 Mr Beckman

GEOLOGICAL SURVEY CIRCULAR 342

FLOODS IN ALABAMA

MAGNITUDE AND FREQUENCY

Prepared in cooperation with the

ALABAMA STATE HIGHWAY DEPARTMENT

UNITED STATES DEPARTMENT OF THE INTERIOR
Douglas McKay, Secretary

GEOLOGICAL SURVEY
W. E. Wrather, Director

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INTRODUCTION

The magnitude and frequency of floods are important data required for the design of all structures bordering on stream channels or encroaching on flood plains. Such structures include dams, levees, bridges and embankments for railroads and highways, and buildings for various purposes. The design of these structures on any basis other than the maximum possible flood must be assumed to involve some risk. For this reason, large dams or other important structures whose failure would cause loss of human life or great property damage are designed to withstand the greatest flood that may occur. However, when the failure of a structure would involve only temporary inconvenience and nominal loss, it is often desirable from the engineer's point of view to include an element of risk in the design. For example, it may be more economical to build a highway fill of moderate height and low initial cost with the expectation of occasional loss than to invest funds in one high enough to insure against loss at any time. Some basis for appraising the frequency with which a structure may be damaged or destroyed by floods is therefore essential for sound economic design.

Ideally, there would be available at the site of each proposed structure a long-term systematic record of flood events. Unfortunately, this ideal situation is seldom realized because it is obviously impracticable to maintain stream-gaging stations at all points where flood data might be desired. Even when the importance of the proposed structure would warrant the installation of a special gaging station at the site, it is rarely possible to anticipate the need far enough in advance to obtain records of sufficient length. There is thus a need, not only of a method for relating flood magnitudes and frequencies at points where flood data are available, but of a method for extending those data and relations to other points.

This report represents an attempt to meet those needs in the State of Alabama. It makes readily available all significant flood data collected by the U. S. Geological Survey in Alabama before 1952 and presents a method for extending the flood-frequency relations derived from those data to ungaged streams over the State.

The observational data and the techniques for adapting them to practical ends are inadequate at this time to provide the complete and final answer to the problem of flood magnitude and frequency in Alabama. With longer streamflow records from existing gaging stations and additional records from new gaging stations proposed for the future, it will, in time, be possible to refine the results published in this report. In the meantime, the concept of flood frequency is too important to be ignored until our knowledge is complete; it is currently being applied to the design of many hydraulic structures in Alabama, and this preliminary publication should be of value in such work.

Acknowledgements

This report is made possible by a cooperative agreement for water resources investigations between the U. S. Geological Survey and the Alabama State Highway Department, W. G. Pruett, director. It was prepared by L. B. Peirce and others, particularly M. R. Stewart, in the district office of the U. S. Geological Survey, Montgomery, Ala., under the direction of M. R. Williams, district engineer.

The information upon which the report is based was largely obtained by the U. S. Geological Survey in cooperation with the Geological Survey of Alabama, the Corps of Engineers, and the Tennessee Valley Authority. Procedures used in analyzing the data were developed by Tate Dalrymple and others of the Geological Survey office in Washington, D. C. The general outline of the report is patterned closely after similar reports prepared in other district offices of the Survey, particularly the one prepared in the Atlanta, Ga., district office by R. W. Carter.

Physiography

Floods in Alabama are influenced by two kinds of physiographic factors: those relating to land and those relating to climate. Land factors include the elevation, slope, composition, and culture of the land surfaces, and the drainage pattern or general arrangement of natural stream channels. Climatic factors, in a near-tropic region, are limited to the amount of rainfall and its distribution in time and place. Although there is considerable interrelation between the two kinds of physiographic factors, in general the climatic factors are variables exercising their greatest influence on the volume of flood runoff, whereas the land factors are essentially constants influencing mainly the concentration or time distribution of that runoff. The flood flow of a stream at any time reflects the integrated effect of all physiographic factors.

Topography

Alabama, ranking twenty-eighth in size among the States, has a total area of 51,600 square miles of which about 500 square miles is inland water. The State has two major physiographic divisions whose common boundary is the so-called fall line extending from the northwest corner of the State approximately through Tuscaloosa and Wetumpka to Columbus, Ga. The area north of the fall line is highly diversified in topography and relief, ranging in altitude from 200 to 2,400 feet above sea level. This elevated region is the southern termination of the Appalachian Mountain system and is part of the Appalachian Highlands. The remainder of the State south of the fall line lies in the Gulf Coastal Plain. Elevations in the Coastal Plain range from sea level along the Gulf of Mexico to 1,000 feet in Franklin County, the general surface slope being south and west toward the gulf and the Mississippi Valley.

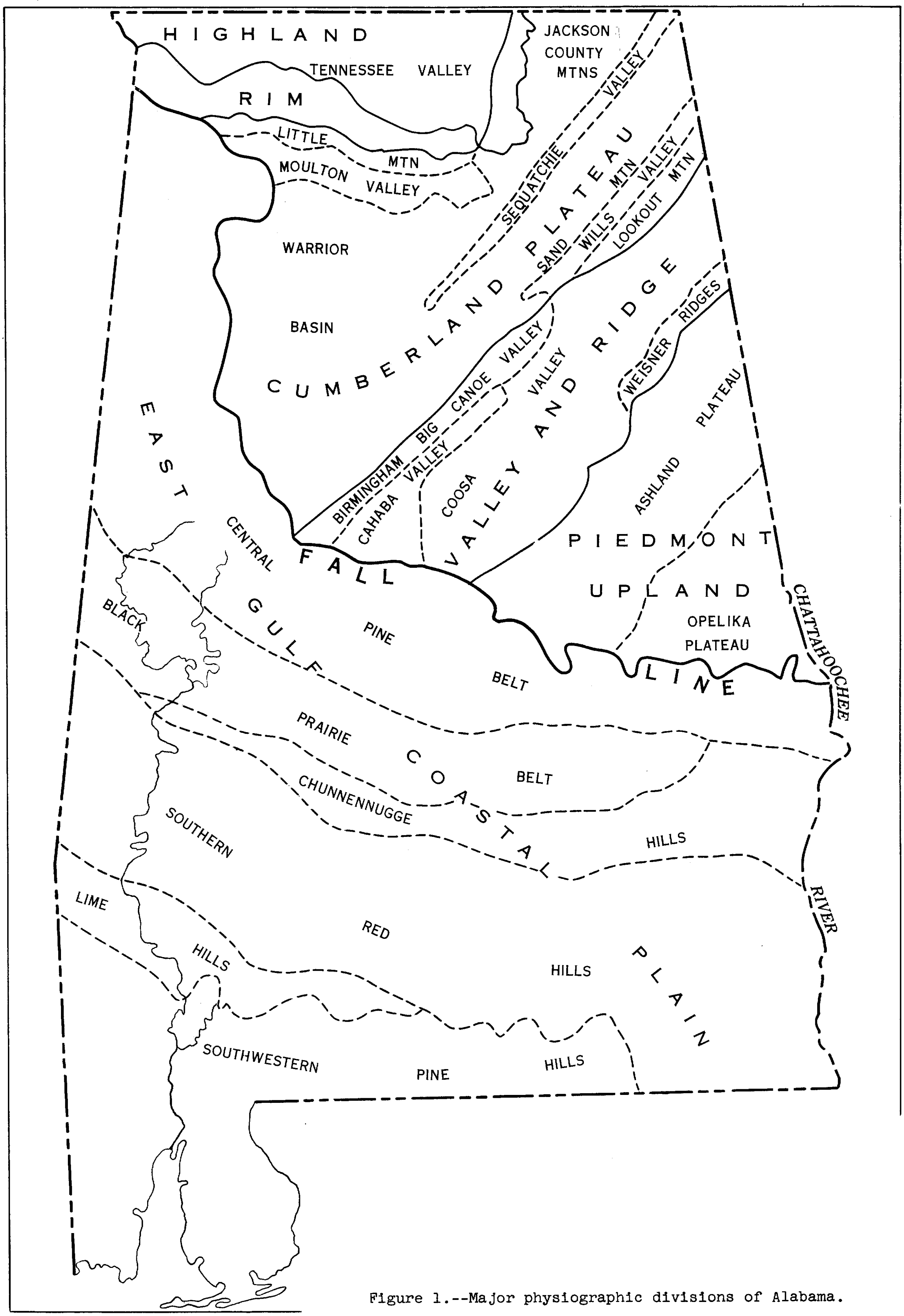


Figure 1.--Major physiographic divisions of Alabama.

The major physiographic divisions of Alabama recognized by Johnston (1930, p. 10) and Harper (1913, frontispiece) are shown on the map of figure 1 and are described briefly below.

Appalachian Highlands

The Piedmont Upland corresponds to that part of the State underlain by crystalline rocks. The southeastern part (Opelika Plateau) has an average altitude of 1,000 feet above sea level and is an old peneplain that has been uplifted and incised by tributaries of the Chattahoochee and Tallapoosa Rivers to depths of as much as 200 feet. Away from the streams, this area has a gently diversified surface with no striking topographic features. The northwestern part (Ashland Plateau) is the mountainous region of the Piedmont Upland. Here are found the Talladega Mountains which in Cheaha Mountain near Talladega reach an elevation of 2,407 feet, the highest in the State. The Piedmont is drained to the east by the Tallapoosa River and its tributaries and to the west by tributaries of Coosa River.

The Valley and Ridge province in Alabama represents the southern end of the great Appalachian Valley which extends northeastward to Canada. The rocks of this region are sandstones, limestones, and shales of sedimentary origin, which have been strongly folded so that they lie in great arches and troughs. The distinguishing feature of this province is the series of parallel ridges and valleys all having a northeasterly trend. The valley floors range in altitude from 500 to 900 feet and the ridges from 1,000 to 1,500 feet above sea level. The largest of the valleys is Coosa Valley, a mature plain of low relief. The general surface slope of the Valley and Ridge province is toward the southwest. It is drained by the Coosa and Cahaba Rivers except for a part of the Birmingham Valley drained by tributaries of the Black Warrior River.

The Cumberland Plateau was formerly a vast tableland sloping uniformly southward from altitudes of 1,500 to 2,000 feet along the northern boundary of the State to an altitude of 500 feet along the margin of the Coastal Plain. The rocks of this region escaped upheaval and still lie horizontally. As a result, the plateau, though dissected by stream erosion, has broad, flattopped mountains, such as Lookout, Blount, and Sand Mountains. The greater part of the Cumberland Plateau is drained by the Black Warrior River whose tributaries have steep-sided, and in places gorgelike, valleys. Above Tuscaloosa, the Black Warrior River occupies a narrow valley with clifflike walls 100 feet or more in height. Below Tuscaloosa the river enters the Coastal Plain and its valley is wider.

The Highland Rim area is largely occupied by the Tennessee Valley, a rolling upland having an average altitude of 600 feet above sea level and a maximum relief of about 400 feet. North of the Tennessee River, a number of southward-flowing tributaries occupy intrenched meanders with clifflike walls, and steep limestone cliffs 200 feet high border the Tennessee River. South of the Tennessee Valley is the smaller Moulton Valley, an undulating upland of low relief. Separating the two valleys is Little Mountain, an outlying remnant of the Cumberland Plateau. It rises 400 to 500 feet above the valley floors and is dissected by streams heading in Moulton Valley and flowing northward to the Tennesse River.

East Gulf Coastal Plain

The Coastal Plain is characterized by a series of hilly belts crossing the State in an easterly direction. Local relief, though not often exceeding 200 feet, is fairly general and often bold. A conspicuous feature in the north part is the Black Prairie Belt, a crescent-shaped undulating plain of 4,000 square miles underlain by chalks and marls. South of the prairie area are the Chunnenuggee Hills, most prominent near Union Springs, and the Southern Red Hills which attain their greatest prominence in the western part of the State. These latter hills are usually broader than the valleys; in some places they spread out into plateaus standing about 400 feet above sea level and are known locally as "red levels." Still farther south and extending to the coast of Mobile Bay are the Southwestern Pine Hills. These hills are smooth and rounded, the highest of them reaching altitudes of 350 feet above sea level.

River basins

Alabama streams contribute to eight different river basins. The approximate area of the State included in each of these basins is as follows:

River basin	Area in Alabama (square miles)
Mobile	31,100
Tennessee	6,700
Escambia	5,700
Choctawhatchee	3,100
Appalachicola	2,800
Pascagoula	800
Yellow	700
Perdido	700

Except for the Tennessee River, major rivers of Alabama take a southerly or southwesterly direction following the general slope of the land surface toward the Gulf of Mexico and the Mississippi Valley. The river systems of Alabama are shown in figure 2.

Mobile River system

The Mobile River system drains nearly two-thirds of the State and has two major branches, the Alabama River forming the eastern branch and the Tombigbee River, the western branch. The Alabama River has its origin in northwest Georgia where headwater streams draining the southern slopes of the Blue Ridge Mountains form the Coosa and the Tallapoosa Rivers. Entering Alabama near the northeast corner, the Coosa flows 286 miles in a general southwesterly direction to a point near Wetumpka, where it is joined by the Tallapoosa from the east to form the Alabama River. The length of the Tallapoosa River in Alabama is 218 miles. Large dams and hydroelectric plants are located on both streams in the steep reaches near the fall line. The Alabama River meanders in a general westerly direction for 100 miles to Selma and then for 215 miles in a southwesterly direction to its confluence with the Tombigbee River.

A principal tributary of the Alabama River is the Cahaba River, which rises northeast of Birmingham and flows 195 miles in a southerly direction to its junction with the Alabama River, 17 miles below Selma.

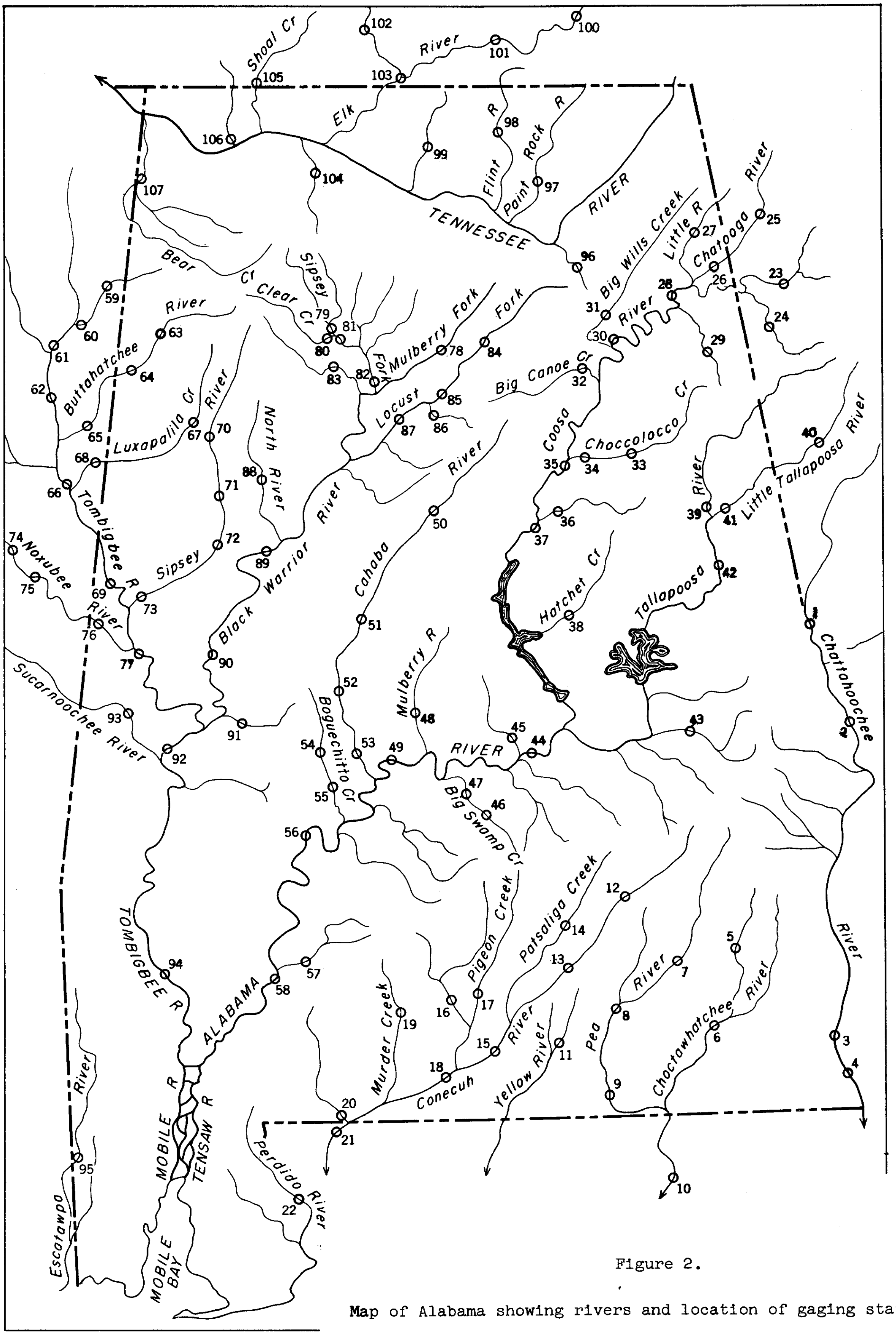


Figure 2.

