
SEVILLE
GREEN VALLEY
KEOKUK
COVINGTON
RIPLEY
DANFORD
GREENVIEW
KENNEY
URBANA
DANVILLE
MONTICELLO
MEDEDOSIA
HOOPESTON
LAWRENCE
TERRE HAUTE
SHELBYVILLE
KANE
MACOUPIN
NEWTON
OBLONG
RIVERTON
VANDALIA
STE MARIE
ALTON
GRANDY
ST. LOUIS
STALLINGS
VINCENNES
CASEYVILLE
CARLYSLE
WILCOX
CENTRALIA
PETERSBURG
BROWNS
PRINCETON
MT. CARMEL
WAGGONER CITY
N. WATHENS
NEW HARMONY
EVANSVILLE
WEST FRANKFORT
PULASKI
MARION
GOLCONDA
WETAUG
FORMAN
THEBES
CAIRO
METROPOLIS

DISCHARGE-STATION RECORDS

MISSISSIPPI RIVER MAIN STEM

Mississippi River at Keokuk, Iowa

Location.—Lat. 40°23′35″, long. 91°22′25″, at Mississippi River Power Co's. dam and power plant at Keokuk, 2.8 miles upstream from Des Moines River. Datum of lower lock gage is 480.00 feet above mean sea level, Memphis datum.

Drainage area.—119,000 square miles.

Gage-height record.—Water-stage recorder graph.

Discharge record.—Stage-discharge relation defined by current meter measurements. Discharge regulated by operation of spillway gates and turbines.

Maxima.—1943: Daily discharge, 171,600 second-feet June 17. 1878-1942: Discharge, 314,000 second-feet May 18, 1888. Flood of June 6, 1851, reached a stage estimated at 13.5 feet at Galland (discharge, 360,000 second-feet).

Remarks.—Records of daily discharge, which represent daily outflow from Keokuk pool, furnished by Mississippi River Power Co. Discharge computed from well-defined calibration curves and operation records of turbines and spillway gates of Keokuk dam. Flow is controlled by power house and gates on spillway. Inflow into Keokuk pool usually affected by operation of navigation dams upstream.

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	137,600	74,600	9	86,300	128,100	17	113,300	171,600	25	99,000	143,800
2	131,300	76,700	10	86,500	135,500	18	115,500	169,600	26	92,100	143,000
3	123,800	85,500	11	86,400	143,100	19	118,800	165,100	27	85,900	145,700
4	113,200	106,000	12	82,600	148,500	20	127,500	159,900	28	83,400	151,800
5	99,900	117,600	13	80,500	157,500	21	129,000	154,000	29	81,500	154,800
6	93,800	128,000	14	78,700	163,500	22	123,500	153,500	30	80,600	157,700
7	87,500	132,200	15	77,900	166,500	23	115,200	156,700	31	76,200	--------
8	88,500	131,400	16	98,600	171,100	24	109,000	150,200	--------	--------	--------
Monthly mean discharge, in second-feet										100,116	141,440
Runoff, in inches										0.97	1.33

MISSISSIPPI RIVER MAIN STEM

Mississippi River at Alton, Ill.

Location.—Lat. 38°53′06″, long. 90°10′56″, in sec. 14, T. 5 N., R. 10 W., at Missouri & Illinois Bridge & Belt Railroad bridge at Alton, 7.7 miles upstream from Missouri River. Datum of gages is mean sea level, datum of 1929.

Drainage area.—171,500 square miles.

Gage-height record.—Water-stage recorder graph at base gage and at auxiliary gage 5.9 miles downstream.

Discharge record.—Stage-fall-discharge relation based on current-meter measurements, of which 42 were made during the year 1941-42 and 76 were made during the year 1942-43; affected by backwater from the Missouri River.

Maxima.—1943: Discharge, 437,000 second-feet 12 p. m. May 23 to 3 a. m. May 24; gage height, 429.91 feet 12 m. to 2 p. m. May 24. 1933-38, 1939-42: Discharge observed, 265,000 second-feet May 17, 1933; gage height observed, 424.4 feet, present datum, June 8, 1935.

Stage known, 432.5 feet, present datum, in June 1844.

Remarks.—Discharge in May and possibly a few days in June includes water diverted through levee breaks from Missouri River to Mississippi River above Alton. Alton gage heights and 35 of the discharge measurements during water year 1942-43 furnished by Corps of Engineers, U. S. Army.

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	208,000	248,000	9	198,000	251,000	17	235,000	282,000	25	393,000	257,000
2	206,000	241,000	10	205,000	250,000	18	267,000	282,000	26	387,000	259,000
3	200,000	222,000	11	205,000	264,000	19	310,000	286,000	27	346,000	257,000
4	190,000	219,000	12	212,000	272,000	20	348,000	286,000	28	320,000	258,000
5	178,000	231,000	13	218,000	273,000	21	337,000	288,000	29	297,000	256,000
6	166,000	238,000	14	195,000	279,000	22	387,000	280,000	30	285,000	246,000
7	176,000	246,000	15	186,000	282,000	23	434,000	275,000	31	266,000	--------
8	182,000	264,000	16	206,000	280,000	24	421,000	273,000	--------	--------	--------
Monthly mean discharge, in second-feet										263,400	261,500

MISSISSIPPI RIVER MAIN STEM

Mississippi River at St. Louis, Mo.

Location.—Lat. 38°37′34″, long. 90°10′54″, at foot of Washington Avenue, just downstream from west pier of Eads Bridge, St. Louis, 15.0 miles downstream from mouth of Missouri River, and 180.0 miles upstream from Ohio River. Datum of gage is 379.94 feet above mean sea level, datum of 1929, or 379.80 feet above mean Gulf level.

Drainage area.—701,000 square miles (authority, Mississippi River Commission).

Gage-height record.—Water-stage recorder graph.

Discharge record.—Stage-discharge relation defined by current-meter measurements throughout entire range.

Maxima.—1943: Discharge 840,000 second-feet 6 a. m. May 24 (gage height, 38.94 feet). 1933-42: Discharge 649,000 second-feet June 7, 1935; gage height, 33.52 feet June 9, 1935.

Stage known, 41.39 feet from flood marks, June 28, 1844 (discharge, 1,300,000 second-feet, computed by Corps of Engineers, U. S. Army). The flood of April 1785 may have reached a stage of 42.0 feet.

Remarks.—Assistance furnished by Corps of Engineers, U. S. Army, in making 11 discharge measurements.

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	288,000	449,000	9	274,000	454,000	17	459,000	547,000	25	814,000	620,000
2	284,000	384,000	10	321,000	488,000	18	538,000	556,000	26	774,000	614,000
3	274,000	344,000	11	344,000	518,000	19	624,000	568,000	27	711,000	608,000
4	258,000	312,000	12	391,000	532,000	20	697,000	571,000	28	646,000	583,000
5	239,000	310,000	13	429,000	535,000	21	748,000	571,000	29	577,000	553,000
6	223,000	344,000	14	424,000	538,000	22	808,000	577,000	30	529,000	512,000
7	223,000	398,000	15	403,000	538,000	23	814,000	601,000	31	474,000	--------
8	242,000	429,000	16	419,000	541,000	24	833,000	617,000	--------	--------	--------
Monthly mean discharge, in second-feet										486,500	507,100

MISSISSIPPI RIVER MAIN STEM

Mississippi River at Chester, Ill.

Location.—Lat. 37°54′00″, long. 89°49′50″, in SW¼ sec. 24, T. 7 S., R. 7 W., 0.4 mile downstream from highway bridge at Chester, 8.3 miles downstream from Kaskaskia River, and 109.5 miles upstream from Ohio River. Datum of gage is 341.05 feet above mean sea level, datum of 1929.

Drainage area.—712,600 square miles (authority, Mississippi River Commission).

Gage-height record.—Graph based on observer's staff gage readings at 6:30 a. m. for U. S. Weather Bureau, at 8 a. m. and 4 p. m. for Corps of Engineers, U. S. Army, and frequent readings at irregular intervals by engineers of the Geological Survey. Gage read to tenths.

Discharge record.—State-discharge relation defined by current-meter measurements.

Maxima.—1943: Discharge (exclusive of flow through levee breaks upstream from station), 873,000 second-feet 3 a. m. May 24 (gage height, 38.08 feet).

Stage known, 39.8 feet about June 30, 1844 (discharge, 1,350,000 second-feet computed by Corps of Engineers, U. S. Army).

Remarks.—Discharge does not include flow through levee breaks upstream from station. Assistance furnished by Corps of Engineers, U. S. Army, in making 5 discharge measurements.

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	292,000	507,000	9	255,000	454,000	17	463,000	539,000	25	854,000	572,000
2	290,000	470,000	10	304,000	472,000	18	502,000	542,000	26	824,000	582,000
3	285,000	427,000	11	375,000	497,000	19	566,000	545,000	27	770,000	589,000
4	273,000	383,000	12	406,000	512,000	20	655,000	548,000	28	706,000	593,000
5	255,000	353,000	13	429,000	523,000	21	726,000	557,000	29	659,000	560,000
6	238,000	357,000	14	454,000	528,000	22	759,000	566,000	30	582,000	536,000
7	225,000	400,000	15	456,000	534,000	23	836,000	566,000	31	545,000	--------
8	235,000	434,000	16	454,000	536,000	24	842,000	569,000	--------	--------	--------
Monthly mean discharge, in second-feet										500,500	508,400

MISSISSIPPI RIVER MAIN STEM

Mississippi River at Thebes, Ill.

Location.—Lat. 37°13′00″, long. 89°27′50″, in NW¼ sec. 17, T. 15 S., R. 3 W., on the railroad bridge at Thebes, 8.4 miles downstream from Cape Girardeau, Mo., and 43.7 miles upstream from Ohio River. Datum of gage is 300.00 feet above mean sea level, U.S.C. & G.S. datum of 1929, and 299.93 feet above mean sea level, Corps of Engineers, U. S. Army datum of 1929.

Drainage area.—717,200 square miles (authority, Corps of Engineers, U. S. Army).

Gage-height record.—Graph based on observer's once-daily wire-weight gage readings, supplemented by frequent observations by engineers. Gage read to tenths.

Discharge record.—Stage-discharge relation defined by current-meter measurements; occasionally affected by backwater from Ohio River.

Maxima.—1943: Discharge, 893,000 second-feet 8 p. m. to 12 p. m. May 27 (gage height, 40.26 feet). Stage at Grays Point (2.6 miles upstream from station), 342.39 feet above mean sea level, datum of 1929, May 27, 28.

Stage known at Grays Point, 345.14 feet above mean sea level, datum of 1929, from floodmarks, July 4, 1844 (discharge, 1,350,000 second-feet, computed by Corps of Engineers, U. S. Army).

Remarks.—Results of 74 discharge measurements made during the water year 1942-43 furnished by Corps of Engineers, U. S. Army.

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	July	Day	May	June	July	Day	May	June	July
1	306,000	678,000	611,000	11	380,000	504,000	370,000	21	658,000	566,000	308,000
2	304,000	625,000	592,000	12	436,000	526,000	357,000	22	682,000	582,000	293,000
3	302,000	560,000	554,000	13	456,000	544,000	350,000	23	716,000	589,000	273,000
4	291,000	501,000	501,000	14	474,000	554,000	340,000	24	751,000	602,000	250,000
5	277,000	445,000	442,000	15	486,000	551,000	333,000	25	767,000	602,000	231,000
6	259,000	401,000	401,000	16	486,000	554,000	331,000	26	794,000	605,000	220,000
7	244,000	388,000	375,000	17	483,000	554,000	326,000	27	886,000	608,000	211,000
8	238,000	422,000	367,000	18	504,000	557,000	321,000	28	874,000	611,000	201,000
9	250,000	456,000	370,000	19	548,000	566,000	317,000	29	830,000	628,000	189,000
10	279,000	480,000	372,000	20	628,000	566,000	312,000	30	788,000	621,000	179,000
								31	728,000	--------	180,000
Monthly mean discharge, in second-feet									519,500	548,200	338,000

THE SNY BASIN

Hadley Creek Near Shinn, Ill.

Location.—Lat. 39°39′55″, long, 91°09′05″, near center of NE¼ sec. 1, T. 5 S., R. 7 W., at downstream side of Chicago, Burlington & Quincy Railroad bridge, 1.1 miles southeast of Shinn, and 3.5 miles upstream from mouth. Datum of gage is 456.70 feet above mean sea level, datum of 1929 (Corps of Engineers, U. S. Army, benchmark).

Drainage area.—73.6 square miles.

Gage-height record.—Water-stage recorder graph, except for period May 27 to June 8, for which only occasional staff gage readings are available.

Discharge record.—Stage-discharge relation defined by current meter measurements up to 3,700 second-feet and extended above. Discharge computed on basis of records at Kinderhook May 28 to June 3 and June 5-8. Discharge computed from single reading of staff gage, May 27 and June 4.

Maxima.—1943: Discharge, 5,960 second-feet 8 a. m., May 19 (gage height, 12.24 feet). 1941-42: Discharge, 8,100 second-feet 2:45 a. m. Dec. 27, 1942 (gage height, 13.47 feet).

Remarks.—Results of three discharge measurements furnished by Corps of Engineers, U. S. Army.

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	12	50	9	144	30	17	2,090	31	25	143	14
2	11	40	10	614	119	18	1,370	21	26	140	12
3	9.0	35	11	1,180	68	19	1,610	18	27	58	11
4	7.8	28	12	215	40	20	336	16	28	55	11
5	7.8	35	13	122	31	21	215	16	29	55	9.4
6	7.8	160	14	89	32	22	161	15	30	60	8.7
7	14	90	15	798	29	23	149	14	31	60	--------
8	1,150	60	16	948	42	24	148	20	--------	--------	--------
Monthly mean discharge, in second-feet										386	36.9
Runoff, in inches										6.05	.56

THE SNY BASIN

Bay Creek at Nebo, Ill.

Location.—Lat. 39°26′35″, long. 90°47′45″, in NW¼ sec. 19, T. 7 S., R. 3 W., at bridge on county road, a quarter of a mile west ofNebo, a quarter of a mile upstream from Spring Creek, and 1.6 miles upstream from Chicago and Alton Railroad bridge. Datum of gage is 462.56 feet above mean sea level, datum of 1929 (levels by Corps of Engineers, U. S. Army).

Drainage area.—162 square miles (including Spring Creek).

Gage-height record.—Water-stage recorder graph.

Discharge record.—Stage-discharge relation defined by current-meter measurements up to 7,800 second-feet and extended above.

Maxima.—1943: Discharge, 10,000 second-feet 4 a. m. May 18 (gage height, 14.78 feet). 1939-42: Discharge, 15,500 (revised) second-feet, 11:30 p. m. Oct. 4, 1941 (gage height, 16.73 feet).

The flood of Aug. 16, 1916, reached a stage 1.5 feet higher than that on Oct. 4, 1941, according to information furnished by local residents (discharge not determined).

Remarks.—Results of two discharge measurements furnished by Corps of Engineers, U. S. Army.

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	25	90	9	551	150	17	2,410	128	25	217	65
2	22	77	10	592	964	18	5,910	101	26	180	58
3	21	68	11	2,450	309	19	1,730	88	27	149	189
4	19	279	12	912	171	20	975	87	28	126	163
5	18	200	13	258	162	21	462	98	29	107	58
6	314	1,420	14	176	267	22	331	76	30	104	51
7	660	412	15	3,090	254	23	278	78	31	105	--------
8	2,920	190	16	3,490	298	24	249	72	--------	--------	--------
Monthly mean discharge, in second-feet										931	221
Runoff, in inches										6.62	1.52

ILLINOIS RIVER BASIN

Des Plaines River at Lemont, Ill.

Location.—Above dam, lat. 41°40′54″, long. 88°00′09″, in NW¼ sec. 20, T. 37 N., R. 11 E., at Stephens Street Bridge, a quarter of a mile north of Lemont, and 11 miles upstream from confluence with the Chicago Sanitary and Ship Canal. Datum of gage is 583.67 feet above mean sea level, datum of 1929.

Drainage area.—687 square miles.

Gage-height record.—Graph based on twice-daily readings of wire-weight gage.

Discharge record.—Stage-discharge relation defined by current-meter measurements up to crest stage.

Maxima.—May 1943: Discharge, 1,810 second-feet 5 a. m. May 21 (gage height 4.82 feet, from graph based on gage readings). This does not include discharge diverted to Chicago Sanitary and Ship Canal which, on that day, was reported to average 2,088 second-feet.

1915 to April 1943: Maximum discharge, 5,520 second-feet Mar. 18, 1919.

Remarks.—During high water part of flow spills into Chicago Sanitary and Ship Canal at Willow Springs, 7 miles upstream from gage, and (since February 1941) at two additional points 1 mile and 1½ miles upstream from gage. This flow is not included in the table of daily discharge, but is included in records for Chicago Sanitary and Ship Canal at Lockport. Diversion from Des Plaines River at Romeo, averaging 37 second-feet in May and 13 second-feet in June, is included in this record and also in records for the Chicago Sanitary and Ship Canal at Lockport.

Records of diversion furnished by Sanitary District of Chicago.

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	436	567	9	444	277	17	1,480	144	25	1,320	69
2	391	516	10	556	268	18	1,660	133	26	1,300	65
3	352	477	11	1,110	255	19	1,610	115	27	1,230	73
4	339	444	12	1,380	209	20	1,610	105	28	1,170	86
5	307	412	13	1,280	190	21	1,720	98	29	1,070	87
6	282	378	14	1,140	171	22	1,660	93	30	815	83
7	282	328	15	1,110	161	23	1,560	96	31	644	-------
8	339	297	16	1,300	151	24	1,410	85	-------	-------	-------
Monthly mean discharge, in second-feet										1,010	214

ILLINOIS RIVER BASIN

Illinois River at Marseilles, Ill.

Location.—Lat. 41°19′40″, long. 88°43′10″, in SE¼SW¼ sec. 13, T. 33 N., R. 4 E., 0.4 mile downstream from dam in Marseilles, 6.9 miles upstream from Fox River, and 246.6 miles upstream from mouth. Datum of gage is 462.91 feet above mean sea level, datum of 1929.

Drainage area.—7,640 square miles. Since Jan. 17, 1900, flow has included diversion from Lake Michigan through Chicago Sanitary and Ship Canal.

Gage-height record.—Water-stage recorder graph.

Discharge record.—Stage-discharge relation defined by current-meter measurements up to 57,000 second-feet and extended to crest stage on basis of area-velocity studies.

Maxima.—1943: Discharge, 73,800 second-feet 8 p. m. May 21 (gage height 13.82 feet). 1919-42: Discharge, 74,400 second-feet Feb. 7, 1942 (gage height 13.94 feet).

A stage of 26.2 feet at Morris occurred in 1831, and a stage of 25.4 feet (result of an ice jam) occurred at present site on Jan. 21, 1916.

Remarks.—Flow through Marseilles locks, which has not been included in figures of instantaneous discharge, has been added to figures of daily mean discharge.

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	21,500	19,400	9	22,700	15,200	17	41,900	11,400	25	44,100	10,300
2	18,800	20,400	10	23,000	14,700	18	47,700	11,400	26	39,400	9,590
3	16,800	17,800	11	38,700	13,800	19	54,900	10,600	27	32,700	3,400
4	14,300	25,700	12	59,700	12,900	20	57,400	9,880	28	27,800	10,100
5	13,700	18,900	13	54,600	13,100	21	70,700	10,300	29	25,100	8,600
6	12,500	17,300	14	44,200	12,600	22	65,000	9,580	30	23,500	8,600
7	11,800	18,800	15	37,600	12,400	23	50,800	9,880	31	20,900	-------
8	17,100	16,200	16	37,200	12,400	24	44,600	10,100	-------	-------	-------
Monthly mean discharge, in second-feet										35,180	13,340

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF ILLINOIS RIVER AT MARSEILLES, ILL.

Hour	MAY 7		MAY 8		MAY 9		MAY 10		MAY 11		MAY 12	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
2	3.40	12,000	2.99	9,930	5.23	21,500	5.29	21,800	6.53	28,400	11.07	54,700
4	3.40	12,000	3.21	11,100	5.28	21,800	5.40	22,400	6.57	28,600	11.15	55,200
6	3.41	12,100	3.93	14,700	5.79	24,400	5.61	23,500	6.66	29,100	11.60	57,900
8	3.43	12,200	4.31	16,700	5.77	24,300	4.93	19,900	7.43	33,300	11.82	59,200
10	3.21	11,100	4.48	17,600	5.51	23,000	5.64	23,600	7.93	36,100	11.98	60,200
Noon	3.21	11,100	5.28	21,800	5.42	22,500	5.39	22,300	8.39	38,800	12.12	61,000
2	3.70	13,600	4.77	19,100	5.42	22,500	5.30	21,900	8.49	39,300	12.16	61,300
4	3.43	12,200	5.00	20,300	5.42	22,500	5.49	22,800	9.26	43,900	12.31	62,400
6	3.19	10,900	4.95	20,000	5.40	22,400	5.46	22,700	9.70	46,500	12.29	62,200
8	3.19	10,900	4.86	19,600	5.40	22,400	5.74	24,100	10.00	48,300	12.28	62,200
10	3.18	10,900	4.59	18,200	5.40	22,400	5.81	24,500	10.30	50,100	12.22	61,700
12	2.93	9,620	5.21	21,400	5.29	21,800	6.50	28,200	10.69	52,400	12.18	61,500
	MAY 13		MAY 14		MAY 15		MAY 16		MAY 17		MAY 18	
2	11.95	60,000	9.84	47,300	9.11	43,000	7.92	36,100	8.83	41,300	9.22	43,600
4	11.79	59,000	9.81	47,200	8.19	37,600	8.11	37,100	8.90	41,700	9.30	44,100
6	11.70	58,500	9.42	44,800	8.52	39,500	7.58	34,100	9.00	42,300	9.37	44,500
8	11.34	56,300	9.46	45,100	8.42	38,900	8.00	36,500	8.20	37,700	9.51	45,400
10	11.16	55,300	9.44	44,900	8.12	37,200	7.87	35,800	9.33	44,300	10.02	48,400
Noon	10.99	54,200	9.41	44,800	8.11	37,200	7.90	35,900	8.10	37,100	9.92	47,800
2	10.74	52,700	9.00	42,300	8.11	37,200	7.97	36,300	9.13	43,100	9.91	47,800
4	10.67	52,300	9.28	44,000	8.10	37,100	7.77	35,200	8.99	42,200	9.98	48,200
6	10.36	50,500	9.01	42,400	7.77	35,200	8.60	40,000	9.04	42,500	10.10	48,900
8	10.30	50,100	9.39	44,600	7.97	36,300	8.39	38,800	9.04	42,500	10.59	51,800
10	10.25	49,800	8.64	40,200	7.48	33,600	8.63	40,200	9.00	42,300	10.80	53,100
12	9.87	47,500	8.02	36,600	8.12	37,200	8.82	41,300	9.07	42,700	10.80	53,100
	MAY 19		MAY 20		MAY 21		MAY 22		MAY 23		MAY 24	
2	10.86	53,500	11.20	55,500	12.70	65,100	13.67	72,600	10.99	54,200	9.46	45,100
4	11.02	54,400	11.29	56,000	12.89	66,400	13.54	71,500	10.91	53,800	9.62	46,000
6	11.10	54,900	11.30	56,100	13.10	68,000	13.40	70,400	10.83	53,300	9.54	45,500
8	10.90	53,700	11.26	55,900	13.30	69,600	13.23	69,000	10.72	52,600	9.44	44,900
10	11.19	55,400	11.32	56,200	13.58	71,800	13.10	68,000	10.62	52,000	9.22	43,600
Noon	11.19	55,400	11.37	56,500	13.60	72,000	12.36	62,700	10.32	50,200	9.22	43,600
2	10.92	53,800	11.67	58,300	13.67	72,600	12.50	63,700	10.32	50,200	9.39	44,600
4	11.07	54,700	11.45	57,000	13.76	73,300	12.29	62,200	10.28	50,000	9.31	44,200
6	11.27	55,900	11.70	58,500	13.80	73,600	12.09	60,800	9.59	45,800	9.32	44,200
8	11.21	55,600	11.81	59,200	13.82	73,800	11.60	57,900	10.13	49,100	9.33	44,300
10	11.22	55,600	11.96	60,100	13.80	73,600	11.48	57,200	9.95	48,000	9.34	44,300
12	11.23	55,700	12.62	64,500	13.74	73,100	11.03	54,500	9.41	44,800	9.35	44,400

ILLINOIS RIVER BASIN

Illinois River at Kingston Mines, Ill.

Location.—Lat. 40°33′10″, long. 89°46′40″, in SE¼SE¼ sec. 26, T. 7 N., R. 6 E., at village of Kingston Mines, 2.3 miles downstream from Mackinaw River and 145.3 miles upstream from mouth. Datum of gages is 428.00 feet above mean sea level, datum of 1929 (Corps of Engineers, U. S. Army, bench marks).

Drainage area.—15,200 square miles. Since Jan. 17, 1900, flow has included diversion from Lake Michigan through Chicago Sanitary and Ship Canal.

Gage-height record.—Water-stage recorder graph at base gage and at auxiliary gage 7.9 miles downstream.

Discharge record.—Stage-fall-discharge relation defined by current-meter measurements throughout entire range.

Maxima.—1943: Discharge, 83,100 second-feet 8 a. m. May 23; gage height, 26.02 feet 12 p. m. May 24 to 4 a. m. May 25.
1939-42: Discharge observed, 53,600 second-feet Feb. 9, 1942; gage height observed, 17.85 feet Feb. 13, 1942.

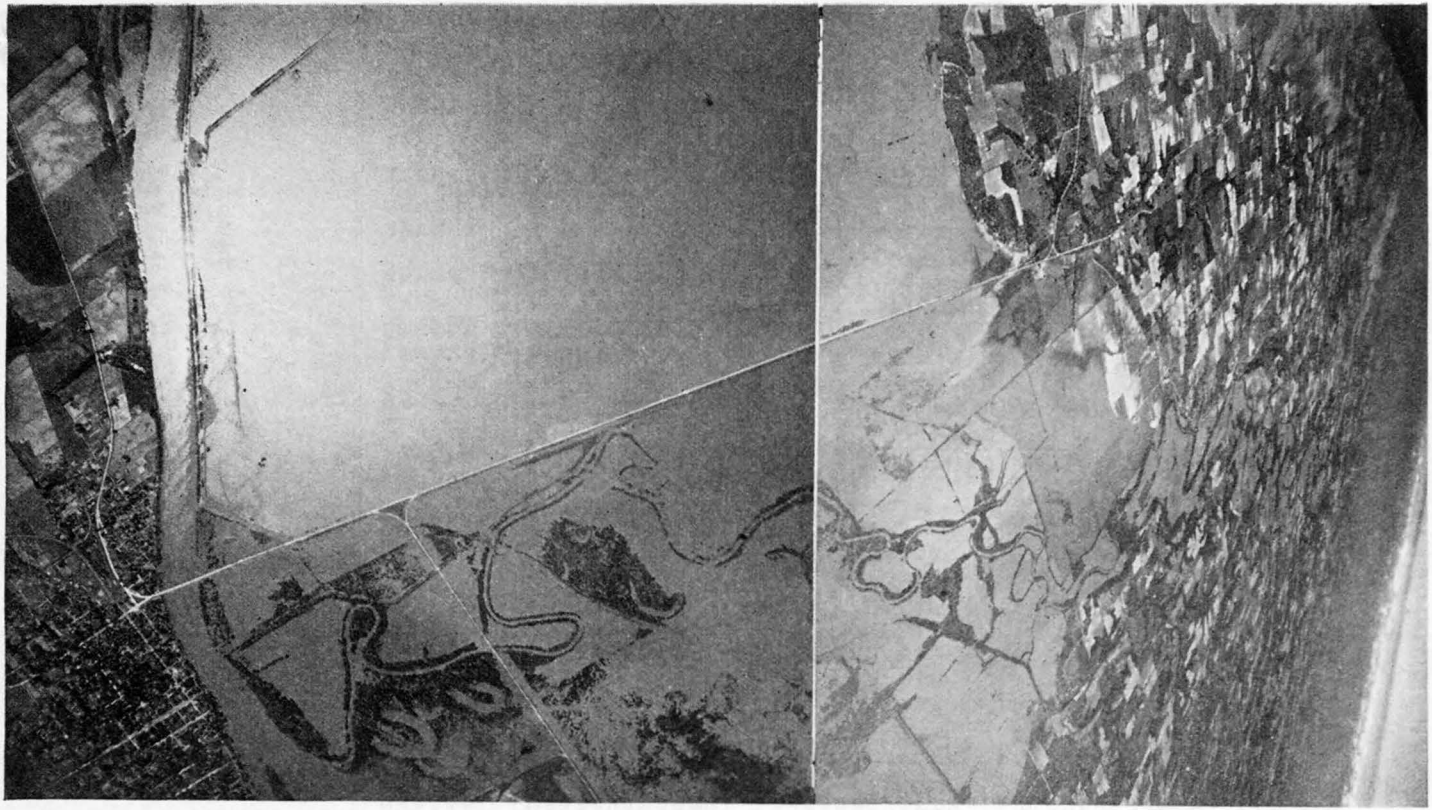
Remarks.—Results of 33 discharge measurements furnished by Corps of Engineers, U. S. Army.

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	July	Day	May	June	July	Day	May	June	July
1	32,700	54,800	16,300	11	31,400	37,900	14,800	21	71,600	25,700	9,040
2	32,100	51,400	16,400	12	35,200	34,500	15,000	22	78,200	22,900	9,520
3	32,700	49,400	15,900	13	45,500	34,300	14,700	23	82,200	23,700	10,400
4	32,000	50,700	14,000	14	53,000	32,400	14,400	24	77,500	22,200	9,690
5	29,300	51,100	8,830	15	55,200	30,800	14,600	25	73,300	21,800	9,910
6	29,300	49,400	6,790	16	56,000	29,800	12,400	26	72,100	20,700	10,100
7	28,800	47,400	8,670	17	59,000	29,500	8,660	27	70,900	20,200	9,160
8	29,000	44,800	13,400	18	63,000	27,300	8,440	28	67,900	19,100	8,160
9	28,400	41,200	14,600	19	68,500	26,400	8,620	29	63,000	18,900	8,110
10	29,000	39,800	15,200	20	73,000	26,100	9,100	30	60,500	17,300	8,780
								31	57,200	-------	7,740
Monthly mean discharge, in second-feet									52,180	33,380	11,340

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF ILLINOIS RIVER AT KINGSTON MINES, ILL.

Hour	MAY 7		MAY 8		MAY 9		MAY 10		MAY 11		MAY 12	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
2			12.98	28,600			13.24	29,200				
4	12.98	28,800	13.07	28,900	13.15	28,300	13.25	29,200	14.08	30,600	14.74	32,400
6			13.20	29,100			13.27	29,300				
8	12.95	28,800	13.18	29,000	13.15	28,300	13.28	29,300	14.20	30,800	14.87	33,500
10			13.17	29,000			13.30	29,200				
Noon	12.94	28,700	13.20	29,100	13.18	28,300	13.32	29,100	14.33	31,600	15.04	35,100
2			13.21	29,100			13.35	28,700				
4	12.92	28,700	13.22	29,200	13.19	28,400	13.40	28,600	14.47	32,500	15.20	36,500
6			13.22	29,200			13.47	28,600				
8	12.90	28,800	13.20	29,100	13.22	28,500	13.60	28,500	14.55	32,100	15.37	38,000
10			13.19	29,100			13.78	29,200				
12	12.92	28,700	13.17	29,000	13.23	28,500	13.95	30,500	14.62	31,600	15.58	40,200
	MAY 13		MAY 14		MAY 15		MAY 16		MAY 17		MAY 18	
2							18.50	55,400				
4	15.78	42,000	17.10	51,600	17.97	55,200	18.60	55,500	19.18	58,600	20.07	61,100
6							18.67	55,800				
8	16.02	44,300	17.27	52,000	18.07	55,400	18.72	55,900	19.28	58,500	20.30	62,900
10							18.72	55,100				
Noon	16.25	46,200	17.45	53,100	18.20	55,500	18.74	55,500	19.40	58,500	20.46	63,200
2							18.77	55,800				
4	16.45	47,000	17.62	54,300	18.25	55,100	18.82	55,900	19.56	59,700	20.62	64,100
6							18.87	56,400				
8	16.67	48,700	17.74	54,600	18.32	55,000	18.95	57,300	19.69	59,700	20.78	64,500
10							19.00	57,200				
12	16.88	49,800	17.85	54,800	18.41	54,600	19.07	57,800	19.82	59,700	20.95	65,100
	MAY 19		MAY 20		MAY 21		MAY 22		MAY 23		MAY 24	
2	21.04	65,800	22.36	71,300			24.90	73,800				
4	21.13	66,500	22.37	71,300	23.96	71,500	25.03	75,600	25.72	82,800	25.90	79,000
6	21.20	67,400	22.52	71,200			25.14	76,800				
8	21.25	68,000	22.72	71,900	24.16	71,500	25.25	77,400	25.74	83,100	25.93	78,400
10	21.31	68,400	22.98	74,500			25.33	78,000				
Noon	21.39	69,000	23.17	74,600	24.32	70,800	25.40	78,200	25.76	82,800	25.97	77,200
2	21.48	68,600	23.33	74,500			25.45	78,400				
4	21.60	69,600	23.47	74,400	24.50	71,100	25.54	80,200	25.80	82,100	26.00	76,800
6	21.74	69,800	23.55	74,100			25.58	80,600				
8	21.89	70,600	23.63	73,400	24.65	71,700	25.61	80,700	25.84	81,600	26.00	75,800
10	22.00	70,700	23.71	73,500			25.64	81,300				
12	22.14	70,900	23.79	72,900	24.83	73,600	25.67	81,600	25.87	80,100	26.02	75,300
	MAY 25		MAY 26		MAY 27		MAY 28		MAY 29		MAY 30	
4	26.02	74,500	25.92	72,000	25.74	71,800	25.37	69,100	24.85	64,200	24.32	61,700
8	26.00	73,600	25.88	71,800	25.68	71,100	25.31	69,200	24.77	63,900	24.25	61,500
Noon	26.00	73,000	25.88	72,100	25.63	71,400	25.23	68,100	24.67	62,300	24.17	60,600
4	26.00	72,500	25.84	72,200	25.56	70,400	25.16	67,300	24.58	62,000	24.07	59,100
8	25.97	72,400	25.80	72,100	25.50	69,900	25.05	66,300	24.50	62,000	23.96	59,600
12	25.95	72,500	25.77	72,200	25.44	69,900	24.95	65,100	24.41	62,000	23.87	59,300



FLOOD SCENE AT HAVANA, ILL., MAY 26, 1943

Havana is on the east bank of the Illinois River, opposite the mouth of Spoon River, 25 miles downstream from the Kingston Mines gaging station. Flood width along the highway is 3½ miles. Official photograph, United States Army Air Corps.

ILLINOIS RIVER BASIN

Illinois River at Meredosia, Ill.

Location.—Lat. 39°49′36″, long. 90°33′53″, in SE¼NE¼ sec. 21, T. 16 N., R. 13 W., at Wabash Railway bridge in Meredosia, 4½ miles upstream from McKee Creek and 71.1 miles upstream from mouth. Datum of gages is 418.00 feet above mean sea level (levels by Corps of Engineers, U. S. Army).

Drainage area.—25,300 square miles. Since Jan. 17, 1900, flow has included diversion from Lake Michigan through Chicago Sanitary and Ship Canal.

Gage-height record.—Water stage recorder graph for auxiliary gage 9.5 miles downstream, and for base gage except for the periods 8 p. m. May 15 to 12 m. May 19, and July 2-7, for which a graph was drawn based on staff gage readings at 8 a. m. and shape of graph at auxiliary gage.

Discharge record.—Stage-fall-discharge relation defined by current meter measurements throughout the entire range.

Maxima.—1943: Discharge, 123,000 second-feet 12 m. May 26 to 8 a. m. May 28; gage height, 28.61 feet 12m. May 26. 1938-42: Daily discharge, 73,600 second-feet Feb. 17, 1942; gage height, 19.45 feet Feb. 17, 1942.

A stage of about 23.9 feet occurred on Oct. 12, 1926.

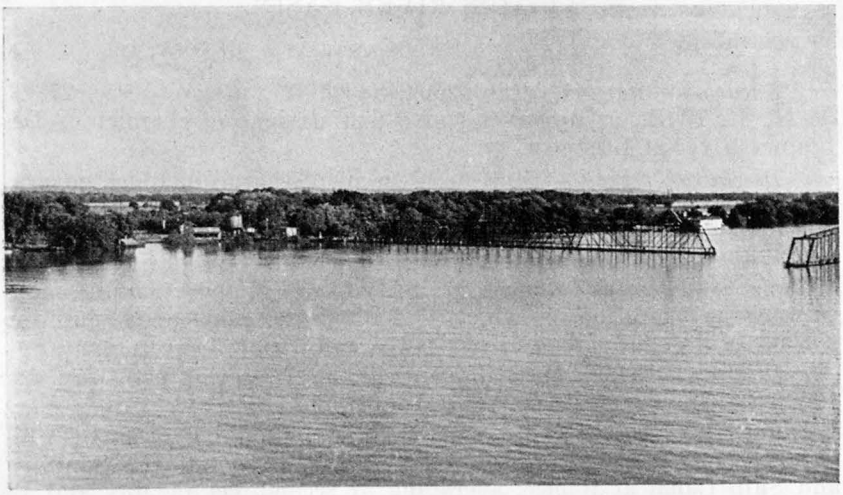
Remarks.—Results of 49 discharge measurements furnished by Corps of Engineers, U. S. Army.

MEAN DISCHARGE, IN SECOND-FEET, 1943.

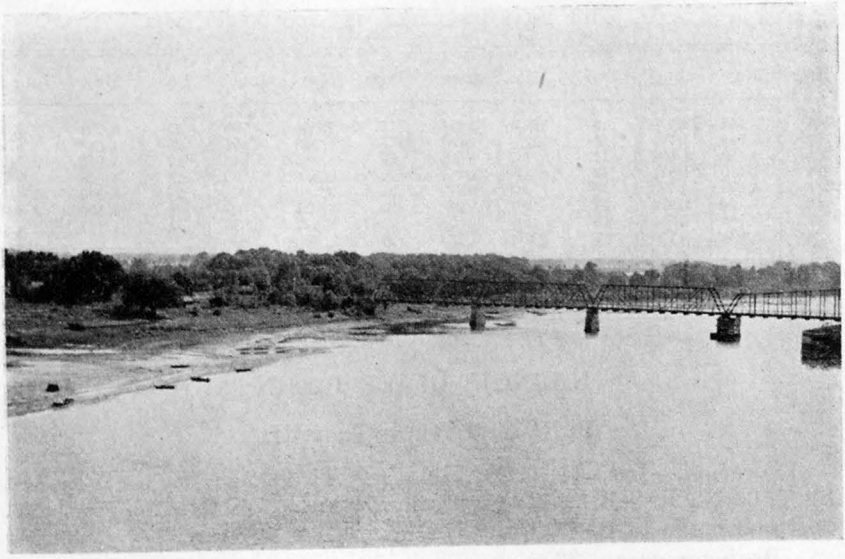
Day	May	June	July	Day	May	June	July	Day	May	June	July
1	31,700	111,000	38,200	11	46,700	79,400	25,000	21	105,000	52,700	14,200
2	33,100	108,000	36,200	12	52,200	77,600	24,700	22	114,000	50,700	13,400
3	34,500	104,000	35,300	13	54,800	75,600	23,300	23	114,000	49,900	11,700
4	35,700	100,000	33,600	14	57,800	73,400	22,800	24	119,000	47,700	12,400
5	36,600	95,100	33,900	15	60,700	70,000	22,100	25	121,000	46,000	14,800
6	36,700	92,100	31,100	16	67,600	66,600	20,700	26	122,000	43,900	13,800
7	36,200	91,200	29,900	17	73,600	63,400	21,000	27	123,000	41,700	13,300
8	37,400	89,500	29,000	18	78,600	61,200	19,800	28	122,000	40,600	12,900
9	41,200	86,800	26,600	19	86,200	58,800	18,300	29	120,000	39,100	12,800
10	43,500	82,800	25,300	20	95,000	55,100	16,300	30	119,000	38,500	12,700
								31	115,000	--------	12,200
Monthly mean discharge, in second-feet									75,280	69,750	21,850

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF ILLINOIS RIVER AT MEREDOSIA, ILL.

Hour	MAY 7		MAY 8		MAY 9		MAY 10		MAY 11		MAY 12	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
2	------	------	12.38	37,800	------	------	------	------	------	------	------	------
4	11.94	36,900	12.61	37,200	13.41	40,200	13.74	42,600	14.58	45,200	------	------
6	------	------	12.81	36,300	------	------	------	------	------	------	15.89	51,600
8	11.97	36,300	12.96	36,400	13.49	40,800	13.79	42,900	14.72	45,000	------	------
10	------	------	13.07	36,900	------	------	------	------	------	------	------	------
Noon	11.99	35,600	13.14	36,900	13.57	41,400	13.86	43,100	14.97	46,300	16.14	52,400
2	------	------	13.17	37,100	------	------	------	------	------	------	------	------
4	12.02	36,000	13.19	37,100	13.63	41,700	13.98	43,800	15.23	47,500	------	------
6	------	------	13.23	38,000	------	------	------	------	------	------	16.35	53,000
8	12.03	36,300	13.27	38,600	13.67	42,000	14.19	44,800	15.44	48,800	------	------
10	------	------	13.30	39,000	------	------	------	------	------	------	------	------
12	12.13	36,500	13.34	39,500	13.71	42,400	14.39	45,300	15.61	49,700	16.50	53,800
	MAY 13		MAY 14		MAY 15		MAY 16		MAY 17		MAY 18	
2	------	------	------	------	17.48	59,900	------	------	------	------	21.70	75,000
4	------	------	------	------	17.53	59,900	18.94	64,600	20.23	73,400	21.98	76,100
6	------	------	------	------	17.57	60,100	------	------	------	------	22.22	75,900
8	16.63	54,200	17.07	57,300	17.65	60,800	19.18	66,000	20.45	74,300	22.40	77,100
10	------	------	------	------	17.75	60,600	------	------	------	------	22.53	78,700
Noon	------	------	------	------	17.89	60,000	19.35	67,400	20.63	73,900	22.75	78,400
2	------	------	------	------	18.07	60,500	------	------	------	------	22.97	79,800
4	16.75	55,100	17.25	58,200	18.17	60,100	19.54	68,900	20.83	73,300	23.15	80,200
6	------	------	------	------	18.31	61,200	------	------	------	------	23.30	80,000
8	------	------	------	------	18.38	61,700	19.79	71,200	21.10	73,400	23.50	81,200
10	------	------	------	------	18.48	62,400	------	------	------	------	23.68	82,300
12	16.90	56,300	17.43	59,400	18.63	63,000	20.00	72,000	21.44	74,100	23.86	82,700
	MAY 19		MAY 20		MAY 21		MAY 22		MAY 23		MAY 24	
2	24.02	83,400	23.83	87,800	24.47	105,000	25.06	110,000	------	------	------	------
4	24.17	84,000	23.76	88,200	24.56	107,000	25.28	114,000	26.65	114,000	27.48	117,000
6	24.33	84,700	23.74	89,800	24.64	107,000	25.48	116,000	------	------	------	------
8	24.50	87,400	23.76	91,900	24.70	109,000	25.65	118,000	26.80	114,000	27.62	118,000
10	24.68	90,200	23.80	93,900	24.75	108,000	25.76	117,000	------	------	------	------
Noon	24.71	88,600	23.86	95,400	24.74	106,000	25.82	116,000	26.93	114,000	27.77	119,000
2	24.59	85,700	23.93	96,700	24.68	104,000	25.89	114,000	------	------	------	------
4	24.45	86,200	24.00	97,700	24.60	101,000	26.01	114,000	27.07	114,000	27.91	120,000
6	24.28	86,000	24.09	99,700	24.54	101,000	26.14	114,000	------	------	------	------
8	24.15	86,700	24.17	101,000	24.54	101,000	26.25	113,000	27.21	115,000	28.01	120,000
10	24.01	86,800	24.26	102,000	24.65	104,000	26.37	114,000	------	------	------	------
12	23.91	87,100	24.38	105,000	24.84	108,000	26.47	113,000	27.34	117,000	28.11	120,000
	MAY 25		MAY 26		MAY 27		MAY 28		MAY 29		MAY 30	
4	28.22	122,000	28.57	122,000	28.56	123,000	------	------	------	------	------	------
8	28.31	121,000	28.59	122,000	28.53	123,000	28.29	123,000	27.86	121,000	------	------
Noon	28.37	122,000	28.61	123,000	28.50	123,000	------	------	------	------	27.27	119,000
4	28.44	122,000	28.59	123,000	28.47	123,000	28.15	122,000	27.70	120,000	------	------
8	28.47	121,000	28.58	123,000	28.43	123,000	------	------	------	------	------	------
12	28.52	121,000	28.57	123,000	28.39	123,000	28.02	121,000	27.53	120,000	27.00	117,000



A May 24, 1943



B September 28, 1943

ILLINOIS RIVER AT MEREDOSIA, ILLINOIS

ILLINOIS RIVER BASIN

Chicago Sanitary and Ship Canal at Lockport, Ill.

Location.—Lat. 41°34′11″, long. 88°04′42″, in SW¼ sec. 27, T. 36 N., R. 10 E., at upper end of 9-foot navigation channel in Des Plaines River at Lockport.

Discharge record.—Total daily mean discharge includes governmental and private pumpage, inflow from Des Plaines River Basin, and diversion from Lake Michigan. This total is obtained by adding the daily mean discharges based on half-hourly discharge readings of dams, sluice gates, lockages, exciter turbines in operation and main turbines in operation as corrected for variable efficiencies, and the leakage of lock gates, dams, sluice gates, and turbines not in operation.

Maxima.—1943: May discharge, 14,277 second-feet May 19. 1900-42: Discharge, 19,182 second-feet Sept. 13, 1936.

Remarks.—Records furnished by the Sanitary District of Chicago. Water flowing from the Des Plaines River into the Sanitary and Ship Canal at Romeo, averaging 37 second-feet in May and 13 second-feet in June, is included in this record and also in records for Des Plaines River at Lemont.

TOTAL DAILY MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	3,654	3,973	9	3,851	3,615	17	7,531	3,730	25	6,221	3,739
2	3,514	3,791	10	4,249	3,684	18	8,279	3,874	26	4,686	3,879
3	3,583	3,898	11	8,737	3,725	19	8,895	3,943	27	3,915	3,712
4	3,610	4,871	12	9,559	3,699	20	10,376	3,795	28	3,500	3,957
5	3,638	3,779	13	7,392	3,779	21	9,169	3,808	29	3,540	4,014
6	3,729	3,922	14	5,461	4,210	22	8,213	4,106	30	3,855	3,824
7	3,588	4,044	15	5,149	3,678	23	6,422	3,836	31	4,181	-------
8	5,831	3,736	16	7,311	3,793	24	7,559	3,804	-------	-------	-------
Monthly mean discharge, in second-feet										5,780	3,874

ILLINOIS RIVER BASIN

Du Page River at Troy, Ill.

Location.—Lat. 41°31′20″, long. 88°11′35″, in SE¼SW¼ sec. 10, T. 35 N., R. 9 E., at Troy, (formerly known as Grinton) 400 feet upstream from U. S. Highway No. 52.

Drainage area.—325 square miles.

Gage-height record.—Water-stage recorder graph.

Discharge record.—Stage-discharge relation controlled by masonry dam and defined by current-meter measurements up to 2,300 second-feet.

Maxima.—1943: Discharge, 2,640 second-feet 12 m. May 21 (gage height 5.14 feet). 1940-42: Discharge 3,640 second-feet Feb. 6, 1942 (gage height 6.46 feet).

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	341	526	9	430	324	17	1,860	191	25	1,290	159
2	297	526	10	373	307	18	1,990	174	26	1,110	148
3	260	494	11	1,170	291	19	1,920	162	27	890	184
4	227	580	12	1,620	265	20	2,130	204	28	725	318
5	200	469	13	1,110	255	21	2,580	255	29	630	195
6	191	409	14	784	281	22	1,990	222	30	573	155
7	179	392	15	655	217	23	1,360	208	31	587	-------
8	310	352	16	1,480	204	24	1,180	179	-------	-------	-------
Monthly mean discharge, in second-feet										982	288
Runoff, in inches										3.48	.99

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF DU PAGE RIVER AT TROY, ILL. (WILL CO.)

Hour	MAY 8		MAY 9		MAY 10		MAY 11		MAY 12		MAY 13	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
2	------	------	------	------	------	------	2.87	463	------	------	------	------
4	2.41	213	------	------	------	------	2.95	513	------	------	------	------
6	------	------	------	------	2.70	363	3.02	559	4.25	1,720	3.74	1,210
8	2.50	255	------	------	------	------	3.12	630	------	------	------	------
10	------	------	------	------	------	------	3.50	970	------	------	------	------
Noon	2.57	291	2.83	439	2.69	357	3.95	1,420	4.17	1,640	3.62	1,090
2	------	------	------	------	------	------	4.07	1,540	------	------	------	------
4	2.68	352	------	------	------	------	4.16	1,630	------	------	------	------
6	------	------	------	------	2.70	363	4.22	1,690	4.06	1,530	3.52	990
8	2.82	433	------	------	------	------	4.27	1,740	------	------	------	------
10	------	------	------	------	------	------	4.29	1,760	------	------	------	------
12	2.85	451	2.75	392	2.81	427	4.30	1,770	3.90	1,370	3.44	910
	MAY 14		MAY 15		MAY 16		MAY 17		MAY 18		MAY 19	
2	------	------	------	------	3.29	767	------	------	------	------	------	------
4	------	------	------	------	3.45	920	------	------	------	------	------	------
6	------	------	3.15	653	3.65	1,120	4.45	1,920	4.47	1,940	4.50	1,970
8	------	------	------	------	3.90	1,370	------	------	------	------	------	------
10	------	------	------	------	4.10	1,570	------	------	------	------	------	------
Noon	3.30	775	3.13	638	4.22	1,690	4.37	1,840	4.55	2,020	4.43	1,900
2	------	------	------	------	4.27	1,740	------	------	------	------	------	------
4	------	------	------	------	4.32	1,790	------	------	------	------	------	------
6	------	------	3.14	645	4.35	1,820	4.34	1,810	4.58	2,050	4.37	1,840
8	------	------	------	------	4.37	1,840	------	------	------	------	------	------
10	------	------	------	------	4.38	1,850	------	------	------	------	------	------
12	3.18	676	3.20	691	4.40	1,870	4.38	1,850	4.56	2,030	4.43	1,900
	MAY 20		MAY 21		MAY 22		MAY 23		MAY 24		MAY 25	
2	4.44	1,910	------	------	------	------	------	------	------	------	------	------
4	4.44	1,910	5.10	2,600	------	------	------	------	3.73	1,200	3.84	1,310
6	4.44	1,910	------	------	4.70	2,170	3.97	1,440	------	------	------	------
8	4.43	1,900	5.13	2,630	------	------	------	------	3.70	1,170	3.86	1,330
10	4.45	1,920	------	------	------	------	------	------	------	------	------	------
Noon	4.48	1,950	5.14	2,640	4.53	2,000	3.87	1,340	3.67	1,140	3.84	1,310
2	4.56	2,030	------	------	------	------	------	------	------	------	------	------
4	4.70	2,170	5.09	2,590	------	------	------	------	3.68	1,150	3.82	1,290
6	4.90	2,390	------	------	4.35	1,820	3.79	1,260	------	------	------	------
8	5.05	2,550	5.01	2,510	------	------	------	------	3.72	1,190	3.80	1,270
10	5.12	2,620	------	------	------	------	------	------	------	------	------	------
12	5.11	2,610	4.89	2,380	4.12	1,590	3.75	1,220	3.78	1,250	3.77	1,240

ILLINOIS RIVER BASIN

Kankakee River at Momence, Ill.

Location.—Lat. 41°09′38″, long. 87°40′01″, in NE¼ sec. 24, T. 31 N., R. 13 E., a quarter of a mile downstream from the highway bridge in Momence and 1¼ miles upstream from Tower Creek. Datum of gage is 610.18 feet above mean sea level, datum of 1929.

