FLOODS OF SEPTEMBER 26-OCTOBER 4, 1986, AND AUGUST 14-17, 1987, IN ILLINOIS

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U.S. GEOLOGICAL SURVEY

Water-Resources Investigations Report 92-4149

Prepared in cooperation with the

ILLINOIS DEPARTMENT OF TRANSPORTATION,

DIVISION OF WATER RESOURCES

Urbana, Illinois

1993

U.S. DEPARTMENT OF THE INTERIOR
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CONVERSION FACTORS

Multiply	By	To obtain
inch (in.)	25.4	millimeter
foot (ft)	0.3048	meter
mile (mi)	1.609	kilometer
acre	0.004047	square kilometer
square mile (mi^2)	2.590	square kilometer
cubic foot per second (ft^3/s)	0.02832	cubic meter per second

Temperature may be converted from degrees Fahrenheit (°F) to degrees Celsius (°C) as follows:

$$°C = 5/9 \times (°F-32)$$

GLOSSARY

Antecedent rainfall.--Rainfall preceding the storm rainfall; the storm rainfall being the main cause of any flooding.

Anticyclone.--Center of high pressure around which winds blow clockwise in the Northern Hemisphere.

Crest.--The highest value of the stage attained by a flood; thus, peak stage, flood crest, or crest.

Convection.--Atmospheric motions, usually in the vertical direction, due to differential temperatures and (or) pressures.

Cubic foot per second (ft^3/s).--The rate of discharge representing a volume of 1 cubic foot of water passing a given point during 1 second.

Cyclone.--Center of low pressure around which winds blow counter-clockwise in the Northern Hemisphere.

Dewpoint.--The temperature to which the air must be cooled (at constant pressure and water vapor content) for saturation to occur.

Discharge.--The volume of water, in cubic feet per second, that passes a given point within a given period of time.

Discharge hydrograph.--A graphical representation of stream discharge at a given point as a function of time.

Drainage area.--That area, measured in a horizontal plane, enclosed by a topographic divide from which direct surface runoff from precipitation normally drains by gravity into a stream above a specified point.

Drainage basin.--Area drained by a given stream and its tributaries.

Flood.--A relatively high flow, as measured either by gage height or discharge, which usually overtops the natural banks along some reaches of a stream.

Flood frequency analysis.--Defines the relation of flood-peak magnitude to probability of exceedance or recurrence interval. Probability of exceedance is the chance that a given flood magnitude will be exceeded in any one year. Recurrence interval is the reciprocal of probability of exceedance and is the average number of years between exceedances. For example, a flood having a probability of exceedance of 0.01 (1 percent) has a recurrence interval of 100 years. Recurrence intervals imply no regularity of occurrence; a 100-year flood might be exceeded in consecutive years or it might not be exceeded in a 100-year period.

Flood peak.--The highest stage or discharge attained by a flood; thus, peak stage or peak discharge.

Flood profile.--A graph of the highest water-surface elevations reached at points along a stream in flood, plotted as distance (as abscissa) against elevation (as ordinate).

Flood stage.--The approximate elevation of the stream when overbank flooding begins.

Front.--The transition zone between two distinct air masses.

Gage height.--The water-surface elevation referred to some arbitrary gage datum.

Jet stream.--High-velocity air currents usually found between 6 and 9 miles above the Earth's surface.

Peak discharge.--See flood peak.

Rainfall-gaging station.--A location where rainfall is measured in a systematic fashion.

Recurrence interval.--See flood-frequency analysis.

Stage.--See gage height.

Stage-discharge rating curve.--A graph showing the relation between the gage height (stage) and the volume of water per unit of time (discharge) flowing in a channel.

Streamflow-gaging station.--A particular site on a stream where systematic observations of gage height and discharge are obtained.

Surface weather.--Weather data collected at or close to ground level.

Water year.--The 12-month period, October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months.

FLOODS OF SEPTEMBER 26-OCTOBER 4, 1986, AND AUGUST 14-17, 1987, IN ILLINOIS

By G.O. Balding and A.L. Ishii

ABSTRACT

During the record-setting floods of September 26-October 4, 1986, and August 14-17, 1987, in Illinois, recurrence intervals of stream discharges exceeded 100 years in some locations. This report includes descriptions of the conditions preceding the storms, the spatial and temporal distributions of rainfall during the storms, and the resulting stage and discharge data for affected streams in Illinois.

The two storm periods differed. The storms of October 2-3, 1986, which triggered the major flooding, were widespread but varied in intensity and duration and were preceded by 2 weeks of nearly continuous rainfall. The storms of August 13-14, 1987, were more localized, more intense, and of shorter duration. Peak discharges of record were recorded at nine stations during the 1986 floods; recurrence intervals of four of the peak discharges exceeded 100 years. Most of the flooding in 1986 was confined to the Illinois River basin. In the 1987 flooding, 11 peak discharges of record were recorded; recurrence intervals of 10 of the peak discharges exceeded 100 years. The flooding in 1987 was confined to the Des Plaines River basin in northeastern Illinois. Antecedent-rainfall data indicate that the antecedent soil moisture exerted a more significant influence in the 1986 flooding than it did in the 1987 flooding.

INTRODUCTION

State and local water-resource planners typically design and evaluate structures with reference to rainfall data from storms that result in floods of 50- to 100-year recurrence intervals. Hydrologic data from such storms, coupled with the available associated climatologic data and a mathematical model, are commonly used to predict drainage-basin response to large storms. A detailed description of the characteristics and responses of large storms is a necessary prerequisite for application of storm data to planning, design, and management of roads, bridges, culverts, and dams. In 1987, the U.S. Geological Survey (USGS), in cooperation with the Illinois Department of Transportation, Division of Water Resources, began a study of the major storms of June 1981 and December 1982 and the corresponding floods (recurrence intervals of 50 to 100 years) (Ishii, 1991). The cooperative effort was later expanded to include the storms and floods of September-October 1986 and August 1987.

Major storms of October 2-3, 1986, and August 13-14, 1987, in Illinois, though of contrasting types, caused record floods and stream discharges with recurrence intervals exceeding 100 years. The storms of October 2-3, 1986, were associated with a cold front that stalled over northern and central Illinois from September 28 through October 3. The storms varied in intensity and duration over a large area. The magnitude of the resulting floods was caused by 2 weeks of nearly continuous rainfall that preceded the October 2-3 storms, as well as the storm rainfall. Antecedent soil moisture exerted a significant influence in the magnitude of the flooding. The storms of August 13-14, 1987, were convective storms of short duration and high intensity over a small area in northeastern Illinois; antecedent rainfall was not an important factor in the resulting floods.

This study effort involved the analysis of data from the National Weather Service precipitation-data network (fig. 1) and the USGS streamflow-gaging-station network in Illinois (figs. 2 and 3).

Purpose and Scope

This report describes the storms and the resulting floods in Illinois during September 17-October 3, 1986, and August 13-14, 1987. The report summarizes antecedent rainfall for the storms, describes the temporal and spatial distributions of rainfall during the storms, and provides hydrologic data and analyses of the resulting floods. Meteorological data presented include synoptic summaries, antecedent-rainfall maps, storm-rainfall maps, and graphs of cumulative rainfall. Hydrologic data and analyses include discharge hydrographs, streamflow data, recurrence intervals, and comparisons of observed peak discharges to previous flood records.

Acknowledgments

The authors gratefully acknowledge the Metropolitan Water Reclamation District of Greater Chicago for furnishing precipitation data.

FLOODS OF SEPTEMBER 26-OCTOBER 4, 1986

During the period September 26-October 4, 1986, intense thunderstorms caused severe flooding in northeastern Illinois and scattered flooding across parts of western, central, and southwestern Illinois (fig. 4). Damage was most severe in Lake and Cook Counties in northeastern Illinois.

Governor James R. Thompson declared the following eight counties as State disaster areas: Lake, Kane, Du Page, and parts of Cook and McHenry Counties, in northeastern Illinois; Tazewell County, in central Illinois; Adams County, in western Illinois; and St. Clair County, in southwestern Illinois. In a letter to the Federal Emergency Management Agency (FEMA), Governor Thompson declared the flood damage to property in northeastern Illinois to be $34.6 million. The flooding caused structural damage to about 1,000 houses, displaced about 15,000 residents, and affected about 260 businesses in the Chicago area. In Tazewell

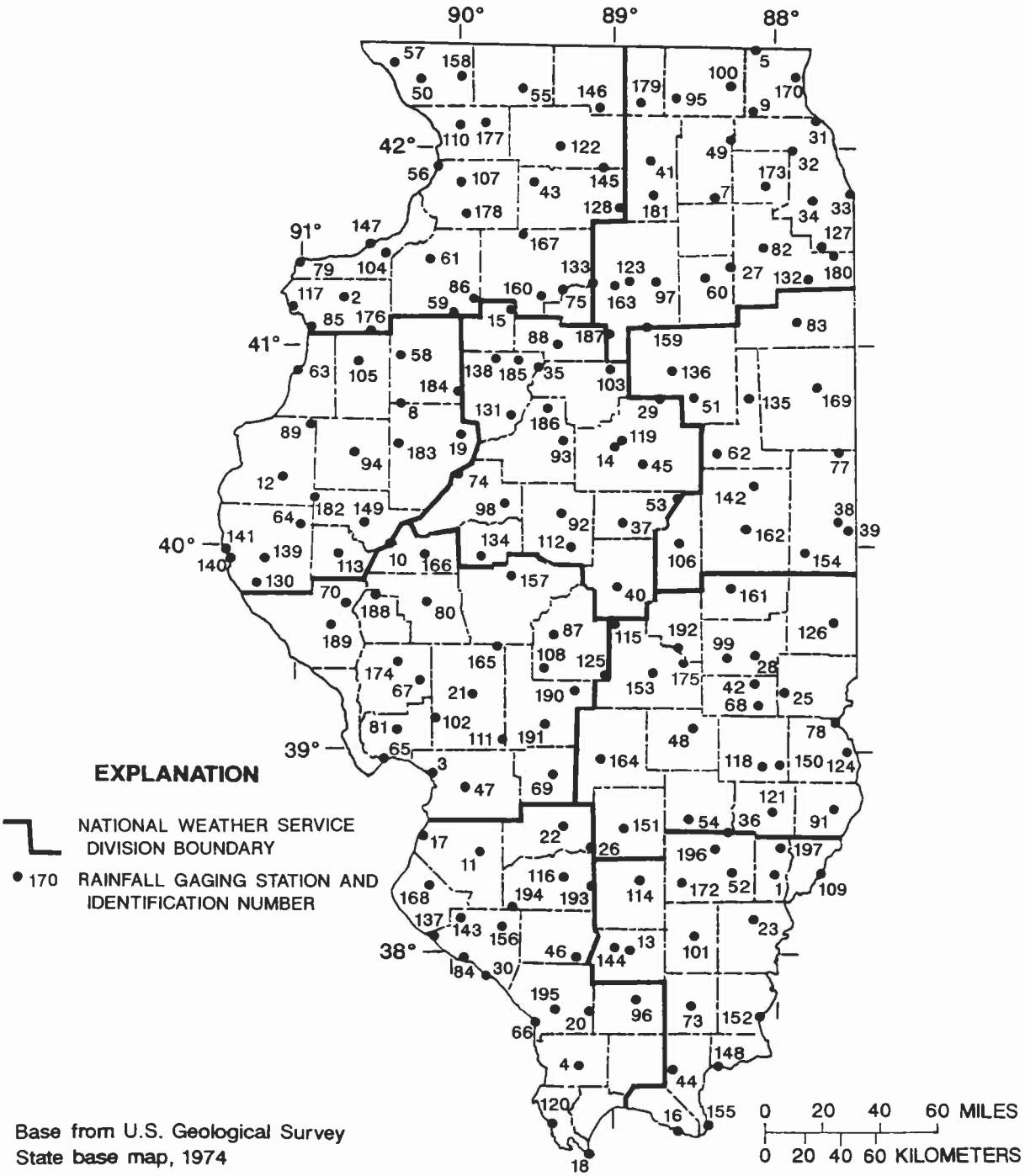


Figure 1.--Location of rainfall-gaging stations in Illinois (numbers are referenced to tables 1 and 4 and figures 7, 8, and 14).

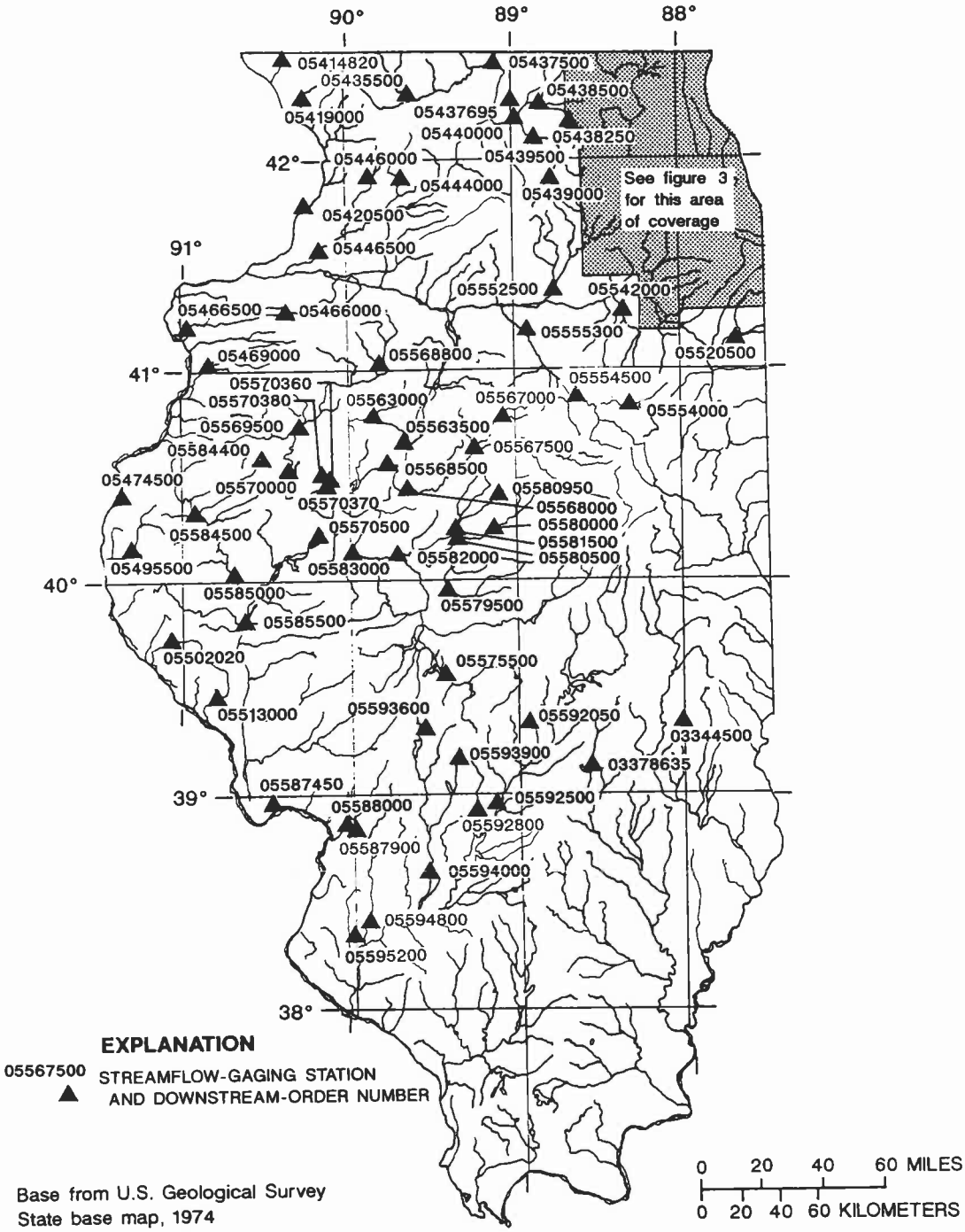


Figure 2.--Location and downstream-order number of streamflow-gaging stations in Illinois from which data were used.

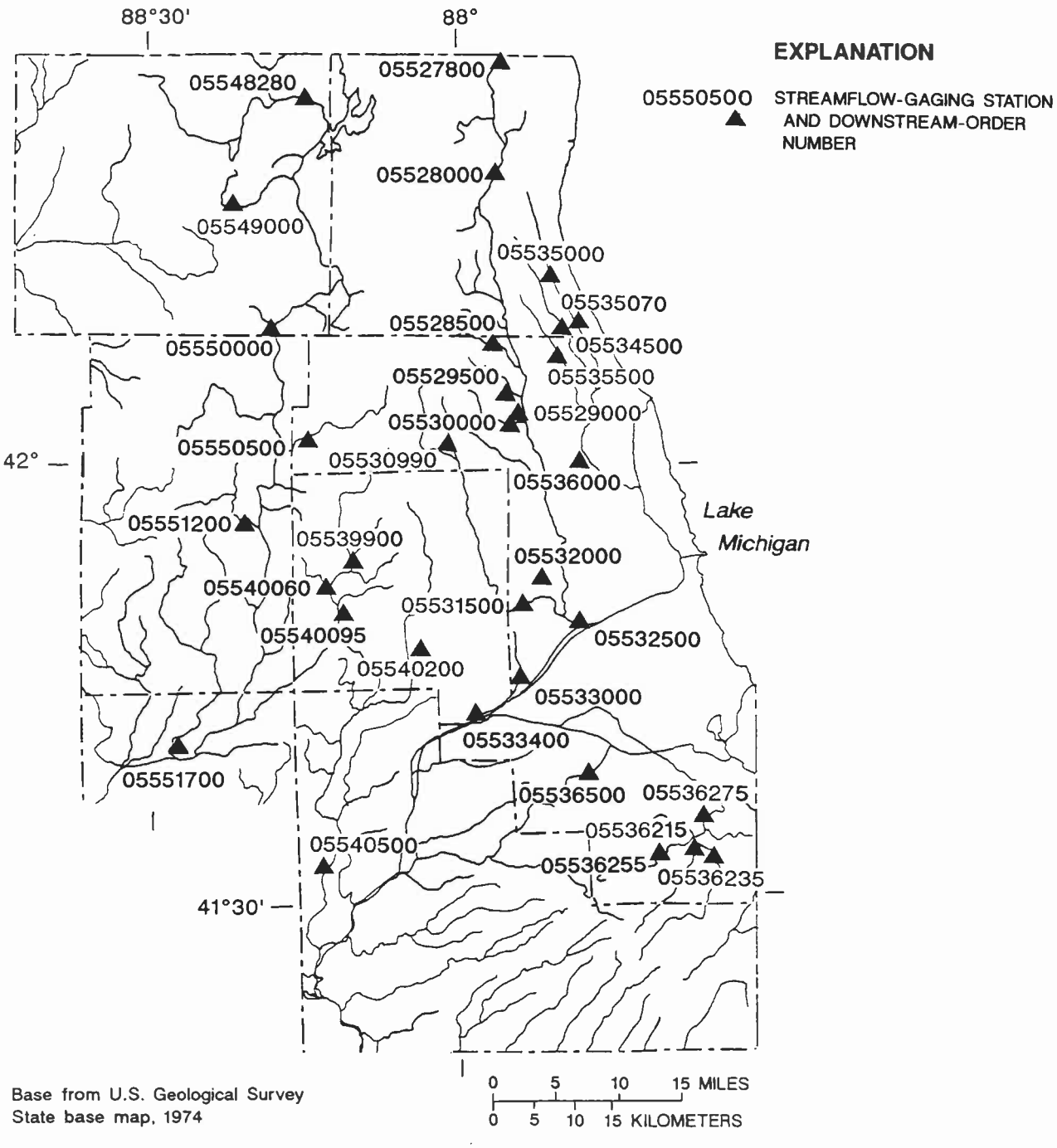


Figure 3.--Location and downstream-order number of streamflow-gaging stations in northeastern Illinois from which data were used.

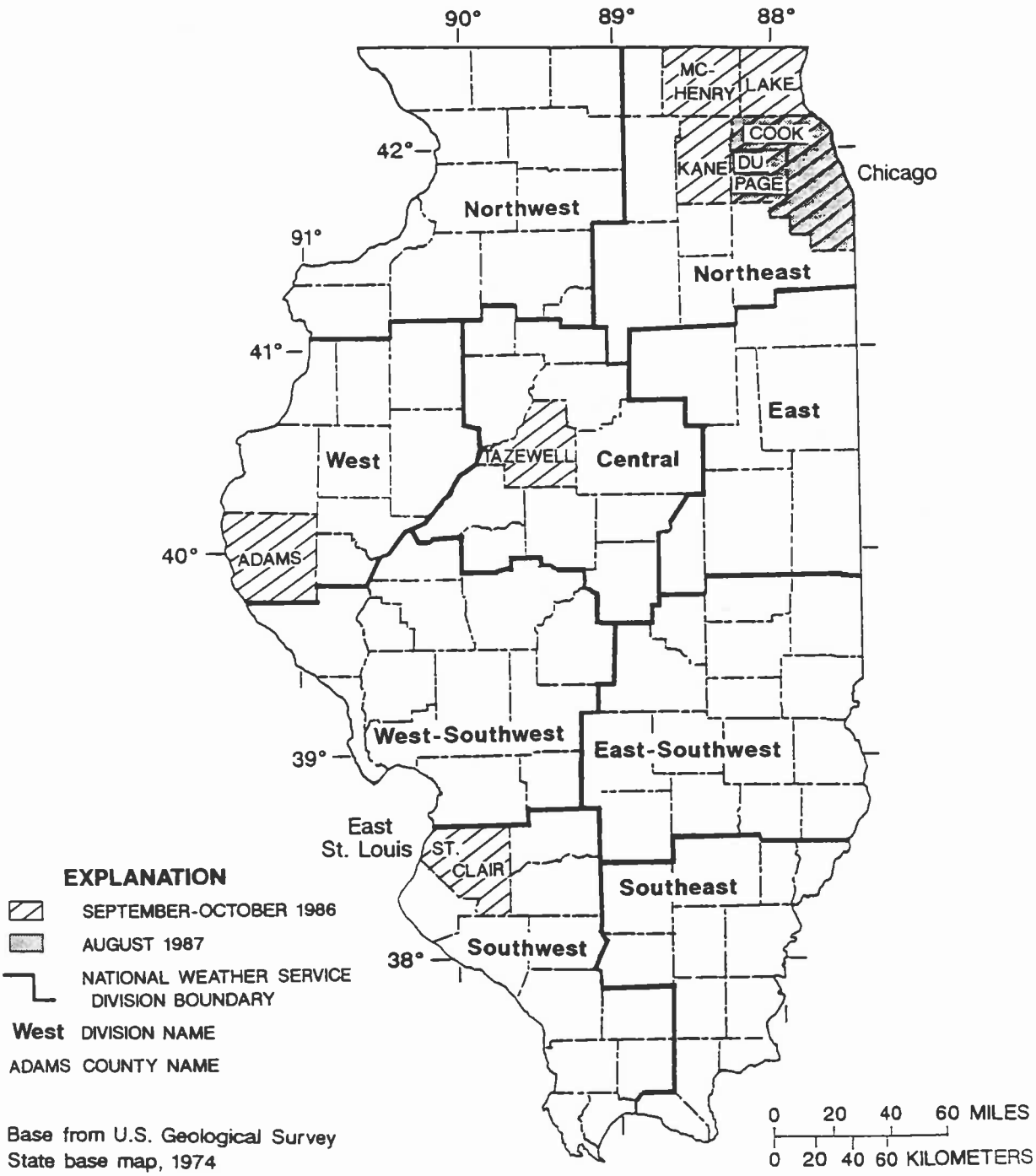


Figure 4.--Counties designated as disaster areas as a result of the floods of September 26-October 4, 1986, and August 14-17, 1987.

County, 10,000 acres of farmland were flooded, whereas in Adams County, 7,000 acres of unharvested crops were submerged. In St. Clair County, 425 people were evacuated from a public-housing project in East St. Louis (Enstad and Karwath, 1986).

On October 7, 1986, the President declared that Illinois had suffered a major disaster because of the severe storms and flooding. Preliminary damage estimates for the State totaled nearly $50 million and included damage to 4,000 homes, more than 600 businesses, and dozens of public structures and facilities (Federal Emergency Management Agency, 1986, p. 3).

Meteorological Setting

During the last half of September and the first few days of October, several cyclonic storm systems developed in the western United States and slowly moved east across Illinois as the polar jet stream advanced southward and retreated. Throughout the period, temperatures in Illinois were higher than normal, with daily highs of about 82°F and lows of about 65°F. Temperatures cooled to about 72 and 62°F for the daily highs and lows, respectively, by October 2 and 3 as a cold front moved in.

On September 15, a cyclone formed in the western United States, as the jet stream was over northern Illinois. The cyclone intensified on September 16 and 17 (fig. 5) and then moved eastward and dissipated on September 18 (fig. 5). The jet stream continued to cut across northern Illinois during September 19-21. The associated stationary front and unstable moist air caused convective rain showers daily in the warm air mass north of the front and the cooler air mass south of the front (fig. 5).

On September 22 and 23, a cyclonic system centered in Canada kept Illinois in a warm-air sector between a warm front to the east and a cold front to the west. Beginning at about 0600 hours central standard time (c.s.t.) September 24, a cyclone centered on Wyoming began to intensify and move northward (fig. 5). By September 25, Illinois was again within the warm air mass between an eastern warm front and a western cold front (fig. 5). As the cyclone moved eastward over Canada, the cold front remained west of Illinois and created the potential for rainfall in Illinois ahead of the front (fig. 5).

On September 26 and 27, another cyclonic storm system developed, and Illinois was again in the central warm-air sector. On September 28, the system became associated with an anticyclone that held the warm-air sector in place until the anticyclone moved eastward and a new cyclonic system developed in Nebraska at about 1800 hours c.s.t. September 28. At about 1700 hours c.s.t. September 29, the western cold front finally entered Illinois, bringing heavy rains. The cold front moved south to central Illinois and remained there until October 4. Illinois had thus been in the warm-air sector between two fronts during September 22-29. Warm, moist, low-level winds from the Gulf of Mexico provided the moisture for the heavy precipitation (Dietrich, 1989, p. 5). The final heavy rain showers associated with the cold front on October 2 and 3 (fig. 5) added to already saturated ground and swollen rivers.

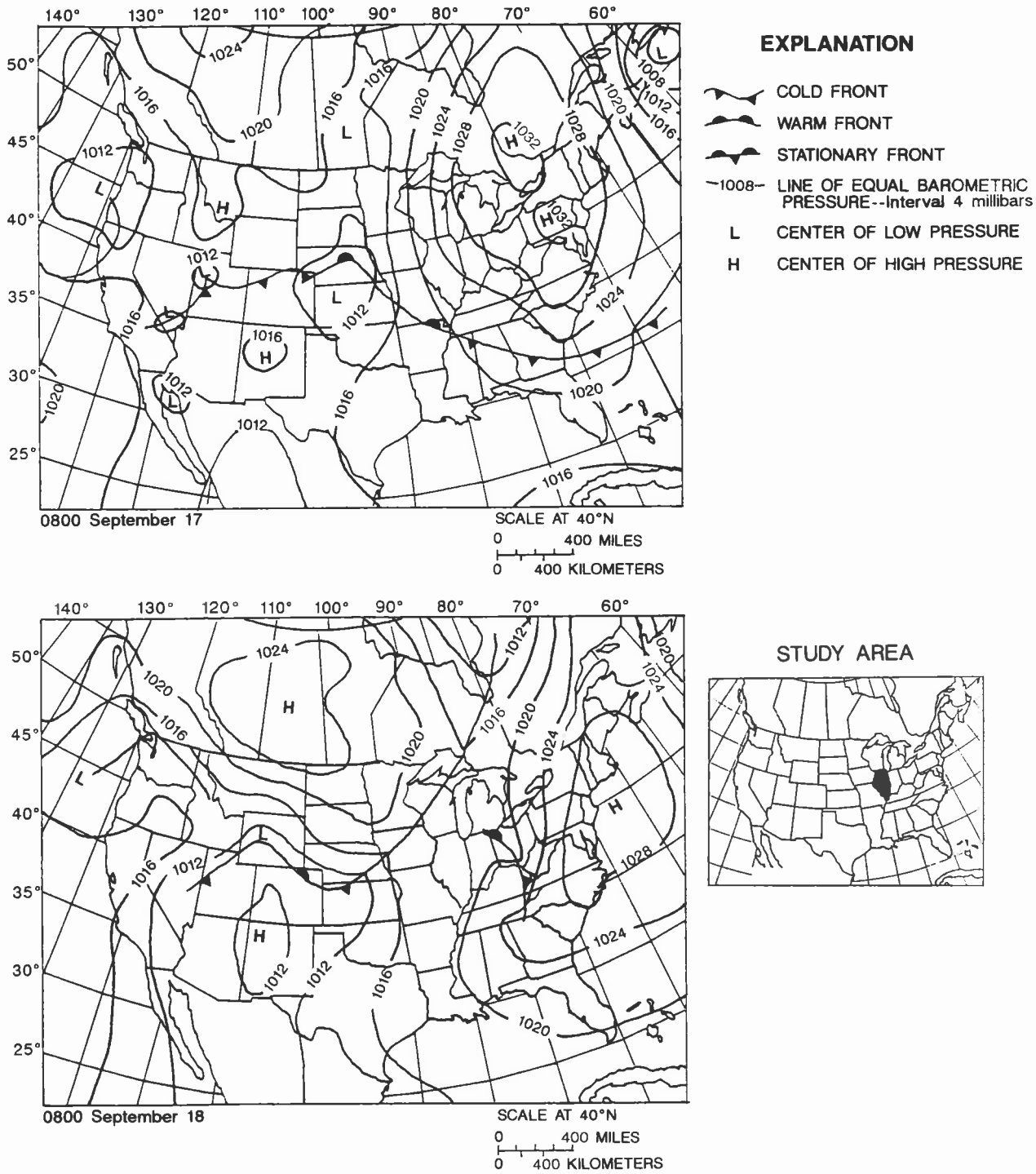


Figure 5.--Surface weather over the United States at 0800 hours central standard time on September 17, 18, 21, 24, 25, 30, and October 3, 1986. (Data from the National Weather Service, 1986a-c.)

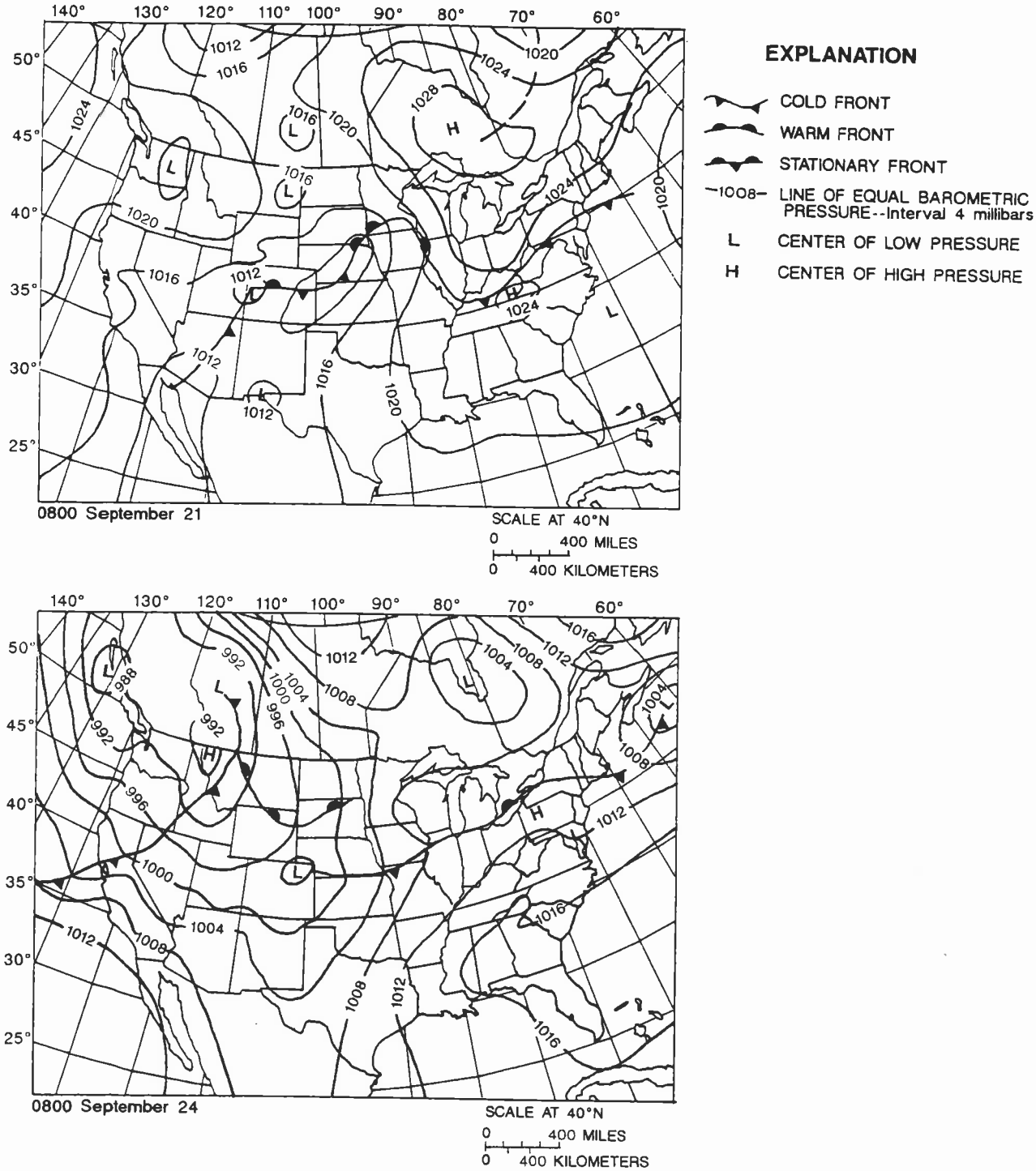


Figure 5.--Surface weather over the United States at 0800 hours central standard time on September 17, 18, 21, 24, 25, 30, and October 3, 1986--Continued. (Data from the National Weather Service, 1986a-c.)