Map of Alabama showing rivers and location of gaging stations.

The Tombigbee River rises in northeastern Mississippi, enters Alabama near the center of the west boundary of the State, and flows southward for 254 miles, joining the Alabama River 45 miles north of Mobile to form the Mobile River. From this point southward to Mobile Bay, the Mobile River divides into an intricate network of connecting channels, one of which is called the Tensaw River. The effects of the 2-foot tide of Mobile Bay are noticeable at low-river stages in the Mobile River and in the lower reaches of the Alabama and the Tombigbee Rivers.

The principal tributary to the Tombigbee River is the Black Warrior River. This tributary, which is formed by the confluence of Locust and Mulberry Forks 20 miles west of Birmingham, flows southwestward 178 miles to the Tombigbee River at Demopolis.

Tennessee River system

The Tennessee River enters Alabama at the northeast corner of the State and flows southwestward in a narrow limestone valley for about 60 miles to Guntersville where it turns westward and flows in that general direction until it leaves the State at the northwest corner. The development and control of the Tennessee River are well known and need no comment here. Only unregulated tributaries of the Tennessee have been used as a source of flood data for this report.

Escambia, Choctawhatchee, and Yellow River systems

These river systems rise in the Coastal Plain in southeastern Alabama and flow southward or southwestward to the Gulf of Mexico. The principal tributary of the Choctawhatchee River is Pea River, entering at Geneva. The Conecuh River (called the Escambia River in Florida) is notable because all of its tributaries enter from the west. Streams in these basins are generally similar in that they meander with low to moderate slopes through broad swampy flood plains, particularly in the Southern Red Hills area.

Appalachicola River system

Appalachicola drainage in Alabama is limited to a number of short eastward flowing tributaries of the Chattahoochee River, which stream forms the southeastern boundary of the State. Most of these streams have fairly steep slopes with broad flood plains in the upper reaches but have eroded deep gorgelike channels where they enter the flood plain of the Chattahoochee River. Representative of these streams are Uchee, Cowikee, and Abbie Creeks.

Pascagoula and Perdido River systems

Pascagoula drainage in Alabama is confined to a strip about 8 miles wide extending for 100 miles along the southwestern border of the State. The principal streams are the Escatawpa River and its tributary, Big Creek. The Perdido River forms the State line between Alabama and western Florida. Its principal tributaries in Alabama are the Blackwater and Styx Rivers. Streams of these basins are generally bordered by swamps and are coffee-colored because of dissolved organic matter.

Climate

The geographic position, topography, and prevailing winds of Alabama all contribute to a temperate and humid climate. Severely cold weather seldom occurs; freezing temperatures usually do not last longer than 48 hours, even in the northern part of the State, so that precipitation is nearly all in the form of rain. Flood-producing rains in Alabama are associated with two types of storms: broad cyclonic disturbances and tropical hurricanes. The former occur every year, most commonly between November and April, and bring steady downpours over large areas. Tropical hurricanes, occurring generally between July and November, are less frequent but often bring torrential rains when they move in from the Gulf of Mexico. These storms, however, commonly lose their intensity as they travel inland. This variation is illustrated by figure 3 which shows the 24-hour rainfall to be expected once in 50 years.

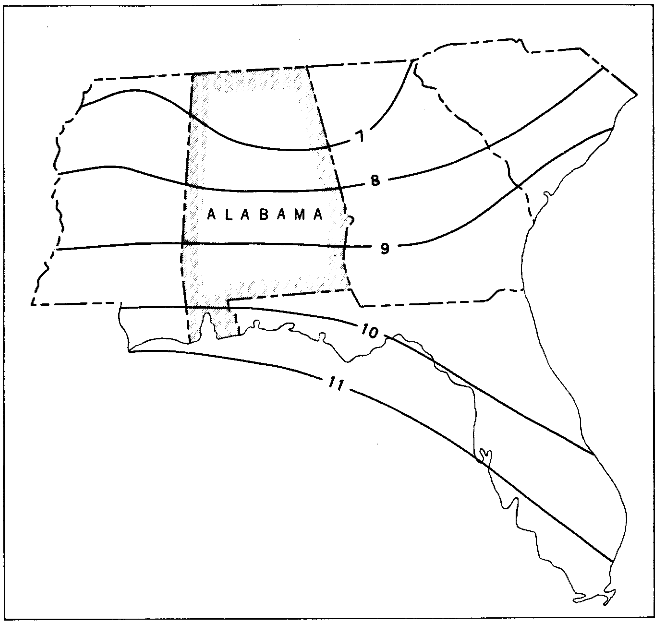


Figure 3.--Maximum 24-hour rainfall, in inches, to be expected once in 50 years.

March and July are the wettest months. More major floods have occurred in March than in any other month; July storms are generally thunder showers--often intense but usually scattered and of short duration. They are, however, capable of flooding small watersheds.

Except for the coastal area where the increase reflects the proximity of the Gulf of Mexico, average annual rainfall, shown in figure 4, does not vary greatly over the State.

Flood records

The base data for this report were largely derived from a compilation of annual peak discharges observed for periods of from 6 to 60 years at 107 gaging stations on the river systems of Alabama for drainage areas between 81 and 22,000 square miles. Of these gaging stations, 87 are located in Alabama and the remaining 20 in Mississippi, Tennessee, Georgia, and Florida. Inclusion of the latter group was desirable in order to better define flood-frequency relations along the State boundary and to insure results consistent with those obtained in adjoining States.

A number of gaging stations maintained in Alabama for short periods during earlier years and a few stations recently established were not used because of shortness or other inadequacy of the record.

Gaging stations providing the base data are listed in figure 5, which shows by a bar graph the years when annual peak stages or discharges were observed at each

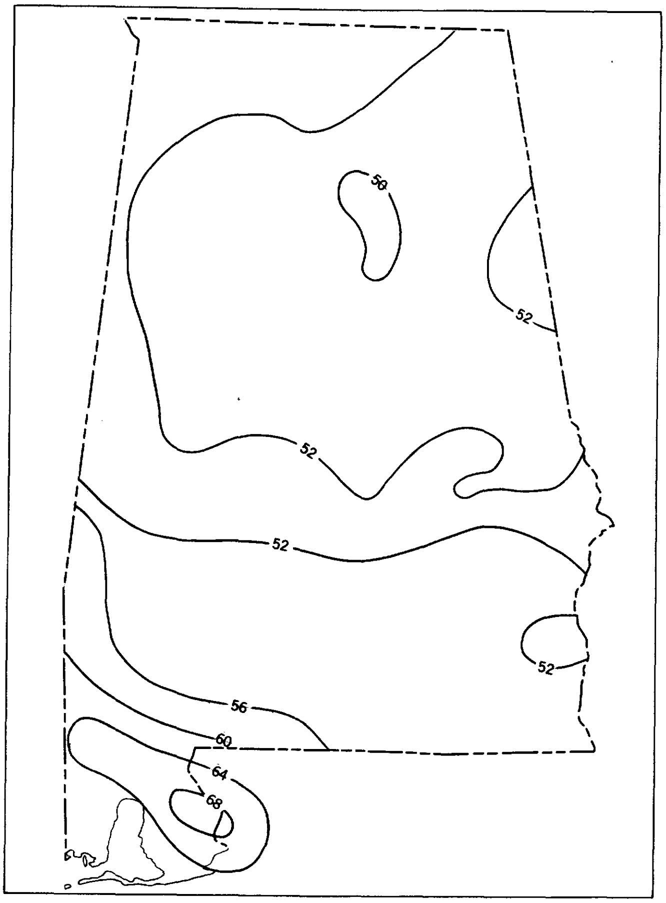


Figure 4.--Average annual rainfall, in inches, in Alabama.

station. For ready reference, the index number assigned to each gaging station in figure 5 is used for that station throughout the report. The location of each station is indicated by index number in figure 2 (p. 4).

Tabulations of the dates, stages, and peak discharges of annual floods observed at the gaging stations are given in the concluding section of this report. Before any flood data were tabulated, the stage-discharge relation for the entire period of record was reviewed and peak discharges were revised when necessary.

At some sites, records of annual peak stages antedating Survey gaging-station records were available from the Weather Bureau. When the stage-discharge relation applicable to these earlier flood stages could be determined with reasonable assurance, the corresponding peak discharges have been shown.

METHOD OF ANALYSIS

This report presents methods by which the magnitude and frequency of floods in Alabama streams can be determined largely through the use of charts and graphs. The successful use of these graphical tools does not require an intimate familiarity with the statistical principles and procedures involved in their preparation. However, in order to utilize the report most effectively, the user should have a general knowledge of how the graphs and charts were derived from the basic data. This section of the report describes the method of analysis in sufficient detail to provide that necessary background.

The methods of computing flood frequency used in this report represent current techniques as developed in a continuing study by engineers of the Surface Water Branch, Water Resources Division, of the Geological Survey, and by others. These methods serve, first, to define flood-frequency relations for a particular stream at a specific point of observation (at a gaging station); and second, by combining a number of these point relations on an areal basis, to estimate flood-frequency relations at any point on any stream, gaged or ungaged, within a broad area (regional flood frequency).

Flood frequency at a gaging station

Flood data for a gaging station may be analyzed in two ways: as an annual-flood series or as a partial-duration series.

As used in this report, an annual flood is defined as the highest momentary peak discharge in a water year (October 1 to September 30). In an annual-flood series, only one flood--the annual maximum--is considered for each year of record. This method of analysis is sometimes objected to because the second highest flood in a given year, which the above rule omits, may outrank many annual floods.

This objection is overcome by the partial-duration series, in which all floods above a selected base are considered without regard to the number within any given period. An objection to the partial-duration series is that all of the floods considered may not be fully independent events, that is, one flood sets the stage for another.

There is an important distinction in meaning between recurrence intervals determined by the two methods. In the annual-flood series the recurrence interval is the average interval in which a flood equal to or greater than a given magnitude will occur as an annual maximum. For example, a flood having a recurrence interval of 25 years, or the "25-year flood," is the flood that can be expected to be equaled or exceeded four times in 100 years. No regularity of occurrence is implied; two 25-year floods could occur in consecutive years. In the partial-duration series the recurrence interval is the average interval between floods of a given magnitude regardless of their relationship to the year or any other period of time. This distinction remains, even though for large floods the recurrence intervals are practically the some on both scales.

From statistical principles, there is a definite relationship between the values in the two series. The following table (Langbein, 1949, p. 879-881) shows comparative values of recurrence intervals for the two methods:

Recurrence intervals in years

Annual-flood series	Partial-duration series
1.16	0.5
1.58	1.0
2.00	1.45
2.54	2.0
5.52	5.0
10.5	10
20.5	20
50.5	50
100.5	100

The figures show that for recurrence intervals of 10 years and upwards or those commonly used for design of structures both methods give essentially the same result. Because of its relative simplicity, the annual-flood series has been used in this report.

The flood-frequency graph

The annual floods for each complete year of record are listed in chronological order and numbered in descending order of magnitude, that is, beginning with the greatest as 1. The next step is to fit a time scale to the data. Published methods for this operation are quite diverse, mainly because of differing ideas as to the proper method of treating small samples. In the method adopted by the Geological Survey, recurrence intervals are computed as $(N + 1)/M$, where N is the number of years of record and M is the relative order of magnitude of each flood. This formula is simple to compute, is applicable to both annual flood data and to the partial-duration series, and gives results acceptably in conformance with some of the latest theories.

Annual floods are then plotted with discharges as ordinates and recurrence intervals as abscissae on a special coordinate paper (Powell, 1943, p. 105-106) designed to make the plotted points approximate a straight line.

After the annual floods have been plotted, it is necessary to fit a curve to the data. Several methods of fitting the curves analytically have been proposed, but curves so fitted, even by the most elaborate and painstaking methods, do not appear to offer any advantages over curves simply fitted by eye. Thus, for this report, the frequency curves were drawn as the line of best fit as determined visually, with consideration for the limitations and peculiarities inherent to the data. In general, the plotting positions of the extreme values were discounted or ignored in drawing the curves because there is little opportunity for determining the true recurrence interval of those values. (For an example of a typical frequency graph, refer to figure 18, p. 22).

Limitations of flood-frequency graphs

Many hydraulic design problems currently being encountered in Alabama require the determination of the 50-year flood. As few flood records in the State extend for more than 25 years, most frequency curves must be extrapolated if the needed information is to be obtained. For example, suppose that a flood record of 30 years is available for determining the required 50-year flood. Generally, no great dependence can be placed on the computed plotting position of the greatest flood. Thus, the graph defining the 50-year flood might require extrapolation from the plotting position of the flood second (or possibly lower) in order of magnitude, that is, an extrapolation from about 15 to 50 years on the scale of recurrence intervals. Although this linear distance appears short on the graph, the error of the curve at its outer end could be considerable, regardless of the method of curve fitting or type of plotting paper used.

Another and more serious limitation of flood-frequency graphs based on relatively short records arises from the random manner in which flood events are distributed in time. For example, a flood record of 100 years cannot be expected to include exactly one 100-year flood, two 50-year floods, three 33.3-year floods, and so on. If the 100-year record is separated into two 50-year periods, one period might include several 50-year floods, the other none. Frequency graphs based on each of the two 50-year floods may be vastly different in character and neither may closely resemble the frequency graph derived from the 100-year record considered as a whole. Similarly, the frequency graph obtained from the 100-year record could be appreciably different from that for a different period of the same length, or for a longer period. Thus, the record of annual floods for a particular stream is a random sample which may yield a frequency graph far different in character from one which would be derived from a record of infinite length.

The maximum departure to be expected between flood magnitudes or frequencies computed from relatively short records and their true (long-term) values decreases with the magnitude of the flood and with the length of the record. The variation due to the chance factor alone between flood magnitudes computed from records of varying length and the long-term values has been studied by Benson [1] who analyzed an array of 1,000 hypothetical annual floods distributed according to the theory of extreme values (Gumbel, 1945). In using statistical methods, the most favorable expectancy

[1] Benson, M. A., 1952, Characteristics of frequency curves based on a theoretical 1,000-year record, p. 10, 11: U. S. Geol. Survey, unpublished report.