Drainage area.—2,340 square miles.

Gage-height record.—Water-stage recorder graph.

Discharge record.—Stage-discharge relation defined by current-meter measurements up to 8,200 second-feet and extended above.

Maxima.—1943: Discharge, 8,450 second-feet 6 a. m. May 21 (gage height 4.57 feet). 1905-6, 1915-42: Discharge observed, 14,000 second-feet Jan. 22, 1916; gage height observed, 7.5 feet Jan. 21, 1916, (ice jam).

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	4,230	6,520	9	3,480	5,260	17	6,780	3,630	25	7,740	2,260
2	4,030	6,520	10	3,560	4,940	18	7,310	3,440	26	7,610	2,100
3	3,830	6,310	11	5,890	4,740	19	7,410	3,160	27	7,390	2,100
4	3,630	6,100	12	6,500	4,530	20	7,570	2,970	28	7,170	1,940
5	3,440	5,890	13	6,330	4,330	21	8,270	2,880	29	6,950	1,860
6	3,160	5,890	14	6,310	4,430	22	7,830	2,700	30	6,730	1,760
7	2,970	5,680	15	6,230	4,230	23	7,590	2,520	31	6,730	-------
8	3,220	5,470	16	6,630	3,930	24	7,500	2,350	-------	-------	-------
Monthly mean discharge, in second-feet										5,936	4,015
Runoff, in inches										2.92	1.91

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF KANKAKEE RIVER AT MOMENCE, ILL.

Hour	MAY 8		MAY 9		MAY 10		MAY 11		MAY 12		MAY 13	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
2	1.91	2,900	------	------	2.23	3,500	2.56	4,150	------	------	------	------
4	1.93	2,930	------	------	2.24	3,520	2.75	4,530	3.77	6,670	------	------
6	1.95	2,910	2.21	3,460	2.24	3,520	2.98	5,010	------	------	------	------
8	1.99	3,040	------	------	2.24	3,520	3.22	5,510	3.71	6,540	------	------
10	2.03	3,120	------	------	2.24	3,520	3.45	6,000	------	------	------	------
Noon	2.11	3,270	2.22	3,480	2.25	3,540	3.63	6,370	3.67	6,460	3.61	6,330
2	2.17	3,380	------	------	2.25	3,540	3.75	6,620	------	------	------	------
4	2.20	3,440	------	------	2.25	3,540	3.81	6,750	3.65	6,420	------	------
6	2.21	3,460	2.23	3,500	2.25	3,540	3.83	6,800	------	------	------	------
8	2.21	3,460	------	------	2.28	3,590	3.84	6,820	3.63	6,370	------	------
10	2.21	3,460	------	------	2.33	3,690	3.83	6,800	------	------	------	------
12	2.21	3,460	2.23	3,500	2.39	3,810	3.81	6,750	3.61	6,330	3.61	6,330
	MAY 14		MAY 15		MAY 16		MAY 17		MAY 18		MAY 19	
2	------	------	------	------	3.58	6,270	3.79	6,710	------	------	------	------
4	------	------	------	------	3.61	6,330	3.78	6,690	4.00	7,170	------	------
6	3.61	6,330	3.57	6,250	3.66	6,440	3.77	6,670	------	------	4.12	7,430
8	------	------	------	------	3.72	6,560	3.77	6,670	4.04	7,260	------	------
10	------	------	------	------	3.77	6,670	3.77	6,670	------	------	------	------
Noon	3.60	6,310	3.56	6,230	3.80	6,730	3.78	6,690	4.07	7,320	4.11	7,410
2	------	------	------	------	3.82	6,770	3.80	6,730	------	------	------	------
4	------	------	------	------	3.84	6,820	3.82	6,770	4.11	7,410	------	------
6	3.59	6,290	3.55	6,200	3.85	6,840	3.85	6,840	------	------	4.10	7,390
8	------	------	------	------	3.84	6,820	3.89	6,930	4.12	7,430	------	------
10	------	------	------	------	3.83	6,800	3.93	7,020	------	------	------	------
12	3.58	6,270	3.56	6,230	3.81	6,750	3.95	7,060	4.13	7,460	4.10	7,390
	MAY 20		MAY 21		MAY 22		MAY 23		MAY 24		MAY 25	
2	4.10	7,390	4.53	8,360	------	------	------	------	------	------	------	------
4	4.09	7,370	4.56	8,430	------	------	------	------	------	------	4.26	7,740
6	4.09	7,370	4.57	8,450	4.33	7,900	4.22	7,650	4.14	7,480	------	------
8	4.08	7,350	4.56	8,430	------	------	------	------	------	------	4.29	7,810
10	4.09	7,370	4.55	8,400	------	------	------	------	------	------	------	------
Noon	4.11	7,410	4.53	8,360	4.30	7,830	4.19	7,590	4.13	7,460	4.29	7,810
2	4.14	7,480	4.50	8,290	------	------	------	------	------	------	------	------
4	4.20	7,610	4.46	8,200	------	------	------	------	------	------	4.27	7,760
6	4.27	7,760	4.44	8,150	4.27	7,760	4.16	7,520	4.15	7,500	------	------
8	4.34	7,920	4.41	8,080	------	------	------	------	------	------	4.23	7,680
10	4.40	8,060	4.39	8,040	------	------	------	------	------	------	------	------
12	4.47	8,220	4.37	7,990	4.24	7,700	4.15	7,500	4.21	7,630	4.21	7,630

May 25, 10 a.m., 4.30 ft., 7,830 sec.-ft.

ILLINOIS RIVER BASIN

Kankakee River near Wilmington, Ill.

Location.—Lat. 41°20′48″, long. 88°11′11″, in NW¼ sec. 15, T. 33 N., R. 9 E., 0.4 mile downstream from Prairie Creek and 5 miles downstream from Wilmington. Datum of gage is 511.10 feet above mean sea level, datum of 1929.

Drainage area.—5,250 square miles.

Gage-height record.—Water-stage recorder graph.

Discharge record.—Stage-discharge relation defined by current-meter measurements up to 42,000 second-feet and extended above.

Maxima.—May 1943: Discharge, 48,000 second-feet 2-4 a. m. May 21 (gage height 8.87 feet). 1935 to April 1943: Discharge, 46,600 second-feet Feb. 7, 1942; gage height, 10.06 feet Feb. 6, 1943, ice jam.

Stage known, 16.73 feet in 1883 and 1887.

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	11,800	11,500	9	14,000	7,850	17	25,200	5,920	25	26,500	4,850
2	10,200	11,500	10	15,300	7,420	18	32,700	5,360	26	22,400	4,530
3	8,970	10,400	11	31,500	6,990	19	35,600	4,850	27	19,800	4,410
4	8,070	10,400	12	35,800	6,560	20	40,100	4,450	28	17,500	4,110
5	7,200	9,440	13	29,400	6,340	21	44,200	4,180	29	15,400	3,920
6	6,340	8,740	14	26,800	6,130	22	34,500	4,150	30	13,600	3,550
7	5,900	8,740	15	24,300	6,130	23	28,700	4,340	31	12,400	-------
8	9,350	8,070	16	24,900	6,340	24	27,300	4,810	-------	-------	-------
Monthly mean discharge, in second-feet										21,480	6,533
Runoff, in inches										4.72	1.39

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF KANKAKEE RIVER NEAR WILMINGTON, ILL.

Hour	MAY 7		MAY 8		MAY 9		MAY 10		MAY 11		MAY 12	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
2	------	------	------	------	------	------	4.47	14,600	5.44	21,200	7.96	40,700
4	------	------	3.00	6,990	------	------	4.48	14,700	5.77	23,600	7.87	40,000
6	2.73	5,830	------	------	4.30	13,600	4.49	14,700	6.21	26,900	7.73	38,800
8	------	------	3.27	8,160	------	------	4.49	14,700	6.49	29,000	7.57	37,600
10	------	------	------	------	------	------	4.50	14,800	6.68	30,400	7.43	36,400
Noon	2.71	5,740	3.49	9,150	4.38	14,100	4.50	14,800	6.87	32,000	7.30	35,400
2	------	------	------	------	------	------	4.51	14,800	7.08	33,600	7.18	34,400
4	------	------	3.76	10,500	------	------	4.52	14,900	7.31	35,500	7.08	33,600
6	2.75	5,920	------	------	4.44	14,400	4.56	15,200	7.54	37,300	6.99	32,900
8	------	------	4.01	11,800	------	------	4.71	16,100	7.74	38,900	6.92	32,400
10	------	------	------	------	------	------	4.95	17,700	7.88	40,000	6.84	31,700
12	2.82	6,220	4.17	12,800	4.47	14,600	5.18	19,300	7.96	40,700	6.78	31,200
	MAY 13		MAY 14		MAY 15		MAY 16		MAY 17		MAY 18	
2	------	------	------	------	------	------	5.72	23,200	5.96	25,000	6.48	28,900
4	------	------	------	------	------	------	5.76	23,500	5.93	24,800	6.59	29,700
6	6.63	30,000	------	------	------	------	5.82	23,900	5.91	24,600	6.74	30,900
8	------	------	------	------	------	------	5.89	24,500	5.89	24,500	6.86	31,900
10	------	------	------	------	------	------	5.94	24,800	5.87	24,300	6.95	32,600
Noon	6.53	29,300	6.21	26,900	5.85	24,200	6.00	25,300	5.88	24,400	7.03	33,200
2	------	------	------	------	------	------	6.07	25,800	5.90	24,500	7.11	33,900
4	------	------	------	------	------	------	6.09	26,000	5.96	25,000	7.19	34,500
6	6.44	28,600	------	------	------	------	6.08	25,900	6.04	25,600	7.25	35,000
8	------	------	------	------	------	------	6.06	25,700	6.14	26,300	7.28	35,200
10	------	------	------	------	------	------	6.03	25,500	6.27	27,300	7.28	35,200
12	6.36	28,000	6.03	25,500	5.73	23,300	5.99	25,200	6.38	28,100	7.27	35,200
	MAY 19		MAY 20		MAY 21		MAY 22		MAY 23		MAY 24	
2	------	------	7.41	36,300	8.87	48,000	------	------	------	------	------	------
4	------	------	7.41	36,300	8.87	48,000	------	------	------	------	6.30	27,500
6	7.25	35,000	7.42	36,400	8.81	47,500	7.40	36,200	6.60	29,800	------	------
8	------	------	7.43	36,400	8.70	46,600	------	------	------	------	6.27	27,300
10	------	------	7.46	36,700	8.58	45,600	------	------	------	------	------	------
Noon	7.31	35,500	7.59	37,700	8.43	44,400	7.16	34,300	6.44	28,600	6.25	27,200
2	------	------	7.95	40,600	8.30	43,400	------	------	------	------	------	------
4	------	------	8.26	43,100	8.17	42,400	------	------	------	------	6.25	27,200
6	7.37	36,000	8.43	44,400	8.05	41,400	6.95	32,600	6.29	27,500	------	------
8	------	------	8.58	45,600	7.94	40,500	------	------	------	------	6.30	27,500
10	------	------	8.67	46,400	7.82	39,600	------	------	------	------	------	------
12	7.40	36,200	8.78	47,200	7.71	38,700	6.77	31,200	6.20	26,800	6.33	27,800
	MAY 25		MAY 26		MAY 27		MAY 28		MAY 29		MAY 30	
4	6.36	28,000	------	------	------	------	------	------	------	------	------	------
8	6.31	27,600	------	------	------	------	------	------	------	------	------	------
Noon	6.19	26,700	5.59	22,200	5.25	19,800	4.91	17,400	4.59	15,400	4.29	13,500
4	6.08	25,900	------	------	------	------	------	------	------	------	------	------
8	5.96	25,000	------	------	------	------	------	------	------	------	------	------
12	5.86	24,200	5.42	21,000	5.09	18,700	4.75	16,400	4.44	14,400	4.18	12,900

May 12, 1 a.m., 7.97 ft., 40,800 sec.-ft.

ILLINOIS RIVER BASIN

Iroquois River near Chebanse, Ill.

Location.—Lat. 41°00′29″, long. 87°49′22″, in SW¼ sec. 10, T. 29 N., R. 13 W., at highway bridge 3 miles downstream from Beaver Creek, 4½ miles east of Chebanse, and 6 miles upstream from mouth. Datum of gage is 597.83 feet above mean sea level, datum of 1929.

Drainage area.—2,120 square miles.

Gage-height record.—Graph based on twice-daily readings of chain gage.

Discharge record.—Stage-discharge relation defined by current-meter measurements up to 24,000 second-feet and extended above.

Maxima.—1943: Discharge, 25,100 second-feet 10 a. m. May 20 (gage height 17.68 feet, from graph based on gage readings). 1923-43: Discharge observed, 27,000 second-feet May 13, 1933 (gage height about 18.1 feet).

Stage known, about 19.6 feet in spring of 1913 (discharge about 34,000 second-feet).

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	4,420	3,720	9	8,400	1,650	17	14,100	1,650	25	11,600	2,140
2	3,610	3,390	10	9,230	1,480	18	18,600	1,330	26	10,600	1,840
3	2,950	2,840	11	14,300	1,400	19	22,500	1,070	27	9,180	1,560
4	2,440	2,340	12	18,000	1,330	20	24,400	845	28	7,500	1,560
5	1,840	1,940	13	17,300	1,260	21	22,400	900	29	6,080	1,400
6	1,480	1,650	14	15,700	1,190	22	19,200	1,130	30	5,020	1,070
7	2,330	1,650	15	13,800	1,560	23	15,500	1,840	31	4,300	-------
8	5,400	1,650	16	12,900	2,040	24	13,000	2,240	-------	-------	-------
Monthly mean discharge, in second-feet										10,910	1,722
Runoff, in inches										5.93	.91

GAGE HEIGHT, IN FEET, AND DISCHARGE IN SECOND-FEET, AT INDICATED TIME, 1943, OF IROQUOIS RIVER NEAR CHEBANSE, ILL.

Hour	MAY 7		MAY 8		MAY 9		MAY 10		MAY 11		MAY 12	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
8	4.05	1,890	6.85	4,960	9.25	8,320	9.70	9,020	12.00	12,700	14.95	18,100
4	4.70	2,540	7.50	5,800	9.55	8,780	9.75	9,100	14.00	16,200	14.90	18,000
12	5.75	3,660	8.50	7,200	9.70	9,020	10.35	10,100	14.75	17,700	14.80	17,800
	MAY 13		MAY 14		MAY 15		MAY 16		MAY 17		MAY 18	
8	14.65	17,500	13.90	16,000	12.75	14,000	12.10	12,900	12.30	13,200	14.80	17,800
4	14.45	17,100	13.60	15,500	12.50	13,600	12.10	12,900	13.05	14,500	15.65	19,600
12	14.20	16,600	13.10	14,600	12.25	13,100	12.10	12,900	13.95	16,100	16.20	20,800
	MAY 19		MAY 20		MAY 21		MAY 22		MAY 23		MAY 24	
8	16.70	22,000	17.65	25,000	17.00	22,800	15.80	20,000	13.90	16,000	12.35	13,300
4	17.10	23,100	17.50	24,400	16.70	22,000	15.10	18,400	13.30	14,900	11.95	12,600
12	17.45	24,200	17.25	23,600	16.35	21,200	14.50	17,200	12.85	14,100	11.75	12,300

May 20, 10 a.m., 17.68 ft., 25,100 sec.-ft.

ILLINOIS RIVER BASIN

Mazon River near Coal City, Ill.

Location.—Lat. 41°17′10″, long. 88°21′35″, in SW¼SW¼ sec. 31, T. 33 N. .R. 8 E., just downstream from bridge on U. S. Highway 52, a quarter of a mile downstream from Johnny Run and 4 miles west of Coal City. Datum of gage is 527.41 feet above mean sea level, datum of 1929.

Drainage area.—470 square miles.

Gage-height record.—Water-stage recorder graph, except for period 11 a. m. May 12 to 6 p. m. May 20, for which only the extremes of each rise are available.

Discharge record.—Stage-discharge relation defined by current-meter measurements up to 13,000 second-feet and extended above. For the period of no gage-height record, discharge computed on basis of extremes of each rise and records for Vermilion River at Lowell and North Fork Vermilion River near Charlotte.

Maxima.—1943: Discharge, 13,600 second-feet 4 a. m. May 12 (gage height 16.13 feet). 1939-42: Discharge, 14,000 second-feet Feb. 7, 1942 (gage height 17.28 feet).

Stage known, about 21 feet Aug. 8, 1924.

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	1,700	412	9	1,650	424	17	3,100	172	25	2,210	79
2	1,270	456	10	1,360	368	18	5,800	142	26	1,300	71
3	950	365	11	8,800	323	19	6,600	122	27	920	66
4	710	468	12	11,400	284	20	6,490	113	28	740	62
5	610	390	13	4,520	242	21	9,380	129	29	610	53
6	520	416	14	2,180	218	22	2,500	116	30	520	44
7	428	770	15	1,420	204	23	1,580	101	31	468	------
8	1,400	540	16	3,020	186	24	1,550	87	------	------	------
Monthly mean discharge, in second-feet										2,765	247
Runoff, in inches										6.78	.59

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF MAZON RIVER NEAR COAL CITY, ILL.

Hour	MAY 8		MAY 9		MAY 10		MAY 11		MAY 12		MAY 13	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
2	3.84	416	6.65	2,220	5.31	1,210	8.90	4,240	16.06	13,500	-------	-------
4	3.98	472	6.42	2,040	5.26	1,170	9.63	5,040	16.13	13,600	-------	-------
6	4.19	556	6.23	1,880	5.22	1,140	10.35	5,870	16.08	13,500	-------	-------
8	4.55	740	6.07	1,760	5.18	1,120	11.30	7,010	15.83	13,100	-------	-------
10	5.02	1,020	5.93	1,640	5.15	1,100	12.32	8,320	15.39	12,500	-------	-------
Noon	5.47	1,320	5.82	1,560	5.12	1,080	13.15	9,400	-------	12,000	-------	4,100
2	5.91	1,630	5.72	1,490	5.10	1,070	13.68	10,100	-------	11,200	-------	-------
4	6.35	1,980	5.63	1,430	5.09	1,060	14.25	10,800	-------	10,600	-------	-------
6	6.71	2,270	5.55	1,380	5.21	1,140	14.79	11,600	-------	9,600	-------	-------
8	6.95	2,460	5.49	1,330	5.76	1,520	15.22	12,200	-------	8,700	-------	-------
10	6.99	2,490	5.43	1,290	6.82	2,360	15.55	12,700	-------	7,900	-------	-------
12	6.87	2,400	5.37	1,250	8.03	3,370	15.87	13,200	-------	7,000	-------	2,900
	MAY 14		MAY 15		MAY 16		MAY 17		MAY 18		MAY 19	
Noon	-------	2,100	-------	1,300	-------	3,800	-------	2,700	-------	6,200	-------	6,800
12	-------	1,600	-------	1,500	-------	3,000	-------	4,000	-------	6,800	-------	6,000
	MAY 20		MAY 21		MAY 22		MAY 23		MAY 24		MAY 25	
2	-------	5,900	14.67	11,400	-------	-------	-------	-------	5.53	1,360	6.58	2,160
4	-------	5,800	15.18	12,200	7.60	2,980	-------	-------	5.52	1,350	6.97	2,480
6	-------	5,700	15.30	12,400	-------	-------	5.98	1,680	5.53	1,360	7.26	2,710
8	-------	5,700	15.13	12,100	7.17	2,640	-------	-------	5.62	1,420	7.38	2,800
10	-------	5,700	14.70	11,500	-------	-------	-------	-------	5.78	1,540	7.27	2,720
Noon	-------	5,800	14.11	10,700	6.86	2,390	5.80	1,550	5.90	1,620	6.98	2,480
2	-------	5,900	13.35	9,660	-------	-------	-------	-------	5.96	1,670	6.65	2,220
4	-------	6,100	12.45	8,480	6.60	2,180	-------	-------	5.97	1,680	6.39	2,010
6	10.91	6,540	11.45	7,190	-------	-------	5.67	1,460	5.94	1,650	6.20	1,860
8	11.82	7,670	10.09	5,560	6.39	2,010	-------	-------	5.93	1,640	6.06	1,750
10	12.84	8,990	9.06	4,420	-------	-------	-------	-------	6.00	1,700	5.93	1,640
12	13.80	10,200	8.39	3,710	6.22	1,880	5.57	1,390	6.22	1,880	5.83	1,570

May 8, 9:30 p.m., 7.00 ft., 2,500 sec.-ft.

ILLINOIS RIVER BASIN

Fox River at Dayton, Ill.

Location.—Lat. 41°23′14″, long. 88°47′21″, in SE¼ sec. 29, T. 34 N., R. 4 E., in tailrace of plant of North Counties Hydro-Electric Company in Dayton, 6 miles upstream from mouth. Datum of gage is 462.30 feet above mean sea level, datum of 1929.

Drainage area.—2,570 square miles.

Gage-height record.—Hourly readings of float gage.

Discharge record.—Stage-discharge relation defined by current-meter measurements up to 8,000 second-feet and extended to crest stage by comparison with flow over the dam and through the turbines.

Maxima.—1943: Discharge, 10,600 second-feet 6-8 a. m. May 21 (gage height 13.14 feet). Gage height 31.70 feet (from floodmark) 9 a. m. Mar. 8, due to an ice jam. 1925-42: Maximum daily discharge, 19,900 second-feet Jan. 25, 1938.

Remarks.—Gage-height record furnished by North Counties Hydro-Electric Co., under general supervision of U. S. Geological Survey, in connection with Federal Power Commission Project 287.

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	2,390	2,610	9	2,230	2,130	17	6,110	1,480	25	5,130	1,190
2	2,230	2,440	10	2,080	2,130	18	6,820	1,660	26	4,510	1,040
3	2,080	2,390	11	4,360	2,080	19	6,110	1,230	27	4,060	1,040
4	1,890	2,560	12	4,360	2,030	20	7,920	1,400	28	3,630	970
5	1,800	2,130	13	3,350	1,890	21	9,960	2,280	29	3,350	970
6	1,660	2,080	14	2,780	1,760	22	7,000	1,710	30	3,090	935
7	1,530	2,130	15	2,780	1,660	23	5,450	2,130	31	2,900	-------
8	2,130	2,180	16	6,280	1,530	24	5,130	1,190	-------	-------	-------
Monthly mean discharge, in second-feet										4,035	1,765
Runoff, in inches										1.81	.77

ILLINOIS RIVER BASIN

North Fork Vermilion River near Charlotte, Ill.

Location.—Lat. 40°50′, long. 88°18′, in SE¼ sec. 4, T. 27 N., R. 8 E., at the Foreman highway bridge, half a mile downstream from the Illinois Central Railroad, 1¼ miles northwest of Charlotte, 5½ miles north of Chatsworth and 15 miles upstream from the confluence of the North Fork and South Fork. Datum of gage is 640.00 feet above mean sea level, datum of 1929 (Corps of Engineers, U. S. Army, bench mark).

Drainage area.—184 square miles.

Gage-height record.—Water-stage recorder graph.

Discharge record.—Stage-discharge relation defined by current-meter measurements up to 1,700 second-feet and extended above. Rate of change of stage used as a factor in computing discharge.

Maxima.—1943: Discharge, 2,400 second-feet 12 m. May 18 (gage height, 13.54 feet).

Remarks.—A stage of 13.78 feet occurred on Aug. 4, 1943, but, because of vegetation effects, the discharge was less than that of May 18, 1943. See page 156 of this report for data on the flood of August 1943.

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	480	252	9	828	110	17	1,820	70	25	994	36
2	410	302	10	782	100	18	2,320	54	26	657	32
3	317	247	11	1,920	107	19	2,110	46	27	460	28
4	257	192	12	2,200	94	20	1,920	44	28	399	27
5	212	157	13	1,840	94	21	1,810	50	29	329	25
6	181	182	14	1,340	167	22	1,420	45	30	277	24
7	256	162	15	962	114	23	940	42	31	242	-------
8	1,060	127	16	1,610	84	24	900	38	-------	-------	-------
Monthly mean discharge, in second-feet										1,008	102
Runoff, in inches										6.32	.62

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF N. FORK VERMILION RIVER NEAR CHARLOTTE, ILL.

Hour	MAY 6		MAY 7		MAY 8		MAY 9		MAY 10		MAY 11	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
2			6.43	[1]250	7.25	[1]312					11.50	[1]1,680
4	5.52	183	6.57	246	7.71	[1]391			10.49	[1]664	11.82	[1]1,730
6			6.60	247	9.26	[1]1,390					12.12	[1]1,650
8	5.43	178	6.60	247	10.63	[1]1,800			10.36	[1]643	12.25	1,580
10			6.59	246	11.18	[1]1,510					12.36	1,650
Noon	5.31	172	6.59	246	11.39	[1]1,300	11.02	[1]846	10.25	[1]641	12.56	1,770
2			6.76	255	11.49	[1]1,200					12.92	1,980
4	5.28	171	6.94	264	11.52	1,100			10.17	[1]672	13.18	2,150
6			7.05	270	11.53	1,100					13.35	2,260
8	5.25	170	7.12	273	11.51	[1]1,030			10.21	[1]905	13.42	2,310
10			7.14	274	11.46	[1]963					13.43	2,320
12	6.06	[1]227	7.17	276	11.40	[1]924	10.62	[1]697	11.15	[1]1,640	13.44	2,330
	MAY 12		MAY 13		MAY 14		MAY 15		MAY 16		MAY 17	
2									11.18	[1]1,560	12.13	1,510
4									11.67	[1]1,890	12.10	1,490
6	13.38	2,290					11.31	[1]974	12.13	[1]1,640	12.10	1,490
8									12.25	1,580	12.22	1,560
10									12.31	1,620	12.38	1,660
Noon	13.27	2,210	12.69	1,840	11.95	[1]1,330	11.12	[1]910	12.35	1,640	12.64	1,810
2									12.38	1,660	12.88	1,960
4									12.37	1,650	13.03	2,050
6	13.15	2,120					11.01	[1]920	12.34	1,630	13.14	2,120
8									12.30	1,610	13.18	2,150
10									12.24	1,570	13.22	2,170
12	13.00	2,030	12.33	1,630	11.51	[1]1,060	10.97	[1]1,030	12.18	1,540	13.22	2,170
	MAY 18		MAY 19		MAY 20		MAY 21		MAY 22		MAY 23	
2	13.22	2,170										
4	13.28	2,220			12.81	1,920						
6	13.38	2,290					12.77	1,890				
8	13.47	2,350			12.73	1,870						
10	13.52	2,380										
Noon	13.54	2,400	13.12	2,100	12.77	1,890	12.65	1,820	12.01	1,440	11.21	[1]924
2	13.53	2,390										
4	13.52	2,380			12.86	1,950						
6	13.49	2,360					12.52	1,740				
8	13.45	2,340			12.88	1,960						
10	13.42	2,310										
12	13.37	2,280	12.89	1,960	12.85	1,940	12.36	1,650	11.62	[1]1,140	10.82	[1]771
	MAY 24		MAY 25		MAY 26		MAY 27		MAY 28		MAY 29	
2	10.77	[1]784										
4	10.72	[1]751	11.32	[1]1,160								
6	10.66	[1]734										
8	10.61	[1]728	11.30	[1]1,040								
10	10.56	[1]715										
Noon	10.51	[1]701	11.21	[1]966	10.51	[1]638	9.66	[1]452	8.73	422	7.84	324
2	10.46	783										
4	10.50	[1]866	11.12	[1]931								
6	10.72	[1]1,230										
8	10.98	[1]1,250	11.03	[1]878								
10	11.08	[1]1,170										
12	11.18	[1]1,170	10.92	[1]803	10.13	[1]548	9.21	[1]388	8.27	364	7.42	303

May 6, 9:30 p.m., 5.25 ft., 170 sec.-ft.

[1] Computed by using rate of change of stage as a factor.

ILLINOIS RIVER BASIN

VERMILION RIVER AT PONTIAC, ILL.

Location.—Lat. 40°52′40″, long. 88°38′10″, in SW¼ sec. 22, T. 28 N., R. 5 E., at the Vermilion Street bridge in Pontiac, 0.1 mile upstream from the Chicago and Alton Railroad and U. S. Highway No. 66, three-quarters of a mile upstream from the mouth of Turtle Creek, 1½ miles downstream from the Wabash Railroad, and 14 miles downstream from the confluence of the North Fork and South Fork. Datum of gage is 619.45 feet above mean sea level, datum of 1929.

Drainage area.—568 square miles.

Gage-height record.—Graph based on observer's twice-daily readings of wire-weight gage, supplemented by additional readings near crest stage.

Discharge record.—Stage-discharge relation defined by current-meter measurements up to 6,500 second-feet. Does not include about 1.4 second-feet diverted by City of Pontiac ½ mile upstream.

Maxima.—1943: May discharge, 7,300 second-feet at 12 m. May 19 (gage height 14.81 feet, from graph based on gage readings). August discharge, 8,170 second-feet 11 a. m. Aug. 5 (gage-height 15.90 feet, from graph based on gage readings).

A stage of 17.0 feet occurred in May 1933, (discharge not determined) and is said to have been the highest within the last 30 years.

Remarks.—See page 156 of this report for data on the flood of August 1943.

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	2,180	720	9	2,450	458	17	3,730	311	25	2,670	176
2	1,660	980	10	2,720	408	18	5,760	242	26	2,540	220
3	1,180	885	11	3,480	484	19	7,180	209	27	2,130	176
4	930	685	12	5,540	458	20	6,440	187	28	1,540	144
5	720	592	13	5,650	383	21	5,720	198	29	1,130	133
6	620	592	14	4,500	433	22	4,750	187	30	840	116
7	606	592	15	3,520	537	23	3,620	165	31	760	-------
8	1,190	510	16	3,270	408	24	2,980	154	-------	-------	-------
Monthly mean discharge, in second-feet										2,968	391
Runoff, in inches										6.02	.77

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF VERMILION RIVER AT PONTIAC, ILL.

Hour	MAY 7		MAY 8		MAY 9		MAY 10		MAY 11		MAY 12	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
6	3.80	564	5.10	1,080	7.12	2,240	8.22	2,730	8.53	2,880	12.03	5,160
Noon	3.81	567	5.32	1,190	7.96	2,600	8.11	2,680	9.20	3,260	12.68	5,620
6	3.93	600	5.48	1,290	8.27	2,760	8.12	2,680	10.43	4,040	13.21	6,020
12	4.51	804	5.98	1,590	8.32	2,780	8.28	2,760	11.39	4,710	13.20	6,010
	MAY 13		MAY 14		MAY 15		MAY 16		MAY 17		MAY 18	
6	13.08	5,910	11.57	4,840	9.90	3,680	9.28	3,310	9.50	3,440	11.96	5,110
Noon	12.79	5,690	11.03	4,460	9.59	3,490	9.21	3,270	9.87	3,660	12.85	5,740
6	12.41	5,430	10.61	4,170	9.29	3,310	9.14	3,220	10.32	3,960	13.74	6,440
12	12.01	5,150	10.24	3,910	9.26	3,300	9.21	3,270	11.03	4,460	14.45	7,010
	MAY 19		MAY 20		MAY 21		MAY 22		MAY 23		MAY 24	
6	14.78	7,270	13.82	6,510	13.05	5,890	11.89	5,060	10.12	3,820	8.88	3,070
Noon	14.81	7,300	13.69	6,400	12.82	5,710	11.41	4,730	9.76	3,600	8.68	2,960
6	14.71	7,220	13.62	6,350	12.59	5,550	11.02	4,450	9.42	3,390	8.52	2,880
12	14.23	6,830	13.39	6,160	12.29	5,340	10.58	4,150	9.12	3,210	8.35	2,800

ILLINOIS RIVER BASIN

VERMILION RIVER AT LOWELL, ILL.

Location.—Lat. 41°15′18″, long. 89°00′49″, in SE¼ sec. 8, T. 32 N., R. 2 E., at highway bridge a quarter of a mile northwest of Lowell, and 10 miles upstream from mouth. Datum of gage is 500.61 feet above mean sea level, datum of 1929.

Drainage area.—1,230 square miles.

Gage-height record.—Graph based on observer's twice-daily readings of wire-weight gage.

Discharge record.—Stage-discharge relation defined by current-meter measurements up to 19,000 second-feet and extended above.

Maxima.—1943: Discharge 21,400 second-feet 10 a. m. May 21 (gage height 10.65 feet, from graph based on gage readings). 1931-42: Discharge 22,200 second-feet May 12, 1933 (gage height 10.76 feet).

Highest stage known, about 16 feet during an ice jam, date unknown.

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	5,030	1,520	9	4,370	1,420	17	7,550	800	25	5,470	380
2	4,150	1,730	10	4,600	1,230	18	10,800	685	26	4,800	460
3	3,080	1,730	11	10,100	1,140	19	14,500	550	27	4,150	460
4	2,480	2,770	12	16,400	1,230	20	14,300	520	28	3,240	432
5	1,840	1,620	13	11,400	1,050	21	19,900	520	29	2,480	355
6	1,620	1,420	14	8,190	1,050	22	11,800	490	30	2,080	325
7	1,320	3,080	15	6,560	960	23	7,100	405	31	1,730	--------
8	3,020	1,730	16	7,680	960	24	5,620	310	--------	--------	--------
Monthly mean discharge, in second-feet										6,689	1,044
Runoff, in inches										6.27	.95

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF VERMILION RIVER AT LOWELL, ILL.

Hour	MAY 8		MAY 9		MAY 10		MAY 11		MAY 12		MAY 13	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
6	4.36	2,070	5.85	4,560	5.77	4,380	6.91	6,890	9.68	17,000	8.56	12,500
Noon	5.01	2,980	5.73	4,300	5.85	4,560	7.85	9,990	9.75	17,300	8.18	11,100
6	5.58	3,970	5.68	4,190	5.93	4,730	8.72	13,100	9.54	16,400	7.86	10,000
12	5.88	4,600	5.72	4,280	6.14	5,220	9.38	15,700	9.05	14,400	7.64	9,280
	MAY 14		MAY 15		MAY 16		MAY 17		MAY 18		MAY 19	
6	7.47	8,700	6.92	6,920	6.78	6,510	7.21	7,820	7.64	9,280	9.11	14,600
Noon	7.30	8,120	6.78	6,510	7.35	8,290	7.03	7,250	8.07	10,700	9.20	15,000
6	7.17	7,690	6.66	6,180	7.48	8,730	6.94	6,980	8.50	12,200	9.10	14,600
12	7.02	7,220	6.60	6,020	7.37	8,360	7.25	7,960	8.87	13,700	8.93	13,900
	MAY 20		MAY 21		MAY 22		MAY 23		MAY 24		MAY 25	
6	8.80	13,400	10.56	21,000	8.86	13,600	7.14	7,600	6.48	5,710	6.36	5,660
Noon	8.80	13,400	10.64	21,400	8.28	11,500	6.96	7,040	6.40	5,510	6.32	5,560
6	9.03	14,300	10.30	19,800	7.78	9,750	6.78	6,510	6.40	5,510	6.24	5,370
12	10.00	18,400	9.60	16,600	7.40	8,460	6.62	6,070	6.38	5,460	6.14	5,130

May 21, 10 a.m., 10.65 ft., 21,400 sec.-ft.

ILLINOIS RIVER BASIN

Bureau Creek at Bureau, Ill.

Location.—Lat. 41°16′40″, long. 89°23′00″, in SE¼SW¼ sec. 18, T. 15 N., R. 10 E., at bridge on State Highway 29, one mile southwest of Bureau, and 2¼ miles downstream from East Bureau Creek. Datum of gage is 449.22 feet above mean sea level, datum of 1929 (Corps of Engineers, U. S. Army, bench mark).

Drainage area.—481 square miles.

Gage-height record.—Twice-daily reading of wire-weight gage.

Discharge record.—Stage-discharge relation based on current-meter measurements. Discharge occasionally affected by backwater from the Illinois River. Discharge May 16 to June 5 computed using stage at Hennepin as a factor.

Maxima.—1943: Discharge observed, 4,050 second-feet 8:50 a. m. May 21 (gage height, 10.76 feet, affected by backwater). 1940-42: Discharge observed, 4,900 second-feet 7:05 a. m. Oct. 7, 1941, (gage height, 10.17 feet).

The flood of the spring of 1921 reached a stage of about 13 feet (discharge not determined).

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	1,490	898	9	890	620	17	2,980	346	25	608	267
2	1,300	871	10	790	620	18	3,100	296	26	642	254
3	1,010	806	11	3,490	548	19	2,180	281	27	722	216
4	890	1,220	12	2,090	484	20	2,710	281	28	903	204
5	790	757	13	1,490	392	21	3,200	890	29	852	195
6	700	1,300	14	1,300	548	22	837	430	30	1,440	176
7	620	890	15	1,140	366	23	400	346	31	1,110	--------
8	890	700	16	2,980	366	24	529	296	--------	--------	--------
Monthly mean discharge, in second-feet										1,422	529
Runoff, in inches										3.41	1.23

ILLINOIS RIVER BASIN

Farm Creek at East Peoria, Ill.

Location.—Lat. 40°40′05″, long. 89°34′45″, near quarter-section corner between sec. 32 and 33, T. 26 N., R. 4 W., at Peoria and Pekin Union Railroad bridge in East Peoria, 400 feet downstream from Main Street (State Highway No. 116) bridge, 700 feet downstream from the mouth of Coal Creek, 900 feet upstream from the entrance to Farm Creek diversion channel (which empties into Peoria Lake approximately a mile upstream from the mouth of Farm Creek) and 1.2 miles upstream from the mouth. Datum of gage is 450.39 feet above mean sea level, datum of 1929 (Crops of Engineers, U. S. Army, bench mark).

Drainage area.—60.9 square miles.

Gage-height record.—Graph based on observer's twice-daily readings of wire-weight gage, supplemented by recorder graph furnished by Corps of Engineers, U. S. Army, for stages above 1.75 feet.

Discharge record.—Stage-discharge relation defined by current-meter measurements up to 3,500 second-feet and extended above. Affected by backwater from Illinois River May 17 to June 6.

Maxima.—1943: May discharge, 5,390 second-feet 7 a. m. May 20 (gage height 6.28 feet). August discharge, 10,100 second-feet 10 a. m. Aug. 3 (gage height 8.05 feet).

According to data furnished by the Corps of Engineers, U. S. Army, a stage of about 15.1 feet occurred in 1929 (discharge not determined).

Remarks.—See page 156 of this report for data on the flood of August 1943.

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	120	35	9	40	41	17	362	52	25	90	65
2	100	35	10	840	341	18	866	37	26	80	22
3	80	30	11	720	318	19	131	26	27	70	17
4	60	65	12	178	209	20	1,690	255	28	60	16
5	50	80	13	44	137	21	75	111	29	55	14
6	29	55	14	10	88	22	150	41	30	45	13
7	39	29	15	106	74	23	130	33	31	40	-------
8	606	18	16	350	132	24	110	78	-------	-------	-------
Monthly mean discharge, in second-feet										236	82.2
Runoff, in inches										4.47	1.51

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF FARM CREEK AT EAST PEORIA, ILL.

Hour	MAY 7		MAY 8		MAY 9		MAY 10		MAY 11		MAY 12	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
2	-------	-------	3.30	1,780	-------	-------	1.37	14	2.81	948	-------	-------
4	0.88	26	3.52	1,910	-------	-------	1.37	14	2.53	684	-------	-------
6	-------	-------	2.82	1,150	1.50	56	1.37	14	2.49	621	2.03	227
8	0.87	22	2.40	691	-------	-------	1.39	17	2.55	621	-------	-------
10	-------	-------	2.09	388	-------	-------	1.41	22	3.16	1,040	-------	-------
Noon	0.87	22	1.94	293	1.43	29	1.42	26	3.20	1,060	1.90	153
2	-------	-------	1.86	244	-------	-------	1.47	45	2.79	733	-------	-------
4	0.87	22	1.80	209	-------	-------	1.82	262	2.60	600	-------	-------
6	-------	-------	1.73	170	1.39	17	4.10	2,250	2.50	530	1.83	117
8	0.86	18	1.70	153	-------	-------	5.34	4,110	2.40	460	-------	-------
10	-------	-------	1.65	127	-------	-------	4.36	2,520	2.30	395	-------	-------
12	1.28	221	1.60	101	1.37	14	3.49	1,560	2.22	343	1.76	83
	MAY 13		MAY 14		MAY 15		MAY 16		MAY 17		MAY 18	
2	-------	-------	-------	-------	1.47	4	3.40	1,220	1.83	70	2.70	[1]492
4	-------	-------	-------	-------	1.47	4	3.10	940	1.82	65	4.82	[1]2,710
6	1.70	56	1.56	13	1.44	3	2.59	523	1.82	65	4.30	[1]2,290
8	-------	-------	-------	-------	1.43	2	2.29	324	1.81	60	3.40	[1]1,360
10	-------	-------	-------	-------	1.43	2	2.16	244	1.81	60	2.94	[1]948
Noon	1.67	45	1.53	10	1.80	101	2.05	181	1.91	106	2.65	[1]724
2	-------	-------	-------	-------	2.20	330	1.99	148	3.20	980	2.48	[1]579
4	-------	-------	-------	-------	2.11	274	1.94	122	3.42	1,160	2.30	[1]456
6	1.62	26	1.50	6	1.93	170	1.91	106	2.94	772	2.11	[1]322
8	-------	-------	-------	-------	1.82	111	1.89	96	2.60	530	1.94	[1]215
10	-------	-------	-------	-------	1.81	106	1.88	92	2.39	[1]310	1.79	[1]136
12	1.60	18	1.48	5	2.18	318	1.87	88	2.29	[1]253	1.62	[1]71
	MAY 19		MAY 20		MAY 21		MAY 22		MAY 23		MAY 24	
2	1.51	[1]35	2.74	[1]182	-------	-------	-------	-------	-------	-------	-------	-------
4	1.45	[1]19	2.94	[1]257	-------	-------	-------	-------	-------	-------	-------	-------
6	1.44	[1]11	6.00	[1]4,810	4.12	[1]63	-------	-------	-------	-------	-------	-------
8	1.50	[1]12	6.00	[1]4,750	-------	-------	-------	-------	-------	-------	-------	-------
10	1.66	[1]24	5.29	[1]3,080	-------	-------	-------	-------	-------	-------	-------	-------
Noon	1.88	[1]65	4.90	[1]2,250	4.38	[1]36	5.69	[2]170	6.52	[2]130	6.47	[2]110
2	2.21	[1]170	4.62	[1]1,640	-------	-------	-------	-------	-------	-------	-------	-------
4	2.50	[1]295	4.40	[1]1,170	-------	-------	-------	-------	-------	-------	-------	-------
6	2.58	[1]309	4.27	[1]867	4.63	[1]21	-------	-------	-------	-------	-------	-------
8	2.60	[1]270	4.14	[1]598	-------	-------	-------	-------	-------	-------	-------	-------
10	2.61	[1]218	4.06	[1]402	-------	-------	-------	-------	-------	-------	-------	-------
12	2.68	[1]212	4.02	[1]238	4.95	[1]122	6.23	[2]140	6.51	[2]120	6.43	[2]100

May 8, 3 a.m., 3.79 ft., 2,290 sec.-ft.; May 11, 11 a.m., 3.31 ft., 1,150 sec.-ft.; May 17, 3 p.m., 3.60 ft., 1,300 sec.-ft.; May 20, 7 a.m., 6.28 ft., [1]5,390 sec.-ft. [1]Backwater from Illinois R.; discharge computed by using stage at upper gage, Peoria Dam as a factor. [2]Backwater from Illinois R.; discharge computed on basis of weather records and 3 discharge measurements.

ILLINOIS RIVER BASIN

Kickapoo Creek at Peoria, Ill.

Location.—Lat. 40°40′55″, long. 89°39′15″, in NW¼ sec. 13, T. 8 N., R. 7 E., at bridge on State Highway No. 116, half a mile west of Peoria, 1.5 miles downstream from Dry Run and four miles upstream from mouth. Datum of gage is 448.37 feet above mean sea level (datum of 1929; levels by Corps of Engineers, U. S. Army).

Drainage area.—310 square miles.

Gage-height record.—Water-stage recorder graph.

Discharge record.—Stage-discharge relation defined by current-meter measurements up to crest stage. Flow affected by backwater from the Illinois River May 21 to June 10; discharge computed using fall to upper gage of Peoria dam as a factor.

Maxima.—1943: Discharge, 8,440 second-feet 1:30 a. m. May 21 (gage height 16.47 feet).

According to data furnished by the Corps of Engineers, U. S. Army, highest known stage was 24.6 feet in May 1927.

Remarks.—Results of five discharge measurements furnished by Corps of Engineers, U. S. Army.

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	417	204	9	554	237	17	1,140	205	25	588	205
2	346	274	10	755	746	18	2,330	140	26	210	164
3	278	272	11	5,480	760	19	1,700	117	27	194	144
4	235	542	12	1,990	323	20	4,380	1,090	28	68	130
5	214	242	13	780	235	21	4,230	3,090	29	216	116
6	204	323	14	542	200	22	893	385	30	98	100
7	178	561	15	608	167	23	508	256	31	147	-------
8	1,350	264	16	2,270	225	24	582	323	-------	-------	-------
Monthly mean discharge, in second-feet										1,080	401
Runoff, in inches										4.02	1.44

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF KICKAPOO CREEK AT PEORIA, ILL.

Hour	MAY 7		MAY 8		MAY 9		MAY 10		MAY 11		MAY 12	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
2	-------	-------	2.99	254	-------	-------	3.74	427	11.00	3,900	11.60	4,260
4	-------	-------	4.88	792	4.46	636	3.70	417	11.55	4,230	10.00	3,300
6	2.65	182	5.86	1,180	-------	-------	3.66	407	12.20	4,640	8.45	2,420
8	-------	-------	6.41	1,400	4.25	565	3.65	405	12.70	4,990	7.45	1,920
10	-------	-------	6.85	1,580	-------	-------	3.64	403	13.50	5,580	6.87	1,640
Noon	2.62	176	7.31	1,800	4.07	512	3.63	400	14.50	6,380	6.43	1,450
2	-------	-------	7.64	1,970	-------	-------	3.65	405	15.10	6,920	6.12	1,330
4	-------	-------	7.84	2,070	3.95	480	3.80	442	15.05	6,880	5.90	1,240
6	2.58	168	7.81	2,060	-------	-------	4.64	699	14.60	6,470	5.71	1,160
8	-------	-------	6.50	1,440	3.85	454	5.40	1,000	14.00	5,980	5.55	1,100
10	-------	-------	5.75	1,140	-------	-------	7.90	2,100	13.40	5,500	5.37	1,030
12	2.62	176	5.21	924	3.75	430	10.42	3,490	12.68	4,980	5.27	988
	MAY 13		MAY 14		MAY 15		MAY 16		MAY 17		MAY 18	
2	-------	-------	-------	-------	3.74	452	7.40	1,900	5.57	1,110	6.53	1,490
4	5.03	892	-------	-------	3.69	440	7.67	2,040	5.42	1,050	7.20	1,800
6	-------	-------	-------	-------	3.66	432	7.93	2,160	5.26	984	7.69	2,040
8	4.87	828	-------	-------	3.64	427	8.28	2,290	5.22	968	8.05	2,220
10	-------	-------	-------	-------	3.65	430	8.45	2,420	5.22	968	8.31	2,360
Noon	4.70	760	4.06	538	3.82	472	8.80	2,600	5.23	972	8.53	2,460
2	-------	-------	-------	-------	4.15	565	9.17	2,800	5.48	1,070	8.78	2,590
4	4.60	720	-------	-------	4.38	643	9.45	2,970	5.72	1,170	9.05	2,730
6	-------	-------	-------	-------	4.47	674	9.51	3,010	6.05	1,300	9.32	2,890
8	4.46	671	-------	-------	4.66	744	7.77	2,080	6.15	1,340	9.47	2,980
10	-------	-------	-------	-------	5.26	984	6.55	1,500	6.30	1,400	8.77	2,580
12	4.35	632	3.77	460	6.82	1,610	5.95	1,260	6.40	1,440	7.79	2,100
	MAY 19		MAY 20		MAY 21		MAY 22		MAY 23		MAY 24	
2	7.05	1,720	6.82	1,610	16.40	8,340	-------	-------	-------	-------	8.18	[1]344
4	6.70	1,560	6.60	1,520	15.92	7,760	7.63	[1]949	-------	-------	8.17	[1]296
6	6.48	1,470	6.60	1,520	15.00	6,830	-------	-------	8.13	[1]633	8.17	[1]296
8	6.60	1,520	8.20	2,300	14.10	[1]6,000	7.62	[1]927	-------	-------	8.16	[1]296
10	6.80	1,600	11.77	4,360	13.10	[1]5,160	-------	-------	-------	-------	8.14	[1]227
Noon	6.89	1,640	12.45	4,820	11.38	[1]3,880	7.82	[1]907	8.17	[1]433	8.16	[1]342
2	7.02	1,710	12.98	5,190	9.60	[1]2,570	-------	-------	-------	-------	8.41	[1]912
4	7.17	1,780	13.70	5,740	8.43	[1]1,740	7.90	[1]860	-------	-------	8.47	[1]1,000
6	7.28	1,840	14.37	6,280	7.97	[1]1,400	-------	-------	8.19	[1]391	8.35	[1]833
8	7.34	1,870	14.90	6,740	7.80	[1]1,260	7.98	[1]810	-------	-------	8.35	[1]857
10	7.28	1,840	15.65	7,460	7.70	[1]1,130	-------	-------	-------	-------	8.38	[1]908
12	6.99	1,700	16.32	8,240	7.63	[1]1,050	8.04	[1]755	8.19	[1]391	8.40	[1]960

May 8, 5 p.m., 7.88 ft., 2,140 sec.-ft.; May 11, 3 p.m., 15.15 ft., 6,960 sec.-ft.; May 21, 1:30 a.m., 16.47 ft., 8,440 sec.-ft.; May 24, 3 p.m., 8.50 ft., [1]1,030 sec.-ft.. [1] Discharge affected by backwater from Illinois River.

ILLINOIS RIVER BASIN

Mackinaw River near Green Valley, Ill.

Location.—Lat. 40°26′40″, long. 89°38′00″, in sec. 15, T. 23 N., R. 5 W., at bridge on State Highway 24, 3 miles north of hamlet of Green Valley. Datum of gage is 479.10 feet above mean sea level, datum of 1929.

Drainage area.—1,100 square miles.

Gage-height record.—Graph based on twice-daily readings of wire-weight gage.

Discharge record.—Stage-discharge relation defined by current-meter measurements up to 16,000 second-feet, and extended above.

Maxima.—1943: Discharge, 18,200 second-feet 6 p. m. May 19 (gage height 12.23 feet). 1941-42: Discharge observed, 21,800 second-feet May 19, 1927 (gage height 14.2 feet, site then in use).

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	2,450	1,410	9	4,260	1,060	17	7,780	960	25	3,840	589
2	1,930	1,350	10	4,250	1,060	18	12,100	860	26	3,480	710
3	1,690	1,410	11	6,610	1,770	19	16,300	760	27	2,810	710
4	1,410	1,170	12	11,000	1,850	20	15,000	760	28	2,360	589
5	1,230	1,110	13	12,800	1,290	21	13,800	1,230	29	2,010	552
6	1,110	1,110	14	9,350	1,110	22	11,600	860	30	1,770	483
7	1,060	1,290	15	5,440	1,170	23	6,230	710	31	1,620	--------
8	2,800	1,230	16	6,380	1,290	24	3,970	628	--------	--------	--------
Monthly mean discharge, in second-feet										5,756	1,036
Runoff, in inches										6.03	1.05

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF MACKINAW RIVER NEAR GREEN VALLEY, ILL.