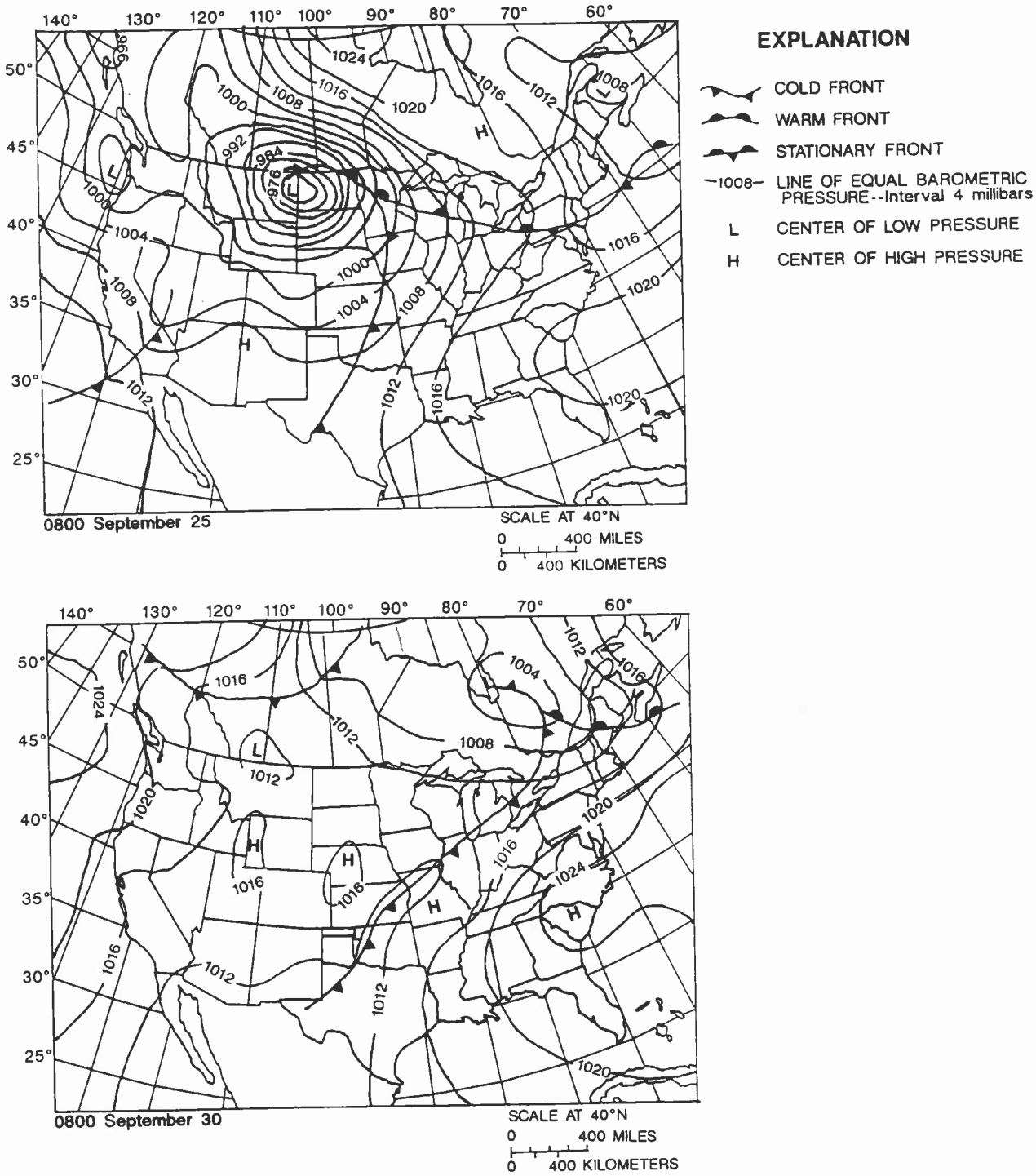
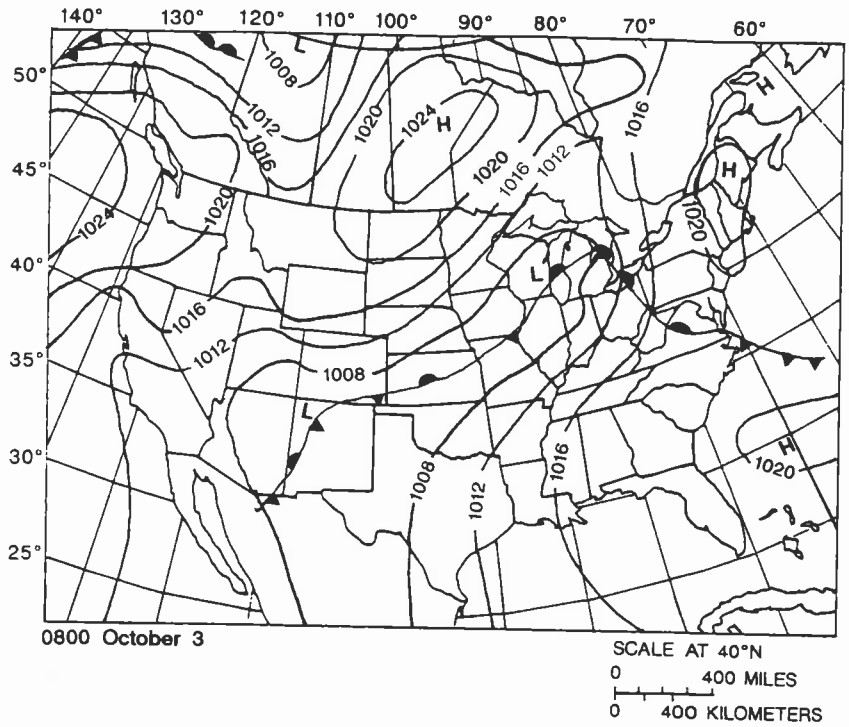


Figure 5.--Surface weather over the United States at 0800 hours central standard time on September 17, 18, 21, 24, 25, 30, and October 3, 1986--Continued. (Data from the National Weather Service, 1986a-c.)



EXPLANATION

COLD FRONT

WARM FRONT

STATIONARY FRONT

—1008— LINE OF EQUAL BAROMETRIC PRESSURE--Interval 4 millibars

L CENTER OF LOW PRESSURE

H CENTER OF HIGH PRESSURE

Figure 5.--Surface weather over the United States at 0800 hours central standard time on September 17, 18, 21, 24, 25, 30, and October 3, 1986--Continued. (Data from the National Weather Service, 1986a-c.)

Characteristics of Rainfall Distribution

Rainfall across the middle of the State during September was 184 percent of normal in eastern Illinois, 220 percent of normal in central Illinois, and 216 percent of normal in western Illinois. The northern part of the State was the hardest hit; rainfall was 251 percent of normal in the northeast and 235 percent of normal in the northwest (R.G. Semonin, Illinois State Water Survey, written commun., 1986).

During September 18-20, when the first warm air mass was stalled over central Illinois, accumulated rainfall in northeastern Illinois amounted to 0.10 in. or less around Antioch (5)[1] and Waukegan (170) to almost 1.5 in. at Chicago O'Hare International Airport (32) and more than 2.1 in. at Joliet Brandon Road Dam (82). Rainfall elsewhere in the State ranged from about 0.5 to more than 4.0 in. in the northwestern part, about 0.7 to more than 4.2 in. in the western part, and about 2.0 to almost 7.2 in. in the central part. During September 25-27, accumulated rainfall across northern Illinois amounted to 4.18 in. at Freeport (55), 5.39 in. at Antioch (5), 5.43 in. at Marengo (95), 7.70 in. at Waukegan (170), and 3.62 in. at Wheaton (173).

Total antecedent rainfall for the respective 10- and 5-day periods preceding the storms of October 2-4 are shown in figure 6. Antecedent rainfall may help indicate the ability of the soils to receive additional rainfall as infiltration. Long-term antecedent rainfall aids in the assessment of streamflows. As much as 3.46 in. of rain fell in the northwestern part of the State during the 5-day period September 28-October 2. Elsewhere in the State, as much as 3.91 in. of rain fell in the northeastern part, 4.15 in. fell in the western part, 2.29 in. fell in the central part, 5.65 in. fell in the eastern part, and 4.47 in. fell in the west-southwestern part.

The temporal and spatial distributions of the storm rainfall indicate that the first showers occurred in the western and central parts of the State during September 19-20 as a result of the stationary front over central Illinois. These intense storms were of short duration; but, as the front moved northward, the duration and intensity of the storms increased (figs. 7 and 8). The rainfall recurrence intervals (RI's) for the 10- and 3-day storm periods of September 25-October 4 and October 2-4, for rainfall at selected rainfall-gaging stations, are listed in table 1 (at back of report). A comparison of the two periods shows that the RI's for the 10-day storm period were much higher than those for the 3-day storm period, indicating that the 10-day storm period played a major part in the flooding that took place in October.

The spatial distribution of the 3-day total storm rainfall is shown on plate 1A (in pocket). The heaviest rains were in and near Avon (8) in western Illinois; Chenoa (29), Lacon (88), and Mackinaw (93) in central Illinois; and Fairbury (51) in eastern Illinois (fig. 1).

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[1]Numbers in parentheses correspond to location numbers in figure 1.

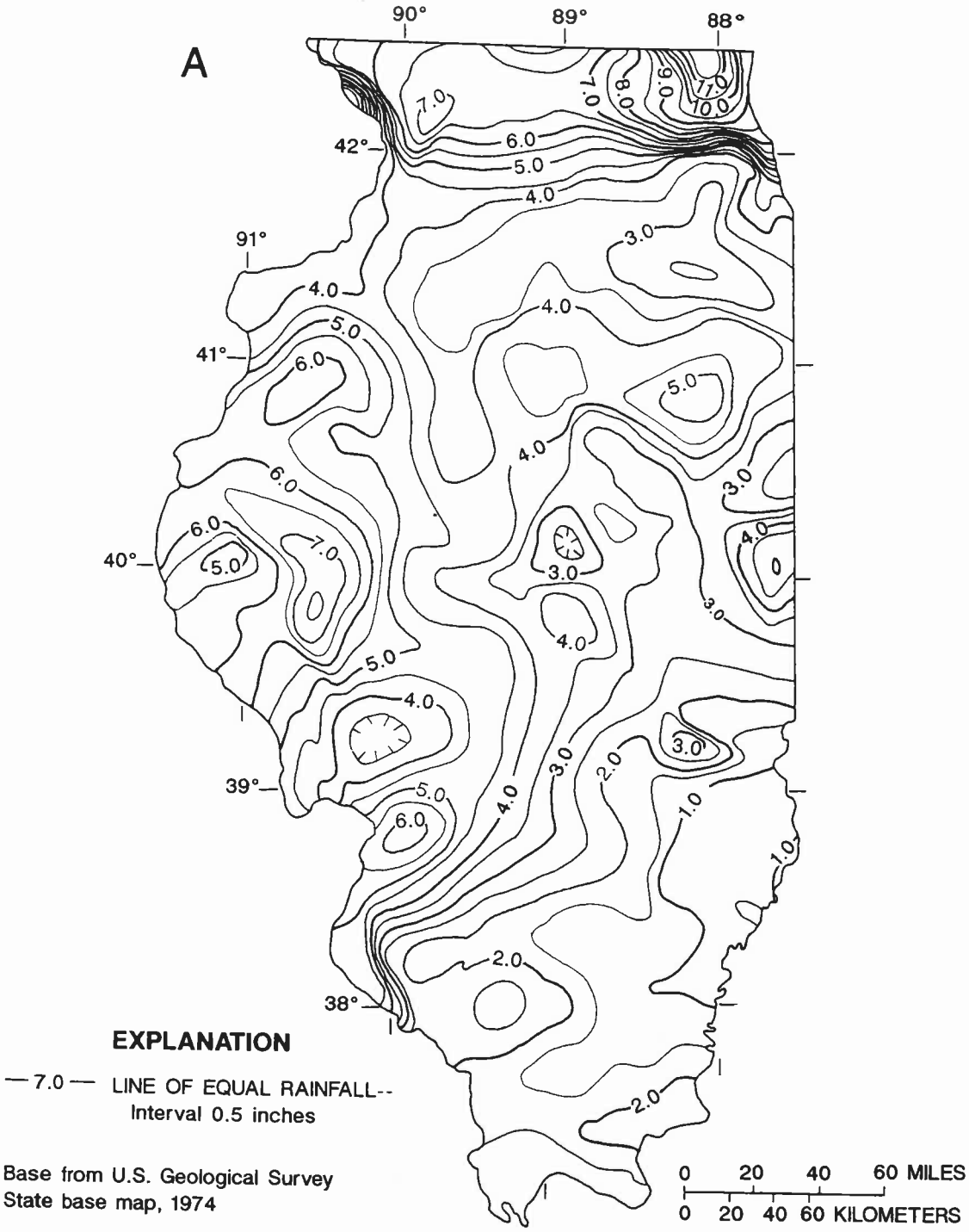


Figure 6.--Total rainfall for storms of (A) 10-day antecedent period September 23-October 2 and (B) 5-day antecedent period September 28-October 2, 1986. (Data from the National Oceanic and Atmospheric Administration, 1986a-m.)

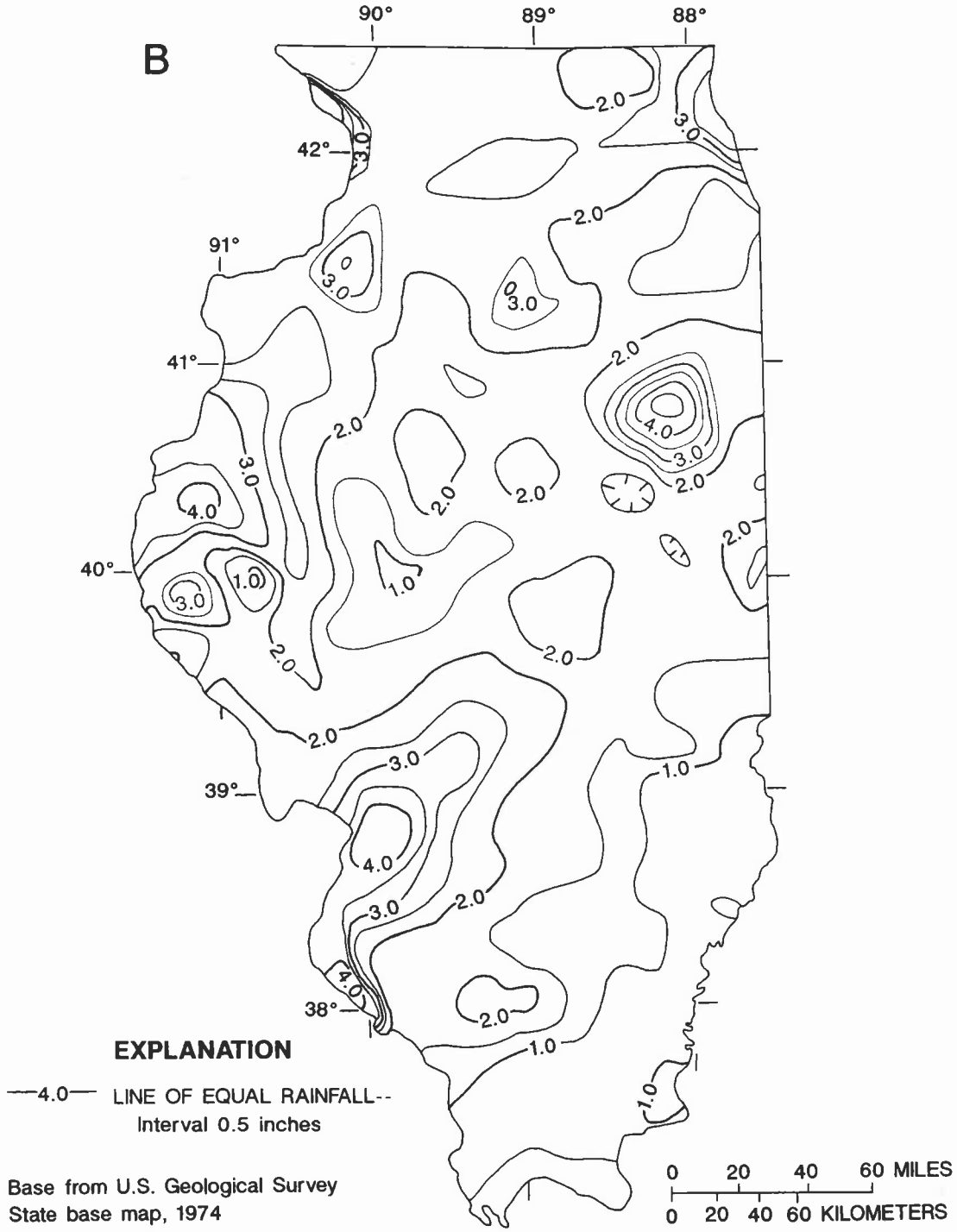


Figure 6.--Total rainfall for storms of (A) 10-day antecedent period September 23-October 2 and (B) 5-day antecedent period September 28-October 2, 1986--Continued. (Data from the National Oceanic and Atmospheric Administration, 1986a-m.)

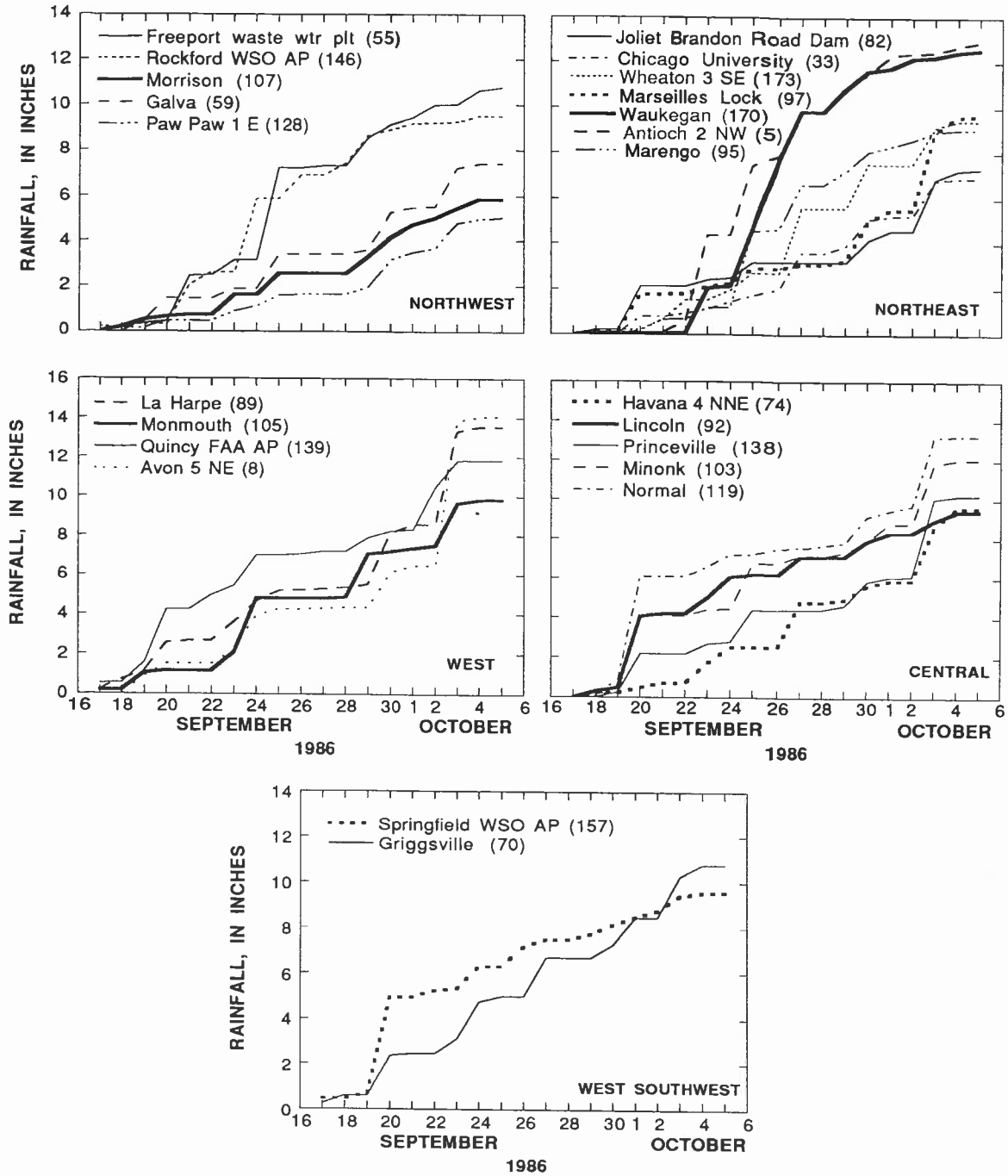


Figure 7.--Cumulative daily rainfall at selected rainfall-gaging stations in Illinois, September 17-October 5, 1986. (Numbers refer to locations in figure 1. Data from the National Oceanic and Atmospheric Administration, 1986a-b.)

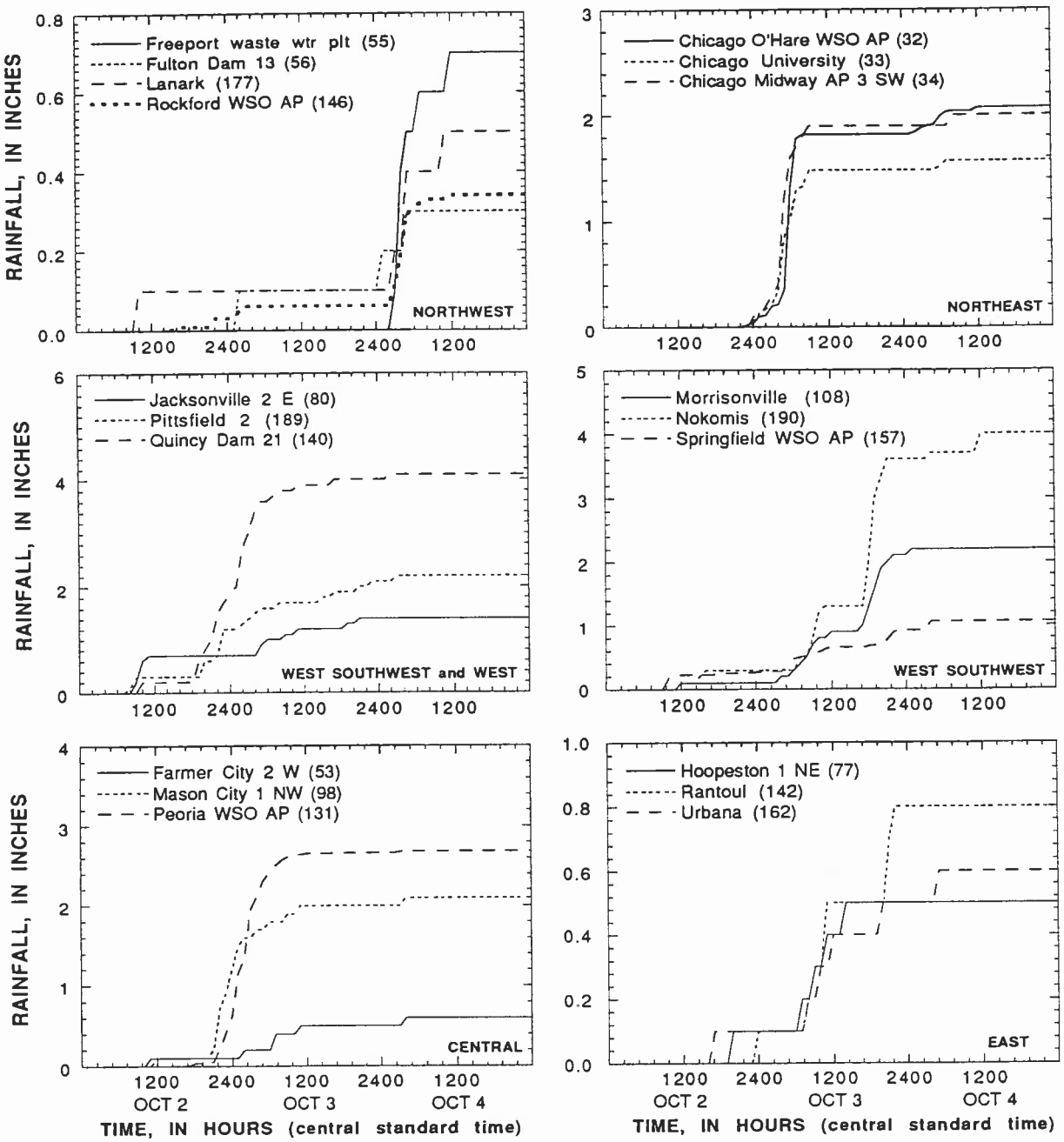


Figure 8.--Cumulative hourly rainfall at selected rainfall-gaging stations in Illinois, October 2-4, 1986. (Numbers refer to locations in figure 1. Data from the National Oceanic and Atmospheric Administration, 1986n.)

Description and Analysis of Floods

Major flooding took place in the Des Plaines River basin. The heavy rains resulted in peak discharges of record on the Des Plaines River, Skokie River, and St. Joseph Creek. In the Fox River basin, peak discharges of record were recorded on Nippersink Creek and Boone Creek. In the Vermilion River basin, a peak discharge of record was reached on the North Fork Vermilion River. High discharges were recorded at other streams--Kickapoo Creek, Mackinaw River, Spoon River, Evelyn Branch, Drowning Fork, and La Moine River--but these discharges were not peak discharges of record. The previously recorded maximum peak stages and discharges, and the peak stages and discharges determined at streamflow-gaging stations during the flooding of late September and early October, are listed in table 2 (at back of report). The RI's of the floods were determined by methods recommended by the Interagency Advisory Committee on Water Data, Hydrology Subcommittee (1982) and regional relations described by Curtis (1987). The RI's of the floods also are listed in table 2, and their spatial distribution is shown in figures 9 and 10. Streamflow hydrographs for selected sites in the Illinois River basin where RI's were 15 years or more are shown in figure 11. A comparison of the rainfall RI's (listed in table 1) with the flood RI's (listed in table 2) indicates that the severity of the flooding is reflected more in the RI's of 10-day rainfall than in the RI's of 3-day rainfall. The RI's of the 3-day rainfall were much smaller than the RI's of the flood.

Ohio River Basin

No peak discharges of record were recorded for Illinois streams tributary to the Ohio River. Streamflow in the eastern and southeastern parts of the State reflected the small amount of rainfall there; RI's of peak discharges were less than 2 years.

Upper Mississippi River Basin Above The Illinois River

No peak discharges of record were recorded for Illinois streams tributary to the upper Mississippi River above the Illinois River. Most of the peak discharges resulting from the storms of late September to early October had RI's of 5 years or less. Exceptions were the Sinsinawa River near Menominee (05414820), on September 29, where the peak discharge of 6,660 ft^3/s had an RI of 7 years, and Bear Creek near Marcelline (05495500), on October 3, where the peak discharge of 20,700 ft^3/s had an RI of 15 years. On the main stem of the Mississippi River, the peak discharge of 201,000 ft^3/s at Clinton, Iowa (05420500), on October 6, had an RI of 10 years, whereas the peak discharge of 268,000 ft^3/s at Keokuk, Iowa (05474500), on October 6, had an RI of 20 years.

Illinois River Basin

In the Kankakee River basin, no peak discharges of record were recorded. The only annual peak discharge that was recorded during the flood period was on the Kankakee River at Momence (05520500); the RI was less than 2 years.

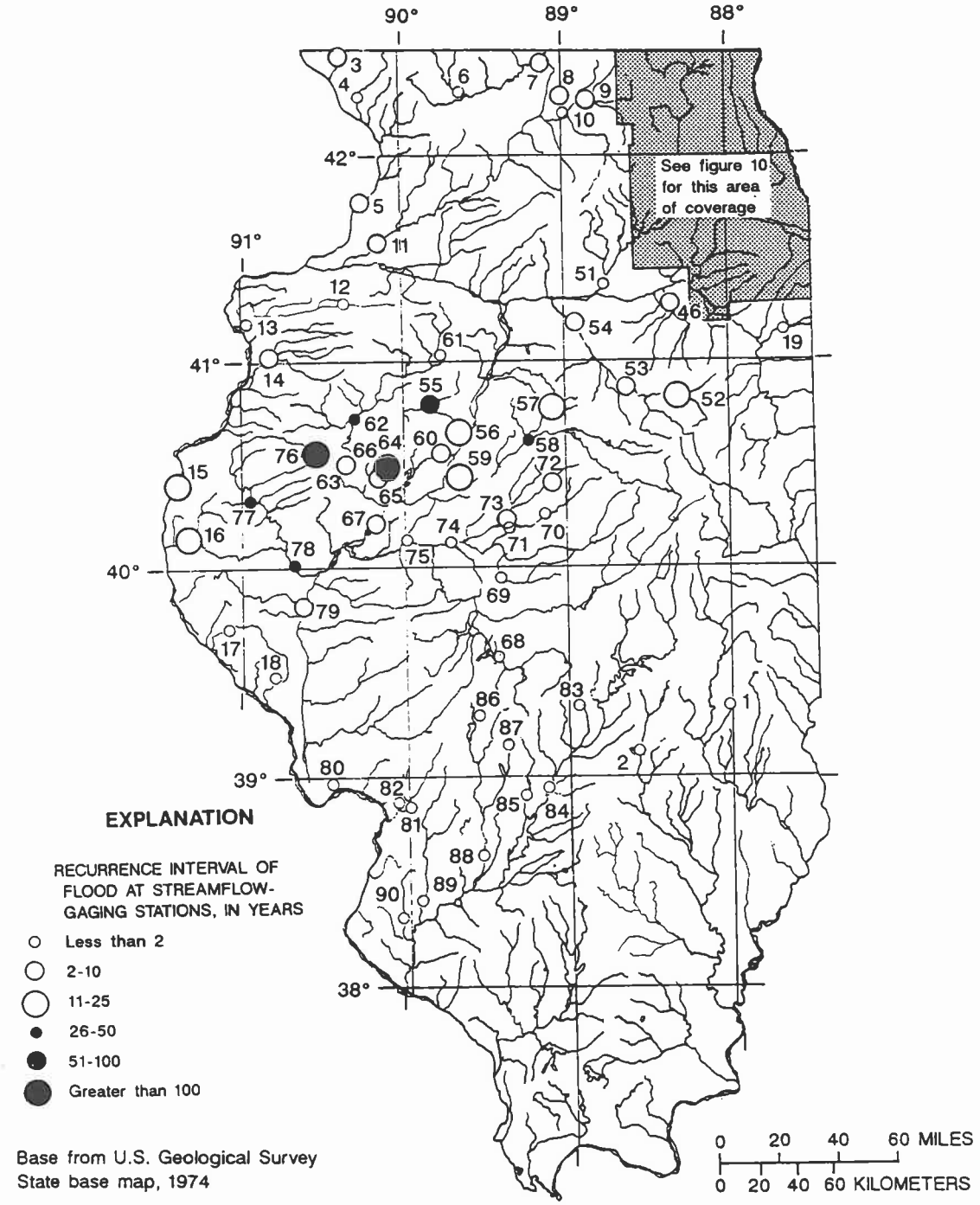


Figure 9.--Recurrence intervals for the floods of late September and early October 1986 at selected streamflow-gaging stations in Illinois (numbers are referenced to table 2).

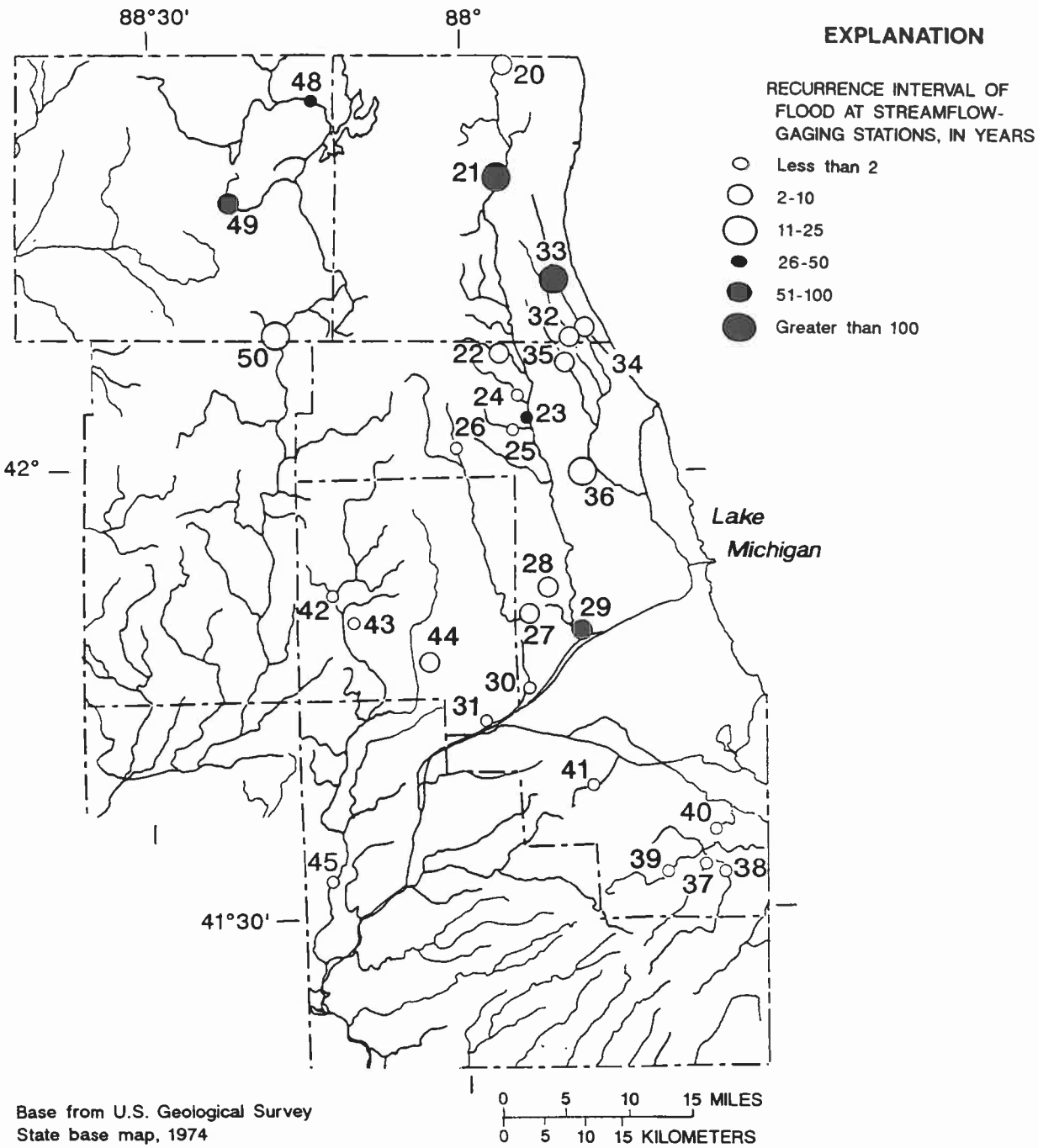


Figure 10.--Recurrence intervals for the floods of late September and early October 1986 at selected streamflow-gaging stations in northeastern Illinois (numbers are referenced to table 2).

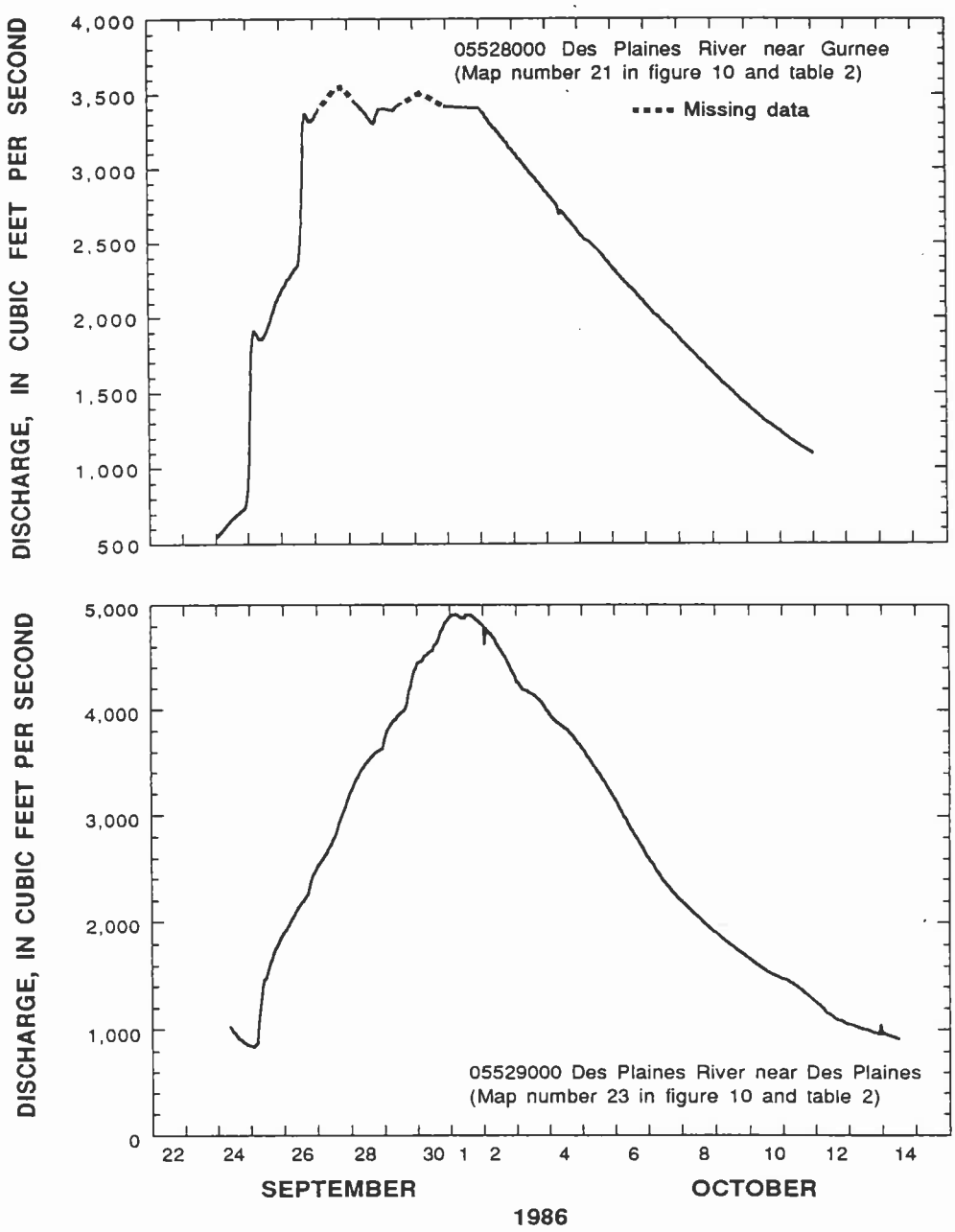


Figure 11.--Streamflow for selected streams in the Illinois River basin, September-October 1986.