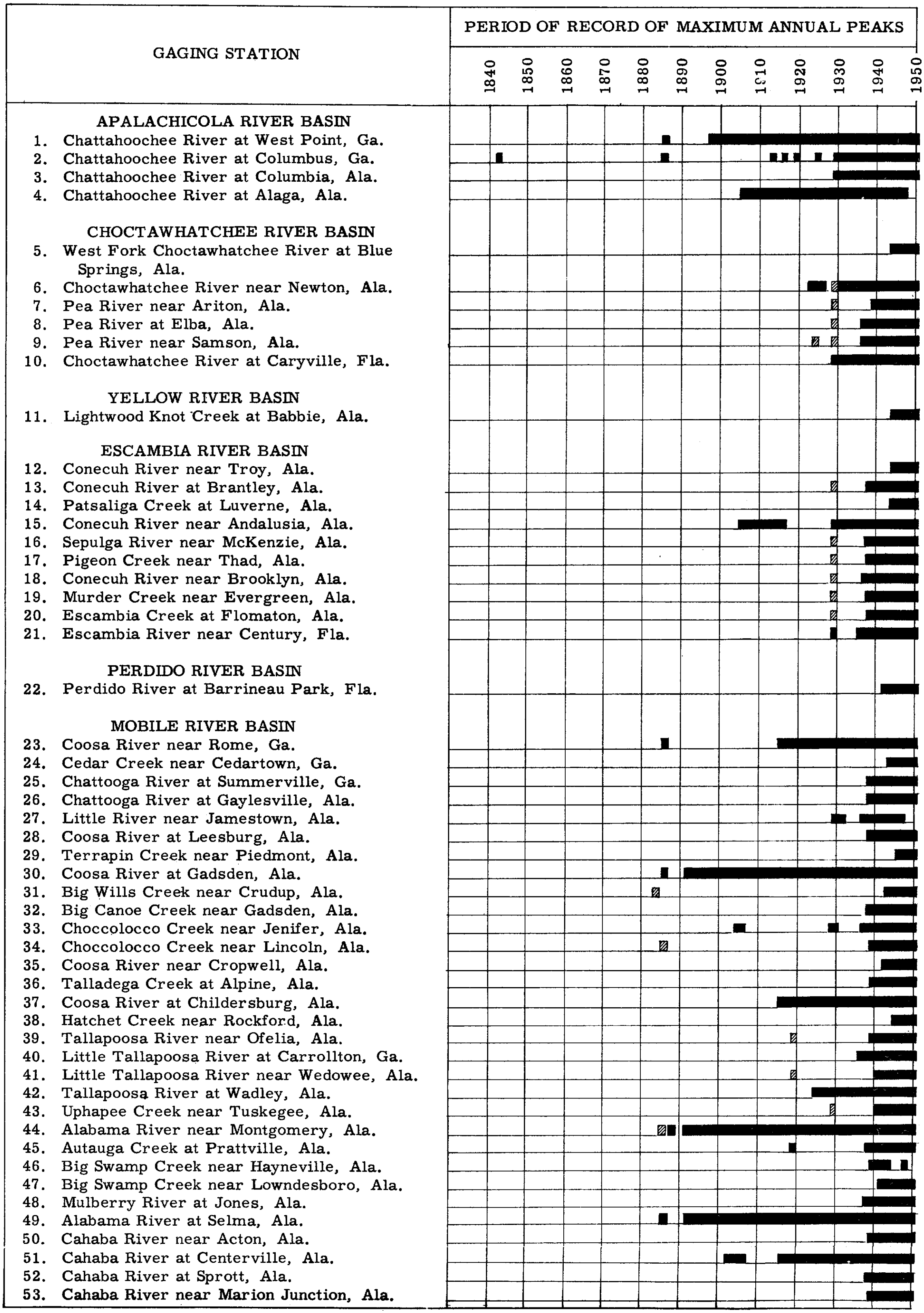
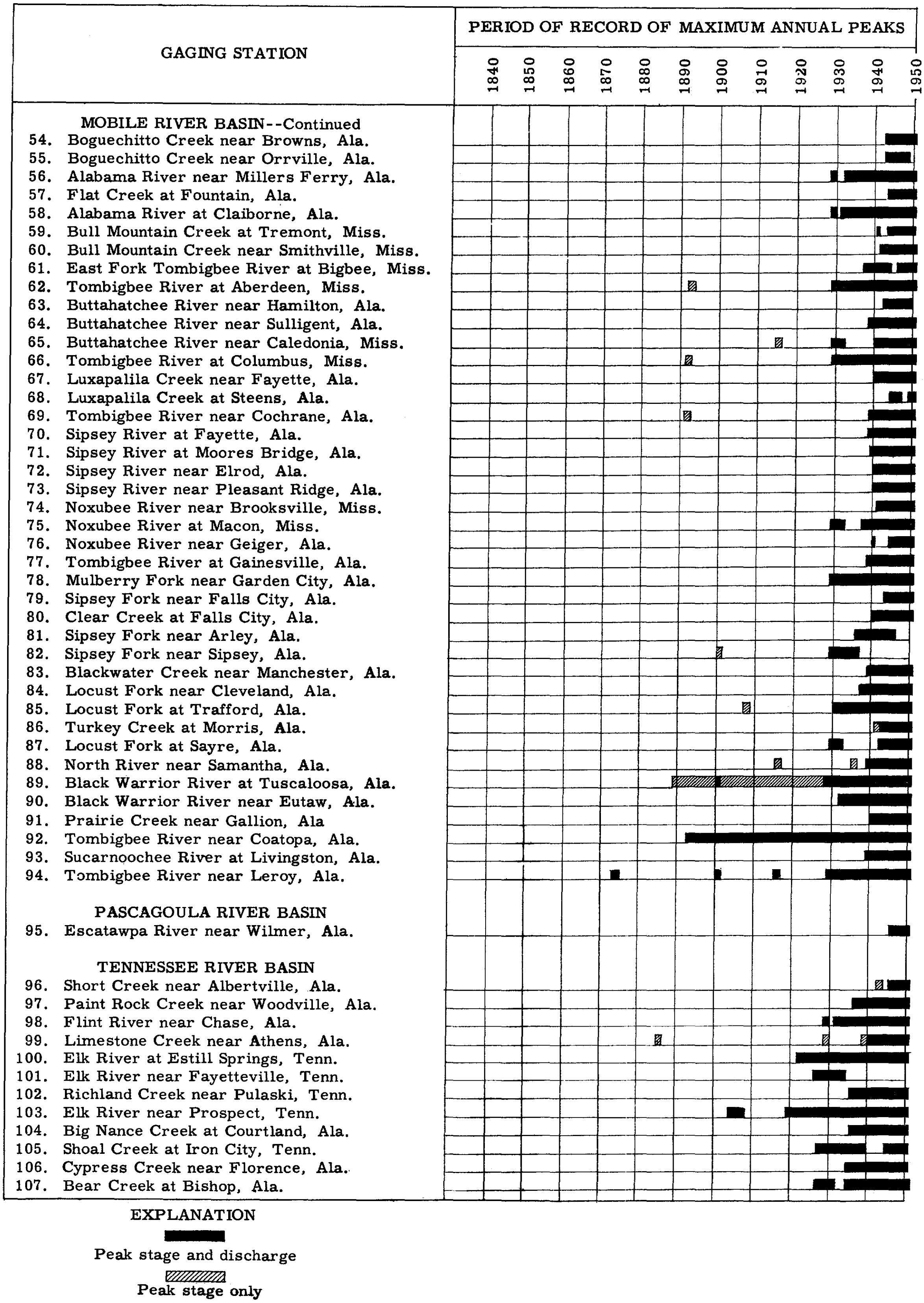


Figure 5.--Bar graph showing period of record



of maximum annual peaks at gaging stations.

during 95 percent of the time, or 19 chances out of 20, is commonly used as the criterion for dependable results. The table below, based on Benson's study, shows the length of record necessary (19 out of 20 times) to define floods of selected frequency within 10 percent and 25 percent of the correct long-term (1,000-year) value.

Length of record in years required to define flood within indicated percentage of correct value, 19 times in 20

Magnitude of floods	25 percent	10 percent
10-year flood	18	90
25-year flood	31	105
50-year flood	39	110

Although the figures in the table are based on hypothetical rather than on real flood events, they do give some indication of the considerable errors inherent in short-term frequency graphs from chance alone. A comparison of the lengths of record indicated by this table and those actually available for Alabama streams (figure 5, p. 8) suggests that few records in Alabama are long enough to provide individual frequency graphs of any great dependability.

Flood frequency by combining records

As pointed out in the preceding section, the greatest obstacle to the accurate definition of the flood-frequency graph at a gaging station is shortness of record--a deficiency that can be corrected only by the collection of additional records in future years. Thus, some further analytical device is necessary if more dependable information is to be extracted from the flood records available at the present time. One artifice commonly and profitably used in such circumstances is the combining of records, on the premise that the average answer obtained from all the records is more reliable than any single one. This section describes how flood records can be combined to serve two purposes: to improve the dependability of the frequency graph at the gaging stations and to provide a method for determining flood frequencies at points away from gaging stations.

To accomplish these purposes, the records are combined by two different methods. By the first method the records are combined on the basis of a geometric similarity of the individual frequency graphs. Inspection of plotted frequency graphs for many gaging stations has shown that a close similarity in slope and relative shape of the graphs commonly exists over broad regions. If all gaged streams within a certain region show frequency graphs of the same general shape and slope, it may logically be concluded that in some respects that region is homogeneous as to flood-frequency characteristics, and that the average shape of the frequency graph as defined by gaged streams will also apply to ungaged streams in that region. Thus, by combining records on the basis of geometric similarity of the frequency graphs, regions may be defined in which the shape of the frequency graph common to all streams can be closely determined.

The shape of the frequency graph, however, is a dimensionless property, and frequency graphs of which only the shape is known cannot be used to determine flood magnitudes in absolute terms at specific points on streams. The first method of combining records locates the frequency graph only with respect to the scale of recurrence intervals. To be of practical use, the graph must also be located with respect to the scale of magnitudes, that is, the dimensions of the graph must be restored.

This is accomplished by the second method of combining records, which relates groups of gaging stations displaying a similarity in their frequency graphs along the scale of magnitude. Experience has shown that in many parts of the United States, including the Southeastern States, frequency graphs for gaging stations can be used to outline areas in which streams draining basins of the same general physical characteristics, particularly of the same size, will produce essentially the same discharge for any given flood frequency. The second method of combining records serves to define those hydrologically similar areas by relating records on the basis of basin properties and the discharge, in absolute terms, for some arbitrarily selected recurrence interval. It further serves to define for any stream within such an area one point on the frequency graph for both magnitude and frequency. If one point on the graph is thus uniquely defined, and the shape of the graph has been determined, the complete flood-frequency graph can readily be drawn.

It should be pointed out that the geographical boundaries of the areas defined by the two methods of combining records need not, and generally do not, coincide. To distinguish between the two classes of areas, those defined by the first method are referred to in this report as "flood regions" and those defined by the second method as "hydrologic areas."

Combining records by geometric similarity of frequency graphs

Before records for a number of gaging stations can be combined by this method, they must represent a homogeneous group for both time and geometric similarity.

For time, the records to be combined are conveniently reduced to the same basis by using a common period for all records. Because length of record is of primary importance in a frequency graph, the base period selected should be as long as feasible. Records shorter than the base period are extended to that length by estimating annual floods for years of no record from nearby stations having complete record. Order numbers are then assigned to all annual floods, observed or estimated, within the base period at each station. The estimated floods serve only to determine the proper order numbers for observed annual floods and otherwise do not enter into subsequent computations.

For geometric similarity, the records to be combined may be regarded as a homogeneous group if the frequency graphs for the individual stations have approximately the same shape and slope. In comparing these graphs to ascertain whether this condition exits, it is convenient to compute the mean of the annual floods at each gaging station for the base period and to express the observed annual floods at each station as ratios to the station mean, thereby reducing all floods to dimensionless terms.

Computation of mean annual floods

The mean of the annual floods is commonly, though somewhat ambiguously, referred to as the "mean annual flood" which term, by virtue of convention, has been retained in this report. The mean annual flood is thus not to be confused with the flood having a recurrence interval of one year. According to the theory of extreme values as applied to floods by Gumbel (1945), the mean of all the annual peak floods in a long-term record would have the magnitude of the flood of 2.33-year recurrence interval. The mean annual flood in this report was determined graphically from the individual station data as the intersection of the visually best fitting frequency graph with the line corresponding to the 2.33-year recurrence interval. Experience has shown that, with occasional exceptions, the mean annual flood is indicative of the flood characteristics of a drainage basin and is therefore a good index on which to base comparisons.

Test for geometric similarity

Because flood records are random samples, a group of records can be tested for geometric similarity by determining whether the differences in slope of the individual frequency graphs for the lengths of record available are no greater than might result from chance alone. To test a group of records for this property the ratio of the 10-year flood to the mean annual flood is first determined for each gaging station. These 10-year flood ratios are then averaged to obtain a mean 10-year flood ratio for the group. The mean annual flood at each gaging station is then multiplied by the mean ratio and the corresponding recurrence interval determined from the station frequency graph. These recurrence intervals are plotted against the number of years of record on a test graph such as is shown in figure 6, based on the theory of extreme values. If the points for all the stations plot randomly between the two curves, the group of records may be regarded as homogeneous and may be combined to define a flood region. Points plotting outside the envelope or grouped near the boundaries indicate where further subdivision is desirable.

Regional frequency graph

All station records satisfying the above test are used as a group to define an average or composite frequency graph for that region. The ratios to the mean annual flood of all recorded annual floods during the base period are grouped according to relative magnitude (order number), and the median of these flood ratios for each order number is computed. Plotting the median flood ratios against the corresponding recurrence intervals then defines the regional composite frequency graph, which is based on all significant flood data available and may be considered to represent the most likely flood-frequency relation for all streams in the region. As the composite frequency graph expresses floods of other frequencies in terms of the mean annual flood, a complete frequency graph for any stream in the region can be drawn provided the mean annual flood is known.

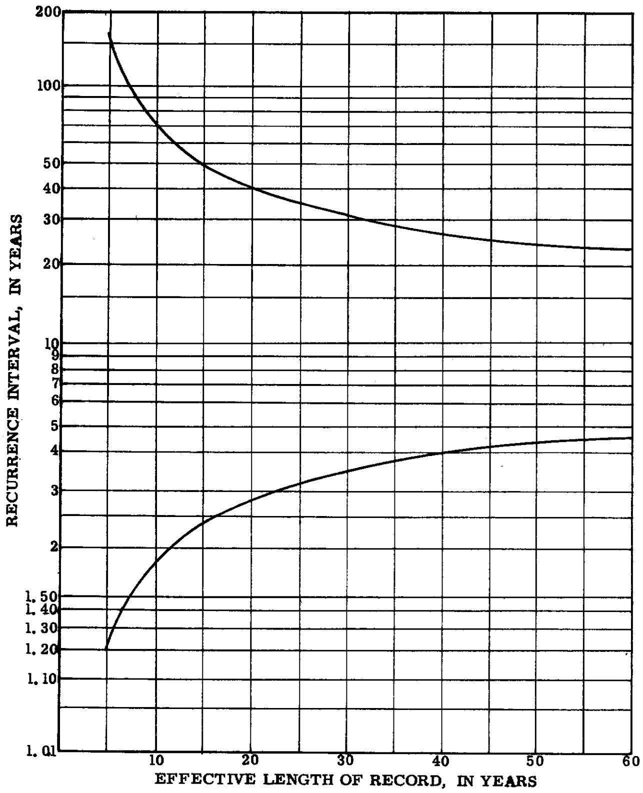


Figure 6.--Homogeneity test graph.

Combining records by similarity of mean annual floods

As previously pointed out, the second method of combining records leads to the delineation of hydrologic areas within which a flood of some arbitrarily chosen magnitude and frequency can be related to the characteristics of drainage basins, thus fixing one point on the frequency graph. From the foregoing discussion it is now apparent that the most suitable flood for this purpose is the mean annual flood.

The selection of suitable basin characteristics for this basic relation is not so self-evident. Many physical characteristics of drainage basins are recognized as influencing the mean annual flood. Some exert a major influence, some a minor one. Some are susceptible of accurate definition and appraisal, some are not. For the sake of simplicity, the number of such factors considered should be as few as possible without detracting seriously from the accuracy of the final result. At the same time, their numerical values must be readily determinable from available maps.

Factors influencing the mean annual flood

Excluding climatic factors, the physical characteristics of drainage basins that determine the mean annual flood are drainage area of the basin; shape of basin and its alinement with the prevailing direction of storm travel; land and stream slopes; geology of the basin, particularly as related to the depth and porosity of the soil mantle; floodwater storage in stream channels, swamps, and lakes; type of vegetal cover and land use; and possible others.

Of these basin characteristics, the drainage area is by far the dominant factor influencing the mean annual flood. Experience in the Southeastern States (Carter, 1951; Cragwall, 1952) has shown that the mean annual flood as derived from a curve of relation with this factor alone is adequate for most purposes. It is fortunate that this is true because the lack of adequate maps for much of Alabama precludes any satisfactory consideration of the other basin characteristics mentioned.

Some of the less influential basin characteristics have been successfully correlated with flood magnitudes in other parts of the United States (Kinnison and Colby, 1945, p. 849; Bodhaine and Robinson, 1952, p. 21). For possible use in this report, an attempt was made to correlate as a third variable a number of secondary basin characteristics in places where some opportunity existed for separating and evaluating the effect of a specific factor. Only limited success was realized from these studies. There remains a need for more work on secondary basin characteristics because a secondary factor or combination of such factors can and does exercise important control on floods at some points on some streams. Where the multiple correlation studies produced information of some value, that information is given later in the discussion of the several hydrologic areas and may be used to more closely define the mean annual flood on some streams.

Hydrologic areas

As a final step in combining records, the mean annual floods for all gaging stations are plotted against the corresponding drainage areas. Plotted data that indicate definite trend lines, and which at the same time can be related geographically, are separated as groups. The geographic boundaries of the areas represented by these grouped data are based largely on an appraisal of the land factors influencing floods, as climatic factors will generally show little variation. For each of these hydrologic areas a curve relating mean annual flood and drainage area is prepared. Because this curve averages the data for gaged points on streams in the area, it may be regarded as the most likely relation for ungaged points. Thus, a knowledge of the drainage area at the desired point on a stream is all that is required to determine the mean annual flood--the last element needed for the derivation of the flood-frequency graph.

FLOOD REGIONS OF ALABAMA

Of the gaging stations in Alabama furnishing the base data for this report, 70 percent have periods of record shorter than 15 years, and 90 percent shorter than 25 years. Only 10 stations have records exceeding 25 years, and 5 of these are on major streams not strictly comparable to the smaller tributary streams. From these considerations it was concluded that the longest base period for this study that could be successfully utilized is the 23-year period, 1929-51. Gaging-station records shorter than this base period were adjusted to the period in the manner previously described.

The test for geometric similarity involving all gaging stations disclosed that Alabama can be divided into three regions in each of which gaged streams draining about 3,000 square miles or less are homogeneous in flood-frequency characteristics. These homogeneous flood-regions are designated as regions A, B, and C in figure 7, and are shown in red on plate 1.

Region A

This region embraces about two-thirds of the State, includes the Appalachian Highland province (except for region C which it completely encloses) and roughly that part of the Coastal Plains province lying north of the Chunnenuggee Hills. It therefore corresponds to that part of the State having the greatest diversity in surface features and also that part having the least areal variation in average annual rainfall (fig. 4, p. 6). Included in region A are tributaries of the Tennessee, Alabama, Black Warrior, and upper Tombigbee Rivers, and those tributaries of the Coosa River not contained in region C.

Region B

This is an area of generally lower relief corresponding roughly to the outcrop area of Tertiary deposits curving northwestward into Mississippi. Average annual rainfall in region B ranges from 52 to 68 inches so that this region, unlike region A, is more uniform topographically than climatically. Region B includes the Choctawhatchee, Yellow, Escambia, Perdido, and Pascagoula basins in Alabama, and tributaries of the Chattahoochee, lower Alabama, and lower Tombigbee Rivers. The boundary between regions A and B on the east is not well defined; it has been indicated as following the Tallapoosa-Chattahoochee divide to the Georgia line largely for the sake of consistency with the Georgia flood-frequency report (Carter, 1951) which shows a similar regional boundary terminating at that point.