Hour	MAY 8		MAY 9		MAY 10		MAY 11		MAY 12		MAY 13	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
6	4.90	1,930	7.38	4,330	7.16	4,070	8.17	5,420	10.29	9,720	11.10	13,200
Noon	5.90	2,810	7.34	4,280	7.21	4,120	8.72	6,420	10.58	11,100	11.10	13,200
6	6.82	3,700	7.30	4,230	7.41	4,360	9.40	7,800	10.90	12,400	10.94	12,600
12	7.30	4,230	7.22	4,130	7.73	4,770	9.85	8,820	11.05	13,000	10.68	11,500
	MAY 14		MAY 15		MAY 16		MAY 17		MAY 18		MAY 19	
6	10.38	10,300	8.65	6,280	8.10	5,310	9.08	7,130	10.55	11,000	11.40	14,400
Noon	10.03	9,270	8.02	5,190	8.93	6,830	9.20	7,380	10.88	12,300	12.00	17,000
6	9.67	8,400	7.40	4,350	9.27	7,530	9.60	8,240	11.12	13,300	12.23	18,200
12	9.20	7,380	7.50	4,470	9.13	7,230	10.12	9,500	11.24	13,800	12.12	17,600
	MAY 20		MAY 21		MAY 22		MAY 23		MAY 24		MAY 25	
6	11.80	16,000	11.00	12,800	11.22	13,700	9.14	7,250	7.20	4,110	6.96	3,850
Noon	11.50	14,800	11.12	13,300	10.67	11,500	8.55	6,100	6.97	3,860	7.00	3,890
6	11.27	13,900	11.60	15,200	10.15	9,580	8.00	5,160	6.86	3,740	6.95	3,840
12	11.10	13,200	11.54	15,000	9.63	8,310	7.55	4,540	6.92	3,800	6.88	3,760

ILLINOIS RIVER BASIN

Money Creek Above Lake Bloomington, Ill.

Location.—Lat. 40°37′13″, long. 88°54′59″, in SE¼SW¼ sec. 18, T. 25 N., R. 3 E., 200 feet north of line between secs. 18 and 19 and 1 mile upstream from Lake Bloomington.

Drainage area.—45 square miles.

Gage-height record.—Water-stage recorder graph.

Discharge record.—Stage-discharge relation controlled by concrete weir up to about 350 second-feet; defined by current-meter measurements up to 1,900 second-feet and extended above.

Maxima.—1943: Discharge, 2,050 second-feet 11 a. m. May 18 (gage height 7.59 feet). 1933-42: Discharge, 1,440 second-feet May 9, 1935, Feb. 26, May 2, 1936 (gage height 7.22 feet).

Stage known, about 9 or 10 feet.

Remarks.—See page 157 of this report for data on the flood of August 1943.

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	45	81	9	332	37	17	894	39	25	182	79
2	40	71	10	255	106	18	1,620	33	26	139	72
3	33	58	11	792	184	19	639	29	27	113	58
4	25	52	12	804	81	20	490	34	28	96	35
5	24	46	13	292	60	21	337	68	29	86	25
6	23	46	14	214	76	22	228	39	30	78	21
7	37	42	15	228	56	23	181	32	31	69	-------
8	421	39	16	637	47	24	163	27	-------	-------	-------
Monthly mean discharge, in second-feet										307	55.8
Runoff, in inches										7.87	1.38

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF MONEY CREEK ABOVE LAKE BLOOMINGTON, ILL.

Hour	MAY 7		MAY 8		MAY 9		MAY 10		MAY 11		MAY 12	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
2	-------	-------	2.74	130	4.88	461	3.42	247	3.81	307	6.85	1,220
4	2.21	28	3.43	249	4.54	402	3.38	241	3.83	310	6.91	1,270
6	-------	-------	4.03	334	4.25	360	3.34	234	3.93	322	6.82	1,200
8	2.22	29	4.52	399	4.07	338	3.31	230	4.30	367	6.63	1,070
10	-------	-------	4.86	458	3.95	324	3.29	226	5.75	675	6.34	910
Noon	2.28	35	5.09	502	3.85	312	3.27	223	6.57	1,030	6.00	770
2	-------	-------	5.27	541	3.77	302	3.27	223	6.54	1,010	5.66	648
4	2.33	40	5.30	548	3.70	291	3.28	225	6.53	1,010	5.26	539
6	-------	-------	5.27	541	3.63	280	3.75	298	6.65	1,080	4.89	463
8	2.39	47	5.23	532	3.57	271	3.93	322	6.98	1,330	4.56	406
10	-------	-------	5.22	530	3.52	263	3.86	313	6.96	1,310	4.36	375
12	2.50	61	5.11	506	3.47	255	3.81	307	6.84	1,210	4.19	353
	MAY 13		MAY 14		MAY 15		MAY 16		MAY 17		MAY 18	
2	-------	-------	-------	-------	3.02	180	5.50	600	4.94	473	7.11	1,460
4	3.98	328	-------	-------	3.00	177	5.47	592	4.55	404	7.38	1,780
6	-------	-------	3.30	228	2.99	175	5.47	592	4.35	374	7.42	1,830
8	3.82	308	-------	-------	2.98	173	5.57	621	4.40	381	7.33	1,720
10	-------	-------	-------	-------	2.97	172	5.75	675	6.02	778	7.57	2,020
Noon	3.68	288	3.21	213	3.03	182	5.82	698	6.36	920	7.51	1,940
2	-------	-------	-------	-------	3.20	211	5.79	687	6.70	1,110	7.33	1,720
4	3.58	273	-------	-------	3.45	252	5.76	678	6.79	1,170	7.25	1,620
6	-------	-------	3.13	199	3.52	263	5.77	681	7.01	1,360	7.17	1,530
8	3.49	258	-------	-------	3.75	298	5.78	684	7.12	1,470	7.05	1,400
10	-------	-------	-------	-------	4.19	353	5.66	648	7.02	1,370	6.88	1,240
12	3.42	247	3.04	184	4.55	404	5.40	573	6.90	1,260	6.65	1,080
	MAY 19		MAY 20		MAY 21		MAY 22		MAY 23		MAY 24	
2	6.36	920	4.68	426	4.74	436	-------	-------	-------	-------	-------	-------
4	6.04	786	4.53	401	4.48	393	-------	-------	-------	-------	-------	-------
6	5.97	758	4.42	384	4.30	367	3.39	242	3.06	187	2.92	163
8	5.70	660	4.75	438	4.16	349	-------	-------	-------	-------	-------	-------
10	5.52	606	4.77	442	4.04	335	-------	-------	-------	-------	-------	-------
Noon	5.36	563	4.97	478	3.95	324	3.28	225	3.02	180	2.90	159
2	5.33	556	5.40	573	3.85	312	-------	-------	-------	-------	-------	-------
4	5.31	550	5.48	595	3.78	303	-------	-------	-------	-------	-------	-------
6	5.20	525	5.44	584	3.70	291	3.21	213	2.98	173	2.91	161
8	5.08	500	5.36	563	3.64	282	-------	-------	-------	-------	-------	-------
10	4.94	473	5.22	530	3.58	273	-------	-------	-------	-------	-------	-------
12	4.82	451	5.03	490	3.53	265	3.13	199	2.95	168	2.96	170

May 10, 7 p.m., 3.95 ft., 324 sec.-ft.; May 11, 9 p.m., 7.00 ft., 1,350 sec.-ft.; May 18, 5 a.m., 7.44 ft., 1,850 sec.-ft.; May 18, 11 a.m., 7.59 ft., 2,050 sec-ft.

ILLINOIS RIVER BASIN

Money Creek at Lake Bloomington, Ill.

Location.—Lat. 40°39′47″, long. 88°56′23″, in NW¼ sec. 1, T. 25 N., R. 2 E., 1,300 feet downstream from dam at Lake Bloomington, 2.1 miles upstream from mouth and 4 miles northeast of Hudson. Datum of gage is 678.05 feet above mean sea level.

Drainage area.—61 square miles.

Gage-height record.—Water-stage recorder graph.

Discharge record.—Stage-discharge relation controlled by concrete weir up to about 500 second-feet; defined by current-meter measurements up to 1,600 second-feet and extended above on basis of computed flow over dam at Lake Bloomington.

Maxima.—1943: May discharge, 2,580 second-feet 6 a. m. May 18 (gage height 7.62 feet). August discharge, 2,600 second-feet 12:30 p. m. Aug. 3 (gage height 7.63 feet). 1930-42: Discharge 2,020 second-feet May 11, 1933. (Computed from records of flow over dam at Lake Bloomington).

Remarks.—Flow regulated by Lake Bloomington (area of lake at level of crest of spillway, 531 acres). Water is diverted from lake by pumping for municipal supply of Bloomington. Discharge past gage is made up of discharge through spillway, seepage through dam, runoff from area below dam (0.4 square mile), and return flow from water diverted from lake for use at pumping plant. Records not adjusted.

See page 157 of this report for data on the flood of August 1943.

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	88	74	9	368	34	17	1,100	34	25	200	50
2	75	87	10	307	79	18	1,920	28	26	160	47
3	62	59	11	1,020	220	19	911	26	27	130	70
4	55	52	12	1,040	107	20	632	33	28	110	30
5	55	54	13	354	66	21	437	59	29	96	16.1
6	33	52	14	249	75	22	279	40	30	85	13.5
7	54	42	15	281	58	23	213	28	31	80	-------
8	377	36	16	762	45	24	193	22	-------	-------	-------
Monthly mean discharge, in second-feet										378	54.6

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF MONEY CREEK AT LAKE BLOOMINGTON, ILL.

Hour	MAY 7		MAY 8		MAY 9		MAY 10		MAY 11		MAY 12	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
2	1.63	39	2.92	184	3.98	489	3.22	261	3.71	408	6.45	1,400
4	1.68	42	3.28	279	3.90	465	3.20	255	3.67	396	6.39	1,360
6	1.75	46	3.38	309	3.80	435	3.18	249	3.68	399	6.36	1,350
8	1.84	52	3.48	339	3.69	402	3.18	249	3.91	468	6.28	1,310
10	1.83	51	3.57	366	3.59	372	3.19	252	4.80	770	6.14	1,240
Noon	1.85	52	3.67	396	3.52	351	3.19	252	6.26	1,300	5.91	1,140
2	1.88	55	3.81	438	3.46	333	3.17	247	6.77	1,600	5.54	999
4	1.88	55	3.86	453	3.40	315	3.21	258	6.76	1,590	5.11	863
6	1.93	58	3.95	480	3.36	303	3.70	405	6.61	1,500	4.68	733
8	1.97	62	3.99	492	3.32	291	3.88	459	6.51	1,440	4.29	596
10	2.07	70	4.00	495	3.30	285	3.84	447	6.53	1,450	4.03	506
12	2.29	90	4.00	495	3.24	267	3.78	429	6.53	1,450	3.91	468
	MAY 13		MAY 14		MAY 15		MAY 16		MAY 17		MAY 18	
2	3.78	429	3.28	279	3.05	214	4.62	712	4.62	712	6.95	1,730
4	3.69	402	3.26	273	3.04	212	5.00	830	4.48	663	7.43	2,230
6	3.63	384	3.24	267	3.00	202	5.11	863	4.23	576	7.62	2,580
8	3.58	369	3.22	261	2.98	198	5.02	836	4.07	520	7.53	2,400
10	3.53	354	3.20	255	3.04	212	4.88	794	5.13	869	7.33	2,090
Noon	3.51	348	3.19	252	3.21	258	4.83	779	6.12	1,230	7.27	2,020
2	3.47	336	3.17	247	3.36	303	4.78	764	6.54	1,450	7.21	1,950
4	3.43	324	3.13	235	3.36	303	4.74	752	6.63	1,510	7.04	1,800
6	3.40	315	3.11	230	3.36	303	4.68	733	6.62	1,500	6.90	1,690
8	3.38	309	3.08	222	3.58	369	4.67	730	6.62	1,500	6.77	1,600
10	3.35	300	3.06	217	3.82	441	4.66	726	6.65	1,520	6.65	1,520
12	3.31	288	3.06	217	3.99	492	4.78	764	6.64	1,510	6.49	1,420
	MAY 19		MAY 20		MAY 21		MAY 22		MAY 23		MAY 24	
2	6.28	1,310	4.07	520	------	------	------	------	3.10	227	------	------
4	6.01	1,180	4.00	495	4.13	540	------	------	3.08	222	2.97	195
6	5.90	1,140	3.94	477	------	------	3.37	306	3.07	220	------	------
8	5.73	1,070	4.14	544	3.86	453	------	------	3.05	214	2.96	193
10	5.45	968	4.27	590	------	------	------	------	3.05	214	------	------
Noon	5.15	875	4.40	635	3.74	417	3.27	276	3.07	220	2.95	191
2	4.84	782	4.61	708	------	------	------	------	3.02	207	------	------
4	4.65	722	4.77	761	3.61	378	------	------	3.02	207	2.96	193
6	4.51	674	4.83	779	------	------	3.20	255	3.00	202	------	------
8	4.37	624	4.76	758	3.51	348	------	------	3.01	204	2.95	191
10	4.29	596	4.63	716	------	------	------	------	2.99	200	------	------
12	4.16	551	4.44	649	3.44	327	3.12	233	2.99	200	2.95	191

May 11, 2:30 p.m., 6.79 ft., 1,610 sec.-ft.; May 23, 5:30 a.m., 3.17 ft., 247 sec.-ft.

ILLINOIS RIVER BASIN

Hickory Creek above Lake Bloomington, Ill.

Location.—Lat. 40°38′15″, long. 88°57′00″, in SE¼ sec. 11, T. 25 N., R. 2 E., 300 feet downstream from an unnamed tributary, a quarter of a mile upstream from backwater from Lake Bloomington, and 3 miles northeast of Hudson. Datum of gage is 716.0 feet above mean sea level.

Drainage area.—10.1 square miles.

Gage-height record.—Water-stage recorder graph.

Discharge record.—Stage-discharge relation controlled by concrete weir up to about 300 second-feet; defined by current-meter measurements up to this discharge and extended to crest gage height on basis of slope-area measurements of the floods of May and of August 1943.

Maxima.—1943: May discharge, 1,060 second-feet 4 a. m. May 18 (gage height 6.12 feet). August discharge, 1,460 second-feet 9

a. m. Aug. 3 (gage height 7.12 feet). 1938-42: Discharge, 593 second-feet Feb. 6, 1942 (gage height 4.91 feet).

Remarks.—See page 157 of this report for data on the flood of August 1943.

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	14.7	12.8	9	30	7.8	17	313	6.8	25	30	3.9
2	13.7	11.7	10	46	15.6	18	361	6.0	26	24	3.6
3	11.1	10.3	11	299	17.3	19	103	5.4	27	20	3.9
4	9.8	9.6	12	72	13.4	20	134	6.0	28	17.6	3.6
5	9.4	9.8	13	43	10.8	21	60	5.7	29	16.0	3.2
6	8.4	9.8	14	32	9.6	22	39	5.2	30	14.7	2.8
7	8.0	8.9	15	67	8.7	23	32	4.5	31	13.7	-------
8	43	8.2	16	142	8.0	24	31	4.3	-------	-------	-------
Monthly mean discharge, in second-feet										66.4	7.91
Runoff, in inches										7.58	.87

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF HICKORY CREEK ABOVE LAKE BLOOMINGTON, ILL.

Hour	MAY 7		MAY 8		MAY 9		MAY 10		MAY 11		MAY 12	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
2	0.98	7.8	1.57	28	-------	-------	1.54	26	2.23	71	-------	-------
4	0.98	7.8	2.03	55	-------	-------	1.54	26	2.19	67	2.42	90
6	0.98	7.8	2.08	59	-------	-------	1.53	26	2.22	70	-------	-------
8	1.00	8.2	2.03	55	-------	-------	1.52	25	2.65	117	2.27	75
10	1.00	8.2	1.94	49	-------	-------	1.53	26	4.25	418	-------	-------
Noon	.99	8.0	1.90	46	1.61	30	1.54	26	5.72	898	2.18	66
2	.99	8.0	1.87	44	-------	-------	1.56	27	5.40	785	-------	-------
4	.98	7.8	1.84	42	-------	-------	1.62	30	4.40	455	2.09	59
6	.98	7.8	1.80	40	-------	-------	2.43	91	3.60	266	-------	-------
8	.98	7.8	1.77	38	-------	-------	2.51	100	3.14	186	2.01	54
10	.99	8.0	1.74	36	-------	-------	2.48	97	2.88	147	-------	-------
12	1.06	9.6	1.72	35	1.55	26	2.36	84	2.69	122	1.95	50
	MAY 13		MAY 14		MAY 15		MAY 16		MAY 17		MAY 18	
2	-------	-------	-------	-------	1.59	28	4.14	390	2.18	66	5.15	698
4	-------	-------	-------	-------	1.59	28	3.82	312	2.32	80	6.12	1,060
6	-------	-------	-------	-------	1.59	28	3.22	199	2.30	78	5.58	848
8	-------	-------	-------	-------	1.59	28	2.88	147	2.25	73	4.75	560
10	-------	-------	-------	-------	1.61	30	2.65	117	5.56	841	3.75	296
Noon	1.84	42	1.67	32	1.79	39	2.42	90	5.44	799	3.22	199
2	-------	-------	-------	-------	2.02	54	2.27	75	4.95	628	2.93	154
4	-------	-------	-------	-------	2.16	65	2.17	66	4.32	435	2.70	123
6	-------	-------	-------	-------	2.18	66	2.10	60	3.65	276	2.54	104
8	-------	-------	-------	-------	3.00	165	2.05	56	3.25	204	2.41	89
10	-------	-------	-------	-------	2.94	156	2.02	54	2.98	162	2.32	80
12	1.75	37	1.60	29	3.25	204	2.18	66	3.00	165	2.25	73
	MAY 19		MAY 20		MAY 21		MAY 22		MAY 23		MAY 24	
2	2.20	68	2.17	66	2.33	81	-------	-------	-------	-------	-------	-------
4	2.16	65	2.13	62	2.25	73	-------	-------	-------	-------	-------	-------
6	2.90	150	2.11	61	2.19	67	-------	-------	-------	-------	1.62	30
8	2.97	160	3.00	165	2.14	63	-------	-------	-------	-------	-------	-------
10	2.86	144	2.98	162	2.10	60	-------	-------	-------	-------	-------	-------
Noon	2.69	122	3.00	165	2.05	56	1.78	39	1.66	32	1.60	29
2	2.56	106	3.30	212	2.01	54	-------	-------	-------	-------	-------	-------
4	2.50	99	3.32	215	1.98	52	-------	-------	-------	-------	-------	-------
6	2.41	89	3.05	172	1.94	49	-------	-------	-------	-------	1.68	33
8	2.35	83	2.81	137	1.91	47	-------	-------	-------	-------	-------	-------
10	2.27	75	2.60	111	1.89	45	-------	-------	-------	-------	-------	-------
12	2.22	70	2.42	90	1.88	45	1.68	33	1.64	31	1.68	33

May 15, 7 p.m., 2.17 ft., 66 sec.-ft.; May 16, 11 p.m., 2.25 ft., 73 sec-ft.; May 17, 10:30 a.m., 5.38 ft., 778 sec.-ft.; May 17, 11:30 a.m., 5.51 ft., 824 sec.-ft.; May 17, 11 p.m., 2.85 ft., 143 sec.-ft.; May 20, 8:30 a.m., 3.11 ft., 182 sec.-ft.

ILLINOIS RIVER BASIN

Spoon River at Seville, Ill.

Location.—Lat. 40°29′10″, long. 90°20′34″, in SW¼ sec. 24, T. 6 N., R. 1 E., at highway bridge in Seville. Datum of gage is 467.04 feet above mean sea level, datum of 1929.

Drainage area.—1,600 square miles.

Gage-height record.—Graph based on twice-daily readings of wire-weight gage at approximately 6 a. m. and 6 p. m.

Discharge record.—Stage-discharge relation defined by current-meter measurements up to crest stage.

Maxima.—1943: Discharge, 12,900 second-feet, 6 p. m. May 20, (gage height, 22.17 feet). 1914-42: Discharge observed, 28,900 second-feet Aug. 22, 1924, (gage height, 30.5 feet), from rating extended above 18,000 second-feet.

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	3,630	1,860	9	3,590	2,140	17	6,420	1,810	25	4,120	1,360
2	2,490	1,720	10	3,080	2,640	18	7,700	1,580	26	3,620	1,130
3	2,140	1,580	11	4,650	4,230	19	7,970	1,270	27	2,960	1,450
4	1,860	2,540	12	5,580	2,690	20	10,400	1,680	28	2,540	1,270
5	1,580	4,790	13	4,770	2,000	21	10,600	1,950	29	2,260	963
6	1,450	3,390	14	3,470	1,860	22	8,950	2,440	30	2,080	809
7	1,520	2,690	15	3,280	1,630	23	6,300	2,540	31	1,910	-------
8	3,480	2,790	16	5,430	1,810	24	4,480	1,580	-------	-------	-------
Mean monthly discharge, in second-feet										4,333	2,073
Runoff, in inches										3.12	1.45

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF SPOON RIVER AT SEVILLE, ILL.

Hour	MAY 7		MAY 8		MAY 9		MAY 10		MAY 11		MAY 12	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
6	7.52	1,410	12.60	4,050	12.08	3,740	11.05	3,120	12.55	4,020	14.97	5,680
Noon	7.43	1,370	11.93	3,650	12.03	3,710	10.89	3,040	13.82	4,870	14.92	5,640
6	7.40	1,360	11.39	3,320	11.78	3,560	10.78	2,980	14.54	5,380	14.76	5,530
12	9.66	2,420	11.50	3,390	11.40	3,330	10.89	3,040	14.85	5,600	14.44	5,310
	MAY 13		MAY 14		MAY 15		MAY 16		MAY 17		MAY 18	
6	14.03	5,020	12.13	3,770	10.42	2,800	14.40	5,280	15.96	6,370	17.84	7,770
Noon	13.66	4,760	11.55	3,420	10.58	2,880	14.77	5,540	16.17	6,520	17.92	7,840
6	13.38	4,570	11.08	3,140	11.80	3,570	14.93	5,650	15.97	6,380	17.83	7,760
12	12.82	4,180	10.70	2,940	13.68	4,780	14.98	5,690	17.02	7,120	17.78	7,720
	MAY 19		MAY 20		MAY 21		MAY 22		MAY 23		MAY 24	
6	17.77	7,720	18.68	8,440	21.27	11,200	19.86	9,390	17.02	7,120	13.06	4,340
Noon	18.00	7,900	20.50	10,000	20.70	10,300	19.47	9,080	15.95	6,360	13.18	4,430
6	18.39	8,210	22.17	12,900	20.32	9,820	18.87	8,600	14.65	5,460	13.36	4,550
12	18.61	8,390	21.97	12,500	20.09	9,590	17.97	7,880	13.55	4,680	13.32	4,520
	MAY 25		MAY 26		MAY 27		MAY 28		MAY 29		MAY 30	
6	12.89	4,220	12.14	3,770	10.96	3,070	10.09	2,640	9.43	2,300	9.08	2,130
Noon	12.50	3,990	11.92	3,640	10.71	2,940	9.86	2,520	9.34	2,260	8.98	2,080
6	12.58	4,040	11.65	3,480	10.50	2,840	9.68	2,430	9.25	2,220	8.89	2,040
12	12.45	3,960	11.29	3,260	10.31	2,740	9.54	2,360	9.17	2,180	8.80	2,000

ILLINOIS RIVER BASIN

Sangamon River at Monticello, Ill.

Location.—Lat. 40°01′40″, long. 88°35′25″, (revised), in SW¼ sec. 12, T. 18 N., R. 5 E., at Illinois Central Railroad bridge half a mile west of Monticello. Datum of gage is 625.89 feet above mean sea level, datum of 1929.

Drainage area.—550 square miles.

Gage-height record.—Graph based on observer's twice-daily readings of wire-weight gage, supplemented by frequent observations by engineers on May 17-19.

Discharge record.—Stage-discharge relation defined by current-meter measurements up to crest stage.

Maxima.—1943: Discharge 16,600 second-feet 4 p. m. May 18 (gage height 17.67 feet). 1908-12; 1914-42: Discharge observed, 15,400 second-feet Oct. 4, 1926 (gage height 18.4 feet).

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	545	705	9	1,820	685	17	8,400	1,720	25	1,720	1,030
2	469	605	10	2,030	625	18	15,400	800	26	1,530	665
3	415	565	11	2,750	565	19	13,500	526	27	1,350	565
4	364	526	12	3,480	488	20	9,380	415	28	1,110	381
5	317	469	13	4,000	433	21	6,120	451	29	960	317
6	323	451	14	3,390	488	22	3,630	381	30	850	273
7	741	1,470	15	2,500	960	23	2,700	332	31	775	-------
8	1,460	930	16	3,950	1,530	24	2,110	364	-------	-------	-------
Monthly mean discharge, in second-feet										3,164	657
Runoff, in inches										6.63	1.33

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF SANGAMON RIVER AT MONTICELLO, ILL.

Hour	MAY 6		MAY 7		MAY 8		MAY 9		MAY 10		MAY 11	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
8 a.m.	6.28	299	8.15	635	10.41	1,360	11.10	1,800	11.20	1,890	11.72	2,590
4 p.m.	6.24	293	9.00	825	10.83	1,610	11.16	1,850	11.39	2,100	11.85	2,820
12	7.18	447	9.82	1,080	11.02	1,740	11.16	1,850	11.56	2,330	12.14	3,370
	MAY 12		MAY 13		MAY 14		MAY 15		MAY 16		MAY 17	
4	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	13.18	5,360
8	12.20	3,480	12.47	3,990	12.34	3,750	11.75	2,640	12.44	3,940	13.90	6,800
Noon	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	14.65	8,440
4	12.18	3,440	12.53	4,110	11.94	2,990	11.43	2,150	12.68	4,390	15.30	10,000
8	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	15.80	11,300
12	12.30	3,670	12.53	4,110	11.82	2,770	11.76	2,660	12.68	4,390	16.25	12,600
	MAY 18		MAY 19		MAY 20		MAY 21		MAY 22		MAY 23	
4	16.72	13,900	17.22	15,300	-------	-------	-------	-------	-------	-------	-------	-------
8	17.12	15,000	16.92	14,500	15.20	9,750	13.85	6,700	12.40	3,860	11.86	2,840
Noon	17.45	16,000	16.58	13,500	-------	-------	-------	-------	-------	-------	-------	-------
4	17.67	16,600	16.25	12,600	14.92	9,070	13.22	5,440	12.08	3,250	11.72	2,590
8	17.64	16,500	15.93	11,700	-------	-------	-------	-------	-------	-------	-------	-------
12	17.45	16,000	15.62	10,800	14.40	7,870	12.78	4,580	11.93	2,970	11.57	2,340

ILLINOIS RIVER BASIN

Sangamon River at Riverton, Ill.

Location.—Lat. 39°50′34″, long. 89°32′52″, in NE¼ sec. 16, T. 16 N., R. 4 W., at bridge on U. S. Highway 36 at Riverton, 4½ miles downstream from South Fork. Datum of gage is 508.38 feet above mean sea level, datum of 1929.

Drainage area.—2,560 square miles.

Gage-height record.—Graph based on observer's twice-daily readings of chain gage, supplemented by frequent observations by engineers.

Discharge record.—Stage-discharge relation defined by current-meter measurements up to crest stage.

Maxima.—1943: Discharge 68,700 second-feet 8 a. m. May 19 (gage height 31.52 feet, from graph based on gage readings).
1908-12; 1914-42: Maximum discharge observed, 30,200 second-feet Oct. 4, 1926, (gage height 32.0 feet, site and datum then in use).

Remarks.—Records for 1926 were observed at a site 1,450 feet downstream from present gage, at which site the datum of the gage was 502.77 feet above mean sea level, datum of 1929.

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	1,730	3,830	9	8,940	6,950	17	25,800	3,470	25	15,800	2,220
2	1,690	3,240	10	9,210	6,680	18	50,600	3,470	26	11,600	1,970
3	1,520	2,840	11	9,770	6,340	19	67,700	3,140	27	8,800	1,890
4	1,380	2,640	12	12,000	5,280	20	60,800	3,090	28	7,260	2,540
5	1,300	2,590	13	12,600	4,010	21	50,500	4,370	29	6,240	2,090
6	1,300	3,040	14	11,500	3,040	22	40,200	3,950	30	5,280	1,770
7	2,270	3,650	15	11,700	2,320	23	31,800	2,790	31	4,560	--------
8	5,980	6,140	16	16,400	2,400	24	23,400	2,360	--------	--------	--------
Monthly mean discharge, in second-feet										16,760	3,470
Runoff, in inches										7.55	1.51

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF SANGAMON RIVER AT RIVERTON, ILL.

Hour	MAY 6		MAY 7		MAY 8		MAY 9		MAY 10		MAY 11	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
8 a.m.	6.88	1,290	8.00	1,690	14.87	5,500	17.36	8,920	17.51	9,220	17.58	9,360
4 p.m.	6.87	1,290	9.86	2,480	16.00	6,560	17.58	9,360	17.49	9,180	17.85	9,950
12	7.02	1,350	12.60	3,950	16.81	7,820	17.53	9,260	17.50	9,200	18.12	10,800
	MAY 12		MAY 13		MAY 14		MAY 15		MAY 16		MAY 17	
8 a.m.	18.43	11,700	18.78	12,700	18.42	11,700	18.19	11,000	19.75	15,600	21.81	22,200
4 p.m.	18.67	12,400	18.72	12,600	18.28	11,200	18.48	11,800	20.30	17,300	23.30	28,200
12	18.77	12,700	18.60	12,200	18.18	10,900	19.02	13,500	20.88	19,000	25.06	35,200
	MAY 18		MAY 19		MAY 20		MAY 21		MAY 22		MAY 23	
8 a.m.	27.00	43,000	31.52	68,700	30.61	63,300	28.92	53,100	26.60	41,400	24.59	33,400
4 p.m.	29.70	57,800	31.41	68,100	29.81	58,500	28.07	48,400	25.97	38,900	23.80	30,200
12	31.25	67,100	30.95	65,300	29.36	55,800	27.28	44,400	25.28	36,100	23.06	27,200

ILLINOIS RIVER BASIN

SANGAMON RIVER NEAR OAKFORD, ILL.

Location.—Lat. 40°07′25″, long. 89°59′05″, in NW¼SE¼ sec. 3, T. 19 N., R. 8 W., at bridge on State Highway 97, just upstream from Chicago and Illinois Midland Railroad bridge, three-quarters of a mile downstream from Crane Creek, and 1¾ miles northwest of Oakford. Datum of gage is 452.88 feet above mean sea level, datum of 1929 (Corps of Engineers, U. S. Army bench mark).

Drainage area.—5,120 square miles.

Gage-height record.—Water-stage recorder graph except for the period June 24-30 for which a graph was drawn based on twice daily readings of outside staff gage.

Discharge record.—Stage-discharge relation based on current-meter measurements up to 112,000 second-feet; affected by broken levees from 2 p. m. May 20 to May 31.

Maxima.—1943: Discharge, 123,000 second-feet 2 a. m. May 20 (gage height 25.63 feet). 1909-12; 1914-19; 1921-22; 1928-33; 1939-42: Discharge recorded 42,800 second-feet Mar. 16, 1939 (gage height, 20.92 feet, present datum), results of discharge measurement furnished by Corps of Engineers, U. S. Army.

Floods of February and March 1907, May 1908 and October 1911, are reported to have reached a stage of about 21 feet at old station 2.4 miles upstream. On basis of measured fall during discharge measurement of Mar. 16, 1939, those floods reached a stage of 23 feet at present site and datum.

Remarks.—A levee break upstream from the station affected the discharge (but not the stage-discharge relation) on May 19.

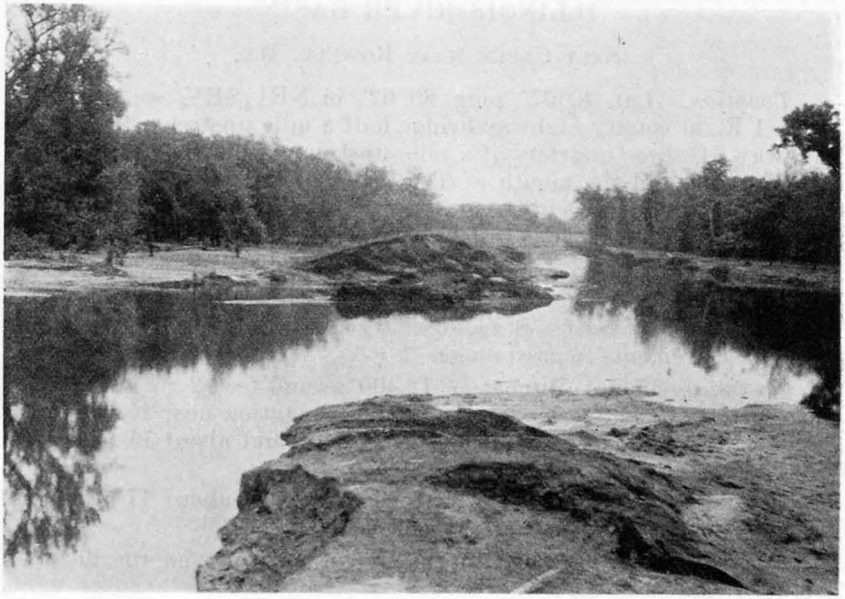
MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	4,500	9,800	9	13,700	6,800	17	29,400	4,410	25	39,500	3,780
2	4,050	8,250	10	15,200	7,800	18	49,000	4,800	26	31,400	3,520
3	3,870	6,940	11	17,400	8,400	19	85,600	4,700	27	26,000	3,280
4	3,520	5,910	12	20,600	9,160	20	120,000	4,500	28	21,700	3,200
5	3,280	5,330	13	23,700	8,400	21	103,000	4,600	29	17,600	3,360
6	3,110	5,220	14	25,600	6,940	22	82,200	5,670	30	14,300	3,360
7	4,000	5,670	15	23,800	5,330	23	64,200	5,440	31	12,000	--------
8	9,750	5,790	16	25,100	4,500	24	50,500	4,320	--------	--------	--------
Monthly mean discharge, in second-feet										30,570	5,639
Runoff, in inches										6.88	1.23

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF SANGAMON RIVER NEAR OAKFORD, ILL.

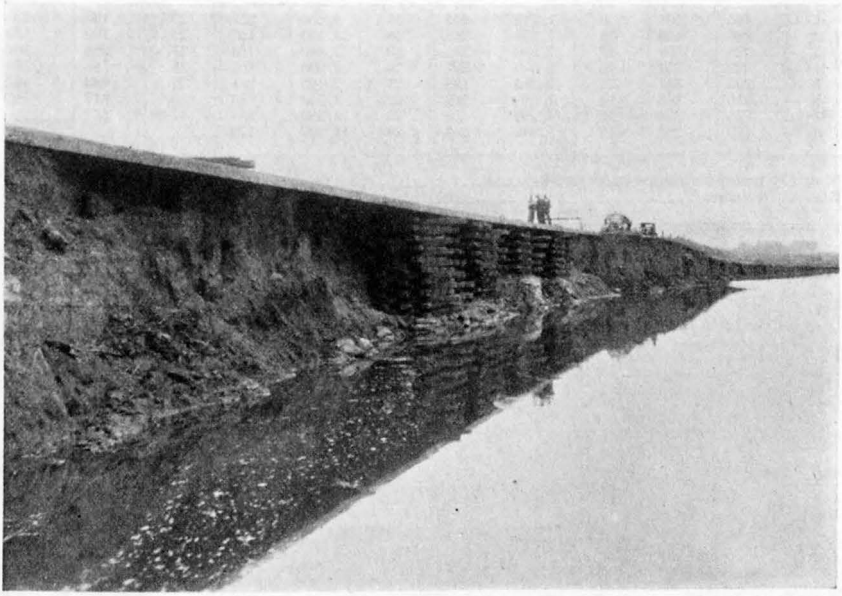
Hour	MAY 6		MAY 7		MAY 8		MAY 9		MAY 10		MAY 11	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
2			7.28	3,420	9.37	5,410						
4	6.91	3,130	7.57	3,660	10.08	6,250						
6			7.76	3,830	10.86	7,300	14.57	13,300	15.35	14,800	16.15	16,500
8	6.88	3,100	7.83	3,900	11.60	8,400						
10			7.85	3,920	12.32	9,510						
Noon	6.86	3,090	7.87	3,930	12.94	10,500	14.77	13,700	15.50	15,100	16.49	17,300
2			7.93	3,990	13.38	11,200						
4	6.83	3,060	8.04	4,090	13.72	11,800						
6			8.20	4,230	13.98	12,300	14.95	14,000	15.70	15,500	16.82	18,300
8	6.84	3,070	8.37	4,380	14.16	12,600						
10			8.57	4,570	14.29	12,800						
12	7.03	3,220	8.87	4,870	14.38	13,000	15.18	14,500	15.92	15,900	17.14	19,200
	MA	Y 12	MA	Y 13	MA	Y 14	MA	Y 15	MA	Y 16	MA	Y 17
4	17.30	19,700	17.92	22,200	18.70	26,000	18.39	24,400			18.94	27,400
6									18.35	24,200		
8	17.44	20,300	18.07	22,800	18.70	26,000	18.30	24,000			19.04	28,000
Noon	17.54	20,700	18.24	23,700	18.66	25,800	18.25	23,800	18.54	25,200	19.19	28,900
4	17.63	21,000	18.40	24,500	18.60	25,500	18.18	23,400			19.40	30,200
6									18.70	26,000		
8	17.72	21,400	18.55	25,200	18.53	25,200	18.16	23,300			19.62	31,600
12	17.81	21,700	18.66	25,800	18.47	24,800	18.20	23,500	18.84	26,800	19.96	34,300
	MA	Y 18	MA	Y 19	MA	Y 20	MA	Y 21	MA	Y 22	MA	Y 23
2			22.76	70,500	25.63	123,000	24.20	112,000				
4	20.37	38,100	23.03	74,800	25.57	121,000	24.07	109,000				
6			23.28	79,100	25.52	120,000	23.98	108,000	22.86	87,200	21.72	68,200
8	20.78	42,800	23.39	80,900	25.51	120,000	23.89	106,000				
10			23.37	80,600	25.53	121,000	23.76	104,000				
Noon	21.24	48,400	23.18	77,400	25.54	121,000	23.67	102,000	22.52	81400	21.45	64,000
2			23.01	74,500	25.19	122,000	23.60	100,000				
4	21.67	54,100	23.38	80,800	24.92	120,000	23.51	98,900				
6			24.10	93,300	24.78	120,000	23.40	96,900	22.26	77,000	21.20	60,200
8	22.08	59,900	24.70	104,000	24.62	118,000	23.32	95,500				
10			25.33	117,000	24.43	116,000	23.27	94,600				
12	22.52	66,600	25.57	121,000	24.29	114,000	23.22	93,700	21.98	72,400	20.93	56,300

May 19, 9 a. m., 23.41 ft., 81,300 sec.-ft.; May 20, 1:55 p. m., 25.57 ft., 121,000 sec.-ft.



A BREAK IN LEVEE ON RIGHT BANK, JUST UPSTREAM FROM STATE HIGHWAY 97.

It was this break which produced the sudden drop in stage at the Oakford gaging station on the afternoon of May 20.



B STATE HIGHWAY 97 FILL EROSION RESULTING FROM LEVEE BREAK SHOWN ABOVE.

SANGAMON RIVER NEAR OAKFORD, ILL.

ILLINOIS RIVER BASIN

Salt Creek near Rowell, Ill.

Location.—Lat. 40°07′, long. 89°02′, in NE¼SE¼ sec. 11, T. 19 N., R. 1 E., at county highway bridge half a mile upstream from U. S. Highway 54, three quarters of a mile upstream from the Illinois Central Railroad and the mouth of Ten Mile Creek, 3.2 miles northwest of Rowell and 6½ miles upstream from the former gaging station near Kenney. Datum of gage is 610.00 feet above mean sea level, datum of 1929 (Corps of Engineers, U. S. Army, bench mark).

Drainage area.—334 square miles.

Gage-height record.—Stage-discharge relation defined by current-meter measurements to crest stage.

Maxima.—1943: Discharge, 12,400 second-feet 2 p. m. May 18 (gage height, 24.77 feet). At site of former station near Kenney, the gage height was 15.85 feet. 1908-12: Gage height about 15 feet, May 13, 1908 at former site.

The flood of October 1926 reached a stage of about 17½ feet at the site of the former station.

Remarks.—See page 158 of this report for data on the flood of August 1943.

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	345	504	9	1,240	255	17	4,630	229	25	1,160	236
2	296	456	10	1,270	242	18	11,100	187	26	1,100	159
3	275	396	11	1,610	236	19	7,640	164	27	918	164
4	229	359	12	2,040	217	20	2,990	193	28	783	176
5	205	331	13	2,280	199	21	2,140	248	29	683	141
6	216	303	14	1,560	256	22	1,750	187	30	617	116
7	776	296	15	1,290	310	23	1,380	148	31	552	-------
8	1,170	268	16	1,800	289	24	1,200	170	-------	-------	-------
Monthly mean discharge, in second-feet										1,782	248
Runoff, in inches										6.15	.83

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF SALT CREEK NEAR ROWELL, ILL.

Hour	MAY 6		MAY 7		MAY 8		MAY 9		MAY 10		MAY 11	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
2	9.73	197	11.75	480	13.88	835	------	------	------	------	16.31	1,280
4	9.72	195	12.65	626	14.90	1,010	------	------	------	------	16.32	1,290
6	9.72	195	13.23	724	15.73	1,160	16.03	1,220	16.36	1,300	16.33	1,290
8	9.71	194	13.74	811	16.19	1,250	------	------	------	------	16.42	1,320
10	9.71	194	14.28	903	16.32	1,290	------	------	------	------	16.61	1,380
Noon	9.71	194	14.41	925	16.33	1,290	16.08	1,230	16.28	1,270	17.02	1,570
2	9.71	194	14.28	903	16.27	1,270	------	------	------	------	17.36	1,750
4	9.77	201	14.11	874	16.21	1,250	------	------	------	------	17.62	1,900
6	9.80	205	13.95	846	16.16	1,240	16.18	1,250	16.16	1,240	17.74	1,970
8	10.10	242	13.83	826	16.11	1,230	------	------	------	------	17.77	1,990
10	10.52	299	13.73	809	16.08	1,230	------	------	------	------	17.74	1,970
12	11.05	374	13.67	799	16.06	1,220	16.32	1,290	16.30	1,280	17.69	1,940
	MAY 12		MAY 13		MAY 14		MAY 15		MAY 16		MAY 17	
2	------	------	------	------	------	------	16.29	1,280	17.05	1,580	17.61	1,900
4	17.64	1,910	18.45	2,460	------	------	16.19	1,250	17.37	1,750	18.13	2,230
6	------	------	------	------	------	------	16.09	1,230	17.63	1,910	19.00	2,940
8	17.68	1,940	18.48	2,480	------	------	15.99	1,210	17.69	1,940	19.81	3,870
10	------	------	------	------	------	------	15.96	1,200	17.67	1,930	20.31	4,540
Noon	17.79	2,000	18.36	2,390	16.93	1,520	16.03	1,220	17.60	1,890	20.74	5,170
2	------	------	------	------	------	------	16.22	1,260	17.53	1,850	21.10	5,730
4	17.91	2,080	18.11	2,220	------	------	16.44	1,320	17.48	1,820	21.35	6,130
6	------	------	------	------	------	------	16.53	1,350	17.45	1,800	21.44	6,280
8	18.03	2,160	17.83	2,030	------	------	16.57	1,370	17.42	1,780	21.42	6,240
10	------	------	------	------	------	------	16.60	1,380	17.42	1,780	21.46	6,310
12	18.23	2,300	17.56	1,870	16.39	1,310	16.67	1,410	17.45	1,800	21.63	6,600
	MAY 18		MAY 19		MAY 20		MAY 21		MAY 22		MAY 23	
2	22.34	7,840	------	------	------	------	------	------	------	------	------	------
4	23.41	9,780	23.55	10,000	19.49	3,480	------	------	------	------	------	------
6	24.19	11,300	------	------	------	------	18.20	2,280	17.56	1,870	------	------
8	24.47	11,800	23.07	9,160	19.09	3,030	------	------	------	------	------	------
10	24.64	12,100	------	------	------	------	------	------	------	------	------	------
Noon	24.75	12,300	22.34	7,840	18.85	2,800	17.97	2,120	17.40	1,770	16.56	1,360
2	24.77	12,400	------	------	------	------	------	------	------	------	------	------
4	24.70	12,200	21.47	6,330	18.78	2,730	------	------	------	------	------	------
6	24.53	11,900	------	------	------	------	17.77	1,990	17.16	1,640	------	------
8	24.31	11,500	20.68	5,080	18.62	2,600	------	------	------	------	------	------
10	24.07	11,000	------	------	------	------	------	------	------	------	------	------
12	23.87	10,700	20.00	4,120	18.44	2,450	17.65	1,920	16.94	1,530	16.21	1,250
	MAY 24		MAY 25		MAY 26		MAY 27		MAY 28		MAY 29	
2	16.17	1,240	------	------	------	------	------	------	------	------	------	------
4	16.11	1,230	------	------	------	------	------	------	------	------	------	------
6	16.04	1,220	15.78	1,170	15.63	1,140	------	------	------	------	------	------
8	15.98	1,210	------	------	------	------	------	------	------	------	------	------
10	15.91	1,190	------	------	------	------	------	------	------	------	------	------
Noon	15.85	1,180	15.65	1,150	15.44	1,110	14.34	913	13.58	784	12.97	680
2	15.82	1,180	------	------	------	------	------	------	------	------	------	------
4	15.84	1,180	------	------	------	------	------	------	------	------	------	------
6	15.92	1,200	15.61	1,140	15.16	1,060	------	------	------	------	------	------
8	15.94	1,200	------	------	------	------	------	------	------	------	------	------
10	15.93	1,200	------	------	------	------	------	------	------	------	------	------
12	15.89	1,190	15.63	1,140	14.87	1,010	13.89	836	13.26	729	12.76	644

May 13, 7 a.m., 18.50 ft., 2,500 sec.-ft.

ILLINOIS RIVER BASIN

Salt Creek near Greenview, Ill.

Location.—Lat. 40°07′, long. 89°44′, in NE¼NE¼ sec. 2, T. 19 N., R. 6 W., at bridge on State Highway 29, three miles north of Greenview, four miles downstream from Pike Creek, and five miles

above the mouth. Datum of gage is 479.00 feet above mean sea level, datum of 1929 (Corps of Engineers, U. S. Army, bench mark).

Drainage area.—1,800 square miles.

Gage-height record.—Graph based on observer's twice-daily readings of wire-weight gage, supplemented by occasional observations by engineers.

Discharge Record.—Stage-discharge relation defined by current-meter measurements up to crest stage.

Maxima.—1943: Discharge, 41,200 second-feet 5:30 p. m. May 19 (gage height 20.50 feet). 1941-42: Discharge, 17,100 second-feet Feb. 8, 1942 (gage height 17.20 feet).

According to statements of local residents, a stage of 20.3 feet occurred in 1929.

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	2,030	2,840	9	6,970	1,730	17	14,600	1,470	25	7,240	1,170
2	1,730	2,700	10	7,190	1,670	18	22,200	1,370	26	6,100	1,270
3	1,670	2,420	11	8,400	1,620	19	38,700	1,370	27	5,060	1,570
4	1,470	2,210	12	11,400	1,730	20	36,100	1,320	28	4,230	1,910
5	1,370	2,090	13	14,600	1,620	21	25,400	1,320	29	3,680	1,320
6	1,360	1,970	14	11,100	1,570	22	17,300	1,620	30	3,330	1,170
7	1,860	1,910	15	8,680	1,520	23	12,000	1,270	31	2,980	-------
8	4,960	1,850	16	11,300	1,520	24	9,090	1,170	-------	-------	-------
Monthly mean discharge, in second-feet										9,810	1,676
Runoff, in inches										6.28	1.04

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF SALT CREEK NEAR GREENVIEW, ILL.

Hour	MAY 6		MAY 7		MAY 8		MAY 9		MAY 10		MAY 11	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
8 a.m.	4.80	1,320	5.40	1,620	9.39	4,380	11.95	6,750	12.29	7,120	12.89	7,840
4 p.m.	4.89	1,360	5.90	1,910	11.12	5,920	12.37	7,210	12.27	7,100	13.50	8,750
12	5.08	1,460	7.02	2,640	11.73	6,530	12.51	7,360	12.51	7,360	14.12	9,860
	MAY 12		MAY 13		MAY 14		MAY 15		MAY 16		MAY 17	
4	-------	-------	15.93	14,700	-------	-------	-------	-------	-------	-------	-------	-------
8	14.58	10,800	16.14	15,600	14.92	11,600	13.02	8,020	14.74	11,100	15.48	13,200
Noon	-------	-------	16.11	15,400	-------	-------	-------	-------	-------	-------	-------	-------
4	15.00	11,800	15.88	14,500	14.41	10,400	13.32	8,460	14.97	11,700	16.06	15,200
8	-------	-------	15.63	13,700	-------	-------	-------	-------	-------	-------	-------	-------
12	15.60	13,600	15.48	13,200	13.78	9,230	14.13	9,880	15.20	12,400	16.81	18,200
	MAY 18		MAY 19		MAY 20		MAY 21		MAY 22		MAY 23	
4	17.02	19,100	19.81	35,900	-------	-------	-------	-------	-------	-------	-------	-------
8	17.15	19,800	20.24	39,100	20.10	38,000	18.47	27,000	16.82	18,300	15.14	12,200
Noon	17.40	21,000	20.41	40,500	-------	-------	-------	-------	-------	-------	-------	-------
4	17.87	23,400	20.48	41,000	19.65	34,800	17.88	23,500	16.33	16,300	14.92	11,600
8	18.30	26,000	20.47	41,000	-------	-------	-------	-------	-------	-------	-------	-------
12	18.85	29,300	20.41	40,500	19.06	30,600	17.32	20,600	15.76	14,100	14.47	10,500

May 13, 10 a.m., 16.18 ft., 15,700 sec.-ft.; May 19, 5:30 p.m., 20.50 ft., 41,200 sec.-ft.

ILLINOIS RIVER BASIN

La Moine River at Ripley, Ill.

Location.—Lat. 40°01′31″, long. 90°37′55″, in NE¼ sec. 33, T. 1 N., R. 2 W., at highway bridge a quarter of a mile east of Ripley and 2 miles upstream from Town Branch. Datum of gage is 431.1 feet above mean sea level (datum of 1929).

Drainage area.—1,310 square miles.

Gage-height record.—Water-stage recorder graph except for period June 10 to 13.

Discharge record.—Stage-discharge relation defined by current-meter measurements. Rate of change of stage used as a factor in computing discharge. Flow affected by backwater from the Illinois River May 13 to June 29. Discharge May 13 to June 9 and June 14-29 computed by using gage readings at Beardstown and LaGrange as a factor. Discharge June 10-13 computed on basis of records for Spoon River at London Mills and at Seville.

Maxima.—1943: Discharge, 14,500 second-feet 8 p. m. May 21 (gage height, 25.25 feet). 1921-42: Discharge, 16,800 (revised) second-feet 7 a. m. Feb. 28, 1936 (gage height, 25.94 feet).

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	1,260	1,060	9	3,660	2,410	17	8,490	2,810	25	5,430	35 8
2	967	966	10	4,370	3,100	18	12,800	2,250	26	3,690	354
3	724	989	11	6,610	4,200	19	11,900	1,000	27	2,400	300
4	610	1,570	12	6,690	3,600	20	11,400	964	28	1,370	312
5	514	1,680	13	5,180	3,300	21	14,200	576	29	1,270	263
6	469	2,190	14	2,970	2,960	22	13,200	472	30	1,260	350
7	462	2,930	15	3,140	1,910	23	9,640	503	31	1,490	--------
8	3,510	2,230	16	6,090	1,470	24	6,930	477	--------	--------	--------
Monthly mean discharge, in second-feet										4,926	1,585
Runoff, in inches										4.33	1.35

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF LA MOINE RIVER AT RIPLEY, ILL.