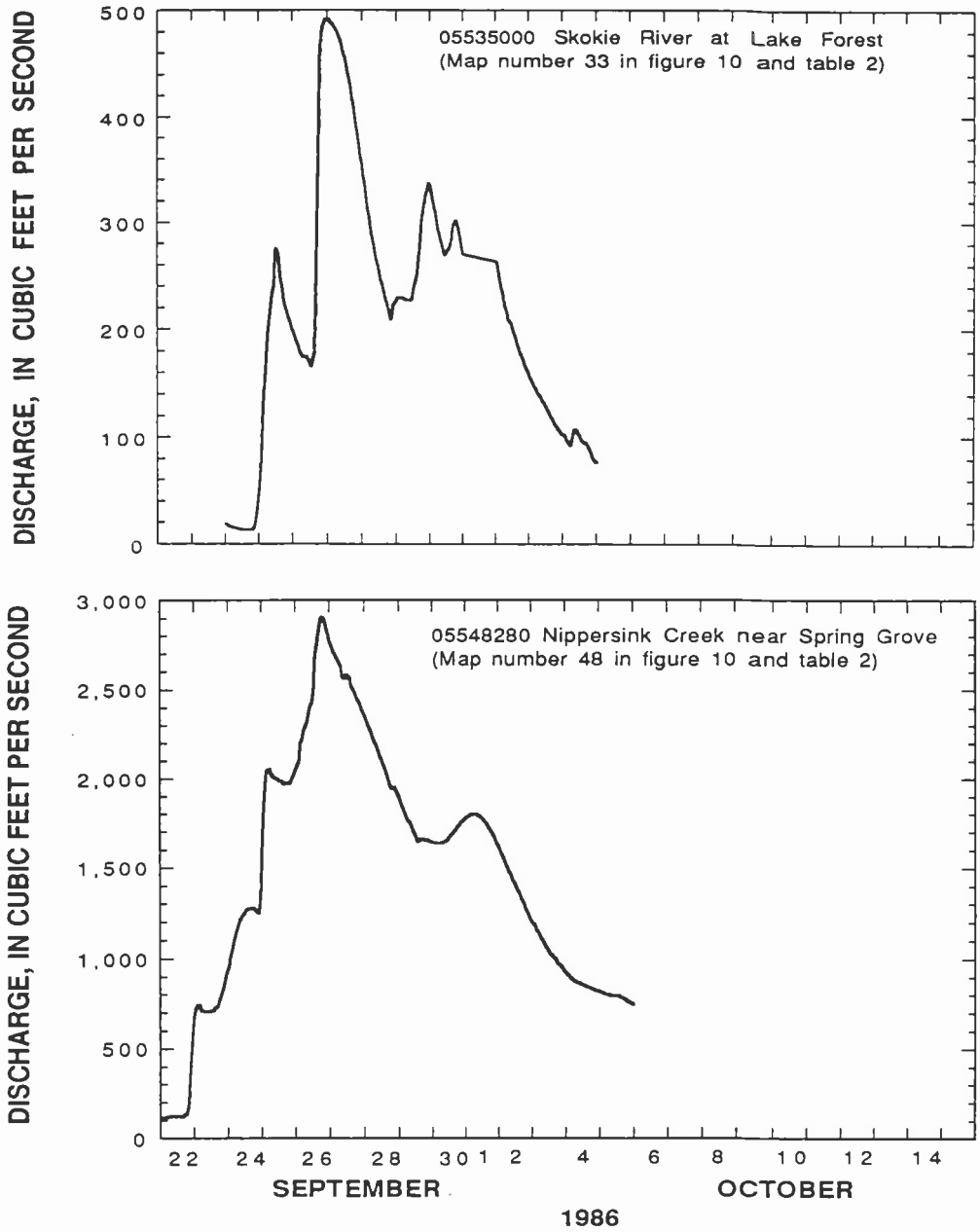


Figure 11.--Streamflow for selected streams in the Illinois River basin, September-October 1986--Continued.

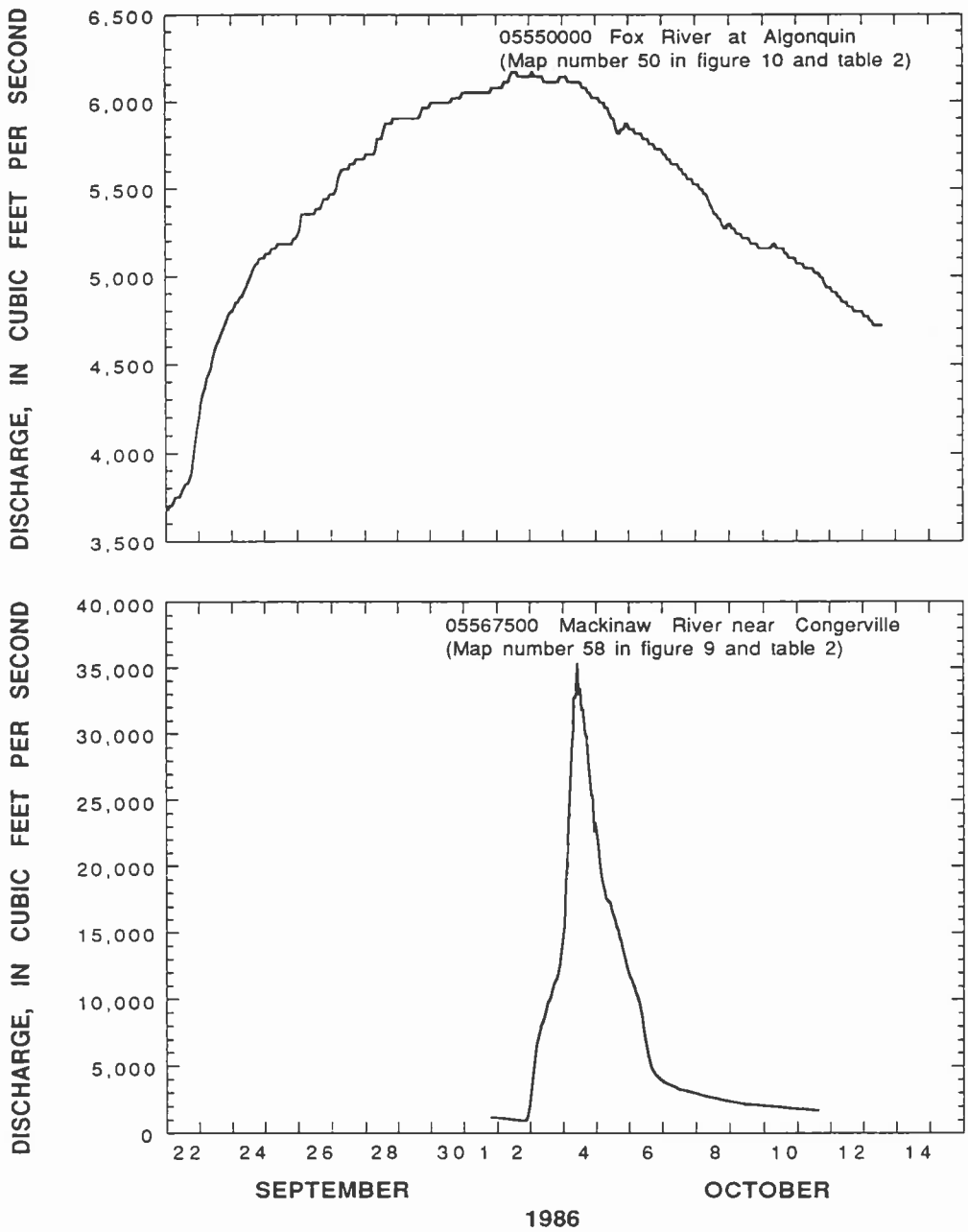


Figure 11.--Streamflow for selected streams in the Illinois River basin, September-October 1986--Continued.

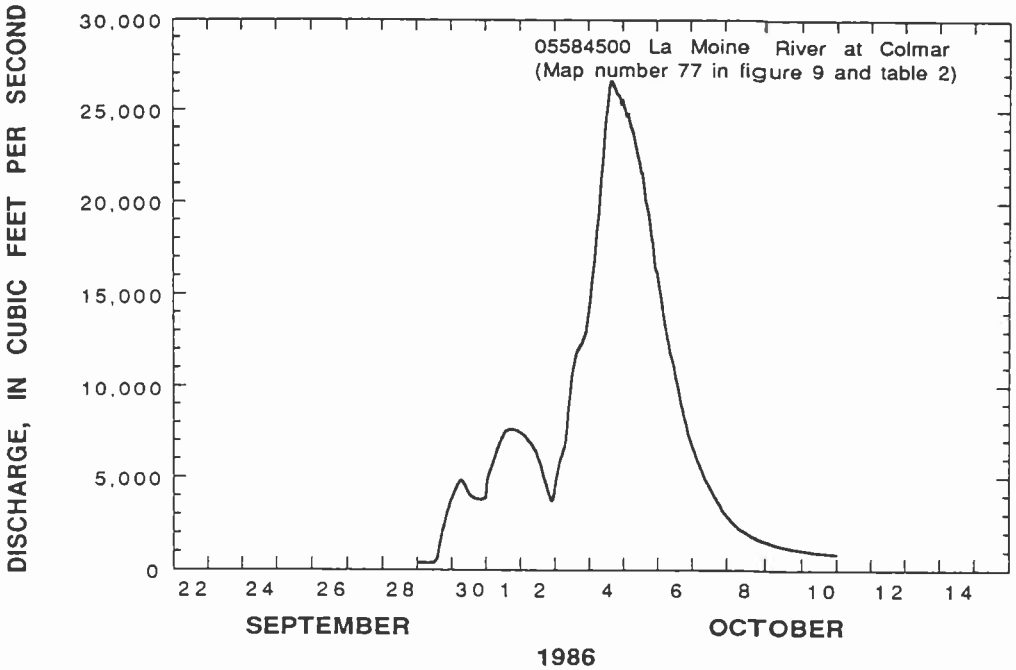


Figure 11.--Streamflow for selected streams in the Illinois River basin, September-October 1986--Continued.

The streamflow-gaging station that is the farthest upstream on the Des Plaines River in Illinois is at Russell (05527800), where the peak discharge of 1,640 ft^3/s, on September 27, corresponds to an RI of 9 years. The maximum discharge for 41 years of record, 3,530 ft^3/s at a stage of 11.95 ft, occurred on September 27 on the Des Plaines River near Gurnee (05528000); the RI was greater than 100 years. The discharge near Gurnee exceeded the previous maximum of April 1960 by 460 ft^3/s; stage was 1.31 ft higher. Downstream, a discharge of 4,900 ft^3/s was recorded on the Des Plaines River near Des Plaines (05529000) on October 1. This peak discharge of record corresponds to a 50-year RI and exceeds the previous maximum of 46 years of record by 230 ft^3/s; stage of the previous maximum peak discharge was exceeded by 2.32 ft. The Des Plaines River at Riverside (05532500) peaked on October 3 at a discharge of 7,590 ft^3/s and a stage of 8.87 ft. The peak at Riverside corresponded to an RI of 70 years and exceeded the maximum peak discharge for 43 years of record by 1,080 ft^3/s and the corresponding stage by 0.59 ft. The maximum discharge (492 ft^3/s at a stage of 8.27 ft) for 35 years of record for Skokie River at Lake Forest (05535000) occurred on September 26, had an RI exceeding 100 years, and surpassed the previous peak discharge of July 1982 by 57 ft^3/s but at a stage 0.08 ft lower. At the next streamflow-gaging station downstream, Skokie River near Highland Park (05535070), the peak discharge recorded on September 30 had an RI of 9 years. At the North Branch Chicago River at Niles (05536000), the peak discharge of 1,800 ft^3/s on September 29 corresponded to an RI of 20 years. Station data for

Des Plaines River near Gurnee (05528000), Des Plaines River near Des Plaines (05529000), and Skokie River at Lake Forest (05535000) are listed in table 3 (at back of report). (Times shown in table 3 are central daylight time rather than central standard time, which is used elsewhere in this report).

In the Fox River basin, peak discharges of record were recorded on two tributaries to the Fox River. At Nippersink Creek near Spring Grove (05548280 with 21 years of record), the discharge of 2,910 ft^3/s recorded on September 26 exceeded the previous maximum by 480 ft^3/s, and the corresponding stage was exceeded by 1.23 ft; the RI was 35 years. At Boone Creek near McHenry (05549000, 39 years of record), the discharge of 345 ft^3/s (on September 27) exceeded the previous maximum by 69 ft^3/s, and the corresponding stage was exceeded by 0.50 ft; the RI was 60 years. Flow from these two tributaries contributed to the peak flood discharge of 6,170 ft^3/s on October 3 for the Fox River at Algonquin (05550000), which had an RI of 25 years. Downstream, the Fox River at its mouth at Dayton (05552500) peaked on October 4 at 10,700 ft^3/s, corresponding to an RI of less than 2 years. Station data for Nippersink Creek near Spring Grove (05548280) and Fox River at Algonquin (05550000) are listed in table 3.

In the Vermilion River basin, a peak discharge of record was recorded on October 3 at North Fork Vermilion River near Charlotte (05554000, 44 years of record). The record discharge of 4,900 ft^3/s (RI of 20 years) exceeded the previous maximum of May 1970 by 350 ft^3/s, and the corresponding stage was exceeded by 0.96 ft. Downstream, the Vermilion River at Pontiac (05554500) and near Leonore (05555300) peaked on October 4 and 5; RI's of peak discharges were 5 and 7 years, respectively.

In the Kickapoo Creek basin, Kickapoo Creek near Kickapoo (05563000, 42 years of record) crested at a record stage of 18.85 ft on October 3, exceeding the previous record set in July 1967 by 1.77 ft. The record stage exceeded the existing stage-discharge rating curve, but it was estimated to be equivalent to a discharge exceeding 30,000 ft^3/s and equal to or greater than a 50-year RI. Downstream, Kickapoo Creek at Peoria (05563500) peaked at 19,700 ft^3/s; the RI was 15 years.

In the Mackinaw River basin, no peak discharges of record were recorded, but the peak discharge at Panther Creek near El Paso (05567000) on October 3 corresponded to a 15-year RI. At the Mackinaw River near Congerville (05567500), the recorded discharge of 35,300 ft^3/s on October 4 corresponded to a 50-year RI. Downstream, the Mackinaw River near Green Valley (05568000) peaked at a discharge of 23,400 ft^3/s, also on October 4, which corresponded to a 15-year RI. Levee breaks were reported to have occurred on October 4 (Graff, 1986), which, in part, may account for the 10,000 acres of farmland flooded in Tazewell County, and for the peak discharge near Green Valley being less than that upstream near Congerville. Station data for Mackinaw River near Congerville (05567500) are listed in table 3.

In the Spoon River basin, no peak discharges of record were recorded, but Spoon River at London Mills (05569500) peaked on October 4 at 26,400 ft^3/s, a discharge that corresponded to a 30-year RI. Downstream at Seville (05570000), the peak was recorded on October 5 at 21,400 ft^3/s (RI of 7 years). On October 3, at Evelyn Branch near Bryant (05570360) the discharge of 276 ft^3/s

exceeded the 100-year RI but did not exceed the discharge of record of 325 ft^3/s established the previous June. Other peak discharges recorded in the basin during the flood had RI's of 3 years or less.

In the Sangamon River basin, peak discharges generally were less than the annual flood (RI less than 2 years). At Sugar Creek near Bloomington (05580950) and near Hartsburg (05581500), however, peaks corresponded to RI's of 4 and 8 years, respectively.

No peak discharge of record was recorded at any stream site in the La Moine River basin, but some flood peaks of note did occur. At Drowning Fork at Bushnell (05584400), a peak stage of 14.07 ft exceeded the previous maximum of 12.92 ft (3,500 ft^3/s) and was off the stage-discharge rating curve. It was estimated that the peak discharge at Bushnell exceeded the 100-year RI. Peak discharges of 28,700 ft^3/s at the La Moine River at Colmar (05584500) and 23,400 ft^3/s at Ripley (05585000) corresponded to RI's of 30 and 35 years, respectively. Station data for La Moine River at Colmar (05584500) are listed in table 3.

Upper Mississippi River Basin Below The Illinois River

The Mississippi River at Grafton (05587450) peaked at 423,000 ft^3/s on October 10; the corresponding RI was less than 2 years. Streams in the Cahokia Creek and Kaskaskia River basins peaked between September 30 and October 7, and these discharges also had RI's of less than 2 years.

FLOODS OF AUGUST 14-17, 1987

During August 13-14, 1987, intense thunderstorms caused severe flooding in northeastern Illinois and minor flooding in northwestern Illinois. Damage was most severe in the communities along the Des Plaines River and Salt Creek. In Cook County, about 8,900 buildings were affected by flooding or sewer backup; in Du Page County, about 7,500 buildings were affected. The total number of single-family units affected was about 11,500. Private-property damage was estimated at $53 million, and public-property damage was estimated at $9.4 million (Curtis, 1990, p. 50). The flooding claimed three lives in the Chicago area and a fourth near Rockford (National Oceanic and Atmospheric Administration, 1987a, p. 27). On August 14, Governor James R. Thompson declared Cook and Du Page Counties State disaster areas (fig. 4). The counties were declared Federal disaster areas on August 21, 1987 (Federal Emergency Management Agency, 1987, p. 3). The effect of flooding on transportation to and from Chicago O'Hare International Airport is shown in figure 12.

Meteorological Setting

On the evening of August 13, 1987, a stationary front was located across northern Missouri and Illinois through central-eastern Michigan. The surface analysis for 2100 hours c.s.t. on August 13 shows that all of Illinois, except the extreme northwest, was in the warm air mass southeast of the front (fig. 13).

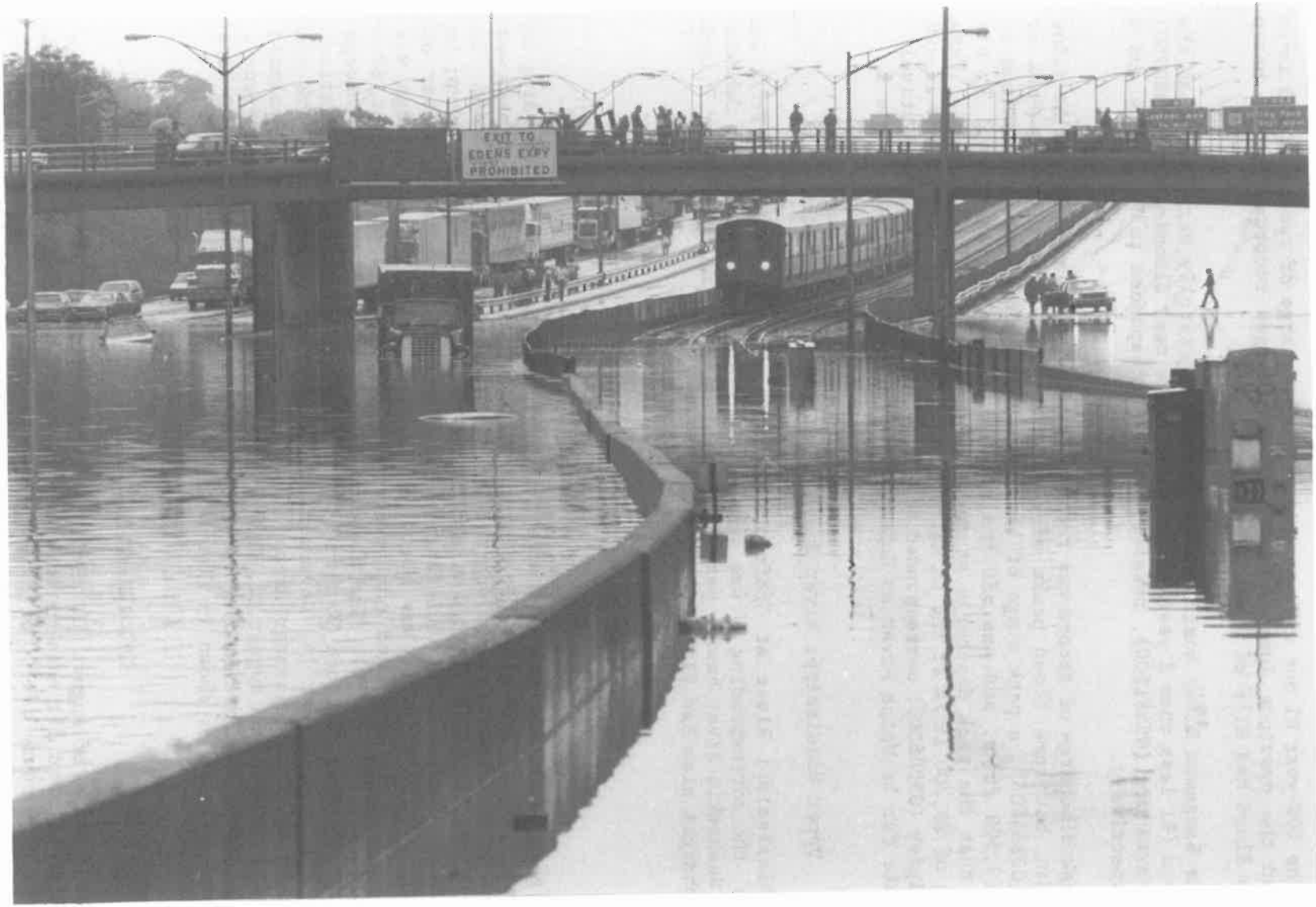


Figure 12.--Vehicles on the Kennedy Expressway and a southbound Chicago Transit Authority train stranded at the Addison Street overpass between downtown Chicago and Chicago O'Hare International Airport, August 14, 1987. (© Copyrighted, Chicago Tribune Company, all rights reserved, used with permission.)

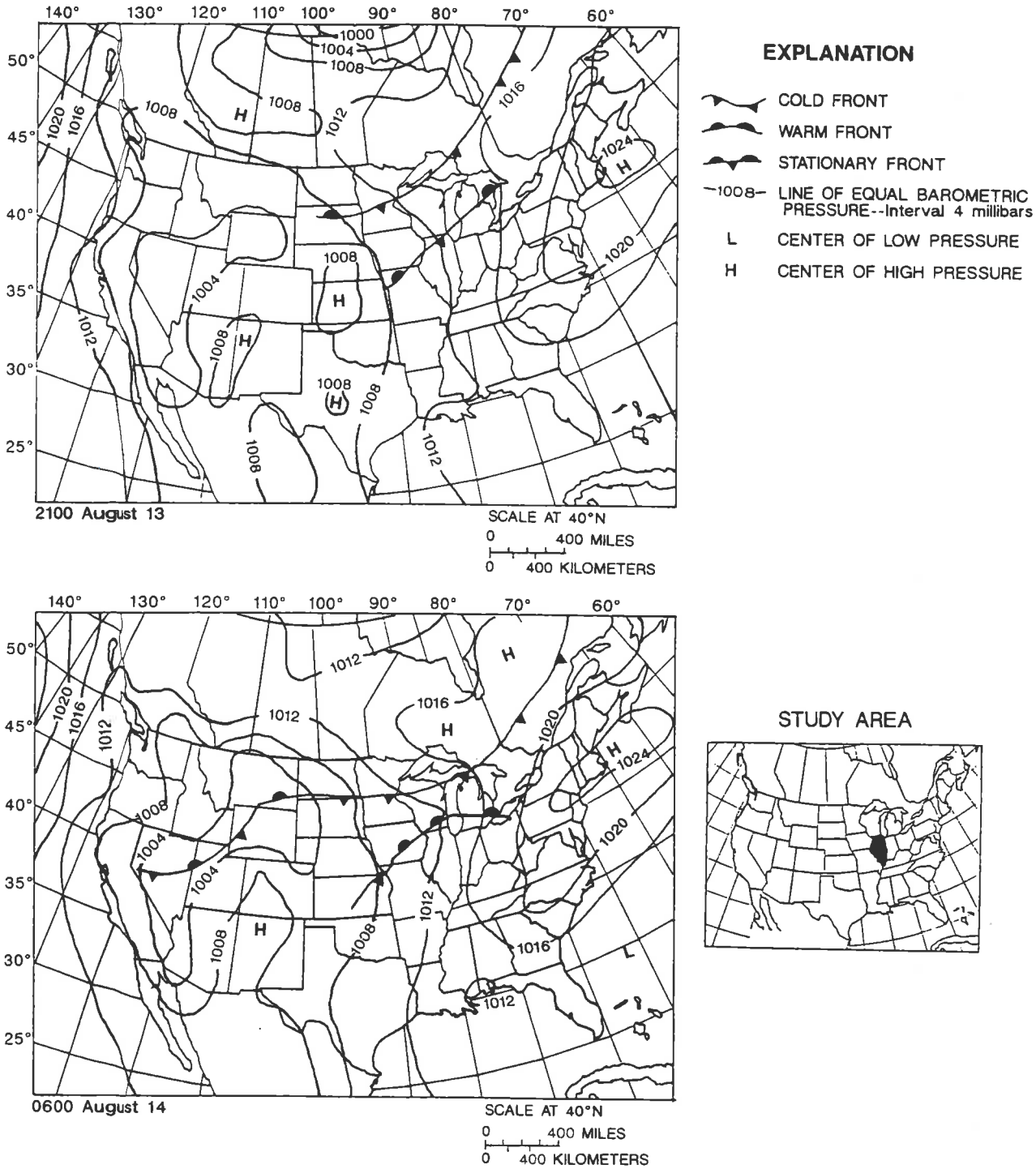


Figure 13.--Surface weather over the United States at 2100 hours central standard time on August 13 and at 0600 hours central standard time on August 14, 1987. (National Weather Service, written commun., 1988.)

The temperatures on both sides of the front were about 75°F; dewpoints were only 1-2°F lower south of the front but were as much as 10°F lower in the cold air mass north of the front. The warm air mass was at or near saturation as far as 6 mi above the Earth's surface. A short squall line of convective storms was moving northeastward from central Illinois (Merzlock, 1989, p. 11). This situation set the stage for rapid convective growth and heavy rainfall that began at 2115 hours c.s.t. on August 13; by 2130 hours c.s.t., the rain subsided. The second rainfall episode, which began at 0115 hours c.s.t. on August 14, was not accompanied by a major change in the surface weather; this episode ended at about 0230 hours c.s.t. The surface weather at 0600 hours c.s.t. on August 14 is shown in figure 13. Illinois continued to be in the warm saturated air mass. The final rainfall episode began at 0615 hours c.s.t. By about 0900 hours c.s.t., the convective forces leading to the heavy rainfall had begun to dissipate. Rainfall was light and scattered for the rest of the day.

Characteristics of Rainfall Distribution

Rainfall across the northern part of the State during August was 255 percent of normal in the northwest and 286 percent of normal in the northeast. Rainfall across the middle of the State was 132 percent of normal in the west, 113 percent of normal in the central part, and 171 percent of normal in the east. These above-normal percentages were largely the result of storms in the middle of the month and again at the end of the month (R.G. Semonin, Illinois State Water Survey, written commun., 1987).

During the period August 9-13, only 1-2 in. of rain fell in the northwestern part of the State. Elsewhere in the State, as much as 2.8 in. of rain fell at Chicago O'Hare International Airport (32), in the northeastern part; 3.39 in. fell at Quincy (139), in the western part; 0.69 in. fell at Normal (119), in the central part; and 1.67 in. fell at Kankakee (83), in the eastern part.

The temporal and spatial distributions of the storm rainfall indicate that the first showers of the storm period occurred in the northwestern and western parts of the State. Plots of cumulative rainfall (fig. 14) indicate that the early, scattered rainfall on August 13, in western Illinois, was of low intensity. By midafternoon, rainfall activity increased in the eastern and central parts of the State. At approximately 2015 hours c.s.t. on August 13, the first high-intensity storm hit northeastern Illinois with 2.51 in. of rainfall accumulation in just over an hour. Thunderstorms repeatedly formed over Du Page County and moved northeastward over Cook and southern Lake Counties. Heavy rain fell in three distinct periods starting at approximately 2115 hours c.s.t. on August 13, at approximately 0100 hours c.s.t. on August 14, and at approximately 0615 hours c.s.t. on August 14. About 3 in. of rain fell during each 1-2 hour period (fig. 14). By 1245 hours c.s.t. on August 14, Chicago O'Hare International Airport had received 9.35 in. of rain--an unprecedented amount in the 116 years of record--surpassing the city's previous 24-hour rainfall record of 6.24 in. (National Oceanic and Atmospheric Administration, 1987a, p. 27). The previous 24-hour record for Chicago was set on July 13, 1957 (Curtis, 1990, p. 49). The rainfall recurrence intervals for the 48-hour period of heaviest rainfall, for selected rainfall-gaging stations, are listed in table 4 (at back of report). Additional, unofficial data collected at rainfall-gaging stations

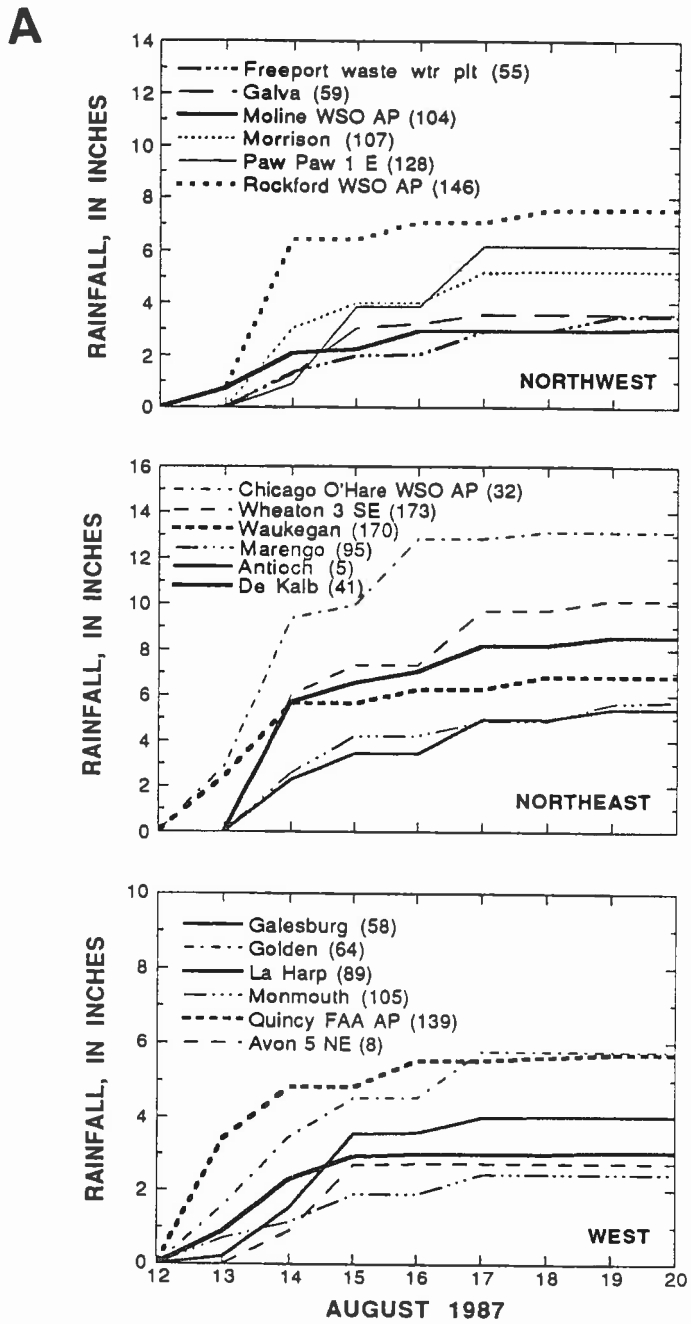


Figure 14.--Cumulative daily (A) and hourly (B) rainfall at selected rainfall-gaging stations in Illinois, August 12-20, 1987. (Numbers refer to locations in figure 1. Data from the National Oceanic and Atmospheric Administration, 1987b-g.)

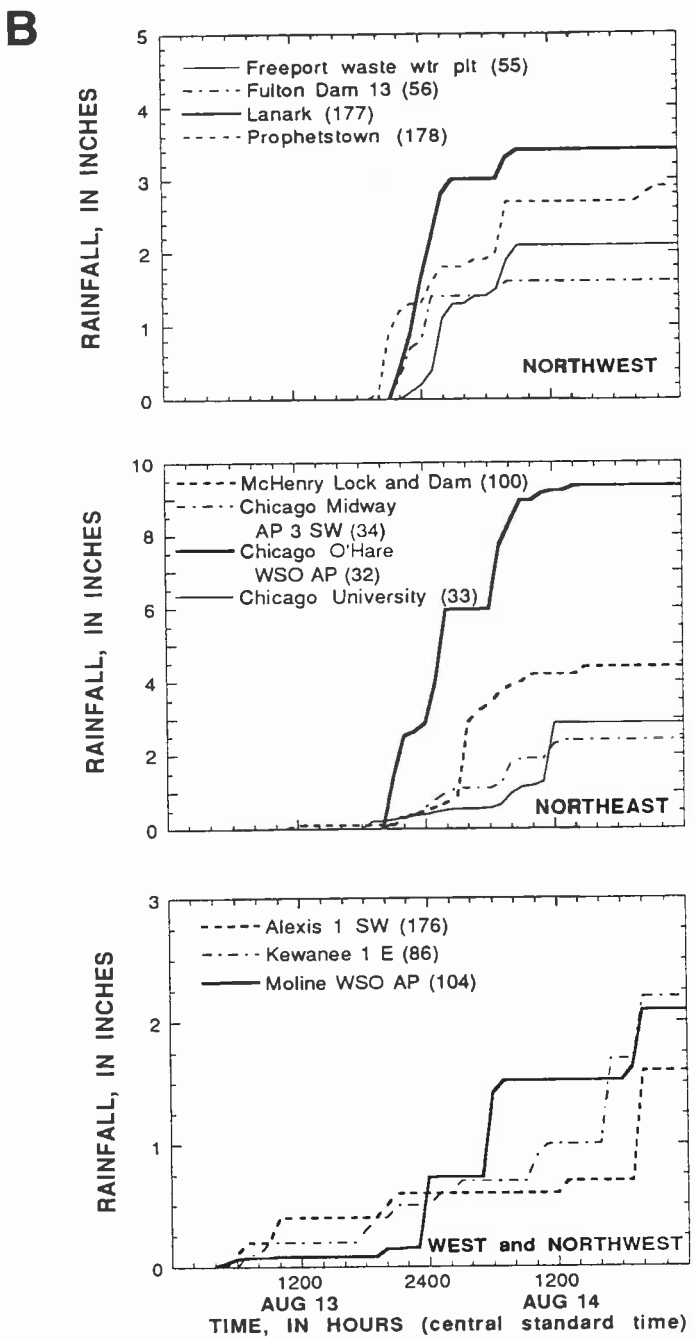


Figure 14.--Cumulative daily (A) and hourly (B) rainfall at selected rainfall-gaging stations in Illinois, August 12-20, 1987--Continued. (Numbers refer to locations in figure 1. Data from the National Oceanic and Atmospheric Administration, 1987b-g.)

not operated by the National Weather Service are presented in table 5 (at back of report) and figure 15. The methodology used to capture rain and record the rainfall at the unofficial sites may not be comparable in accuracy to National Weather Service methods.

The spatial distribution of the 2-day total storm rainfall is shown on plate 1B (in pocket). The greatest rainfall was in and near Rockford (146) in northwestern Illinois; and Chicago O'Hare International Airport (32), De Kalb (41), and Wheaton (173) in northeastern Illinois.

Description and Analysis of Floods

Within a year of the previous severe flood, major flooding again took place in the Des Plaines River basin. Peak discharges of record were recorded on McDonald Creek, Salt Creek, Addison Creek, and the Des Plaines River. Peak discharges of record also were established on North Branch Chicago River, Skokie River, and West Fork of North Branch Chicago River. In the Du Page River basin, peak discharges of record were recorded on West Branch Du Page River and St. Joseph Creek.

Other streams also were affected by the storms. Their peak stages and discharges, along with their respective RI's, are listed in table 6 (at back of report). The spatial distribution of the RI's is shown in figures 16 and 17. Unlike the 1986 flood previously described, the rainfall and flood RI's for this flood were similar.

Upper Mississippi River Basin Above The Illinois River

No peak discharges of record were recorded in the Rock River basin. The peak discharges that were recorded (RI's of 5 years or less) indicate that few streamflow-gaging stations were near the peak rainfall area.

Illinois River Basin

Eleven peak discharges of record in the Illinois River basin resulted from the storms of August 13-14. Recurrence intervals were greater than 100 years at 10 of those sites. The peak discharges were as much as 1.4 times greater than the 100-year flood discharge (Curtis, 1990, p. 50). All of the new peaks recorded in the Des Plaines River basin were either on the main stem or on tributaries to it. The peak discharge for the Des Plaines River near Gurnee (05528000), on August 14, was less than the annual flood (RI less than 2 years). Downstream, however, inflow from Buffalo Creek, which had a peak discharge of 717 ft^3/s (RI of 15 years) near Wheeling (05528500), increased the RI to 7 years at Des Plaines River near Des Plaines (05529000). The severe flooding along the lower reach of the Des Plaines River was caused by the large inflow of water from its tributaries downstream from Des Plaines.