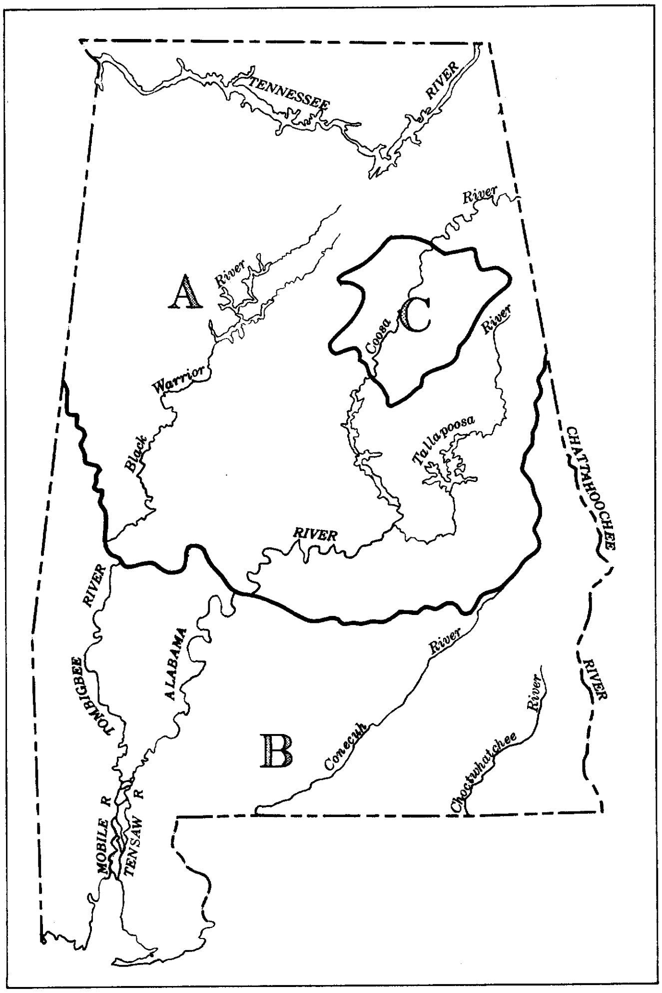


Figure 7.--Homogeneous flood regions of Alabama.

Region C

This isolated region corresponds to the central part of Coosa Valley in which a small group of gaged streams display flood-frequency characteristics markedly different from those of streams in the surrounding region A but very similar to those of streams in region B. Included in region C are west-side tributaries of the Coosa River from Big Canoe Creek southward to Kelly Creek, and east-side tributaries from Ohatchee Creek southward to Tallasseehatchee Creek. Flood-frequency graphs for gaged streams in this group are so similar in shape and slope to those for streams in region B that in this report region C has been treated together with region B.

A composite flood-frequency graph for recurrence intervals from 1 (approx.) to 50 years was developed for each flood region by combining gaging-station records for homogeneous streams in each region by the method described in the introductory section of this report. The curves for regions B and C, because of their similarity, were subsequently combined into a single composite curve applicable to both regions. The composite graph for region A is shown as figure 8, (p. 13) and that for regions B and C as figure 9 (p. 13).

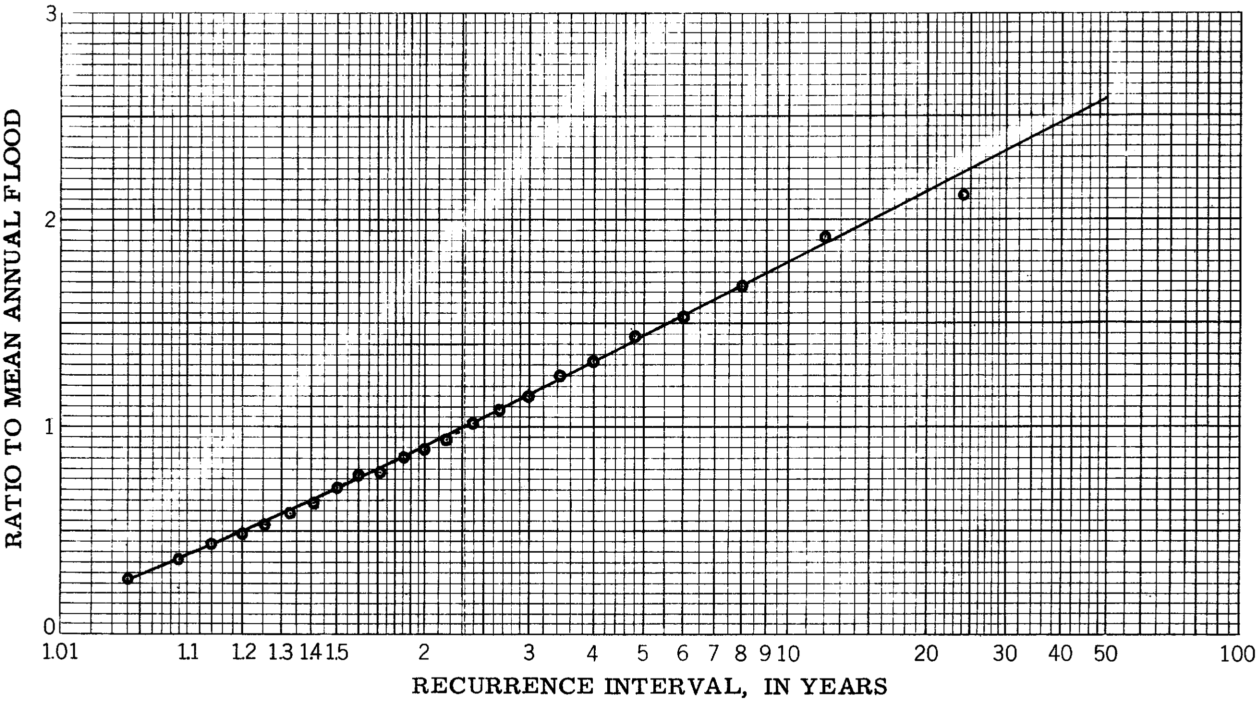


Figure 8.--Composite frequency curve for floods in region A.

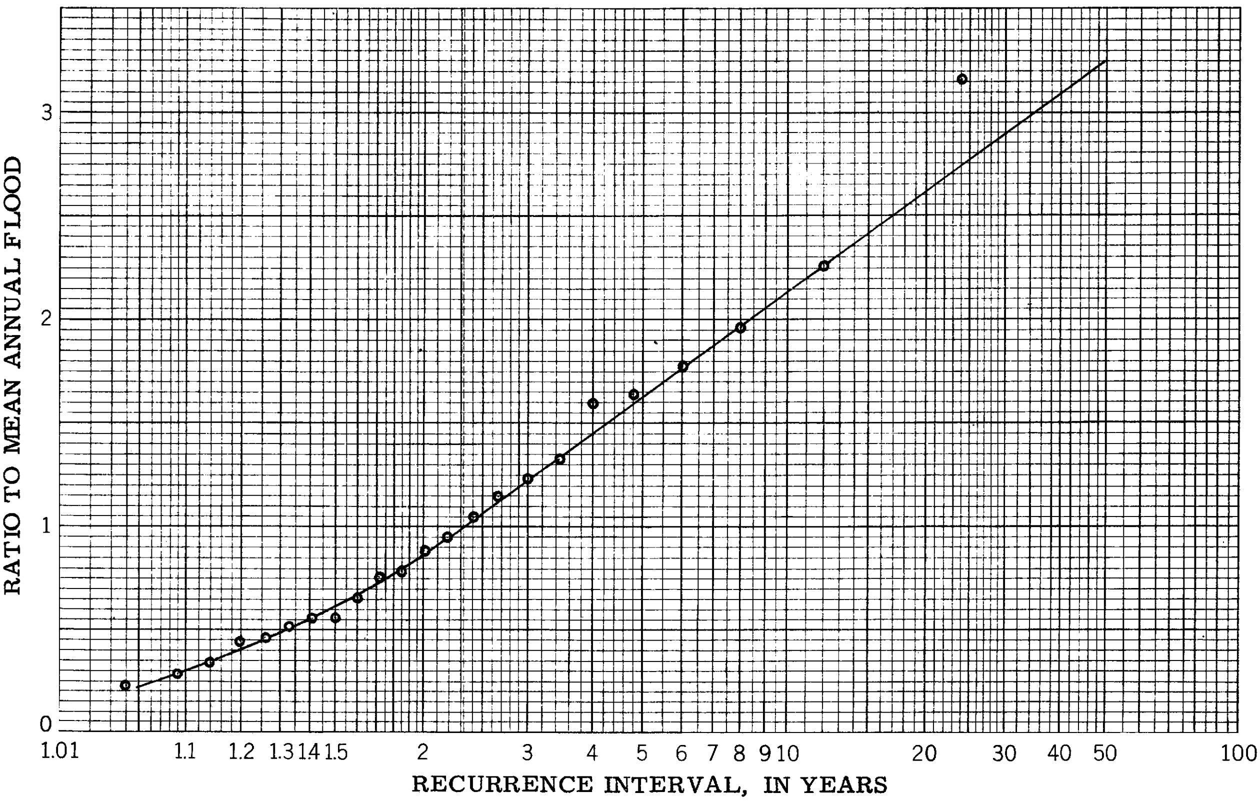


Figure 9.--Composite frequency curve for floods in regions B and C.

In general, the major rivers draining more than 3,000 square miles displayed a lack of homogeneity with the smaller tributary streams and for that reason were excluded from the averaging process. The composite frequency graphs are not, therefore, applicable to the main stems of the Chattahoochee, Coosa, Alabama, Black Warrior, Tombigbee, Mobile, or Tennessee Rivers. Except for the last two rivers, separate curves for these main stems are presented in the section, "Flood frequency on major rivers." The Mobile River was excluded for lack of data and the Tennessee River because of extensive regulation and control.

The composite flood-frequency graphs of figures 8, (p. 13) and 9 (p. 13) are basic to the remainder of the report in that they are derived from all significant flood data and are presumed to represent the most probable relation between flood magnitude and frequency for any tributary stream in the regions to which they apply. The graphs are of general applicability because they express flood magnitudes as dimensionless ratios to the mean annual flood. Thus, to derive a frequency graph for any tributary stream expressing flood discharges in absolute terms such as, for example, cubic feet per second (cfs), it is necessary only to multiply the mean annual flood in cubic feet per second for that stream by the ratios indicated by the appropriate composite graph. The remainder of the analytical portion of this report is therefore largely devoted to methods of determining the mean annual flood for streams in Alabama.

HYDROLOGIC AREAS OF ALABAMA

To determine the mean annual flood on tributary streams in Alabama, the State has been divided into 10 areas in each of which the base data indicate a similarity in hydrologic conditions relating to floods. For each of these hydrologic areas a relationship has been defined between mean annual flood and drainage area so that, if the drainage area at a particular point on a stream is known, the mean annual flood can be determined. The necessity for establishing these hydrologic areas arises from the difficulty of relating the mean annual flood to all the factors that influence it. In this analysis the mean annual flood has been explicitly related only to the most influential and most easily measured of these factors--drainage area. The system of hydrologic areas serves to recognize and to some extent compensate for the effects of the less tangible factors that influence the mean annual flood.

Delineation of hydrologic areas

The 10 hydrologic areas of Alabama are shown on plate 1. The base data for delineating these areas are listed in table 1, which gives the drainage area and mean annual flood for the gaging stations on streams of Alabama classed as tributary streams (generally, those draining less than 3,000 square miles). The procedure of plotting and separating groups of related data, thereby determining the general extent of each hydrologic area, has been described. The location of the actual

Table 1.--Mean annual flood, based on period 1929-51, at gaging stations on tributary streams in Alabama

Index no.	Drainage area (sq mi)	Mean annual flood (cfs)	Index no.	Drainage area (sq mi)	Mean annual flood (cfs)	Index no.	Drainage area (sq mi)	Mean annual flood (cfs)
5	85	2,070	39	787	15,000	74	440	11,000
6	693	9,600	40	89	3,200	75	812	15,000
7	500	8,500	41	592	13,600	76	1,080	13,200
8	952	13,400	42	1,660	32,600	78	365	27,000
9	1,170	13,300	43	331	16,800	79	375	21,000
10	3,490	13,300	45	119	2,500	80	151	6,600
11	114	3,700	46	122	11,600	81	537	26,600
12	240	9,000	47	242	15,400	82	1,020	39,000
13	485	8,800	48	205	9,100	83	177	4,100
14	250	7,400	50	229	11,600	84	300	18,300
15	1,300	17,500	51	1,030	42,400	85	622	31,600
16	470	11,700	52	1,380	44,000	86	81	6,600
17	296	7,600	53	1,780	40,000	87	885	29,800
18	2,400	31,500	54	93	6,250	88	220	8,700
19	169	4,300	55	276	21,000	91	170	19,000
20	325	8,000	57	253	9,700	93	635	8,500
21	3,700	44,500	59	120	5,800	95	506	17,000
22	370	8,000	60	335	12,300	96	91.6	8,000
24	109	7,100	61	1,194	23,400	97	320	14,900
25	193	11,500	62	2,210	32,000	98	342	14,800
26	377	12,800	63	308	13,200	99	119	6,900
27	121	11,400	64	460	13,500	100	282	9,300
29	115	10,600	65	830	20,500	101	897	24,400
31	189	7,200	67	127	7,200	102	366	17,800
32	238	10,500	68	309	10,000	103	1,784	36,000
33	275	9,800	70	275	10,200	104	166	5,700
34	491	11,300	71	406	11,500	105	348	17,800
36	158	9,500	72	515	11,000	106	209	10,800
38	225	12,600	73	766	10,000	107	667	17,500

boundaries shown by plate 1 is based largely on an appraisal of topographic and geologic factors. To the extent possible, drainage divides were followed in drawing these boundaries.

The average curve of relation between mean annual flood and drainage area for each hydrologic area also averages the effects of secondary basin characteristics, such as basin shape, slopes, and channel storage. It will be noted that many of the plotted points depart considerably from the curve drawn. With few exceptions this departure is no greater than could be explained statistically as the result of chance alone. It should not be inferred, however, that all such departures are due entirely to chance. At some gaging stations the effects of secondary basin characteristics are strongly indicated. These gaging stations are given special mention in the descriptions of the individual areas to follow. In determining a design flood at or near a gaging station showing appreciable departure from the average relation curve, the question may arise as to whether the mean annual flood as indicated by the curve or as listed in table 1 should be used. In such cases, the mean annual flood listed in the table may be used if so desired. The interests of conservatism in design will often decide the choice.

Description of areas

Area 1

This area includes the north-side tributaries of the Tennessee River west of, and including, Elk River. The relation of mean annual flood to drainage area, based on data for gaging stations 102, 103, 105, 106, is shown by the curve of figure 10. The relationship varies as the 0.54 power of the drainage area, as indicated by the slope of the curve.

Area 2

The eastern boundary of this peculiarly shaped area roughly follows the fall line from near Tuscaloosa northward to Moulton Valley, thence eastward along the Tennessee-Warrior drainage divide to near Guntersville, from which point it follows the Tennessee River to the State line. Included in this area are tributaries of the upper Tombigbee River, the remaining Tennessee River drainage in Alabama except for a few south-side tributaries upstream from Guntersville, and a number of small west-side tributaries of the Black Warrior River from Yellow Creek southward to Minters Creek. The relation of mean annual flood to drainage area is shown in figure 11 (p. 16). It is based on data for gaging stations 59-65, 67, 68, 70-73, 88, 97-101, 104, 107, and again is found to vary as the 0.54 power of the drainage area. The upper Tombigbee station (62) was used to help define the curve for area 2 and also the main-stem relationship discussed on page 24.

Stations 70-73 are all on the same stream--Sipsey River. Data for the two upstream stations, 70 and 71, plot reasonably close to the relation curve, but data for the two downstream stations, 72 and 73, plot increasingly farther from the curve, indicating a decrease in magnitude of the mean annual flood in a downstream direction from station 71. This pecularity of Sipsey River is attributable to the long, narrow basin, lack of major tributaries, and greater than average floodwater storage in channel and adjoining swamps. It may be verified for floods of other frequencies by comparing annual floods tabulated for stations 71-73 in a later section of the report, "Gaging-station records." Big Nance Creek (station 104), for which the plotted data also indicate a lower than average mean annual flood, drains a limestone region notable for caves and sinks.