Hour	MAY 7		MAY 8		MAY 9		MAY 10		MAY 11		MAY 12	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
2	------	------	9.30	[2]1,130	------	------	15.89	3,570	19.63	5,400	21.55	7,320
4	6.95	469	13.00	[2]3,170	------	------	15.92	3,580	19.64	5,370	21.50	7,250
6	------	------	14.92	[2]3,780	16.30	3,730	15.93	3,580	19.68	5,380	21.43	7,140
8	6.94	467	16.03	[2]3,950	------	------	15.94	3,590	20.02	[2]6,660	21.32	6,990
10	------	------	16.36	[2]3,900	------	------	15.99	3,610	20.85	[2]7,560	21.20	6,850
Noon	6.90	458	16.57	[2]3,960	16.01	3,610	16.07	3,640	21.32	[2]7,280	21.07	6,700
2	------	------	16.74	[2]3,990	------	------	16.41	[2]4,150	21.35	7,040	20.95	6,560
4	6.87	451	16.87	[2]4,040	------	------	18.55	[2]5,870	21.32	7,000	20.82	6,420
6	------	------	16.98	[2]4,040	15.90	3,570	19.47	[2]5,460	21.32	7,000	20.68	6,280
8	6.85	447	17.01	4,010	------	------	19.73	5,450	21.37	7,060	20.54	6,140
10	------	------	16.90	3,970	------	------	19.70	5,430	21.46	7,190	20.40	6,000
12	7.05	492	16.76	3,910	15.88	3,560	19.66	5,400	21.53	7,300	20.26	5,880
	MAY 13		MAY 14		MAY 15		MAY 16		MAY 17		MAY 18	
2	------	------	------	------	12.00	[1]1,770	20.15	[3]6,130	20.96	[3]6,840	24.16	11,800
4	------	------	------	------	11.77	[1]1,670	20.28	[1]5,830	21.09	[3]6,780	24.37	12,300
6	19.82	5,530	17.23	[3]3,740	11.59	[1]1,590	20.30	[1]5,850	21.12	[1]6,680	24.40	12,400
8	------	------	------	------	11.49	[1]1,540	20.32	[1]5,870	21.25	[3]7,320	24.48	12,600
10	------	------	------	------	12.68	[3]2,510	20.40	[1]5,940	21.47	[3]7,660	24.57	12,800
Noon	19.39	5,190	15.16	[3]2,860	15.50	[3]3,970	20.51	[1]6,050	21.73	[3]8,200	24.67	13,100
2	------	------	------	------	16.12	[3]3,720	20.62	[1]6,160	22.04	[3]8,860	24.74	13,300
4	------	------	------	------	16.37	[3]3,760	20.69	[1]6,230	22.46	[2]9,650	24.79	13,500
6	18.95	4,900	13.43	[3]2,200	16.62	[3]3,960	20.71	[1]6,250	22.80	[2]9,960	24.77	13,400
8	------	------	------	------	17.23	[3]4,300	20.66	[1]6,200	23.07	[2]10,200	24.70	13,200
10	------	------	------	------	17.85	[3]4,860	20.60	[1]6,140	23.31	[2]10,700	24.60	12,900
12	18.37	[3]4,330	12.27	[3]1,830	19.48	[3]6,250	20.76	[3]6,620	23.73	[2]11,400	24.50	[2]12,500
	MAY 19		MAY 20		MAY 21		MAY 22		MAY 23		MAY 24	
2	24.37	[1]12,200	24.08	[1]11,500	------	------	------	------	------	------	------	------
4	24.28	[1]12,000	24.03	[1]11,400	25.03	[1]13,900	25.18	[1]14,300	------	------	------	------
6	24.29	[1]12,000	23.95	[1]11,100	------	------	------	------	23.85	[1]10,500	22.19	[1]7,370
8	24.27	[1]12,000	23.89	[1]11,000	25.13	[1]14,200	25.07	[1]13,900	------	------	------	------
10	24.20	[1]11,800	23.84	[1]10,900	------	------	------	------	------	------	------	------
Noon	24.15	[1]11,700	23.80	[1]10,800	25.19	[1]14,400	24.91	[1]13,400	23.42	[1]9,590	21.88	[1]6,800
2	24.14	[1]11,700	23.81	[1]10,800	------	------	------	------	------	------	------	------
4	24.15	[1]11,700	23.91	[1]11,000	25.24	[1]14,500	24.71	[1]12,800	------	------	------	------
6	24.16	[1]11,700	24.10	[1]11,400	------	------	------	------	22.96	[1]8,720	21.67	[1]6,450
8	24.17	[1]11,700	24.36	[1]12,100	25.25	[1]14,500	24.49	[1]12,100	------	------	------	------
10	24.15	[1]11,700	24.62	[1]12,700	------	------	------	------	------	------	------	------
12	24.12	[1]11,600	24.83	[1]13,300	25.24	[1]14,500	24.25	[1]11,500	22.55	[1]8,030	21.53	[1]6,200

May 8, 7:30 p.m., 17.03 ft., 4,020 sec.-ft. [1] Backwater from Illinois River; discharge computed by using stage at Beardsdown and La Grange. [2] Computed by using rate of change of stage as a factor. [3] Backwater from Illinois River; discharge computed by using stage at Beardstown and LaGrange and computed by using rate of change of stage as a factor.

ILLINOIS RIVER BASIN

Macoupin Creek near Kane, Ill.

Location.—Lat. 39°14′00″, long. 90°23′45″, in SE¼ sec. 11, T. 9 N. R. 12 W., at bridge on U. S. Highway 67, 3½ miles northeast of Kane. Datum of gage is 426.77 feet above mean sea level, datum of 1929.

Drainage area.—875 square miles.

Gage-height record.—Water-stage recorder graph up to 11 p. m. May 17, when recorder structure fell into creek; thereafter graph based on crest floodmarks and readings of wire-weight gage daily or oftener.

Discharge record.—Stage-discharge relation defined by current-meter measurements up to 29,000 second-feet and extended to contracted-opening determination for the crest.

Maxima.—1943: Discharge, 40,000 second-feet 10 p. m. May 18 gage height, 28.5 feet). 1921-33, 1940-42: Discharge observed, 22,200 second-feet Oct. 4, 1926.

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	77	245	9	5,990	458	17	11,300	4,380	25	910	339
2	63	225	10	5,460	2,370	18	30,900	2,520	26	713	189
3	61	189	11	5,060	4,020	19	32,700	400	27	526	133
4	53	4,450	12	6,040	558	20	16,200	350	28	408	730
5	49	2,840	13	5,820	339	21	8,440	317	29	380	1,530
6	114	750	14	4,740	350	22	5,370	245	30	255	245
7	2,890	1,430	15	2,960	1,560	23	2,520	275	31	285	-------
8	5,360	1,390	16	5,220	4,200	24	954	245	-------	-------	-------
Monthly mean discharge, in second-feet										5,220	1,242
Runoff, in inches										6.88	1.58

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF MACOUPIN CREEK NEAR KANE, ILL.

Hour	MAY 6		MAY 7		MAY 8		MAY 9		MAY 10		MAY 11	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
2	-------	-------	12.72	1,220	-------	-------	-------	-------	-------	-------	19.95	4,760
4	4.06	48	14.52	1,450	20.02	4,820	-------	-------	20.76	5,820	19.91	4,740
6	-------	-------	16.35	1,720	-------	-------	20.88	6,020	-------	-------	19.89	4,720
8	4.06	48	18.35	2,480	20.30	5,100	-------	-------	20.71	5,740	19.93	4,750
10	-------	-------	18.70	2,760	-------	-------	-------	-------	-------	-------	20.02	4,820
Noon	4.07	49	18.98	3,080	20.49	5,380	20.87	6,010	20.59	5,540	20.16	4,940
2	-------	-------	19.16	3,340	-------	-------	-------	-------	-------	-------	20.25	5,040
4	4.08	51	19.31	3,580	20.66	5,660	-------	-------	20.44	5,300	20.34	5,160
6	-------	-------	19.44	3,830	-------	-------	20.85	5,970	-------	-------	20.43	5,290
8	4.42	94	19.58	4,110	20.80	5,880	-------	-------	20.23	5,020	20.55	5,480
10	-------	-------	19.71	4,400	-------	-------	-------	-------	-------	-------	20.67	5,670
12	9.00	745	19.80	4,660	20.87	6,010	20.81	5,900	20.02	4,820	20.77	5,830
	MAY 12		MAY 13		MAY 14		MAY 15		MAY 16		MAY 17	
2	-------	-------	-------	-------	-------	-------	17.16	3,120	-------	-------	-------	-------
4	20.92	6,100	-------	-------	-------	-------	16.54	2,810	19.64	4,550	21.27	6,890
6	-------	-------	20.81	5,900	20.47	5,350	15.93	2,500	-------	-------	-------	-------
8	20.95	6,160	-------	-------	-------	-------	15.62	2,350	20.03	4,820	21.76	8,180
10	-------	-------	-------	-------	-------	-------	15.60	2,340	-------	-------	-------	-------
Noon	20.92	6,100	20.79	5,860	20.04	4,830	15.78	2,430	20.40	5,240	22.46	10,300
2	-------	-------	-------	-------	-------	-------	16.36	2,720	-------	-------	-------	-------
4	20.88	6,020	-------	-------	-------	-------	16.96	3,020	20.69	5,700	23.46	13,800
6	-------	-------	20.73	5,770	19.19	4,250	17.45	3,260	-------	-------	-------	-------
8	20.85	5,970	-------	-------	-------	-------	17.86	3,460	20.85	5,970	24.11	16,400
10	-------	-------	-------	-------	-------	-------	18.32	3,730	-------	-------	-------	-------
12	20.82	5,920	20.64	5,620	17.75	3,420	18.80	4,020	21.02	6,300	24.40	17,600
	MAY 18		MAY 19		MAY 20		MAY 21		MAY 22		MAY 23	
2	24.58	18,300	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------
4	24.80	19,200	28.35	39,000	25.05	20,200	-------	-------	-------	-------	18.34	3,740
6	25.20	20,900	-------	-------	-------	-------	22.19	9,470	20.83	5,930	-------	-------
8	25.80	23,600	28.04	36,800	24.48	17,900	-------	-------	-------	-------	17.00	3,040
10	26.90	29,400	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------
Noon	27.75	34,900	27.54	33,500	23.97	15,900	21.79	8,270	20.50	5,400	15.60	2,340
2	28.10	37,200	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------
4	28.35	39,000	26.87	29,300	23.48	13,900	-------	-------	-------	-------	14.52	1,810
6	28.46	39,700	-------	-------	-------	-------	21.42	7,250	19.97	4,780	-------	-------
8	28.48	39,900	26.28	26,000	23.06	12,200	-------	-------	-------	-------	13.71	1,470
10	28.50	40,000	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------
12	28.49	39,900	25.64	22,900	22.69	11,000	21.11	6,500	19.14	4,220	13.07	1,230
	MAY 24		MAY 25		MAY 26		MAY 27		MAY 28		MAY 29	
6	12.37	1,000	12.16	938	-------	-------	-------	-------	-------	-------	-------	-------
Noon	12.00	890	12.14	932	11.15	700	10.19	520	9.42	403	9.19	373
6	11.89	862	12.04	902	-------	-------	-------	-------	-------	-------	-------	-------
12	12.03	899	11.80	840	10.70	612	9.76	452	9.18	372	9.40	400

CAHOKIA CREEK BASIN

Indian Creek at Wanda, Ill.

Location.—Lat. 38°50′30″, long. 90°01′59″, in SE¼NW¼ sec. 31, T. 5 N., R. 8 W., at bridge on State Highway 159, three-quarters of a mile northeast of Wanda, 2¼ miles upstream from Cahokia Creek, and 5 miles west of Edwardsville. Datum of gage is 431.52 feet above mean sea level, datum of 1929.

Drainage area.—37.0 square miles.

Gage-height record.—Water-stage recorder graph.

Discharge record.—Artificial control of concrete effective up to 60 second-feet. Stage-discharge relation defined by current-meter measurements up to 3,300 second-feet.

Maxima.—1943: Discharge, 4,160 second-feet 8 p. m. May 17 (gage height, 15.69 feet). 1940-42: Discharge, 3,240 second-feet 8 a. m. July 9, 1942 (gage height, 15.74 feet).

Remarks.—See page 158 of this report for data on the flood of July 1942.

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	3.6	9.6	9	29	22	17	2,260	40	25	23	31
2	3.4	7.9	10	241	308	18	1,940	26	26	17.7	10.6
3	3.6	6.8	11	673	58	19	714	21	27	14.7	9.3
4	2.9	28	12	99	23	20	140	42	28	13.2	7.0
5	2.8	42	13	39	15.9	21	63	52	29	11.3	6.0
6	2.9	585	14	27	71	22	35	18.2	30	10.6	4.3
7	217	219	15	508	437	23	28	15.1	31	12.4	-------
8	70	31	16	307	506	24	32	67	-------	-------	-------
Monthly mean discharge, in second-feet										243	90.7
Runoff, in inches										7.58	2.73

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF INDIAN CREEK AT WANDA, ILL.

Hour	MAY 7		MAY 8		MAY 9		MAY 10		MAY 11		MAY 12	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
1	2.47	3.4	3.61	65			3.05	23	9.72	850		
2	2.49	3.7	3.56	60	3.32	39	3.06	23	10.07	914	4.50	180
3	2.52	4.3	3.50	54			3.07	24	10.29	958		
4	2.57	5.3	3.48	52	3.26	35	3.09	25	10.39	978	4.14	144
5	2.84	13.6		52			3.12	27	10.43	986		
6	3.17	29	3.48	52	3.22	32	3.18	30	10.44	988	4.01	127
7	3.63	67	3.49	53			3.31	39	10.40	980		
8	4.50	180	3.57	61	3.18	30	3.38	44	10.27	954	3.88	103
9	5.66	296	3.66	71			3.47	51	10.02	904		
10	6.38	368	3.72	78	3.15	28	3.67	72	9.67	841	3.79	88
11	7.10	448	3.78	86			3.91	108	9.21	758		
Noon	7.26	469	3.80	89	3.12	27	4.01	127	8.68	669	3.73	79
1	7.33	478					4.08	137	8.13	588		
2	7.29	473	3.80	89	3.10	26	4.09	139	7.67	524	3.68	73
3	7.22	464	3.82	92			4.60	190	7.43	491		
4	7.03	439	3.83	94	3.08	24	6.40	370	7.32	477	3.62	66
5	6.59	390	3.81	91			6.62	393	7.19	460		
6	5.88	318	3.77	85	3.06	23	7.52	503	7.02	438	3.58	62
7	5.00	230	3.70	75			7.86	550	6.85	418		
8	4.37	167	3.64	68	3.05	23	8.05	577	6.71	403	3.53	57
9	4.08	137	3.57	61			8.20	598	6.54	384		
10	3.90	106	3.51	55	3.04	22	8.45	633	6.26	356	3.49	53
11	3.77	85	3.45	50			8.85	696	5.85	315		
12	3.66	71	3.40	45	3.04	22	9.30	774	5.34	264	3.45	50
	MAY 13		MAY 14		MAY 15		MAY 16		MAY 17		MAY 18	
1					3.07	24	7.88	553	5.40	270	14.87	3,340
2					3.11	26	7.31	475	6.55	386	15.14	3,610
3							7.06	443	7.09	447	15.15	3,620
4					3.11	26	7.00	435	7.46	495	14.97	3,440
5					3.12	27	7.06	443	7.75	535	14.76	3,230
6	3.35	42			3.16	29	7.12	451	8.25	605	14.46	2,930
7					3.22	32	7.17	457	10.25	950	14.18	2,680
8					3.30	38	7.15	454	11.18	1,150	13.93	2,470
9					6.30	360	6.98	433	11.38	1,210	13.68	2,280
10					6.77	410	6.60	391	12.10	1,440	13.38	2,070
11					7.61	515	6.08	338	14.07	2,590	13.10	1,900
Noon	3.30	38	3.12	27	7.92	559	5.46	276	14.56	3,030	12.69	1,680
1					8.09	583	4.89	219	14.76	3,230	12.46	1,580
2					9.10	738	4.51	181	14.79	3,260	12.26	1,500
3					9.79	862	4.30	160	14.63	3,100	12.11	1,440
4					10.16	932	4.15	145	14.68	3,150	11.87	1,360
5					10.49	998	4.05	133	15.07	3,540	11.55	1,260
6	3.25	34			10.54	1,010	3.97	120	15.25	3,720	11.10	1,130
7					10.51	1,000	3.91	108	15.57	4,040	10.20	940
8					10.37	974	3.85	98	15.69	4,160	9.09	736
9					10.21	942	4.25	155	15.57	4,040	8.14	590
10					10.00	900	4.63	193	15.24	3,710	7.43	491
11					9.60	828	5.00	230	14.91	3,380	6.86	420
12	3.20	31	3.07	24	8.76	682	5.36	266	14.86	3,330	6.46	376
	MAY 19		MAY 20		MAY 21		MAY 22		MAY 23		MAY 24	
1	6.13	343	5.27	257								
2	5.84	314	4.84	214	3.85	98						
3	5.60	290	4.55	185								
4	6.50	380	4.38	168	3.74	81						
5	8.07	580	4.27	157								
6	8.55	648	4.20	150	3.66	71	3.30	38	3.15	28	3.08	24
7	8.98	717	4.14	144								
8	9.35	783	4.10	140	3.60	64						
9	9.80	864	4.07	136								
10	10.25	950	4.04	132	3.56	60						
11	10.55	1,010	4.02	129								
Noon	10.72	1,040	4.00	126	3.52	56	3.26	35	3.14	28	3.09	25
1	10.73	1,050	3.97	120							3.11	26
2	10.63	1,030	3.95	116	3.49	53					3.32	39
3	10.52	1,000	3.92	110							3.34	41
4	10.37	974	3.90	106	3.46	50					3.44	49
5	10.19	938	3.87	101							3.48	52
6	9.92	886	3.84	96	3.43	48	3.22	32	3.12	27	3.48	52
7	9.56	821	3.82	92							3.42	47
8	8.95	712	3.85	98	3.40	45					3.35	42
9	8.22	601	3.94	114							3.28	37
10	7.37	483	4.00	126	3.37	43					3.23	33
11	6.54	384	4.01	127							3.19	30
12	5.82	312	3.98	122	3.35	42	3.18	30	3.10	26	3.16	29

May 10, 2:25 p.m., 4.09 ft., 139 sec.-ft.; 3:45 p.m., 6.47 ft., 377 sec.-ft.; 4:25 p.m., 6.16 ft., 346 sec.-ft.; May 16, 8:30 p.m., 3.83 ft., 94 sec.-ft.; May 17, 1:25 a.m., 5.40 ft., 270 sec.-ft.; 1:30 p.m., 14.80 ft., 3,270 sec.-ft.; 3:30 p.m., 14.58 ft., 3,050 sec.-ft.; May 18, 12:30 a.m., 14.80 ft., 3,270 sec.-ft.; 2:30 a.m., 15.19 ft., 3,660 sec.-ft.; May 19, 3:35 a.m., 5.47 ft., 277 sec.-ft.; 12:30 p.m., 10.74 ft., 1,050 sec.-ft.

CAHOKIA CREEK BASIN

Canteen Creek at Caseyville, Ill.

Location.—Lat. 38°38′35″, long. 90°01′00″, in N½ NW¼ sec. 8, T. 2 N., R. 8 W., at county road bridge at Caseyville, 100 feet upstream from Pennsylvania Railroad bridge, and 400 feet upstream from bridge on State Highway 157.

Drainage area.—22.5 square miles.

Gage-height record.—Water-stage recorder graph.

Discharge record.—Stage-discharge relation defined by current-meter measurements to 1,200 second-feet and extended by comparison with previous well-defined rating before channel was cleared. Backwater from drift on Pennsylvania Railroad bridge May 17 to June 9, defined by 3 current-meter measurements. Stage-discharge relation below 176 second-feet fixed by concrete control.

Maxima.—1943: Discharge, 2,090 second-feet 7 a. m. May 18 (gage height, 12.31 feet). 1939-42: Discharge, 4,640 second-feet, 4:15 a. m. July 9, 1942 (gage height, 17.8 feet).

Remarks.—See page 159 of this report for data on the flood of July 1942.

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	7.6	13.7	9	26	12.0	17	511	29	25	31	17.7
2	8.5	12.0	10	92	174	18	793	21	26	26	15.4
3	7.4	10.8	11	191	40	19	410	17.7	27	22	13.7
4	6.8	17.0	12	56	22	20	103	124	28	21	17.7
5	7.1	89	13	38	17.0	21	61	80	29	19.3	11.7
6	6.6	58	14	31	75	22	34	28	30	17.0	9.9
7	86	18.1	15	338	210	23	39	30	31	17.4	-------
8	61	13.7	16	294	79	24	48	24	-------	-------	-------
Monthly mean discharge, in second-feet										110	43.4
Runoff, in inches										5.64	2.15

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF CANTEEN CREEK AT CASEYVILLE, ILL.

Hour	MAY 7		MAY 8		MAY 9		MAY 10		MAY 11		MAY 12	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
1	1.38	8.5	1.96	33	------	------	2.09	41	5.36	488	------	------
2	1.53	13.0	1.94	31	------	------	2.05	38	5.52	513	------	------
3	2.13	44	1.91	30	------	------	2.05	38	5.42	497	2.42	67
4	2.82	105	2.00	35	------	------	2.10	42	3.98	298	------	------
5	2.88	113	2.55	78	------	------	2.20	49	3.56	242	------	------
6	2.89	114	2.82	105	1.87	28	2.62	85	3.34	202	2.36	62
7	3.73	266	3.14	159	------	------	2.74	97	3.16	163	------	------
8	3.62	251	3.17	165	------	------	2.92	118	3.07	144	------	------
9	3.28	190	2.97	126	------	------	2.96	124	3.00	130	2.32	59
10	2.95	122	2.71	94	------	------	2.93	120	2.98	127	------	------
11	2.72	95	2.53	77	------	------	2.80	103	3.06	142	------	------
Noon	2.55	78	2.38	63	1.83	26	2.65	88	3.12	154	2.29	56
1	2.48	72	------	------	------	------	2.54	78	3.20	172	------	------
2	2.49	73	2.19	48	------	------	2.48	72	3.19	170	------	------
3	2.48	72	------	------	------	------	2.49	73	3.10	150	2.24	52
4	2.45	70	2.09	41	------	------	2.54	78	2.99	128	------	------
5	2.40	65	------	------	------	------	2.60	83	2.88	113	------	------
6	2.35	61	2.03	37	1.80	24	2.62	85	2.79	102	2.19	48
7	2.29	56	------	------	------	------	2.63	86	------	------	------	------
8	2.21	50	1.98	34	------	------	2.67	90	2.67	90	------	------
9	2.14	45	------	------	1.80	24	2.68	91	------	------	2.13	44
10	2.07	40	1.94	31	1.81	24	2.72	95	2.58	81	------	------
11	2.03	37	------	------	1.85	26	3.47	227	------	------	------	------
12	1.99	34	1.92	30	1.93	31	4.65	381	2.50	74	2.10	42
	MAY 13		MAY 14		MAY 15		MAY 16		MAY 17		MAY 18	
1	------	------	------	------	1.95	32	4.67	384	2.41	66	5.74	496
2	------	------	------	------	2.07	40	6.88	756	2.40	65	5.86	513
3	2.08	41	1.97	33	2.02	36	8.10	1,040	2.38	63	6.08	545
4	------	------	------	------	2.01	36	7.97	1,010	2.38	63	9.22	1,150
5	------	------	------	------	2.01	36	7.15	813	2.39	64	11.38	1,780
6	2.07	40	1.95	32	2.47	71	5.77	553	2.50	74	12.14	2,040
7	------	------	------	------	6.47	675	4.30	336	2.65	88	12.31	2,090
8	------	------	------	------	8.85	1,260	3.69	261	2.89	114	12.13	2,030
9	2.06	39	1.94	31	9.09	1,330	3.43	219	3.49	230	11.78	1,910
10	------	------	------	------	8.62	1,190	3.25	183	3.97	296	10.62	1,520
11	------	------	------	------	7.32	851	3.13	157	4.00	300	8.12	905
Noon	2.04	38	1.93	31	5.34	484	3.06	142	6.29	642	6.64	630
1	------	------	------	------	3.99	299	3.03	136	6.86	752	------	------
2	------	------	------	------	3.55	240	2.95	122	6.88	756	4.74	360
3	2.01	36	1.91	30	3.37	208	2.89	114	6.16	619	------	------
4	------	------	------	------	3.29	192	2.82	105	5.41	496	4.18	298
5	------	------	------	------	3.20	172	2.74	97	5.05	438	------	------
6	2.01	36	1.89	28	3.08	146	2.65	88	5.82	561	3.85	258
7	------	------	------	------	2.99	128	2.61	84	10.28	1,430	------	------
8	------	------	------	------	2.93	120	2.54	78	10.76	1,560	3.61	221
9	2.02	36	1.88	28	2.90	115	2.49	73	10.35	1,450	------	------
10	------	------	------	------	2.94	121	2.48	72	8.97	1,100	3.42	187
11	------	------	1.88	28	3.24	181	2.46	70	7.15	716	------	------
12	1.99	34	1.90	29	3.75	269	2.43	68	6.34	582	3.28	157
	MAY 19		MAY 20		MAY 21		MAY 22		MAY 23		MAY 24	
1	3.23	148	------	------	------	------	------	------	------	------	2.58	72
2	3.19	140	------	------	------	------	------	------	------	------	2.69	81
3	3.14	130	3.07	121	2.58	72	------	------	------	------	2.66	78
4	3.12	128	------	------	------	------	------	------	------	------	2.48	63
5	3.17	136	------	------	------	------	------	------	------	------	2.36	55
6	4.77	363	2.99	111	2.54	69	2.27	48	2.14	39	2.28	48
7	6.21	563	------	------	------	------	------	------	------	------	2.22	44
8	6.66	633	------	------	------	------	------	------	------	------	2.19	42
9	7.53	784	2.91	102	2.49	64	------	------	------	------	2.17	41
10	7.69	815	------	------	------	------	------	------	------	------	2.16	41
11	7.58	793	------	------	------	------	------	------	------	------	2.16	41
Noon	7.51	780	2.89	100	2.45	61	2.24	46	2.13	38	2.15	40
1	7.15	716	------	------	------	------	------	------	------	------	------	------
2	6.97	684	------	------	------	------	------	------	2.12	38	2.16	41
3	6.39	590	2.88	99	2.40	58	2.19	43	------	------	------	------
4	5.41	446	------	------	------	------	------	------	2.09	36	2.17	41
5	4.79	366	------	------	------	------	------	------	------	------	------	------
6	4.41	323	2.82	94	2.34	53	2.16	41	2.08	35	2.20	43
7	4.10	288	------	------	------	------	------	------	------	------	------	------
8	3.90	263	------	------	------	------	------	------	2.09	36	2.17	41
9	3.69	235	2.71	83	2.30	50	2.13	38	------	------	------	------
10	3.47	196	------	------	------	------	------	------	2.08	35	2.12	38
11	3.33	168	------	------	------	------	------	------	------	------	------	------
12	3.23	148	2.65	78	2.29	49	2.14	39	2.50	65	2.09	36

May 15, 5:40 a.m., 2.00 ft., 35 sec.-ft.; May 16, 3:25 a.m., 8.17 ft., 1,060 sec.-ft.; May 17, 4:45 p.m., 4.90 ft., 416 sec.-ft.; May 18, 1:30 a.m., 5.71 ft., 491 sec.-ft.

CAHOKIA CREEK BASIN

Long Lake at Stallings, Ill.

Location.—Lat. 38°43′45″, long. 90°03′15″, in NW¼NW¼ sec. 12, T. 3 N., R. 9 W., at culvert under Illinois Terminal Electric Railroad at Stallings, 400 feet upstream from its outlet into Elm Slough. Datum of gage is 409.13 feet above mean sea level, datum of 1929.

Drainage area.—5.0 square miles.

Gage-height record.—Water-stage recorder graph.

Discharge record.—Stage-discharge relation defined by current-meter measurements up to crest stage. Flow affected by backwater from Elm Slough May 19 to June 4.

Maxima.—1943: Discharge, 46 second-feet 11:30 a. m. to 3:30 p. m. May 19 (gage height, 5.45 feet) affected by backwater from Elm Slough. 1939-42: Discharge, 55 second-feet July 9, 1942 (gage height, 5.64 feet). Maximum stage, 6.18 feet July 10, 1942, when culvert was obstructed.

Remarks.—See page 159 of this report for data on the flood of July 1942.

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	0.57	11.7	9	4.5	19.6	17	29	13.7	25	17.6	8.3
2	.57	11.0	10	7.1	24	18	45	12.1	26	13.6	6.8
3	.52	10.0	11	13.4	25	19	46	10.6	27	12.5	6.0
4	.44	9.7	12	13.9	21	20	42	9.9	28	13.0	5.6
5	.44	9.6	13	12.0	19.0	21	36	9.9	29	12.6	4.6
6	.48	14.1	14	10.1	16.4	22	31	9.3	30	12.2	4.0
7	2.1	21	15	10.9	15.2	23	27	9.0	31	12.0	-------
8	4.5	21	16	13.8	15.3	24	22	8.8	-------	-------	-------
Monthly mean discharge, in second-feet										15.1	12.7
Runoff, in inches										3.47	2.84

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF LONG LAKE AT STALLINGS, ILL.

Hour	MAY 6		MAY 7		MAY 8		MAY 9		MAY 10		MAY 11	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
2	------	------	------	------	1.61	2.7	------	------	------	------	------	------
3	------	------	1.40	.95	------	------	------	------	------	------	2.37	11.7
4	------	------	1.46	1.4	1.74	4.2	------	------	1.76	4.5	------	------
5	------	------	1.52	1.8	------	------	------	------	------	------	------	------
6	------	------	1.53	1.9	1.77	4.6	------	------	1.85	5.8	2.42	12.2
7	------	------	------	2.0	------	------	------	------	------	------	------	------
8	------	------	1.55	2.1	1.78	4.7	------	------	1.89	6.4	------	------
9	------	------	------	------	------	------	------	------	------	------	2.47	12.8
10	------	------	1.56	2.2	1.79	4.9	------	------	1.91	6.7	------	------
Noon	1.30	0.44	1.57	2.3	1.79	4.9	1.76	4.5	1.92	6.8	2.56	14.0
1	------	------	------	------	------	------	------	------	1.92	6.8	------	------
2	------	------	1.60	2.6	------	------	------	------	1.97	7.7	------	------
3	------	------	------	------	------	------	------	------	1.98	7.9	2.60	14.5
4	------	------	------	------	------	------	------	------	2.00	8.2	------	------
5	------	------	------	------	------	------	------	------	2.02	8.4	------	------
6	1.30	.44	------	------	------	------	------	------	2.05	8.8	2.61	14.6
7	------	------	------	------	------	------	------	------	2.07	9.0	------	------
8	------	------	------	------	------	------	------	------	2.08	9.1	------	------
9	------	------	------	------	------	------	------	------	2.10	9.3	2.61	14.6
10	1.31	.48	------	------	------	------	------	------	2.12	9.5	------	------
11	1.41	1.0	------	------	------	------	1.74	4.2	2.20	10.1	------	------
12	1.40	.95	1.61	2.7	1.78	4.7	1.76	4.5	2.26	10.6	2.60	14.5
	MAY 12		MAY 13		MAY 14		MAY 15		MAY 16		MAY 17	
1	------	------	------	------	------	------	------	------	2.50	13.2	2.58	14.2
2	------	------	------	------	------	------	2.12	9.5	2.53	13.6	2.64	15.1
3	------	------	------	------	------	------	------	------	2.54	13.7	2.69	15.8
4	------	------	------	------	------	------	2.11	9.4	2.55	13.8	2.73	16.4
5	------	------	------	------	------	------	2.12	9.5	2.56	14.0	2.77	17.1
6	------	------	------	------	------	------	2.17	9.9	2.57	14.1	2.90	19.0
7	------	------	------	------	------	------	2.27	10.7	------	14.1	3.31	24
8	------	------	------	------	------	------	2.31	11.1	------	14.2	3.56	28
9	------	------	------	------	------	------	2.31	11.1	------	14.2	3.69	29
10	------	------	------	------	------	------	2.31	11.1	2.58	14.2	3.80	30
11	------	------	------	------	------	------	2.32	11.2	2.57	14.1	3.87	31
Noon	2.56	14.0	2.40	12.0	2.19	10.0	2.34	11.4	2.57	14.1	3.91	31
1	------	------	------	------	------	------	2.35	11.5	2.57	14.1	3.93	31
2	------	------	------	------	------	------	2.35	11.5	2.56	14.0	3.94	31
3	------	------	------	------	------	------	2.36	11.6	2.56	14.0	3.98	32
4	------	------	------	------	------	------	------	------	2.55	13.8	4.26	36
5	------	------	------	------	------	------	------	------	2.55	13.8	4.38	37
6	------	------	------	------	------	------	------	------	2.54	13.7	4.46	38
7	------	------	------	------	------	------	------	------	2.54	13.7	4.50	38
8	------	------	------	------	------	------	2.36	11.6	2.53	13.6	4.52	38
9	------	------	------	------	------	------	2.37	11.7	------	------	4.54	38
10	------	------	------	------	------	------	2.37	11.7	------	------	4.56	39
11	------	------	------	------	------	------	2.38	11.8	------	------	4.59	39
12	2.49	13.1	2.30	11.0	2.12	9.5	2.45	12.6	2.53	13.6	4.74	40
	MAY 18		MAY 19		MAY 20		MAY 21		MAY 22		MAY 23	
2	4.96	43	5.25	45	------	------	------	------	------	------	------	------
4	5.21	45	5.28	45	------	------	------	------	------	------	------	------
6	5.32	46	5.34	46	5.22	44	4.64	37	------	------	------	------
8	5.34	46	5.38	46	------	------	------	------	------	------	------	------
10	5.34	46	5.42	46	------	------	------	------	------	------	------	------
Noon	5.33	46	5.45	46	5.09	43	4.51	36	4.14	31	3.84	27
2	------	------	5.45	46	------	------	------	------	------	------	------	------
4	5.31	46	5.44	46	------	------	------	------	------	------	------	------
6	------	------	5.42	46	4.95	41	4.40	35	------	------	------	------
8	5.30	46	5.39	46	------	------	------	------	------	------	------	------
10	------	------	5.36	46	------	------	------	------	------	------	------	------
12	5.27	46	5.32	45	4.78	39	4.31	34	3.99	29	3.70	25

May 19, 11:30 a.m. to 3:30 p.m., 5.45 ft., 46 sec.-ft.

KASKASKIA RIVER BASIN

Kaskaskia River at Shelbyville, Ill.

Location.—Lat. 39°24′20″, long. 88°47′00″, in SE¼SW¼ sec. 8, T. 11 N., R. 4 E., at highway bridge in Shelbyville, 2,000 feet upstream from Chicago and Eastern Illinois Railroad bridge, and 7 miles upstream from Robinson Creek. Datum of gage is 535.78 feet above mean sea level, datum of 1929.

Drainage area.—1,030 square miles.

Gage-height record.—Water-stage recorder graph.

Discharge record.—Stage-discharge relation artificially controlled by concrete dam up to gage height, 8.3 feet. Rating is defined by current-meter measurements up to crest stage.

Maxima.—1943: Discharge, 25,000 second-feet 8 a. m. May 19 (gage height, 21.17 feet). 1908-12, 1914, 1940-42: Discharge, 18,000 second-feet (computed by Corps of Engineers, U. S. Army, from rainfall-runoff studies), May 8, 1908. Gage height observed, 21.1 feet, May 8, 1908, present datum.

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	530	1,600	9	3,640	1,970	17	7,210	1,320	25	6,610	530
2	492	1,400	10	3,920	1,550	18	19,800	1,050	26	5,180	562
3	480	1,200	11	5,730	1,360	19	24,300	864	27	4,140	684
4	429	1,050	12	8,060	1,160	20	21,500	730	28	3,330	684
5	396	936	13	7,300	976	21	18,300	699	29	2,730	776
6	380	1,400	14	5,400	872	22	14,900	662	30	2,320	556
7	1,390	2,440	15	4,520	1,080	23	11,500	603	31	1,970	-------
8	2,900	2,440	16	4,520	1,750	24	8,460	556	-------	-------	-------
Monthly mean discharge, in second-feet										6,527	1,115
Runoff, in inches										7.31	1.21

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF KASKASKIA RIVER AT SHELBYVILLE, ILL.

Hour	MAY 7		MAY 8		MAY 9		MAY 10		MAY 11		MAY 12	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
2	6.57	407	9.00	2,440	------	------	11.75	3,770	12.92	4,560	------	------
4	6.77	523	9.10	2,490	------	------	11.71	3,750	13.23	4,830	14.60	7,700
6	6.86	583	9.39	2,630	11.34	3,520	11.68	3,730	13.40	5,050	------	------
8	7.44	1,040	9.90	2,820	------	------	11.67	3,720	------	------	14.72	8,000
10	7.81	1,370	10.11	2,900	------	------	11.68	3,730	------	------	------	------
Noon	7.94	1,490	10.25	2,960	11.63	3,700	11.81	3,810	13.75	5,650	14.80	8,200
2	8.05	1,600	10.38	3,030	------	------	11.95	3,890	------	------	------	------
4	8.19	1,740	10.49	3,080	11.74	3,760	12.00	3,920	------	------	14.87	8,380
6	8.39	1,960	10.61	3,140	------	------	12.18	4,050	14.09	6,420	------	------
8	8.66	2,220	10.73	3,200	11.78	3,790	12.49	4,260	------	------	14.87	8,380
10	8.80	2,320	10.85	3,260	------	------	12.65	4,380	------	------	------	------
12	8.90	2,380	10.98	3,330	11.76	3,780	12.73	4,430	14.41	7,220	14.80	8,200
	MAY 13		MAY 14		MAY 15		MAY 16		MAY 17		MAY 18	
2	------	------	------	------	13.02	4,640	12.90	4,550	12.69	4,400	16.71	13,000
4	14.70	7,950	------	------	12.93	4,570	12.93	4,570	12.70	4,410	17.32	14,500
6	------	------	------	------	12.84	4,510	12.93	4,570	12.73	4,430	17.99	16,300
8	14.59	7,680	------	------	12.78	4,470	------	------	13.02	4,640	18.60	17,900
10	------	------	------	------	12.73	4,430	------	------	13.78	5,710	19.12	19,300
Noon	14.45	7,320	13.58	5,320	12.86	4,520	12.90	4,550	14.11	6,480	19.66	20,800
2	------	------	------	------	12.93	4,570	------	------	14.42	7,250	20.12	22,000
4	14.31	6,980	------	------	12.89	4,540	------	------	14.75	8,080	20.46	23,000
6	------	------	------	------	12.84	4,510	12.81	4,490	15.35	9,580	20.69	23,600
8	14.17	6,620	------	------	12.80	4,480	12.76	4,450	16.02	11,200	20.85	24,100
10	------	------	------	------	12.77	4,460	12.72	4,420	16.28	11,900	20.95	24,400
12	14.02	6,250	13.09	4,690	12.79	4,470	12.70	4,410	16.46	12,400	21.01	24,500
	MAY 19		MAY 20		MAY 21		MAY 22		MAY 23		MAY 24	
2	21.04	24,600	------	------	------	------	------	------	------	------	------	------
4	21.03	24,600	------	------	------	------	------	------	------	------	------	------
6	21.05	24,600	20.12	22,000	19.07	19,200	17.77	15,700	16.44	12,300	15.15	9,080
8	21.17	25,000	------	------	------	------	------	------	------	------	------	------
10	21.13	24,900	------	------	------	------	------	------	------	------	------	------
Noon	21.05	24,600	19.91	21,500	18.71	18,200	17.47	14,900	16.09	11,400	14.87	8,380
2	20.98	24,400	------	------	------	------	------	------	------	------	------	------
4	20.90	24,200	------	------	------	------	------	------	------	------	------	------
6	20.79	23,900	19.70	20,900	18.39	17,400	17.15	14,100	15.75	10,600	14.64	7,800
12	20.43	22,900	19.40	20,100	18.07	16,500	16.79	13,200	15.46	9,850	14.45	7,320
	MAY 25		MAY 26		MAY 27		MAY 28		MAY 29		MAY 30	
6	14.31	6,980	13.68	5,510	12.63	4,360	11.29	3,490	9.95	2,840	8.93	2,400
Noon	14.17	6,620	13.48	5,170	12.32	4,140	10.95	3,320	9.64	2,720	8.79	2,310
6	14.02	6,250	13.24	4,840	11.99	3,910	10.63	3,160	9.36	2,610	8.67	2,230
12	13.85	5,850	12.96	4,590	11.63	3,700	10.27	2,980	9.16	2,520	8.56	2,130

May 17, 7 a.m., 12.73 ft., 4,430 sec.-ft.; 11 a.m., 14.00 ft., 6,200 sec.-ft.; 5 p.m., 14.99 ft., 8,680 sec.-ft.; May 19, 5 a.m., 21.02 ft., 24,600 sec.-ft.

KASKASKIA RIVER BASIN

Kaskaskia River at Vandalia, Ill.

Location.—Lat. 38°57′35″, long. 89°05′20″, in SE¼ sec. 16, T. 6 N., R. 1. E., at Gallatin Street Bridge, in Vandalia, 3½ miles above Hickory Creek. Datum of gage is 453.30 feet above mean sea level, datum of 1929.

Drainage area.—1,980 square miles.

Gage-height record.—Graph based on observer's twice daily readings of chain gage, supplemented by frequent observations by engineers.

Discharge record.—Stage-discharge relation defined by current-meter meaurements up to crest stage before and after breaks in levee.

Maxima.—1943: Discharge, 52,200 second-feet 7 p. m., May 18 (gage height, 24.25 feet). Gage height, 25.33 feet 7 p. m., May 17, shortly after levee broke. 1908-12, 1914-1942: Discharge, 40,700 second-feet Mar. 31, 1938.

Remarks.—Until the levee broke about 6 p. m., May 17, the flow was confined to one channel. At peak discharge, the main channel carried 15,600 second-feet or 30% of the flow. The creeks and ditches east of main channel carried river flow after levee broke until stage fell below 16.75 feet (discharge 4,500 second-feet).

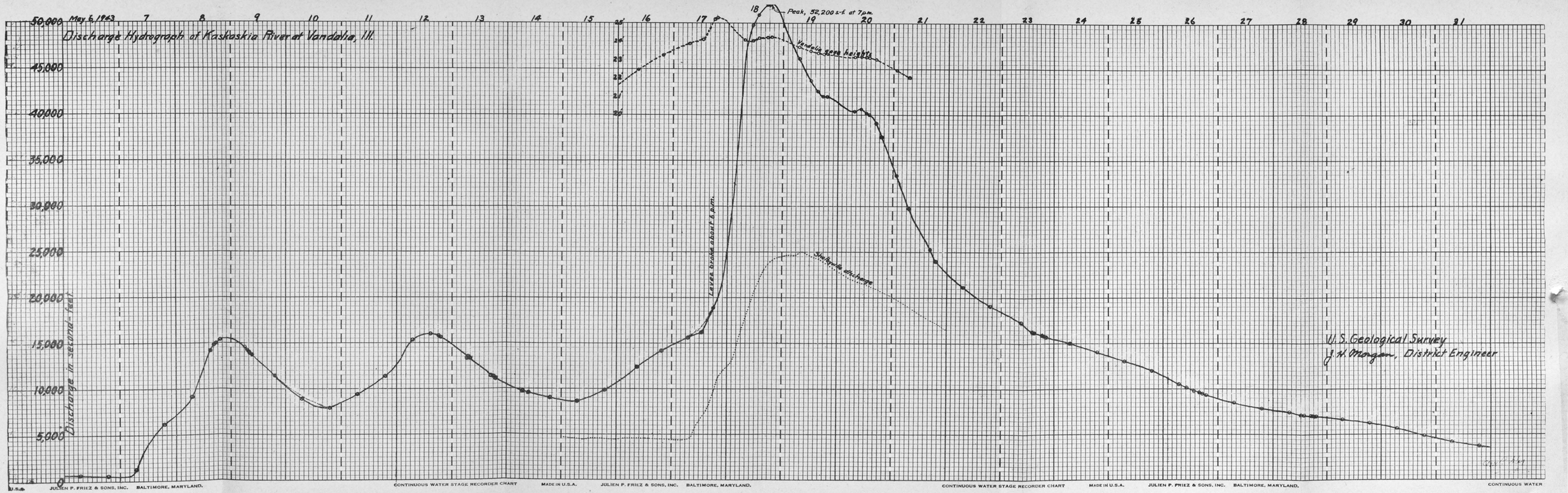
MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	772	3,090	9	13,100	3,330	17	17,400	2,360	25	12,600	1,820
2	772	2,400	10	8,550	2,820	18	45,800	1,940	26	10,000	1,150
3	738	2,030	11	10,300	2,500	19	44,400	1,540	27	8,200	1,010
4	706	1,800	12	15,200	2,120	20	39,300	1,290	28	7,200	1,150
5	644	1,660	13	12,500	1,710	21	27,600	1,740	29	6,450	1,320
6	588	2,430	14	9,500	1,520	22	20,300	1,740	30	5,300	1,070
7	3,550	4,150	15	9,200	1,430	23	16,800	1,680	31	4,000	--------
8	11,900	3,770	16	12,800	2,460	24	14,600	1,240	--------	--------	--------
Monthly mean discharge, in second-feet										12,610	2,009
Runoff, in inches										7.34	1.13

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF KASKASKIA RIVER AT VANDALIA, ILL.

Time	Feet	Sec.-Ft.	Time	Feet	Sec.-Ft.	Time	Feet	Sec.-Ft.
May 7			May 17			May 23		
7 a.m.	7.60	1,310	7 a.m.	23.89	15,600	9 a.m.	20.31	17,300
7 p.m.	18.39	6,150	1 p.m.	24.11	16,200	2:25 p.m.	20.14	16,200
May 8			[1]6 p.m.	25.19	18,900	8:40 p.m.	20.05	15,700
7 a.m.	20.67	9,170	7 p.m.	25.33	[2]19,500	May 24		
2:15 p.m.	23.25	14,200	May 18			7 a.m.	19.91	15,000
5:17 p.m.	23.63	15,000	7 a.m.	24.09	[2]45,000	7 p.m.	19.71	14,000
7 p.m.	23.75	15,300	10:45 a.m.	24.03	49,800	May 25		
May 9			1:20 p.m.	24.17	51,400	7 a.m.	19.52	13,000
6:40 a.m.	23.34	14,400	5:20 p.m.	24.23	52,000	7 p.m.	19.32	12,000
9:17 a.m.	23.07	13,800	7 p.m.	24.25	52,200	May 26		
7 p.m.	21.99	11,500	May 19			7 a.m.	18.98	10,500
May 10			7 a.m.	23.69	46,100	10:15 a.m.	18.90	10,200
7 a.m.	20.51	8,920	12 m.	23.47	43,700	1:35 p.m.	18.79	9,760
7 p.m.	19.89	7,940	3:20 p.m.	23.37	42,600	4 p.m.	18.76	9,640
May 11			5:30 p.m.	23.31	42,000	7 p.m.	18.68	9,330
7 a.m.	20.81	9,400	7 p.m.	23.31	42,000	May 27		
7 p.m.	21.95	11,400	May 20			7 a.m.	18.44	8,490
May 12			7 a.m.	23.15	40,400	7 p.m.	18.24	7,820
7 a.m.	23.77	15,300	10 a.m.	23.17	40,600	May 28		
2:30 p.m.	24.03	16,000	12:15 p.m.	23.13	40,200	7 a.m.	18.12	7,460
7 p.m.	23.91	15,700	1:40 p.m.	23.11	40,000	12 m.	18.01	7,130
May 13			4:25 p.m.	23.02	39,100	7 p.m.	17.96	7,000
7 a.m.	22.93	13,500	7 p.m.	22.87	37,600	May 29		
7 p.m.	21.79	11,100	May 21			7:15 a.m.	17.82	6,640
May 14			1:40 a.m.	22.44	33,400	7 p.m.	17.64	6,210
7 a.m.	21.01	9,720	7 a.m.	22.05	29,800	May 30		
7 p.m.	20.57	[2]9,010	4:25 p.m.	21.51	25,300	7:45 a.m.	17.38	5,620
May 15			7 p.m.	21.35	24,000	7 p.m.	16.96	4,820
7 a.m.	20.33	8,630	May 22			May 31		
7 p.m.	21.11	9,890	7 a.m.	20.95	21,200	7 a.m.	16.12	4,160
May 16			7 p.m.	20.61	19,100	7 p.m.	15.06	3,670
9 a.m.	22.43	12,400						
7:45 p.m.	23.25	14,200						

[1] Levee broke about 6 p.m., May 17. [2] Estimated.


Discharge Hydrograph of Kaskaskia River at Vandalia, Ill.
May 6, 1943
Peak, 52,200 c.f. at 7 p.m.
Levee broke about 6 p.m.
Vandalia gage height
Shelbyville discharge
Discharge in second-feet
50,000
45,000
40,000
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0
U.S. Geological Survey
J. H. Mongan, District Engineer
JULIEN P. FRIEZ & SONS, INC. BALTIMORE, MARYLAND.
CONTINUOUS WATER STAGE RECORDER CHART
MADE IN U.S.A.

FLOOD SCENE AT VANDALIA, ILL., MAY 25, 1943.
Official photograph, United States Army Air Corps.

KASKASKIA RIVER BASIN

Kaskaskia River at Carlyle, Ill.

Location.—Lat. 38°36′42″, long. 89°21′22″, in SE¼ sec. 18, T. 2 N., R. 2 W., at bridge on U. S. Highway 50 at Carlyle, 16.5 miles upstream from Crooked Creek. Datum of gage is 402.92 feet above mean sea level, datum of 1929.

Drainage area.—2,680 square miles.

Gage-height record.—Water-stage recorder graph.

Discharge record.—Stage-discharge relation defined by current-meter measurements up to crest stage. Rate of change of stage used as a factor in computing discharge.

Maxima.—1943: Discharge, 54,400 second-feet 1 to 3 a. m. May 21 (gage height, 33.69 feet). 1908-12, 1914-15, 1938-42: Discharge, 37,400 (revised) second-feet May 9, 1908; gage height observed, 30.8 feet, May 9, 1908, original site, present datum.

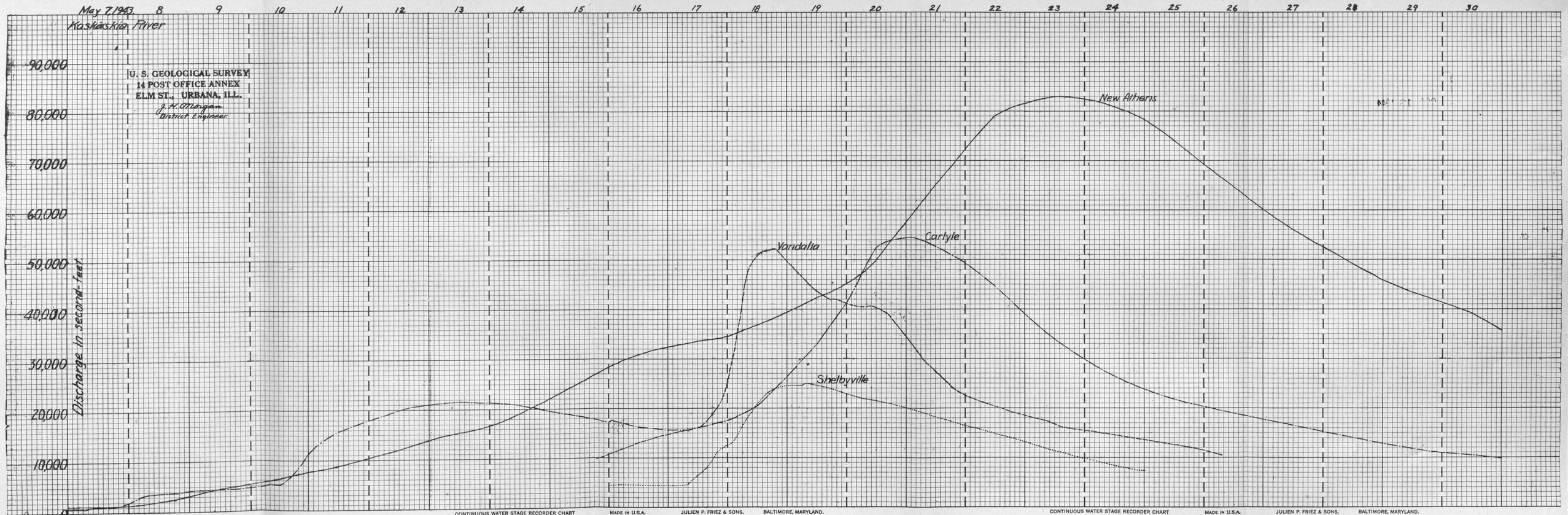
MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	1,080	8,400	9	4,330	4,110	17	16,200	2,840	25	21,900	1,640
2	1,000	7,690	10	6,220	4,280	18	21,100	3,050	26	19,000	1,840
3	954	6,990	11	15,200	4,290	19	33,300	2,580	27	16,400	1,890
4	917	6,130	12	19,700	4,120	20	50,300	2,090	28	14,000	2,130
5	873	4,690	13	21,300	3,510	21	52,400	1,760	29	11,800	2,350
6	829	4,060	14	20,700	2,740	22	44,400	1,830	30	10,400	2,080
7	1,070	3,930	15	18,400	2,340	23	34,200	2,030	31	9,310	-------
8	3,440	4,020	16	16,300	2,240	24	26,600	1,990	-------	-------	-------
Monthly mean discharge, in second-feet										16,570	3,455
Runoff, in inches										7.13	1.44

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF KASKASKIA RIVER AT CARLYLE, ILL.