At McDonald Creek near Mount Prospect (05529500), a discharge of 806 ft^3/s at a stage of 8.08 ft, the maximum for 36 years of record, was recorded on August 14. The previous maximum discharge was exceeded by 142 ft^3/s, and the

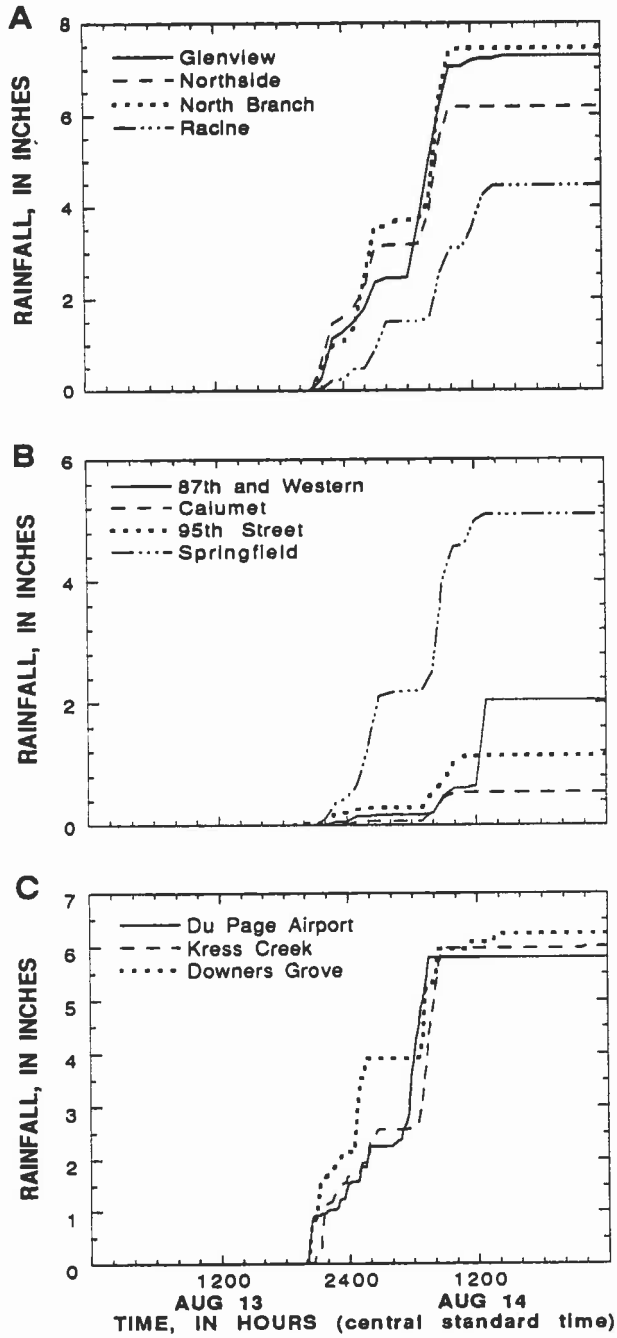
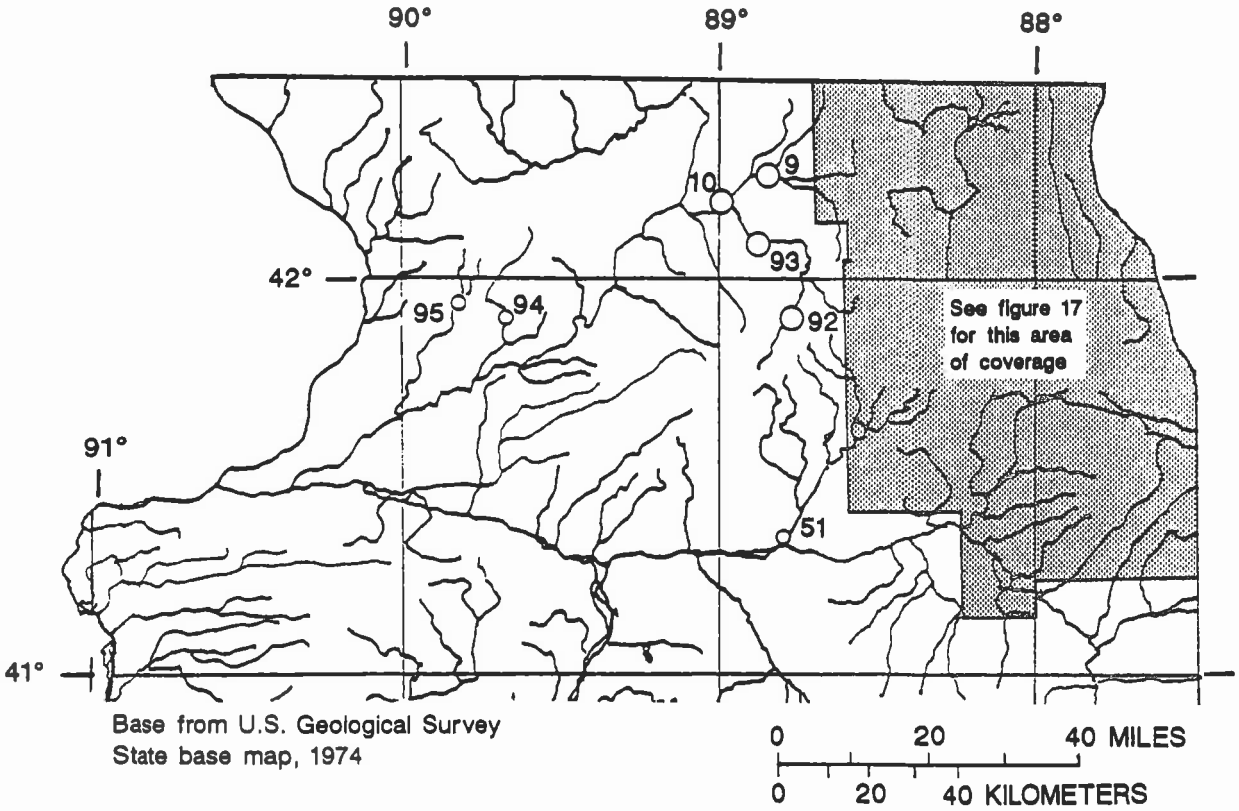


Figure 15.--Cumulative hourly rainfall at selected rainfall-gaging stations in Cook and Du Page Counties, Illinois, August 13-14, 1987. (Data for (A) and (B) from the Metropolitan Water Reclamation District of Greater Chicago, written commun., 1989; data for (C) from J.J. Duncker, U.S. Geological Survey, written commun., 1991.)



EXPLANATION

RECURRENCE INTERVAL OF FLOOD AT STREAMFLOW-GAGING STATIONS, IN YEARS

- ○ Less than 2
- ◯ 2-10

Figure 16.--Recurrence intervals for the floods of August 14-17, 1987, at selected streamflow-gaging stations in northern Illinois (numbers are referenced to table 6).

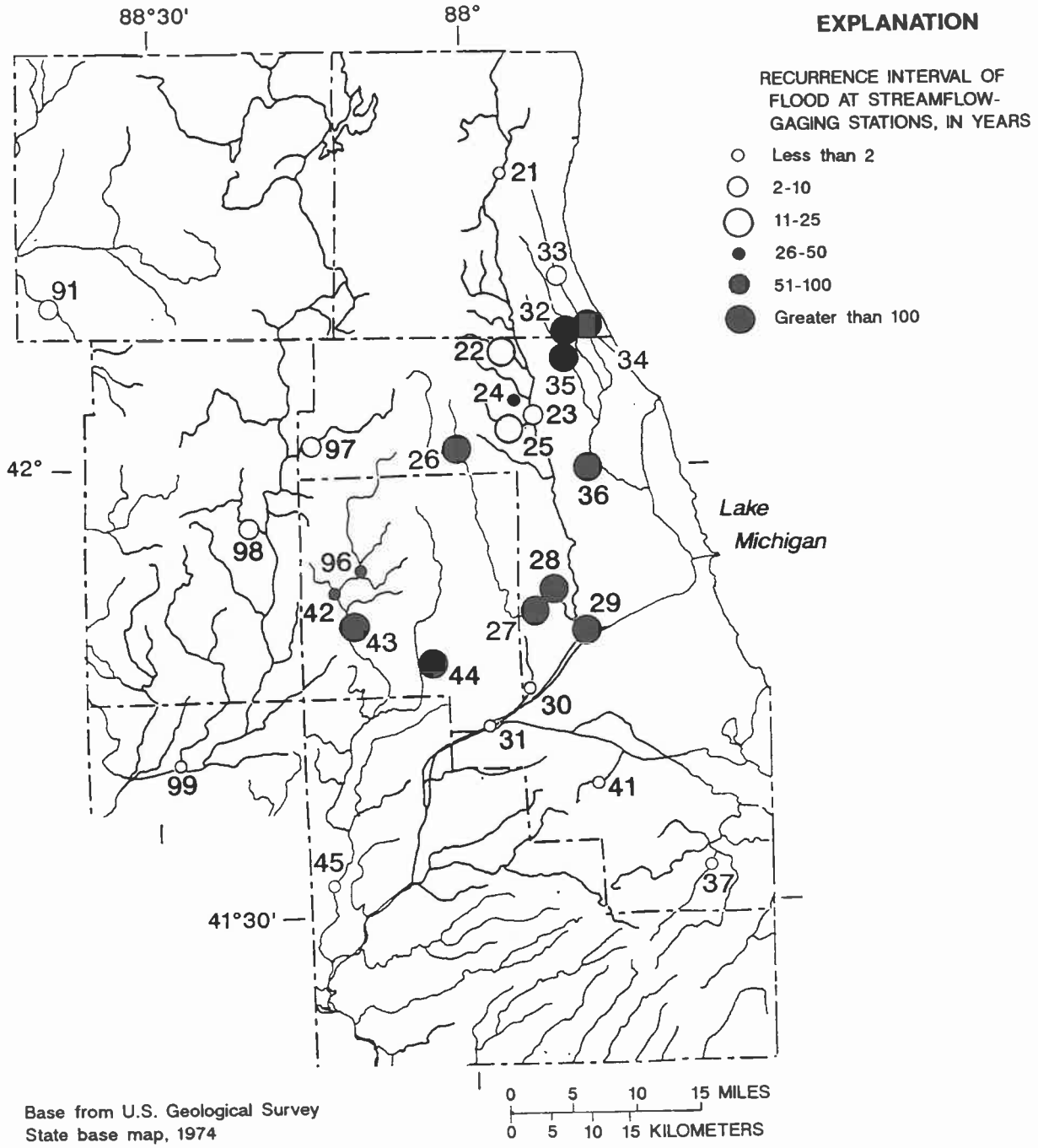


Figure 17.--Recurrence intervals for the floods of August 14-17, 1987, at selected streamflow-gaging stations in northeastern Illinois (numbers are referenced to table 6).

corresponding stage was exceeded by 0.50 ft; the RI was 50 years. Downstream, at Weller Creek at Des Plaines (05530000), the peak discharge of 1,490 ft^3/s on August 14 corresponded to an RI of 25 years. Salt Creek at Rolling Meadows (05530990) peaked at 1,650 ft^3/s (14.03 ft) on August 14. The peak discharge at Rolling Meadows corresponded to an RI 1.4 times greater than a 100-year RI (Curtis, 1990, p. 50) and exceeded the maximum for 14 years of record by 590 ft^3/s of discharge and 1.47 ft in stage. Downstream, at Western Springs (05531500), Salt Creek peaked at 3,230 ft^3/s, also on August 14; this peak discharge was the maximum for 42 years of record and also corresponded to an RI 1.4 times greater than the 100-year RI (Curtis, 1990, p. 50). Additional rains on August 16 caused Salt Creek at Western Springs to rise to 3,540 ft^3/s (10.54 ft), surpassing the new maximum for 42 years of record set 3 days earlier. Addison Creek at Bellwood (05532000) peaked on August 14 at 1,120 ft^3/s (12.84 ft). The peak discharge at Bellwood exceeded the maximum discharge for 37 years of record by 281 ft^3/s, and the corresponding stage was exceeded by 2.16 ft; the RI was greater than 100 years. The inflow from these tributaries resulted in a peak discharge of record, 9,770 ft^3/s (at 9.90 ft) on the Des Plaines River at Riverside (05532500) on August 15; the discharge corresponded to an RI 1.2 times greater than the 100-year RI (Curtis, 1990, p. 50). Station data for Buffalo Creek near Wheeling (05528500), McDonald Creek near Mount Prospect (05529500), Weller Creek at Des Plaines (05530000), Salt Creek at Rolling Meadows (05530990), Salt Creek at Western Springs (05531500), and Des Plaines River at Riverside (05532500) are listed in table 7 (at back of report). (Times given in table 7 are central daylight time rather than central standard time, which is used elsewhere in this report.) Streamflow hydrographs for selected sites in the Des Plaines River basin are shown in figure 18.

Peak discharges of record also were recorded at North Branch Chicago River at Deerfield (05534500) (933 ft^3/s at 11.52 ft) and at Niles (05536000) (2,590 ft^3/s at 11.35 ft) on August 14. Both discharges exceeded the 100-year RI and the previous maximums for 36 and 37 years of record, respectively. Peak discharges on tributaries to the North Branch Chicago River, Skokie River near Highland Park (05535070), and West Fork of North Branch Chicago River at Northbrook (05535500), also were peak discharges of record. At Skokie River near Highland Park (05535070), peak discharge was 895 ft^3/s (at 9.09 ft) on August 14. This peak discharge exceeded the 100-year RI and exceeded the maximum for 21 years of record by 171 ft^3/s; the corresponding stage was exceeded by 0.63 ft. About 6 mi upstream from Highland Park, however, the peak discharge of Skokie River at Lake Forest (05535000) corresponded to an RI of just 3 years, an indication of the extreme variability in storm rainfall. Station data for North Branch Chicago River at Deerfield (05534500), Skokie River near Highland Park (05535070), West Fork of North Branch Chicago River at Northbrook (05535500), and North Branch Chicago River at Niles (05536000) are listed in table 7.

Peak discharges of record also were recorded on tributaries to the Du Page River. Peak discharges on West Branch Du Page River near West Chicago (05539900) (958 ft^3/s) and on Kress Creek at West Chicago (05540060) (573 ft^3/s) correspond to 35-year RI's, but the floods of December 1982 and July 1964 were greater. Downstream, however, the peak discharges of West Branch Du Page River near Warrenville (05540095) on August 15 was a record 3,050 ft^3/s (at 5.85 ft) which exceeded the 100-year RI for 19 years of record. At St. Joseph Creek at Lisle (05540200), the peak discharge of 1,230 ft^3/s (at 8.10 ft) on August 14 nearly doubled the previous maximum for 18 years of record that had been recorded the

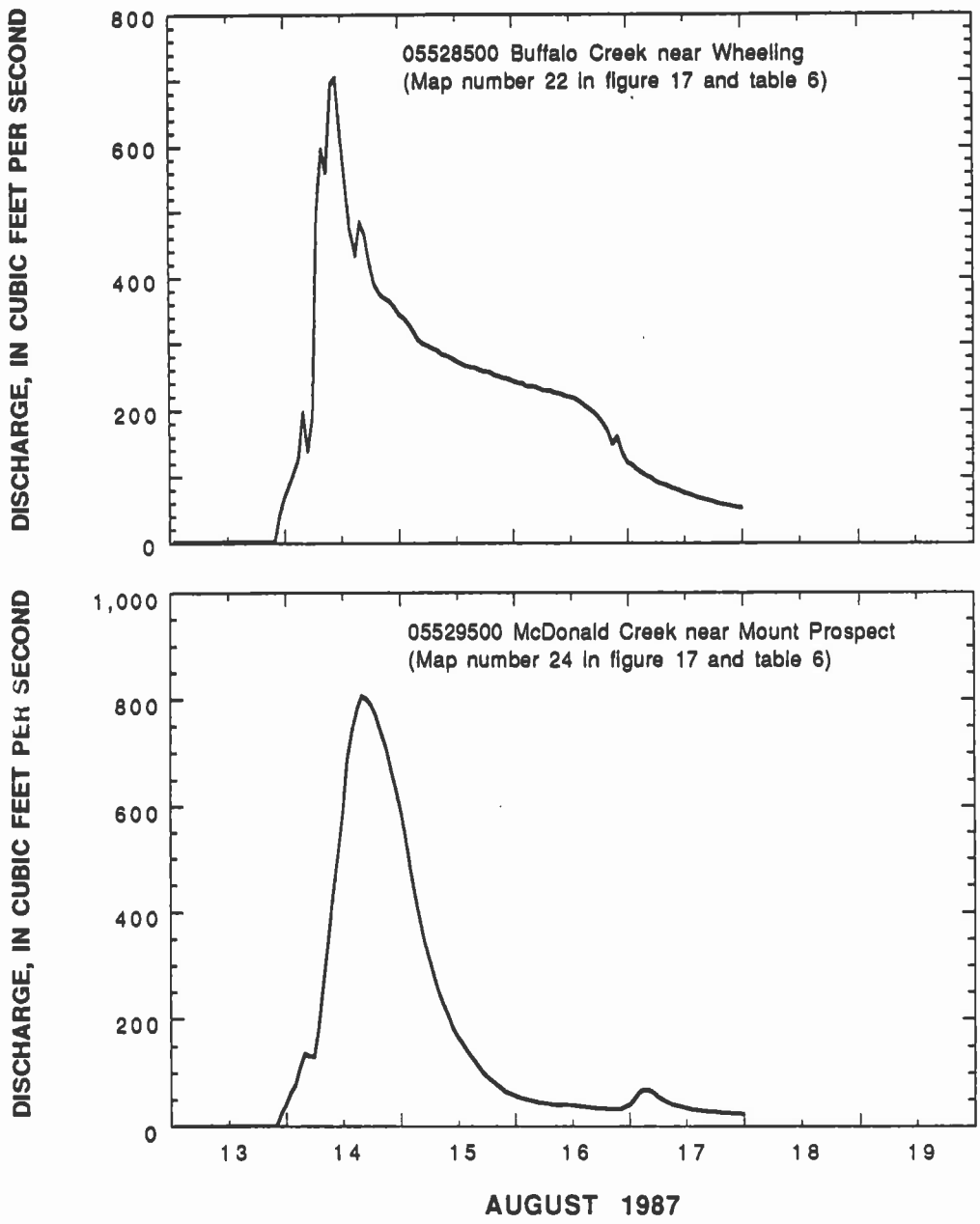


Figure 18.--Streamflow for selected streams in the Des Plaines River basin, August 1987.

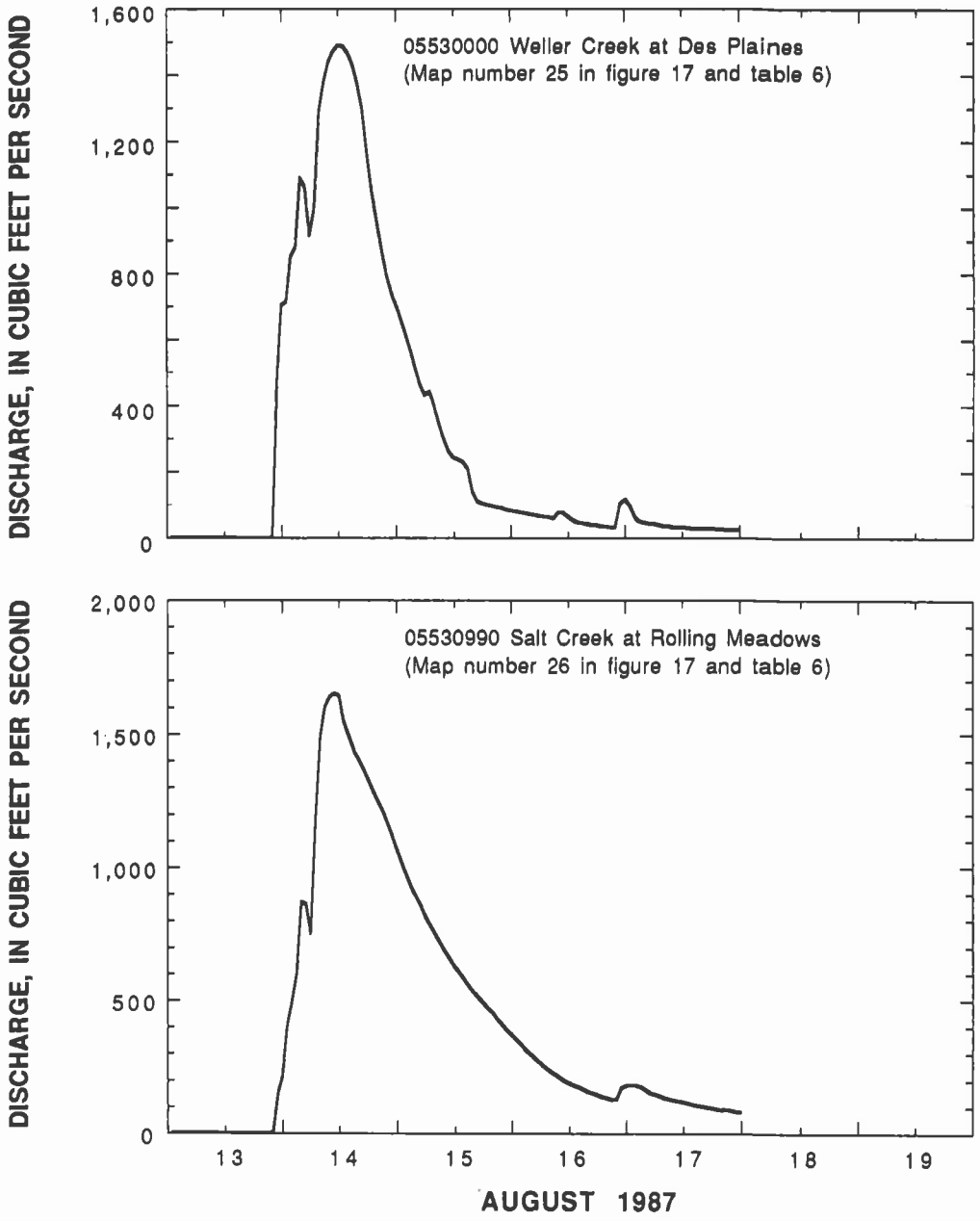


Figure 18.--Streamflow for selected streams in the Des Plaines River basin, August 1987--Continued.

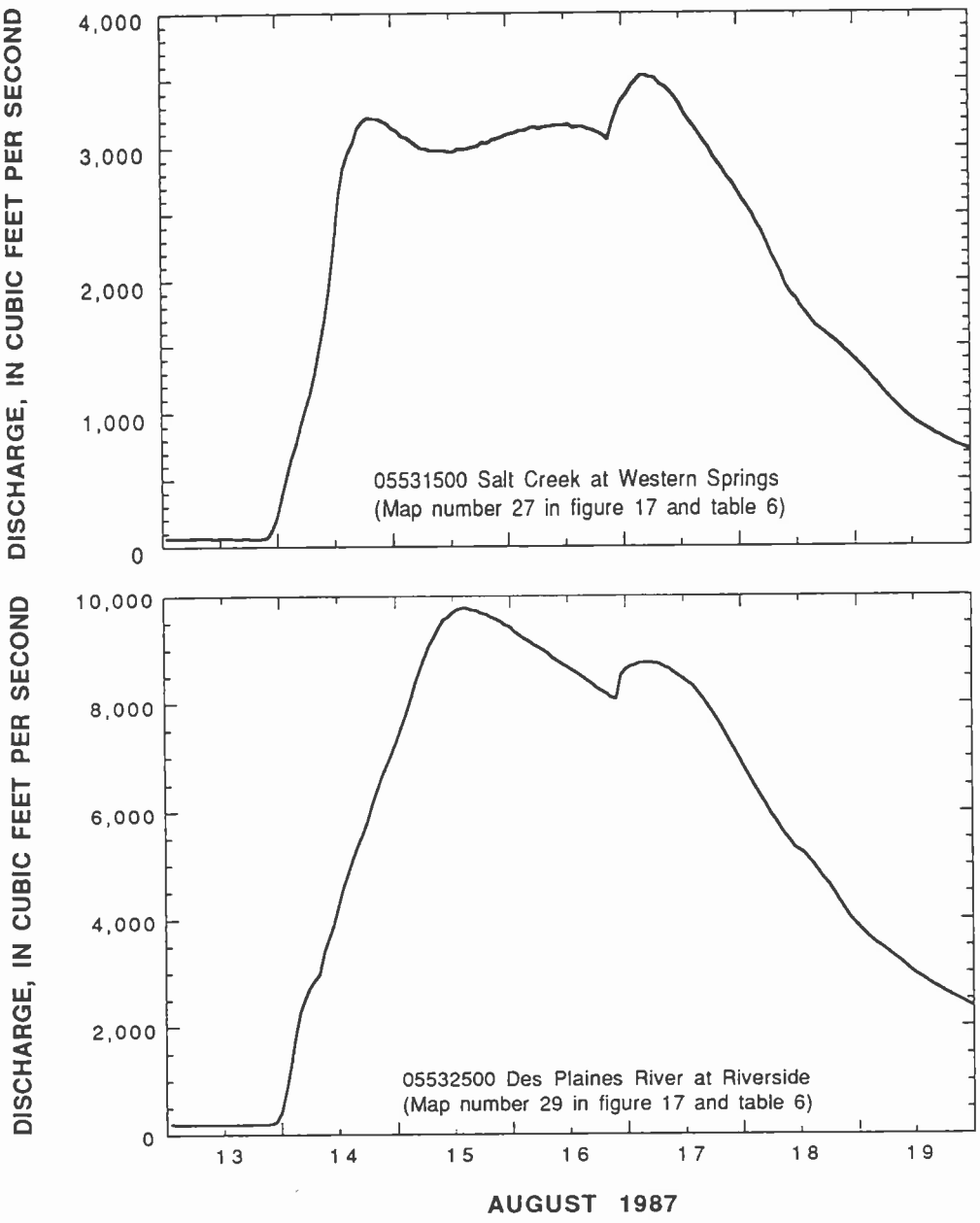


Figure 18.--Streamflow for selected streams in the Des Plaines River basin, August 1987--Continued.

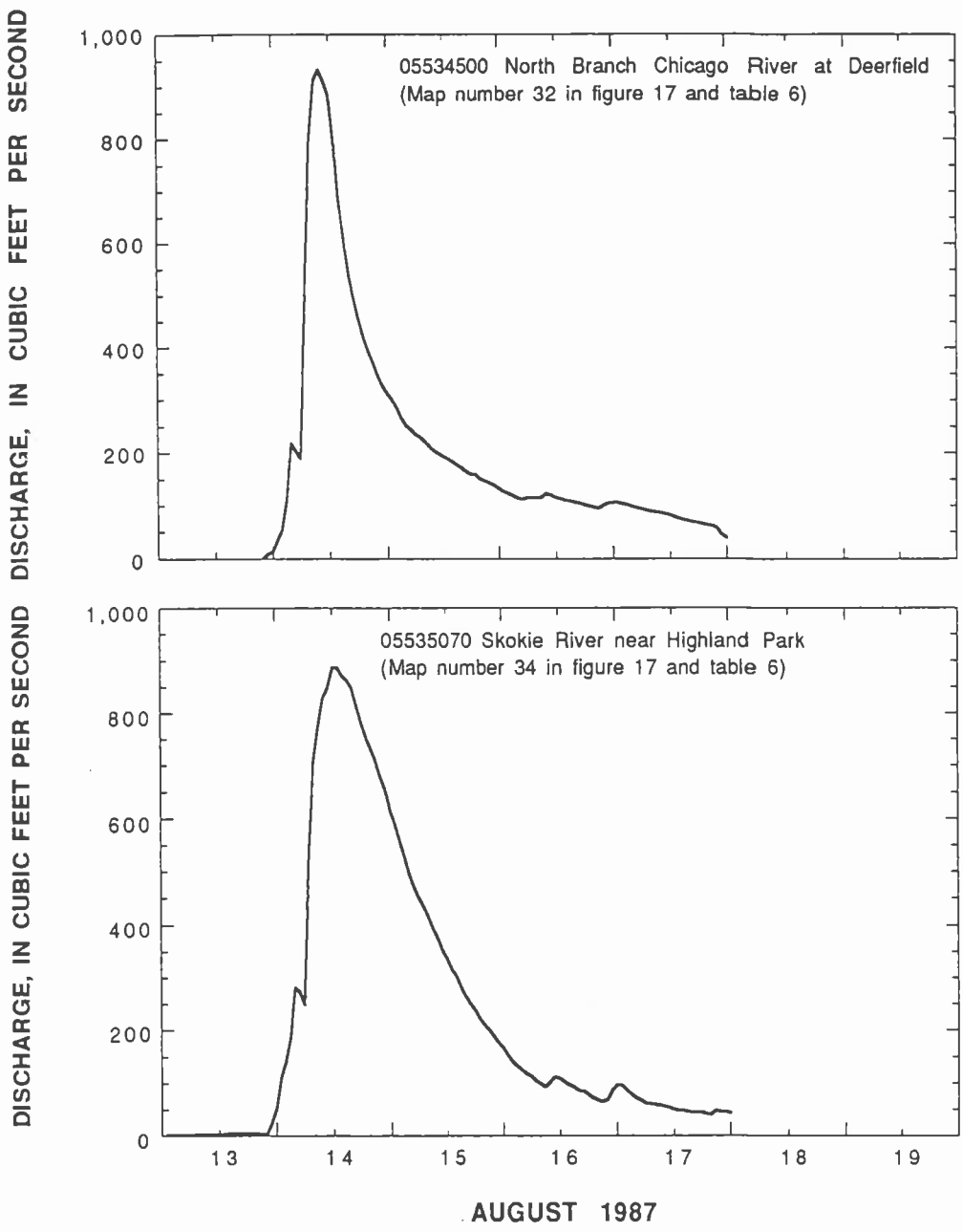


Figure 18.--Streamflow for selected streams in the Des Plaines River basin, August 1987--Continued.

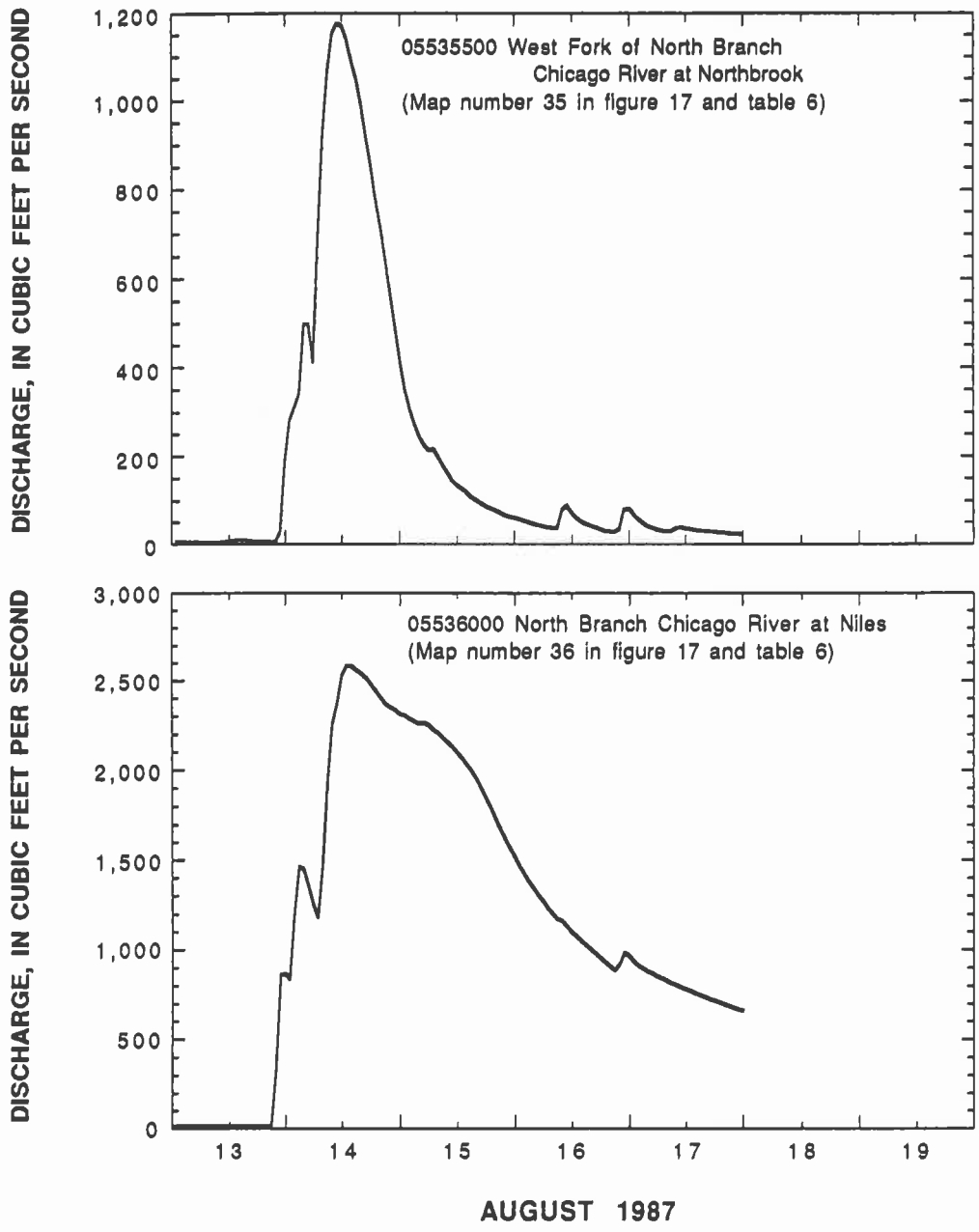


Figure 18.--Streamflow for selected streams in the Des Plaines River basin, August 1987--Continued.

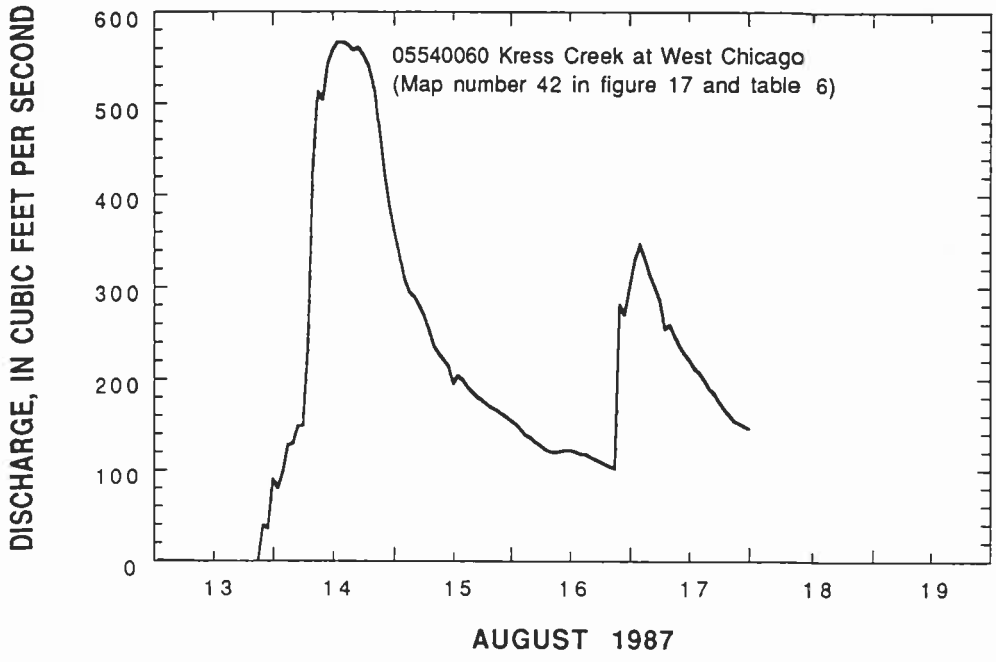


Figure 18.--Streamflow for selected streams in the Des Plaines River basin, August 1987--Continued.

previous October. The Du Page River at Shorewood (05540500), the streamflow-gaging station farthest downstream, peaked at 3,650 ft^3/s on August 17, a peak equivalent to less than a 2-year RI. Station data for Kress Creek at West Chicago (05540060) are listed in table 7.

In the Fox River basin, no new peak discharges of record were recorded. The peak discharges that were recorded as a result of the August 13-14 storms had RI's that were 7 years or less.

SUMMARY

The storms of October 2-3, 1986, and August 13-14, 1987, in Illinois, though of contrasting types, both caused record floods and stream discharges with recurrence intervals exceeding 100 years. The storms of October 2-3, 1986, were associated with a cold front that stalled over northern and central Illinois from September 28-October 4. The storms varied in intensity and duration over a large area. The size of the resulting floods was due to the combined rainfall from the October 2-3 storms and 2 weeks of nearly daily rainfall that preceded the storms. The storms of August 13-14, 1987, were convective storms of short duration and high intensity over a limited area in northeastern Illinois. Antecedent rainfall was not an important factor in the resulting floods.

Meteorological and hydrological analyses of the storms are compiled in this report for the future reference of water-resource planners. The meteorological analyses include surface-weather maps showing the air mass and frontal conditions that produced the storms. The temporal and spatial distribution of the rainfall preceding and during the flooding is described by isohyetal maps and plots of cumulative daily and hourly rainfall. Hydrologic data and analyses include discharge hydrographs, streamflow data, frequency analyses of the peak discharges, and a comparison of peak stages and discharges for the floods to previous records.