Area 3

This area corresponds generally to the Cumberland Plateau of the Appalachian Highlands and includes the upper Warrior Basin, the Sand Mountain district, and Lookout Mountain. The relation of mean annual flood to drainage area is shown by figure 12 (p. 17). This curve has a slope of 0.72 and closely averages the plotted data for 8 of the 12 gaging stations (27, 78-87, 96) in the area. An attempt was made to improve the plotting of data for stations 78, 80, 83, and 87 by considering the effects of basin shape as a third variable. Results showed the shape factor might be responsible for most of the deviation at station 78 and for a considerable part of that at stations 80 and 87; at station 83, however, its effect was so slight that this station remains unexplainably inconsistent with the others in the area. This may be due to unrecognized

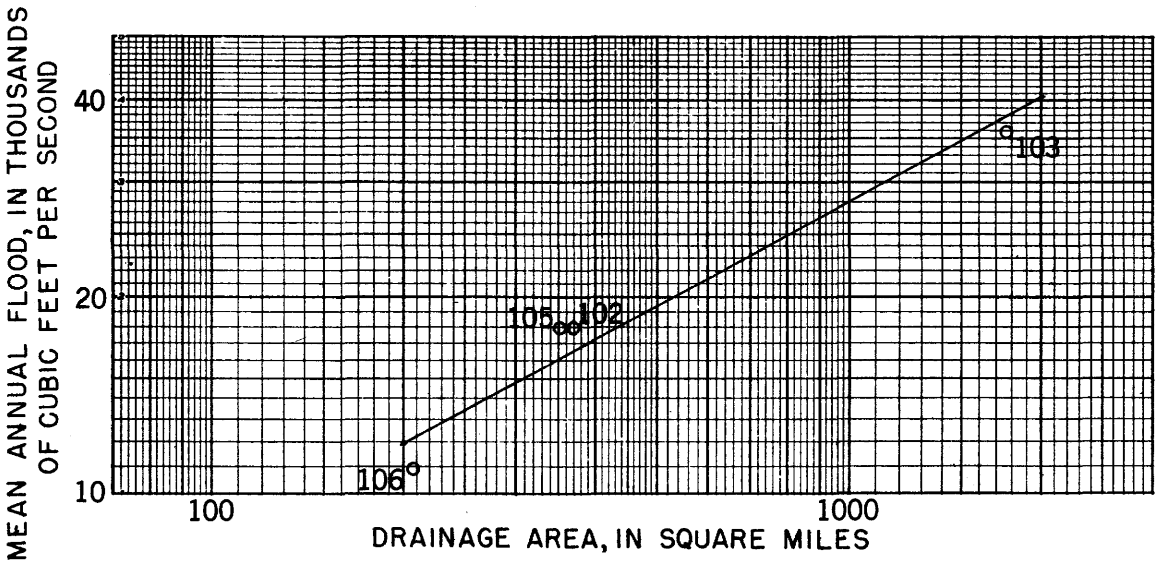


Figure 10.--Relation of mean annual flood to drainage area for area 1.

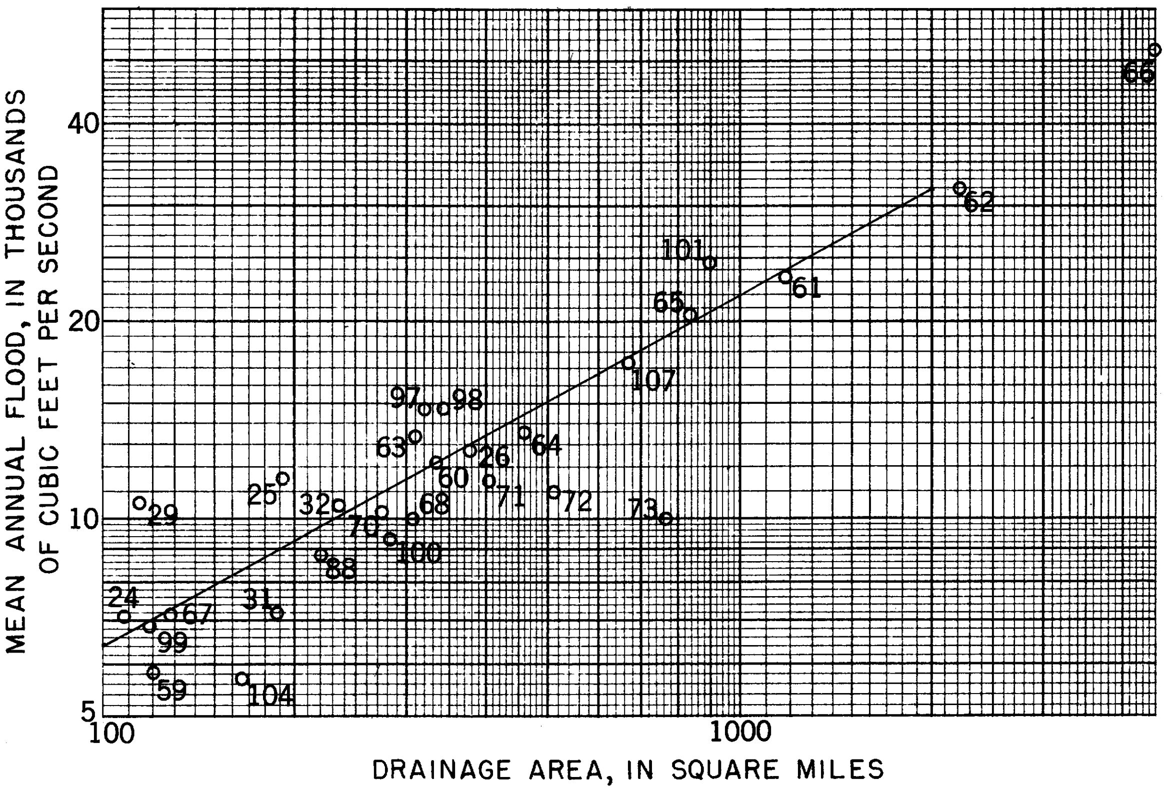


Figure 11.--Relation of mean annual flood to drainage area for areas 2 and 4.

physical factors, for example, greater than average channel storage, of which there is some evidence. On the other hand, statistical principles used in the analysis show that occasional lack of conformance may be expected because of the relatively short samples under consideration.

Area 4

This area of the Valley and Ridge province includes the upper Coosa, Wills, and Big Canoe Valleys. Plotted data for gaging stations 24-26, 29, 31, and 32 define a relation between mean annual flood and drainage area so nearly identical to that for area 2 that the two curves have been combined, as indicated by figure 11. Data for some of the stations deviate considerably from the average curve, especially for stations 29 and 31. Terrapin Creek (station 29) drains a steep rocky part of the Weisner Ridges, in which maturely dissected quartzite mountains reach altitudes of 1,200 feet above the floor of Coosa Valley to the west. A somewhat higher than average flood potential is thus to be expected of this stream. Conversely, a lower than average flood potential is to be expected for Big Wills Creek (station 31) because of its exceptionally long, narrow basin which averages only 5 miles in width for a distance of 70 miles.

Area 5

This area of central Alabama extends eastward from the Black Warrior River, widening to include the Cahaba and lower Coosa Valleys and the southern part of the Piedmont Uplands. Although the area is thus quite diversified topographically, data for gaging stations in the area (36, 38, 43, 48, 50-54) show a close correlation between mean annual flood and drainage area. The relation curve has a slope of 0.72 and is shown in figure 13, lower curve (p. 18).

The plotted data for Autauga Creek (station 45) departs widely from the relation curve. The tabulated floods for this station fall into two distinct classes, one ranging from about 1,000 to 4,000 cfs, the other from 18,000 to 23,000 cfs. No floods of intermediate discharges have been observed. A comparison of Autauga Creek with neighboring streams on the basis of annual peak discharge is favorable for years when the greater floods occurred, but, for years of low or average floods, the stream is well below its neighbors. A comparison on an average annual runoff per-square-mile basis shows that Autauga Creek annually discharges about the same as neighboring streams. These comparisons suggest that Autauga Creek has a highly absorptive or retentive basin requiring a storm of extreme intensity or volume to produce a major flood from it. The basin is indeed underlain by highly permeable sands and gravels (Tuscaloosa and Eutaw formations). There is thus considerable support to the theory that the inconsistency of Autauga Creek can be attributed to some geological factor, even though other gaged streams (stations 43, 48) draining the same geologic formations do not display this abnormality. The effects of this factor, regardless of its exact nature, evidently do not extend into the range of major floods. Thus, in determining floods on Autauga Creek of the magnitude commonly used for the design of structures, the average relation curve rather than the data of table 1 (p. 14) should be used.

Stations 50-53 are on the same stream, the Cahaba River. Data for the 3 downstream stations, 51, 52, 53, show little variation in mean annual flood along this stream for areas exceeding 1,000 square miles. This

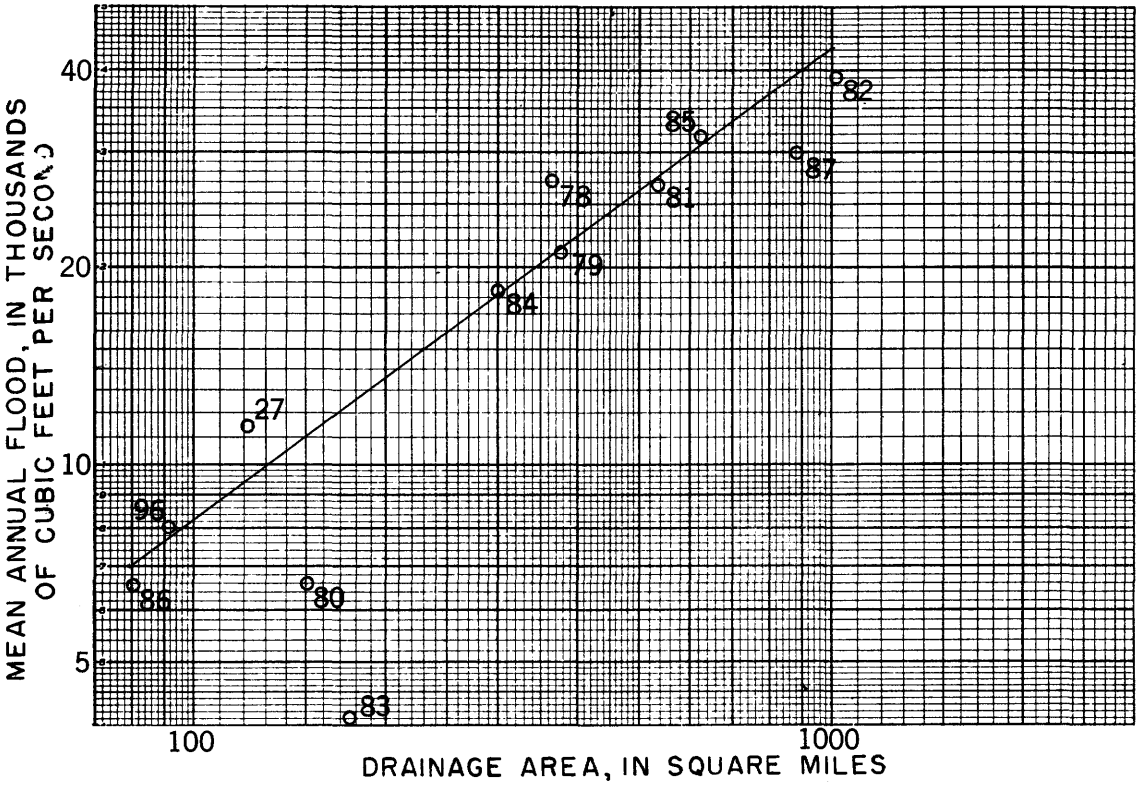


Figure 12.--Relation of mean annual flood to drainage area for area 3.

characteristic of long basins having relatively small tributaries and greater than average channel storage has been previously noted (Sipsey River, area 2).

Area 6

This area includes the northern and eastern parts of the Piedmont Uplands. It is drained principally by tributaries of the Tallapoosa, Little Tallapoosa, and Chattahoochee Rivers, although one sizable tributary of the Coosa River--Choccolocco Creek--has been included in the area on the basis of data for gaging stations 33 and 34. The relation between mean annual flood and drainage area based on data for stations 33, 34, 39-42 is shown by figure 14 (p. 19). The curve has a slope of 0.77.

Area 7

This area is generally coextensive with the so-called Black Belt or Prairie Belt that embraces about 4,300 square miles in Alabama and extends as a crescent-shaped area through northeastern Mississippi to western Tennessee. The Black Belt coincides with the outcrop area of a soft chalky limestone which is relatively impermeable and neither hard enough to form steep hills nor pure enough to be dissolved by percolating waters so as to form the sinks, caves, and solution channels so characteristic of most limestone regions. Streams of the area are "flashy"--reacting quickly to heavy rainfall with high rates of runoff for comparatively short periods, but having little or no ability to sustain flow during rainless periods. These hydrologic characteristics of the Black Belt are so definitely marked that, in outlining area 7, basin divides were followed as close as possible to the boundaries of the chalk outcrop. Principal streams lying wholly or largely within the area are Prairie, Bogue Chitto, Big Swamp, Pintlala, Catoma, Line, and Cubahatchee Creeks. The relation of mean annual flood to drainage area is shown by the upper curve of figure 13 (p. 18). This relation is based on data for gaging stations 46, 47, 55, and 91 and varies as the 0.72 power of the drainage area.

Area 8

The greater part of this Coastal Plain area is drained in a general southward direction by the Choctawhatchee River and its principal tributary, Pea River, both of which rise within the boundaries of the area. Also indicated as being in this area are a number of smaller streams flowing eastward to the Chattahoochee River. No continuous flood records are available for these streams, and their drainage has been included in the area chiefly on the basis of physiographic similarity. In general, the streams of area 8 tend to be sluggish, with tortuous channels meandering through wide, flat, and usually thickly wooded flood plains. The variation of mean annual flood with drainage area is shown by figure 15 (p. 20). This relation is based on data for gaging stations 5-10 and varies as the 0.77 power of the drainage area.

Area 9

Of the 16 gaging stations which may be regarded as representative of this area, 10 (12-21) are located in the Conecuh (Escambia) River basin and one each in the adjoining Yellow River (11) and Perdido River (22) basins; in addition, stations on the Noxubee (74-76) and Sucarnoochee (93) Rivers have been included in the area. Data for 12 of these stations (11-22) establish a well-defined relationship between mean annual flood and drainage area for these basins in Alabama. The relation curve is shown in figure 16 (p. 21) and has a slope of 0.77. On the basis of data for stations 74-76, and 93, area 9 has been extended westward to

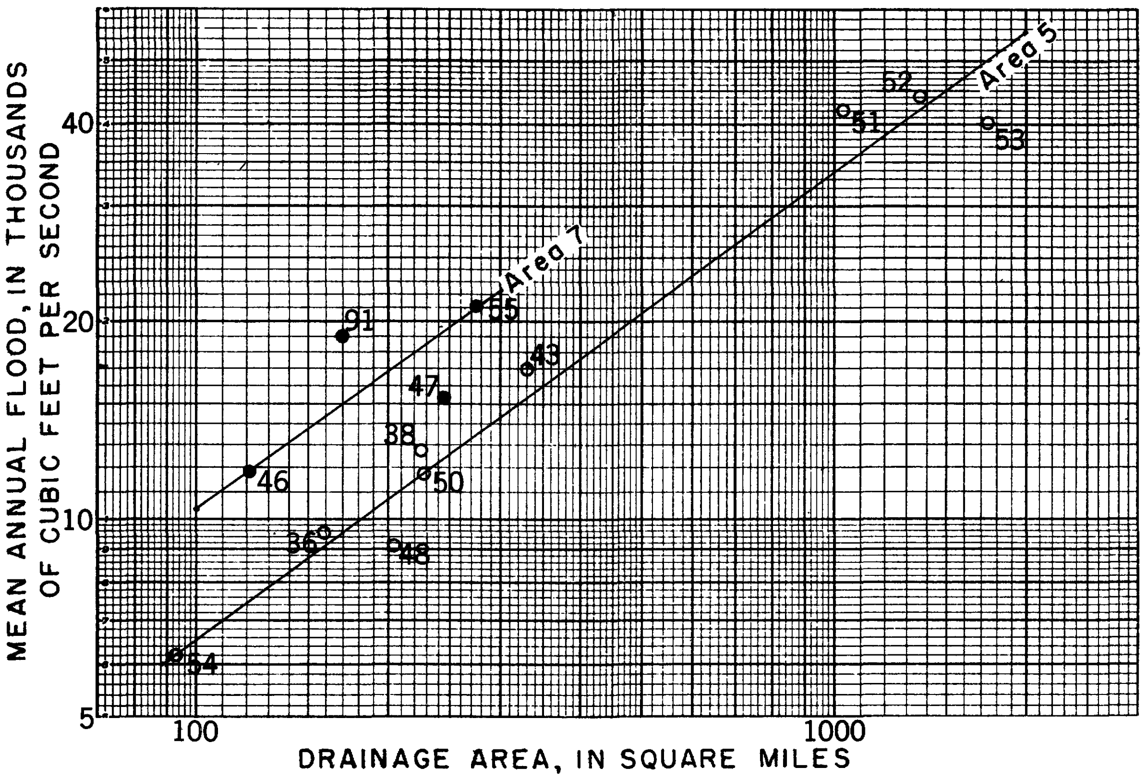


Figure 13.--Relation of mean annual flood to drainage area for areas 5 and 7.

include drainage of parts of the lower Alabama and central Tombigbee Rivers. Flood data in these latter areas are meager. Thus, although the northern and eastern boundaries of area 9 are fairly well defined, the western boundary remains somewhat uncertain. Streams in area 9, as in the Coastal Plain generally, are meandering and somewhat sluggish, and are bordered by wide terracelike flood plains, usually densely wooded and often swampy, in which are found many sloughs and abandoned meander channels.