Hour	MAY 7		MAY 8		MAY 9		MAY 10		MAY 11		MAY 12	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
2	9.30	808	-------	-------	-------	-------	19.82	[1]4,690	-------	-------	-------	-------
4	9.30	808	-------	-------	-------	-------	19.94	[1]4,750	23.79	[1]13,100	-------	-------
6	9.30	808	15.23	[1]3,240	19.00	[1]4,230	20.03	[1]4,940	-------	-------	26.24	[1]18,800
8	9.36	[1]868	-------	-------	-------	-------	20.31	[1]5,240	24.39	[1]14,500	-------	-------
10	9.70	[1]1,020	-------	-------	-------	-------	20.48	[1]5,100	-------	-------	-------	-------
Noon	10.06	[1]1,100	17.12	[1]3,610	19.27	[1]4,300	20.59	[1]5,040	24.89	[1]15,700	26.59	[1]19,900
2	10.24	[1]1,080	-------	-------	-------	-------	20.71	[1]5,370	-------	-------	-------	-------
4	10.31	[1]1,090	-------	-------	-------	-------	21.05	[1]6,350	25.29	[1]16,400	-------	-------
6	10.39	[1]1,130	17.99	[1]3,880	19.48	[1]4,410	21.55	[1]7,080	-------	-------	26.88	[1]20,600
8	10.62	[1]1,250	-------	-------	-------	-------	22.05	[1]8,460	25.60	[1]17,200	-------	-------
10	11.16	[1]1,510	-------	-------	-------	-------	22.51	[1]9,680	-------	-------	-------	-------
12	11.99	[1]1,870	18.54	[1]4,220	19.71	[1]4,560	22.95	[1]11,200	25.87	[1]17,900	27.08	[1]21,000
	MAY 13		MAY 14		MAY 15		MAY 16		MAY 17		MAY 18	
6	27.19	[1]21,200	27.25	[1]21,200	-------	-------	-------	-------	-------	-------	26.20	[1]18,900
8	-------	-------	-------	-------	-------	-------	-------	-------	25.39	15,600	-------	-------
Noon	27.27	[1]21,500	27.18	[1]20,800	26.47	[1]18,400	25.70	[1]16,200	-------	-------	26.69	[1]20,400
4	-------	-------	-------	-------	-------	-------	-------	-------	25.54	[1]16,400	-------	-------
6	27.28	21,400	27.04	[1]20,200	-------	-------	-------	-------	-------	-------	27.35	[1]23,300
12	27.28	21,400	26.85	[1]19,600	26.03	[1]17,100	25.45	[1]15,600	25.85	[1]17,500	28.17	[1]26,300
	MAY 19		MAY 20		MAY 21		MAY 22		MAY 23		MAY 24	
4	-------	-------	-------	-------	33.70	54,200	-------	-------	-------	-------	-------	-------
6	-------	-------	32.18	[1]47,000	-------	-------	-------	-------	-------	-------	-------	-------
8	-------	-------	-------	-------	33.67	[1]53,700	-------	-------	-------	-------	-------	-------
Noon	29.71	[1]32,900	33.17	[1]52,400	33.57	[1]52,600	32.33	[1]44,600	30.47	[1]33,900	28.84	[1]26,400
4	-------	-------	33.43	[1]53,600	33.41	[1]51,700	-------	-------	-------	-------	-------	-------
8	-------	-------	33.59	[1]54,100	33.24	[1]50,500	-------	-------	-------	-------	-------	-------
12	31.20	[1]41,200	33.67	[1]54,300	33.06	[1]49,300	31.43	[1]39,100	29.62	[1]29,900	28.16	[1]23,800
	MAY 25		MAY 26		MAY 27		MAY 28		MAY 29		MAY 30	
Noon	27.56	[1]21,800	26.64	[1]18,900	25.79	[1]16,400	24.96	[1]14,000	24.20	[1]11,800	23.60	[1]10,400
12	27.09	[1]20,300	26.23	[1]17,700	25.37	[1]15,200	24.57	[1]12,900	23.85	[1]10,900	23.36	[1]9,760

May 16, 1 a. m., 26.05 ft., 17,600 sec.-ft.; May 21, 1 to 3 a.m. [1]54,500 sec.-ft. [1] Computed by using change of stage as a factor.


May 7, 1943.
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
Kaskaskia River
U. S. GEOLOGICAL SURVEY
14 POST OFFICE ANNEX
ELM ST., URBANA, ILL.
J. H. Morgan
District Engineer
90,000
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
Discharge in second-feet
New Athens
Carlyle
Vandalia
Shelbyville
MADE IN U.S.A.
JULIEN P. FRIEZ & SONS,
BALTIMORE, MARYLAND.
CONTINUOUS WATER STAGE RECORDER CHART
MADE IN U.S.A.
JULIEN P. FRIEZ & SONS,
BALTIMORE, MARYLAND.
CONTINUOUS WATER STAGE RECORDER CHART
MADE IN U.S.A.
JULIEN P. FRIEZ & SONS,
BALTIMORE, MARYLAND.

KASKASKIA RIVER BASIN

Kaskaskia River at New Athens, Ill.

Location.—Lat. 38°19′22″, long. 89°52′57″, in SW¼ sec. 28, T. 2 S., R. 7 W., 0.5 mile downstream from highway bridge at New Athens. Datum of gage is 359.50 feet above mean sea level, datum of 1929.

Drainage area.—5,220 square miles.

Gage-height record.—Water-stage recorder graph, except May 21-27 when stage was above recorder table, and graph was based on readings of temporary staff gage twice-daily or oftener.

Discharge record.—Stage-discharge relation defined by current-meter measurements up to crest stage. When discharge measurements could not be made at New Athens, they were made from bridge on State Highway 154 near Baldwin and adjusted for channel storage between that point and New Athens. Slope rating used throughout May and June because of backwater from Mississippi River.

Maxima.—1943: Discharge, 83,000 second-feet 2 p. m. May 23 (gage height, 39.35 feet affected by backwater from Mississippi River). 1907-12, 1914-21, 1935-42: Discharge, 63,100 second-feet Aug. 26, 1915 (gage height, 35.7 feet, former site).

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	2,340	25,200	9	4,380	11,400	17	33,500	4,590	25	73,900	2,730
2	1,860	19,900	10	6,400	10,900	18	36,800	3,940	26	64,600	4,470
3	1,640	16,200	11	8,880	10,400	19	42,200	3,770	27	56,100	3,630
4	1,460	14,000	12	12,100	9,750	20	50,600	3,300	28	49,200	3,610
5	1,340	12,700	13	15,300	9,070	21	64,900	2,950	29	43,400	4,380
6	1,250	12,200	14	19,200	8,300	22	78,100	4,030	30	38,800	4,830
7	1,240	12,300	15	25,200	7,560	23	82,600	4,450	31	32,000	--------
8	2,120	11,800	16	30,600	6,200	24	80,800	4,030	--------	--------	--------
Monthly mean discharge, in second-feet										31,060	8,420
Runoff, in inches										6.86	1.80

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF KASKASKIA RIVER AT NEW ATHENS, ILL.

Hour	MAY 7		MAY 8		MAY 9		MAY 10		MAY 11		MAY 12	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
6	7.04	1,200	8.33	1,700	12.89	3,840	16.41	5,700	20.71	8,130	22.43	11,200
Noon	7.07	1,210	9.20	2,070	14.16	4,490	17.64	6,390	21.18	8,730	22.73	12,000
6	7.18	1,250	10.15	2,490	15.07	4,980	18.59	6,970	21.70	9,590	23.03	12,900
12	7.45	1,350	11.43	3,120	15.78	5,340	19.73	7,710	22.09	10,400	23.35	13,900
	MA	Y 13	MA	Y 14	MA	Y 15	MA	Y 16	MA	Y 17	MA	Y 18
6	23.60	14,700	24.52	17,700	26.06	23,700	27.43	29,700	28.21	33,000	28.89	35,700
Noon	23.81	15,300	24.89	19,100	26.41	25,200	27.68	30,800	28.32	33,500	29.18	36,800
6	24.01	15,900	25.27	20,500	26.75	26,700	27.89	31,700	28.45	33,900	29.48	37,900
12	24.24	16,700	25.67	22,000	27.10	28,300	28.06	32,400	28.59	34,500	29.85	39,400
	MA	Y 19	MA	Y 20	MA	Y 21	MA	Y 22	MA	Y 23	MA	Y 24
6	30.30	40,900	33.01	47,100	36.32	61,300	38.48	75,900	39.28	82,400	39.22	81,900
Noon	30.98	42,300	33.82	49,900	36.96	65,000	38.84	79,000	39.34	82,900	39.12	80,900
6	31.65	43,500	34.80	53,900	37.50	68,500	39.03	80,500	39.34	82,900	38.98	79,800
12	32.31	45,200	35.60	57,600	38.01	72,200	39.18	81,500	39.30	82,500	38.81	78,300
	MA	Y 25	MA	Y 26	MA	Y 27	MA	Y 28	MA	Y 29	MA	Y 30
6	38.59	76,200	37.40	66,900	35.90	58,000	34.35	50,800	------	------	------	------
Noon	38.33	73,900	37.06	64,600	35.51	56,000	33.92	49,100	32.17	43,300	30.39	39,100
6	38.04	71,600	36.70	62,300	35.13	54,200	33.50	47,500	------	------	------	------
12	37.73	69,200	36.31	60,100	34.76	52,600	33.06	45,900	31.29	41,300	29.48	35,600

May 23, 2 p.m., peak stage 39.35 ft., 83,000 sec.-ft.

KASKASKIA RIVER AT STATE HIGHWAY 13, AT NEW ATHENS, ILL., MAY 23, 1943.
Staff photograph, Belleville Daily Advocate.

BIG MUDDY RIVER BASIN

Big Muddy River at Plumfield, Ill.

Location.—Lat. 37°54′05″, long. 89°00′50″ in NW¼ sec. 20, T. 7 S., R. 2 E., three quarters of a mile upstream from bridge on State Highway 149 at Plumfield and 1.9 miles downstream from mouth of Middle Fork. Datum of gages is 358.30 feet above mean sea level, datum of 1929.

Drainage area.—753 square miles.

Gage-height record.—Water-stage recorder graph for base gage, except June 24-27, and twice-daily readings to hundredths of auxiliary wire-weight gage at Zeigler, 4 miles downstream. Gage heights June 24-27 obtained from graph based on readings of auxiliary gage.

Discharge record.—Unit-fall stage-discharge relation defined by current-meter measurements to crest stage. Concrete control for stages below 2.0 feet with no backwater.

Maxima.—1943: Discharge, 9,900 second-feet 11 p. m. May 13 (gage height, 20.31 feet). Maximum stage 20.80 feet 4 to 8 p. m. May 14. 1914-42: Discharge observed, 16,300 second-feet Feb. 1, 1916.

Remarks.—Crest stage of Mississippi River when it passed mouth of Big Muddy River early May 26 was 0.6 foot higher than zero of Plumfield gage.

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	762	608	9	229	1,830	17	5,040	1,170	25	4,850	250
2	233	438	10	543	2,020	18	4,380	1,350	26	3,840	395
3	117	264	11	2,420	1,890	19	4,250	1,460	27	3,080	320
4	80	136	12	3,720	1,710	20	4,790	1,240	28	2,500	302
5	62	464	13	8,630	1,640	21	5,480	621	29	1,930	398
6	51	878	14	9,550	1,450	22	6,330	251	30	1,450	293
7	46	1,180	15	8,000	898	23	6,780	355	31	989	-------
8	125	1,410	16	5,490	865	24	5,900	370	-------	-------	-------
Monthly mean discharge, in second-feet										3,279	882
Runoff, in inches										5.02	1.31

BIG MUDDY RIVER BASIN

Big Muddy River at Murphysboro, Ill.

Location.—Lat. 37°44′55″, long. 89°20′45″, in SE¼ sec. 8, T. 9 S., R. 2 W., at Illinois Central R. R. bridge across mouth of Lewis Creek at Murphysboro. Datum of gages is 335.5 feet above mean sea level, datum of 1929.

Drainage area.—2,170 square miles.

Gage-height record.—Graph based on once-daily readings, to hundredths, of tape gage at base gage, and twice-daily readings, to hundredths, of auxiliary wire-weight gage 7,700 feet upstream, supplemented by partial record from water-stage recorder at base gage.

Discharge record.—Discharge ratio, fall ratio, stage-discharge relation defined by current-meter measurements up to crest stage. Dis-

charge for May 11 and 24 computed on basis of records for Plumfield and precipitation records.

Maxima.—1943: Discharge, 14,300 second-feet 6 p. m. May 14 (gage height, 27.50 feet). Gage height, 32.65 feet 3:30 a. m. May 26, at which time Mississippi River at mouth of Big Muddy River was 23.4 feet higher than the zero of Murphysboro gage. 1917-42: Discharge, 25,100 second-feet Jan. 18, 1937; gage height, 34.06 feet Mar. 15, 1935, affected by backwater.

Stage known, 34.9 feet, present datum, Feb. 2, 1916 (discharge 28,000 second-feet).

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	2,750	8,450	9	289	4,350	17	13,000	2,960	25	9,570	2,030
2	2,180	7,790	10	1,660	4,370	18	12,200	3,090	26	8,900	1,540
3	1,780	6,780	11	6,000	3,930	19	12,500	2,450	27	8,730	1,180
4	1,320	6,070	12	9,240	3,680	20	13,000	1,480	28	8,550	1,200
5	585	5,370	13	13,000	2,760	21	13,000	1,650	29	8,650	980
6	364	5,400	14	13,500	2,760	22	13,700	2,170	30	8,790	720
7	209	4,830	15	13,500	2,520	23	12,700	1,910	31	10,700	--------
8	145	4,670	16	13,600	3,000	24	11,100	2,470	--------	--------	--------
Monthly mean discharge, in second-feet										7,910	3,419
Runoff, in inches										4.20	1.76

OHIO RIVER BASIN

Ohio River at Evansville, Ind.

Location.—Lat. 37°58′22″, long. 87°34′35″, at Riverside Drive and Court Street in Evansville, Vanderburg County, three-quarters of a mile upstream from Pigeon Creek. Datum of base gage is 329.18 feet and of auxiliary gage, 322.6 feet, above mean sea level, Ohio River datum.

Drainage area.—107,000 square miles at Evansville (authority, U. S. Weather Bureau).

Gage-height record.—Water-stage recorder at base gage. Auxiliary staff gage 17.3 miles downstream read hourly to tenths.

Discharge record.—Stage-fall-discharge relation defined by current meter measurements. Discharge for period below limits of the rating, June 24-30, computed on basis of records for other stations in the Ohio River Basin and computations of discharge through dam 49. Gage heights used to tenths.

Maxima.—May-June 1943: Discharge, 301,000 second-feet 7-11 a. m. May 19; gage height 30.52 feet at 7 a. m. May 20. 1936-42: Discharge, 1,410,000 second-feet Jan. 29, 1937; gage height, 53.75 feet Jan. 31, 1937. 1873-1936: Stage known, 48.4 Apr. 5, 1913 (discharge about 900,000 second-feet).

Remarks.—Records collected in cooperation with U. S. Weather Bureau and Corps of Engineers, U. S. Army.

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	333,000	252,000	9	128,000	186,000	17	279,000	111,000	25	210,000	40,000
2	268,000	245,000	10	127,000	180,000	18	295,000	104,000	26	212,000	
3	214,000	229,000	11	136,000	170,000	19	300,000	100,000	27	224,000	
4	177,000	211,000	12	148,000	162,000	20	296,000	102,000	28	240,000	39,000
5	154,000	197,000	13	172,000	154,000	21	285,000	100,000	29	254,000	
6	144,000	189,000	14	204,000	146,000	22	270,000	94,500	30	260,000	
7	136,000	188,000	15	234,000	135,000	23	246,000	87,000	31	254,000	
8	132,000	190,000	16	259,000	123,000	24	225,000	50,000			
Monthly mean discharge, in second-feet										219,900	131,400
Runoff, in inches										2.37	1.37

OHIO RIVER BASIN

Ohio River at Golconda, Ill.

Location.—Lat. 37°31′, long. 88°29′, at lock and dam 51, at Golconda, Pope County, half a mile upstream from Long Branch and 1 mile downstream from Loves Branch. Datum of base gage is 294.6 feet and of auxiliary gage, 301.1 feet above mean sea level, Ohio River datum.

Drainage area.—143,900 square miles at dam 51 (authority, Corps of Engineers, U. S. Army).

Gage-height record.—Base gage read to tenths six times daily between gage heights 20 and 40 feet, hourly above and below these limits. Auxiliary gage 26.3 miles upstream read to tenths six times daily between 22 and 34 feet, hourly above and below these limits.

Discharge record.—Stage-fall-discharge relation defined by current meter measurements. Discharge for period below limits of the rating, June 27-29, computed on basis of records for other stations in the Ohio River Basin and computations of discharge through dam 51. Gage heights used to tenths.

Maxima.—May-June 1943: Discharge, 541,000 second-feet 9 a.m. to 12 m. May 29; gage height, 40.3 feet 7 p. m. May 29 to 1 a. m. May 31. October 1937 to April 1943: Discharge, 802,000 second-feet Mar. 29, 30, 1943 (gage height, 48.6 feet). 1924-42: Discharge, 1,470,000 second-feet Feb. 2, 3, 1937; gage height, 62.6 feet Feb. 1-3, 1937.

The flood of April 1913, reached a stage of 56.8 feet (discharge not determined).

Remarks.—Records collected in cooperation with Corps of Engineers, U. S. Army.

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	436,000	512,000	9	141,000	290,000	17	350,000	167,000	25	484,000	76,800
2	392,000	489,000	10	141,000	273,000	18	380,000	156,000	26	500,000	52,600
3	331,000	455,000	11	172,000	260,000	19	411,000	147,000	27	522,000	50,000
4	262,000	421,000	12	195,000	242,000	20	434,000	141,000	28	534,000	60,000
5	209,000	387,000	13	216,000	225,000	21	453,000	138,000	29	539,000	60,000
6	173,000	351,000	14	254,000	212,000	22	464,000	133,000	30	534,000	79,400
7	157,000	328,000	15	285,000	194,000	23	468,000	121,000	31	525,000	-------
8	147,000	309,000	16	315,000	178,000	24	470,000	111,000	-------	-------	-------
Monthly mean discharge, in second-feet										351,400	220,600
Runoff, in inches										2.82	1.71

OHIO RIVER BASIN

Ohio River at Metropolis, Ill.

Location.—Lat. 37°08′51″, long. 88°44′27″, at Paducah and Illinois Railroad bridge, at Metropolis, Massac County, 9½ miles downstream from Tennessee River, and 37 miles upstream from mouth. Datum of base gage is 276.27 feet and of auxiliary gage, 276.30 feet above mean sea level, datum of 1929.

Drainage area.—203,000 square miles at Metropolis (authority, Corps of Engineers, U. S. Army).

Gage-height record.—Water-stage recorder graph at base gage and at auxiliary gage, 18 miles downstream.

Discharge record.—Stage-fall-discharge relation defined by current meter measurements. Discharge for period of doubtful auxiliary gage-height record, June 27-30, computed on basis of one discharge measurement and records for other stations in the Ohio River Basin. Gage heights used to tenths.

Maxima.—May-June 1943: Discharge, 588,000 second-feet 6 p. m. May 31; gage height, 49.67 feet 2-8 p. m. May 30. (Higher stage and discharge of May 1 is on recession of April flood). 1934-42: Discharge, 1,780,000 second-feet Feb. 1, 1937 (total discharge, including overflow through Bay Creek and Cache River Valleys, 1,850,000 second-feet); gage height, 66.60 feet Feb. 2, 1937.

The flood of April 7, 1913 reached a stage of 60.2 feet (discharge, 1,400,000 second-feet).

Remarks.—Records collected in cooperation with Corps of Engineers, U. S. Army.

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	609,000	581,000	9	237,000	352,000	17	408,000	221,000	25	506,000	122,000
2	566,000	570,000	10	223,000	327,000	18	420,000	206,000	26	518,000	85,900
3	502,000	559,000	11	284,000	309,000	19	431,000	189,000	27	525,000	90,000
4	422,000	529,000	12	268,000	284,000	20	447,000	186,000	28	543,000	100,000
5	356,000	502,000	13	276,000	267,000	21	451,000	186,000	29	565,000	105,000
6	307,000	468,000	14	307,000	251,000	22	465,000	182,000	30	580,000	115,000
7	277,000	433,000	15	337,000	244,000	23	477,000	168,000	31	583,000	-------
8	252,000	389,000	16	380,000	240,000	24	487,000	164,000	-------	-------	-------
Monthly mean discharge, in second-feet										419,600	280,800
Runoff, in inches										2.38	1.54

WABASH RIVER BASIN

Wabash River at Terre Haute, Ind.

Location.—Lat. 39°28′00″, long. 87°25′08″, in NW¼ sec. 21, T. 12 N., R. 9 W., at Wabash Avenue Bridge at Terre Haute, 2.2 miles upstream from Sugar Creek and 4 miles downstream from Lost Creek. Datum of gage is 442.90 feet above mean sea level, datum of 1929.

Drainage area.—12,200 square miles.

Gage-height record.—Water-stage recorder graph except for period 7 p. m. May 24 to 12 m. May 27 for which a graph was drawn based on existing record and comparison with stage graphs of nearby stations.

Discharge record.—Stage-discharge relation defined by current-meter measurements.

Maxima.—1943: Discharge, 189,000 second-feet 9 p. m. May 20 (gage height, 30.50 feet). 1927-42: Discharge, 119,000 second-feet May 15, 1933 and Mar. 16, 1939; gage height, 26.53 feet May 15, 1933.

Maximum discharge known, 205,000 second-feet Mar. 27, 1913 (gage height, 31.1 feet, present site and datum), from rating defined to 189,000 second-feet by all high-water measurements made since 1926.

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	7,770	38,900	9	20,000	17,800	17	85,900	14,900	25	89,800	10,700
2	7,490	32,500	10	22,200	17,200	18	125,000	13,700	26	78,600	10,100
3	7,020	25,300	11	35,200	15,800	19	156,000	12,900	27	68,800	10,900
4	6,560	20,100	12	47,500	14,600	20	186,000	10,900	28	60,800	9,640
5	6,130	17,200	13	57,200	13,000	21	181,000	10,400	29	54,500	8,920
6	5,790	16,000	14	57,800	13,500	22	155,000	10,600	30	49,000	7,950
7	8,340	16,500	15	64,000	15,200	23	125,000	12,300	31	44,000	-------
8	17,100	16,800	16	75,500	16,600	24	104,000	12,300	-------	-------	-------
Monthly mean discharge, in second-feet										64,810	15,440
Runoff, in inches										6.12	1.41

WABASH RIVER BASIN

Wabash River at Riverton, Ind.

Location.—Lat. 39°01′13″, long. 87°34′07″, in sec. 30, T. 7 N., R. 10 W., at Illinois Central Railroad bridge at Riverton, 6 miles downstream from Turtle Creek. Datum of gage is 414.65 feet above mean sea level, datum of 1929.

Drainage area.—13,100 square miles.

Gage-height record.—From graph based on two gage readings daily, except May 20-26 when many readings were made each day, and comparison with water-stage recorder graph for station at Terre Haute.

Discharge record.—Stage-discharge relation defined by current-meter measurements.

Maxima.—1943: Discharge, 201,000 second-feet 9 a. m. to 4 p. m. May 21 (gage height, 29.36 feet). 1939-42: Discharge observed, 80,200 second-feet April 22, 23, 1939 (gage height, 22.30 feet), from rating curve extended above 25,000 second-feet on basis of records for stations at Terre Haute and Vincennes.

Maximum discharge known, about 210,000 second-feet March 28, 1913 (gage height, 26.4 feet, from graph based on once-daily gage readings by Illinois Central Railroad Co.), by comparison with peak flows of station at Terre Haute and with shape of 1943 rating curve.

Remarks.—Assistance in making flood measurements furnished by Corps of Engineers, U. S. Army. Gage-height record collected in cooperation with U. S. Weather Bureau.

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	8,320	46,600	9	22,500	18,600	17	70,700	16,600	25	130,000	12,500
2	7,970	42,000	10	24,400	18,500	18	86,200	15,200	26	108,000	11,700
3	7,600	37,200	11	34,100	17,500	19	105,000	14,000	27	90,800	11,100
4	7,140	32,000	12	39,700	16,200	20	159,000	12,800	28	77,200	11,500
5	6,680	26,700	13	42,300	14,700	21	200,000	11,300	29	66,600	10,300
6	6,340	21,500	14	47,200	13,500	22	191,000	11,000	30	58,100	9,340
7	8,000	19,900	15	53,200	14,700	23	170,000	11,400	31	51,900	--------
8	19,300	19,100	16	60,000	16,200	24	149,000	12,800	--------	--------	--------
Monthly mean discharge, in second-feet										68,010	18,210
Runoff, in inches										5.99	1.55

WABASH RIVER BASIN

Wabash River at Vincennes, Ind.

Location.—Lat. 38°40′52″, long. 87°32′04″, at bridge on U. S. Highway 50 at Vincennes, Knox County, 4.8 miles downstream from Maria Creek and 5.8 miles upstream from Embarass River. Datum of gage is 396.43 feet above mean sea level, datum of 1929.

Drainage area.—13,700 square miles.

Gage-height record.—From graph based on two gage readings daily in conjunction with many readings May 19, 20 and half-hourly readings May 21-26 of adjacent U. S. Weather Bureau gage.

Discharge record.—Stage-discharge relation defined by current-meter measurements except for period 3 a. m. May 21 to 12 m. May 22 (computed on basis of measured flow of main channel and graph of estimated over-bank flow during storage beyond breached levees).

Maxima.—1943: Discharge, 189,000 second-feet 12 p. m. May 22 to 3 a. m. May 23 (gage height, 27.00 feet). 1929-42: Discharge observed, about 114,000 second-feet Jan. 17, 1930 (gage height, 25.25 feet).

Maximum discharge known, about 210,000 second-feet Mar. 29, 1913 (gage height, 24.3 feet, from floodmarks determined by Corps of Engineers, U. S. Army), by comparison with shape of 1943 rating curve and peak flows for station at Terre Haute.

Remarks.—Results of 17 discharge measurements during the flood period and gage readings May 19-26 furnished by Corps of Engineers, U. S. Army.

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	8,160	62,600	9	21,100	22,800	17	57,000	17,600	25	156,000	13,600
2	8,290	54,800	10	23,700	21,700	18	63,100	17,300	26	139,000	13,400
3	8,080	46,700	11	30,600	20,500	19	71,900	15,600	27	123,000	12,300
4	7,830	41,200	12	38,400	19,100	20	78,200	14,700	28	107,000	11,800
5	7,450	37,500	13	45,700	17,500	21	138,000	13,200	29	92,900	11,800
6	7,280	31,600	14	50,200	16,000	22	182,000	11,600	30	80,400	10,700
7	8,280	26,100	15	52,200	15,500	23	184,000	11,600	31	70,900	-------
8	13,200	24,000	16	54,900	16,800	24	172,000	12,500	-------	-------	-------
Monthly mean discharge, in second-feet										67,770	22,070
Runoff, in inches										5.70	1.80

WABASH RIVER BASIN

Wabash River at Mount Carmel, Ill.

Location.—Lat. 38°21′58″, long. 87°47′21″, just upstream from Cleveland, Cincinnati, Chicago, and St. Louis Railway bridge, 3 miles downstream from Mount Carmel, Wabash County, and 3 1/3 miles downstream from Patoka River. Datum of base gage is 371.63 feet and of auxiliary gage, 371.46 feet above mean sea level, datum of 1929.

Drainage area.—28,600 square miles.

Gage-height record.—Water-stage recorder graph at base gage and at auxiliary gage, 3.0 miles upstream.

Discharge record.—Computed using fall as determined by auxiliary gage as a factor. Stage-fall-discharge relation defined by current-meter measurements.

Maxima.—1943: Discharge, 305,000 second-feet 7 a. m. to 1 p. m. May 25; gage height, 25.17 feet 10 a. m. to 12 m May 25. 1908-13, 1927-42: Discharge, 428,000 second-feet Mar. 30, 1913 (gage height, 27.65 feet, present site and datum), from rating curve extended above 300,000 second-feet.

Remarks.—Records collected and prepared in cooperation with Corps of Engineers, U. S. Army.

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	18,800	132,000	9	25,700	47,700	17	139,000	33,000	25	302,000	21,700
2	18,800	115,000	10	31,900	47,300	18	150,000	33,600	26	284,000	22,400
3	18,300	96,000	11	46,800	47,000	19	164,000	30,500	27	254,000	22,600
4	17,200	83,000	12	65,000	43,500	20	173,000	28,000	28	224,000	22,500
5	16,100	73,100	13	80,400	37,800	21	179,000	25,900	29	195,000	21,900
6	14,900	62,400	14	100,000	32,600	22	210,000	23,300	30	170,000	20,600
7	13,800	52,600	15	115,000	29,900	23	270,000	21,900	31	150,000	--------
8	15,000	47,700	16	128,000	31,000	24	280,000	21,200	--------	--------	--------
Monthly mean discharge, in second-feet										124,800	44,260
Runoff, in inches										5.03	1.73

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF WABASH RIVER AT MOUNT CARMEL, ILL.

Hour	MAY 8		MAY 9		MAY 10		MAY 11		MAY 12		MAY 13	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
6	3.04	13,200	5.51	23,600	7.43	30,900	9.47	41,100	13.98	61,900	16.42	76,100
Noon	3.20	13,500	6.22	26,300	7.68	31,700	10.73	47,000	14.66	65,000	16.96	79,800
6	3.76	16,400	6.73	28,000	7.92	32,800	12.10	52,600	15.28	68,300	17.40	85,000
12	4.64	20,200	7.11	29,600	8.35	35,100	13.15	57,800	15.86	71,800	17.87	89,800
	MAY 14		MAY 15		MAY 16		MAY 17		MAY 18		MAY 19	
6	18.29	96,900	19.54	110,000	20.41	126,000	20.95	136,000	21.48	147,000	21.98	161,000
Noon	18.64	101,600	19.93	116,000	20.55	128,000	21.12	139,000	21.62	150,000	22.08	164,000
6	18.96	104,000	20.10	119,000	20.67	130,000	21.23	141,000	21.75	154,000	22.19	167,000
12	19.29	107,000	20.26	122,000	20.80	133,000	21.37	144,000	21.87	157,000	22.26	170,000
	MAY 20		MAY 21		MAY 22		MAY 23		MAY 24		MAY 25	
6	22.33	172,000	22.51	180,000	22.60	184,000	24.52	272,000	24.50	269,000	25.13	304,000
Noon	22.39	173,000	22.58	181,000	22.96	202,000	24.58	272,000	24.58	276,000	25.17	305,000
6	22.40	174,000	22.55	179,000	23.58	233,000	24.56	270,000	24.82	290,000	25.09	301,000
12	22.44	176,000	22.51	178,000	24.19	261,000	24.51	268,000	25.03	300,000	25.02	297,000
	MAY 26		MAY 27		MAY 28		MAY 29		MAY 30		MAY 31	
6	24.92	292,000	24.38	262,000	23.76	231,000	23.08	201,000	22.42	175,000	21.81	155,000
Noon	24.81	285,000	24.24	254,000	23.59	224,000	22.92	194,000	22.26	170,000	21.65	151,000
6	24.68	277,000	24.08	247,000	23.42	217,000	22.75	188,000	22.11	164,000	21.50	143,000
12	24.53	269,000	23.94	240,000	23.26	209,000	22.59	182,000	21.96	159,000	21.33	139,000
	JUN E 1		JUN E 2		JUN E 3		JUN E 4		JUN E 5		JUN E 6	
6	21.15	136,000	20.29	120,000	19.24	100,000	17.83	85,600	16.76	75,400	15.45	65,500
Noon	20.90	131,000	20.07	115,000	18.88	95,800	17.53	82,700	16.49	73,500	14.97	62,200
6	20.71	128,000	19.80	110,000	18.56	91,200	17.18	80,400	16.19	70,800	14.45	59,300
12	20.51	124,000	19.52	105,000	18.18	89,400	17.03	77,100	15.82	68,300	13.94	57,000
	JUN E 7		JUN E 8		JUN E 9		JUN E 10		JUN E 11		JUN E 12	
6	13.44	54,500	11.78	48,200	11.34	47,900	11.31	47,300	11.24	47,400	10.84	44,800
Noon	12.94	52,600	11.54	47,500	11.35	47,700	11.29	47,200	11.22	47,300	10.58	43,700
6	12.52	50,600	11.40	47,100	11.35	47,700	11.28	47,400	11.15	46,600	10.26	42,400
12	12.12	48,800	11.34	47,400	11.34	47,400	11.27	47,400	11.02	45,700	9.94	40,700
	JUN E 13		JUN E 14		JUN E 15		JUN E 16		JUN E 17		JUN E 18	
6	9.60	39,300	8.25	33,500	7.37	30,000	7.49	30,600	7.89	32,400	8.25	34,400
Noon	9.25	37,800	7.95	32,400	7.20	29,500	7.59	31,000	8.03	32,900	8.18	33,800
6	8.89	36,200	7.74	31,500	7.19	29,700	7.68	31,600	8.16	33,700	8.03	33,200
12	8.56	35,000	7.55	30,800	7.41	30,100	7.77	31,900	8.24	34,100	7.85	32,300
	JUN E 19		JUN E 20		JUN E 21		JUN E 22		JUN E 23		JUN E 24	
6	7.64	31,200	6.90	28,400	6.44	26,600	5.79	23,800	5.31	22,000	5.07	21,300
Noon	7.42	30,300	6.78	28,000	6.30	25,800	5.64	23,300	5.25	22,000	5.03	21,100
6	7.22	29,700	6.68	27,500	6.13	25,300	5.50	22,700	5.18	21,700	5.05	21,200
12	7.04	29,100	6.57	27,200	5.96	24,500	5.38	22,500	5.12	21,400	5.09	21,300

May 25, 7 a.m. to 1 p.m., 305,000 sec.-ft.

WABASH RIVER BASIN

Wabash River at New Harmony, Ind.

Location.—Lat. 38°07′55″, long. 87°56′25″, in the SW¼ sec. 35, T. 4 N., R. 14 W., at highway bridge in New Harmony, 3¼ miles downstream from Black River and 51½ miles upstream from mouth. Datum of base gage is 353.2 feet and of auxiliary gage, 357.38 feet above mean sea level, datum of 1929.

Drainage area.—29,160 square miles.

Gage-height record.—Graphs based on twice daily readings of wire-weight gages. Auxiliary gage is 13½ miles upstream from base gage.

Discharge record.—Stage-fall-discharge relation defined by current-meter measurements.

Maxima.—1943: Discharge, 339,000 second-feet 2 to 4 a. m. May 26; gage height 23.84 feet 5 to 6 a. m. May 26. 1938-42: Discharge, 211,000 second-feet April 25, 1939 (gage height, 20.9 feet).

The flood of March 1913 reached a stage of 27.7 feet, and the flood of Jan. 31, 1937 reached a stage of 24.4 feet.

Remarks.—Records collected and prepared in cooperation with Corps of Engineers, U. S. Army.

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	20,000	155,000	9	20,700	52,400	17	122,000	34,800	25	322,000	22,600
2	20,200	135,000	10	30,900	50,700	18	138,000	35,600	26	334,000	24,400
3	20,500	117,000	11	42,200	50,000	19	157,000	34,000	27	308,000	24,200
4	19,300	101,000	12	59,500	48,500	20	176,000	31,000	28	270,000	24,100
5	18,000	89,000	13	71,200	44,000	21	187,000	28,700	29	235,000	23,400
6	15,300	79,100	14	80,100	37,900	22	194,000	26,400	30	203,000	22,400
7	14,300	69,200	15	91,900	33,300	23	242,000	24,400	31	177,000	--------
8	13,800	58,500	16	106,000	33,200	24	292,000	23,100	--------	--------	--------
Monthly mean discharge, in second-feet										129,100	51,10 0
Runoff, in inches										5.10	1.96

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF WABASH RIVER AT NEW HARMONY, IND.

Hour	MAY 8		MAY 9		MAY 10		MAY 11		MAY 12		MAY 13	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
6	3.46	13,700	3.97	16,200	6.01	29,400	7.60	38,100	10.59	55,900	12.76	68,900
Noon	3.42	13,500	4.57	21,000	6.28	30,800	8.28	41,800	11.22	60,400	13.14	71,600
6	3.44	13,600	5.12	24,800	6.50	32,200	9.06	46,000	11.76	63,300	13.45	73,600
12	3.63	14,500	5.63	27,400	7.00	34,900	9.89	50,800	12.27	66,000	13.76	75,300
	MAY 14		MAY 15		MAY 16		MAY 17		MAY 18		MAY 19	
6	14.02	77,900	15.36	89,600	16.48	101,000	17.54	119,000	18.23	134,000	18.90	150,000
Noon	14.22	79,400	15.61	92,000	16.76	106,000	17.70	122,000	18.44	139,000	19.09	156,000
6	14.59	82,300	15.85	94,100	17.03	110,000	17.88	126,000	18.60	143,000	19.34	164,000
12	15.00	86,200	16.14	97,500	17.31	114,000	18.00	129,000	18.73	147,000	19.46	168,000
	MAY 20		MAY 21		MAY 22		MAY 23		MAY 24		MAY 25	
6	19.65	173,000	20.14	186,000	20.32	192,000	20.97	217,000	22.78	289,000	23.23	310,000
Noon	19.79	176,000	20.17	187,000	20.34	192,000	21.56	241,000	22.86	292,000	23.56	326,000
6	19.94	180,000	20.23	190,000	20.43	195,000	22.15	266,000	22.95	296,000	23.66	331,000
12	20.04	183,000	20.29	191,000	20.62	202,000	22.60	283,000	23.10	302,000	23.81	338,000
	MAY 26		MAY 27		MAY 28		MAY 29		MAY 30		MAY 31	
6	23.84	338,000	23.46	319,000	22.68	281,000	21.81	244,000	20.96	211,000	20.14	184,000
Noon	23.80	336,000	23.28	309,000	22.47	270,000	21.59	235,000	20.75	202,000	19.94	177,000
6	23.70	331,000	23.06	298,000	22.25	260,000	21.36	225,000	20.53	194,000	19.71	170,000
12	23.64	326,000	22.88	290,000	22.00	251,000	21.17	218,000	20.30	189,000	19.51	165,000
	JUNE 1		JUNE 2		JUNE 3		JUNE 4		JUNE 5		JUNE 6	
6	19.38	161,000	18.73	142,000	17.89	122,000	16.95	104,000	16.09	91,900	15.01	81,800
Noon	19.18	155,000	18.44	135,000	17.68	118,000	16.74	101,000	15.79	88,600	14.75	79,200
6	18.97	148,000	18.20	129,000	17.38	112,000	16.47	97,000	15.51	85,800	14.41	76,200
12	18.86	145,000	17.99	124,000	17.15	108,000	16.34	94,900	15.30	84,400	14.08	74,300
	JUNE 7		JUNE 8		JUNE 9		JUNE 10		JUNE 11		JUNE 12	
6	13.78	71,900	11.99	61,000	10.50	53,100	10.01	50,800	9.88	50,200	9.72	49,400
Noon	13.36	69,600	11.57	58,300	10.32	52,100	9.99	50,700	9.85	50,000	9.60	48,700
6	12.92	66,500	11.13	55,800	10.23	51,700	9.99	50,400	9.78	49,600	9.47	47,800
12	12.42	63,700	10.77	54,200	10.12	51,100	9.92	50,400	9.77	49,600	9.28	46,600
	JUNE 13		JUNE 14		JUNE 15		JUNE 16		JUNE 17		JUNE 18	
6	9.08	45,300	7.99	39,400	6.96	33,700	6.60	32,700	6.94	34,400	7.18	35,600
Noon	8.85	44,200	7.70	37,800	6.78	33,000	6.68	33,100	7.04	34,900	7.21	35,800
6	8.58	42,600	7.42	36,400	6.68	32,700	6.77	33,600	7.11	35,300	7.24	35,700
12	8.28	40,900	7.17	35,000	6.60	32,700	6.83	33,900	7.14	35,400	7.20	35,500
	JUNE 19		JUNE 20		JUNE 21		JUNE 22		JUNE 23		JUNE 24	
6	7.08	34,700	6.48	31,600	6.06	29,200	5.65	27,000	5.20	24,700	4.94	23,300
Noon	6.96	34,100	6.36	31,000	5.96	28,700	5.53	26,500	5.11	24,300	4.92	23,000
6	6.80	33,300	6.27	30,400	5.89	28,200	5.43	25,800	5.04	24,000	4.91	22,800
12	6.63	32,500	6.16	29,800	5.77	27,600	5.32	25,300	4.98	23,700	4.89	22,700

May 26, 2 to 4 a.m., 339,000 sec.-ft.

WABASH RIVER BASIN

Vermilion River near Catlin, Ill.

Location.—Lat. 40°06′05″, long. 87°43′00″, in NE¼NE¼ sec. 21, T. 19 N., R. 12 W., at Butler Branch bridge, about 150 feet upstream from Butler Branch and 2½ miles northwest of Catlin. Datum of gage is 527.02 feet above mean sea level, datum of 1929 (levels by Corps of Engineers, U. S. Army).

Drainage area.—959 square miles.

Gage-height record.—Water-stage recorder graph.

Discharge record.—Stage-discharge relation defined by current-meter measurements up to 12,000 second-feet and extended to crest gage height on basis of slope-area measurement at a point about 4 miles downstream.

Maxima.—1943: Discharge, 36,000 second-feet 12 p. m. May 18 (gage height, 23.35 feet). 1940-42: Discharge, 11,200 second-feet Feb. 7, 1942 (gage height, 16.28 feet).

The flood of March 1939, reached a stage of 24.4 feet, from flood-marks (discharge not determined). This is said to be the highest stage since 1903.

Remarks.—During these floods, the river shortened its low-water channel about a mile by cutting across the flood plain of the oxbow bend, beginning about 1½ miles downstream from the station.

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	680	1,350	9	4,350	1,140	17	12,400	880	25	5,400	610
2	548	1,250	10	4,410	1,000	18	30,000	772	26	3,850	910
3	529	1,170	11	5,980	1,000	19	29,800	670	27	2,710	589
4	449	1,080	12	6,520	1,030	20	16,600	790	28	2,170	548
5	381	1,000	13	5,880	910	21	9,350	1,200	29	1,830	466
6	377	1,000	14	3,730	1,110	22	5,450	850	30	1,600	381
7	1,620	1,080	15	2,570	1,140	23	3,740	620	31	1,450	-------
8	4,410	1,350	16	5,090	1,000	24	5,060	548	-------	-------	-------
Monthly mean discharge, in second-feet										5,772	915
Runoff, in inches										6.94	1.06

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF VERMILION RIVER NEAR CATLIN, ILL.

Hour	MAY 6		MAY 7		MAY 8		MAY 9		MAY 10		MAY 11	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
2	------	------	4.55	453	9.69	3,400	------	------	10.67	4,150	12.07	5,350
4	4.34	369	4.75	544	9.84	3,510	11.14	4,520	10.67	4,150	12.32	5,600
6	------	------	5.17	772	10.15	3,730	------	------	10.75	4,210	12.54	5,840
8	4.34	369	5.68	1,070	10.70	4.170	10.95	4,370	10.80	4,250	12.67	5,990
10	------	------	6.42	1,460	11.20	4,570	------	------	10.87	4,310	12.75	6,090
Noon	4.33	365	7.00	1,760	11.46	4,790	10.85	4,290	10.95	4,370	12.80	6,150
2	------	------	7.42	2,000	11.63	4,950	------	------	11.08	4,470	12.77	6,110
4	4.34	369	7.59	2,100	11.69	5,000	10.78	4,230	11.17	4,550	12.72	6,050
6	------	------	7.76	2,210	11.71	5,020	------	------	11.15	4,530	12.73	6,070
8	4.40	392	8.12	2,420	11.63	4,950	10.74	4,200	11.20	4,570	12.83	6,190
10	------	------	8.88	2,880	11.56	4,880	------	------	11.42	4,760	13.05	6,480
12	4.50	432	9.38	3,190	11.43	4,770	10.69	4.160	11.77	5,070	13.20	6,670
	MAY 12		MAY 13		MAY 14		MAY 15		MAY 16		MAY 17	
2	------	------	12.97	6,370	11.47	4,800	8.55	2,680	10.25	3,810	12.80	6,150
4	13.32	6,830	12.98	6,380	11.28	4,630	8.45	2,620	10.70	4,170	13.90	7,650
6	------	------	12.90	6,280	11.03	4,430	8.36	2,570	11.10	4,490	15.00	9,300
8	13.16	6,620	12.85	6,220	10.75	4,210	8.26	2,510	11.43	4,770	15.80	10,500
10	------	------	12.73	6,070	10.37	3,910	8.18	2,460	11.77	5,070	16.40	11,400
Noon	13.00	6,410	12.65	5,970	9.98	3,610	8.14	2,430	12.07	5,350	16.48	11,500
2	------	------	12.51	5,810	9.60	3,340	8.12	2,420	12.31	5,590	17.40	13,200
4	12.93	6,320	12.37	5,660	9.34	3,160	8.10	2,410	12.42	5,710	18.13	14,700
6	------	------	12.24	5,520	9.13	3,030	8.10	2,410	12.53	5,830	18.60	16,100
8	12,98	6,380	12.07	5,350	8.96	2,930	8.23	2,490	12.57	5,880	18.95	17,200
10	------	------	11.89	5,180	8.82	2,840	8.75	2,800	12.57	5,880	19.35	18,500
12	13,00	6,410	11.70	5,010	8.67	2,750	9.56	3,310	12.55	5,860	19.68	19,800
	MAY 18		MAY 19		MAY 20		MAY 21		MAY 22		MAY 23	
2	20.13	22,000	23.28	35,000	20.14	22,000	16.57	11,700	------	------	------	------
4	20.70	24,000	23.12	35,000	19.80	20,000	16.25	11,200	12.86	6,230	10.60	4,090
6	21.35	26,000	22.90	34,000	19.45	18,900	15.94	10,700	------	------	------	------
8	21.80	28,000	22.64	32,000	19.18	17,800	15.62	10,200	12.50	5,800	10.32	3,870
10	22.10	30,000	22.40	31,000	18.88	16,900	15.30	9,750	------	------	------	------
Noon	22.45	31,000	22.12	30,000	18.60	16,100	15.00	9,300	12.12	5,400	10.08	3,680
2	22.72	33,000	21.85	28,000	18.32	15,300	14.68	8,820	------	------	------	------
4	22.95	34,000	21.58	27,000	18.05	14,500	14.40	8,400	11.72	5,030	9.90	3,550
6	23.10	34,000	21.32	26,000	17.75	13,900	14.13	8,000	------	------	------	------
8	23.25	35,000	21.02	25,000	17.45	13,300	13.85	7,580	11.30	4,650	9.71	3,420
10	23.33	36,000	20.75	24,000	17.16	12,700	13.55	7,150	------	------	------	------
12	23.35	36,000	20.43	23,000	16.87	12,100	13.30	6,800	10.92	4,350	9.56	3,310
	MAY 24		MAY 25		MAY 26		MAY 27		MAY 28		MAY 29	
2	9.61	3,350	12.57	5,880	------	------	------	------	------	------	------	------
4	10.10	3,690	12.63	5,950	10.94	4,360	9.00	2,950	7.93	2,310	7.28	1,920
6	11.02	4,430	12.63	5,950	------	------	------	------	------	------	------	------
8	12.20	5,480	12.53	5,830	10.62	4,110	8.77	2,810	7.80	2,230	7.20	1,870
10	12.60	5,910	12.37	5,660	------	------	------	------	------	------	------	------
Noon	12.60	5,910	12.18	5,460	10.28	3,830	8.56	2,690	7.68	2,160	7.11	1,820
2	12.42	5,710	12.00	5,280	------	------	------	------	------	------	------	------
4	12.26	5,540	11.82	5,120	9.97	3,600	8.37	2,570	7.56	2,090	7.04	1,780
6	12.09	5,370	11.64	4,960	------	------	------	------	------	------	------	------
8	12.07	5,350	11.49	4,820	9.61	3,350	8.21	2,480	7.48	2,040	6.96	1,730
10	12.20	5,500	11.35	4,700	------	------	------	------	------	------	------	------
12	12.42	5,710	11.22	4,590	9.28	3,120	8.07	2,390	7.36	1,970	6.90	1,700

May 17, 11 a.m., 16.93 ft., 12,300 sec.-ft.

WABASH RIVER BASIN

VERMILION RIVER NEAR DANVILLE, ILL.

Location.—Lat. 40°05′56″, long. 87°35′44″, in NW¼ sec. 22, T. 19 N., R. 11 W., 1½ miles upstream from Stony Creek and 2½ miles southeast of Danville. Datum of gage is 503.33 feet above mean sea level, datum of 1929 (levels by Corps of Engineers, U. S. Army).

Drainage area.—1,280 square miles.

Gage-height record.—Water-stage recorder graph.

Discharge record.—Stage-discharge relation defined by current-meter measurements up to 37,000 second-feet.

Maxima.—1943: Discharge, 38,100 second-feet 2 a. m. May 19 (gage height, 27.09 feet). 1914-21, 1928-42: Discharge, 48,700 (revised) second-feet Mar. 13, 1939 (gage height, 28.59 feet).

Remarks.—Flow regulated at times by storage on North Fork Vermilion River 4½ miles above station.

MEAN DISCHARGE, IN SECOND-FEET, 1943

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	900	1,830	9	6,340	1,410	17	16,600	1,260	25	8,650	676
2	751	1,650	10	6,300	1,170	18	31,700	1,020	26	6,500	1,290
3	722	1,470	11	8,850	1,320	19	34,200	930	27	4,030	930
4	643	1,320	12	10,000	1,470	20	22,500	840	28	2,860	900
5	541	1,200	13	8,840	1,020	21	13,700	1,470	29	2,650	780
6	526	1,140	14	5,460	1,830	22	7,900	1,110	30	2,340	578
7	1,720	1,260	15	3,400	2,010	23	5,420	870	31	2,070	-------
8	5,940	1,650	16	7,070	1,890	24	6,930	722	-------	-------	-------
Monthly mean discharge, in second-feet										7,615	1,234
Runoff, in inches										6.86	1.08

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF VERMILION RIVER NEAR DANVILLE, ILL.