The floods of September 26-October 4, 1986, included nine peak discharges of record, of which four exceeded the 100-year recurrence interval. The floods of August 14-17, 1987, produced 11 peak discharges of record, of which 10 exceeded the 100-year flood recurrence interval. The 1986 floods were scattered throughout the Illinois River basin and were most severe in northeastern Illinois. The floods of 1987 were localized and confined to the Des Plaines River basin. For the 1986 flood, the 3-day rainfall recurrence intervals were much smaller than the flood recurrence intervals, but the 10-day rainfall recurrence intervals were in close agreement. For the 1987 flood, the rainfall and flood recurrence intervals were in close agreement.

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TABLES 1-7

Table 1.--Total rainfall and recurrence intervals at selected National Weather Service stations in Illinois during the storms of September 25-October 4, 1986

[<, less than; rainfall data from the National Oceanic and Atmospheric Administration (1986a, 1986b)]

Map number[1]	Station name	Time of daily reading[2] (hour)	September 25-October 4, 1986 Total rainfall (inches)	September 25-October 4, 1986 Recurrence interval[3] (years)	October 2-4, 1986 Total rainfall (inches)	October 2-4, 1986 Recurrence interval[3] (years)
			NORTHWEST			
55	Freeport waste-water plant	0700	7.48	12	1.20	<2
59	Galva	0700	5.52	3	1.93	<2
61	Geneseo	2400	4.56	<2	1.37	<2
86	Kewanee 1 E	0800	4.66	<2	2.02	<2
107	Morrison	0700	4.25	<2	1.13	<2
110	Mount Carroll	0800	3.81	<2	.87	<2
128	Paw Paw 1 E	0600	3.88	<2	1.48	<2
146	Rockford WSO AP	2400	3.63	<2	.34	<2
158	Stockton 1 N	0800	5.64	3	.89	<2
			NORTHEAST			
5	Antioch 2 NW	0700	8.34	25	0.42	<2
9	Barrington	0800	6.13	5	1.25	<2
32	Chicago O'Hare	2400	4.93	<2	2.07	<2
33	Chicago University	1200	5.47	3	1.64	<2
34	Chicago Midway	2400	5.70	4	1.86	<2
82	Joliet Brandon Road Dam	0700	4.76	<2	2.67	<2
90	Lake Villa 2 NE	2400	3.94	<2	.23	<2
95	Marengo	0700	7.87	15	.75	<2
97	Marseilles Lock	0700	7.36	15	4.08	3
170	Waukegan	0600	10.30	65	.70	<2
173	Wheaton 3 SE	0700	7.45	15	1.85	<2
			WEST			
8	Avon 5 NE	0700	10.12	85	7.58	35
58	Galesburg	0700	7.02	5	2.20	<2
89	La Harpe	0700	8.90	20	4.98	4
105	Monmouth	1800	5.03	<2	2.45	<2
139	Quincy FAA AP	2400	4.87	<2	3.54	<2

Table 1.--Total rainfall and recurrence intervals at selected National Weather Service stations in Illinois during the storms of September 25-October 4, 1986--Continued

Map number[1]	Station name	Time of daily reading[2] (hour)	September 25-October 4, 1986 Total rainfall (inches)	September 25-October 4, 1986 Recurrence interval[3] (years)	October 2-4, 1986 Total rainfall (inches)	October 2-4, 1986 Recurrence interval[3] (years)
			CENTRAL			
29	Chenoa	1800	7.79	20	5.69	15
53	Farmer City 2 W	0700	2.96	<2	.50	<2
74	Havana 4 NNE	0700	7.08	10	3.70	2
92	Lincoln	0700	3.34	<2	1.08	<2
103	Minonk	0800	7.61	15	3.27	<2
119	Normal	1600	6.03	4	3.80	2
131	Peoria WSO AP	2400	4.49	<2	2.68	<2
138	Princeville	1800	7.43	15	4.11	3
			EAST			
136	Pontiac	0700	6.79	8	3.36	<2
			WEST SOUTHWEST			
70	Griggsville	0700	6.04	3	2.29	<2
157	Springfield WSO AP	2400	3.25	<2	1.06	<2

[1] Map number refers to figure 1.
[2] Central standard time.
[3] Determined according to the techniques of Huff and Angel (1989).

Table 2.--Summary of peak stages and discharges for the floods of late September and early October 1986 at selected streamflow-gaging stations in Illinois

[mi^2, square miles; WY, water year; ft, feet; ft^3/s, cubic feet per second; --, no data; <, less than; >, greater than; ≥, greater than or equal to]

Map number	Station number	Station name	Drainage area (mi^2)	Period of record (WY)	Type of record[1]	Previously recorded maximum flood: Date	Previously recorded maximum flood: Gage height (ft)	Previously recorded maximum flood: Discharge (ft^3/s)	Maximum flood of September/October 1986: Date	Maximum flood of September/October 1986: Gage height (ft)	Maximum flood of September/October 1986: Discharge (ft^3/s)	Maximum flood of September/October 1986: Recurrence interval (years)
		OHIO RIVER BASIN										
		Wabash River basin										
1	03344500	Range Creek near Casey, Ill.	7.61	1951-82, 1983-	D C	08-11-61	12.50	3,500	10-01	9.07	754	<2
2	03378635	Little Wabash River near Effingham, Ill.	240	1967-	D	04-20-70	19.95	10,300	10-04	14.66	3,060	<2
		UPPER MISSISSIPPI RIVER BASIN ABOVE THE ILLINOIS RIVER										
		Sinsinawa River basin										
3	05414820	Sinsinawa River near Menominee, Ill.	39.6	1968-	D	06-29-69	13.34	11,600	09-29	11.42	6,660	7
		Apple River basin										
4	05419000	Apple River near Hanover, Ill.	247	1935-	D	01-05-46	25.37	12,000	09-29	16.50	4,860	<2
		Mississippi River main stem										
5	05420500	Mississippi River at Clinton, Iowa	85,600	1873-	D	04-28-65	--	307,000	10-06	--	201,000	10
		Rock River basin										
6	05435500	Pecatonica River at Freeport, Ill.	1,326	1914-	D	03-16-29	[2]19.76	18,400	09-26	12.61	3,550	<2
7	05437500	Rock River at Rockton, Ill.	6,363	1903-09, 1914-19, 1940-	D D D	03-30-16	[2]13.06	32,500	10-05	10.82	17,400	3

Table 2.--Summary of peak stages and discharges for the floods of late September and early October 1986 at selected streamflow-gaging stations in Illinois--Continued

Map number	Station number	Station name	Drainage area (mi^2)	Period of record (WY)	Type of record[1]	Previously recorded maximum flood: Date	Previously recorded maximum flood: Gage height (ft)	Previously recorded maximum flood: Discharge (ft^3/s)	Maximum flood of September/October 1986: Date	Maximum flood of September/October 1986: Gage height (ft)	Maximum flood of September/October 1986: Discharge (ft^3/s)	Maximum flood of September/October 1986: Recurrence interval (years)
		UPPER MISSISSIPPI RIVER BASIN ABOVE THE ILLINOIS RIVER--Continued										
		Rock River basin--Continued										
8	05437695	Keith Creek at Eighth Street at Rockford, Ill.	13.4	1980-86, 1987-	D D7	09-01-81	10.48	1,600	09-25	9.81	1,240	5
9	05438500	Kishwaukee River at Belvidere, Ill.	538	1940-	D	03-16-43	13.10	10,300	09-26	9.32	4,570	3
10	05440000	Kishwaukee River near Perryville, Ill.	1,099	1940-	D	03-21-79	20.48	16,700	09-26	11.62	5,510	<2
11	05446500	Rock River near Joslin, Ill.	9,549	1940-	D	03-22-48	14.46	46,200	10-03	13.61	23,400	2
		Edwards River basin										
12	05466000	Edwards River near Orion, Ill.	155	1941-	D	02-19-51	13.41	8,910	10-03	12.00	2,810	<2
13	05466500	Edwards River near New Boston, Ill.	445	1935-	D	04-22-73	23.33	18,000	10-05	19.01	2,090	<2
		Henderson Creek basin										
14	05469000	Henderson Creek near Oquawka, Ill.	432	1935-	D	07-08-82	31.05	34,600	10-04	26.73	7,250	4
		Mississippi River main stem										
15	05474500	Mississippi River at Keokuk, Iowa	119,000	1878-	D	04-24-73	--	344,000	10-06	--	268,000	20
		Bear Creek basin										
16	05495500	Bear Creek near Marcelline, Ill.	349	1944-	D	03-04-85	28.38	29,500	10-03	24.10	20,700	15

Table 2.--Summary of peak stages and discharges for the floods of late September and early October 1986 at selected streamflow-gaging stations in Illinois--Continued

Map number	Station number	Station name	Drainage area (mi^2)	Period of record (WY)	Type of record[1]	Previously recorded maximum flood: Date	Previously recorded maximum flood: Gage height (ft)	Previously recorded maximum flood: Discharge (ft^3/s)	Maximum flood of September/October 1986: Date	Maximum flood of September/October 1986: Gage height (ft)	Maximum flood of September/October 1986: Discharge (ft^3/s)	Maximum flood of September/October 1986: Recurrence interval (years)
		UPPER MISSISSIPPI RIVER BASIN ABOVE THE ILLINOIS RIVER--Continued										
		Hadley Creek basin										
17	05502020	Hadley Creek near Barry, Ill.	40.9	1956-66, 1967-	D C	04-21-73 04-11-79	15.31 12.89	9,000 9,000	10-03	9.04	3,230	<2
		Bay Creek basin										
18	05513000	Bay Creek at Nebo, Ill.	161	1940-86	D	08-16-46	19.31	23,500	09-24	9.46	4,180	<2
		ILLINOIS RIVER BASIN										
		Kankakee River basin										
19	05520500	Kankakee River at Momence, Ill.	2,294	1905-06, 1915-	D D	03-06-79	[3]10.51	16,000	10-04	4.26	5,780	<2
		Des Plaines River basin										
20	05527800	Des Plaines River at Russell, Ill.	123	1961-63, 1962-67, 1967-	L FP D	03-21-79	9.69	2,120	09-27	10.75	1,640	9
21	05528000	Des Plaines River near Gurnee, Ill.	232	1946-58, 1960-68, 1969-	D C D	04-03-60	10.64	3,070	09-27	*11.95	*3,530	>100
22	05528500	Buffalo Creek near Wheeling, Ill.	19.6	1952-	D	07-22-82	7.94	887	09-22	6.81	581	7
23	05529000	Des Plaines River near Des Plaines, Ill.	360	1941-	D	04-02-60	8.56	4,670	10-01	*10.88	*4,900	50
24	05529500	McDonald Creek near Mount Prospect, Ill.	7.93	1952-	D	06-20-72	7.58	664	09-29	5.62	163	<2
25	05530000	Weller Creek at Des Plaines, Ill.	13.2	1951-	D	06-10-67	15.09	1,590	09-29	5.85	629	<2
26	05530990	Salt Creek at Rolling Meadows, Ill.	30.5	1974-	D	12-03-82	12.56	1,060	09-23	7.73	461	<2
27	05531500	Salt Creek at Western Springs, Ill.	115	1946-	D	12-05-82	8.71	2,070	10-03	8.03	1,720	10

Table 2.--Summary of peak stages and discharges for the floods of late September and early October 1986 at selected streamflow-gaging stations in Illinois--Continued

Map number	Station number	Station name	Drainage area (mi^2)	Period of record (WY)	Type of record[1]	Previously recorded maximum flood: Date	Previously recorded maximum flood: Gage height (ft)	Previously recorded maximum flood: Discharge (ft^3/s)	Maximum flood of September/October 1986: Date	Maximum flood of September/October 1986: Gage height (ft)	Maximum flood of September/October 1986: Discharge (ft^3/s)	Maximum flood of September/October 1986: Recurrence interval (years)
		ILLINOIS RIVER BASIN--Continued										
		Des Plaines River basin--Continued										
28	05532000	Addison Creek at Bellwood, Ill.	17.9	1951-	D	08-07-82	10.68	839	10-03	8.90	580	5
29	05532500	Des Plaines River at Riverside, Ill.	630	1944-	D	03-20-48	8.28	6,510	10-03	*8.87	*7,590	70
30	05533000	Flag Creek near Willow Springs, Ill.	16.5	1951-	D	09-14-61	13.71	2,680	10-03	7.29	694	<2
31	05533400	Sawmill Creek near Lemont, Ill.	13.0	1961-79, 1986-	C D	05-12-66 04-18-75	12.94 12.94	984 984	09-26	12.52	494	<2
32	05534500	North Branch Chicago River at Deerfield, Ill.	19.7	1952-	D	07-22-82	10.93	756	09-30	10.51	465	7
33	05535000	Skokie River at Lake Forest, Ill.	13.0	1952-	D	07-22-82	8.35	435	09-26	8.27	*492	>100
34	05535070	Skokie River near Highland Park, Ill.	21.1	1967-	D	12-03-82	8.46	724	09-30	8.17	584	9
35	05535500	West Fork of North Branch Chicago River at Northbrook, Ill.	11.5	1952-	D	07-22-82	9.66	1,070	09-25	7.73	630	4
36	05536000	North Branch Chicago River at Niles, Ill.	100	1951-	D	06-11-67	9.83	2,210	09-29	9.47	1,800	20
37	05536215	Thorn Creek at Glenwood, Ill.	24.7	1949-	D	08-17-68	11.26	2,600	10-03	9.26	831	<2
38	05536235	Deer Creek near Chicago Heights, Ill.	23.1	1948-	D	07-13-57	11.75	1,380	10-03	10.14	409	<2
39	05536255	Butterfield Creek at Flossmoor, Ill.	23.5	1948-	D	05-22-82	11.97	2,160	10-03	8.56	522	<2
40	05536275	Thorn Creek at Thornton, Ill.	104	1948-	D	07-13-57	16.00	4,700	10-03	10.01	1,100	<2
41	05536500	Tinley Creek near Palos Park, Ill.	11.2	1951-	D	10-10-54	10.30	1,930	10-03	5.49	330	<2
42	05540060	Kress Creek at West Chicago, Ill.	18.1	1961-80, 1986-	C D	07-18-64	7.90	637	10-03	5.46	145	<2
43	05540095	West Branch Du Page River near Warrenville, Ill.	90.4	1969-	D	12-03-82	4.88	2,160	10-03	3.22	708	<2
44	05540200	St. Joseph Creek at Lisle, Ill.	11.8	1961-76, 1986-	FP D	12-30-72	10.63	--	10-03	5.81	*649	9
45	05540500	Du Page River at Shorewood, Ill.	324	1941-	D	10-11-54	11.06	12,000	10-03	4.59	2,010	<2
		Mazon River basin										
46	05542000	Mazon River near Coal City, Ill.	455	1940-	D	12-04-82	19.51	22,400	10-04	12.34	9,310	2

Table 2.--Summary of peak stages and discharges for the floods of late September and early October 1986 at selected streamflow-gaging stations in Illinois--Continued

Map number	Station number	Station name	Drainage area (mi^2)	Period of record (WY)	Type of record[1]	Previously recorded maximum flood: Date	Previously recorded maximum flood: Gage height (ft)	Previously recorded maximum flood: Discharge (ft^3/s)	Maximum flood of September/October 1986: Date	Maximum flood of September/October 1986: Gage height (ft)	Maximum flood of September/October 1986: Discharge (ft^3/s)	Recurrence interval (years)
		ILLINOIS RIVER BASIN--Continued										
		Fox River basin										
47	05546500	Fox River at Wilmot, Wis.	868	1940-	D	03-31-60	9.25	7,520	10-02	7.96	3,810	5
48	05548280	Nippersink Creek near Spring Grove, Ill.	192	1966-	D	02-20-71	13.03	2,430	09-26	*14.26	*2,910	35
49	05549000	Boone Creek near McHenry, Ill.	15.5	1948-82, 1983-	D C	06-02-70	4.87	276	09-27	*5.37	*345	60
50	05550000	Fox River at Algonquin, Ill.	1,403	1916-	D	04-06-60 04-02-79	4.01 4.00	6,610 6,610	10-03	3.99	6,170	25
51	05552500	Fox River at Dayton, Ill.	2,642	1915-	D	10-11-54	24.63	47,100	10-04	12.28	10,700	<2
		Vermilion River basin										
52	05554000	North Fork Vermilion River near Charlotte, Ill.	186	1943-62, 1963-	D C	05-14-70	16.13	4,550	10-03	*17.09	*4,900	20
53	05554500	Vermilion River at Pontiac, Ill.	579	1943-	D	12-04-82	19.16	13,100	10-04	15.69	8,330	5
54	05555300	Vermilion River near Leonore, Ill.	1,251	1931-	D	07-15-58	15.30	[2]33,500	10-05	22.23	21,400	7
		Kickapoo Creek basin										
55	05563000	Kickapoo Creek near Kickapoo, Ill.	119	1945-62, 1963-	D C	07-27-67	17.08	27,500	10-03	*18.85	*[4]>30,000	[e]>50
56	05563500	Kickapoo Creek at Peoria, Ill.	297	1942-71, 1972-	D C	06-22-74	29.68	48,500	10-03	21.76	19,700	15
		Mackinaw River basin										
57	05567000	Panther Creek near El Paso, Ill.	93.9	1950-60, 1961-	D C	07-09-51	15.15	10,900	10-03	12.45	6,340	15
58	05567500	Mackinaw River near Congerville, Ill.	767	1945-	D	12-04-82	20.21	44,800	10-04	19.61	35,300	50
59	05568000	Mackinaw River near Green Valley, Ill.	1,089	1921-56, 1957-	D C	12-06-82	16.13	51,100	10-04	14.01	23,400	15

Table 2.--Summary of peak stages and discharges for the floods of late September and early October 1986 at selected streamflow-gaging stations in Illinois--Continued

Map number	Station number	Station name	Drainage area (mi^2)	Period of record (WY)	Type of record[1]	Previously recorded maximum flood: Date	Previously recorded maximum flood: Gage height (ft)	Previously recorded maximum flood: Discharge (ft^3/s)	Maximum flood of September/October 1986: Date	Maximum flood of September/October 1986: Gage height (ft)	Maximum flood of September/October 1986: Discharge (ft^3/s)	Maximum flood of September/October 1986: Recurrence interval (years)
		ILLINOIS RIVER BASIN--Continued										
		Illinois River main stem										
60	05568500	Illinois River at Kingston Mines, Ill.	15,818	1940-	D	12-07-82	--	88,800	10-07	--	55,200	4
		Spoon River basin										
61	05568800	Indian Creek near Wyoming, Ill.	62.7	1960-	D	06-22-74	13.81	6,540	10-03	10.20	1,360	<2
62	05569500	Spoon River at London Mills, Ill.	1,072	1943-	D	06-23-74	28.03	[2]41,000	10-04	24.36	26,400	30
63	05570000	Spoon River at Seville, Ill.	1,636	1914-	D	08-22-24	30.77	37,300	10-05	27.29	21,400	7
64	05570360	Evelyn Branch near Bryant, Ill.	5.78	1972-	D	06-05-86	3.69	325	10-03	3.55	276	>100
65	05570370	Big Creek near Bryant, Ill.	41.2	1972-	D	06-23-74	12.90	1,220	10-03	12.33	899	3
66	05570380	Slug Run near Bryant, Ill.	7.12	1975-	D	06-05-86	8.91	685	10-03	6.19	151	2
		Illinois River main stem										
67	05570500	Illinois River at Havana, Ill.	18,299	1922-27, 1985-	D D	03-09-85	26.30	90,300	10-09	--	55,000	3
		Sangamon River basin										
68	05575500	South Fork Sangamon River at Kincaid, Ill.	562	1917-34, 1945-61, 1962-	D D C	06-29-57	30.02	21,500	10-04	15.35	1,670	<2
69	05579500	Lake Fork near Cornland, Ill.	214	1948-	D	04-12-79	23.11	8,930	10-05	10.24	678	<2
70	05580000	Kickapoo Creek at Waynesville, Ill.	227	1948-	D	08-15-81	16.91	24,600	10-04	12.12	2,510	<2
71	05580500	Kickapoo Creek near Lincoln, Ill.	306	1945-71, 1972-	D C	12-06-82	16.60	23,300	10-03	11.19	2,780	<2
72	05580950	Sugar Creek near Bloomington, Ill.	34.4	1975-	D	12-03-82	14.02	6,600	10-03	11.29	3,890	4
73	05581500	Sugar Creek near Hartsburg, Ill.	333	1945-71, 1972-	D C	12-04-82	17.90	41,200	10-03	14.61	14,200	8
74	05582000	Salt Creek near Greenview, Ill.	1,804	1942-	D	05-19-43	20.50	41,200	10-05	unknown	6,400	<2

Table 2.--Summary of peak stages and discharges for the floods of late September and early October 1986 at selected streamflow-gaging stations in Illinois--Continued

Map number	Station number	Station name	Drainage area (mi^2)	Period of record (WY)	Type of record[1]	Previously recorded maximum flood: Date	Previously recorded maximum flood: Gage height (ft)	Previously recorded maximum flood: Discharge (ft^3/s)	Maximum flood of September/October 1986: Date	Maximum flood of September/October 1986: Gage height (ft)	Maximum flood of September/October 1986: Discharge (ft^3/s)	Maximum flood of September/October 1986: Recurrence interval (years)
		ILLINOIS RIVER BASIN--Continued										
		Sangamon River basin--Continued										
75	05583000	Sangamon River near Oakford, Ill.	5,093	1910-12, 1914-19, 1921-22, 1929-34, 1940-	D D D D D	05-20-43	25.63	123,000	10-05	16.04	18,000	<2
		La Moine River basin										
76	05584400	Drowning Fork at Bushnell, Ill.	26.3	1960-82, 1983-	D C	06-02-80	12.92	3,500	10-03	14.07	--	[e]>100
77	05584500	La Moine River at Colmar, Ill.	655	1945-	D	03-05-85	26.61	38,900	10-04	25.69	28,700	30
78	05585000	La Moine River at Ripley, Ill.	1,293	1921-	D	03-07-85	29.07	28,000	10-07	28.10	23,400	35
		Illinois River main stem										
79	05585500	Illinois River at Meredosia, Ill.	26,028	1939-	D	05-26-43	--	123,000	10-11	--	69,900	3
		UPPER MISSISSIPPI RIVER BASIN BELOW THE ILLINOIS RIVER										
		Mississippi River main stem										
80	05587450	Mississippi River at Grafton, Ill.	171,300	1928-	D	04-29-73	--	535,000	10-10	--	423,000	<2
		Cahokia Creek basin										
81	05587900	Cahokia Creek at Edwardsville, Ill.	212	1969-	D	04-12-79	24.74	8,200	10-04	17.85	4,380	<2
82	05588000	Indian Creek at Wanda, Ill.	36.7	1940-	D	08-15-46	18.41	[2]9,340	09-30	11.25	1,300	<2

Table 2.--Summary of peak stages and discharges for the floods of late September and early October 1986 at selected streamflow-gaging stations in Illinois--Continued

Map number	Station number	Station name	Drainage area (mi^2)	Period of record (WY)	Type of record[1]	Previously recorded maximum flood: Date	Previously recorded maximum flood: Gage height (ft)	Previously recorded maximum flood: Discharge (ft^3/s)	Maximum flood of September/October 1986: Date	Maximum flood of September/October 1986: Gage height (ft)	Maximum flood of September/October 1986: Discharge (ft^3/s)	Maximum flood of September/October 1986: Recurrence interval (years)
		UPPER MISSISSIPPI RIVER BASIN BELOW THE ILLINOIS RIVER--Continued										
		Kaskaskia River basin										
83	05592050	Robinson Creek near Shelbyville, Ill.	93.1	1980-	D	05-02-83	13.37	11,300	10-04	9.61	1,660	<2
84	05592500	Kaskaskia River at Vandalia, Ill.	1,940	1908-12	D	06-29-57	27.39	62,700	10-04	16.78	6,320	<2
85	05592800	Hurricane Creek near Mulberry Grove, Ill.	152	1971-	D	12-25-82	19.99	17,900	10-05	16.23	4,420	<2
86	05593600	Blue Grass Creek near Raymond, Ill.	17.3	1960-82, 1983-	D C	04-21-73	12.80	2,140	10-03	11.44	886	<2
87	05593900	East Fork Shoal Creek near Coffeen, Ill.	55.5	1964-	D	12-07-66	14.45	5,910	10-04	11.90	1,920	<2
88	05594000	Shoal Creek near Breese, Ill.	735	1910-15, 1946-	D D	01-06-50	22.63	23,100	10-07	15.71	3,240	<2
89	05594800	Silver Creek near Freeburg, Ill.	464	1971-	D	04-14-79	20.70	9,200	10-07	11.24	1,690	<2
90	05595200	Richland Creek near Hecker, Ill.	129	1970-	D	11-02-72	42.88	14,900	10-03	39.16	3,110	<2

* New peak of record established during this flood.

[1] D, continuous discharge record; C, peak-stage and peak-discharge record only; D7, continuous discharge record for only 7 months of the water year; L, low flow only; FP, flood profile--peak-stage record only.

[2] Site and datum then in use.

[3] Ice affected.

[4] The estimate of >30,000 ft^3/s for station 05563000 is based on discharges for the 25-, 50-, and 100-year recurrence intervals that are 23,500, 28,500, and 33,900 ft^3/s, respectively (Curtis, 1987, p. 51)

[e] Estimated.

Table 3.--Data for selected streamflow-gaging stations for the floods of late September and early October 1986

[c.d.t., central daylight time; ft, feet; ft^3/s, cubic feet per second]

Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)	Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)
		05528000 Des Plaines River near Gurnee					
Sept. 24	0100	4.73	543	Sept. 25-- Continued	1700	9.11	1,980
	0200	4.78	553		1800	9.18	2,020
	0300	4.83	563		1900	9.24	2,040
	0400	4.87	572		2000	9.30	2,070
	0500	4.93	584		2100	9.36	2,100
	0600	4.97	592		2200	9.40	2,120
	0700	5.02	603		2300	9.45	2,140
	0800	5.07	614		2400	9.49	2,160
	0900	5.12	625				
	1000	5.17	636	Sept. 26	0100	9.53	2,180
	1100	5.21	645		0200	9.56	2,200
	1200	5.26	657		0300	9.59	2,210
	1300	5.30	666		0400	9.63	2,230
	1400	5.34	675		0500	9.67	2,250
	1500	5.37	682		0600	9.69	2,260
	1600	5.41	691		0700	9.71	2,270
	1700	5.44	698		0800	9.74	2,290
	1800	5.47	705		0900	9.77	2,300
	1900	5.51	714		1000	9.80	2,320
	2000	5.54	722		1100	9.82	2,330
	2100	5.57	729		1200	9.84	2,340
	2200	5.62	741		1300	9.88	2,360
	2300	5.78	781		1400	10.04	2,440
	2400	6.03	846		1500	10.40	2,630
					1600	10.87	2,890
Sept. 25	0100	6.85	1,080		1700	11.51	3,260
	0200	7.94	1,480		1800	11.68	3,370
	0300	8.61	1,760		1900	11.68	3,370
	0400	8.90	1,890		2000	11.64	3,340
	0500	8.96	1,910		2100	11.61	3,320
	0600	8.93	1,900		2200	11.59	3,310
	0700	8.89	1,880		2300	11.60	3,320
	0800	8.85	1,860		2400	11.62	3,330
	0900	8.82	1,850				
	1000	8.82	1,850	Sept. 27	0100	11.64	3,340
	1100	8.84	1,860		0200	11.68	3,370
	1200	8.85	1,860		0300	11.70	3,380
	1300	8.89	1,880		0400	11.74	3,400
	1400	8.94	1,900		0500	([1])	3,420
	1500	8.99	1,930		0600	([1])	3,430
	1600	9.04	1,950		0700	([1])	3,440

Table 3.--Data for selected streamflow-gaging stations for the floods of late September and early October 1986--Continued

Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)
05528000 Des Plaines River near Gurnee--Continued			
Sept. 27--Continued	0800	(1)	3,450
	0900	(1)	3,460
	1000	(1)	3,470
	1100	(1)	3,480
	1200	(1)	3,500
	1300	(1)	3,510
	1400	(1)	3,510
	1500	(1)	3,530
	1600	(1)	3,530
	1700	(1)	3,530
	1800	(1)	3,530
	1900	(1)	3,530
	2000	(1)	3,530
	2100	(1)	3,530
	2200	(1)	3,520
	2300	(1)	3,510
	2400	(1)	3,510
Sept. 28	0100	(1)	3,500
	0200	(1)	3,480
	0300	(1)	3,480
	0400	(1)	3,460
	0500	(1)	3,460
	0600	(1)	3,450
	0700	(1)	3,440
	0800	(1)	3,430
	0900	11.76	3,410
	1000	11.74	3,400
	1100	11.72	3,390
	1200	11.71	3,380
	1300	11.69	3,370
	1400	11.67	3,360
	1500	11.65	3,350
	1600	11.63	3,340
	1700	11.61	3,320
	1800	11.59	3,310
	1900	11.57	3,300
	2000	11.59	3,310
	2100	11.65	3,350
	2200	11.69	3,370
	2300	11.73	3,400
	2400	11.74	3,400
Sept. 29	0100	11.74	3,400
	0200	11.74	3,400
	0300	11.73	3,400
	0400	11.72	3,390
	0500	11.71	3,380
	0600	11.70	3,380
	0700	11.71	3,380
	0800	11.71	3,380
	0900	11.71	3,380
	1000	11.71	3,380
	1100	11.74	3,400
	1200	11.76	3,410
	1300	(1)	3,420
	1400	(1)	3,430
	1500	(1)	3,430
	1600	(1)	3,440
	1700	(1)	3,450
	1800	(1)	3,450
	1900	(1)	3,460
	2000	(1)	3,460
	2100	(1)	3,460
	2200	(1)	3,470
	2300	(1)	3,480
	2400	(1)	3,480
Sept. 30	0100	(1)	3,490
	0200	(1)	3,500
	0300	(1)	3,500
	0400	(1)	3,500
	0500	(1)	3,500
	0600	(1)	3,490
	0700	(1)	3,490
	0800	(1)	3,480
	0900	(1)	3,480
	1000	(1)	3,480
	1100	(1)	3,480
	1200	(1)	3,470
	1300	(1)	3,470
	1400	(1)	3,460
	1500	(1)	3,460
	1600	(1)	3,460
	1700	(1)	3,450

Table 3.--Data for selected streamflow-gaging stations for the floods of late September and early October 1986--Continued

Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)
05528000 Des Plaines River near Gurnee--Continued			
Sept. 30--Continued	1800	(1)	3,450
	1900	(1)	3,440
	2000	(1)	3,430
	2100	(1)	3,430
	2200	11.77	3,420
	2300	11.77	3,420
	2400	11.76	3,410
Oct. 1	0100	11.74	3,400
	0200	11.71	3,380
	0300	11.70	3,380
	0400	11.67	3,360
	0500	11.64	3,340
	0600	11.62	3,330
	0700	11.60	3,320
	0800	11.58	3,300
	0900	11.56	3,290
	1000	11.54	3,280
	1100	11.52	3,270
	1200	11.51	3,260
	1300	11.49	3,250
	1400	11.47	3,240
	1500	11.45	3,230
	1600	11.42	3,210
	1700	11.41	3,200
	1800	11.38	3,190
	1900	11.36	3,170
	2000	11.36	3,170
	2100	11.32	3,150
	2200	11.30	3,140
	2300	11.29	3,130
	2400	11.27	3,120
Oct. 2	0100	11.24	3,100
	0200	11.23	3,100
	0300	11.21	3,080
	0400	11.18	3,070
	0500	11.17	3,060
	0600	11.15	3,050
	0700	11.13	3,040
	0800	11.11	3,030
	0900	11.09	3,020
	1000	11.07	3,000
Oct. 2--Continued	1100	11.05	2,990
	1200	11.03	2,980
	1300	11.01	2,970
	1400	10.99	2,960
	1500	10.97	2,950
	1600	10.95	2,940
	1700	10.93	2,920
	1800	10.91	2,910
	1900	10.89	2,900
	2000	10.87	2,890
	2100	10.85	2,880
	2200	10.83	2,870
	2300	10.81	2,860
	2400	10.79	2,840
Oct. 3	0100	10.78	2,840
	0200	10.75	2,820
	0300	10.73	2,810
	0400	10.71	2,800
	0500	10.69	2,790
	0600	10.67	2,780
	0700	10.65	2,770
	0800	10.63	2,760
	0900	10.60	2,740
	1000	10.51	2,690
	1100	10.56	2,720
	1200	10.55	2,710
	1300	10.53	2,700
	1400	10.51	2,690
	1500	10.49	2,680
	1600	10.46	2,660
	1700	10.44	2,650
	1800	10.43	2,650
	1900	10.40	2,630
	2000	10.38	2,620
	2100	10.36	2,610
	2200	10.34	2,600
	2300	10.32	2,590
	2400	10.29	2,570
Oct. 4	0100	10.27	2,560
	0200	10.25	2,550
	0300	10.24	2,540

Table 3.--Data for selected streamflow-gaging stations for the floods of late September and early October 1986--Continued

Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)	Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)
			05528000 Des Plaines River near Gurnee--Continued				
Oct. 4--Continued	0400	10.21	2,530	Oct. 5--Continued	2200	9.40	2,120
	0500	10.19	2,520		2300	9.38	2,110
	0600	10.19	2,520		2400	9.36	2,100
	0700	10.18	2,510				
	0800	10.17	2,510	Oct. 6	0100	9.33	2,090
	0900	10.15	2,500		0200	9.31	2,080
	1000	10.13	2,490		0300	9.29	2,070
	1100	10.11	2,480		0400	9.27	2,060
	1200	10.10	2,470		0500	9.24	2,040
	1300	10.08	2,460		0600	9.22	2,030
	1400	10.07	2,460		0700	9.20	2,020
	1500	10.05	2,450		0800	9.18	2,020
	1600	10.03	2,440		0900	9.17	2,010
	1700	10.01	2,420		1000	9.15	2,000
	1800	9.99	2,410		1100	9.13	1,990
	1900	9.96	2,400		1200	9.11	1,980
	2000	9.94	2,390		1300	9.09	1,970
	2100	9.91	2,370		1400	9.07	1,960
	2200	9.90	2,370		1500	9.05	1,950
	2300	9.87	2,350		1600	9.03	1,950
	2400	9.85	2,340		1700	9.01	1,940
					1800	8.99	1,930
Oct. 5	0100	9.83	2,330		1900	8.98	1,920
	0200	9.80	2,320		2000	8.95	1,910
	0300	9.78	2,310		2100	8.92	1,900
	0400	9.76	2,300		2200	8.91	1,890
	0500	9.74	2,290		2300	8.88	1,880
	0600	9.72	2,280		2400	8.86	1,870
	0700	9.70	2,270				
	0800	9.68	2,260	Oct. 7	0100	8.84	1,860
	0900	9.66	2,250		0200	8.81	1,850
	1000	9.64	2,240		0300	8.79	1,840
	1100	9.62	2,230		0400	8.77	1,830
	1200	9.60	2,220		0500	8.75	1,820
	1300	9.58	2,210		0600	8.73	1,810
	1400	9.56	2,200		0700	8.70	1,800
	1500	9.55	2,190		0800	8.69	1,790
	1600	9.53	2,180		0900	8.66	1,780
	1700	9.51	2,170		1000	8.65	1,770
	1800	9.49	2,160		1100	8.62	1,760
	1900	9.46	2,150		1200	8.60	1,750
	2000	9.44	2,140		1300	8.58	1,740
	2100	9.42	2,130		1400	8.54	1,730

Table 3.--Data for selected streamflow-gaging stations for the floods of late September and early October 1986--Continued