In this area, the greatest departure of plotted data from the relation curve is noted for stations 12,76, and 93. The basin of the Conecuh River upstream from station 12 is distinctly fanshaped, which shape is commonly associated with higher than average flood potential. Twenty-five miles downstream, between stations 12 and 13, the basin assumed more of the characteristics of the long narrow type. The plotting of data for these two stations may indicate that channel storage in the intervening reach of channel is sufficient to compensate for the inflow from the few minor tributaries. Much the same explanation can be offered for the plotting of data for stations 75 and 76, on the Noxubee River. As data for only one station on the Sucarnoochee River is available, this characteristic cannot be verified for that stream. The plotting of data for station 93 may indicate that the same situation exists there.

Area 10

This area is drained principally by tributaries of the lower Alabama and Tombigbee Rivers and of the Mobile River; the Escatawpa River (Pascagoula River basin) drains a narrow strip along the western boundary of the area, and a few small streams flow directly into Mobile Bay. Average annual rainfall over area 10 is about 60 inches, which is appreciably higher than the average for the remainder of the State (fig. 4, p. 6). Because of this climatic dissimilarity and the fact that data are available for only two tributary streams in the area, the flood characteristics of area 10 are not well defined. Additional data currently being collected should in a few years make possible a better appraisal of the flood potential of this area. The relation of mean annual flood to drainage area, based on data for gaging stations 57 and 95, is shown by the upper curve of figure 16 (p. 21). The slope of the curve is 0.77--the same as for areas 6, 8, and 9.

FLOOD FREQUENCY ON MAJOR RIVERS

As previously mentioned, the main stems of the major rivers for drainage areas above approximately 3,000 square miles display a lack of homogeneity with their tributary streams. This dissimilarity is to be expected partly because of the disparity in the duration

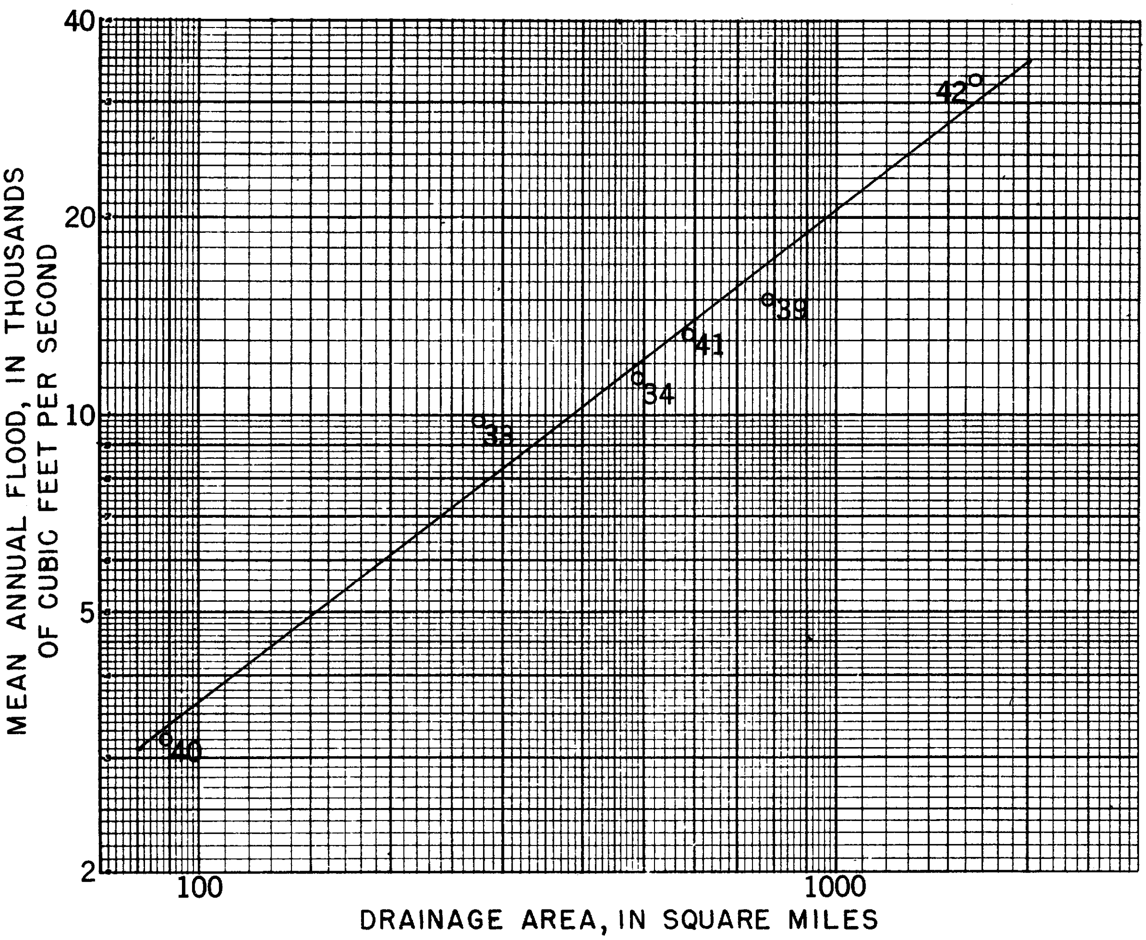


Figure 14.--Relation of mean annual flood to drainage area for area 6.

and areal extent of rainstorms capable of producing floods on large and small basins, and partly because the major rivers reflect an integration of the effects of many diverse physical features which in smaller basins may have marked localized effects on flood characteristics.

If the major rivers were homogeneous among themselves, a composite ratio curve for estimating flood frequency could be developed in a manner similar to that used for the tributary streams. However, when tested as a separate group, the major rivers were found to lack a degree of homogeneity acceptable for such an averaging process. Thus, individual treatment of the major rivers of Alabama is desirable for estimating flood magnitudes and frequencies.

Continuous flood records for about 60 years are available at one or more gaging stations on several of the major rivers of the State. In order to take advantage of these long-term records, individual flood-frequency curves for gaging stations on these rivers were adjusted to the longest period of record available at some point on each river, rather than to the period 1929-51 used for the tributary streams. Because these curves are based on records of considerable length, they are less affected by chance variations in data. Although some chance variation is involved even in long-term records, the possible range of error is such that these individual station records may be used directly to determine flood magnitude and frequency along these larger rivers. Flood discharge of any selected frequency at ungaged points on major rivers can be determined by interpolating between gaging stations, using the variation in drainage area along the stream as a parameter. Although a separate interpolation is necessary for each flood frequency selected, results may be somewhat more refined than if an average or composite curve for that particular stream had been used. This is especially true when the gaging-station records indicate differences in flood-frequency characteristics along a given stream and are long enough that they probably reflect actual differences rather than those due simply to chance.

Coosa River

Flood-frequency curves for the 4 gaging stations along the main stem of the Coosa River in Alabama (28, 30, 35, and 37) are shown in figures 17-20 (p. 22-23). These curves have been adjusted to the period 1891-1951, for which period a complete record is available at station 30. Flood frequencies for points on the Coosa River other than at gaging stations may be determined by interpolating between gaging stations.

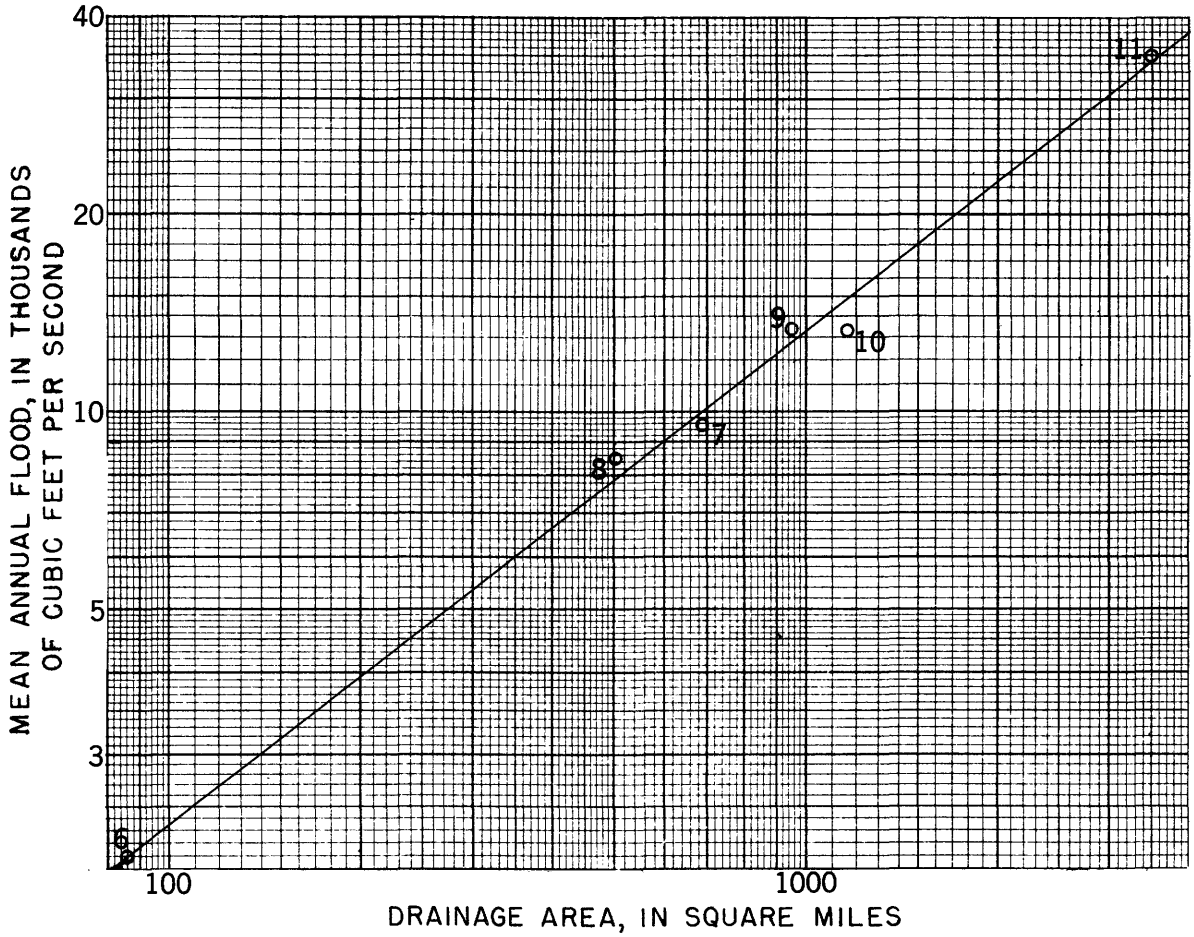


Figure 15.--Relation of mean annual flood to drainage area for area 8.

As an aid in the interpolation process, figure 21 (p. 24) 2/ has been prepared to show the variation along the river of selected flood frequencies commonly needed for design. The 5 curves of figure 21 (includes station 23 in Georgia) make possible the ready determination of flood magnitudes for recurrence intervals of 2.33 (mean annual flood), 5, 10, 25, and 50 years along the Coosa River main stem from Rome, Ga., to the head of Lay Lake, in Alabama.

2 The curves of figure 21, and of similar interpolation diagrams to follow, have been drawn as straight lines connecting the plotted data. It is not to be inferred from them that flood discharges or drainage area varies uniformly along the stream because, of course, they do not vary except in the unusual situation where tributary streams of comparable size are uniformly and closely distributed along the main stem. Because the drainage area of a stream increases abruptly at the mouth of every tributary, values along the drainage-area axis of figure 21 are actually discontinuous. Furthermore, experience indicates that, when valley storage is not an appreciable factor, flood peak discharges may remain constant for each main-stream reach between major tributaries. However, the use of drainage area to obtain values of the mean annual flood from these figures takes account of the discontinuity at tributaries and is as good an approach as is known.

Data pertaining to the gaging-station records used in the analysis of the Coosa River main stem are given in table 2.

Alabama River

Flood-frequency curves for the 4 gaging stations on the Alabama River (44, 49, 56, and 58) are shown in figures 22-25 (p. 24-26). These curves have been adjusted to the period 1891-1951, for which period complete records are available at stations 44 and 49. Figure 26 (p. 26) is an interpolation diagram showing the variation in discharge along the Alabama River for floods having recurrence intervals of 2.33 (mean annual flood), 5, 10, 25, and 50 years. Floods of other recurrence intervals at intermediate points along the stream may be interpolated in a similar manner. The curves of figure 26 have been extended slightly beyond the plotted data at each end in order to include the entire length of the Alabama River main stem from the confluence of the Coosa and Tallapoosa Rivers to the junction with the Tombigbee River.

Figure 26 shows a marked decrease in discharge for the floods of greater recurrence intervals between stations 44 and 49. This effect is attributed to the absence of any major tributary and to the increased valley storage between these stations. The same

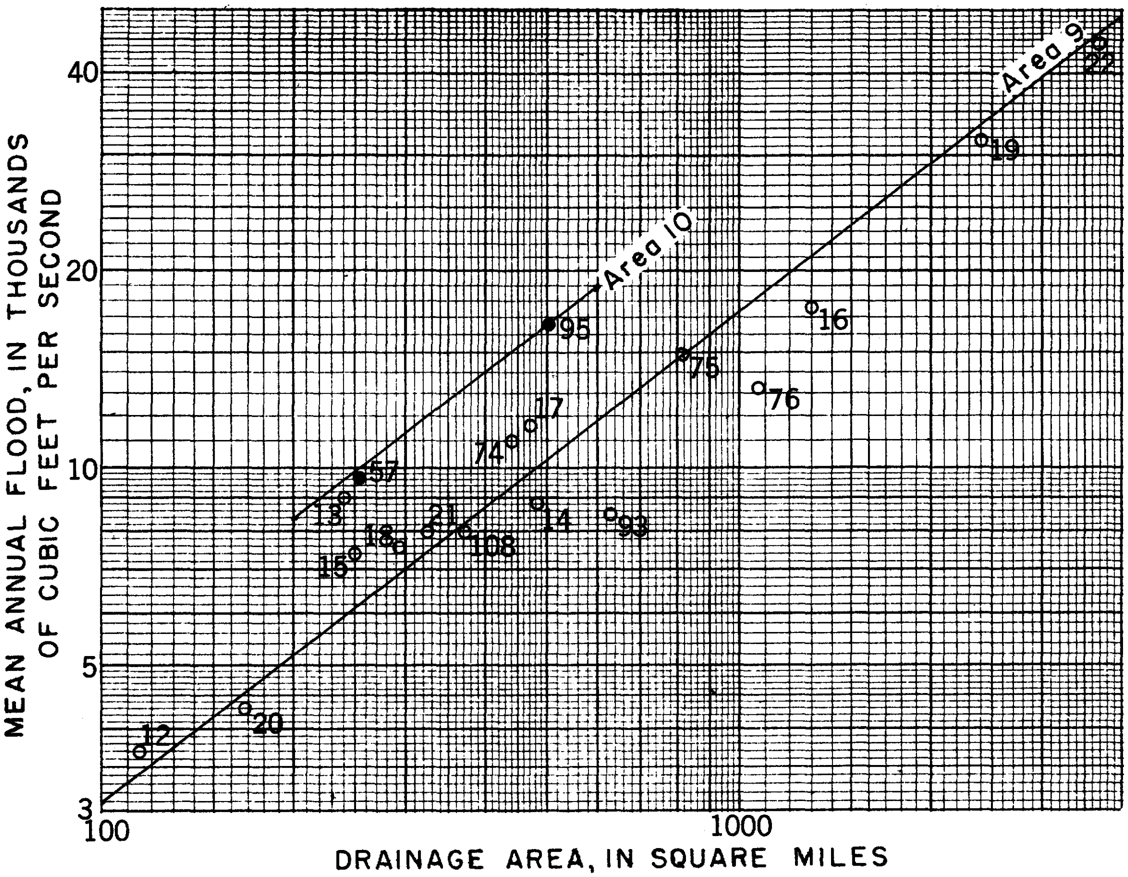


Figure 16.--Relation of mean annual flood to drainage area for areas 9 and 10.