Hour	MAY 6		MAY 7		MAY 8		MAY 9		MAY 10		MAY 11	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
2	------	------	3.82	594	9.54	4,430	------	------	11.16	5,780	13.29	7,790
4	3.66	511	3.92	648	9.85	4,680	12.31	6,820	11.16	5,780	13.60	8,100
6	------	------	4.06	728	10.16	4,930	------	------	11.27	5,880	13.87	8,370
8	3.69	526	4.40	930	10.61	5,290	11.98	6,520	11.34	5,950	14.09	8,590
10	------	------	4.95	1,260	11.18	5,800	------	------	11.41	6,010	14.27	8,770
Noon	3.68	521	5.56	1,630	11.69	6,260	11.69	6,260	11.54	6,130	14.40	8,900
2	------	------	6.11	1,960	12.03	6,570	------	------	11.73	6,300	14.54	9,040
4	3.67	516	6.55	2,240	12.25	6,760	11.47	6,060	11.97	6,510	14.66	9,160
6	------	------	6.83	2,430	12.39	6,890	------	------	12.09	6,620	14.90	9,400
8	3.70	531	7.12	2,630	12.56	7,060	11.31	5,920	12.33	6,840	15.06	9,560
10	------	------	8.12	3,330	12.61	7,110	------	------	12.67	7,170	15.27	9,770
12	3.81	588	8.95	3,960	12.55	7,050	11.19	5,810	12.94	7,440	15.51	10,000
	MAY 12		MAY 13		MAY 14		MAY 15		MAY 16		MAY 17	
2	15.71	10,200	15.01	9,510	12.47	6,970	8.58	3,660	9.75	4,600	14.92	9,420
4	15.82	10,300	14.96	9,460	12.15	6,680	8.47	3,580	10.96	5,600	16.52	11,000
6	15.84	10,300	14.90	9,400	11.85	6,400	8.35	3,500	11.65	6,220	18.09	13,100
8	15.82	10,300	14.81	9,310	11.56	6,140	8.24	3,420	12.14	6,670	19.03	14,700
10	15.75	10,200	14.75	9,250	11.20	5,820	8.14	3,350	12.56	7,060	19.79	16,100
Noon	15.65	10,200	14.44	8,940	10.80	5,460	8.11	3,330	12.92	7,420	20.60	17,500
2	15.53	10,000	14.25	8,750	10.37	5,100	8.06	3,290	13.27	7,770	21.20	18,600
4	15.42	9,920	14.07	8,570	9.92	4,740	8.01	3,260	13.54	8,040	21.67	19,400
6	15.33	9,830	13.89	8,390	9.60	4,480	7.99	3,240	13.77	8,270	22.11	20,200
8	15.23	9,730	13.73	8,230	9.32	4,260	7.97	3,230	13.94	8,440	22.57	21,100
10	15.16	9,660	13.29	7,790	8.94	3,950	8.07	3,300	14.10	8,600	23.02	22,000
12	15.09	9,590	12.80	7,300	8.72	3,780	8.50	3,600	14.27	8,770	23.47	22,900
	MAY 18		MAY 19		MAY 20		MAY 21		MAY 22		MAY 23	
2	23.89	23,800	27.09	38,100	------	------	------	------	------	------	------	------
4	24.47	25,100	27.06	37,900	24.57	25,400	20.19	16,800	------	------	11.38	5,980
6	25.07	26,900	27.02	37,600	------	------	------	------	14.12	8,620	------	------
8	25.62	29,000	26.94	37,100	23.98	24,000	19.34	15,200	------	------	10.99	5,630
10	26.05	31,100	26.82	36,200	------	------	------	------	------	------	------	------
Noon	26.33	32,800	26.65	35,000	23.28	22,600	18.41	13,600	13.39	7,890	10.68	5,350
2	26.56	34,400	26.47	33,800	------	------	------	------	------	------	------	------
4	26.73	35,600	26.27	32,400	22.47	20,900	17.27	12,000	------	------	10.39	5,110
6	26.87	36,600	26.05	31,100	------	------	------	------	12.59	7,090	------	------
8	26.97	37,300	25.82	29,900	21.75	19,600	16.09	10,600	------	------	10.14	4,910
10	27.04	37,800	25.51	28,500	------	------	------	------	------	------	------	------
12	27.08	38,100	25.16	27,200	20.99	18,200	15.15	9,650	11.80	6,360	9.97	4,780
	MAY 24		MAY 25		MAY 26		MAY 27		MAY 28		MAY 29	
2	10.11	4,890	14.30	8,800	------	------	10.05	4,840	------	------	------	------
4	10.29	5,030	14.50	9,000	------	------	9.52	4,420	7.52	2,910	------	------
6	11.02	5,660	14.57	9,070	12.64	7,140	9.36	4,290	------	------	7.26	2,730
8	11.99	6,530	14.59	9,090	------	------	9.22	4,180	7.44	2,860	------	------
10	12.71	7,210	14.54	9,040	------	------	9.11	4,090	------	------	------	------
Noon	13.09	7,590	14.43	8,930	11.92	6,470	9.01	4,010	7.42	2,840	7.15	2,660
2	13.27	7,770	14.26	8,760	------	------	8.90	3,920	------	------	------	------
4	13.39	7,890	14.07	8,570	------	------	8.82	3,860	7.41	2,840	------	------
6	13.46	7,960	13.86	8,360	11.25	5,860	8.71	3,770	------	------	7.02	2,560
8	13.49	7,990	13.67	8,170	------	------	8.54	3,630	7.42	2,840	------	------
10	13.56	8,060	13.46	7,960	------	------	7.89	3,170	------	------	------	------
12	13.92	8,420	13.26	7,760	10.66	5,330	7.64	3,000	7.35	2,800	6.91	2,490

May 23, 11 p.m., 9.95 ft., 4,760 sec.-ft.

WABASH RIVER BASIN

West Branch Salt Fork at Urbana, Ill.

Location.—Lat. 40°07′12″, long. 88°11′30″, in center of sec. 9, T. 19 N., R. 9 E., at Champaign-Urbana sewage disposal plant, 0.8 mile downstream from Boneyard Creek and 1 mile east of Urbana, Datum of gage is 687.02 feet above mean sea level (datum of 1929).

Drainage area.—71.4 square miles.

Gage-height record.—Water-stage recorder graph, except for period 4 a. m. to 8 a. m. May 17 for which a graph was drawn based on engineers' readings.

Discharge record.—Stage-discharge relation defined by current-meter measurements.

Maxima.—1943: Discharge, 2,080 second-feet 8 a. m. to 10 a. m. May 18 (gage height, 10,62 feet). 1936-42: Discharge, 3,410 second-feet Mar. 12, 1939 (gage height, 12.84 feet).

Stage known, 13.5 feet May 11, 1933, from floodmarks. Channel improvement below the gage precludes comparison of discharges.

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	40	82	9	232	146	17	1,530	52	25	239	37
2	41	74	10	207	116	18	1,600	45	26	194	35
3	38	66	11	298	95	19	872	41	27	158	32
4	32	61	12	263	84	20	608	42	28	133	32
5	32	63	13	196	72	21	479	37	29	115	27
6	48	75	14	151	63	22	355	36	30	102	24
7	175	325	15	226	60	23	289	36	31	90	-------
8	277	225	16	516	58	24	260	33	-------	-------	-------
Monthly mean discharge, in second-feet										316	72.5
Runoff, in inches										5.10	1.13

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF WEST BRANCH SALT FORK AT URBANA, ILL.

Hour	MAY 6		MAY 7		MAY 8		MAY 9		MAY 10		MAY 11	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
2	1.60	33	2.22	86	2.97	206	3.26	273	2.90	191	3.19	256
4	1.60	33	2.85	182	3.35	296	3.22	263	2.88	187	3.29	280
6	1.60	33	2.36	104	3.39	306	3.18	253	2.85	182	3.35	296
8	1.60	33	3.13	241	3.19	256	3.14	244	2.82	176	3.39	306
10	1.60	33	2.75	163	3.20	258	3.10	234	2.95	202	3.41	312
Noon	1.61	34	2.75	163	3.26	273	3.07	227	3.02	216	3.46	325
2	1.60	33	2.79	170	3.32	288	3.05	223	2.92	195	3.41	312
4	1.60	33	2.88	187	3.36	299	3.02	216	2.86	183	3.47	327
6	2.13	76	2.94	199	3.38	304	2.99	210	2.98	208	3.39	306
8	1.87	52	3.00	212	3.37	301	2.97	206	3.25	270	3.35	296
10	2.34	101	2.99	210	3.34	293	2.93	197	3.19	256	3.34	293
12	2.63	143	3.01	214	3.30	283	2.91	193	3.16	248	3.33	291
	MAY 12		MAY 13		MAY 14		MAY 15		MAY 16		MAY 17	
2	------	------	------	------	------	------	2.57	134	4.11	500	5.00	740
4	------	------	------	------	------	------	2.56	132	4.20	524	6.46	1,130
6	3.29	280	2.99	210	2.72	158	2.55	130	4.33	559	8.76	1,530
8	------	------	------	------	------	------	2.53	128	4.48	600	9.92	1,810
10	------	------	------	------	------	------	2.55	130	4.47	597	10.18	1,900
Noon	3.23	266	2.92	195	2.68	151	3.05	223	4.36	567	10.30	1,950
2	------	------	------	------	------	------	3.46	325	4.25	538	10.27	1,940
4	------	------	------	------	------	------	3.46	325	4.16	513	9.90	1,800
6	3.16	248	2.85	182	2.63	143	3.24	268	4.05	484	9.41	1,660
8	------	------	------	------	------	------	3.27	276	3.90	443	8.99	1,580
10	------	------	------	------	------	------	3.51	338	3.85	430	8.23	1,440
12	3.07	227	2.79	170	2.58	135	3.99	467	3.81	419	7.76	1,360
	MAY 18		MAY 19		MAY 20		MAY 21		MAY 22		MAY 23	
2	7.65	1,340	6.13	1,040	4.62	637	------	------	------	------	3.39	306
4	9.09	1,600	5.84	967	4.52	610	4.24	535	------	------	3.37	301
6	10.41	1,990	5.59	899	4.47	597	------	------	3.64	373	3.35	296
8	10.62	2,080	5.85	970	4.38	573	4.13	505	------	------	3.33	291
10	10.62	2,080	5.64	913	4.32	556	------	------	------	------	3.32	288
Noon	10.23	1,920	5.48	870	4.34	562	4.02	475	3.57	354	3.31	286
2	9.40	1,660	5.39	845	4.84	697	------	------	------	------	3.29	280
4	8.49	1,480	5.32	826	4.51	608	3.90	443	------	------	3.27	276
6	7.73	1,350	5.17	786	4.47	597	------	------	3.50	335	3.25	270
8	7.16	1,260	5.02	745	4.54	616	3.84	427	------	------	3.23	266
10	6.78	1,190	4.89	710	4.54	616	------	------	------	------	3.45	322
12	6.43	1,120	4.74	670	4.42	583	3.74	400	3.42	314	3.24	268
	MAY 24		MAY 25		MAY 26		MAY 27		MAY 28		MAY 29	
2	3.23	266	------	------	------	------	------	------	------	------	------	------
4	3.18	253	3.17	251	------	------	------	------	------	------	------	------
6	3.17	251	------	------	2.96	204	2.76	165	2.59	136	2.46	117
8	3.15	246	3.14	244	------	------	------	------	------	------	------	------
10	3.15	246	------	------	------	------	------	------	------	------	------	------
Noon	3.14	244	3.13	241	2.92	195	2.71	156	2.57	134	2.44	115
2	3.13	241	------	------	------	------	------	------	------	------	------	------
4	3.29	280	3.09	232	------	------	------	------	------	------	------	------
6	3.19	256	------	------	2.87	185	2.68	151	2.53	128	2.42	112
8	3.15	246	3.04	221	------	------	------	------	------	------	------	------
10	3.43	317	------	------	------	------	------	------	------	------	------	------
12	3.26	273	3.01	214	2.81	174	2.64	144	2.49	122	2.40	109

May 6, 11 p.m., 2.88 ft., 187 sec.-ft.; May 8, 5 a.m., 3.46 ft., 325 sec.-ft.; May 10, 7 p.m., 3.39 ft., 306 sec.-ft.; May 15, 1 p.m., 2.85 ft., 182 sec.-ft.; May 15, 3 p.m., 3.76 ft., 405 sec.-ft.; May 17, 11 a.m., 10.39 ft., 1,990 sec.-ft.; May 20, 1:30 p.m., 5.03 ft., 748 sec.-ft.

WABASH RIVER BASIN

Embarrass River at Newton, Ill.

Location.—Lat. 39°00′, long. 88°09′, at State Highway No. 33 bridge, 1 mile northeast of Newton, Jasper County, and about 6 miles upstream from Crooked Creek. Datum of gage is 465.71 feet above mean sea level (datum of 1929).

Drainage area.—1,390 square miles.

Gage-height record.—Water-stage recorder graph.

Discharge record.—State-discharge relation defined by current-meter measurements. Rate of change of stage used as a factor in computing discharge.

Maxima.—1943: Discharge, 31,900 second-feet 1 p. m. May 20 (gage height, 20.20 feet). 1939-42: Discharge observed, 10,300 second-feet June 26, 1942 (gage height, 17.45 feet).

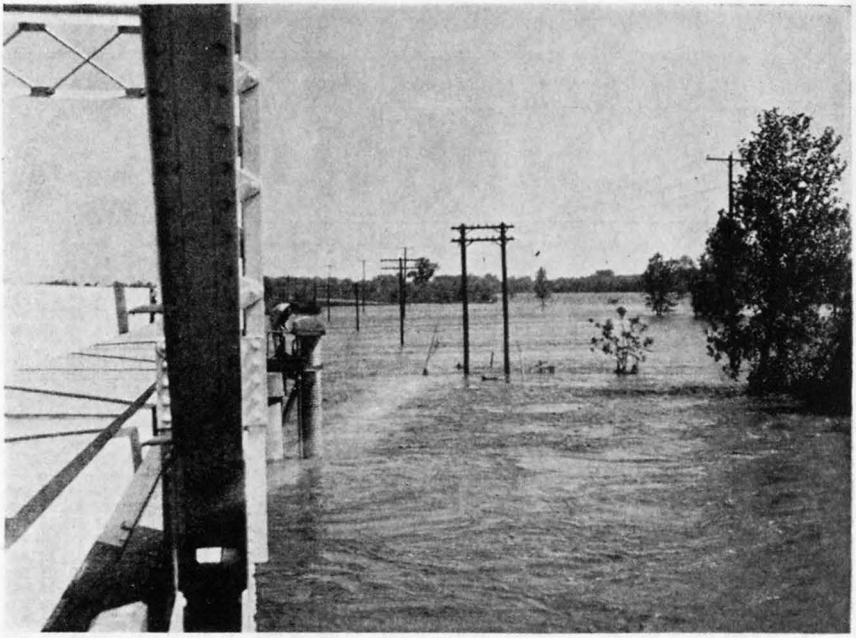
MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	491	2,280	9	10,900	3,280	17	13,000	1,020	25	11,500	724
2	463	1,970	10	7,620	2,410	18	19,600	984	26	8,010	646
3	422	1,760	11	14,600	2,010	19	24,700	884	27	6,800	684
4	396	1,550	12	16,500	1,550	20	29,600	784	28	6,330	1,220
5	382	1,430	13	9,820	1,310	21	21,700	964	29	5,260	1,430
6	356	1,350	14	7,800	1,140	22	16,300	904	30	3,740	864
7	2,650	2,100	15	7,390	1,100	23	12,600	764	31	2,740	-------
8	10,700	3,130	16	8,210	984	24	15,400	804	-------	-------	-------
Monthly mean discharge, in second-feet										9,584	1,401
Runoff, in inches										7.92	1.12

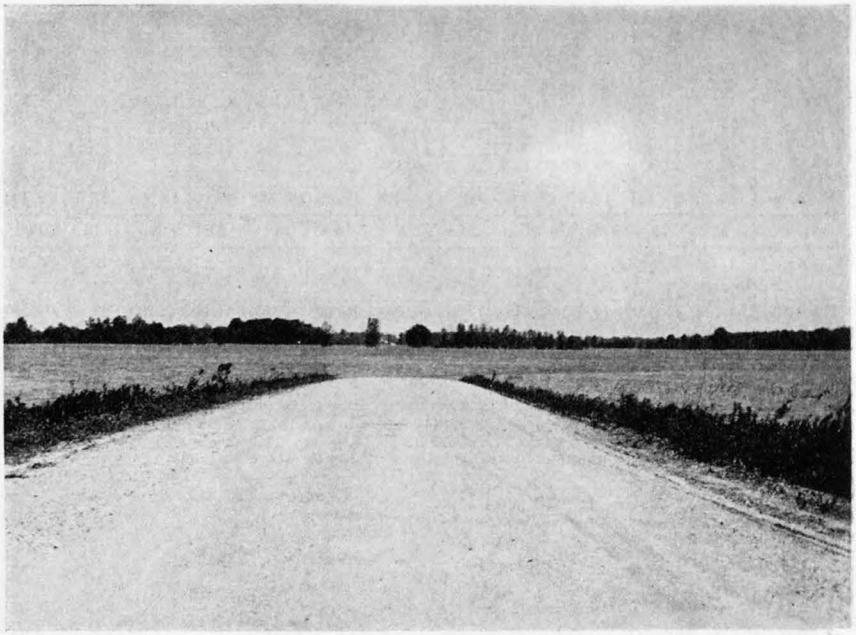
GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF EMBARRASS RIVER AT NEWTON, ILL.

Hour	MAY 7		MAY 8		MAY 9		MAY 10		MAY 11		MAY 12	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
2	3.14	340	14.69	[1]6,500	------	------	16.17	[1]6,590	17.00	[1]11,200	18.68	20,300
4	3.14	340	14.93	[1]6,770	17.64	14,100	16.01	[1]6,330	17.12	[1]11,900	18.62	19,800
6	3.19	353	15.22	[1]7,190	------	------	15.84	[1]6,170	17.25	[1]12,600	18.51	19,200
8	3.27	374	15.49	[1]7,620	17.38	[1]12,000	15.84	6,860	17.39	[1]13,300	18.39	18,400
10	3.81	522	15.82	[1]8,280	------	------	15.90	6,940	17.52	13,400	18.22	17,400
Noon	6.74	[1]1,920	16.21	[1]9,350	17.15	[1]10,700	15.97	7,040	17.64	14,100	18.06	16,500
2	9.63	[1]3,730	16.70	[1]11,400	------	------	16.02	7,120	17.67	14,200	17.91	15,600
4	11.43	[1]4,490	17.26	[1]14,400	16.90	[1]9,300	16.05	7,180	17.86	15,300	17.76	14,700
6	12.52	[1]4,920	17.66	[1]15,200	------	------	16.21	[1]8,680	18.07	16,500	17.61	13,900
8	13.37	[1]5,460	17.88	15,400	16.64	[1]7,970	16.47	[1]9,380	18.35	18,200	17.49	13,200
10	14.02	[1]6,050	17.90	15,500	------	------	16.75	[1]10,300	18.55	19,400	17.37	12,600
12	14.42	[1]6,320	17.86	15,300	16.34	[1]7,010	16.90	[1]10,700	18.66	20,100	17.25	11,900
	MAY 13		MAY 14		MAY 15		MAY 16		MAY 17		MAY 18	
2	------	------	------	------	16.19	7,440	------	------	16.91	[1]10,600	17.80	15,000
4	17.12	11,200	------	------	16.16	7,380	16.22	7,510	17.02	[1]11,300	17.80	15,000
6	------	------	16.40	7,950	16.15	7,360	------	------	17.15	[1]12,100	17.81	15,000
8	16.95	10,300	------	------	16.14	7,340	16.35	7,820	17.26	[1]12,600	17.87	15,300
10	------	------	------	------	16.18	7,420	------	------	17.38	[1]13,200	18.05	16,400
Noon	16.82	9,560	16.32	7,740	16.19	7,440	16.46	8,130	17.50	13,300	18.40	18,500
2	------	------	------	------	16.19	7,440	------	------	17.56	13,600	18.78	21,000
4	16.71	9,040	------	------	16.19	7,440	16.55	8,420	17.59	13,800	19.08	23,100
6	------	------	16.25	7,580	16.17	7,400	------	------	17.63	14,000	19.29	24,600
8	16.62	8,680	------	------	16.15	7,360	16.68	8,920	17.71	14,500	19.38	25,300
10	------	------	------	------	16.11	7,280	------	------	17.76	14,700	19.42	25,700
12	16.53	8,360	16.20	7,460	16.11	7,280	16.83	9,620	17.80	15,000	19.40	25,500
	MAY 19		MAY 20		MAY 21		MAY 22		MAY 23		MAY 24	
2	19.35	25,100	19.49	26,200	------	------	------	------	------	------	17.24	[1]13,100
4	19.27	24,500	19.64	27,400	19.32	24,900	------	------	------	------	17.49	[1]15,000
6	19.19	23,800	19.80	28,700	------	------	18.20	17,300	17.52	13,400	18.06	16,500
8	19.15	23,600	20.00	30,300	19.00	22,500	------	------	------	------	18.40	18,500
10	19.17	23,700	20.12	31,300	------	------	------	------	------	------	18.38	18,400
Noon	19.24	24,200	20.16	31,600	18.79	21,000	18.02	16,200	17.38	12,600	18.19	17,200
2	19.33	24,900	20.19	31,800	------	------	------	------	------	------	18.01	16,200
4	19.35	25,100	20.15	31,500	18.65	20,000	------	------	------	------	17.85	15,200
6	19.36	25,200	20.07	30,900	------	------	17.86	15,300	17.22	11,800	17.73	14,600
8	19.37	25,300	19.97	30,100	18.51	19,200	------	------	------	------	17.66	14,200
10	19.37	25,300	19.82	28,900	------	------	------	------	------	------	17.58	13,700
12	19.40	25,500	19.63	27,300	18.37	18,300	17.69	14,300	17.09	11,000	17.51	13,400
	MAY 25		MAY 26		MAY 27		MAY 28		MAY 29		MAY 30	
4	17.36	12,500	------	------	------	------	------	------	------	------	12.85	[1]4,290
6	------	------	16.66	8,840	15.88	6,910	15.53	6,500	14.82	[1]5,570	------	------
8	17.24	11,900	------	------	------	------	------	------	------	------	12.16	[1]3,900
Noon	17.14	11,300	16.43	[1]7,640	15.77	6,770	15.42	6,390	14.50	[1]5,260	11.48	[1]3,580
4	17.06	10,900	------	------	------	------	------	------	------	------	10.93	3,500
6	------	------	16.20	[1]7,090	15.69	6,680	15.27	6,240	14.08	[1]4,990	------	------
8	16.99	10,500	------	------	------	------	------	------	------	------	10.51	3,280
12	16.87	9,840	16.01	7,110	15.62	6,600	15.07	[1]5,760	13.43	[1]4,630	10.14	3,100

May 10, 7 a.m., 15.80 ft., 6,810 sec.-ft.; May 10, 5 p.m., 16.05 ft., 7,180 sec.-ft.; May 20, 1 p.m., 20.20 ft., 31,900 sec.-ft.; May 24, 12:30 a.m., 17.08 ft., 11,000 sec.-ft.; May 24, 9 a.m., 18.43 ft., 18,700 sec.-ft. [1] Computed by using rate of change of stage as a factor.



A GAGING STATION AT BRIDGE ON STATE HIGHWAY 33, AT NEWTON, ILL., MAY 21, 1943



B OVERFLOW SECTION, GAGING STATION AT STE. MARIE, ILL. MAY 21, 1943
Width of the overflow section, on the highway, is 4800 feet.

THE EMBARRASS RIVER

WABASH RIVER BASIN

Embarrass River at Ste. Marie, Ill.

Location.—Lat. 38°56′10″, long. 88°01′10″, in sec. 30, T. 6 N., R. 14 W., at highway bridge at Ste. Marie, 2.5 miles upstream from the North Fork. Datum of gage is 446.75 feet above mean sea level, datum of 1929 (Corps of Engineers, U. S. Army, bench mark).

Drainage area.—1,540 square miles.

Gage-height record.—Water-stage recorder graph.

Discharge record.—State-discharge relation defined by current-meter measurements to 29,000 second-feet. Rate of change of stage used as a factor in computing discharge.

Maxima.—1943: Discharge, 32,000 second-feet 10 p. m.. May 20 (gage height, 23.40 feet). 1909-12, 1914-42: Discharge observed, 39,000 second-feet May 30, 1927 (gage height, 24.3 feet).

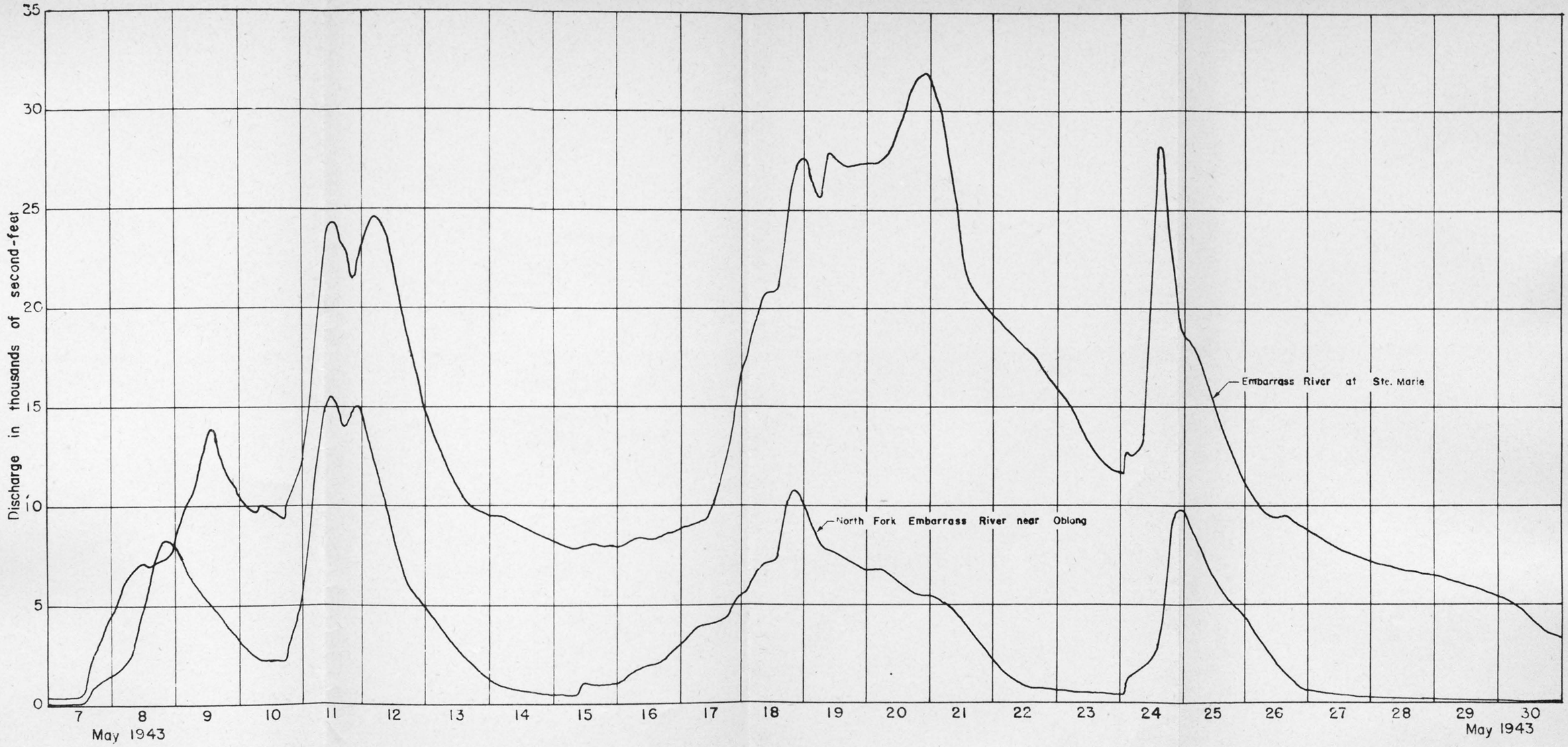
MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	500	2,190	9	11,400	2,830	17	11,000	910	25	15,200	686
2	473	1,830	10	10,100	2,310	18	21,800	910	26	9,630	614
3	433	1,590	11	21,100	1,830	19	27,100	820	27	7,860	542
4	407	1,390	12	20,800	1,470	20	29,400	745	28	6,800	1,120
5	382	1,230	13	11,400	1,190	21	24,500	790	29	5,940	1,270
6	369	1,120	14	8,930	1,060	22	17,900	880	30	4,350	850
7	1,410	2,150	15	7,960	1,000	23	13,500	716	31	2,790	--------
8	6,650	2,630	16	8,350	1,030	24	18,700	716	--------	--------	--------
Monthly mean discharge, in second-feet										10,550	1,281
Runoff, in inches										7.90	0.93

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF EMBARRASS RIVER AT STE. MARIE, ILL.

Hour	MAY 7		MAY 8		MAY 9		MAY 10		MAY 11		MAY 12	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
2	2.73	352	13.19	[1]5,020	17.94	[1]8,930	18.83	[1]10,000	19.05	[1]14,200	21.23	[1]23,900
4	2.73	352	14.04	[1]5,620	18.22	[1]9,770	18.76	[1]9,870	19.30	[1]16,900	21.36	[1]24,600
6	2.75	357	14.92	[1]6,200	18.43	[1]10,400	18.67	[1]9,690	19.60	[1]19,900	21.50	[1]24,400
8	2.77	362	15.61	[1]6,610	18.62	[1]11,200	18.62	10,000	19.91	[1]22,300	21.58	[1]23,900
10	2.85	382	16.17	[1]6,970	18.79	[1]12,200	18.59	9,920	20.22	[1]24,000	21.63	22,900
Noon	3.23	481	16.56	[1]7,120	19.01	[1]13,300	18.56	9,810	20.50	[1]24,300	21.59	[1]21,700
2	4.15	[1]782	16.84	6,980	19.19	[1]13,800	18.50	9,600	20.70	[1]23,800	21.50	[1]20,300
4	6.45	[1]1,880	17.01	7,100	19.19	12,800	18.44	9,420	20.85	[1]23,200	21.36	[1]19,100
6	8.35	[1]2,610	17.17	7,210	19.18	[1]12,300	18.46	[1]10,100	20.96	[1]22,700	21.18	[1]18,100
8	9.70	[1]3,140	17.30	7,310	19.10	[1]11,400	18.59	[1]10,700	21.02	21,400	21.00	[1]17,000
10	11.05	[1]3,770	17.45	7,440	19.03	[1]11,100	18.70	[1]11,200	21.06	[1]22,500	20.78	[1]15,300
12	12.21	[1]4,440	17.62	[1]8,060	18.94	[1]10,400	18.85	[1]12,400	21.13	[1]23,100	20.53	[1]14,600
	MAY 13		MAY 14		MAY 15		MAY 16		MAY 17		MAY 18	
2	------	------	------	------	17.93	8,100	17.86	7,960	18.27	8,920	19.57	[1]17,400
4	20.08	[1]13,400	18.46	9,480	17.87	7,980	17.93	8,100	18.31	9,030	19.70	[1]18,300
6	------	------	------	------	17.83	7,900	18.00	8,250	18.35	9,150	19.82	[1]19,200
8	19.63	[1]12,100	18.37	9,210	17.79	7,840	18.03	8,320	18.37	9,210	19.96	[1]20,200
10	------	------	------	------	17.82	7,890	18.04	8,350	18.42	9,360	20.10	[1]20,800
Noon	19.26	[1]11,100	18.28	8,950	17.88	7,990	18.02	8,300	18.48	[1]10,000	20.22	[1]20,800
2	------	------	------	------	17.89	8,010	18.02	8,300	18.57	[1]10,500	20.31	[1]21,100
4	18.96	[1]10,100	18.18	8,700	17.90	8,030	18.08	8,450	18.70	[1]11,300	20.42	[1]22,500
6	------	------	------	------	17.86	7,960	18.11	8,520	18.85	[1]12,400	20.64	[1]24,800
8	18.74	[1]9,760	18.07	8,420	17.85	7,940	18.13	8,580	19.04	[1]13,700	20.92	[1]26,600
10	------	------	------	------	17.82	7,890	18.19	8,720	19.22	[1]15,200	21.27	[1]27,500
12	18.59	[1]9,420	17.98	8,210	17.83	7,900	18.24	8,850	19.45	[1]16,900	21.59	[1]27,600
	MAY 19		MAY 20		MAY 21		MAY 22		MAY 23		MAY 24	
2	21.85	[1]26,900	22.76	27,400	------	------	------	------	------	------	19.03	[1]12,700
4	22.03	[1]26,400	22.77	27,400	23.15	30,000	------	------	------	------	19.06	[1]12,500
6	22.16	[1]25,600	22.80	27,600	------	------	21.02	[1]18,800	19.71	[1]14,900	19.09	[1]12,600
8	22.30	[1]27,200	22.84	27,900	22.85	[1]26,900	------	------	------	------	19.12	[1]13,100
10	22.48	[1]27,900	22.90	28,300	------	------	------	------	------	------	19.23	[1]15,700
Noon	22.62	[1]27,600	23.01	29,100	22.49	[1]23,200	20.66	[1]18,000	19.45	[1]13,300	19.58	[1]22,000
2	22.70	[1]27,500	23.14	30,000	------	------	------	------	------	------	20.20	28,200
4	22.74	27,200	23.24	30,700	22.10	[1]21,100	------	------	------	------	20.78	27,700
6	22.75	27,300	23.34	31,500	------	------	20.32	17,000	19.21	[1]12,100	21.06	[1]23,500
8	22.75	27,300	23.38	31,800	21.74	[1]20,200	------	------	------	------	21.11	21,600
10	22.75	27,300	23.40	32,000	------	------	------	------	------	------	21.05	[1]19,500
12	22.75	27,300	23.35	31,600	21.43	[1]19,700	19.98	[1]15,800	19.00	11,700	20.93	[1]18,600
	MAY 25		MAY 26		MAY 27		MAY 28		MAY 29		MAY 30	
4	20.68	[1]18,000	18.95	[1]10,300	------	------	------	------	------	------	13.98	5,130
6	------	------	------	------	17.99	8,230	16.86	6,990	15.71	6,190	------	------
8	20.45	[1]16,700	18.75	[1]9,660	------	------	------	------	------	------	13.43	4,800
Noon	20.13	[1]15,200	18.57	[1]9,350	17.75	7,780	16.57	6,790	15.36	5,960	12.73	4,380
4	19.80	[1]13,900	18.45	9,450	------	------	------	------	------	------	12.00	3,940
6	------	------	------	------	17.45	7,440	16.28	6,590	14.95	5,710	------	------
8	19.48	[1]12,400	18.33	9,090	------	------	------	------	------	------	11.30	3,530
12	19.18	[1]11,100	18.21	8,780	17.15	7,200	16.05	6,420	14.43	5,400	10.72	3,240

May 10, 5:30 p.m., 18.40 ft., 9,300 sec.-ft.; May 15, 9 a.m., 17.77 ft., 7,800 sec.-ft.; May 24, 1:15 a.m., 18.97 ft., 11,600 sec.-ft. [1] Computed by using rate of change of stage as a factor.



Graphs of discharge at gaging stations in the Embarrass River Basin

WABASH RIVER BASIN

North Fork Embarrass River near Oblong, Ill.

Location.—Lat. 39°00′35″, long. 87°56′45″, in extreme NW corner of sec. 35, T. 7 N., R. 14 W., at bridge on State Highway No. 33, three-quarters of a mile upstream from Illinois Central Railroad bridge and a county highway bridge, 2 miles west of Oblong and 8½ miles upstream from mouth. Datum of gage is 458.19 feet above mean sea level, datum of 1929.

Drainage area.—304 square miles.

Gage-height record.—Water-stage recorder graph.

Discharge record.—Stage-discharge relation defined by current-meter measurements. Rate of change of stage used as a factor in computing discharge.

Maxima.—1943: Discharge, 15,500 second-feet 11 a. m. May 11 (gage height, 19.13 feet). 1940-42: Discharge, 6,630 second-feet June 27, 1942 (gage height, 17.15 feet).

A stage of 20.8 feet, as determined from marks pointed out by a local resident, occurred "a few years after 1905"---presumably in 1913. Other reliable information indicates the "McKinley Flood" (so called because it occurred on March 4, 1897) was somewhat higher. Channel improvement and highway construction in vicinity of gage make comparison of discharge uncertain.

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	43	92	9	5,400	106	17	4,110	73	25	6,600	17
2	40	81	10	2,820	74	18	7,890	39	26	2,170	39
3	37	71	11	13,200	61	19	7,820	28	27	437	35
4	37	60	12	8,910	52	20	6,100	24	28	234	88
5	33	54	13	2,910	45	21	4,080	147	29	162	219
6	31	150	14	768	39	22	1,090	66	30	125	63
7	435	1,170	15	764	44	23	502	32	31	105	-------
8	4,860	293	16	1,930	252	24	3,930	22	-------	-------	-------
Monthly mean discharge, in second-feet										2,825	118
Runoff, in inches										10.71	0.43

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF NORTH FORK OF EMBARRASS RIVER NEAR OBLONG, ILL.

Hour	MAY 7		MAY 8		MAY 9		MAY 10		MAY 11		MAY 12	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
2	1.69	30	11.01	[1]1,630	16.85	7,480	14.35	[1]2,910	16.66	[1]7,510	------	------
4	1.69	30	11.65	[1]1,860	16.68	6,900	14.08	[1]2,640	17.58	[1]10,600	18.35	12,700
6	1.73	32	12.35	[1]2,120	16.53	6,440	13.74	[1]2,400	18.27	12,400	------	------
8	1.76	34	13.21	[1]2,610	16.36	5,980	13.42	2,330	18.77	14,200	17.71	10,500
10	1.92	43	14.33	[1]3,530	16.20	5,600	13.31	2,270	19.08	15,300	------	------
Noon	2.32	74	15.24	[1]4,610	16.02	5,260	13.20	2,200	19.12	15,400	17.13	8,460
2	3.20	[1]180	16.05	[1]5,730	15.81	4,920	13.06	2,130	19.00	15,000	------	------
4	4.87	[1]538	16.62	[1]7,040	15.59	4,610	13.02	2,110	18.79	14,300	16.60	6,640
6	6.90	[1]965	16.96	7,860	15.38	4,310	13.39	[1]2,770	18.73	14,100	------	------
8	8.42	[1]1,200	17.10	8,350	15.13	3,970	14.44	[1]3,560	18.91	14,700	16.16	5,520
10	9.50	[1]1,340	17.08	8,280	14.87	3,630	15.04	[1]4,200	19.00	15,000	------	------
12	10.34	[1]1,480	16.99	7,960	14.62	3,340	15.71	[1]5,310	18.86	14,500	15.74	4,820
	MAY 13		MAY 14		MAY 15		MAY 16		MAY 17		MAY 18	
2	------	------	------	------	5.62	[1]472	9.41	[1]1,220	14.44	[1]3,310	16.24	5,690
4	15.28	4,170	10.00	[1]956	5.40	[1]446	10.05	[1]1,390	14.70	3,430	16.39	6,060
6	------	------	------	------	5.21	440	10.82	[1]1,590	14.91	3,680	16.55	6,500
8	14.75	3,490	8.78	[1]820	5.05	416	11.38	[1]1,700	15.07	3,890	16.67	6,860
10	------	------	------	------	5.20	[1]623	11.82	[1]1,820	15.13	3,970	16.72	7,030
Noon	14.24	[1]2,810	7.82	[1]732	7.51	[1]1,070	12.20	[1]1,900	15.16	4,010	16.76	7,160
2	------	------	------	------	8.45	[1]1,030	12.51	[1]2,000	15.22	4,090	16.85	7,480
4	13.56	[1]2,230	7.06	[1]646	8.70	964	12.79	[1]2,110	15.29	4,190	17.20	8,700
6	------	------	------	------	8.79	978	13.04	[1]2,250	15.50	4,480	17.60	10,100
8	12.62	[1]1,710	6.41	[1]570	8.88	991	13.42	[1]2,490	15.76	4,850	17.78	10,700
10	------	------	------	------	8.90	994	13.74	[1]2,700	15.99	5,200	17.75	10,600
12	11.38	[1]1,270	5.85	[1]498	8.94	1,000	14.12	[1]3,020	16.14	5,480	17.64	10,200
	MAY 19		MAY 20		MAY 21		MAY 22		MAY 23		MAY 24	
2	17.42	9,470	16.60	6,640	16.05	5,310	13.12	[1]1,920	------	------	5.46	[1]693
4	17.27	8,940	16.61	6,670	15.97	5,170	12.53	[1]1,620	6.35	[1]575	8.09	[1]1,280
6	17.06	8,210	16.60	6,640	15.84	4,970	11.86	[1]1,390	------	------	9.83	[1]1,530
8	16.93	7,760	16.57	6,550	15.71	4,780	11.17	[1]1,190	5.98	[1]528	10.99	[1]1,750
10	16.92	7,720	16.50	6,350	15.54	4,540	10.46	[1]978	------	------	11.90	[1]1,990
Noon	16.88	7,580	16.43	6,160	15.31	4,210	9.68	[1]862	5.65	506	12.70	[1]2,270
2	16.84	7,440	16.35	5,960	15.10	3,930	8.97	[1]800	------	------	13.46	[1]2,740
4	16.80	7,300	16.27	5,760	14.83	3,590	8.36	[1]767	5.36	463	14.48	[1]3,890
6	16.76	7,160	16.20	5,600	14.58	3,300	7.85	[1]727	------	------	16.36	[1]6,880
8	16.72	7,030	16.13	5,460	14.30	[1]2,860	7.43	[1]697	5.12	427	17.25	[1]9,320
10	16.65	6,800	16.11	5,420	13.98	[1]2,540	7.10	[1]666	------	------	17.51	9,780
12	16.60	6,640	16.09	5,380	13.58	[1]2,220	6.83	[1]636	4.88	391	17.46	9,610
	MAY 25		MAY 26		MAY 27		MAY 28		MAY 29		MAY 30	
2	17.31	9,080	15.15	4,000	------	------	------	------	------	------	------	------
4	17.15	8,520	14.88	[1]3,470	6.87	[1]566	4.06	268	------	------	------	------
6	16.98	7,930	14.60	[1]3,150	------	------	------	------	3.40	173	3.06	132
8	16.82	7,370	14.26	[1]2,760	5.81	[1]472	3.94	250	------	------	------	------
10	16.66	6,830	13.86	[1]2,400	------	------	------	------	------	------	------	------
Noon	16.50	6,350	13.36	[1]2,020	5.16	[1]403	3.82	232	3.31	161	3.00	125
2	16.34	5,930	12.72	[1]1,660	------	------	------	------	------	------	------	------
4	16.17	5,540	11 96	[1]1,370	4.71	366	3.71	216	------	------	------	------
6	15.99	5,200	11.12	[1]1,110	------	------	------	------	3.20	148	2.94	118
8	15.80	4,910	10.25	[1]873	4.43	324	3.61	201	------	------	------	------
10	15.61	4,630	9.27	[1]735	------	------	------	------	------	------	------	------
12	15.39	4,330	8.36	[1]694	4.21	290	3.53	190	3.13	140	2.89	113

May 10, 5:30 p.m., 13.05 ft., 2,120 sec.-ft.; May 11, 11 a.m., 19.13 ft., 15,500 sec.-ft.; May 11, 5:30 p.m., 18.70 ft., 14,000 sec.-ft.; May 15, 9:30 p.m., 4.96 ft., 403 sec.-ft.; May 18, 9 p.m., 17.78 ft., 10,700 sec.-ft.; May 24, 1 a.m., 4.83 ft., 384 sec.-ft. [1] Computed by using rate of change of stage as a factor.

WABASH RIVER BASIN

Bonpas Creek at Browns, Ill.

Location.—Lat. 38°22′50″, long. 87°58′35″, in SW¼SE¼ sec. 33, T. 1 S., R. 14 W., at Browns, 30 feet upstream from concrete dam of Albion municipal water plant, 100 feet upstream from Nigger Creek, 300 feet upstream from State Highway 13, and a quarter of a mile upstream from Southern Railway bridge. Datum of gage is 374.92 feet above mean sea level, datum of 1929.

Drainage area.—235 square miles.

Gage-height record.—Water-stage recorder graph.

Discharge record.—Stage-discharge relation defined by current-meter measurements up to 3,200 second-feet. Rate of change of stage used as a factor in computing discharge. Flow affected by backwater from the Wabash River May 23 to June 6. Discharge May 23 to June 1 and June 6 computed by using stage at Grayville as a factor; discharge June 2-5 computed on basis of records for Skillet Fork at Wayne City.

Maxima.—1943: Discharge, 3,490 second-feet 12 p. m. May 20 (gage height, 16.55 feet). 1940-42: Discharge, 2,640 second-feet June 23, 1942. Gage height, 15.24 feet June 23, 1942.

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	36	37	9	14.9	56	17	2,390	274	25	1,350	24
2	30	35	10	195	34	18	2,490	47	26	1,400	124
3	25	30	11	2,220	78	19	2,790	30	27	938	37
4	21	30	12	3,180	361	20	3,300	19.7	28	466	14.9
5	18.4	25	13	3,030	120	21	3,340	106	29	145	7.1
6	16.0	449	14	2,400	36	22	2,660	56	30	100	4.1
7	13.8	514	15	2,320	60	23	1,780	26	31	56	--------
8	12.9	167	16	2,570	336	24	1,120	13.8	--------	--------	--------
Monthly mean discharge, in second-feet										1,304	105
Runoff, in inches										6.40	.50

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF BONPAS CREEK AT BROWNS, ILL.

Hour	MAY 10		MAY 11		MAY 12		MAY 13		MAY 14		MAY 15	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
2	1.38	18.4	8.75	[2]1,940	15.31	2,800	------	------	------	------	13.84	2,140
4	1.43	25	10.88	[2]2,820	15.58	2,930	16.14	3,240	14.92	2,600	13.78	2,110
6	1.45	28	12.36	[2]2,500	15.81	3,050	------	------	------	------	13.74	2,100
8	1.47	30	13.22	1,950	15.98	3,150	15.98	3,150	14.69	2,480	13.93	2,170
10	1.61	52	13.57	2,050	16.12	3,230	------	------	------	------	14.24	2,300
Noon	1.64	58	13.71	2,090	16.22	3,290	15.79	3,040	14.46	2,380	14.51	2,400
2	1.93	124	13.76	2,110	16.28	3,330	------	------	------	------	14.64	2,460
4	2.16	184	13.87	2,150	16.32	3,350	15.58	2,930	14.26	2,300	14.68	2,480
6	2.23	199	14.05	2,220	16.34	3,360	------	------	------	------	14.68	2,480
8	2.43	[2]307	14.32	2,330	16.33	3,360	15.36	2,820	14.07	2,230	14.66	2,470
10	3.66	[2]651	14.65	2,460	16.31	3,350	------	------	------	------	14.62	2,450
12	6.14	1,320[2]	14.99	2,640	16.27	3,320	15.14	2,710	13.91	2,160	14.59	2,440
	MAY 16		MAY 17		MAY 18		MAY 19		MAY 20		MAY 21	
2	14.63	2,460	------	------	14.03	2,210	15.07	2,680	------	------	------	------
4	14.72	2,500	14.67	2,480	13.98	2,190	15.06	2,670	15.97	3,140	16.54	3,480
6	14.85	2,560	------	------	14.02	2,210	15.05	2,660	------	------	------	------
8	14.95	2,620	14.57	2,430	14.24	2,300	15.05	2,660	16.07	3,200	16.47	3,440
10	15.00	2,640	------	------	14.57	2,430	15.06	2,670	------	------	------	------
Noon	14.99	2,640	14.46	2,380	14.89	2,580	15.07	2,680	16.23	3,300	16.36	3,380
2	14.97	2,620	------	------	15.08	2,680	15.12	2,700	------	------	------	------
4	14.93	2,600	14.35	2,340	15.16	2,720	15.30	2,790	16.37	3,380	16.22	3,290
6	14.90	2,590	------	------	15.16	2,720	15.56	2,920	------	------	------	------
8	14.86	2,570	14.24	2,300	15.13	2,700	15.78	3,030	16.48	3,450	16.03	3,180
10	14.82	2,550	------	------	15.11	2,700	15.89	3,090	------	------	------	------
12	14.78	2,530	14.11	2,240	15.08	2,680	15.92	3,110	16.55	3,490	15.82	3,050
	MAY 22		MAY 23		MAY 24		MAY 25		MAY 26		MAY 27	
2	------	------	------	------	11.87	[1][2]1,170	------	------	------	------	------	------
4	------	------	------	------	11.69	[1][2]1,110	11.24	[1][2]1,220	12.57	[1]1,470	------	------
6	15.47	2,880	13.65	[1]2,040	11.51	[1][2]1,070	------	------	------	------	11.53	[1][2]1,040
8	------	------	------	------	11.37	[1][2]1,090	11.47	[1][2]1,300	12.57	[1]1,470	------	------
10	------	------	------	------	11.30	[1][2]1,140	------	------	------	------	------	------
Noon	15.06	2,670	13.12	[1]1,840	11.28	[1][2]1,140	11.77	[1][2]1,380	12.51	[1]1,450	11.02	[1][2]912
2	------	------	------	------	11.23	[1][2]1,110	------	------	------	------	------	------
4	------	------	------	------	11.17	[1][2]1,080	12.06	[1][2]1,430	12.38	[1][2]1,380	------	------
6	14.63	2,460	12.58	[1][2]1,510	11.11	[1][2]1,070	------	------	------	------	10.48	[1][2]850
8	------	------	------	------	11.08	[1]1,120	12.31	[1][2]1,470	12.21	[1][2]1,300	------	------
10	------	------	------	------	11.08	[1]1,120	------	------	------	------	------	------
12	14.13	2,250	12.04	[1][2]1,240	11.11	[1][2]1,160	12.49	[1][2]1,460	11.97	[1][2]1,160	9.95	[1][2]739

May 15, 6:30 p.m., 13.82 ft., 2,130 sec.-ft.; May 18, 5 p.m., 15.17 ft., 2,720 sec.-ft.; May 26, 6:30 a.m., 12.58 ft., [1]1,470 sec.-ft.; [1] Backwater from Wabash River; discharge computed by using stage at Grayville as a factor. [2] Computed by using rate of change of stage as a factor.

WABASH RIVER BASIN

Little Wabash River at Wilcox, Ill.

Location.—Lat. 38°38′10″, long. 88°17′40″, in SE¼ sec. 3, T. 2 N., R. 8 E., at highway bridge at Wilcox, a quarter of a mile downstream from Big Muddy Creek. Datum of gage is 392.29 (revised) feet above mean sea level, datum of 1929.

Drainage area.—1,130 square miles.

Gage-height record.—Graph based on observer's twice-daily readings of wire-weight gage, supplemental by frequent observations by engineers.

Discharge record.—Stage-discharge relation defined by current-meter measurements up to 38,000 second-feet. Rate of change of stage used as a factor in computing discharge.

Maxima.—1943: Discharge, 40,500 second-feet 6 a. m. May 20 (gage height, 25.80 feet). 1914-42: The flood of Aug. 22 or 23, 1915, probably reached a higher gage height than that of May 1943 (discharge uncertain, previously published figure believed to be too small).

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	274	470	9	4,020	967	17	10,100	358	25	7,300	160
2	218	358	10	7,450	638	18	10,700	246	26	11,900	218
3	192	316	11	24,500	638	19	27,100	232	27	10,100	147
4	166	288	12	31,200	740	20	38,700	166	28	6,890	106
5	153	246	13	23,000	725	21	28,100	141	29	4,220	69
6	141	218	14	14,100	484	22	16,300	123	30	1,610	84
7	245	469	15	9,020	288	23	9,240	192	31	752	--------
8	1,750	1,170	16	8,460	400	24	6,610	160	--------	--------	--------
Monthly mean discharge, in second-feet										10,150	361
Runoff, in inches										10.35	.36

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF LITTLE WABASH RIVER AT WILCOX, ILL.