05528000 Des Plaines River near Gurnee--Continued

Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)
Oct. 7--Continued	1500	8.53	1,720
	1600	8.51	1,710
	1700	8.49	1,700
	1800	8.47	1,700
	1900	8.45	1,690
	2000	8.42	1,670
	2100	8.40	1,670
	2200	8.38	1,660
	2300	8.36	1,650
	2400	8.33	1,640
Oct. 8	0100	8.31	1,630
	0200	8.29	1,620
	0300	8.26	1,610
	0400	8.24	1,600
	0500	8.22	1,590
	0600	8.19	1,580
	0700	8.17	1,570
	0800	8.15	1,560
	0900	8.13	1,550
	1000	8.11	1,540
	1100	8.09	1,540
	1200	8.07	1,530
	1300	8.04	1,520
	1400	8.03	1,510
	1500	8.01	1,500
	1600	7.99	1,500
	1700	7.96	1,480
	1800	7.94	1,480
	1900	7.92	1,470
	2000	7.89	1,460
	2100	7.87	1,450
	2200	7.85	1,440
	2300	7.83	1,430
	2400	7.81	1,420
Oct. 9	0100	7.79	1,420
	0200	7.77	1,410
	0300	7.74	1,400
	0400	7.72	1,390
	0500	7.70	1,380
	0600	7.68	1,370
	0700	7.66	1,370
Oct. 9--Continued	0800	7.64	1,360
	0900	7.62	1,350
	1000	7.59	1,340
	1100	7.58	1,340
	1200	7.55	1,320
	1300	7.53	1,320
	1400	7.51	1,310
	1500	7.49	1,300
	1600	7.47	1,290
	1700	7.46	1,290
	1800	7.44	1,280
	1900	7.42	1,280
	2000	7.40	1,270
	2100	7.38	1,260
	2200	7.36	1,250
	2300	7.34	1,250
	2400	7.33	1,240
Oct. 10	0100	7.31	1,240
	0200	7.29	1,230
	0300	7.27	1,220
	0400	7.25	1,220
	0500	7.23	1,210
	0600	7.21	1,200
	0700	7.19	1,200
	0800	7.17	1,190
	0900	7.15	1,180
	1000	7.13	1,170
	1100	7.11	1,170
	1200	7.10	1,160
	1300	7.08	1,160
	1400	7.06	1,150
	1500	7.04	1,140
	1600	7.02	1,140
	1700	7.00	1,130
	1800	6.99	1,130
	1900	6.97	1,120
	2000	6.95	1,110
	2100	6.93	1,110
	2200	6.92	1,100
	2300	6.91	1,100
	2400	6.89	1,100

Table 3.--Data for selected streamflow-gaging stations for the floods of late September and early October 1986--Continued

Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)	Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)
			05529000 Des Plaines River near Des Plaines				
Sept. 24	0100	2.13	1,020	Sept. 25--Continued	1900	4.33	1,920
	0200	2.12	1,010		2000	4.39	1,940
	0300	2.10	994		2100	4.46	1,960
	0400	2.08	974		2200	4.53	1,980
	0500	2.07	965		2300	4.60	2,000
	0600	2.05	945		2400	4.69	2,030
	0700	2.04	936				
	0800	2.02	917	Sept. 26	0100	4.76	2,050
	0900	2.01	908		0200	4.84	2,070
	1000	2.00	898		0300	4.91	2,090
	1100	1.99	889		0400	4.98	2,110
	1200	1.98	880		0500	5.05	2,140
	1300	1.97	870		0600	5.12	2,160
	1400	1.96	861		0700	5.19	2,180
	1500	1.95	852		0800	5.24	2,190
	1600	1.95	852		0900	5.31	2,210
	1700	1.94	843		1000	5.36	2,230
	1800	1.94	843		1100	5.42	2,250
	1900	1.93	834		1200	5.46	2,260
	2000	1.94	843		1300	5.63	2,320
	2100	1.96	861		1400	5.77	2,370
	2200	1.98	880		1500	5.87	2,410
	2300	2.14	1,030		1600	5.96	2,440
	2400	2.26	1,150		1700	6.02	2,470
					1800	6.08	2,490
Sept. 25	0100	2.39	1,290		1900	6.14	2,520
	0200	2.53	1,400		2000	6.19	2,540
	0300	2.68	1,450		2100	6.24	2,560
	0400	2.76	1,470		2200	6.28	2,570
	0500	2.80	1,480		2300	6.33	2,590
	0600	3.09	1,550		2400	6.38	2,610
	0700	3.22	1,590				
	0800	3.35	1,630	Sept. 27	0100	6.43	2,630
	0900	3.48	1,660		0200	6.48	2,650
	1000	3.60	1,700		0300	6.54	2,680
	1100	3.69	1,730		0400	6.60	2,700
	1200	3.79	1,760		0500	6.66	2,720
	1300	3.87	1,780		0600	6.73	2,750
	1400	3.96	1,810		0700	6.79	2,780
	1500	4.04	1,830		0800	6.86	2,800
	1600	4.11	1,850		0900	6.95	2,840
	1700	4.18	1,870		1000	7.04	2,880
	1800	4.26	1,900		1100	7.14	2,920

Table 3.--Data for selected streamflow-gaging stations for the floods of late September and early October 1986--Continued

Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)
05529000 Des Plaines River near Des Plaines--Continued			
Sept. 27--Continued	1200	7.21	2,940
	1300	7.32	2,990
	1400	7.39	3,020
	1500	7.48	3,050
	1600	7.53	3,070
	1700	7.68	3,130
	1800	7.76	3,160
	1900	7.85	3,200
	2000	7.93	3,230
	2100	8.00	3,260
	2200	8.07	3,290
	2300	8.14	3,320
	2400	8.20	3,340
Sept. 28	0100	8.26	3,360
	0200	8.32	3,390
	0300	8.38	3,410
	0400	8.43	3,430
	0500	8.48	3,450
	0600	8.51	3,460
	0700	8.56	3,490
	0800	8.59	3,500
	0900	8.63	3,520
	1000	8.66	3,530
	1100	8.70	3,550
	1200	8.73	3,560
	1300	8.76	3,580
	1400	8.79	3,590
	1500	8.80	3,590
	1600	8.83	3,610
	1700	8.84	3,610
	1800	8.86	3,620
	1900	8.87	3,630
	2000	8.89	3,640
	2100	9.08	3,720
	2200	9.17	3,760
	2300	9.25	3,800
	2400	9.30	3,820
Sept. 29	0100	9.35	3,840
	0200	9.40	3,860
	0300	9.43	3,880
	0400	9.45	3,890
Sept. 29--Continued	0500	9.49	3,910
	0600	9.51	3,920
	0700	9.55	3,940
	0800	9.57	3,950
	0900	9.60	3,970
	1000	9.62	3,980
	1100	9.63	3,980
	1200	9.65	4,000
	1300	9.70	4,030
	1400	9.73	4,040
	1500	9.86	4,120
	1600	9.97	4,180
	1700	10.03	4,220
	1800	10.11	4,290
	1900	10.17	4,330
	2000	10.22	4,370
	2100	10.26	4,400
	2200	10.30	4,430
	2300	10.32	4,450
	2400	10.32	4,450
Sept. 30	0100	10.33	4,460
	0200	10.35	4,470
	0300	10.38	4,500
	0400	10.40	4,510
	0500	10.41	4,520
	0600	10.42	4,530
	0700	10.44	4,540
	0800	10.45	4,550
	0900	10.46	4,560
	1000	10.47	4,570
	1100	10.52	4,610
	1200	10.54	4,620
	1300	10.56	4,640
	1400	10.59	4,660
	1500	10.63	4,700
	1600	10.68	4,740
	1700	10.71	4,760
	1800	10.74	4,790
	1900	10.78	4,820
	2000	10.80	4,840
	2100	10.82	4,850
	2200	10.84	4,870

Table 3.--Data for selected streamflow-gaging stations for the floods of late September and early October 1986--Continued

05529000 Des Plaines River near Des Plaines--Continued

Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)
Sept. 30--Continued	2300	10.86	4,880
	2400	10.87	4,890
Oct. 1	0100	10.88	4,900
	0200	10.88	4,900
	0300	10.88	4,900
	0400	10.88	4,900
	0500	10.87	4,890
	0600	10.86	4,880
	0700	10.85	4,880
	0800	10.84	4,870
	0900	10.85	4,880
	1000	10.84	4,870
	1100	10.88	4,900
	1200	10.87	4,890
	1300	10.87	4,890
	1400	10.88	4,900
	1500	10.87	4,890
	1600	10.86	4,880
	1700	10.85	4,880
	1800	10.84	4,870
	1900	10.82	4,850
	2000	10.81	4,840
	2100	10.80	4,840
	2200	10.78	4,820
	2300	10.77	4,810
	2400	10.75	4,790
Oct. 2	0100	10.54	4,620
	0200	10.72	4,770
	0300	10.70	4,750
	0400	10.68	4,740
	0500	10.67	4,730
	0600	10.65	4,710
	0700	10.63	4,700
	0800	10.61	4,680
	0900	10.58	4,660
	1000	10.54	4,620
	1100	10.52	4,610
	1200	10.50	4,590
	1300	10.47	4,570
	1400	10.44	4,540
	1500	10.42	4,530
Oct. 2--Continued	1600	10.39	4,500
	1700	10.36	4,480
	1800	10.33	4,460
	1900	10.30	4,430
	2000	10.27	4,410
	2100	10.23	4,380
	2200	10.20	4,360
	2300	10.18	4,340
	2400	10.15	4,320
Oct. 3	0100	10.08	4,260
	0200	10.08	4,260
	0300	10.06	4,250
	0400	10.03	4,220
	0500	10.00	4,200
	0600	9.98	4,190
	0700	9.98	4,190
	0800	9.97	4,180
	0900	9.97	4,180
	1000	9.95	4,170
	1100	9.94	4,160
	1200	9.93	4,160
	1300	9.92	4,150
	1400	9.91	4,150
	1500	9.89	4,140
	1600	9.87	4,120
	1700	9.84	4,110
	1800	9.82	4,100
	1900	9.80	4,080
	2000	9.77	4,070
	2100	9.74	4,050
	2200	9.71	4,030
	2300	9.69	4,020
	2400	9.65	4,000
Oct. 4	0100	9.62	3,980
	0200	9.59	3,960
	0300	9.56	3,940
	0400	9.53	3,930
	0500	9.50	3,910
	0600	9.48	3,900
	0700	9.46	3,890
	0800	9.43	3,880

Table 3.--Data for selected streamflow-gaging stations for the floods of late September and early October 1986--Continued

Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)	Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)
05529000 Des Plaines River near Des Plaines--Continued							
Oct. 4--Continued	0900	9.41	3,870	Oct. 6--Continued	0200	7.82	3,190
	1000	9.39	3,860		0300	7.77	3,170
	1100	9.37	3,850		0400	7.71	3,140
	1200	9.35	3,840		0500	7.66	3,120
	1300	9.32	3,830		0600	7.61	3,100
	1400	9.31	3,820		0700	7.52	3,080
	1500	9.29	3,820		0800	7.48	3,050
	1600	9.26	3,800		0900	7.43	3,030
	1700	9.22	3,780		1000	7.37	3,010
	1800	9.21	3,780		1100	7.31	2,980
	1900	9.18	3,770		1200	7.26	2,960
	2000	9.14	3,750		1300	7.21	2,940
	2100	9.11	3,730		1400	7.15	2,920
	2200	9.07	3,720		1500	7.10	2,900
	2300	9.04	3,700		1600	7.05	2,880
	2400	9.00	3,680		1700	6.99	2,860
					1800	6.93	2,830
Oct. 5	0100	8.97	3,670		1900	6.88	2,810
	0200	8.93	3,650		2000	6.83	2,790
	0300	8.89	3,640		2100	6.78	2,770
	0400	8.85	3,620		2200	6.72	2,750
	0500	8.81	3,600		2300	6.68	2,730
	0600	8.77	3,580		2400	6.61	2,700
	0700	8.72	3,560				
	0800	8.69	3,550	Oct. 7	0100	6.57	2,690
	0900	8.64	3,520		0200	6.52	2,670
	1000	8.60	3,500		0300	6.46	2,640
	1100	8.56	3,490		0400	6.41	2,620
	1200	8.52	3,470		0500	6.36	2,600
	1300	8.48	3,450		0600	6.31	2,580
	1400	8.42	3,430		0700	6.25	2,560
	1500	8.38	3,410		0800	6.22	2,550
	1600	8.32	3,390		0900	6.17	2,530
	1700	8.29	3,380		1000	6.12	2,510
	1800	8.23	3,350		1100	6.06	2,480
	1900	8.19	3,340		1200	6.02	2,470
	2000	8.14	3,320		1300	5.97	2,450
	2100	8.09	3,300		1400	5.93	2,430
	2200	8.03	3,270		1500	5.87	2,410
	2300	7.99	3,260		1600	5.82	2,390
	2400	7.93	3,230		1700	5.79	2,380
					1800	5.75	2,370
Oct. 6	0100	7.87	3,210		1900	5.70	2,350

Table 3.--Data for selected streamflow-gaging stations for the floods of late September and early October 1986--Continued

Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)	Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)
05529000 Des Plaines River near Des Plaines--Continued							
Oct. 7--Continued	2000	5.66	2,330	Oct. 9--Continued	1300	4.07	1,840
	2100	5.62	2,320		1400	4.03	1,830
	2200	5.58	2,300		1500	4.00	1,820
	2300	5.53	2,280		1600	3.97	1,810
	2400	5.49	2,270		1700	3.94	1,800
					1800	3.91	1,790
Oct. 8	0100	5.45	2,260		1900	3.88	1,780
	0200	5.41	2,240		2000	3.85	1,780
	0300	5.37	2,230		2100	3.81	1,760
	0400	5.32	2,220		2200	3.78	1,760
	0500	5.28	2,200		2300	3.75	1,750
	0600	5.25	2,200		2400	3.72	1,740
	0700	5.21	2,180				
	0800	5.16	2,170	Oct. 10	0100	3.69	1,730
	0900	5.12	2,160		0200	3.66	1,720
	1000	5.08	2,140		0300	3.63	1,710
	1100	5.04	2,130		0400	3.60	1,700
	1200	5.00	2,120		0500	3.56	1,690
	1300	4.96	2,110		0600	3.53	1,680
	1400	4.92	2,100		0700	3.50	1,670
	1500	4.88	2,080		0800	3.47	1,660
	1600	4.84	2,070		0900	3.44	1,650
	1700	4.81	2,060		1000	3.41	1,640
	1800	4.76	2,050		1100	3.38	1,630
	1900	4.73	2,040		1200	3.35	1,630
	2000	4.69	2,030		1300	3.31	1,610
	2100	4.65	2,020		1400	3.29	1,610
	2200	4.61	2,000		1500	3.26	1,600
	2300	4.57	1,990		1600	3.23	1,590
	2400	4.54	1,980		1700	3.20	1,580
					1800	3.17	1,570
Oct. 9	0100	4.49	1,970		1900	3.15	1,570
	0200	4.46	1,960		2000	3.12	1,560
	0300	4.42	1,950		2100	3.09	1,550
	0400	4.38	1,930		2200	3.06	1,540
	0500	4.35	1,930		2300	3.03	1,530
	0600	4.31	1,910		2400	3.01	1,520
	0700	4.29	1,910				
	0800	4.25	1,900	Oct. 11	0100	2.98	1,520
	0900	4.21	1,880		0200	2.95	1,510
	1000	4.18	1,870		0300	2.93	1,510
	1100	4.14	1,860		0400	2.90	1,500
	1200	4.10	1,850		0500	2.87	1,490

Table 3.--Data for selected streamflow-gaging stations for the floods of late September and early October 1986--Continued

Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)
05529000 Des Plaines River near Des Plaines--Continued			
Oct. 11--Continued	0600	2.85	1,490
	0700	2.82	1,480
	0800	2.80	1,480
	0900	2.77	1,470
	1000	2.75	1,470
	1100	2.72	1,460
	1200	2.70	1,460
	1300	2.68	1,450
	1400	2.65	1,450
	1500	2.64	1,440
	1600	2.61	1,430
	1700	2.59	1,430
	1800	2.58	1,420
	1900	2.56	1,410
	2000	2.54	1,400
	2100	2.52	1,390
	2200	2.51	1,390
	2300	2.50	1,380
	2400	2.48	1,360
Oct. 12	0100	2.47	1,360
	0200	2.45	1,340
	0300	2.44	1,330
	0400	2.43	1,320
	0500	2.41	1,310
	0600	2.40	1,300
	0700	2.39	1,290
	0800	2.38	1,280
	0900	2.37	1,270
	1000	2.36	1,260
	1100	2.35	1,250
	1200	2.34	1,240
	1300	2.34	1,240
	1400	2.32	1,220
	1500	2.31	1,210
	1600	2.30	1,190
	1700	2.28	1,170
	1800	2.27	1,160
	1900	2.26	1,150
	2000	2.26	1,150
	2100	2.25	1,140
	2200	2.24	1,130
	2300	2.23	1,120
Oct. 12--Continued	2400	2.22	1,110
Oct. 13	0100	2.21	1,100
	0200	2.21	1,100
	0300	2.20	1,090
	0400	2.20	1,090
	0500	2.20	1,090
	0600	2.19	1,080
	0700	2.18	1,070
	0800	2.17	1,060
	0900	2.17	1,060
	1000	2.16	1,050
	1100	2.16	1,050
	1200	2.15	1,040
	1300	2.15	1,040
	1400	2.15	1,040
	1500	2.14	1,030
	1600	2.14	1,030
	1700	2.13	1,020
	1800	2.13	1,020
	1900	2.12	1,010
	2000	2.12	1,010
	2100	2.12	1,010
	2200	2.11	1,000
	2300	2.11	1,000
	2400	2.11	1,000
Oct. 14	0100	2.10	994
	0200	2.10	994
	0300	2.09	984
	0400	2.09	984
	0500	2.08	974
	0600	2.08	974
	0700	2.07	965
	0800	2.07	965
	0900	2.06	955
	1000	2.06	955
	1100	2.15	1,040
	1200	2.07	965
	1300	2.07	965
	1400	2.06	955
	1500	2.06	955
	1600	2.05	945

Table 3.--Data for selected streamflow-gaging stations for the floods of late September and early October 1986--Continued

Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)	Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)
05529000 Des Plaines River near Des Plaines--Continued							
Oct. 14--Continued	1700	2.05	945	Oct. 14--Continued	2100	2.03	926
	1800	2.05	945		2200	2.03	926
	1900	2.04	936		2300	2.02	917
	2000	2.04	936		2400	2.02	917
05535000 Skokie River at Lake Forest							
Sept. 24	1800	2.03	13	Sept. 26--Continued	0400	5.25	185
	1900	2.02	13		0500	5.19	180
	2000	2.06	14		0600	5.15	177
	2100	2.16	16		0700	5.11	174
	2200	2.30	20		0800	5.10	173
	2300	2.67	33		0900	5.12	175
	2400	2.94	43		1000	5.11	174
					1100	5.08	172
Sept. 25	0100	3.22	56		1200	5.04	169
	0200	3.75	80		1300	5.00	166
	0300	4.37	113		1400	5.04	169
	0400	4.81	139		1500	5.16	178
	0500	5.14	161		1600	5.55	209
	0600	5.45	182		1700	6.27	274
	0700	5.68	198		1800	7.28	376
	0800	5.87	213		1900	7.97	455
	0900	6.01	224		2000	8.16	478
	1000	6.13	233		2100	8.23	487
	1100	6.21	241		2200	8.25	489
	1200	6.26	273		2300	8.27	492
	1300	6.29	275		2400	8.27	492
	1400	6.24	271				
	1500	6.10	258	Sept. 27	0100	8.27	492
	1600	5.97	246		0200	8.25	489
	1700	5.87	237		0300	8.24	488
	1800	5.77	228		0400	8.23	487
	1900	5.70	222		0500	8.21	484
	2000	5.63	216		0600	8.19	482
	2100	5.58	212		0700	8.17	479
	2200	5.53	208		0800	8.14	476
	2300	5.48	204		0900	8.11	472
	2400	5.43	199		1000	8.07	467
					1100	8.02	461
Sept. 26	0100	5.39	196		1200	7.98	456
	0200	5.34	192		1300	7.93	450
	0300	5.29	188		1400	7.87	443

Table 3.--Data for selected streamflow-gaging stations for the floods of late September and early October 1986--Continued

05535000 Skokie River at Lake Forest--Continued

Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)
Sept. 27--Continued	1500	7.80	435
	1600	7.75	429
	1700	7.67	420
	1800	7.59	410
	1900	7.51	401
	2000	7.43	392
	2100	7.34	382
	2200	7.26	374
	2300	7.17	364
	2400	7.09	356
Sept. 28	0100	6.98	344
	0200	6.89	335
	0300	6.79	324
	0400	6.69	314
	0500	6.59	304
	0600	6.50	296
	0700	6.41	287
	0800	6.32	278
	0900	6.24	271
	1000	6.17	264
	1100	6.11	259
	1200	6.03	251
	1300	5.97	246
	1400	5.91	241
	1500	5.85	235
	1600	5.79	230
	1700	5.73	225
	1800	5.67	220
	1900	5.61	214
	2000	5.54	209
	2100	5.60	214
	2200	5.70	222
	2300	5.73	225
	2400	5.76	227
Sept. 29	0100	5.78	229
	0200	5.79	230
	0300	5.79	230
	0400	5.78	229
	0500	5.77	228
	0600	5.77	228
	0700	5.76	227
Sept. 29--Continued	0800	5.76	227
	0900	5.76	227
	1000	5.75	226
	1100	5.76	227
	1200	5.86	236
	1300	5.92	241
	1400	5.98	247
	1500	6.04	252
	1600	6.17	264
	1700	6.36	282
	1800	6.52	298
	1900	6.62	307
	2000	6.72	317
	2100	6.79	324
	2200	6.85	331
	2300	6.91	337
	2400	6.90	336
Sept. 30	0100	6.84	330
	0200	6.77	322
	0300	6.71	316
	0400	6.64	309
	0500	6.56	301
	0600	6.49	295
	0700	6.42	288
	0800	6.36	282
	0900	6.30	276
	1000	6.25	272
	1100	6.22	269
	1200	6.25	272
	1300	6.28	274
	1400	6.28	274
	1500	6.34	280
	1600	6.41	287
	1700	6.51	297
	1800	6.55	300
	1900	6.56	301
	2000	6.53	298
	2100	6.47	293
	2200	6.40	286
	2300	6.32	278
	2400	6.23	270

Table 3.--Data for selected streamflow-gaging stations for the floods of late September and early October 1986--Continued

Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)	Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)
05535000 Skokie River at Lake Forest--Continued							
Oct. 1	0100	6.15	262	Oct. 2--Continued	1300	4.45	126
	0200	6.06	254		1400	4.41	124
	0300	5.98	247		1500	4.38	122
	0400	5.90	240		1600	4.34	119
	0500	5.83	233		1700	4.30	116
	0600	5.76	227		1800	4.26	114
	0700	5.69	221		1900	4.22	111
	0800	5.62	215		2000	4.19	109
	0900	5.55	209		2100	4.15	107
	1000	5.53	208		2200	4.12	105
	1100	5.51	206		2300	4.09	103
	1200	5.46	202		2400	4.06	101
	1300	5.41	198				
	1400	5.36	194	Oct. 3	0100	4.07	102
	1500	5.31	190		0200	4.05	101
	1600	5.26	186		0300	3.99	97
	1700	5.20	181		0400	3.95	95
	1800	5.15	177		0500	3.92	93
	1900	5.12	175		0600	3.90	92
	2000	5.07	171		0700	4.02	99
	2100	5.03	168		0800	4.13	106
	2200	4.99	165		0900	4.15	107
	2300	4.95	162		1000	4.13	106
	2400	4.91	159		1100	4.09	103
					1200	4.05	101
Oct. 2	0100	4.86	155		1300	4.00	98
	0200	4.82	152		1400	3.97	96
	0300	4.79	150		1500	3.93	94
	0400	4.75	147		1600	3.95	95
	0500	4.72	145		1700	3.93	94
	0600	4.69	143		1800	3.88	91
	0700	4.65	140		1900	3.84	88
	0800	4.62	138		2000	3.80	86
	0900	4.59	136		2100	3.70	80
	1000	4.55	133		2200	3.67	79
	1100	4.53	132		2300	3.64	77
	1200	4.49	129		2400	3.61	76

Table 3.--Data for selected streamflow-gaging stations for the floods of late September and early October 1986--Continued

Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)	Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)
			05548280 Nippersink Creek near Spring Grove				
Sept. 22	1800	4.26	132	Sept. 24-- Continued	1100	9.15	1,240
	1900	4.26	132		1200	9.18	1,250
	2000	4.57	180		1300	9.24	1,270
	2100	5.27	304		1400	9.25	1,270
	2200	5.92	433		1500	9.27	1,270
	2300	6.59	580		1600	9.27	1,270
	2400	6.98	671		1700	9.27	1,270
					1800	9.28	1,280
Sept. 23	0100	7.15	712		1900	9.28	1,280
	0200	7.26	738		2000	9.23	1,260
	0300	7.28	743		2100	9.21	1,260
	0400	7.28	743		2200	9.19	1,250
	0500	7.18	719		2300	9.20	1,250
	0600	7.14	709		2400	9.68	1,390
	0700	7.13	707				
	0800	7.13	707	Sept. 25	0100	11.56	1,660
	0900	7.13	707		0200	11.08	1,820
	1000	7.13	707		0300	11.59	1,990
	1100	7.13	707		0400	11.76	2,040
	1200	7.13	707		0500	11.80	2,060
	1300	7.15	712		0600	11.80	2,060
	1400	7.15	712		0700	11.72	2,030
	1500	7.21	726		0800	11.68	2,020
	1600	7.23	731		0900	11.65	2,010
	1700	7.26	738		1000	11.64	2,000
	1800	7.35	761		1100	11.63	2,000
	1900	7.46	788		1200	11.62	2,000
	2000	7.55	810		1300	11.59	1,990
	2100	7.68	843		1400	11.59	1,990
	2200	7.80	874		1500	11.58	1,980
	2300	7.93	908		1600	11.53	1,970
	2400	8.06	941		1700	11.56	1,980
					1800	11.55	1,970
Sept. 24	0100	8.13	960		1900	11.54	1,970
	0200	8.30	1,010		2000	11.54	1,970
	0300	8.41	1,030		2100	11.57	1,980
	0400	8.56	1,080		2200	11.63	2,000
	0500	8.66	1,100		2300	11.69	2,020
	0600	8.78	1,140		2400	11.76	2,040
	0700	8.88	1,160				
	0800	8.96	1,190	Sept. 26	0100	11.81	2,060
	0900	9.05	1,210		0200	11.88	2,080
	1000	9.09	1,220		0300	11.93	2,100

Table 3.--Data for selected streamflow-gaging stations for the floods of late September and early October 1986--Continued

Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)
05548280 Nippersink Creek near Spring Grove--Continued			
Sept. 26--Continued	0400	12.24	2,200
	0500	12.31	2,230
	0600	12.42	2,260
	0700	12.49	2,290
	0800	12.55	2,310
	0900	12.63	2,340
	1000	12.74	2,370
	1100	12.87	2,420
	1200	12.89	2,420
	1300	13.11	2,500
	1400	13.60	2,670
	1500	13.77	2,730
	1600	13.99	2,810
	1700	14.14	2,870
	1800	14.22	2,900
	1900	14.25	2,910
	2000	14.21	2,890
	2100	14.15	2,870
	2200	14.07	2,840
	2300	13.98	2,810
	2400	13.87	2,770
Sept. 27	0100	13.83	2,760
	0200	13.73	2,720
	0300	13.70	2,710
	0400	13.65	2,690
	0500	13.61	2,680
	0600	13.58	2,670
	0700	13.52	2,650
	0800	13.48	2,630
	0900	13.31	2,570
	1000	13.28	2,560
	1100	13.31	2,570
	1200	13.35	2,590
	1300	13.30	2,570
	1400	13.31	2,570
	1500	13.17	2,520
	1600	13.12	2,500
	1700	13.08	2,490
	1800	13.03	2,470
	1900	12.96	2,450
	2000	12.93	2,440
	2100	12.88	2,420
Sept. 27--Continued	2200	12.81	2,400
	2300	12.77	2,380
	2400	12.70	2,360
Sept. 28	0100	12.65	2,340
	0200	12.60	2,320
	0300	12.52	2,300
	0400	12.47	2,280
	0500	12.41	2,260
	0600	12.33	2,240
	0700	12.26	2,210
	0800	12.22	2,200
	0900	12.15	2,170
	1000	12.09	2,150
	1100	12.02	2,130
	1200	11.96	2,110
	1300	11.87	2,080
	1400	11.83	2,070
	1500	11.74	2,040
	1600	11.68	2,020
	1700	11.60	1,990
	1800	11.50	1,960
	1900	11.46	1,950
	2000	11.48	1,950
	2100	11.48	1,950
	2200	11.44	1,940
	2300	11.39	1,920
	2400	11.33	1,900
Sept. 29	0100	11.26	1,880
	0200	11.19	1,860
	0300	11.12	1,840
	0400	11.05	1,810
	0500	10.97	1,790
	0600	10.93	1,780
	0700	10.89	1,760
	0800	10.85	1,750
	0900	10.80	1,730
	1000	10.75	1,720
	1100	10.68	1,700
	1200	10.63	1,680
	1300	10.56	1,660
	1400	10.51	1,640

Table 3.--Data for selected streamflow-gaging stations for the floods of late September and early October 1986--Continued

Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)
05548280 Nippersink Creek near Spring Grove--Continued			
Sept. 29--Continued	1500	10.54	1,650
	1600	10.57	1,660
	1700	10.56	1,660
	1800	10.55	1,660
	1900	10.54	1,660
	2000	10.54	1,660
	2100	10.53	1,650
	2200	10.51	1,650
	2300	10.51	1,650
	2400	10.50	1,640
Sept. 30	0100	10.50	1,640
	0200	10.50	1,640
	0300	10.49	1,640
	0400	10.49	1,640
	0500	10.49	1,640
	0600	10.49	1,640
	0700	10.49	1,640
	0800	10.51	1,640
	0900	10.51	1,640
	1000	10.53	1,650
	1100	10.56	1,660
	1200	10.58	1,670
	1300	10.62	1,680
	1400	10.65	1,690
	1500	10.66	1,690
	1600	10.71	1,710
	1700	10.72	1,710
	1800	10.77	1,720
	1900	10.79	1,730
	2000	10.82	1,740
	2100	10.87	1,760
	2200	10.87	1,760
	2300	10.91	1,770
	2400	10.93	1,780
Oct. 1	0100	10.96	1,780
	0200	10.96	1,780
	0300	10.98	1,790
	0400	11.00	1,800
	0500	11.00	1,800
	0600	11.00	1,800
	0700	11.00	1,800
Oct. 1--Continued	0800	11.00	1,800
	0900	11.00	1,800
	1000	10.98	1,790
	1100	10.97	1,790
	1200	10.95	1,780
	1300	10.93	1,780
	1400	10.90	1,770
	1500	10.87	1,760
	1600	10.83	1,740
	1700	10.79	1,730
	1800	10.74	1,720
	1900	10.70	1,700
	2000	10.66	1,690
	2100	10.61	1,670
	2200	10.56	1,660
	2300	10.50	1,640
	2400	10.50	1,630
Oct. 2	0100	10.40	1,610
	0200	10.34	1,590
	0300	10.28	1,570
	0400	10.22	1,560
	0500	10.16	1,540
	0600	10.10	1,520
	0700	10.04	1,500
	0800	9.96	1,480
	0900	9.93	1,470
	1000	9.85	1,440
	1100	9.79	1,430
	1200	9.75	1,410
	1300	9.70	1,400
	1400	9.64	1,380
	1500	9.59	1,370
	1600	9.53	1,350
	1700	9.46	1,330
	1800	9.40	1,310
	1900	9.35	1,300
	2000	9.27	1,270
	2100	9.21	1,260
	2200	9.16	1,240
	2300	9.10	1,230
	2400	9.04	1,210

Table 3.--Data for selected streamflow-gaging stations for the floods of late September and early October 1986--Continued

Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)	Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)
05548280 Nippersink Creek near Spring Grove--Continued							
Oct. 3	0100	8.99	1,190	Oct. 4--Continued	1300	7.73	856
	0200	8.96	1,190		1400	7.71	851
	0300	8.91	1,170		1500	7.69	846
	0400	8.84	1,150		1600	7.68	843
	0500	8.81	1,140		1700	7.67	841
	0600	8.75	1,130		1800	7.66	838
	0700	8.70	1,110		1900	7.65	836
	0800	8.65	1,100		2000	7.64	833
	0900	8.60	1,090		2100	7.62	828
	1000	8.55	1,070		2200	7.61	825
	1100	8.51	1,060		2300	7.60	823
	1200	8.46	1,050		2400	7.59	820
	1300	8.41	1,030				
	1400	8.37	1,020	Oct. 5	0100	7.57	815
	1500	8.35	1,020		0200	7.56	813
	1600	8.31	1,010		0300	7.55	810
	1700	8.28	1,000		0400	7.53	805
	1800	8.24	989		0500	7.52	803
	1900	8.19	976		0600	7.51	800
	2000	8.16	968		0700	7.51	800
	2100	8.13	960		0800	7.49	795
	2200	8.10	952		0900	7.49	795
	2300	8.04	936		1000	7.49	795
	2400	8.00	926		1100	7.49	795
					1200	7.49	795
Oct. 4	0100	7.98	921		1300	7.48	793
	0200	7.94	910		1400	7.48	793
	0300	7.91	902		1500	7.46	788
	0400	7.88	895		1600	7.45	785
	0500	7.85	887		1700	7.43	780
	0600	7.83	882		1800	7.41	775
	0700	7.82	879		1900	7.39	770
	0800	7.79	871		2000	7.37	765
	0900	7.78	869		2100	7.35	761
	1000	7.77	866		2200	7.33	756
	1100	7.75	861		2300	7.32	753
	1200	7.74	859		2400	7.29	746
05550000 Fox River at Algonquin							
Sept. 26	0100	3.08	3,680	Sept. 26	0400	3.10	3,730
	0200	3.09	3,700		0500	3.11	3,750
	0300	3.09	3,700		0600	3.11	3,750

Table 3.--Data for selected streamflow-gaging stations for the floods of late September and early October 1986--Continued

Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)
		05550000 Fox River at Algonquin--Continued	
Sept. 26--Continued	0700	3.11	3,750
	0800	3.12	3,780
	0900	3.13	3,800
	1000	3.14	3,830
	1100	3.14	3,830
	1200	3.15	3,850
	1300	3.16	3,880
	1400	3.20	3,980
	1500	3.23	4,060
	1600	3.26	4,130
	1700	3.29	4,210
	1800	3.32	4,290
	1900	3.34	4,340
	2000	3.35	4,370
	2100	3.37	4,420
	2200	3.38	4,450
	2300	3.39	4,470
	2400	3.41	4,530
Sept. 27	0100	3.43	4,580
	0200	3.44	4,610
	0300	3.45	4,630
	0400	3.46	4,660
	0500	3.47	4,690
	0600	3.48	4,710
	0700	3.49	4,740
	0800	3.50	4,770
	0900	3.51	4,800
	1000	3.51	4,800
	1100	3.52	4,820
	1200	3.53	4,850
	1300	3.53	4,850
	1400	3.54	4,880
	1500	3.54	4,880
	1600	3.55	4,910
	1700	3.56	4,930
	1800	3.57	4,960
	1900	3.58	4,990
	2000	3.59	5,020
	2100	3.60	5,040
	2200	3.61	5,070
	2300	3.61	5,070
	2400	3.62	5,100
Sept. 28	0100	3.62	5,100
	0200	3.62	5,100
	0300	3.63	5,130
	0400	3.63	5,130
	0500	3.63	5,130
	0600	3.64	5,160
	0700	3.64	5,160
	0800	3.64	5,160
	0900	3.65	5,180
	1000	3.65	5,180
	1100	3.65	5,180
	1200	3.65	5,180
	1300	3.65	5,180
	1400	3.65	5,180
	1500	3.65	5,180
	1600	3.65	5,180
	1700	3.66	5,210
	1800	3.66	5,210
	1900	3.67	5,240
	2000	3.68	5,270
	2100	3.71	5,350
	2200	3.71	5,350
	2300	3.71	5,350
	2400	3.71	5,350
Sept. 29	0100	3.71	5,350
	0200	3.71	5,350
	0300	3.71	5,350
	0400	3.72	5,380
	0500	3.72	5,380
	0600	3.72	5,380
	0700	3.73	5,410
	0800	3.74	5,440
	0900	3.74	5,440
	1000	3.74	5,440
	1100	3.75	5,470
	1200	3.75	5,470
	1300	3.75	5,470
	1400	3.76	5,500
	1500	3.78	5,550
	1600	3.79	5,580
	1700	3.80	5,610
	1800	3.80	5,610

Table 3.--Data for selected streamflow-gaging stations for the floods of late September and early October 1986--Continued

Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)	Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)
			05550000 Fox River at Algonquin--Continued				
Sept. 29--Continued	1900	3.80	5,610	Oct. 1--Continued	1200	3.92	5,960
	2000	3.80	5,610		1300	3.92	5,960
	2100	3.81	5,640		1400	3.93	5,990
	2200	3.81	5,640		1500	3.93	5,990
	2300	3.81	5,640		1600	3.93	5,990
	2400	3.82	5,670		1700	3.93	5,990
					1800	3.93	5,990
Sept. 30	0100	3.82	5,670		1900	3.93	5,990
	0200	3.82	5,670		2000	3.93	5,990
	0300	3.82	5,670		2100	3.93	5,990
	0400	3.82	5,670		2200	3.93	5,990
	0500	3.83	5,700		2300	3.93	5,990
	0600	3.83	5,700		2400	3.93	5,990
	0700	3.83	5,700				
	0800	3.83	5,700	Oct. 2	0100	3.94	6,020
	0900	3.83	5,700		0200	3.94	6,020
	1000	3.84	5,730		0300	3.94	6,020
	1100	3.86	5,790		0400	3.94	6,020
	1200	3.86	5,790		0500	3.94	6,020
	1300	3.86	5,790		0600	3.95	6,050
	1400	3.88	5,840		0700	3.95	6,050
	1500	3.89	5,870		0800	3.95	6,050
	1600	3.89	5,870		0900	3.95	6,050
	1700	3.89	5,870		1000	3.95	6,050
	1800	3.89	5,870		1100	3.95	6,050
	1900	3.90	5,900		1200	3.95	6,050
	2000	3.90	5,900		1300	3.95	6,050
	2100	3.90	5,900		1400	3.95	6,050
	2200	3.90	5,900		1500	3.95	6,050
	2300	3.90	5,900		1600	3.95	6,050
	2400	3.90	5,900		1700	3.95	6,050
					1800	3.95	6,050
Oct. 1	0100	3.90	5,900		1900	3.95	6,050
	0200	3.90	5,900		2000	3.95	6,050
	0300	3.90	5,900		2100	3.96	6,080
	0400	3.90	5,900		2200	3.96	6,080
	0500	3.90	5,900		2300	3.96	6,080
	0600	3.90	5,900		2400	3.96	6,080
	0700	3.90	5,900				
	0800	3.90	5,900	Oct. 3	0100	3.96	6,080
	0900	3.91	5,930		0200	3.96	6,080
	1000	3.92	5,960		0300	3.97	6,110
	1100	3.92	5,960		0400	3.97	6,110

Table 3.--Data for selected streamflow-gaging stations for the floods of late September and early October 1986--Continued

Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)
		05550000 Fox River at Algonquin--Continued	
Oct. 3--Continued	0500	3.97	6,110
	0600	3.98	6,140
	0700	3.99	6,170
	0800	3.99	6,170
	0900	3.99	6,170
	1000	3.98	6,140
	1100	3.98	6,140
	1200	3.98	6,140
	1300	3.98	6,140
	1400	3.98	6,140
	1500	3.98	6,140
	1600	3.98	6,140
	1700	3.99	6,170
	1800	3.98	6,140
	1900	3.98	6,140
	2000	3.98	6,140
	2100	3.98	6,140
	2200	3.98	6,140
	2300	3.97	6,110
	2400	3.97	6,110
Oct. 4	0100	3.97	6,110
	0200	3.97	6,110
	0300	3.97	6,110
	0400	3.97	6,110
	0500	3.97	6,110
	0600	3.97	6,110
	0700	3.98	6,140
	0800	3.98	6,140
	0900	3.98	6,140
	1000	3.98	6,140
	1100	3.97	6,110
	1200	3.97	6,110
	1300	3.97	6,110
	1400	3.97	6,110
	1500	3.97	6,110
	1600	3.97	6,110
	1700	3.97	6,110
	1800	3.96	6,080
	1900	3.96	6,080
	2000	3.96	6,080
	2100	3.95	6,050
	2200	3.95	6,050
Oct. 4--Continued	2300	3.94	6,020
	2400	3.94	6,020
Oct. 5	0100	3.94	6,020
	0200	3.94	6,020
	0300	3.93	5,990
	0400	3.93	5,990
	0500	3.93	5,990
	0600	3.92	5,960
	0700	3.92	5,960
	0800	3.91	5,930
	0900	3.90	5,900
	1000	3.90	5,900
	1100	3.88	5,840
	1200	3.87	5,810
	1300	3.87	5,810
	1400	3.88	5,840
	1500	3.88	5,840
	1600	3.89	5,870
	1700	3.89	5,870
	1800	3.88	5,840
	1900	3.88	5,840
	2000	3.88	5,840
	2100	3.87	5,810
	2200	3.87	5,810
	2300	3.87	5,810
	2400	3.87	5,810
Oct. 6	0100	3.86	5,790
	0200	3.86	5,790
	0300	3.86	5,790
	0400	3.85	5,760
	0500	3.85	5,760
	0600	3.85	5,760
	0700	3.84	5,730
	0800	3.84	5,730
	0900	3.84	5,730
	1000	3.84	5,730
	1100	3.83	5,700
	1200	3.83	5,700
	1300	3.82	5,670
	1400	3.82	5,670
	1500	3.81	5,640

Table 3.--Data for selected streamflow-gaging stations for the floods of late September and early October 1986--Continued

Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)
		05550000 Fox River at Algonquin--Continued	
Oct. 6--Continued	1600	3.81	5,640
	1700	3.81	5,640
	1800	3.81	5,640
	1900	3.80	5,610
	2000	3.80	5,610
	2100	3.79	5,580
	2200	3.79	5,580
	2300	3.78	5,550
	2400	3.78	5,550
Oct. 7	0100	3.78	5,550
	0200	3.77	5,520
	0300	3.77	5,520
	0400	3.77	5,520
	0500	3.76	5,500
	0600	3.76	5,500
	0700	3.75	5,470
	0800	3.75	5,470
	0900	3.74	5,440
	1000	3.73	5,410
	1100	3.72	5,380
	1200	3.71	5,350
	1300	3.71	5,350
	1400	3.70	5,320
	1500	3.70	5,320
	1600	3.69	5,300
	1700	3.68	5,270
	1800	3.68	5,270
	1900	3.69	5,300
	2000	3.69	5,300
	2100	3.68	5,270
	2200	3.68	5,270
	2300	3.67	5,240
	2400	3.67	5,240
Oct. 8	0100	3.67	5,240
	0200	3.66	5,210
	0300	3.66	5,210
	0400	3.66	5,210
	0500	3.66	5,210
	0600	3.65	5,180
	0700	3.65	5,180
Oct. 8--Continued	0800	3.65	5,180
	0900	3.65	5,180
	1000	3.64	5,160
	1100	3.64	5,160
	1200	3.64	5,160
	1300	3.64	5,160
	1400	3.64	5,160
	1500	3.64	5,160
	1600	3.64	5,160
	1700	3.65	5,180
	1800	3.65	5,180
	1900	3.64	5,160
	2000	3.64	5,160
	2100	3.64	5,160
	2200	3.64	5,160
	2300	3.63	5,130
	2400	3.63	5,130
Oct. 9	0100	3.62	5,100
	0200	3.62	5,100
	0300	3.62	5,100
	0400	3.62	5,100
	0500	3.61	5,070
	0600	3.61	5,070
	0700	3.61	5,070
	0800	3.61	5,070
	0900	3.60	5,040
	1000	3.60	5,040
	1100	3.60	5,040
	1200	3.60	5,040
	1300	3.60	5,040
	1400	3.59	5,020
	1500	3.59	5,020
	1600	3.59	5,020
	1700	3.58	4,990
	1800	3.58	4,990
	1900	3.57	4,960
	2000	3.56	4,930
	2100	3.56	4,930
	2200	3.56	4,930
	2300	3.55	4,910
	2400	3.55	4,910

Table 3.--Data for selected streamflow-gaging stations for the floods of late September and early October 1986--Continued

Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)	Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)
			05550000 Fox River at Algonquin--Continued				
Oct. 10	0100	3.55	4,910	Oct. 10-- Continued	1300	3.51	4,800
	0200	3.54	4,880		1400	3.51	4,800
	0300	3.54	4,880		1500	3.50	4,770
	0400	3.53	4,850		1600	3.50	4,770
	0500	3.53	4,850		1700	3.50	4,770
	0600	3.53	4,850		1800	3.49	4,740
	0700	3.52	4,820		1900	3.49	4,740
	0800	3.52	4,820		2000	3.48	4,710
	0900	3.52	4,820		2100	3.48	4,710
	1000	3.51	4,800		2200	3.48	4,710
	1100	3.51	4,800		2300	3.48	4,710
	1200	3.51	4,800		2400	3.48	4,710
			05567500 Mackinaw River near Congerville				
Oct. 2	1800	4.27	970	Oct. 3-- Continued	2100	15.90	11,900
	1900	4.25	961		2200	16.20	12,600
	2000	4.22	948		2300	16.48	13,400
	2100	4.18	930		2400	16.84	14,400
	2200	4.17	926				
	2300	4.19	935	Oct. 4	0100	17.20	15,600
	2400	4.33	997		0200	18.04	18,700
					0300	18.21	20,100
Oct. 3	0100	4.89	1,260		0400	18.53	23,100
	0200	6.14	1,970		0500	18.82	26,000
	0300	7.35	2,800		0600	19.10	29,100
	0400	8.86	3,970		0700	19.19	30,100
	0500	10.19	5,130		0800	19.41	32,700
	0600	11.01	5,940		0900	19.42	32,800
	0700	11.65	6,620		1000	19.61	35,300
	0800	12.13	7,150		1100	19.43	33,000
	0900	12.60	7,680		1200	19.46	33,300
	1000	12.92	8,060		1300	19.33	31,700
	1100	13.15	8,340		1400	19.33	31,700
	1200	13.40	8,640		1500	19.20	30,200
	1300	13.84	9,200		1600	19.16	29,800
	1400	14.19	9,630		1700	18.98	27,800
	1500	14.45	9,960		1800	18.90	26,900
	1600	14.65	10,200		1900	18.76	25,400
	1700	14.98	10,600		2000	18.76	25,400
	1800	15.31	11,100		2100	18.49	22,700
	1900	15.51	11,300		2200	18.55	23,200
	2000	15.67	11,600		2300	18.44	22,200

Table 3.--Data for selected streamflow-gaging stations for the floods of late September and early October 1986--Continued

Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)
05567500 Mackinaw River near Congerville--Continued			
Oct. 4--Continued	2400	18.37	21,600
Oct. 5	0100	18.20	20,000
	0200	18.09	19,100
	0300	18.03	18,600
	0400	17.92	18,100
	0500	17.78	17,600
	0600	17.74	17,500
	0700	17.72	17,400
	0800	17.67	17,200
	0900	17.52	16,700
	1000	17.41	16,300
	1100	17.29	15,900
	1200	17.16	15,500
	1300	17.07	15,200
	1400	16.91	14,700
	1500	16.81	14,400
	1600	16.66	13,900
	1700	16.49	13,400
	1800	16.29	12,800
	1900	16.14	12,400
	2000	15.99	12,000
	2100	15.81	11,700
	2200	15.61	11,500
	2300	15.39	11,200
	2400	15.17	10,900
Oct. 6	0100	14.91	10,500
	0200	14.63	10,200
	0300	14.31	9,780
	0400	13.89	9,260
	0500	13.36	8,600
	0600	12.70	7,800
	0700	12.00	7,000
	0800	11.41	6,360
	0900	10.87	5,800
	1000	10.39	5,320
	1100	9.99	4,940
	1200	9.72	4,700
	1300	9.51	4,520
	1400	9.32	4,360
	1500	9.18	4,240
Oct. 6--Continued	1600	9.03	4,110
	1700	8.91	4,010
	1800	8.79	3,920
	1900	8.71	3,850
	2000	8.61	3,770
	2100	8.54	3,720
	2200	8.48	3,670
	2300	8.42	3,620
	2400	8.37	3,580
Oct. 7	0100	8.30	3,530
	0200	8.25	3,490
	0300	8.20	3,450
	0400	8.12	3,390
	0500	8.03	3,320
	0600	7.91	3,230
	0700	7.89	3,210
	0800	7.93	3,240
	0900	7.87	3,200
	1000	7.85	3,180
	1100	7.82	3,160
	1200	7.77	3,120
	1300	7.74	3,090
	1400	7.67	3,040
	1500	7.65	3,020
	1600	7.60	2,990
	1700	7.56	2,960
	1800	7.52	2,920
	1900	7.46	2,880
	2000	7.43	2,860
	2100	7.40	2,830
	2200	7.35	2,800
	2300	7.29	2,750
	2400	7.25	2,720
Oct. 8	0100	7.22	2,700
	0200	7.19	2,680
	0300	7.16	2,660
	0400	7.14	2,640
	0500	7.09	2,610
	0600	7.06	2,590
	0700	7.01	2,550

Table 3.--Data for selected streamflow-gaging stations for the floods of late September and early October 1986--Continued

Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)	Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)
			05567500 Mackinaw River near Congerville--Continued				
Oct. 8--Continued	0800	6.99	2,540	Oct. 9--Continued	1700	6.20	2,010
	0900	6.95	2,510		1800	6.18	1,990
	1000	6.91	2,480		1900	6.17	1,990
	1100	6.90	2,470		2000	6.15	1,980
	1200	6.86	2,450		2100	6.14	1,970
	1300	6.83	2,420		2200	6.13	1,960
	1400	6.80	2,400		2300	6.11	1,950
	1500	6.76	2,380		2400	6.09	1,940
	1600	6.73	2,360				
	1700	6.71	2,340	Oct. 10	0100	6.08	1,930
	1800	6.63	2,290		0200	6.06	1,920
	1900	6.62	2,280		0300	6.04	1,910
	2000	6.59	2,260		0400	6.03	1,900
	2100	6.55	2,230		0500	6.01	1,890
	2200	6.53	2,220		0600	5.98	1,870
	2300	6.51	2,210		0700	5.98	1,870
	2400	6.44	2,160		0800	5.97	1,860
					0900	5.95	1,850
Oct. 9	0100	6.40	2,140		1000	5.93	1,830
	0200	6.42	2,150		1100	5.92	1,830
	0300	6.39	2,130		1200	5.92	1,830
	0400	6.38	2,120		1300	5.90	1,820
	0500	6.37	2,120		1400	5.90	1,820
	0600	6.35	2,100		1500	5.89	1,810
	0700	6.34	2,100		1600	5.87	1,800
	0800	6.34	2,100		1700	5.85	1,780
	0900	6.32	2,080		1800	5.82	1,760
	1000	6.31	2,080		1900	5.79	1,740
	1100	6.30	2,070		2000	5.79	1,740
	1200	6.28	2,060		2100	5.76	1,720
	1300	6.26	2,050		2200	5.75	1,720
	1400	6.24	2,030		2300	5.73	1,700
	1500	6.23	2,030		2400	5.72	1,700
	1600	6.21	2,010				
			05584500 La Moine River at Colmar				
Sept. 29	1200	6.07	377	Sept. 29--Continued	1700	13.55	1,770
	1300	6.39	423		1800	15.10	2,120
	1400	7.40	573		1900	16.27	2,430
	1500	9.14	870		2000	17.13	2,750
	1600	11.45	1,320		2100	17.78	3,030

Table 3.--Data for selected streamflow-gaging stations for the floods of late September and early October 1986--Continued

Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)
		05584500 La Moine River at Colmar--Continued	
Sept. 29--Continued	2200	18.25	3,320
	2300	18.57	3,570
	2400	18.84	3,800
Sept. 30	0100	19.05	3,980
	0200	19.19	4,150
	0300	19.34	4,330
	0400	19.47	4,510
	0500	19.55	4,630
	0600	19.64	4,760
	0700	19.68	4,830
	0800	19.67	4,770
	0900	19.60	4,630
	1000	19.51	4,480
	1100	19.39	4,290
	1200	19.30	4,150
	1300	19.24	4,040
	1400	19.20	3,960
	1500	19.19	3,920
	1600	19.18	3,870
	1700	19.18	3,840
	1800	19.18	3,810
	1900	19.22	3,800
	2000	19.22	3,770
	2100	19.28	3,770
	2200	19.37	3,810
	2300	19.44	3,840
	2400	19.56	3,890
Oct. 1	0100	19.71	4,790
	0200	19.88	5,030
	0300	20.02	5,260
	0400	20.16	5,490
	0500	20.28	5,700
	0600	20.41	5,910
	0700	20.57	6,210
	0800	20.71	6,460
	0900	20.85	6,680
	1000	20.96	6,850
	1100	21.08	7,050
	1200	21.16	7,210
	1300	21.24	7,390
	1400	21.28	7,470
Oct. 1--Continued	1500	21.31	7,550
	1600	21.33	7,580
	1700	21.34	7,610
	1800	21.34	7,610
	1900	21.33	7,580
	2000	21.33	7,580
	2100	21.31	7,550
	2200	21.31	7,550
	2300	21.28	7,470
	2400	21.25	7,420
Oct. 2	0100	21.24	7,390
	0200	21.21	7,310
	0300	21.18	7,260
	0400	21.14	7,180
	0500	21.09	7,050
	0600	21.04	6,960
	0700	20.98	6,870
	0800	20.92	6,770
	0900	20.84	6,660
	1000	20.75	6,510
	1100	20.64	6,350
	1200	20.54	6,150
	1300	20.41	5,910
	1400	20.27	5,680
	1500	20.12	5,430
	1600	19.94	5,140
	1700	19.75	4,850
	1800	19.55	4,590
	1900	19.31	4,310
	2000	19.07	4,030
	2100	18.85	3,840
	2200	18.70	3,710
	2300	18.87	3,850
	2400	19.30	4,300
Oct. 3	0100	19.69	4,770
	0200	20.01	5,240
	0300	20.21	5,570
	0400	20.39	5,880
	0500	20.54	6,150
	0600	20.68	6,420
	0700	20.84	6,660

Table 3.--Data for selected streamflow-gaging stations for the floods of late September and early October 1986--Continued

05584500 La Moine River at Colmar--Continued

Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)
Oct. 3--Continued	0800	21.11	7,100
	0900	21.42	7,800
	1000	21.77	8,660
	1100	22.10	9,520
	1200	22.34	10,200
	1300	22.53	10,800
	1400	22.66	11,300
	1500	22.74	11,600
	1600	22.82	11,900
	1700	22.85	12,000
	1800	22.89	12,200
	1900	22.93	12,300
	2000	22.97	12,500
	2100	23.02	12,700
	2200	23.10	13,000
	2300	23.22	13,400
	2400	23.34	14,000
Oct. 4	0100	23.51	14,700
	0200	23.68	15,500
	0300	23.80	16,100
	0400	23.98	16,800
	0500	24.17	17,700
	0600	24.34	18,500
	0700	24.50	19,300
	0800	24.70	20,400
	0900	24.84	21,300
	1000	24.99	22,300
	1100	25.11	23,300
	1200	25.22	24,200
	1300	25.31	25,000
	1400	25.37	25,600
	1500	25.45	26,300
	1600	25.48	26,600
	1700	25.47	26,500
	1800	25.45	26,300
	1900	25.43	26,100
	2000	25.41	25,900
	2100	25.40	25,800
	2200	25.39	25,700
	2300	25.34	25,300
	2400	25.37	25,600
Oct. 5	0100	25.33	25,200
	0200	25.31	25,000
	0300	25.27	24,700
	0400	25.28	24,700
	0500	25.24	24,400
	0600	25.21	24,100
	0700	25.18	23,900
	0800	25.15	23,600
	0900	25.09	23,100
	1000	25.05	22,800
	1100	25.01	22,400
	1200	24.96	22,000
	1300	24.91	21,600
	1400	24.90	21,500
	1500	24.80	20,800
	1600	24.71	20,100
	1700	24.67	19,800
	1800	24.60	19,400
	1900	24.52	18,900
	2000	24.41	18,200
	2100	24.32	17,700
	2200	24.18	17,000
	2300	24.07	16,400
	2400	24.03	16,200
Oct. 6	0100	23.94	15,700
	0200	23.87	15,300
	0300	23.76	14,600
	0400	23.68	14,200
	0500	23.58	13,700
	0600	23.48	13,200
	0700	23.39	12,800
	0800	23.29	12,300
	0900	23.20	11,900
	1000	23.14	11,600
	1100	23.06	11,300
	1200	22.97	10,900
	1300	22.88	10,500
	1400	22.78	10,100
	1500	22.69	9,790
	1600	22.58	9,420
	1700	22.46	9,030

Table 3.--Data for selected streamflow-gaging stations for the floods of late September and early October 1986--Continued

05584500 La Moine River at Colmar--Continued

Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)
Oct. 6--Continued	1800	22.34	8,660
	1900	22.22	8,290
	2000	22.10	7,950
	2100	21.98	7,610
	2200	21.86	7,290
	2300	21.74	6,980
	2400	21.64	6,790
Oct. 7	0100	21.53	6,580
	0200	21.40	6,350
	0300	21.28	6,140
	0400	21.16	5,930
	0500	21.03	5,710
	0600	20.91	5,520
	0700	20.79	5,330
	0800	20.66	5,140
	0900	20.54	4,960
	1000	20.42	4,800
	1100	20.30	4,660
	1200	20.19	4,530
	1300	20.05	4,380
	1400	19.92	4,230
	1500	19.78	4,080
	1600	19.62	3,930
	1700	19.48	3,820
	1800	19.29	3,670
	1900	19.10	3,530
	2000	18.90	3,380
	2100	18.71	3,250
	2200	18.50	3,100
	2300	18.29	3,010
	2400	18.08	2,920
Oct. 8	0100	17.86	2,830
	0200	17.64	2,750
	0300	17.41	2,660
	0400	17.18	2,570
	0500	16.94	2,480
	0600	16.70	2,410
	0700	16.45	2,330
	0800	16.18	2,250
	0900	15.92	2,180
	1000	15.68	2,140
Oct. 8--Continued	1100	15.45	2,090
	1200	15.21	2,040
	1300	14.97	1,990
	1400	14.77	1,940
	1500	14.55	1,890
	1600	14.36	1,850
	1700	14.16	1,800
	1800	13.96	1,750
	1900	13.78	1,710
	2000	13.59	1,670
	2100	13.41	1,630
	2200	13.24	1,600
	2300	13.07	1,560
	2400	12.91	1,530
Oct. 9	0100	12.76	1,500
	0200	12.62	1,470
	0300	12.48	1,450
	0400	12.36	1,420
	0500	12.23	1,390
	0600	12.12	1,370
	0700	12.00	1,340
	0800	11.89	1,320
	0900	11.79	1,300
	1000	11.68	1,270
	1100	11.59	1,250
	1200	11.50	1,240
	1300	11.41	1,220
	1400	11.33	1,200
	1500	11.25	1,180
	1600	11.17	1,170
	1700	11.10	1,150
	1800	11.02	1,140
	1900	10.95	1,120
	2000	10.88	1,110
	2100	10.82	1,100
	2200	10.75	1,090
	2300	10.68	1,070
	2400	10.62	1,060
Oct. 10	0100	10.56	1,050
	0200	10.50	1,040
	0300	10.44	1,030

Table 3.--Data for selected streamflow-gaging stations for the floods of late September and early October 1986--Continued

Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)	Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)
			05584500 La Moine River at Colmar--Continued				
Oct. 10--	0400	10.38	1,020	Oct. 10--	1500	9.86	922
Continued	0500	10.32	1,000	Continued	1600	9.82	915
	0600	10.26	993		1700	9.78	908
	0700	10.21	984		1800	9.74	901
	0800	10.15	973		1900	9.70	894
	0900	10.10	964		2000	9.66	887
	1000	10.06	957		2100	9.62	880
	1100	10.02	950		2200	9.59	875
	1200	9.99	945		2300	9.56	870
	1300	9.93	934		2400	9.52	863
	1400	9.89	927				

[1] No gage-height record; discharge based on high-water mark and shape of hydrograph.

Table 4.--Total rainfall and recurrence intervals at selected National Weather Service stations in Illinois during the storms of August 13-14, 1987

[<, less than; >, greater than; rainfall data from the National Oceanic and Atmospheric Administration (1987b)]

Map number[1]	Station name	Time of daily reading[2] (hour)	August 13-14, 1987 Total rainfall (inches)	August 13-14, 1987 Recurrence interval[3] (years)
		NORTHWEST		
55	Freeport wastewater plant	0700	1.37	<2
59	Galva	0700	1.28	<2
104	Moline WSO AP	2400	2.09	<2
107	Morrison	0700	3.05	<2
128	Paw Paw 1 E	0600	2.92	<2
146	Rockford WSO AP	2400	6.42	35
		NORTHEAST		
5	Antioch	0700	2.30	<2
32	Chicago O'Hare WSO AP	2400	9.35	>100
41	De Kalb	0700	5.71	20
95	Marengo	0700	2.60	<2
170	Waukegan	0600	5.64	20
173	Wheaton 3 SE	0700	6.01	25
		WEST		
8	Avon 5 NE	0700	0.90	<2
58	Galesburg	0700	1.53	<2
64	Golden	0800	3.47	<2
89	La Harpe	0700	2.30	<2
105	Monmouth	1800	1.15	<2
139	Quincy FAA AP	2400	4.81	5
		CENTRAL		
74	Havana 4 NE	0700	0.36	<2
92	Lincoln	0700	.12	<2
103	Minonk	0800	.26	<2
112	Mount Pulaski	0700	.00	<2
119	Normal	1600	.52	<2
138	Princeville	1800	.64	<2

Table 4.--Total rainfall and recurrence intervals at selected National Weather Service stations in Illinois during the storms of August 13-14, 1987--Continued

Map number[1]	Station name	Time of daily reading[2] (hour)	August 13-14, 1987 Total rainfall (inches)	August 13-14, 1987 Recurrence interval[3] (years)
		EAST		
38	Danville	1700	0.04	<2
62	Gibson City 1 E	0700	.47	<2
77	Hoopeston 1 NE	0700	.00	<2
83	Kankakee water pollution center	0700	.08	<2
135	Piper City	0700	.60	<2
136	Pontiac	0700	.59	<2
162	Urbana	2400	.11	<2

[1] Map number refers to figure 1.
[2] Central standard time.
[3] Determined according to the techniques of Huff and Angel (1989).

Table 5.--Total rainfall collected at unofficial rainfall-gaging stations during the storms of August 13-14, 1987, for the period 0900 hours central standard time August 13 through 1200 hours central standard time August 14

[Rainfall data from E.E. Evans, U.S. Soil Conservation Service (written commun., 1987)]

Station name	Total rainfall (inches)
NORTHEAST	
Arlington Heights	9.5
Carpentersville	4.25
Chicago (North & Springfield Streets)	5.87
Darien	1.2
Des Plaines	9.06
Downers Grove	4.98
Du Page County Airport	6.4
Elk Grove	6.5
Elmhurst	4.4
Glendale Heights	7.2
Hanover Park	9.1
Hoffman Estates	6.7
Libertyville	2.5
McHenry	4.58
MWRDGC (I-290)	9.2
MWRDGC (Howard & McCormick Street)	6.8
Morton Arboretum	6.4
Mount Prospect	7.1
Palatine Park District	6.44
Park Ridge	9.31
Park Ridge (East of Cumberland)	10.75
Villa Park	7.2
Winfield	6.8
Woodstock	4.0

Table 6.--Summary of peak stages and discharges for the floods of August 14-17, 1987, at selected streamflow-gaging stations in northern Illinois

[mi^2, square miles; WY, water year; ft, feet; ft^3/s, cubic feet per second; <, less than; >, greater than]

Map number	Station number	Station name	Drainage area (mi^2)	Period of record (WY)	Type of record[1]	Previously recorded maximum flood: Date	Previously recorded maximum flood: Gage height (ft)	Previously recorded maximum flood: Discharge (ft^3/s)	Maximum flood of August 1987: Date	Maximum flood of August 1987: Gage height (ft)	Maximum flood of August 1987: Discharge (ft^3/s)	Maximum flood of August 1987: Recurrence interval (years)
		UPPER MISSISSIPPI RIVER BASIN ABOVE THE ILLINOIS RIVER										
		Rock River basin										
91	05438250	Coon Creek at Riley, Ill.	85.1	1961-82, 1983-	D C	07-02-78	9.73	5,090	14	8.15	2,110	5
9	05438500	Kishwaukee River at Belvidere, Ill.	538	1940-	D	03-16-43	13.10	10,300	14	9.34	4,590	3
92	05439000	South Branch Kishwaukee River at De Kalb, Ill.	77.7	1925-34, 1980-	D D	07-02-83	15.80	3,500	15	9.59	1,010	4
									17	9.74	1,080	4
93	05439500	South Branch Kishwaukee River near Fairdale, Ill.	387	1940-	D	04-22-73	10.22	8,460	15	9.94	5,300	4
10	05440000	Kishwaukee River near Perryville, Ill.	1,099	1940-	D	03-21-79	20.48	16,700	15	14.45	8,720	3
94	05444000	Elkhorn Creek near Penrose, Ill.	146	1940-	D	05-17-74	16.53	6,770	14	6.72	1,190	<2
95	05446000	Rock Creek at Morrison, Ill.	164	1940-42, 1978-86, 1987-	D D C	01-06-46	[2]16.04	5,770	14	15.47	1,770	<2
		ILLINOIS RIVER BASIN										
		Des Plaines River basin										
21	05528000	Des Plaines River near Gurnee, Ill.	232	1946-58, 1960-68, 1969-	D C D	09-27-86	11.95	3,530	14	4.79	555	<2
22	05528500	Buffalo Creek near Wheeling, Ill.	19.6	1952-	D	07-22-82	7.94	887	14	7.34	717	15
23	05529000	Des Plaines River near Des Plaines, Ill.	360	1941-	D	10-01-86	10.88	4,900	14	8.77	3,370	7
24	05529500	McDonald Creek near Mount Prospect, Ill.	7.93	1952-	D	06-20-72	7.58	664	14	*8.08	*806	50
25	05530000	Weller Creek at Des Plaines, Ill.	13.2	1951-	D	06-10-67	15.09	1,590	14	14.80	1,490	25
26	05530990	Salt Creek at Rolling Meadows, Ill.	30.5	1974-	D	12-03-82	12.56	1,060	14	*14.03	*1,650	>100
27	05531500	Salt Creek at Western Springs, Ill.	115	1946-	D	12-05-82	8.71	2,070	17	*10.54	*3,540	>100
28	05532000	Addison Creek at Bellwood, Ill.	17.9	1951-	D	08-07-82	10.68	839	14	*12.84	*1,120	>100
29	05532500	Des Plaines River at Riverside, Ill.	630	1944-	D	10-03-86	8.87	7,590	15	*9.90	*9,770	>100
30	05533000	Flag Creek near Willow Springs, Ill.	16.5	1951-	D	09-14-61	13.71	2,680	17	7.07	620	<2

Table 6.--Summary of peak stages and discharges for the floods of August 14-17, 1987, at selected streamflow-gaging stations in northern Illinois--Continued

Map number	Station number	Station name	Drainage area (mi^2)	Period of record (WY)	Type of record[1]	Previously recorded maximum flood: Date	Previously recorded maximum flood: Gage height (ft)	Previously recorded maximum flood: Discharge (ft^3/s)	Maximum flood of August 1987: Date	Maximum flood of August 1987: Gage height (ft)	Maximum flood of August 1987: Discharge (ft^3/s)	Maximum flood of August 1987: Recurrence interval (years)
		ILLINOIS RIVER BASIN--Continued										
		Des Plaines River basin--Continued										
31	05533400	Sawmill Creek near Lemont, Ill.	13.0	1962-79, 1986-	C D	05-12-66 04-18-75	12.94 12.94	984 984	17	11.70	216	<2
32	05534500	North Branch Chicago River at Deerfield, Ill.	19.7	1952-	D	07-22-82	10.93	756	14	*11.52	*933	>100
33	05535000	Skokie River at Lake Forest, Ill.	13.0	1952-	D	09-26-86	8.27	492	14	5.98	247	3
34	05535070	Skokie River near Highland Park, Ill.	21.1	1967-	D	12-03-82	8.46	724	14	*9.09	*895	>100
35	05535500	West Fork of North Branch Chicago River at Northbrook, Ill.	11.5	1952-	D	07-22-82	9.66	1,070	14	*10.10	*1,190	>100
36	05536000	North Branch Chicago River at Niles, Ill.	100	1951-	D	06-11-67	9.83	2,210	14	*11.35	*2,590	>100
37	05536215	Thorn Creek at Glenwood, Ill.	24.7	1949-	D	08-17-68	11.26	2,600	17	9.18	792	<2
41	05536500	Tinley Creek near Palos Park, Ill.	11.2	1951-	D	10-10-54	10.30	1,930	17	4.69	225	<2
96	05539900	West Branch Du Page River near West Chicago, Ill.	28.5	1961-	D	12-03-82	10.44	984	14	10.63	958	35
42	05540060	Kress Creek at West Chicago, Ill.	18.1	1961-80, 1986-	C D	07-18-64	7.90	637	14	7.37	573	35
43	05540095	West Branch Du Page River near Warrenville, Ill.	90.4	1969-	D	12-03-82	4.88	2,160	15	*5.85	*3,050	>100
44	05540200	St. Joseph Creek at Lisle, Ill.	11.8	1961-76, 1986-	FP D	10-03-86	5.81	649	14	8.10	*1,230	>100
45	05540500	Du Page River at Shorewood, Ill.	324	1941-	D	10-11-54	11.06	12,000	17	6.16	3,650	<2
		Fox River basin										
97	05550500	Poplar Creek at Elgin, Ill.	35.2	1951-	D	04-22-73	5.45	896	15	4.98	599	7
98	05551200	Ferson Creek near St. Charles, Ill.	51.7	1961-	D	02-20-71	7.64	1,970	14	6.35	1,180	4
99	05551700	Blackberry Creek near Yorkville, Ill.	70.2	1961-	D	07-03-83	9.91	2,060	16	6.45	493	<2
51	05552500	Fox River at Dayton, Ill.	2,642	1915-	D	10-11-54	24.63	47,100	15	10.72	7,290	<2

* New peak of record established during this flood.

[1] D, continuous discharge record; C, peak-stage and peak-discharge record only; FP, flood profile--peak-stage record only.

[2] Information furnished by Highland Park Engineer.