Table 2.--Data for base gaging stations on main stem Coosa River

Index no.	Station	Drainage area (sq mi)	Period of record	Mean annual flood (cfs), 1891-1951
23	Near Rome, Ga -----------	4,040	1914-51	38,500
28	At Leesburg, Ala --------	5,270	1938-51	49,000
30	At Gadsden, Ala ---------	5,800	1891-1951	51,000
35	Near Cropwell, Ala ------	7,690	1942-51	72,500
37	At Childersburg, Ala ----	8,390	1915-51	83,000

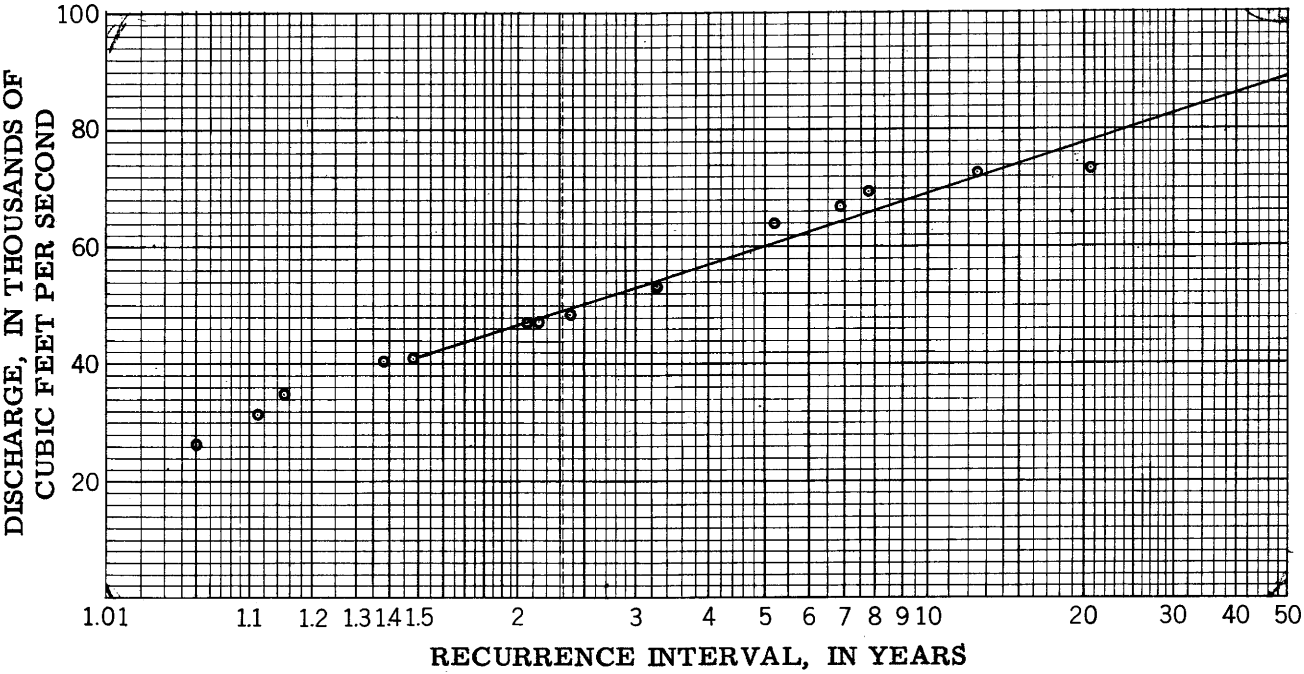


Figure 17.--Frequency of annual floods, Coosa River at Leesburg, Ala.

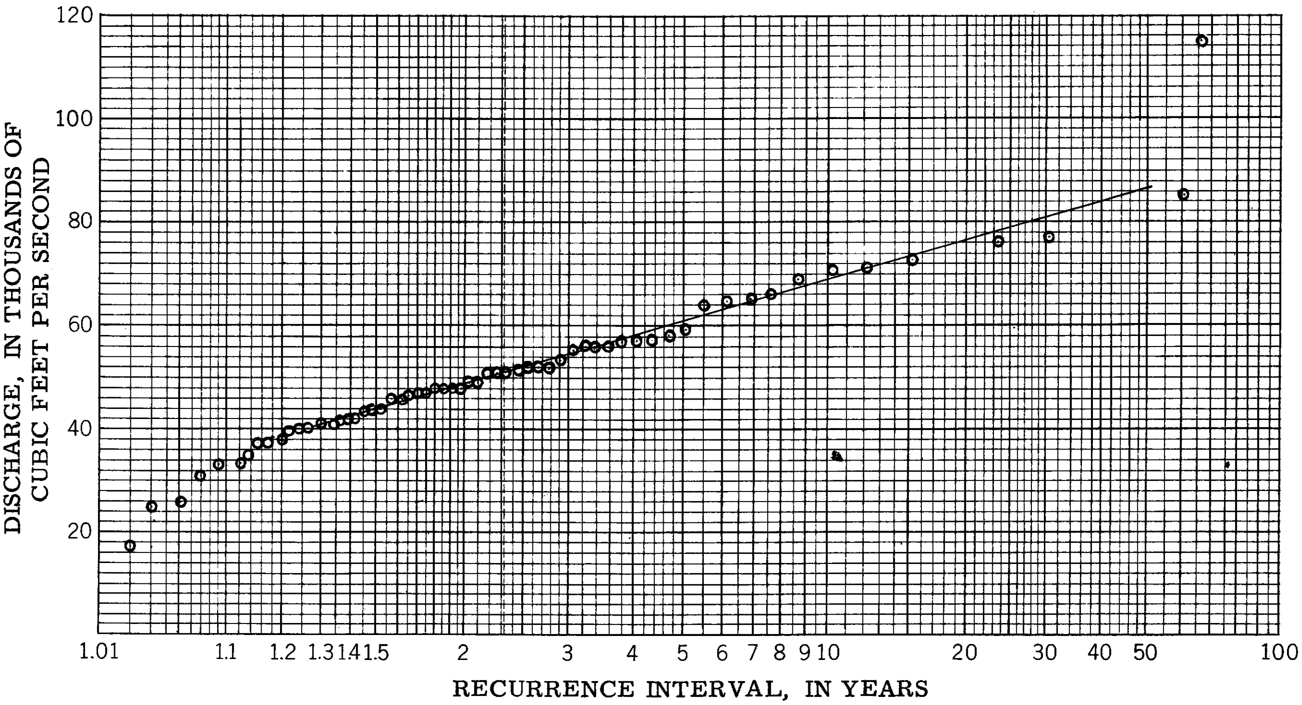


Figure 18.--Frequency of annual floods, Coosa River at Gadsden, Ala.

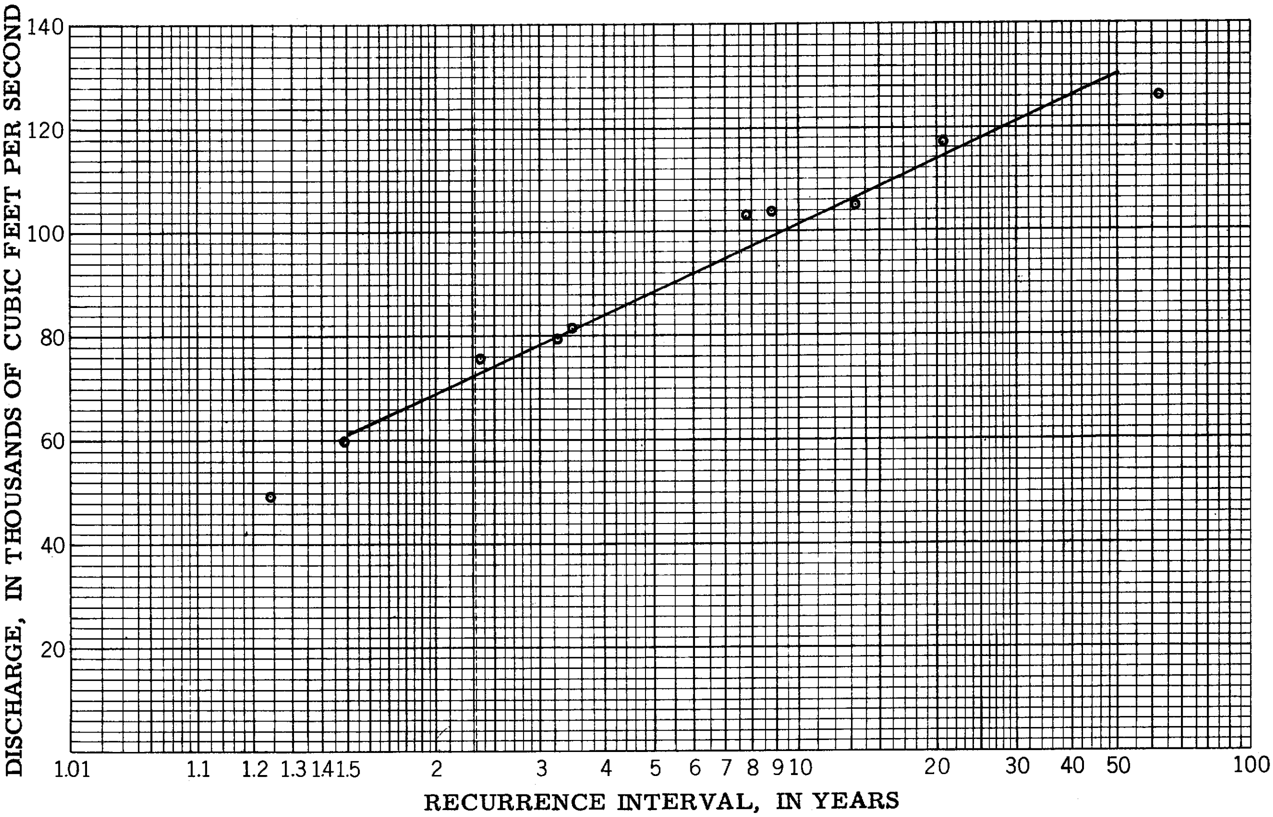


Figure 19.--Frequency of annual floods, Coosa River near Cropwell, Ala.

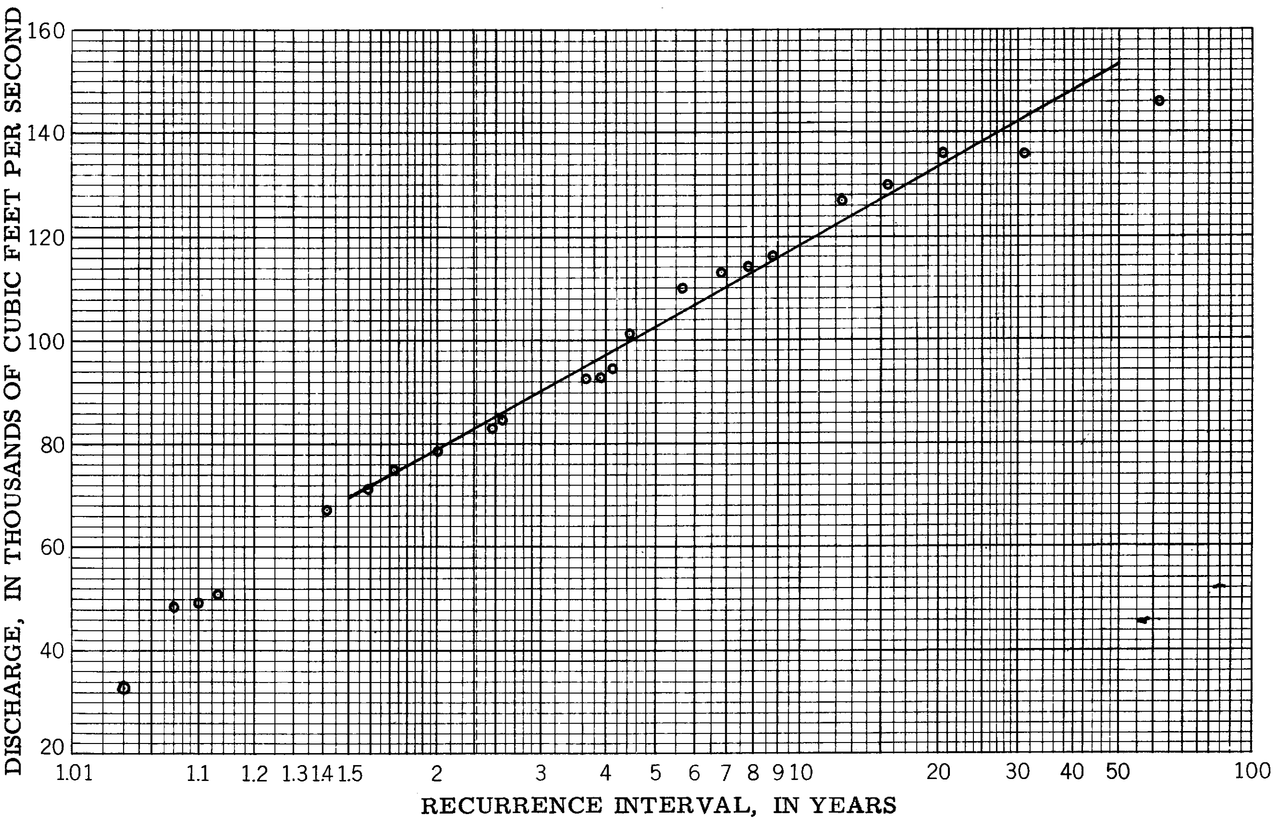


Figure 20.--Frequency of annual floods, Coosa River at Childersburg, Ala.

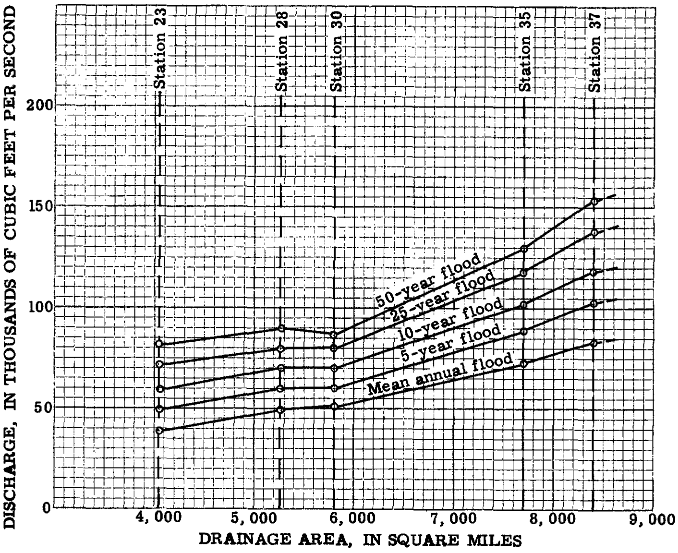


Figure 21.--Relation of selected flood frequencies to drainage area, Coosa River main stem.

effect is noticeable, but to a lesser extent, between stations 56 and 58. The entrance of the Cahaba River, a major tributary, between stations 49 and 56, is probably responsible for the upward trend of the curves in that main-stem reach.

Data pertaining to the gaging-station records for the Alabama River are given in table 3.

Tombigbee River

Flood-frequency curves for the 4 gaging stations on the Tombigbee River in Alabama (69, 77, 92, and 94) are shown in figures 27-30 (p. 27-28). The curves are based on the period 1893-1951, for which period the record is complete at station 92. Figure 31 (p. 29) shows the variation in discharge along the Tombigbee River of floods having recurrence intervals of 2.33 (mean annual flood), 5, 10, 25, and 50 years. Discharges for floods of other selected recurrence intervals may be similarly interpolated along the river. For use in Alabama, only those parts of the curves are needed above 5,000 square miles, which is the approximate drainage area of the Tombigbee River at the Mississippi-Alabama State line.

Data pertaining to gaging-station records used for the frequency analysis of the Tombigbee River are given in table 4.

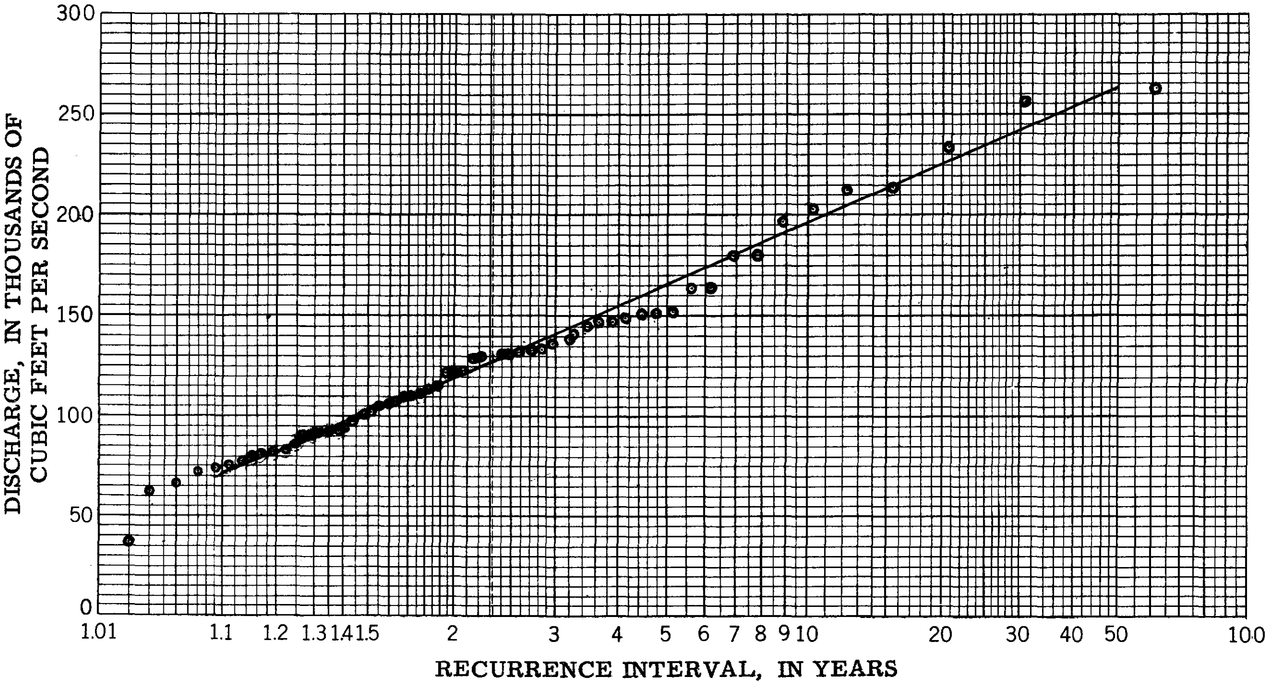


Figure 22.--Frequency of annual floods, Alabama River near Montgomery, Ala.