Hour	MAY 7		MAY 8		MAY 9		MAY 10		MAY 11		MAY 12	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
4	4.20	129	8.54	[1]885	17.58	[1]3,600	19.14	[1]5,270	21.78	[1]15,600	24.72	32,900
8	4.26	136	10.40	[1]1,310	18.12	[1]4,000	19.42	[1]5,880	22.54	[1]19,700	24.68	32,700
Noon	4.56	174	12.40	[1]1,740	18.42	[1]4,190	19.80	[1]6,890	23.80	26,500	24.56	31,800
4	5.20	260	14.38	[1]2,150	18.62	4,130	20.20	[1]8,100	24.40	30,700	24.36	30,400
8	6.08	[1]406	15.96	[1]2,580	18.74	4,280	20.66	[1]10,000	24.60	32,100	24.16	29,000
12	7.16	[1]598	16.86	[1]3,030	18.90	[1]4,770	21.18	[1]12,400	24.70	32,800	23.96	27,600
	MAY 13		MAY 14		MAY 15		MAY 16		MAY 17		MAY 18	
6	23.60	25,200	22.02	15,700	20.84	9,760	20.36	7,840	20.92	10,100	20.98	10,300
Noon	23.26	23,200	21.70	13,900	20.60	8,800	20.48	8,320	20.94	10,200	21.00	10,400
6	22.84	20,600	21.40	12,400	20.44	8,160	20.64	8,960	20.96	10,200	21.06	10,700
12	22.40	18,000	21.12	11,000	20.34	7,760	20.82	9,680	20.96	10,200	21.48	12,800
	MAY 19		MAY 20		MAY 21		MAY 22		MAY 23		MAY 24	
4	22.30	[1]18,400	25.78	40,400								
6					24.50	31,400	22.54	18,800	20.92	10,100	20.06	6,880
8	23.12	22,300	25.78	40,400								
Noon	23.90	27,200	25.68	39,700	24.02	28,000	22.10	16,200	20.68	9,120	19.92	6,500
4	24.60	32,100	25.48	38,300								
6					23.54	24,800	21.64	13,600	20.44	8,160	19.82	6,260
8	25.24	36,600	25.22	36,400								
12	25.60	39,100	24.94	34,500	23.04	21,800	21.26	11,700	20.24	7,420	19.80	6,210
	MAY 25		MAY 26		MAY 27		MAY 28		MAY 29		MAY 30	
4									19.50	[1]5,270	16.60	[1]2,080
6	19.86	6,350	21.00	[1]10,900	21.16	11,200	20.24	7,420				
8									19.32	[1]4,890	15.82	[1]1,750
Noon	20.06	6,880	21.42	12,500	20.88	9,920	20.02	6,760	19.10	[1]4,380	15.04	[1]1,530
4									18.78	[1]3,640	14.22	[1]1,350
6	20.34	[1]8,150	21.58	13,300	20.66	9,040	19.86	6,350				
8									18.12	[1]2,910	13.36	[1]1,180
12	20.66	[1]9,490	21.46	12,700	20.44	8,160	19.66	5,890	17.38	[1]2,510	12.34	[1]1,010

May 20, 6 a.m., 25.80 ft., 40,500 sec.-ft. [1] Computed by using rate of change of stage as a factor.

WABASH RIVER BASIN

Little Wabash River at Carmi, Ill.

Location.—Lat. 38°03′40″, long. 88°09′35″, near center of E½ sec. 25, T. 5 S., R. 9 E., at Possum Bridge, 2½ miles downstream from Carmi and 7¾ miles downstream from Skillet Fork. Datum of gages is 339.91 feet above mean sea level, datum of 1929.

Drainage area.—3,090 square miles.

Gage-height record.—Water-stage recorder graph at base gage and at auxiliary gage 3.1 miles upstream.

Discharge record.—Stage-discharge relation defined by current-meter measurements.

Maxima (affected by backwater from Ohio River).—1943: Discharge, 33,100 second-feet 5 to 11 a. m. May 25; gage height, 34.20 feet 7 a. m. to 3 p.m. May 25. 1939-42: Discharge 11,600 second-feet April 25, 26, 1940; gage height, 26.57 feet May 1, 1940.

The flood of January 1937 reached a stage of 36.23 feet.

Remarks.—Records collected and prepared in cooperation with Corps of Engineers, U. S. Army.

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	6,110	17,500	9	423	12,000	17	16,600	4,750	25	32,900	1,470
2	5,090	16,600	10	1,740	11,400	18	18,600	4,030	26	31,400	1,200
3	3,050	15,900	11	6,850	10,600	19	21,100	3,250	27	28,400	955
4	1,370	15,100	12	8,470	9,500	20	24,400	2,360	28	25,200	827
5	623	14,400	13	9,030	8,500	21	26,600	1,940	29	22,400	818
6	432	13,800	14	10,400	7,550	22	29,500	1,850	30	19,800	565
7	361	13,400	15	12,400	6,390	23	31,300	1,580	31	18,600	--------
8	322	12,700	16	14,300	5,450	24	32,200	1,400	--------	--------	--------
Monthly mean discharge, in second-feet										14,840	7,260
Runoff, in inches										5.54	2.62

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF LITTLE WABASH RIVER AT CARMI, ILL.

Hour	MAY 8		MAY 9		MAY 10		MAY 11		MAY 12		MAY 13	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
6	2.64	328	2.60	326	4.57	1,110	16.46	6,400	19.07	8,360	20.04	8,810
Noon	2.61	320	2.75	385	5.74	1,560	17.86	7,270	19.38	8,530	20.29	8,940
6	2.59	315	2.99	479	6.82	2,010	18.32	7,760	19.62	8,580	20.59	9,250
12	2.58	316	3.52	687	11.14	3,870	18.69	8,090	19.83	8,700	20.99	9,540
	MAY 14		MAY 15		MAY 16		MAY 17		MAY 18		MAY 19	
6	21.44	9,860	23.62	11,900	26.26	13,800	28.68	16,000	30.66	18,200	31.82	20,100
Noon	21.95	10,300	24.24	12,500	26.86	14,200	29.23	16,700	31.03	18,500	32.07	20,800
6	22.45	10,800	24.91	12,900	27.48	14,800	29.75	17,300	31.32	18,900	32.32	22,200
12	23.00	11,400	25.59	13,400	28.08	15,200	30.23	17,800	31.59	19,500	32.49	23,200
	MAY 20		MAY 21		MAY 22		MAY 23		MAY 24		MAY 25	
6	32.63	23,900	33.00	25,900	33.46	28,900	33.84	31,100	33.99	31,800	34.19	33,100
Noon	32.74	24,400	33.10	26,600	33.58	29,700	33.89	31,400	34.04	32,100	34.20	33,000
6	32.85	25,000	33.22	27,300	33.69	30,100	33.91	31,500	34.11	32,500	34.19	32,800
12	32.92	25,400	33.33	28,000	33.78	30,700	33.94	31,700	34.15	32,800	34.16	32,700
	MAY 26		MAY 27		MAY 28		MAY 29		MAY 30		MAY 31	
6	34.11	32,100	33.69	29,200	33.15	26,100	32.61	23,100	32.15	20,300	31.79	18,800
Noon	34.03	31,300	33.58	28,500	33.01	25,200	32.50	22,400	32.05	19,700	31.71	18,600
6	33.93	30,700	33.43	27,600	32.88	24,400	32.37	21,700	31.96	19,200	31.63	18,400
12	33.82	30,000	33.29	26,800	32.75	23,800	32.25	20,900	31.88	19,000	31.56	18,100
	JUNE 1		JUNE 2		JUNE 3		JUNE 4		JUNE 5		JUNE 6	
6	31.46	17,700	31.11	16,900	30.66	16,100	30.13	15,200	29.55	14,600	28.90	14,000
Noon	31.38	17,600	31.01	16,700	30.50	15,900	30.04	15,000	29.40	14,500	28.75	13,900
6	31.30	17,300	30.91	16,400	30.38	15,800	29.86	15,000	29.24	14,200	28.59	13,600
12	31.21	17,000	30.79	16,200	30.26	15,500	29.73	14,800	29.07	14,100	28.48	13,700
	JUNE 7		JUNE 8		JUNE 9		JUNE 10		JUNE 11		JUNE 12	
6	28.34	13,600	27.63	12,800	26.75	12,100	25.65	11,500	24.41	10,800	23.02	9,850
Noon	28.17	13,400	27.43	12,700	26.50	12,000	25.35	11,400	24.08	10,600	22.65	9,500
6	28.00	13,200	27.21	12,500	26.22	11,800	25.05	11,200	23.73	10,500	22.28	9,150
12	27.82	13,000	26.98	12,400	25.94	11,700	24.72	11,100	23.38	10,100	21.86	8,870
	JUNE 13		JUNE 14		JUNE 15		JUNE 16		JUNE 17		JUNE 18	
6	21.42	8,730	19.50	7,810	17.38	6,660	15.84	5,660	14.34	4,940	12.75	4,200
Noon	20.98	8,520	18.97	7,630	16.84	6,400	15.23	5,540	13.85	4,720	12.36	4,030
6	20.52	8,300	18.44	7,230	16.35	6,120	15.21	5,170	13.46	4,590	11.96	3,860
12	20.03	8,060	17.91	6,980	16.47	5,770	14.89	5,080	13.11	4,400	11.55	3,660
	JUNE 19		JUNE 20		JUNE 21		JUNE 22		JUNE 23		JUNE 24	
6	11.13	3,480	9.21	2,600	8.36	2,030	7.13	1,890	6.53	1,650	5.80	1,390
Noon	10.72	3,250	8.62	2,320	7.59	1,860	7.07	1,870	6.32	1,590	5.68	1,360
6	10.27	3,020	7.96	2,020	7.22	1,840	6.92	1,820	6.12	1,510	5.62	1,330
12	9.73	2,850	8.93	2,180	7.13	1,890	6.73	1,740	5.93	1,440	6.12	1,560

May 25, 7 to 11 a.m., 34.20 ft., 33,100 sec.-ft.; 1 to 3 p.m., 34.20 ft., 33,000 sec.-ft.

WABASH RIVER BASIN

Skillet Fork at Wayne City, Ill.

Location.—Lat. 38°21′10″, long. 88°35′20″, in SW¼ sec. 7, T. 2 S., R. 6 E., one-half mile downstream from highway bridge, 1 mile north of Wayne City, and 2½ miles downstream from Brush Creek. Datum of gage is 383.15 feet above mean sea level, datum of 1929, (levels by Corps of Engineers, U. S. Army).

Drainage area.—475 square miles.

Gage-height record.—Water-stage recorder graph except for periods May 28-30 and June 16-26. Gage heights May 28-30 obtained from partial recorder graph.

Discharge record.—Stage-discharge relation defined by current-meter measurements to crest stage. Rate of change of stage used as a factor in computing discharge. Discharge June 16-26 computed on basis of two gage readings and records for Bonpas Creek at Browns.

Maxima.—1943: Discharge 17,000 second-feet 6 a. m. May 12 and 12 m. May 20 (gage height 21.21 feet). 1908-12, 1914-21, 1928-42: Discharge observed, 15,800 second-feet Aug. 22, 1915.

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	84	60	9	1,120	312	17	2,860	27	25	1,300	15
2	64	50	10	1,760	92	18	3,280	24	26	1,640	50
3	53	43	11	8,870	60	19	6,080	20	27	1,300	372
4	44	38	12	15,300	64	20	14,900	17	28	498	76
5	38	35	13	7,540	43	21	10,600	15	29	240	123
6	33	193	14	4,480	31	22	5,350	15	30	114	109
7	32	412	15	3,200	26	23	3,400	20	31	76	-------
8	250	609	16	2,760	26	24	1,170	15	-------	-------	-------
Monthly mean discharge, in second-feet										3,175	99.7
Runoff, in inches										7.71	.23

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF SKILLET FORK AT WAYNE CITY, ILL.

Hour	MAY 7		MAY 8		MAY 9		MAY 10		MAY 11		MAY 12	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
2	------	------	1.04	41	8.79	[1]964	12.01	[1]1,210	17.34	[1]3,350	21.12	16,400
4	------	------	1.11	46	9.35	[1]1,010	12.03	1,210	17.88	3,660	21.18	16,800
6	0.88	31	1.26	56	9.84	[1]1,050	12.05	1,210	18.23	4,090	21.21	17,000
8	------	------	1.39	65	10.29	[1]1,090	12.14	1,220	18.53	4,650	21.18	16,800
10	------	------	1.48	72	10.65	[1]1,110	12.36	[1]1,360	18.92	5,650	21.14	16,500
Noon	.87	30	1.52	74	10.94	[1]1,140	12.68	[1]1,470	19.44	7,700	21.07	16,100
2	------	------	1.57	78	11.21	[1]1,170	13.07	[1]1,600	20.00	10.500	20.98	15,600
4	------	------	2.66	169	11.42	[1]1,190	13.47	[1]1,730	20.44	12,700	20.85	14,800
6	.91	33	4.69	[1]445	11.61	[1]1,210	13.87	[1]1,960	20.69	14,000	20.70	14,000
8	------	------	6.11	[1]679	11.77	[1]1,220	14.72	[1]2,690	20.86	14,900	20.52	13,100
10	------	------	7.21	[1]810	11,89	[1]1,230	15.69	[1]3,080	20.97	15,500	20.34	12,200
12	.98	38	8.04	[1]895	11.96	[1]1,220	16.53	[1]3,480	21.06	16,100	20.17	11,400
	MAY 13		MAY 14		MAY 15		MAY 16		MAY 17		MAY 18	
4	19.81	9,550	------	------	17.73	3,530	16.72	2,730	16.83	2,810	17.03	2,950
6	------	------	18.64	4,900	------	------	------	------	------	------	------	------
8	19.52	8,100	------	------	17.56	3,370	16.72	2,730	16.86	2,830	17.17	3,060
Noon	19.31	7,100	18.43	4,440	17.35	3,200	16.75	2,760	16.89	2,850	17.34	3,190
4	19.12	6,330	------	------	17.11	3,010	16.78	2,780	16.96	2,900	17.56	3,370
6	------	------	18.21	4,060	------	------	------	------	------	------	------	------
8	18.97	5,810	------	------	16.91	2,870	16.80	2,790	16.97	2,910	17.86	3,640
12	18.82	5,360	17.94	3,720	16.77	2,770	16.81	2,800	16.97	2,910	18.21	4,060
	MAY 19		MAY 20		MAY 21		MAY 22		MAY 23		MAY 24	
2	18.39	4,360	19.99	10,400	------	------	------	------	------	------	------	------
4	18.54	4,670	20.41	12,600	20.60	13,500	------	------	18.20	4,040	15.15	[1]1,290
6	18.66	4,940	20.78	14,400	------	------	19.00	5,900	------	------	------	------
8	18.75	5,170	21.05	16,000	20.30	12,000	------	------	18.03	3,820	14.08	[1]1,080
10	18.83	5,390	21.17	16,700	------	------	------	------	------	------	------	------
Noon	18.96	5,780	21.21	17,000	19.96	10,300	18.77	5,220	17.79	3,580	13.10	[1]1,080
2	19.08	6,180	21.19	16,800	------	------	------	------	------	------	------	------
4	19.21	6,690	21.12	16,400	19.71	9,050	------	------	17.44	3,270	12.30	[1]1,090
6	19.34	7,230	21.05	16,000	------	------	18.56	4,710	------	------	------	------
8	19.45	7,750	20.97	15,500	19.47	7,850	------	------	16.94	[1]2,630	11.57	[1]1,030
10	19.56	8,300	20.91	15,200	------	------	------	------	------	------	------	------
12	19.70	9,000	20.81	14,600	19.26	6,890	18.35	4,290	16.18	[1]1,840	11.06	[1]1,010
	MAY 25		MAY 26		MAY 27		MAY 28		MAY 29		MAY 30	
2	10.97	1,060	------	------	14.17	1,660	------	------	------	------	------	------
4	10.99	1,060	13.80	[1]1,640	14.14	1,650	[0]9.07	[1]611	[0]4.07	309	------	------
6	11.13	[1]1,130	------	------	14.08	1,630	------	------	------	------	[0]2.22	130
8	11.34	[1]1,190	14.00	1,610	13.99	[1]1,510	[0]7.55	[1]524	[0]3.66	268	------	------
10	11.59	[1]1,230	------	------	13.86	[1]1,430	------	------	------	------	------	------
Noon	11.91	[1]1,300	14.12	1,650	13.66	[1]1,320	[0]6.38	[1]469	[0]3.30	232	2.00	110
2	12.25	[1]1,360	------	------	13.37	[1]1,200	------	------	------	------	------	------
4	12.57	[1]1,420	14.18	1,660	13.02	[1]1,110	[0]5.58	1427	[0]2.99	201	------	------
6	12.88	[1]1,500	------	------	12.58	[1]1,060	------	------	------	------	1.85	98
8	13.13	[1]1,540	14.21	1,670	12.07	[1]980	[0]5.02	404	[0]2.72	175	------	------
10	13.37	[1]1,570	------	------	11.45	[1]874	------	------	------	------	------	------
12	13.54	[1]1,580	14.19	1,670	10.76	[1]749	[0]4.53	355	[0]2.49	154	1.73	89

May 17, 1:30 p.m., 16.93 ft., 2,800 sec.-ft.; May 19, 11 a.m., 18.86 ft., 5,470 sec.-ft.
[1] Computed by using rate of change of stage as a factor. [0] Computed on basis of partly estimated gage-height record.

SALINE RIVER BASIN

SALINE RIVER NEAR JUNCTION, ILL.

Location.—Lat. 37°41′52″, long. 88°16′00″, in NE¼ sec. 36, T. 9 S., R. 8 E., at old Island Ripple Bridge site 2½ miles southwest of Junction, 4 miles downstream from North Fork, and 13¾ miles upstream from mouth. Datum of gages is 320.72 feet above mean sea level, adjustment of 1907.

Drainage area.—1,040 square miles.

Gage-height record.—Water-stage recorder graph at base gage except for periods 8 a. m. May 16 to 3 p. m. May 26, 4 a. m. May 27 to 12 m. June 4, 11 a. m. June 5 to 1 p. m. June 9. Once daily readings available May 17, June 1, 3, 6, 7. Water-stage recorder graph at auxiliary gage 3½ miles downstream.

Discharge record.—Stage-fall-discharge relation defined by current-meter measurements. Discharge for periods of no gage-height record, May 18-25, 28-31, June 2, 8, and period of doubtful gage-height record, May 2-6, computed on basis of records for nearby stations and gage-height record for Ohio River at dam 50.

Maxima (affected by backwater from Ohio River).—May 1943: Discharge, 10,300 second-feet 7 to 9 a. m. May 14, but may have been greater during period of no gage-height record May 18-25; gage height, 25.80 feet May 29 or 30, from range of recorder pen. 1939-April 1943: Discharge 13,400 second-feet Mar. 21, 1943; gage height, 35.96 feet Mar. 29, 30, 1943.

The flood of February 1937 reached a stage of about 55.8 feet (discharge not determined).

Remarks.—Periods May 1-11, May 14 to June 17 and June 20 affected by backwater from Ohio River.

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	1,900	1,190	9	132	787	17	3,500	2,740	25	2,000	306
2	1,500	2,000	10	583	1,100	18	3,000	2,130	26	354	177
3	1,000	3,210	11	7,050	1,560	19	6,000	930	27	364	357
4	700	1,270	12	8,850	843	20	9,000	267	28	400	324
5	450	2,500	13	9,830	482	21	10,000	838	29	500	337
6	350	3,030	14	10,200	432	22	10,000	584	30	700	162
7	253	2,250	15	8,860	533	23	8,000	266	31	900	-------
8	161	1,500	16	7,220	1,740	24	5,000	162	-------	-------	-------
Monthly mean discharge, in second-feet										3,831	1,134
Runoff, in inches										4.25	1.22

CACHE RIVER BASIN

Cache River at Forman, Ill.

Location.—Lat. 37°21′00″, long. 88°54′50″, in NE¼ sec. 31, T. 13 S., R. 3 E., at Chicago, Burlington & Quincy Railroad bridge at Forman, 1 mile downstream from Dutchman Creek. Datum of gage is 333.77 feet above mean sea level, datum of 1929.

Drainage area.—242 square miles.

Gage-height record.—Water-stage recorder graph, except for the period June 7-30.

Discharge record.—Stage-discharge relation defined by current-meter measurements up to 7,500 second-feet. Discharge June 7-30 computed on basis of gage readings on June 13, 20, and records for Big Creek near Wetaug.

Maxima.—1943: May discharge, 3,030 second-feet 2 p. m. May 14 (gage height, 12.70 feet). 1922-42: 9,120 second-feet Mar. 13, 1935 gage height, 16.69 feet, present datum).

Remarks.—See page 160 of this report for data on the flood of March 1943.

MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	97	226	9	37	500	17	1,420	100	25	857	25
2	78	176	10	649	150	18	1,210	90	26	701	80
3	65	133	11	1,630	200	19	1,480	60	27	525	150
4	55	105	12	2,630	150	20	1,870	36	28	429	50
5	49	373	13	2,630	97	21	2,070	180	29	381	55
6	43	445	14	2,920	80	22	1,750	110	30	294	60
7	39	350	15	2,630	150	23	1,420	65	31	301	--------
8	37	700	16	1,870	200	24	1,110	40	--------	--------	--------
Monthly mean discharge, in second-feet										1,009	171
Runoff, in inches										4.81	.79

CACHE RIVER BASIN

Big Creek near Wetaug, Ill.

Location.—Lat. 37°19′00″, long. 89°07′55″, in SW¼ sec. 5, T. 14 S., R. 1 E., one mile upstream from Little Creek, and two miles southeast of Wetaug.

Drainage area.—32.2 square miles.

Gage-height record.—Water-stage recorder graph.

Discharge record.—Artificial control of concrete. Stage-discharge relation defined by current-meter measurements up to 2,500 second-feet and extended to slope-area measurement for crest of the flood of March 1943, which was affected by broken levees.

Maxima.—May 1943: Discharge, 2,540 second-feet 6 a. m. May 11 (gage height 13.19 feet). 1941 to April 1943: Discharge, 7,200 second-feet 10 a. m. Mar. 19, 1943. Gage height, 15.90 feet 9 a. m. Mar. 19, 1943.

Remarks.—See page 160 of this report for data on the flood of March 1943.

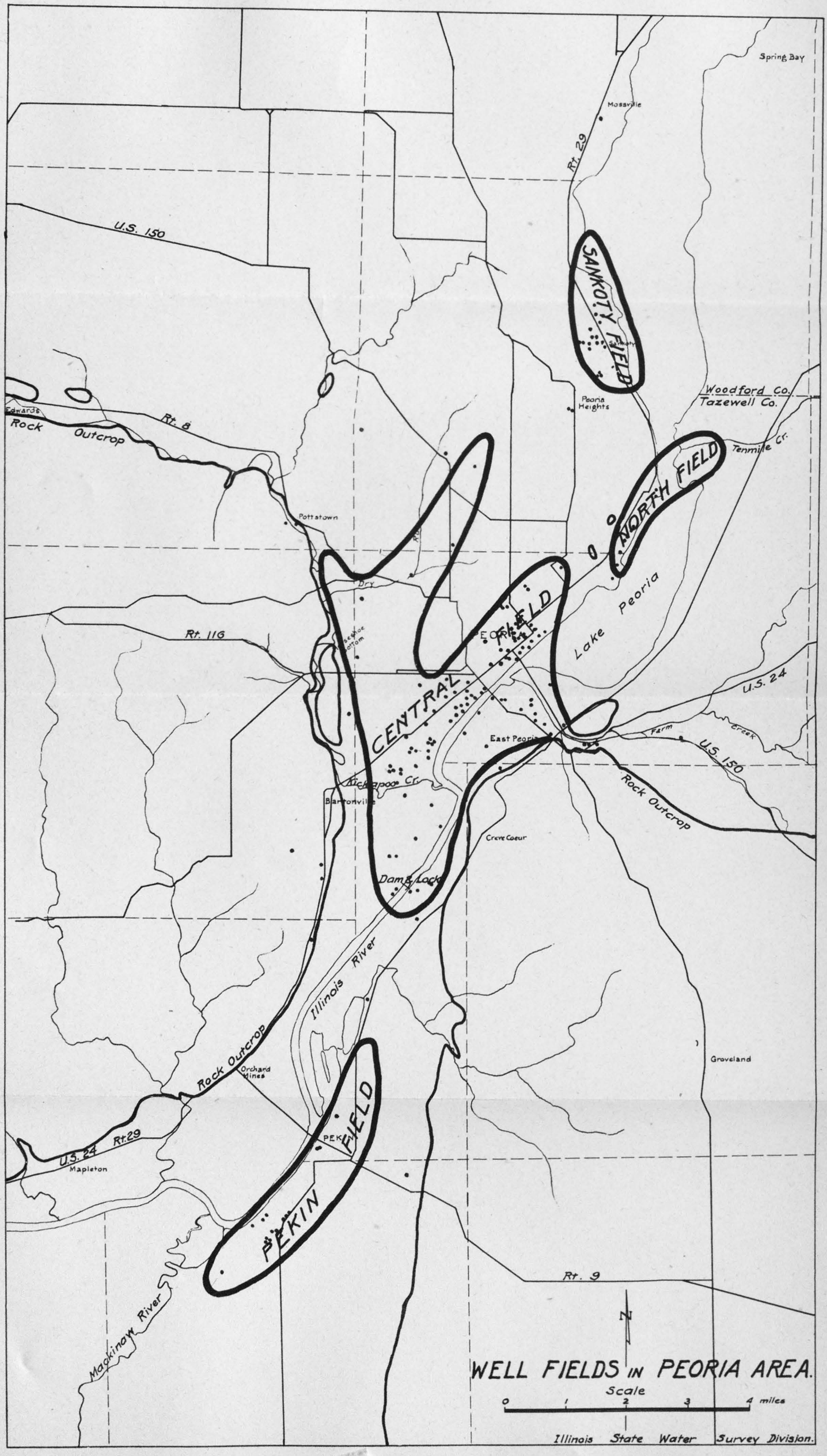
MEAN DISCHARGE, IN SECOND-FEET, 1943.

Day	May	June	Day	May	June	Day	May	June	Day	May	June
1	11.0	16.5	9	8.3	22	17	42	21	25	40	6.7
2	9.8	12.8	10	309	33	18	752	9.8	26	25	25
3	9.3	11.0	11	1,570	32	19	572	7.2	27	36	9.3
4	8.3	24	12	146	14.0	20	172	6.7	28	32	9.8
5	7.2	106	13	128	11.0	21	83	137	29	19.4	11.6
6	7.2	44	14	222	10.4	22	53	18.7	30	17.2	6.2
7	6.7	148	15	69	68	23	39	11.0	31	21	-------
8	8.3	29	16	98	13.4	24	33	8.3	-------	-------	-------
Monthly mean discharge, in second-feet										147	29.4
Runoff, in inches										5.26	1.02

FLOOD DISCHARGES AT MISCELLANEOUS POINTS, MAY 1943

No.*	Stream and Place of Determination	County (Illinois)	Drainage Area (Square Miles)	Date and Hour	Momentary Peak discharge		Method of determination
					Second-feet	Second-ft. per sq. mi.	
Upper	Mississippi River Basin:						
349.5	Sangamon River at Decatur (Lake)	Macon	791		22,000	27.8	B
353.2	Horse Creek near Cotton Hill	Sangamon	127		26,000	205	A
353.4	Sugar Creek at Lake Springfield	Sangamon	265	May 18 2-4 p.m.	25,000	94.3	B
353.6	Spring Creek near Farmingdale	Sangamon	60.1		8,100	135	C
353.7	Prairie Creek near Salisbury	Sangamon	38.9		3,900	100	C
353.8	Richland Creek near Salisbury	Sangamon	41.5		7,400	178	C
354.7	Lake Fork near Cornland	Logan	207		29,000	140	C
355.3	Mauvaise Terre Creek near Markham	Morgan	121	May 20? 11 a.m.	16,000	132	C
355.7	Seminary Creek near Whitehall	Greene	16.8		7,200	429	C
356.3	Honey Creek near Carlinville	Macoupin	25.4		2,000	78.7	B
356.6	Otter Creek near Palmyra	Macoupin	61.5		15,000	244	C
356.8	Massa Creek near Palmyra	Macoupin	26.9		9,600	357	C
362.3	Centralia Reservoir Creek near Centralia	Marion	7	May 19 or 20	1,500	214	C
362.5	Middle Fork Shoal Creek near Hillsboro (Lake)	Montgomery	90.9	May 12?	1,400	15.4	B
363	Shoal Creek near Breese	Clinton	760		52,000	68.4	C
363.5	Silver Creek near Troy	Madison	154		20,000	130	C
Ohio	River Basin:						
413.4	Bishop Creek near Eberle	Effingham	51.5	May 24 8 a.m.	13,500	262	C
413.6	Muddy Creek at Wheeler	Jasper	8.1	May 24 1 a.m.	3,600	444	C

* Numbered in accordance with U. S. Geological Survey Water Supply Paper No. 847.
A Computed from slope-area survey.
B Computed from flow over spillway.
C Computed from contracted-opening survey.



Scale 1:62 500.

INFLUENCE OF FLOOD OF 1943 ON GROUND WATER SUPPLIES

at Peoria, East St. Louis, and Cairo

By State Water Survey Division

Peoria. Since the latter part of 1940, the State Water Survey has carried on an extensive investigation of ground water levels and ground water recession in the Peoria-Pekin area. This area lies along the Illinois River and extends from Sankoty a few miles north of Peoria southward to a short distance below Pekin. The area contains several hundred wells and is one of the most heavily pumped areas known.

The area may be divided into four general well fields, as shown in illustration facing page 146. The Peoria Water Company wells, the Peoria Heights municipal wells, and several industrial wells are located in the Sankoty field just north of Peoria; several Peoria Water Company wells and some industrial wells are in the North field, this being a small area along the river in the north part of Peoria. The Central field includes the main portion of Peoria and East Peoria, and contains the main group of industrial wells. The Pekin area at the south end includes the municipal wells and industrial wells in Pekin and as far south as the Powerton plant.

All water in these fields is taken from wells in the sand and gravel layers just above the bedrock, these layers varying in thickness up to 60 feet or more. The wells vary from 50 to 120 feet in depth along the river and are from 200 to 350 feet in depth in the higher land in the western part of Peoria.

During the flood, the wells in all these fields showed a definite rise in water level as long as the river stage increased and a lowering in the water level as soon as the crest of the flood had passed. There was, however, considerable variation in the detail of these changes in the various fields.

The most pronounced rise in water level occurred in the Sankoty field, the levels of several wells rising above that of the river. The greater rise in this area may be partly explained by the fact that the Water Company wells located here were not pumped during the flood period because sufficient water could be taken from the main wells at the plant which are in the North field.

In the North field the water levels rose considerably faster than the river. There was a rise in well levels of about three feet for each foot rise in the river, but the well levels always remained below river level.

In the Central field the rise in the well water levels was about the same as the rise in the river. Wells close to the river rose somewhat more than those farther away. The high points of water levels in wells near the river were reached within one or two days after the crest of the flood. Wells located some distance from the river continued to rise for three to four weeks before reaching the peak. The

peak levels in all wells within this field remained below high water elevation in the river. This area is one of very heavy pumpage.

The three fields just described lie above Peoria Lock and Dam. During normal flow the pool level above the dam is maintained at elevation 440. During flood stage the river reached elevation 457+.

The Pekin area lies below the dam and the river is subject to the fluctuations of normal flow. Within this area several of the wells rose above river elevation, although the general rise in level corresponded closely with the rise in river level.

After the crest of the flood had passed, the levels in all the wells near the river dropped rapidly for a time and then more slowly, and were always below the level of the river. However, the beneficial effect of the high well levels during flood stage was evident for a number of months. There was every indication that the water-bearing strata had been abundantly recharged during the flood period. Observations before and after the 1943 flood indicate that any material increase in river stage causes a rise in well water levels.

The location of wells and the elevations during flood stage are shown in illustrations pages 149, 150 and facing page 148.

East St. Louis. In the East St. Louis area, extending along the easterly side of the Mississippi River from Alton to Dupo, ground water is obtained from the alluvial deposits which reach a depth of 110 feet. There is a general depression in the ground water surface in the heavily pumped industrial areas around Wood river and from Granite City through National City to Monsanto. This depression may be as much as 20 feet below river stage. From this low area the ground water levels rise westerly toward the river and easterly toward the bluffs.

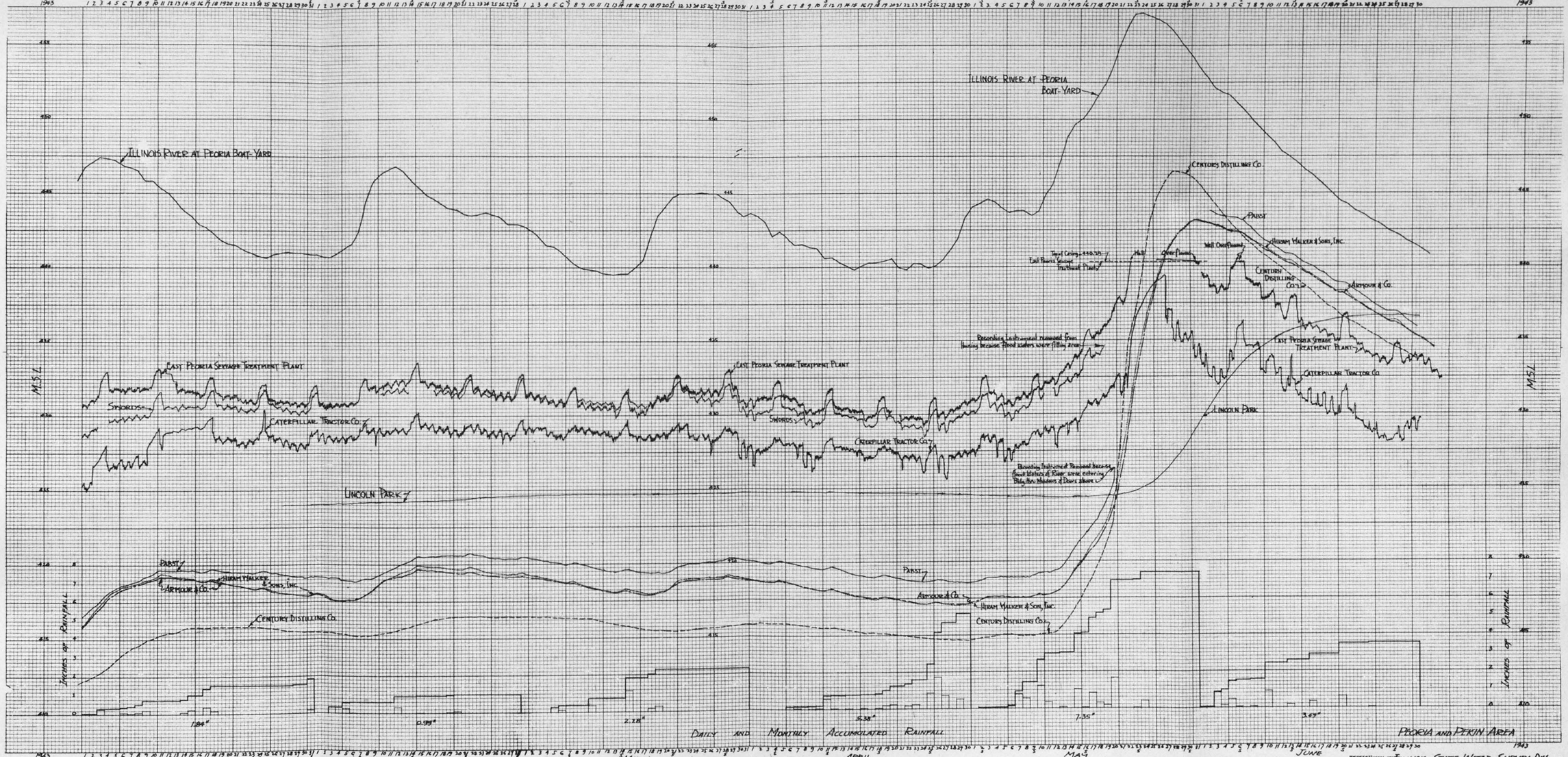
During the flood of 1943 the river reached a height of 418.7 on May 25, a height previously exceeded only by the flood of 1844.

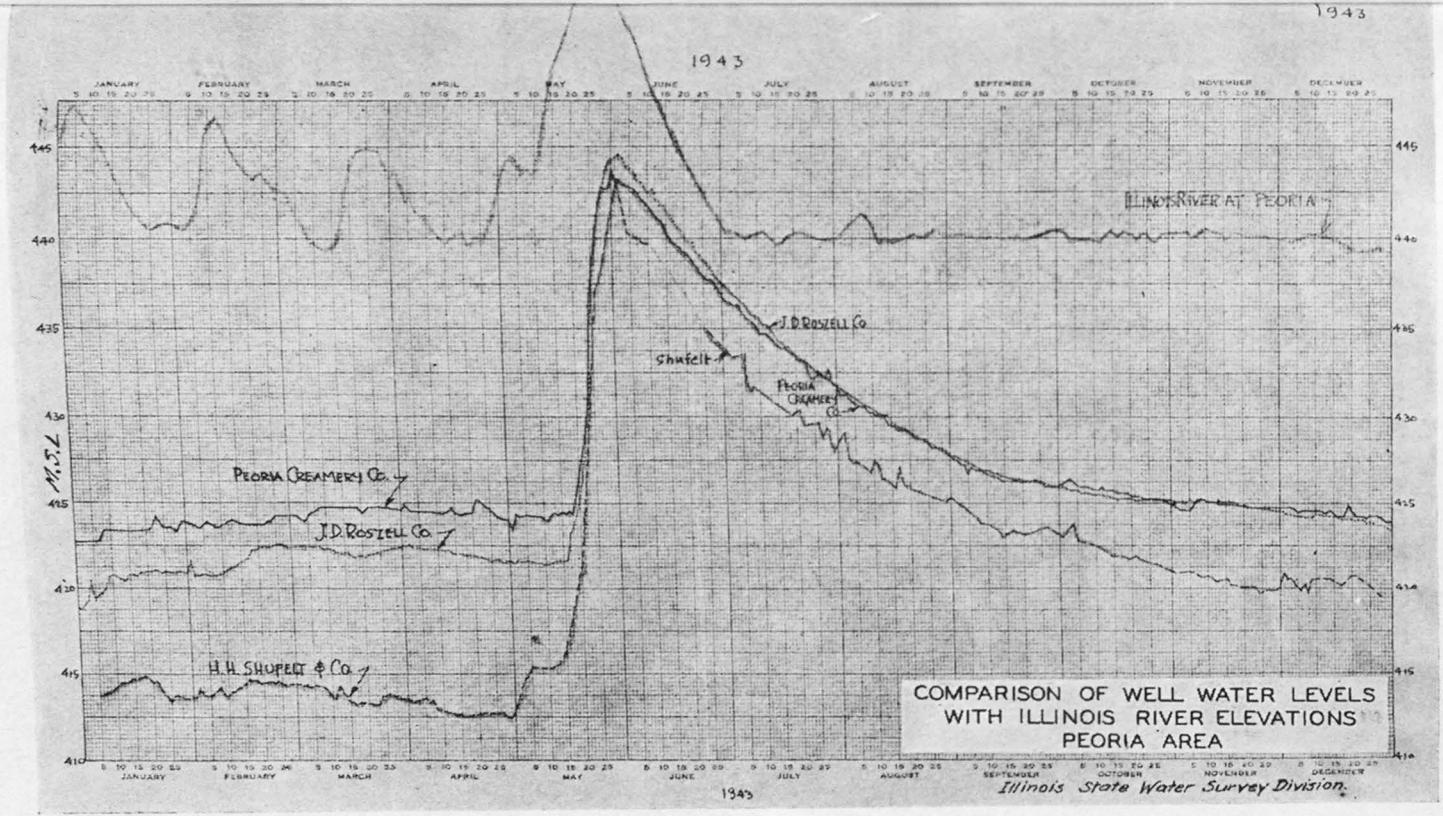
The greatest rise in ground water level occurred in wells along the river west of the center line of the depression area. Unfortunately very few of these wells could be observed during the full period of the flood, as they were under water part of the time. A rapid rise occurred in these wells only after the flood stage was reached. This is shown by the graph of the Mississippi Warehouse well.

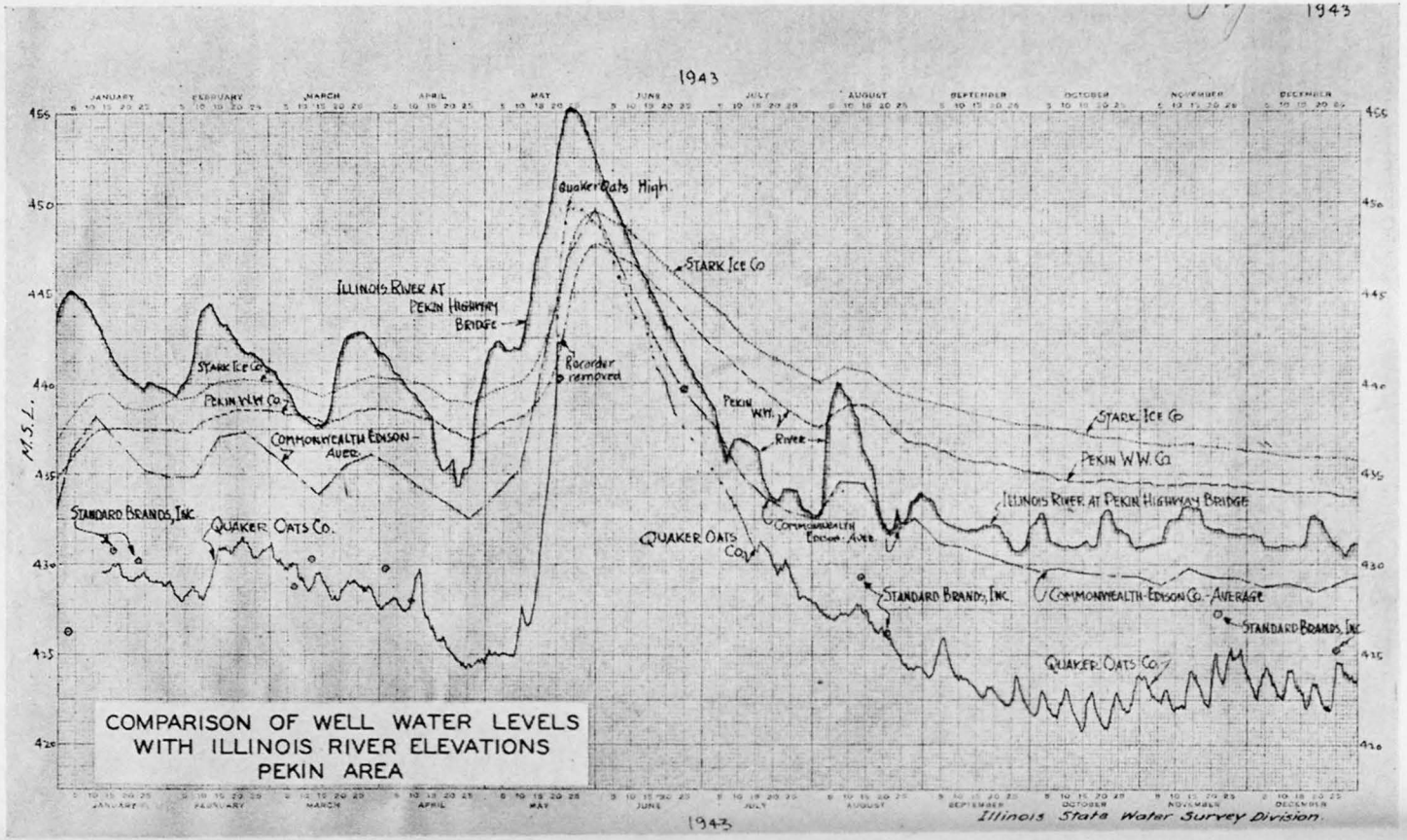
The wells in the main industrial depression area showed rises of from 5 to 10 feet. The Monsanto Chemical Company well graph shows the behavior of this type of well. A few of the industrial wells were lowered during this period because of the increased pumpage caused by the warmer weather.

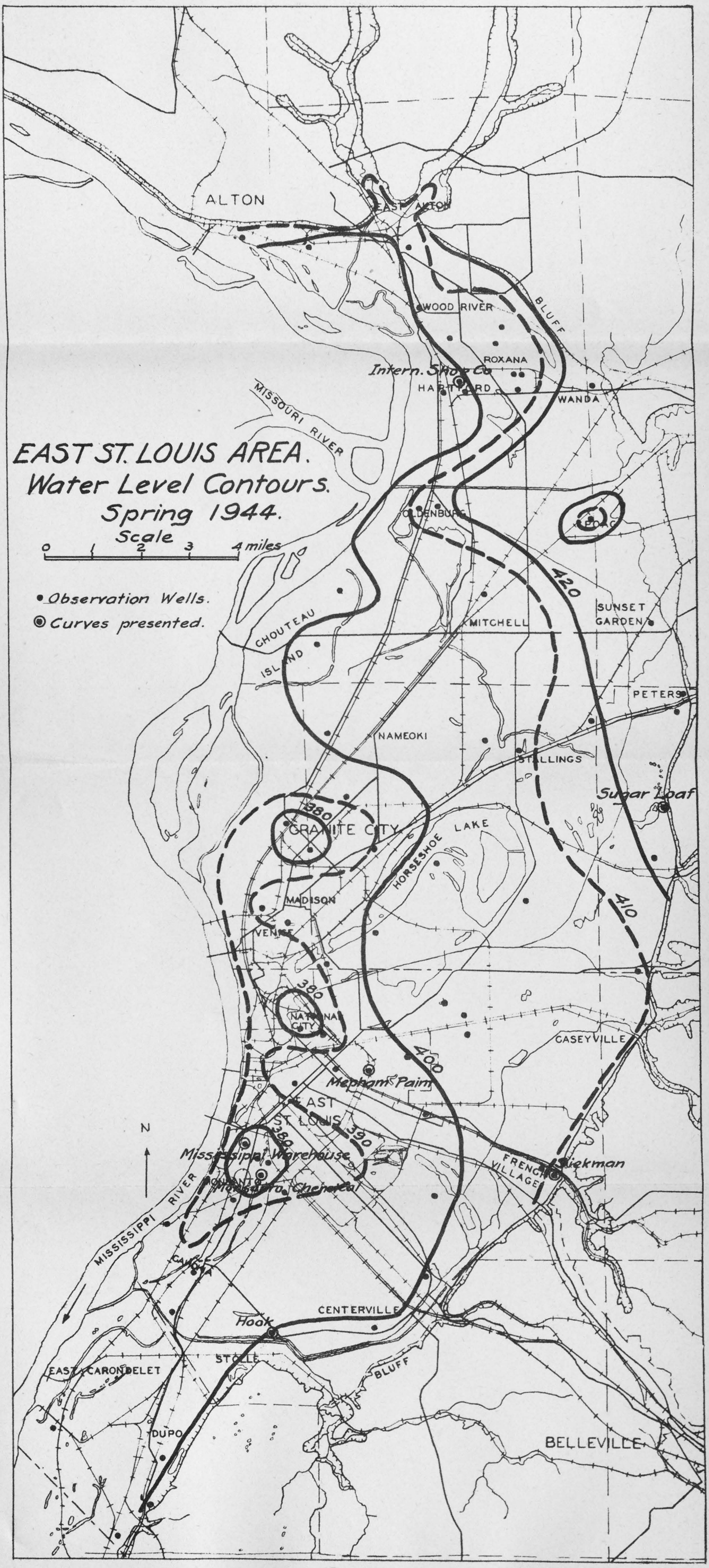
The graphs shown in illustration facing page 150 show typical curves for the different type wells.

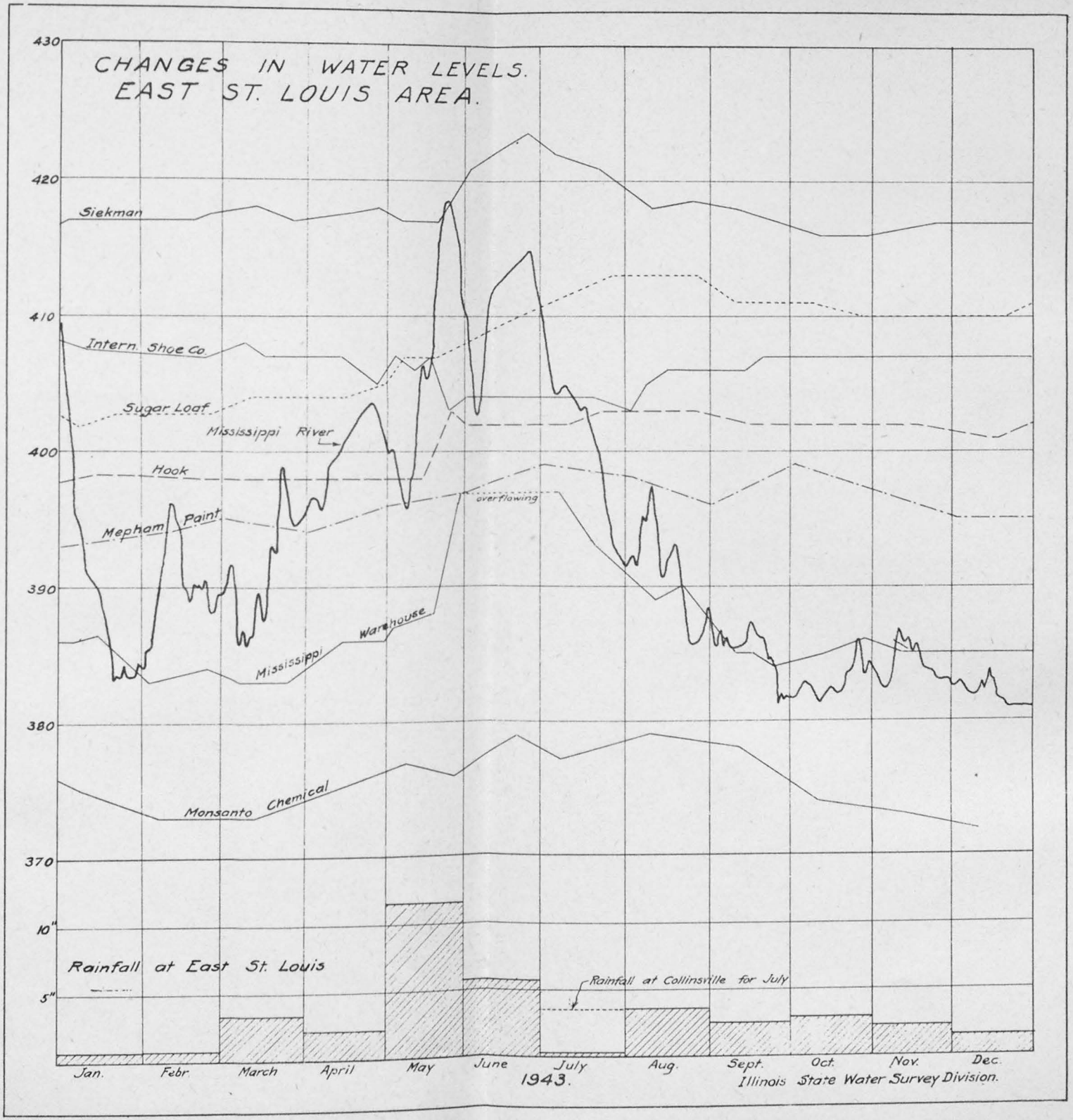
Cairo. In the Cairo area there are two types of wells, shallow wells in the alluvial deposits, and deep wells in rock. The shallow wells are water table wells less than 100 feet deep. The deep wells are about 1000 feet deep and furnish water flowing under artesian pressure. Wells of both types have been under daily observation since the flood of 1937 and the behavior of the wells is fairly uniform.


S = Sunday
1943
JANUARY
FEBRUARY
MARCH
APRIL
MAY
JUNE
ILLINOIS RIVER AT PEORIA BOAT-YARD
ILLINOIS RIVER AT PEORIA BOAT-YARD
CENTURY DISTILLING CO.
PABST
HIRAM WALKER & SONS, INC.
ARMOUR & CO.
CENTURY DISTILLING CO.
EAST PEORIA SEWAGE TREATMENT PLANT
EAST PEORIA SEWAGE TREATMENT PLANT
EAST PEORIA SEWAGE TREATMENT PLANT
SWORDS
SWORDS
CATERPILLAR TRACTOR CO.
CATERPILLAR TRACTOR CO.
CATERPILLAR TRACTOR CO.
LINCOLN PARK
LINCOLN PARK
PABST
ARMOUR & CO.
HIRAM WALKER & SONS, INC.
CENTURY DISTILLING CO.
PABST
ARMOUR & CO.
HIRAM WALKER & SONS, INC.
CENTURY DISTILLING CO.
M.S.L.
INCHES OF RAINFALL
1.84"
0.99"
2.28"
5.38"
7.35"
3.63"
DAILY AND MONTHLY ACCUMULATED RAINFALL
PEORIA AND PERIN AREA
ILLINOIS STATE WATER SURVEY DIV.