Table 7.--Data for selected streamflow-gaging stations for the floods of August 14-17, 1987

[c.d.t., central daylight time; ft, feet; ft^3/s, cubic feet per second]

Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)	Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)
			05528500 Buffalo Creek near Wheeling				
Aug. 13	1800	1.10	2.6	Aug. 15-- Continued	0900	5.26	285
	1900	1.10	2.6		1000	5.24	282
	2000	1.10	2.6		1100	5.21	279
	2100	1.10	2.6		1200	5.18	274
	2200	1.10	2.6		1300	5.15	271
	2300	2.29	42		1400	5.12	267
	2400	2.74	69		1500	5.09	265
					1600	5.08	264
Aug. 14	0100	3.01	87		1700	5.05	260
	0200	3.28	107		1800	5.03	258
	0300	3.53	127		1900	5.02	258
	0400	4.39	197		2000	4.97	252
	0500	3.68	138		2100	4.96	251
	0600	4.29	188		2200	4.92	248
	0700	6.46	498		2300	4.91	247
	0800	6.87	596		2400	4.88	244
	0900	6.73	562				
	1000	7.26	695	Aug. 16	0100	4.86	241
	1100	7.30	706		0200	4.85	240
	1200	6.95	615		0300	4.80	236
	1300	6.65	543		0400	4.81	237
	1400	6.35	472		0500	4.79	235
	1500	6.18	433		0600	4.76	232
	1600	6.40	485		0700	4.73	230
	1700	6.32	466		0800	4.73	230
	1800	6.14	423		0900	4.70	226
	1900	5.99	390		1000	4.69	225
	2000	5.90	375		1100	4.66	222
	2100	5.86	369		1200	4.63	220
	2200	5.83	365		1300	4.61	218
	2300	5.77	356		1400	4.56	214
	2400	5.69	344		1500	4.51	209
					1600	4.45	203
Aug. 15	0100	5.65	339		1700	4.39	197
	0200	5.59	331		1800	4.31	190
	0300	5.50	318		1900	4.19	181
	0400	5.42	306		2000	4.06	169
	0500	5.37	300		2100	3.82	150
	0600	5.35	298		2200	3.96	161
	0700	5.32	293		2300	3.66	137
	0800	5.30	290		2400	3.47	122

Table 7.--Data for selected streamflow-gaging stations for the floods of August 14-17, 1987--Continued

Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)	Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)
05528500 Buffalo Creek near Wheeling--Continued							
Aug. 17	0100	3.42	118	Aug. 17--Continued	1300	2.82	74
	0200	3.34	112		1400	2.78	71
	0300	3.27	106		1500	2.74	69
	0400	3.22	103		1600	2.71	67
	0500	3.17	99		1700	2.68	65
	0600	3.09	93		1800	2.65	63
	0700	3.05	90		1900	2.62	61
	0800	3.02	88		2000	2.58	59
	0900	2.98	85		2100	2.56	58
	1000	2.94	82		2200	2.54	56
	1100	2.90	79		2300	2.51	55
	1200	2.85	76		2400	2.49	53
05529500 McDonald Creek near Mount Prospect							
Aug. 13	1800	0.92	0.50	Aug. 14--Continued	2100	7.90	709
	1900	.92	.50		2200	7.82	669
	2000	.92	.50		2300	7.74	631
	2100	.92	.50		2400	7.65	590
	2200	.92	.50				
	2300	2.45	23	Aug. 15	0100	7.53	539
	2400	3.00	40		0200	7.38	480
					0300	7.24	429
Aug. 14	0100	3.60	63		0400	7.10	384
	0200	3.92	77		0500	6.96	342
	0300	4.60	110		0600	6.85	312
	0400	5.11	136		0700	6.72	279
	0500	5.00	130		0800	6.57	249
	0600	4.98	129		0900	6.41	226
	0700	6.02	189		1000	6.20	205
	0800	6.69	272		1100	5.92	182
	0900	6.99	350		1200	5.63	166
	1000	7.26	436		1300	5.35	154
	1100	7.44	506		1400	5.06	141
	1200	7.63	585		1500	4.77	128
	1300	7.85	689		1600	4.48	116
	1400	7.95	740		1700	4.22	104
	1500	8.03	784		1800	3.99	94
	1600	8.07	806		1900	3.79	86
	1700	8.06	801		2000	3.63	78
	1800	8.04	790		2100	3.94	71
	1900	8.01	767		2200	3.36	65
	2000	7.95	735		2300	3.27	61

Table 7.--Data for selected streamflow-gaging stations for the floods of August 14-17, 1987--Continued

Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)	Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)
05529500 McDonald Creek near Mount Prospect--Continued							
Aug. 15--Continued	2400	3.18	57	Aug. 17	0100	3.06	51
Aug. 16	0100	3.11	54		0200	3.34	64
	0200	3.06	51		0300	3.43	69
	0300	3.00	49		0400	3.42	68
	0400	2.96	47		0500	3.30	62
	0500	2.91	45		0600	3.15	55
	0600	2.87	44		0700	3.00	49
	0700	2.83	42		0800	2.89	44
	0800	2.80	41		0900	2.79	41
	0900	2.76	39		1000	2.71	38
	1000	2.78	40		1100	2.65	35
	1100	2.78	40		1200	2.60	34
	1200	2.76	39		1300	2.55	32
	1300	2.72	38		1400	2.51	31
	1400	2.69	37		1500	2.49	30
	1500	2.65	35		1600	2.45	29
	1600	2.63	35		1700	2.42	28
	1700	2.61	34		1800	2.40	27
	1800	2.58	33		1900	2.37	26
	1900	2.57	33		2000	2.34	25
	2000	2.54	32		2100	2.32	25
	2100	2.52	31		2200	2.30	24
	2200	2.54	32		2300	2.28	23
	2300	2.68	36		2400	2.27	23
	2400	2.79	41				
05530000 Weller Creek at Des Plaines							
Aug. 13	1800	0.60	1.9	Aug. 14--Continued	0700	9.08	999
	1900	.60	1.9		0800	12.28	1,290
	2000	.60	1.9		0900	13.38	1,380
	2100	.60	1.9		1000	14.16	1,440
	2200	.60	1.9		1100	14.54	1,470
	2300	4.62	462		1200	14.79	1,490
	2400	6.46	705		1300	14.76	1,490
					1400	14.49	1,470
Aug. 14	0100	6.55	716		1500	13.94	1,420
	0200	7.69	853		1600	13.32	1,370
	0300	7.92	880		1700	12.39	1,300
	0400	10.00	1,090		1800	10.85	1,170
	0500	9.73	1,060		1900	9.72	1,060
	0600	8.27	917		2000	8.90	954

Table 7.--Data for selected streamflow-gaging stations for the floods of August 14-17, 1987--Continued

05530000 Weller Creek at Des Plaines--Continued

Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)
Aug. 14	2100	8.26	870
	2200	7.76	795
	2300	7.42	744
	2400	7.15	704
Aug. 15	0100	6.87	662
	0200	6.59	616
	0300	6.31	568
	0400	5.98	514
	0500	5.70	464
	0600	5.52	432
	0700	5.58	444
	0800	5.32	397
	0900	5.01	344
	1000	4.76	299
	1100	4.55	262
	1200	4.44	244
	1300	4.41	239
	1400	4.36	231
	1500	4.25	210
	1600	3.83	141
	1700	3.50	112
	1800	3.40	106
	1900	3.34	102
	2000	3.28	99
	2100	3.21	95
	2200	3.16	92
	2300	3.08	87
	2400	3.03	84
Aug. 16	0100	2.99	82
	0200	2.94	79
	0300	2.87	77
	0400	2.83	74
	0500	2.78	72
	0600	2.72	68
	0700	2.67	66
	0800	2.62	64
	0900	2.56	60
	1000	2.89	78
Aug. 16--Continued	1100	2.91	79
	1200	2.67	66
	1300	2.44	55
	1400	2.32	49
	1500	2.26	47
	1600	2.19	44
	1700	2.15	42
	1800	2.12	41
	1900	2.07	38
	2000	2.00	36
	2100	1.98	35
	2200	1.98	35
	2300	3.41	106
	2400	3.58	117
Aug. 17	0100	3.26	98
	0200	2.62	64
	0300	2.39	52
	0400	2.30	48
	0500	2.22	45
	0600	2.19	44
	0700	2.14	41
	0800	2.06	38
	0900	2.02	37
	1000	1.97	35
	1100	1.94	33
	1200	1.94	33
	1300	1.92	33
	1400	1.88	31
	1500	1.87	31
	1600	1.87	31
	1700	1.85	30
	1800	1.84	30
	1900	1.81	29
	2000	1.80	29
	2100	1.79	28
	2200	1.78	27
	2300	1.77	27
	2400	1.77	27

Table 7.--Data for selected streamflow-gaging stations for the floods of August 14-17, 1987--Continued

Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)
05530990 Salt Creek at Rolling Meadows			
Aug. 13	1800	1.70	0.98
	1900	1.73	1.8
	2000	1.73	1.8
	2100	1.73	1.8
	2200	1.79	2.5
	2300	4.27	149
	2400	5.11	216
Aug. 14	0100	6.57	404
	0200	7.26	493
	0300	8.05	602
	0400	9.81	872
	0500	9.76	864
	0600	9.07	754
	0700	11.58	1,180
	0800	13.22	1,490
	0900	13.78	1,600
	1000	13.97	1,640
	1100	14.03	1,650
	1200	13.98	1,640
	1300	13.50	1,540
	1400	13.25	1,500
	1500	12.94	1,430
	1600	12.80	1,410
	1700	12.62	1,370
	1800	12.42	1,330
	1900	12.20	1,290
	2000	11.97	1,250
	2100	11.77	1,210
	2200	11.52	1,170
	2300	11.26	1,120
	2400	10.97	1,070
Aug. 15	0100	10.67	1,020
	0200	10.40	970
	0300	10.13	925
	0400	9.93	892
	0500	9.71	856
	0600	9.46	815
	0700	9.25	782
	0800	9.04	749
	0900	8.84	719
	1000	8.62	685
Aug. 15--Continued	1100	8.44	659
	1200	8.23	628
	1300	8.07	605
	1400	7.90	581
	1500	7.72	555
	1600	7.55	532
	1700	7.40	511
	1800	7.25	491
	1900	7.11	473
	2000	6.94	451
	2100	6.75	426
	2200	6.62	410
	2300	6.46	390
	2400	6.29	370
Aug. 16	0100	6.13	351
	0200	5.96	331
	0300	5.80	313
	0400	5.65	296
	0500	5.49	278
	0600	5.35	263
	0700	5.20	247
	0800	5.08	235
	0900	4.96	223
	1000	4.85	212
	1100	4.72	199
	1200	4.63	191
	1300	4.53	181
	1400	4.45	174
	1500	4.35	165
	1600	4.27	158
	1700	4.21	152
	1800	4.14	146
	1900	4.05	139
	2000	3.99	133
	2100	3.93	129
	2200	3.96	131
	2300	4.43	172
	2400	4.54	182
Aug. 17	0100	4.53	181
	0200	4.52	180
	0300	4.47	176

Table 7.--Data for selected streamflow-gaging stations for the floods of August 14-17, 1987--Continued

Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)	Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)
05530990 Salt Creek at Rolling Meadows--Continued							
Aug. 17--Continued	0400	4.35	165	Aug. 17--Continued	1500	3.65	106
	0500	4.22	153		1600	3.61	103
	0600	4.15	147		1700	3.56	99
	0700	4.07	140		1800	3.51	96
	0800	4.01	135		1900	3.46	92
	0900	3.96	131		2000	3.43	91
	1000	3.91	127		2100	3.44	91
	1100	3.85	122		2200	3.38	87
	1200	3.81	119		2300	3.33	85
	1300	3.74	113		2400	3.28	81
	1400	3.71	111				
05531500 Salt Creek at Western Springs							
Aug. 13	1800	1.91	59	Aug. 14--Continued	2200	10.17	3,200
	1900	1.89	57		2300	10.15	3,180
	2000	1.90	58		2400	10.11	3,140
	2100	1.92	61				
	2200	1.97	67	Aug. 15	0100	10.09	3,130
	2300	2.42	129		0200	10.04	3,080
	2400	3.03	216		0300	10.03	3,070
					0400	10.00	3,050
Aug. 14	0100	4.01	365		0500	9.97	3,020
	0200	4.96	516		0600	9.94	2,990
	0300	5.83	658		0700	9.94	2,990
	0400	6.30	760		0800	9.92	2,980
	0500	6.67	905		0900	9.92	2,980
	0600	6.95	1,030		1000	9.92	2,980
	0700	7.19	1,140		1100	9.92	2,980
	0800	7.50	1,300		1200	9.91	2,970
	0900	7.86	1,500		1300	9.91	2,970
	1000	8.18	1,690		1400	9.94	2,990
	1100	8.56	1,930		1500	9.93	2,980
	1200	9.07	2,290		1600	9.94	2,990
	1300	9.53	2,650		1700	9.95	3,000
	1400	9.76	2,840		1800	9.96	3,010
	1500	9.91	2,970		1900	9.99	3,040
	1600	9.99	3,040		2000	9.98	3,030
	1700	10.11	3,140		2100	10.01	3,050
	1800	10.17	3,200		2200	10.02	3,060
	1900	10.20	3,220		2300	10.03	3,070
	2000	10.19	3,220		2400	10.05	3,090
	2100	10.19	3,220				

Table 7.--Data for selected streamflow-gaging stations for the floods of August 14-17, 1987--Continued

05531500 Salt Creek at Western Springs--Continued

Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)
Aug. 16	0100	10.06	3,100
	0200	10.07	3,110
	0300	10.09	3,130
	0400	10.09	3,130
	0500	10.11	3,140
	0600	10.12	3,150
	0700	10.10	3,130
	0800	10.12	3,150
	0900	10.12	3,150
	1000	10.13	3,160
	1100	10.13	3,160
	1200	10.13	3,160
	1300	10.14	3,170
	1400	10.11	3,140
	1500	10.12	3,150
	1600	10.12	3,150
	1700	10.10	3,130
	1800	10.09	3,130
	1900	10.07	3,110
	2000	10.05	3,090
	2100	10.01	3,050
	2200	10.14	3,170
	2300	10.26	3,280
	2400	10.34	3,350
Aug. 17	0100	10.38	3,390
	0200	10.45	3,460
	0300	10.49	3,490
	0400	10.53	3,530
	0500	10.53	3,530
	0600	10.51	3,510
	0700	10.51	3,510
	0800	10.46	3,470
	0900	10.44	3,450
	1000	10.40	3,410
	1100	10.36	3,370
	1200	10.30	3,320
	1300	10.23	3,250
	1400	10.17	3,200
	1500	10.12	3,150
	1600	10.06	3,100
	1700	10.00	3,050
	1800	9.95	3,000
Aug. 17--Continued	1900	9.87	2,930
	2000	9.81	2,880
	2100	9.75	2,830
	2200	9.68	2,770
	2300	9.63	2,730
	2400	9.56	2,670
Aug. 18	0100	9.48	2,610
	0200	9.41	2,550
	0300	9.34	2,500
	0400	9.25	2,430
	0500	9.16	2,360
	0600	9.05	2,280
	0700	8.94	2,200
	0800	8.83	2,120
	0900	8.71	2,040
	1000	8.59	1,950
	1100	8.49	1,890
	1200	8.44	1,850
	1300	8.34	1,790
	1400	8.27	1,750
	1500	8.19	1,700
	1600	8.12	1,650
	1700	8.07	1,620
	1800	8.02	1,590
	1900	7.97	1,560
	2000	7.92	1,530
	2100	7.87	1,500
	2200	7.81	1,470
	2300	7.75	1,440
	2400	7.68	1,400
Aug. 19	0100	7.62	1,360
	0200	7.55	1,330
	0300	7.48	1,290
	0400	7.40	1,250
	0500	7.33	1,210
	0600	7.24	1,170
	0700	7.16	1,130
	0800	7.07	1,080
	0900	6.99	1,050
	1000	6.92	1,020
	1100	6.84	979

Table 7.--Data for selected streamflow-gaging stations for the floods of August 14-17, 1987--Continued

Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)	Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)
05531500 Salt Creek at Western Springs--Continued							
Aug. 19--Continued	1200	6.78	952	Aug. 19--Continued	1900	6.41	798
	1300	6.72	926		2000	6.36	780
	1400	6.66	901		2100	6.30	760
	1500	6.61	880		2200	6.24	743
	1600	6.56	859		2300	6.19	730
	1700	6.50	834		2400	6.12	713
	1800	6.46	818				
05532500 Des Plaines River at Riverside							
Aug. 13	1800	3.03	192	Aug. 15	0100	8.84	7,530
	1900	3.03	192		0200	8.96	7,780
	2000	3.03	192		0300	9.09	8,040
	2100	3.03	192		0400	9.24	8,360
	2200	3.04	195		0500	9.36	8,610
	2300	3.11	234		0600	9.47	8,840
	2400	3.40	418		0700	9.57	9,060
					0800	9.66	9,240
Aug. 14	0100	3.86	831		0900	9.74	9,420
	0200	4.26	1,290		1000	9.80	9,560
	0300	4.76	1,850		1100	9.82	9,610
	0400	5.24	2,290		1200	9.86	9,700
	0500	5.48	2,530		1300	9.89	9,750
	0600	5.68	2,730		1400	9.90	9,770
	0700	5.81	2,860		1500	9.90	9,770
	0800	5.94	2,990		1600	9.89	9,740
	0900	6.30	3,400		1700	9.88	9,730
	1000	6.55	3,650		1800	9.85	9,670
	1100	6.76	3,890		1900	9.85	9,660
	1200	6.98	4,240		2000	9.82	9,610
	1300	7.20	4,590		2100	9.81	9,570
	1400	7.36	4,840		2200	9.79	9,530
	1500	7.52	5,110		2300	9.76	9,460
	1600	7.68	5,370		2400	9.75	9,430
	1700	7.79	5,570				
	1800	7.93	5,800	Aug. 16	0100	9.71	9,340
	1900	8.10	6,120		0200	9.67	9,280
	2000	8.25	6,390		0300	9.65	9,210
	2100	8.38	6,640		0400	9.62	9,160
	2200	8.49	6,850		0500	9.60	9,100
	2300	8.60	7,050		0600	9.57	9,050
	2400	8.71	7,270		0700	9.55	9,000

Table 7.--Data for selected streamflow-gaging stations for the floods of August 14-17, 1987--Continued

Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)	Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)
05532500 Des Plaines River at Riverside--Continued							
Aug. 16--Continued	0800	9.52	8,930	Aug. 18	0100	8.43	6,730
	0900	9.48	8,840		0200	8.35	6,580
	1000	9.45	8,790		0300	8.27	6,420
	1100	9.42	8,730		0400	8.18	6,260
	1200	9.40	8,670		0500	8.10	6,120
	1300	9.37	8,620		0600	8.01	5,950
	1400	9.34	8,570		0700	7.94	5,830
	1500	9.31	8,500		0800	7.86	5,680
	1600	9.28	8,430		0900	7.79	5,550
	1700	9.25	8,360		1000	7.72	5,440
	1800	9.21	8,280		1100	7.65	5,320
	1900	9.19	8,230		1200	7.62	5,270
	2000	9.16	8,170		1300	7.58	5,210
	2100	9.12	8,100		1400	7.51	5,100
	2200	9.11	8,070		1500	7.44	4,980
	2300	9.32	8,520		1600	7.37	4,860
	2400	9.37	8,630		1700	7.29	4,740
					1800	7.22	4,630
Aug. 17	0100	9.40	8,680		1900	7.14	4,500
	0200	9.41	8,700		2000	7.05	4,350
	0300	9.43	8,750		2100	6.97	4,220
	0400	9.43	8,750		2200	6.88	4,080
	0500	9.43	8,750		2300	6.81	3,960
	0600	9.42	8,730		2400	6.73	3,860
	0700	9.42	8,730				
	0800	9.40	8,670	Aug. 19	0100	6.65	3,760
	0900	9.38	8,640		0200	6.57	3,670
	1000	9.35	8,580		0300	6.50	3,600
	1100	9.32	8,510		0400	6.43	3,530
	1200	9.29	8,450		0500	6.37	3,470
	1300	9.26	8,380		0600	6.30	3,400
	1400	9.23	8,320		0700	6.24	3,340
	1500	9.18	8,210		0800	6.17	3,260
	1600	9.12	8,100		0900	6.12	3,190
	1700	9.06	7,960		1000	6.05	3,120
	1800	9.00	7,840		1100	5.99	3,040
	1900	8.93	7,710		1200	5.93	2,980
	2000	8.85	7,550		1300	5.87	2,920
	2100	8.77	7,390		1400	5.81	2,860
	2200	8.69	7,230		1500	5.75	2,800
	2300	8.60	7,070		1600	5.70	2,750
	2400	8.52	6,900		1700	5.65	2,700

Table 7.--Data for selected streamflow-gaging stations for the floods of August 14-17, 1987--Continued

Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)
05532500 Des Plaines River at Riverside--Continued			
Aug. 19--Continued	1800	5.60	2,650
	1900	5.55	2,600
	2000	5.49	2,540
	2100	5.45	2,500
	2200	5.40	2,450
	2300	5.35	2,400
	2400	5.30	2,350
Aug. 20	0100	5.26	2,310
	0200	5.22	2,270
	0300	5.17	2,220
	0400	5.13	2,180
	0500	5.10	2,150
	0600	5.07	2,120
	0700	5.03	2,080
	0800	5.01	2,060
Aug. 20--Continued	0900	4.97	2,030
	1000	4.94	2,000
	1100	4.91	1,980
	1200	4.88	1,950
	1300	4.85	1,930
	1400	4.83	1,910
	1500	4.80	1,890
	1600	4.78	1,870
	1700	4.76	1,850
	1800	4.73	1,820
	1900	4.71	1,800
	2000	4.70	1,790
	2100	4.68	1,780
	2200	4.67	1,760
	2300	4.65	1,750
	2400	4.64	1,730
05534500 North Branch Chicago River at Deerfield			
Aug. 13	1800	3.19	0.20
	1900	3.19	.20
	2000	3.19	.20
	2100	3.19	.20
	2200	3.19	.20
	2300	4.38	9.7
	2400	4.61	13
Aug. 14	0100	5.30	34
	0200	5.75	54
	0300	6.81	111
	0400	8.17	217
	0500	8.02	203
	0600	7.85	188
	0700	10.10	500
	0800	11.04	797
	0900	11.43	912
	1000	11.52	933
	1100	11.43	912
	1200	11.31	885
	1300	11.04	797
	1400	10.74	688
	1500	10.51	613
	1600	10.27	542
Aug. 14--Continued	1700	10.08	495
	1800	9.89	455
	1900	9.72	421
	2000	9.57	393
	2100	9.45	371
	2200	9.31	348
	2300	9.19	329
	2400	9.06	313
Aug. 15	0100	8.96	301
	0200	8.83	286
	0300	8.64	265
	0400	8.52	252
	0500	8.44	244
	0600	8.36	236
	0700	8.30	230
	0800	8.21	221
	0900	8.12	212
	1000	8.03	204
	1100	7.97	199
	1200	7.91	193
	1300	7.85	188
	1400	7.79	183
	1500	7.72	177

Table 7.--Data for selected streamflow-gaging stations for the floods of August 14-17, 1987--Continued

Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)	Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)
05534500 North Branch Chicago River at Deerfield--Continued							
Aug. 15--Continued	1600	7.66	172	Aug. 16--Continued	2100	6.54	95
	1700	7.57	165		2200	6.65	101
	1800	7.51	160		2300	6.71	105
	1900	7.51	160		2400	6.73	106
	2000	7.39	151				
	2100	7.35	148	Aug. 17	0100	6.73	106
	2200	7.29	143		0200	6.70	104
	2300	7.22	138		0300	6.66	102
	2400	7.15	133		0400	6.61	99
					0500	6.56	96
Aug. 16	0100	7.07	128		0600	6.52	94
	0200	7.01	124		0700	6.48	92
	0300	6.94	119		0800	6.45	90
	0400	6.87	115		0900	6.42	88
	0500	6.84	113		1000	6.40	87
	0600	6.89	116		1100	6.36	85
	0700	6.89	116		1200	6.31	83
	0800	6.89	116		1300	6.24	79
	0900	6.89	116		1400	6.19	77
	1000	7.01	124		1500	6.14	74
	1100	6.96	120		1600	6.09	72
	1200	6.90	117		1700	6.04	70
	1300	6.85	113		1800	6.01	68
	1400	6.80	110		1900	5.97	66
	1500	6.78	109		2000	5.92	65
	1600	6.75	107		2100	5.88	63
	1700	6.71	105		2200	5.75	58
	1800	6.66	102		2300	5.43	46
	1900	6.62	100		2400	5.21	39
	2000	6.58	97				
05535070 Skokie River near Highland Park							
Aug. 13	1800	3.37	5.0	Aug. 14--Continued	0300	6.09	187
	1900	3.37	5.0		0400	6.93	280
	2000	3.37	5.0		0500	6.88	273
	2100	3.33	4.0		0600	6.70	248
	2200	3.31	3.6		0700	8.03	535
	2300	3.87	22		0800	8.58	707
	2400	4.42	52		0900	8.77	774
					1000	8.92	829
Aug. 14	0100	5.16	111		1100	8.97	848
	0200	5.56	142		1200	9.07	887

Table 7.--Data for selected streamflow-gaging stations for the floods of August 14-17, 1987--Continued

Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)
05535070 Skokie River near Highland Park--Continued			
Aug. 14--Continued	1300	9.07	887
	1400	9.03	871
	1500	9.01	863
	1600	8.97	848
	1700	8.88	814
	1800	8.79	781
	1900	8.71	752
	2000	8.65	731
	2100	8.58	707
	2200	8.49	677
	2300	8.42	654
	2400	8.30	616
Aug. 15	0100	8.21	588
	0200	8.11	558
	0300	8.01	530
	0400	7.89	496
	0500	7.80	472
	0600	7.72	451
	0700	7.66	436
	0800	7.57	414
	0900	7.48	393
	1000	7.40	374
	1100	7.30	352
	1200	7.22	335
	1300	7.13	316
	1400	7.07	304
	1500	6.95	283
	1600	6.83	266
	1700	6.72	251
	1800	6.63	239
	1900	6.50	224
	2000	6.37	212
	2100	6.25	201
	2200	6.13	191
	2300	5.99	178
	2400	5.87	168
Aug. 16	0100	5.71	154
	0200	5.57	143
	0300	5.46	134
	0400	5.35	126
	0500	5.25	118
	0600	5.19	113
Aug. 16--Continued	0700	5.08	105
	0800	4.99	99
	0900	4.93	93
	1000	5.02	101
	1100	5.16	111
	1200	5.14	110
	1300	5.04	102
	1400	4.98	97
	1500	4.92	92
	1600	4.85	86
	1700	4.84	85
	1800	4.76	78
	1900	4.68	72
	2000	4.63	67
	2100	4.59	64
	2200	4.65	69
	2300	4.86	87
	2400	4.98	97
Aug. 17	0100	4.96	96
	0200	4.86	87
	0300	4.76	78
	0400	4.68	72
	0500	4.62	67
	0600	4.56	62
	0700	4.54	60
	0800	4.53	59
	0900	4.51	58
	1000	4.48	56
	1100	4.46	54
	1200	4.42	51
	1300	4.39	49
	1400	4.38	48
	1500	4.34	45
	1600	4.33	45
	1700	4.33	45
	1800	4.33	45
	1900	4.29	42
	2000	4.27	41
	2100	4.38	48
	2200	4.36	47
	2300	4.34	45
	2400	4.32	44

Table 7.--Data for selected streamflow-gaging stations for the floods of August 14-17, 1987--Continued

Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)
05535500 West Fork of North Branch Chicago River at Northbrook			
Aug. 13	1800	1.30	7.5
	1900	1.28	6.8
	2000	1.27	6.5
	2100	1.26	6.2
	2200	1.26	6.2
	2300	1.70	29
	2400	3.82	188
Aug. 14	0100	4.99	281
	0200	5.33	309
	0300	5.70	340
	0400	7.01	499
	0500	7.01	499
	0600	6.40	414
	0700	7.99	683
	0800	9.07	923
	0900	9.63	1,060
	1000	9.97	1,150
	1100	10.06	1,180
	1200	10.04	1,170
	1300	9.93	1,140
	1400	9.74	1,090
	1500	9.56	1,040
	1600	9.35	991
	1700	9.06	921
	1800	8.79	857
	1900	8.45	781
	2000	8.13	712
	2100	7.76	637
	2200	7.36	561
	2300	6.94	487
	2400	6.38	411
Aug. 15	0100	5.81	350
	0200	5.30	307
	0300	4.89	273
	0400	4.55	245
	0500	4.30	225
	0600	4.14	213
	0700	4.18	216
	0800	3.95	198
	0900	3.69	178
	1000	3.48	162
Aug. 15--Continued	1100	3.25	146
	1200	3.10	135
	1300	2.98	126
	1400	2.87	118
	1500	2.73	109
	1600	2.62	101
	1700	2.53	95
	1800	2.43	88
	1900	2.35	82
	2000	2.28	77
	2100	2.21	72
	2200	2.15	67
	2300	2.10	63
	2400	2.06	60
Aug. 16	0100	2.02	57
	0200	1.98	53
	0300	1.95	50
	0400	1.91	47
	0500	1.88	44
	0600	1.85	41
	0700	1.83	39
	0800	1.81	37
	0900	1.81	37
	1000	2.30	79
	1100	2.46	90
	1200	2.22	73
	1300	2.06	60
	1400	1.97	52
	1500	1.91	47
	1600	1.87	43
	1700	1.82	38
	1800	1.78	34
	1900	1.74	31
	2000	1.72	29
	2100	1.70	28
	2200	1.78	34
	2300	2.32	80
	2400	2.34	82
Aug. 17	0100	2.14	66
	0200	2.01	56
	0300	1.93	49

Table 7.--Data for selected streamflow-gaging stations for the floods of August 14-17, 1987--Continued

Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)	Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)
05535500 West Fork of North Branch Chicago River at Northbrook--Continued							
Aug. 17--Continued	0400	1.86	42	Aug. 17--Continued	1500	1.74	31
	0500	1.81	37		1600	1.73	30
	0600	1.77	34		1700	1.72	29
	0700	1.74	31		1800	1.71	29
	0800	1.72	29		1900	1.69	27
	0900	1.73	30		2000	1.68	26
	1000	1.81	37		2100	1.67	25
	1100	1.82	38		2200	1.65	24
	1200	1.80	36		2300	1.64	23
	1300	1.78	34		2400	1.63	23
	1400	1.75	32				
05536000 North Branch Chicago River at Niles							
Aug. 13	1800	1.56	15	Aug. 14--Continued	2200	10.83	2,350
	1900	1.56	15		2300	10.79	2,330
	2000	1.55	14		2400	10.74	2,310
	2100	1.55	14				
	2200	3.97	329	Aug. 15	0100	10.72	2,300
	2300	6.61	862		0200	10.68	2,290
	2400	6.63	866		0300	10.65	2,270
					0400	10.62	2,260
Aug. 14	0100	6.50	838		0500	10.63	2,260
	0200	7.81	1,200		0600	10.60	2,250
	0300	8.61	1,470		0700	10.54	2,220
	0400	8.57	1,450		0800	10.50	2,210
	0500	8.29	1,360		0900	10.44	2,180
	0600	7.98	1,250		1000	10.38	2,160
	0700	7.76	1,180		1100	10.32	2,130
	0800	8.67	1,490		1200	10.25	2,100
	0900	9.82	1,920		1300	10.18	2,070
	1000	10.61	2,260		1400	10.09	2,030
	1100	10.87	2,370		1500	10.01	2,000
	1200	11.22	2,530		1600	9.90	1,960
	1300	11.34	2,580		1700	9.76	1,900
	1400	11.34	2,580		1800	9.64	1,850
	1500	11.29	2,560		1900	9.50	1,800
	1600	11.24	2,540		2000	9.35	1,740
	1700	11.19	2,510		2100	9.20	1,680
	1800	11.11	2,480		2200	9.05	1,630
	1900	11.03	2,440		2300	8.91	1,570
	2000	10.95	2,410		2400	8.77	1,520
	2100	10.87	2,370				

Table 7.--Data for selected streamflow-gaging stations for the floods of August 14-17, 1987--Continued

Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)	Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)
05536000 North Branch Chicago River at Niles--Continued							
Aug. 16	0100	8.63	1,470	Aug. 17	0100	6.90	935
	0200	8.50	1,430		0200	6.80	910
	0300	8.37	1,380		0300	6.73	893
	0400	8.26	1,350		0400	6.67	879
	0500	8.14	1,300		0500	6.62	867
	0600	8.04	1,270		0600	6.56	852
	0700	7.93	1,240		0700	6.51	840
	0800	7.83	1,200		0800	6.46	829
	0900	7.73	1,170		0900	6.40	816
	1000	7.70	1,160		1000	6.35	805
	1100	7.60	1,130		1100	6.29	792
	1200	7.51	1,100		1200	6.24	781
	1300	7.42	1,080		1300	6.19	771
	1400	7.33	1,050		1400	6.13	758
	1500	7.25	1,030		1500	6.08	748
	1600	7.16	1,000		1600	6.03	737
	1700	7.07	979		1700	5.98	727
	1800	6.98	955		1800	5.94	718
	1900	6.89	933		1900	5.89	708
	2000	6.79	908		2000	5.84	698
	2100	6.70	886		2100	5.79	687
	2200	6.84	920		2200	5.74	677
	2300	7.09	985		2300	5.70	669
	2400	7.03	968		2400	5.66	661
05540060 Kress Creek at West Chicago							
Aug. 13	1800	3.58	0.26	Aug. 14--Continued	0900	7.16	512
	1900	3.58	.26		1000	7.13	504
	2000	3.58	.26		1100	7.27	543
	2100	3.60	.37		1200	7.32	558
	2200	4.48	39		1300	7.35	567
	2300	4.44	36		1400	7.35	567
	2400	5.04	89		1500	7.34	564
					1600	7.32	558
Aug. 14	0100	4.95	79		1700	7.33	561
	0200	5.13	99		1800	7.30	552
	0300	5.34	128		1900	7.26	540
	0400	5.35	129		2000	7.17	515
	0500	5.48	148		2100	7.02	471
	0600	5.48	148		2200	6.84	423
	0700	5.98	232		2300	6.70	386
	0800	6.85	428		2400	6.58	358

Table 7.--Data for selected streamflow-gaging stations for the floods of August 14-17, 1987--Continued

Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)	Date	Hour (c.d.t.)	Gage height (ft)	Discharge (ft^3/s)
05540060 Kress Creek at West Chicago--Continued							
Aug. 15	0100	6.47	333	Aug. 16--Continued	1300	5.30	120
	0200	6.37	309		1400	5.28	117
	0300	6.30	294		1500	5.27	117
	0400	6.28	289		1600	5.25	114
	0500	6.23	279		1700	5.23	112
	0600	6.18	268		1800	5.21	109
	0700	6.11	253		1900	5.19	106
	0800	6.03	236		2000	5.17	104
	0900	5.98	227		2100	5.15	101
	1000	5.94	220		2200	6.21	281
	1100	5.90	213		2300	6.16	270
	1200	5.79	195		2400	6.31	302
	1300	5.84	204				
	1400	5.81	198	Aug. 17	0100	6.44	331
	1500	5.77	191		0200	6.51	346
	1600	5.74	186		0300	6.45	333
	1700	5.71	180		0400	6.37	315
	1800	5.69	177		0500	6.30	300
	1900	5.65	172		0600	6.23	285
	2000	5.63	169		0700	6.09	255
	2100	5.61	165		0800	6.11	259
	2200	5.59	162		0900	6.05	246
	2300	5.57	159		1000	6.00	236
	2400	5.53	154		1100	5.95	227
					1200	5.91	220
Aug. 16	0100	5.50	150		1300	5.86	212
	0200	5.46	144		1400	5.83	207
	0300	5.42	138		1500	5.78	198
	0400	5.40	135		1600	5.73	189
	0500	5.37	131		1700	5.70	184
	0600	5.35	128		1800	5.65	175
	0700	5.32	123		1900	5.60	167
	0800	5.30	120		2000	5.56	161
	0900	5.29	119		2100	5.52	154
	1000	5.30	120		2200	5.50	151
	1100	5.31	122		2300	5.48	148
	1200	5.31	122		2400	5.46	146

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Prepared in cooperation with the
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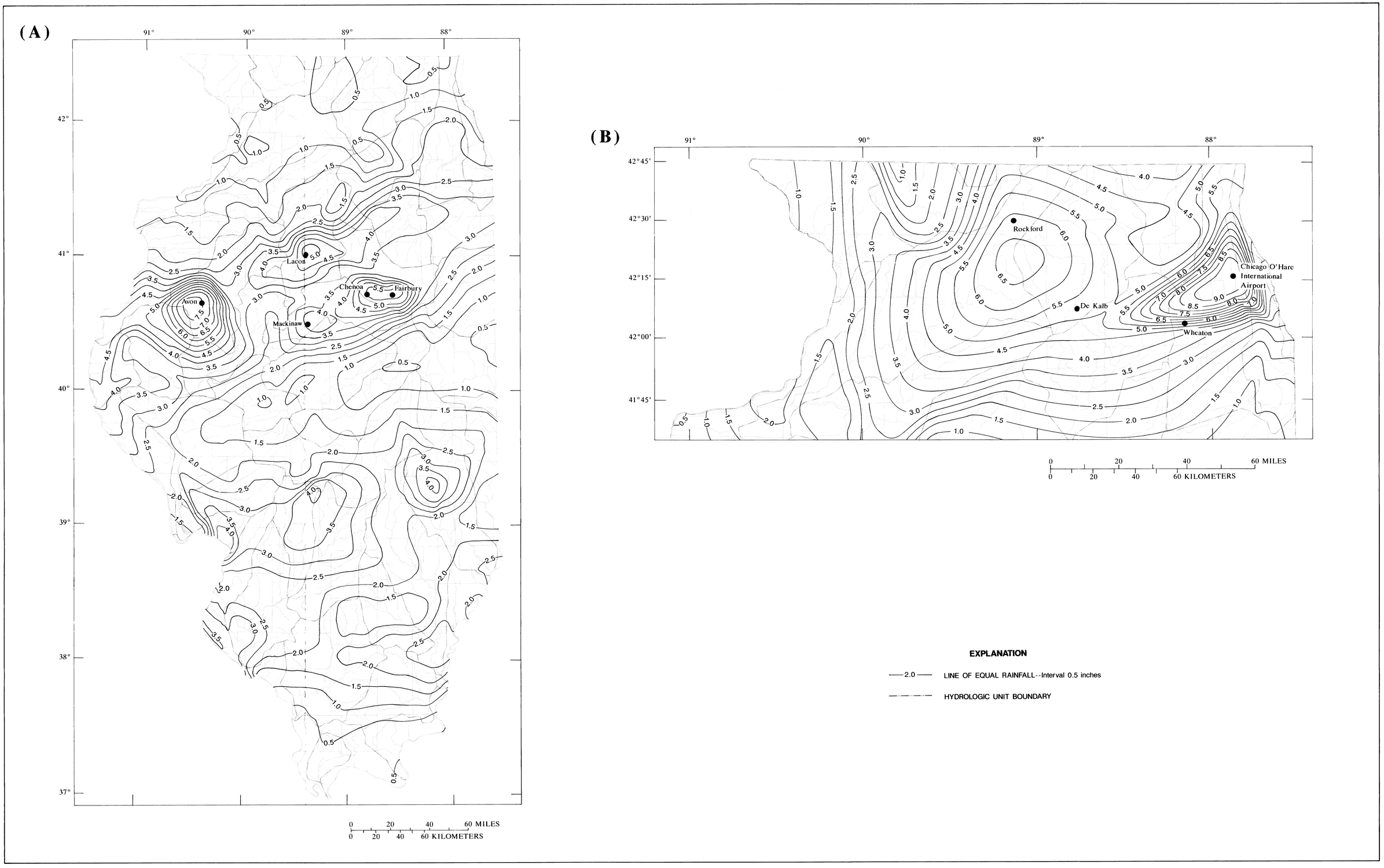

Base from U.S. Geological Survey
1:2,000,000 Digital Line Graphs
Albers Equal-Area Conic Projection
Standard parallels 33° and 44°, central meridian -89°

Balding, G.O. and Ishii, A.L., Floods of September 26 through October 4, 1986 and August 14-17, 1987, in Illinois: U.S. Geological Survey Water-Resources Investigations Report 92-4149

TOTAL RAINFALL FOR THE STORMS OF (A) OCTOBER 2-4, 1986, AND (B) AUGUST 13-14, 1987, IN ILLINOIS

By
G.O. Balding and A.L. Ishii

1992