1943
JANUARY
FEBRUARY
MARCH
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER
NOVEMBER
DECEMBER
445
440
435
430
425
420
415
410
M.S.L.
ILLINOIS RIVER AT PEORIA
J.D. ROSZELL CO.
Shufelt
PEORIA CREAMERY CO.
PEORIA CREAMERY CO.
J.D. ROSZELL CO.
H.H. SHUFELT & CO.
COMPARISON OF WELL WATER LEVELS
WITH ILLINOIS RIVER ELEVATIONS
PEORIA AREA
Illinois State Water Survey Division.


1943
JANUARY
FEBRUARY
MARCH
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER
NOVEMBER
DECEMBER
455
450
445
440
435
430
425
420
M.S.L.
Quaker Oats High.
STARK ICE CO
ILLINOIS RIVER AT PEKIN HIGHWAY BRIDGE
Recorder removed
STARK ICE CO
PEKIN W.W. CO
COMMONWEALTH EDISON - AVER.
STANDARD BRANDS, INC
QUAKER OATS CO.
PEKIN W.W.
RIVER
QUAKER OATS CO.
COMMONWEALTH EDISON - AVER.
STANDARD BRANDS, INC.
STARK ICE CO
PEKIN W.W. CO
ILLINOIS RIVER AT PEKIN HIGHWAY BRIDGE
COMMONWEALTH EDISON CO. - AVERAGE
STANDARD BRANDS, INC
QUAKER OATS CO.
COMPARISON OF WELL WATER LEVELS
WITH ILLINOIS RIVER ELEVATIONS
PEKIN AREA
Illinois State Water Survey Division


EAST ST. LOUIS AREA.
Water Level Contours.
Spring 1944.
Scale
0 1 2 3 4 miles
• Observation Wells.
◉ Curves presented.
ALTON
EAST ALTON
WOOD RIVER
BLUFF
ROXANA
Intern. Shoe Co
HARTFORD
WANDA
MISSOURI RIVER
OLDENBURG
POAG
420
SUNSET GARDEN
MITCHELL
CHOUTEAU ISLAND
PETERS
NAMEOKI
STILLINGS
Sugar Loaf
380
GRANITE CITY
HORSESHOE LAKE
MADISON
VENICE
410
380
NATIONAL CITY
CASEYVILLE
400
Mepham Paint
EAST ST. LOUIS
390
380
N
Mississippi Warehouse
FRENCH VILLAGE
Dickman
MONSANTO Chemical
MISSISSIPPI RIVER
CAHOKIA
CENTERVILLE
Hook
STOLLE
EAST CARONDELET
BLUFF
DUPO
BELLEVILLE

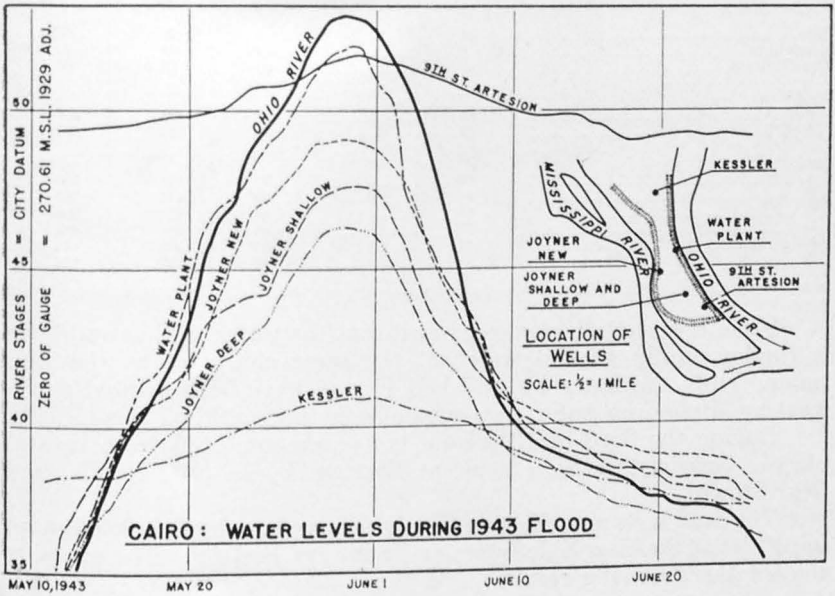

CHANGES IN WATER LEVELS.
EAST ST. LOUIS AREA.
430
420
410
400
390
380
370
Siekman
Intern. Shoe Co.
Sugar Loaf
Mississippi River
Hook
Mepham Paint
overflowing
Mississippi Warehouse
Monsanto Chemical
10"
5"
Rainfall at East St. Louis
Rainfall at Collinsville for July
Jan.
Febr.
March
April
May
June
July
Aug.
Sept.
Oct.
Nov.
Dec.
1943.
Illinois State Water Survey Division.

At low water periods the water levels in the shallow wells are above river level. When the river begins to rise the wells also rise but at a somewhat slower rate than the river. When the river is near flood stage (gage height 40) the well levels rise at a slower rate than the river, and ground water elevations remain below the river. The nearer the location of the well to the river the higher will be its water level.

Thereafter the ground water level recedes at a somewhat slower rate than the river, and by the time the river reaches gage height 40 the wells are nearly the same elevation as the river. The ground water levels reach their peaks within 24 hours after the river reaches its crest.

The water levels in the shallow wells recede as soon as the river drops, although at that time the ground water levels are below river stage and the ground water can therefore not run into the river. It is not clear what happens to the water represented in this loss of storage.

The deep artesian wells also show a rise during floods but of much smaller extent, usually less than ten feet. During the 1943 flood the river water was, for the first time since observations were started, higher than the water levels in the artesian wells. This may have been due to the quick rise and fall of this flood.



SAND BOILS—CAUSES AND REMEDIES

By State Water Survey Division

Sand Boils. Sand boils are springlike flows of water to the surface of the ground, usually carrying fine sand. They often appear near the foot of levees on the land side and occur when the water in the river is much higher than the ground inside the levee. They give the appearance of being seepage flow from the river under the levee. As such a flow could endanger the stability of the levee, it is important to know the true character of sand boils in order to take proper steps to avoid breaks in the levee.

The flow of sand boils can be stopped by building a well or reservoir with sand bags around the site. Experience has shown that the sand bags do not have to be built to the river level but that a water level within the sand bags considerably lower than that in the river will stop the flow. This indicates that there is no direct connection between the sand boil and the river, as in that case the static water level in the sand boil and in the river would be at the same elevation.

During the 1937 flood the Illinois State Water Survey made several tests in Cairo to determine the origin of the water in sand boils. In these tests certain properties of the water from sandboils were determined and compared with the same properties of the river water and of well water from wells near the sand boil. All samples for one set of tests were taken the same day. The results are given in Table I.

TABLE I

RESULTS OF FIELD TEST AT CAIRO, ILL. (1937)

River Waters	Temp. °C	Diss. Oxygen-ppm.	Chlorides ppm.	Alkalinity ppm.	Hardness ppm.
Ohio	4	11.0	5	29	65.5
Mississippi	4	----------	4	54	70
Fire Hydrant	7	----------	6	22.5	65.5
Well Water					
Well A	16	----------	10	491	568
Well B	17	1.1	31	560	572
Sand Boils					
A	17	----------	50	460	530
B	18	0	40	475	605
C	18	----------	40	425	280
D	17	----------	58	401	481
E	17	0	53	399	471
F	14	----------	12	212	246

From these tests it was concluded that the water in the sand boils is fundamentally ground water of the same character as the well water. Only the water in sand boil F may have been diluted somewhat by Mississippi water, near whose levee this sand boil was located.

During the flood of 1943 sand boils were reported from several places. Special tests were made at East St. Louis, East Peoria, and Beardstown.

The sand boils near East St. Louis occurred at the Cahokia Pumping Plant of the East Side Levee and Sanitary District. The analyses showed the following results:

TABLE II

SAND BOILS AT CAHOKIA

	Chlorides ppm.	Alkalinity ppm.	Hardness ppm.	Residue ppm.
River water	5	90	194	237
Well water	5	374	344	373
Sand boil A	24	328	725	799
Sand boil B	46	364	400	687

Again in this case the sand boils at Cahokia were shown to be ground water rather than river water. The water from the sand boils at Cahokia was even more highly mineralized than the water from the nearby well which was located on the slope of the levee, closer to the river than the sand boils.

In East Peoria similar conditions were found.

The results of the analyses show:

TABLE III

SAND BOILS AT EAST PEORIA

	Temp. °C	Chlorides ppm.	Alkalinity ppm.	Hardness ppm.	Residue ppm.
Illinois River	22	8	142	209	251
Farm Creek	22	7	262	344	373
Well	13.6	25	270	277	359
Sand Boil A	17	10	250	362	393
Sand Boil B	17.6	10	278	355	389
Sand Boil C	17.6	13	266	299	356

Although in this instance the differences in composition are not so great as in the previous data, it is clear that the sand boil water is not Illinois River water, but is more like the water in Farm Creek, which is fed mainly by springs. Only Sand Boil C was located near this creek. The other sand boils were along the Illinois River levee and the water in these is also similar to the well water. The well was located near the Illinois River, about one mile from Farm Creek.

Different conditions were found at Beardstown. Here the sand boils had high pressure and had to be sandbagged to nearly river height. The analyses show:

TABLE IV

SAND BOILS AT BEARDSTOWN

	Temp. °C	Chlorides ppm.	Alkalinity ppm.	Hardness ppm.	Residue ppm.
Illinois River	21	7	128	191	224
Well	15.2	25	304	344	408
Sand Boil A	----------	7	134	191	225
Sand Boil B	21	7	130	187	224
Sand Boil C	20	6	152	187	220

Here it is clear that the sand boil water was Illinois River water and not well water. It must be considered, however, that the sand boils in Beardstown occurred near the locations of former sewer outlets which were plugged when the sanitary sewer system was changed to flow to a central pumping plant. It is therefore possible that the sand boils in reality flowed from leakage in the sewer plugs and not from pressure in the ground water.

The conclusions reached from these investigations are that sand boils are ground water flow except in a few cases where some special connection exists to the river. The ground water generally flows toward the river and discharges into it, as can often be recognized by seepage along the river banks at low water stages. During floods these outlets are blocked, dammed up by the river water itself. The ground water coming from the neighboring hills builds up a head which causes sand boils at places where the soil cover is weak. The river bed is silted in such a way that the silt acts as a check valve which allows ground water to flow out into the river but hinders river water from flowing into the ground.

It is important that this condition be recognized. If the sand boils are not river water seeping under the levee, then the danger of a collapse of the levee is lessened, but not completely averted. The loss of the sand carried to the surface may still weaken the foundation of the levee. But it is certain that any sheet piling in the levee or at its foot will not prevent the formation of sand boils. Such sheet piling or any other weakening of the surface layer may increase the formation of sand boils and thereby endanger the levee. Therefore sand boils must be eliminated by sandbagging until the flow is stopped, by filling in sand boil areas and low spots, or by pumping large amounts of ground water to reduce the formation of a dangerous head in the ground water.

It is not always necessary to make a chemical analysis to determine the type of water found in a sand boil; frequently the measurement of temperature will be sufficient.

APPENDIX

Other Recent Outstanding Floods in Illinois

Because of the shortness of the period of systematic stream-gaging in Illinois, there is an extremely small store of information concerning the behavior in times of flood of Illinois streams. Particularly for the smaller streams, this condition has been so acute that practicing engineers have found it necessary to go far afield to obtain data for use in design of small hydraulic structures. This makes it desirable that such pertinent information as has been collected to date should be brought together in one volume, to the end that it will not escape the attention of those who need it so greatly.

Within a period of less than 15 months there occurred in Illinois at least three storms which, although confined to small areas, were noteworthy with respect to the quantity and intensity of precipitation. In each instance, two or more water-stage recorders were in operation in the immediate areas.

On the night of July 8-9, 1942, there was heavy precipitation in the vicinity of East St. Louis, apparently centered in the vicinity of Caseyville, and producing high discharges at the gaging stations on Canteen Creek at Caseyville, Long Lake at Stallings, and Indian Creek at Wanda.

On the morning of March 19, 1943, there was heavy precipitation in extreme southern Illinois, particularly on the headwaters of the Cache River, resulting in high discharges on the Cache River at Forman, and especially high discharge on Big Creek near Wetaug.

On Aug. 3-4, 1943, heavy precipitation occurred in the vicinity of Bloomington, and is said to have totaled more than 11 inches at Forrest. Major rises occurred at the gaging stations on North Fork Vermilion River near Charlotte, the Vermilion River at Pontiac, Farm Creek at East Peoria, Money Creek above and at Lake Bloomington, Hickory Creek above Lake Bloomington and Salt Creek near Rowell.

Information concerning the precipitation on these occasions will be found in the "Climatological Data" and "Hydrologic Bulletins" of the U. S. Weather Bureau. The gaging station records at each of the stations enumerated above, as well as the results of three special discharge determinations, will be found in the pages which follow.

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF N. FORK VERMILION RIVER NEAR CHARLOTTE, ILL.

Hour	August 2		August 3		August 4		August 5		August 6		August 7	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
2	-------	-------	[1]2.20	17	11.72	[2]2,030	-------	-------	-------	-------	-------	-------
4	-------	-------	2.69	[2]38	12.64	[2]2,090	-------	-------	-------	-------	-------	-------
6	[1]1.45	4.5	3.79	[2]106	13.08	[2]1,750	13.60	1,800	13.01	1,440	-------	-------
8	-------	-------	6.03	[2]256	13.36	1,650	-------	-------	-------	-------	-------	-------
10	-------	-------	7.56	[2]331	13.57	1,780	-------	-------	-------	-------	-------	-------
Noon	[1]1.45	4.5	8.49	[2]375	13.69	1,850	13.48	1,720	12.86	[2]1,290	12.06	[2]827
2	-------	-------	9.12	[2]419	13.76	1,890	-------	-------	-------	-------	-------	-------
4	-------	-------	9.45	[2]439	13.78	1,900	-------	-------	-------	-------	-------	-------
6	[1]1.45	4.5	9.57	[2]433	13.78	1,900	13.34	1,640	12.67	[2]1,180	-------	-------
8	-------	-------	9.59	418	13.76	1,890	-------	-------	-------	-------	-------	-------
10	-------	-------	9.58	417	13.73	1,870	-------	-------	-------	-------	-------	-------
12	[1]1.80	9.1	10.55	[2]1,480	13.71	1,860	13.18	1,540	12.47	[2]1,050	11.56	[2]663

[1] Computed from wire-weight gage reading. [2] Computed using rate of change of stage as a factor.

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF VERMILION RIVER AT PONTIAC, ILL.

Hour	August 3		August 4		August 5		August 6		August 7		August 8	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
6	3.90	592	9.18	3,250	15.62	7,950	14.67	7,190	11.84	5,030	9.60	3,500
Noon	5.28	1,170	11.90	5,070	15.89	8,160	14.01	6,660	11.28	4,640	9.19	3,250
6	5.81	1,490	13.50	6,250	15.70	8,010	13.25	6,050	10.66	4,200	8.78	3,010
12	7.07	2,220	14.70	7,210	15.22	7,630	12.48	5,480	10.09	3,800	8.42	2,830

Aug. 5, 11 a.m., g. ht. 15.90, discharge 8,170.

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF FARM CREEK AT EAST PEORIA, ILL.

Hour	August 2		August 3		August 4		August 5		August 6		August 7	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
2	-------	-------	2.12	192	5.72	4,840	-------	-------	-------	-------	-------	-------
4	-------	-------	2.64	523	3.43	1,590	-------	-------	-------	-------	-------	-------
6	1.62	4	3.08	844	2.48	691	-------	-------	-------	-------	-------	-------
8	-------	-------	5.30	4,030	2.22	509	-------	-------	-------	-------	-------	-------
10	-------	-------	8.05	10,100	2.11	434	-------	-------	-------	-------	-------	-------
Noon	1.62	4	5.80	5,000	2.02	376	1.84	262	1.68	170	1.53	92
2	-------	-------	3.63	1,770	2.00	362	-------	-------	-------	-------	-------	-------
4	-------	-------	2.71	988	1.98	350	-------	-------	-------	-------	-------	-------
6	1.65	6	2.40	740	1.94	324	-------	-------	-------	-------	-------	-------
8	-------	-------	2.29	663	1.93	318	-------	-------	-------	-------	-------	-------
10	-------	-------	3.42	1,580	1.92	311	-------	-------	-------	-------	-------	-------
12	2.04	148	6.88	7,320	1.91	305	1.72	192	1.60	127	1.48	70

Aug. 4, 12:30 a.m., 7.00 ft., 7,600 sec.-ft.

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF MONEY CREEK ABOVE LAKE BLOOMINGTON, ILL.

Hour	August 2		August 3		August 4		August 5		August 6		August 7	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
2	-------	-------	1.48	4.6	7.33	1,720	3.55	268	-------	-------	-------	-------
4	-------	-------	1.55	6.0	7.20	1,560	3.32	231	-------	-------	-------	-------
6	1.24	1.7	3.36	238	7.07	1,420	3.19	209	2.69	121	-------	-------
8	-------	-------	5.75	675	6.92	1,280	3.11	196	-------	-------	-------	-------
10	-------	-------	6.98	1,330	6.74	1,140	3.03	182	-------	-------	-------	-------
Noon	1.24	1.7	6.70	1,110	6.53	1,010	2.98	173	2.63	111	2.43	80
2	-------	-------	6.64	1,070	6.32	900	2.93	164	-------	-------	-------	-------
4	-------	-------	7.10	1,450	6.11	814	2.89	157	-------	-------	-------	-------
6	1.22	1.6	7.46	1,880	5.88	722	2.86	152	2.57	101	-------	-------
8	-------	-------	7.39	1,790	5.50	600	2.82	145	-------	-------	-------	-------
10	-------	-------	7.40	1,800	4.83	452	2.79	139	-------	-------	-------	-------
12	1.36	2.8	7.41	1,810	4.03	334	2.76	134	2.52	93	2.36	69

Aug. 2, 11 p.m., 1.20 ft., 1.5 sec.-ft.

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF MONEY CREEK AT LAKE BLOOMINGTON, ILL.

Hour	August 2		August 3		August 4		August 5		August 6		August 7	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
2	0.11	0.17	0.33	1.14	7.17	1,910	4.01	498	-------	-------	-------	-------
4	.11	.17	.25	.65	7.12	1,870	3.72	411	2.72	146	2.35	96
6	.12	.19	1.97	62	6.99	1,760	3.53	354	-------	-------	-------	-------
8	.12	.19	4.06	516	6.82	1,630	3.39	312	2.64	133	2.30	91
10	.12	.19	7.17	1,910	6.65	1,520	3.24	267	-------	-------	-------	-------
Noon	.12	.19	7.61	2,560	6.47	1,410	3.17	247	2.59	126	2.23	84
2	.12	.19	7.50	2,340	6.27	1,300	3.09	224	-------	-------	-------	-------
4	.12	.19	7.16	1,900	5.99	1,180	3.02	207	2.53	118	2.18	79
6	.12	.19	6.95	1,730	5.67	1,050	2.95	191	-------	-------	-------	-------
8	.12	.19	7.06	1,820	5.34	932	2.90	180	2.44	107	2.13	.75
10	.12	.19	7.14	1,890	4.93	809	2.85	170	-------	-------	-------	-------
12	1.10	14.9	7.17	1,910	4.43	646	2.81	162	2.38	100	2.09	71

Aug. 2, 11:15 p.m., 0.12 ft., 0.19 sec.-ft.; Aug. 2, 11:45 p.m., 1.31 ft., 22 sec.-ft.; Aug. 3, 5 a.m., 2.62 ft., 130 sec.-ft.; Aug. 3, 12:30 p.m., 7.63 ft., 2,600 sec.-ft.; Aug. 4, 1 a.m., 7.18 ft., 1,920 sec.-ft.

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF HICKORY CREEK ABOVE LAKE BLOOMINGTON, ILL.

Hour	August 2		August 3		August 4		August 5		August 6		August 7	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
2	0.18	0.05	0.50	1.26	2.44	92	-------	-------	-------	-------	-------	-------
4	.17	.04	.43	.83	2.33	81	-------	-------	-------	-------	1.17	12.5
6	.17	.04	2.78	133	2.21	69	-------	-------	1.30	16.6	-------	-------
8	.17	.04	5.75	910	2.11	61	-------	-------	-------	-------	1.16	12.2
10	.18	.05	6.88	1,360	2.01	54	-------	-------	-------	-------	-------	-------
Noon	.18	.05	6.76	1,310	1.93	48	1.46	22	1.26	15.3	1.12	11.1
2	.19	.06	5.61	858	1.86	44	-------	-------	-------	-------	-------	-------
4	.19	.06	4.11	382	1.79	39	-------	-------	-------	-------	1.12	11.1
6	.19	.06	3.22	199	1.73	36	-------	-------	1.21	13.7	-------	-------
8	.18	.05	2.88	147	1.69	34	-------	-------	-------	-------	1.10	10.5
10	.17	.04	2.72	126	1.65	32	-------	-------	-------	-------	-------	-------
12	.45	.94	2.59	110	1.62	30	1.34	18.0	1.18	12.8	1.08	10.0

Aug. 2, 11 p.m., 0.17 ft., 0.04 sec.-ft.; Aug. 3, 12:30 a.m., 0.62 ft., 2.2 sec.-ft.; Aug. 3, 5 a.m., 3.12 ft., 183 sec.-ft.; Aug. 3, 9 a.m., 7.12 ft., 1,460 sec.-ft.

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF SALT CREEK NEAR ROWELL, ILL.

Hour	August 3		August 4		August 5		August 6		August 7		August 8	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
2	7.86	28	15.11	1,050	20.25	4,460						
4	7.86	28	15.32	1,090	20.21	4,400	17.96	2,110	16.05	1,220	11.30	411
6	7.97	34	15.59	1,140	20.11	4,260						
8	8.10	42	15.85	1,180	19.97	4,080	17.60	1,890	15.60	1,140	11.01	368
10	8.12	43	16.12	1,230	19.80	3,860						
Noon	10.80	338	16.60	1,380	19.62	3,630	17.29	1,710	14.75	985	10.81	339
2	12.78	648	17.32	1,720	19.43	3,410						
4	13.61	789	18.18	2,270	19.23	3,180	17.00	1,560	13.39	751	10.66	318
6	14.00	855	18.93	2,870	19.02	2,960						
8	14.34	913	19.58	3,590	18.80	2,750	16.71	1,420	12.48	597	10.51	297
10	14.65	967	19.99	4,110	18.58	2,560						
12	14.90	1,010	20.20	4,390	18.37	2,400	16.42	1,320	11.77	483	10.40	282

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1942, OF INDIAN CREEK AT WANDA, ILL.

Hour	July 8		July 9		July 10		July 11		July 12		July 14	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
1	2.43	2.5										
2	2.44	2.6	9.40	600	11.27	1,000	4.95	176			2.91	15.6
3	2.44	2.6										
4	2.44	2.6	11.08	955	10.33	776	3.96	92			3.31	39
5	2.48	3.2										
6	2.66	6.9	15.00	2,750	9.87	684	3.75	72	3.16	29	4.78	165
7	3.05	22										
8	3.05	22	15.74	3,270	10.16	742	3.67	66			6.78	316
9	3.55	56										
10	3.94	89	15.57	3,150	10.65	848	3.58	58			7.21	351
11	4.16	116										
Noon	4.21	122	15.04	2,780	11.00	935	3.51	53	3.20	31	6.44	289
1	4.24	125										
2	4.24	125	14.45	2,400	11.26	1,000	3.45	48			5.00	180
3	4.17	117										
4	4.07	104	13.85	2,040	11.43	1,050	3.40	45			3.98	94
5	3.98	94										
6	3.88	83	13.34	1,790	11.49	1,070	3.36	42	3.12	26	3.62	62
7	3.75	72										
8	3.60	60	12.70	1,500	11.36	1,030	3.32	39			3.44	48
9	3.47	50										
10	3.34	41	12.14	1,280	10.69	858	3.28	37			3.32	39
11	3.53	54										
12	5.00	180	11.49	1,070	7.98	416	3.25	34	3.05	22	3.23	33

July 8, 7:10 a.m., 3.07 ft., 24 sec.-ft.; July 8, 10:10 p.m., 3.33 ft., 40 sec.-ft.; July 10, 12:45 a.m., 11.60 ft., 1,100 sec.-ft.; July 12, 10 a.m., 3.15 ft., 28 sec.-ft.; July 14, 9:45 a.m., 7.23 ft., 352 sec.-ft.

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1942, OF CANTEEN CREEK AT CASEYVILLE, ILL.

Hour	July 8		July 9		July 10		July 11		July 12		July 14	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
1	1.25	5.2							2.03	37		
2	1.25	5.2	16.38	3,930	9.97	1,050	2.59	82	2.02	36	2.03	37
3	1.25	5.2							2.01	36		
4	1.25	5.2	17.76	4,620	11.23	1,400	2.48	72	2.00	35	2.44	69
5	1.25	5.2							2.00	35		
6	1.34	7.4	17.26	4,370	9.35	922	2.39	64	1.99	34	4.86	320
7	1.33	7.1							1.99	34		
8	1.57	14.4	15.58	3,530	6.20	436	2.32	59	3.26	183	5.69	388
9	1.63	16.6							5.39	362		
10	1.59	15.1	13.60	2,540	5.21	348	2.25	53	7.98	668	4.00	251
11	1.58	14.7							8.83	821		
Noon	1.57	14.4	8.90	834	4.58	297	2.21	50	9.70	995	3.24	180
1	1.57	14.4							9.38	928		
2	1.60	15.4	6.00	416	4.05	255	2.19	48	7.80	638	2.76	99
3	1.60	15.4							6.36	452		
4	1.57	14.4	5.19	346	3.66	227	2.16	46	5.04	334	2.46	70
5	1.53	13.0							4.00	251		
6	1.49	11.7	4.56	296	3.37	201	2.13	44	3.37	201	2.34	60
7	1.47	11.1							3.10	150		
8	1.43	9.9	3.99	250	3.10	150	2.09	41	2.87	111	2.27	55
9	1.40	9.0							2.70	93		
10	1.39	8.7	3.50	215	2.90	115	2.07	40	2.60	83	2.21	50
11	1.53	13.0							2.57	80		
12	3.20	172	3.95	248	2.72	95	2.05	38	2.52	76	2.17	47

July 9, 4:30 a.m., 17.80 ft., 4,640 sec.-ft.; July 9, 11:40 p.m., 3.20 ft., 172 sec.-ft.; July 10, 3:40 a.m., 11.30 ft., 1,430 sec.-ft.; July 12, 7:40 a.m., 1.99 ft., 34 sec.-ft.; July 14, 7:20 a.m., 5.96 ft., 412 sec.-ft.

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1942, OF LONG LAKE AT STALLINGS, ILL.

Hour	July 9		July 10		July 11		July 12		July 13		July 14	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
1	1.98	6.9										
2	2.69	16.0									5.09	[1]17.5
3	3.65	28										
4	4.80	44									5.51	[1]18.1
5	5.25	50										
6	5.44	53	6.17	[1]29	5.91	[1]30	5.58	[1]31	5.31	[1]32	5.62	[1]18.6
7	5.58	55										
8	5.64	56									5.63	[1]18.4
9	5.66	56										
10	5.66	56									5.61	[1]18.4
11	5.67	[1]56										
Noon	5.68	[1]55	6.15	[1]29	5.84	[1]30	5.53	[1]31	5.24	[1]32	5.58	[1]18.4
1	5.68	[1]53										
2	5.68	[1]51									5.53	[1]18.2
3	5.69	[1]49										
4	5.69	[1]47									5.48	[1]18.1
5	5.69	[1]43										
6	5.69	[1]41	6.09	[1]29	5.75	[1]30	5.46	[1]31	5.18	[1]32	5.45	[1]18.2
7	5.70	[1]40										
8	5.70	[1]38									5.42	[1]18.1
9	5.71	[1]36										
10	5.72	[1]35									5.39	[1]18.1
11	5.75	[1]33										
12	5.95	[1]33	6.01	[1]29	5.66	[1]30	5.39	[1]31	5.12	[1]29	5.37	[1]17.8

[1] Backwater from obstruction on control; discharge computed on the basis of five discharge measurements.

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF CACHE RIVER AT FORMAN, ILL.

Hour	March 16		March 17		March 18		March 19		March 20		March 21	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
2	3.14	247	6.21	737	4.26	423	4.92	528	14.79	5,740	------	------
4	3.12	244	6.04	708	4.16	407	7.96	1,060	15.40	6,630	15.99	7,520
6	3.12	244	5.82	672	4.05	389	9.74	1,490	15.71	7,100	------	------
8	3.11	242	5.60	637	3.95	373	10.13	1,610	15.93	7,420	15.79	7,220
10	3.24	262	5.46	615	3.85	357	10.38	1,680	16.03	7,580	------	------
Noon	3.92	368	5.23	578	3.76	343	10.69	1,780	16.10	7,680	15.57	6,880
2	4.79	507	5.00	541	3.66	327	11.13	1,910	16.17	7,790	------	------
4	5.49	619	4.84	515	3.59	315	11.70	2,180	16.23	7,890	15.34	6,540
6	5.96	695	4.70	493	3.54	307	12.33	2,660	16.25	7,920	------	------
8	6.22	738	4.59	475	3.52	304	12.84	3,190	16.23	7,890	15.09	6,160
10	6.31	754	4.47	456	3.69	331	13.38	3,840	16.19	7,820	------	------
12	6.30	752	4.38	442	3.95	373	14.13	4,820	16.14	7,740	15.85	5,820

Mar. 16, 11 p.m., 6.32 ft., 755 sec.-ft.

GAGE HEIGHT, IN FEET, AND DISCHARGE, IN SECOND-FEET, AT INDICATED TIME, 1943, OF BIG CREEK NEAR WETAUG, ILL.

Hour	March 16		March 17		March 18		March 19		March 20		March 21	
	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge	Gage Height	Discharge
1	------	------	------	------	------	------	3.05	244	6.10	872	------	------
2	1.41	16.5	------	------	1.46	20	4.20	470	5.60	762	------	------
3	------	------	------	------	------	------	6.40	938	5.10	656	------	------
4	1.41	16.5	1.62	33	1.45	19.4	7.70	1,220	4.70	572	2.25	108
5	------	------	------	------	------	------	9.20	1,560	4.00	430	------	------
6	1.41	16.5	------	------	1.44	18.7	11.90	2,180	3.60	350	------	------
7	------	------	------	------	------	------	14.40	3,170	3.42	311	------	------
8	1.42	17.2	1.57	29	1.44	18.7	14.80	3,770	3.31	292	2.18	97
9	------	------	------	------	------	------	15.90	6,830	3.19	273	------	------
10	1.51	24	------	------	1.43	18.0	15.60	7,200	3.06	244	------	------
11	------	------	------	------	------	------	15.20	6,780	2.96	227	------	------
Noon	1.73	43	1.52	25	1.43	18.0	14.80	6,070	2.87	211	2.13	90
1	------	------	------	------	------	------	14.50	5,450	2.79	196	------	------
2	1.77	47	------	------	1.42	17.2	14.20	4,850	2.73	185	------	------
3	------	------	------	------	------	------	14.00	4,440	2.68	177	------	------
4	1.88	59	1.50	23	1.43	18.0	13.70	3,980	2.62	166	2.07	82
5	------	------	------	------	------	------	13.30	3,540	2.57	158	------	------
6	1.89	60	------	------	1.45	19.4	12.80	3,200	2.53	151	------	------
7	------	------	------	------	------	------	11.70	2,740	2.49	144	------	------
8	1.85	56	1.48	22	1.52	25	10.50	2,360	2.46	140	2.03	77
9	------	------	------	------	------	------	9.50	2,020	2.43	135	------	------
10	1.78	48	------	------	1.66	36	8.50	1,700	2.38	127	------	------
11	------	------	------	------	------	------	7.60	1,400	2.35	122	------	------
12	1.72	42	1.47	21	2.10	86	6.80	1,130	2.32	118	1.99	72

FLOOD DISCHARGES AT MISCELLANEOUS POINTS, AUGUST 1943.

No.*	Stream and Place of Determination	County (Illinois)	Drainage Area (Square Miles)	Date and Hour	Momentary Peak discharge		Method of determination
					Second-feet	Second-ft. per sq. mi.	
Upper	Mississippi River Basin:						
342.5	South Fork Vermilion River at Forrest	Livingston	60.9	Aug. 4 3 a.m.	10,000	164	C
354.8	Sugar Creek at Bloomington	McLean	7.5	Aug. 3 7-8 a.m.	2,800	373	C
354.9	Sugar Creek at Normal	McLean	14.5	Aug. 3 10 a.m.	4,100	283	C

* Numbered in accordance with U. S. Geological Survey Water Supply Paper No. 847.
C Computed from contracted-opening survey.

INDEX

Page
Acknowledgments for aid 7-8
Administration and personnel 8
Alton, Ill., daily stages at 19, 23
Mississippi River at 52-53
Bath, Ill., daily stages at 28, 32
Bay Creek at Nebo, Ill. 56-57
Beardstown, Ill., daily stages at 28, 32
sand boils at 153
Beechridge, Ill., daily stages at 21, 25
Big Creek near Wetaug, Ill. 145-146, 160
Big Muddy River at Murphysboro, Ill. 114-115
at Plumfield, Ill. 114
Big Muddy River Basin, discharge records in 114-115
Birds Point, Mo., daily stages at 21, 25
Bishop Creek near Eberle, Ill. 146
Bishop Landing, Mo., daily stages at 20, 24
Bissell Point, Mo., daily stages at 19, 23
Bloomington, Ill., Sugar Creek at 161
See also Lake Bloomington.
Bonpas Creek at Browns, Ill. 137-138
Breese, Ill., Shoal Creek near 146
Brickeys, Mo., daily stages at 19, 23
Browning, Ill., daily stages at 28, 32
Browns, Ill., Bonpas Creek at 137-138
Bureau Creek at Bureau, Ill. 78-79
Bureau, Ill., Bureau Creek at 78-79
Cache River at Forman, Ill. 145, 160
Cache River Basin, discharge records in 145-146
Cahokia Creek Basin, discharge records in 100-105
Cahokia, Ill., sand boils at 153
Cairo, Ill., sand boils at 152
well water levels, diagram of 151
Canteen Creek at Caseyville, Ill. 102-103, 159
Cap Au Gris, Mo., daily stages at 18, 22
Cape Girardeau, Mo., daily stages at 20, 24
Carlinville, Ill., Honey Creek near 146
Carlyle, Ill., hydrograph for ..... Facing 110
Kaskaskia River at 109-110
Carmi, Ill., Little Wabash River at 140-141
Caseyville, Ill., Canteen Creek at 102-103, 159
Catlin, Ill., Vermilion River near 124-125
Centralia, Ill., Centralia Reservoir Creek near 146
Centralia Reservoir Creek near Centralia, Ill. 146
Chain of Rocks, Mo., daily stages at 19, 23
Charlotte, Ill., North Fork Vermilion River near 74-75, 156
Chebanse, Ill., Iroquois River near 71
Chester, Ill., daily stages at 20, 24
Mississippi River at 54
Chicago Sanitary and Ship Canal at Lockport, Ill. 66
Chillicothe, Ill., daily stages at 27, 31
Clarksville, Mo., daily stages at 18, 22
Coal City, Ill., Mazon River near 72-73
Commerce, Mo., daily stages at 21, 25
Contracted-opening determinations 8, 146, 161
Cooperation 7-8
Copperas Creek, Ill., daily stages at 28, 32
Cornland, Ill., Lake Fork near 146
Corps of Engineers, U. S. Army, acknowledgments for aid 7-8, 17, 35
cooperation 7-8

Page
Cotton Hill, Ill., Horse Creek near 146
Counterfeit Rock, Mo., daily stages at 21, 25
Crawford Landing, Mo., daily stages at 20, 24
Crest elevations, flood. (*See* Elevations.)
Cumberland Rocks, Mo., daily stages at 20, 24
Damages, flood 12-13
scenes of, Sangamon River near Oakford, Ill. 93
Danville, Ill., Vermilion River near 126-127
Dayton, Ill., Fox River at 73-74
Decatur, Ill., Sangamon River at 146
Des Plaines River at Lemont, Ill. 57-58
flood crest elevations on 36
Devils Island, Ill., daily stages at 20, 24
Discharge hydrograph, Embarrass River at Ste. Marie, Ill. ..... Facing 134
Embarrass River, North Fork, near Oblong, Ill. ..... Facing 134
at New Athens, Ill. ..... Facing 110
Kaskaskia River at Carlyle, Ill. ..... Facing 110
at Shelbyville, Ill. ..... Facing 110
at Vandalia, Ill. ..... Facing 108, 110
Discharge-station records 52-146, 156-160
Discharges, flood crest 50
miscellaneous 146, 161
Dixon Landing, Ill., daily stages at 18, 22
Drainage area, relation of flood discharge to size of, diagram ..... Facing 50
Dresden Island Dam, daily stages at 26, 30
Du Page River at Troy, Ill. 66-67
East Kaskaskia, Ill., daily stages at 20, 24
East Peoria, Farm Creek at 79-80, 156
sand boils at 153
East St. Louis area, well water levels, contour map of ..... Facing 150
well water levels, diagram of changes in ..... Facing 150
East Side Levee and Sanitary District, cooperation 7
Eberle, Ill., Bishop Creek near 146
Elevations, flood crest 35-46
Des Plaines River 36
Embarrass River 44-45
Illinois River 36-37
Jones Fork 41
Kaskaskia River 42-43
Lake Fork 41
Little Wabash River 45-46
Mackinaw River 38-39
Salt Creek 40-41
Sangamon River 39-40
South Fork 40
Skillet Fork 46
Vermilion River (Illinois tributary) 38
North Fork 37-38
Vermilion River (Wabash tributary) 43-44
Middle Fork 43-44
North Fork 44
Salt Fork 44
Embarrass River at Newton, Ill. 130-131
at Ste. Marie, Ill. 133-134
flood crest elevations 44-45
flood scenes of 132
hydrographs for ..... 16, 17, Facing 134
North Fork near Oblong, Ill. 135-136
previous floods, comparison with 49
Engineer Depot, Mo., daily stages at 19, 23
Evansville, Ind., Ohio River at 115-116
Farm Creek at East Peoria, Ill. 79-80, 156

Page
Farmingdale, Ill., Spring Creek near 146
Flood crest discharges 50
relation to size of drainage area, diagram ..... Facing 50
Flood crest elevations. (*See* Elevations.)
damages 12-13
discharges at miscellaneous points 146, 161
Floods, influence on ground water supplies 147-151
meteorological conditions during 9-13
other recent 155-161
precipitation causing 14-17
previous, comparison with. (*See* Previous floods.)
Forman, Ill., Cache River at 145, 160
Forrest, Ill., South Fork Vermilion River at 161
Fox River at Dayton, Ill. 73-74
Gaging stations, map showing 51
Golconda, Ill., Ohio River at 116-117
Grafton, Ill., daily stages at 18, 22, 29, 33
Grand Tower, Ill., daily stages at 20, 24
Grays Point, Mo., daily stages at 21, 25
Grayville, Ill., daily stages at 34
Green Valley, Ill., Mackinaw River near 82-83
Greenview, Ill., Salt Creek near 95-96
Ground water supplies, influence of floods on 147-151
Hadley Creek near Shinn, Ill. 55-56
Hardin, Ill., daily stages at 29, 33
Hartford, Ill., daily stages at 19, 23
Havana, Ill., daily stages at 28, 32
flood scene at 62
Hennepin, Ill., daily stages at 27, 31
Henry, Ill., daily stages at 27, 31
Hickory Creek above Lake Bloomington, Ill. 86-87, 157
Hillsboro, Ill., Middle Fork Shoal Creek near 146
Honey Creek near Carlinville, Ill. 146
Horse Creek near Cotton Hill, Ill. 146
Hydrographs, discharge. (*See* Discharge hydrograph.)
Illinois Dept. of Public Works and Buildings 7-8
of Registration and Education 7-8
Illinois River at Kingston Mines, Ill. 60-61
at Marseilles, Ill. 58-59
at Meredosia, Ill. 63-64
comparative scenes 65
daily stages 26-33
flood crest elevations 36-37
flood scene at Havana, Ill. 62
graphic comparisons with well water levels 149-150
and rainfall ..... Facing 148
previous floods, comparison with 48
Illinois River Basin, discharge records in 57-99
Indian Creek at Wanda, Ill. 100-101, 158
Introduction 7
Iroquois River near Chebanse, Ill. 71
Isohyetal map ..... Facing 12
Jefferson Barracks, Mo., daily stages at 19, 23
Jones Fork, flood crest elevations 41
previous floods, comparison with 48
Junction, Ill., Saline River near 144
Kampsville, Ill., daily stages at 29, 33
Kane, Ill., Macoupin Creek near 98-99
Kankakee River at Momence, Ill. 68-69
near Wilmington, Ill. 69-70
Kaskaskia River at Carlyle, Ill. 109-110
at New Athens, Ill. 111-112
flood scene 113

Page

Kaskaskia River—continued.
at Shelbyville, Ill. 106-107
at Vandalia, Ill. 107-108
flood scene 109
flood crest elevations 42-43
hydrographs for Facing 108, 110
previous floods, comparison with 48
Kaskaskia River Basin, discharge records in 106-112
Keokuk, Iowa, Mississippi River at 52
Kickapoo Creek at Peoria, Ill. 81-82
Kingston Mines, Ill., daily stages at 28, 32
Illinois River at 60-61
Lake Bloomington, Ill., Hickory Creek above 86, 157
Money Creek above 83-84, 157
Money Creek at 85-86, 157
Lake Centralia. (*See* Centralia Reservoir Creek.)
Lake Decatur, Sangamon River at 146
Lake Fork, flood crest elevations 41
near Cornland, Ill. 146
previous floods, comparison with 48
Lake Hillsboro, Middle Fork Shoal Creek near 146
Lake Spaulding. (*See* Lake Springfield.)
Lake Springfield, Ill., Sugar Creek at 146
La Moine River at Ripley, Ill. 97-98
Lasalle, Ill., daily stages at 27, 31
Lawrence, Ill., daily stages at 29, 33
Lemont, Ill., Des Plaines River at 57-58
Little Rock Landing, Mo., daily stages at 20, 24
Little Wabash River at Carmi, Ill. 140-141
at Wilcox, Ill. 139-140
flood crest elevations 45-46
previous floods, comparison with 49
Liverpool, Ill., daily stages at 28, 32
Lockport, Ill., Chicago Sanitary and Ship Canal at 66
Long Lake at Stallings, Ill. 104-105, 159
Louisiana, Mo., daily stages at 18, 22
Lowell, Ill., Vermilion River at 77-78
Mackinaw River, flood crest elevations 38-39
near Green Valley, Ill. 82-83
previous floods, comparison with 48
Macoupin Creek near Kane, Ill. 98-99
Markham, Ill., Mauvaise Terre Creek near 146
Marseilles, Ill., daily stages at 26, 30
Illinois River at 58-59
Massa Creek near Palmyra, Ill. 146
Mauvaise Terre Creek near Markham, Ill. 146
Mazon River near Coal City, Ill. 72-73
Meredosia, Ill., daily stages at 29, 33
Illinois River at 63-64
comparative scenes 65
Meteorological conditions during floods 9-13
Metropolis, Ill., Ohio River at 117-118
Miscellaneous flood discharges 146, 161
Mississippi River at Alton, Ill. 52-53
at Chester, Ill. 54
at Keokuk, Iowa 52
at St. Louis, Mo. 53-54
at Thebes, Ill. 55
daily stages 18-25
Mississippi River Main Stem, discharge records on 52-55
Missouri Pacific Elevator, Mo., daily stages at 19, 23
Mitchell, W. D., article by 14-17

Page
Moccasin Springs, Mo., daily stages at 20, 24
Momence, Ill., Kankakee River at 68-69
Money Creek above Lake Bloomington, Ill. 83-84, 157
at Lake Bloomington, Ill. 85-86, 157
Monticello, Ill., Sangamon River at 89
Morris, Ill., daily stages at 26, 30
Mosier Landing, Ill., daily stages at 18, 22
Mount Carmel, Ill., daily stages at Southern Railway bridge 34
Wabash River at 120-121
Muddy Creek at Wheeler, Ill. 146
Mundys Landing, Mo., daily stages at 18, 22
Murphysboro, Ill., Big Muddy River at 114-115
Nebo, Ill., Bay Creek at 56-57
New Athens, Ill., flood scene at 113
hydrograph for ..... Facing 110
Kaskaskia River at 111-112
New Harmony, Ind., Wabash River at 122-123
New LaGrange Dam, daily stages at 29, 33
Newton, Ill., Embarrass River at 130-131
flood scene at 132
Normal, Ill., Sugar Creek at 161
Oakford, Ill., Sangamon River near 91-92
scenes showing flood damage 93
Oblong, Ill., hydrograph for ..... 16, 17, Facing 134
North Fork Embarrass River near 135-136
Ohio River at Evansville, Ind. 115-116
at Golconda, Ill. 116-117
at Metropolis, Ill. 117-118
Ohio River Basin, discharge records in 115-117
See also Cache, Saline, and Wabash River Basins.
Ottawa, Ill., daily stages at 26, 30
Otter Creek near Palmyra, Ill. 146
Palmyra, Ill., Massa Creek near 146
Otter Creek near 146
Pearl, Ill., daily stages at 29, 33
Pekin area, well water levels, graphic comparisons ..... Facing 148, 150
Pekin, Ill., daily stages at 28, 32
Peoria area, well fields, map of ..... Facing 146
well water levels, graphic comparisons ..... Facing 148, 149
Peoria, Ill., daily stages at 27-28, 31-32
Kickapoo Creek at 81-82
Plumfield, Ill., Big Muddy River at 114
Pontiac, Ill., Vermilion River at 76-77, 156
Powers Island, Mo., daily stages at 21, 25
Prairie Creek near Salisbury, Ill. 146
Precipitation causing floods 14-17
isohyetal map of ..... Facing 12
Previous floods, comparison with 47-50
Embarrass River 49
Illinois River 48
Jones Fork 48
Kaskaskia River 48
Lake Fork 48
Little Wabash River 49
Mackinaw River 48
Salt Creek 48
Sangamon River 48
South Fork 48
Skillet Fork 49-50
Vermilion River (Illinois tributary) 48
Price Landing, Mo., daily stages at 21, 25

Page

Rainfall, graphic comparisons with river elevations and well water levels....Facing 148
See also Precipitation.
Red Rock Landing, Mo., daily stages at.... 20, 24
Richland Creek near Salisbury, Ill.... 146
Rip Rap Landing, Ill., daily stages at.... 18, 22
Ripley, Ill., La Moine River at.... 97-98
Riverton, Ill., Sangamon River at.... 90
Riverton, Ind., Wabash River at.... 119
Rowell, Ill., Salt Creek near....94-95, 158
St. Louis, Mo., daily stages at.... 19, 23
Mississippi River at.... 53-54
Ste. Marie, Ill., Embarrass River at.... 133-134
flood scene at.... 132
hydrograph for....Facing 134
Saline River Basin, discharge records in.... 144
Saline River near Junction, Ill.... 144
Salisbury, Ill., Prairie Creek near.... 146
Richland Creek near.... 146
Salt Creek, flood crest elevations.... 40-41
near Greenview, Ill.... 95-96
near Rowell, Ill....94-95, 158
previous floods, comparison with.... 48
Salt Fork, West Branch at Urbana, Ill.... 128-129
Sand boils—causes and remedies.... 152-154
at Beardstown, Ill.... 153
at Cahokia, Ill.... 153
at Cairo, Ill.... 152
at East Peoria, Ill.... 153
Sangamon River at Decatur, Ill.... 146
at Monticello, Ill.... 89
at Riverton, Ill.... 90
flood crest elevations.... 39-40
near Oakford, Ill.... 91-92
scenes showing flood damage.... 93
previous floods, comparison with.... 48
South Fork, flood crest elevations.... 40
previous floods, comparison with.... 48
Sanitary District of Chicago, Ill., acknowledgments for aid.... 8
Seminary Creek near Whitehall, Ill.... 146
Seneca, Ill., daily stages at.... 26, 30
Seville, Ill., Spoon River at.... 88
Shands, A. L., article by.... 9-13
Shelbyville, Ill., hydrograph for....Facing 110
Kaskaskia River at.... 106-107
Shinn, Ill., Hadley Creek near.... 55-56
Shoal Creek, Middle Fork near Hillsboro, Ill.... 146
near Breese, Ill.... 146
Silver Creek near Troy, Ill.... 146
Skillet Fork at Wayne City, Ill.... 142-143
flood crest elevations.... 46
previous floods, comparison with.... 49-50
Slope-area determinations.... 8, 146
Spillways, discharge over.... 8, 146
See also Lake Bloomington.
Spoon River at Seville, Ill.... 88
Spring Creek near Farmingdale, Ill.... 146
Spring Valley, Ill., daily stages at.... 27, 31
Springfield. (*See* Lake Springfield.)

Page
Stages, crest. (*See* Elevations.)
daily 17-34
Illinois River 26-33
Mississippi River 18-25
Wabash River 34
Stallings, Ill., Long Lake at 104-105, 159
Starved Rock, Ill., daily stages at 27, 31
State Water Survey Division, articles by 147-154
Sterling Landing, Mo., daily stages at 18, 22
Sugar Creek at Bloomington, Ill. 161
at Lake Springfield, Ill. 146
at Normal, Ill. 161
Terre Haute, Ind., Wabash River at 118
The Sny Basin, discharge records in 55-57
Thebes, Ill., daily stages at 21, 25
Mississippi River at 55
Thompson Landing, Mo., daily stages at 21, 25
Time, basis used in computations 8
Troy (Madison Co.), Ill., Silver Creek near 146
Troy (Will Co.), Ill., Du Page River at 66-67
Urbana, Ill., West Branch Salt Fork at 128-129
Utica, Ill., daily stages at 27, 31
Valley City, Ill., daily stages at 29, 33
Vandalia, Ill., flood scene at 109
hydrographs for ..... Facing 108, 110
Kaskaskia River at 107-108
Vermilion River (Illinois tributary) at Lowell, Ill. 77-78
at Pontiac, Ill. 76-77, 156
flood crest elevations 38
North Fork, flood crest elevations 37-38
near Charlotte, Ill. 74-75, 156
previous floods, comparison with 48
South Fork at Forrest, Ill. 161
Vermilion River (Wabash tributary), flood crest elevations 43-44
Middle Fork, flood crest elevations 43-44
near Catlin, Ill. 124-125
near Danville, Ill. 126-127
North Fork, flood crest elevations 44
Salt Fork, flood crest elevations 44
Vincennes, Ind., Wabash River at 119-120
Wabash River at Mt. Carmel, Ill. 120-121
at New Harmony, Ind. 122-123
at Riverton, Ind. 119
at Terre Haute, Ind. 118
at Vincennes, Ind. 119-120
daily stages 34
Wabash River Basin, discharge records in 118-143
Wanda, Ill., Indian Creek at 100-101, 158
Waters Point, Mo., daily stages at 19, 23
Wayne City, Ill., Skillet Fork at 142-143
Weather Bureau, U. S., acknowledgments for aid 7
isohyetal map by ..... Facing 12
meteorological analysis by 9-13
Weather maps, surface, May 6, 8, 11 ..... Facing 10
May 15, 18, 20 ..... Facing 12
Well fields in Peoria area, map of ..... Facing 146
Well water levels, Cairo, Ill., diagram of 151
East St. Louis area, contour map of ..... Facing 150
diagram of changes in ..... Facing 150
graphic comparisons, Pekin and Peoria areas ..... Facing 148, 149-150
Wetaug, Ill., Big Creek near 145-146, 160
Wheeler, Ill., Muddy Creek at 146
Whitehall, Ill., Seminary Creek near 146
Wilcox, Ill., Little Wabash River at 139-140
Wilmington, Ill., Kankakee River near 69-70