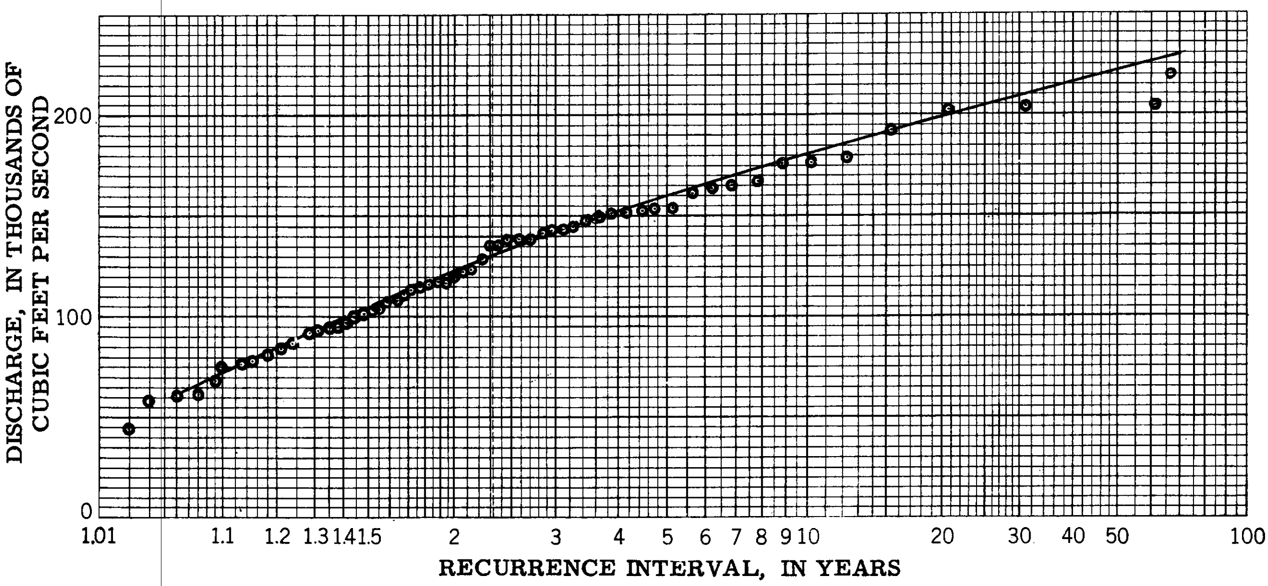


Figure 23.--Frequency of annual floods, Alabama River at Selma, Ala.

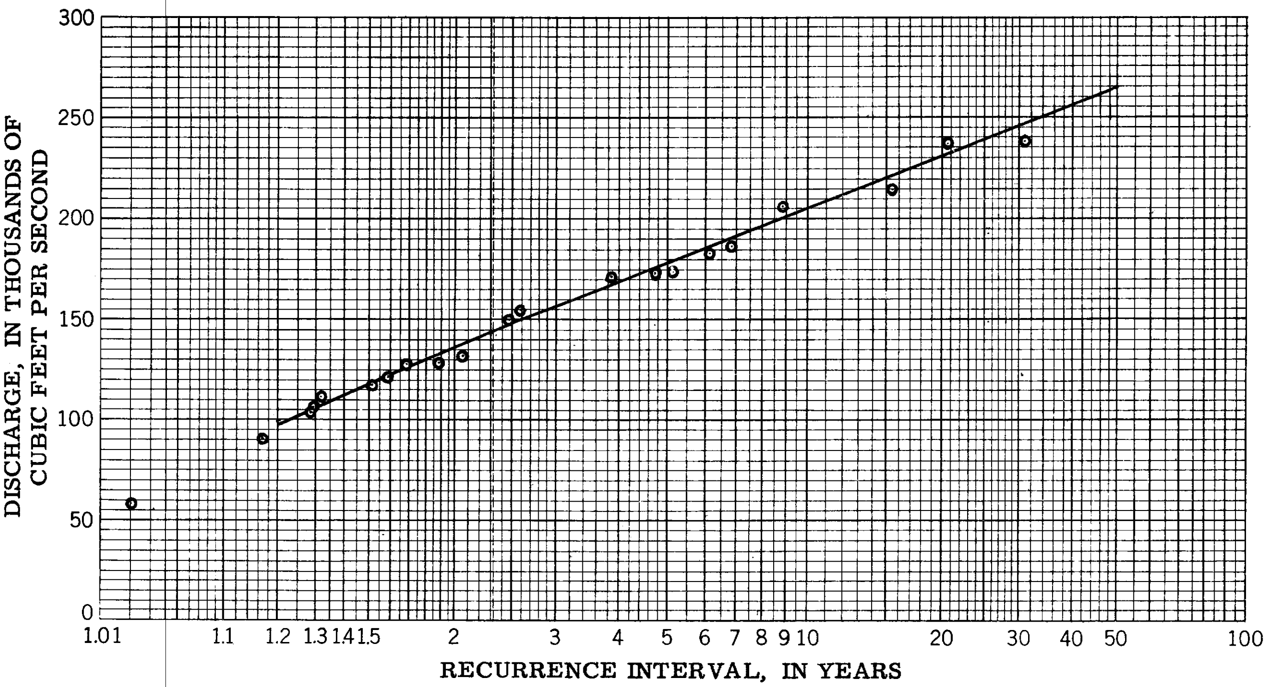


Figure 24.--Frequency of annual floods, Alabama River near Millers Ferry, Ala.

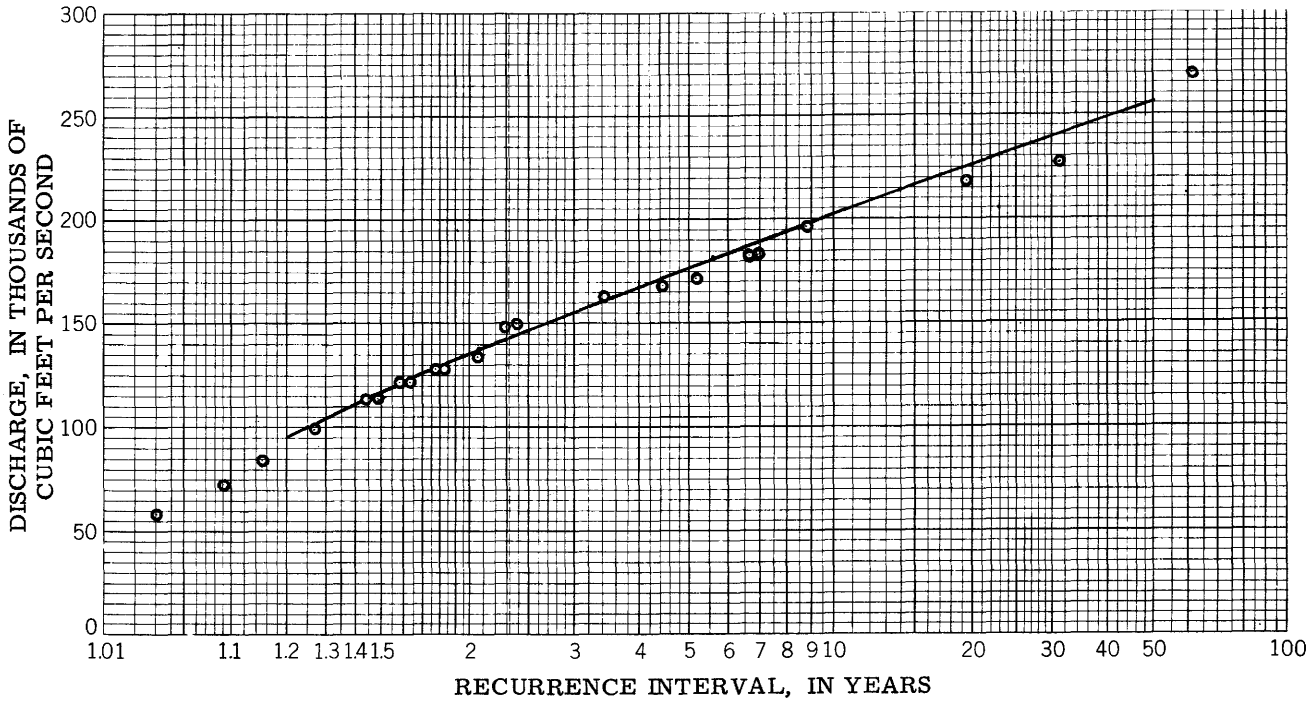


Figure 25.--Frequency of annual floods, Alabama River at Claiborne, Ala.

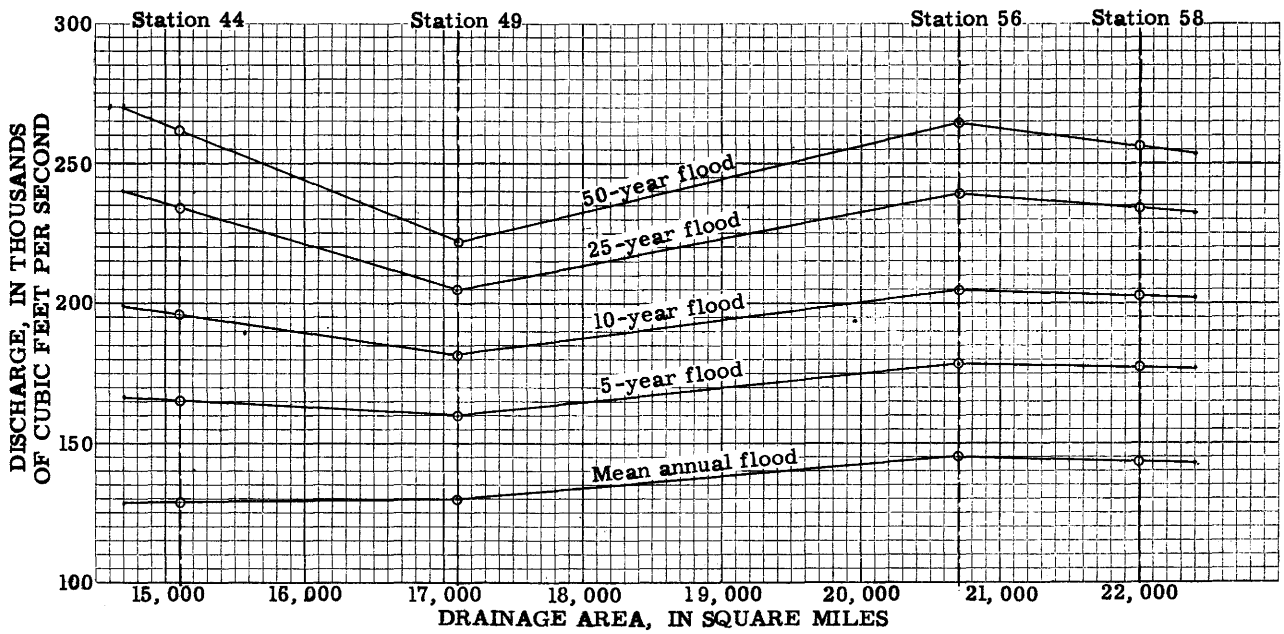


Figure 26.--Relation of selected flood frequencies to drainage area, Alabama River main stem.

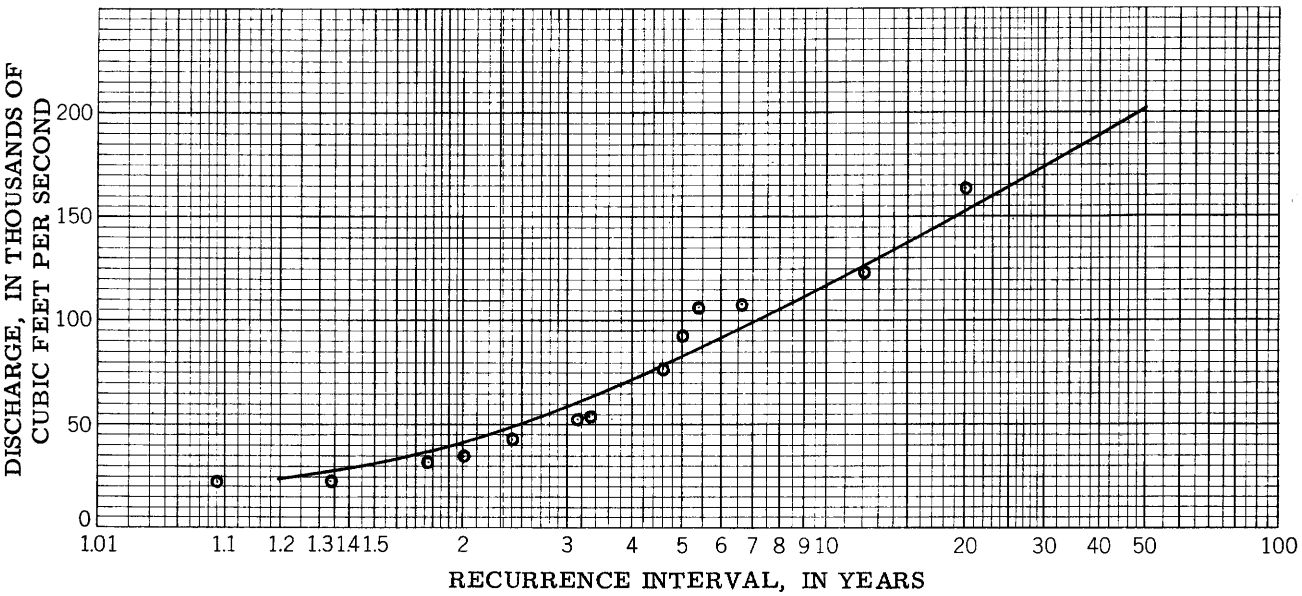


Figure 27.--Frequency of annual floods, Tombigbee River near Cochrane, Ala.

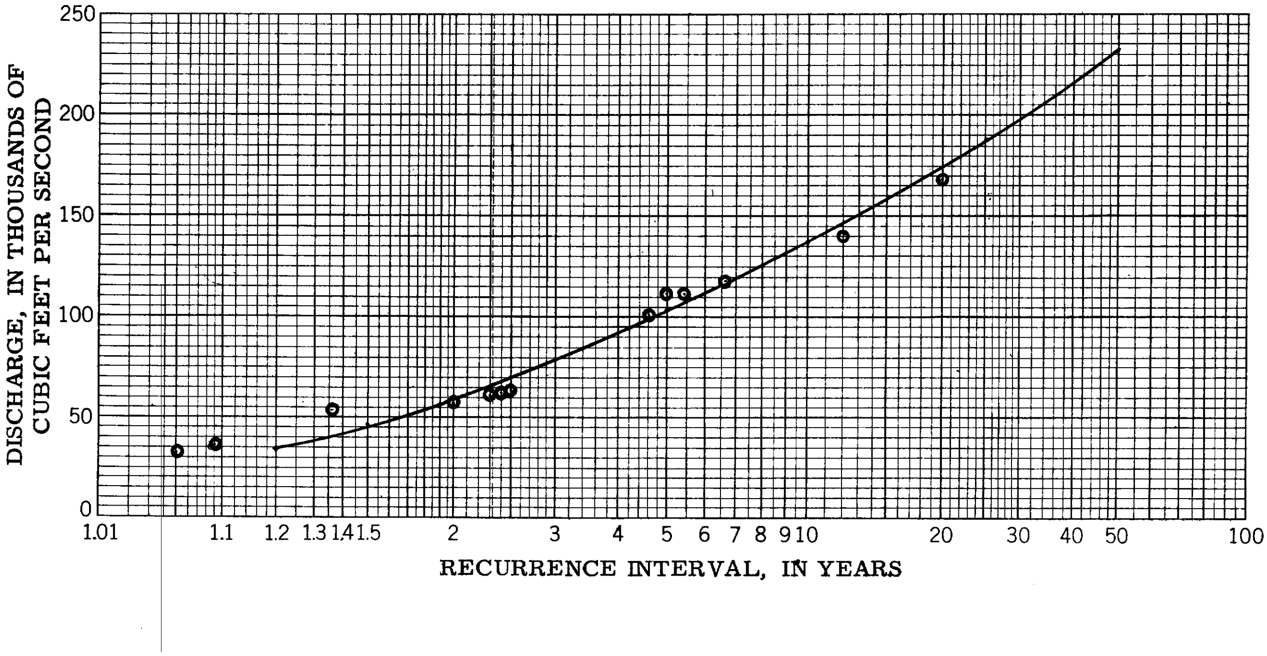


Figure 28.--Frequency of annual floods, Tombigbee River at Gainesville, Ala.

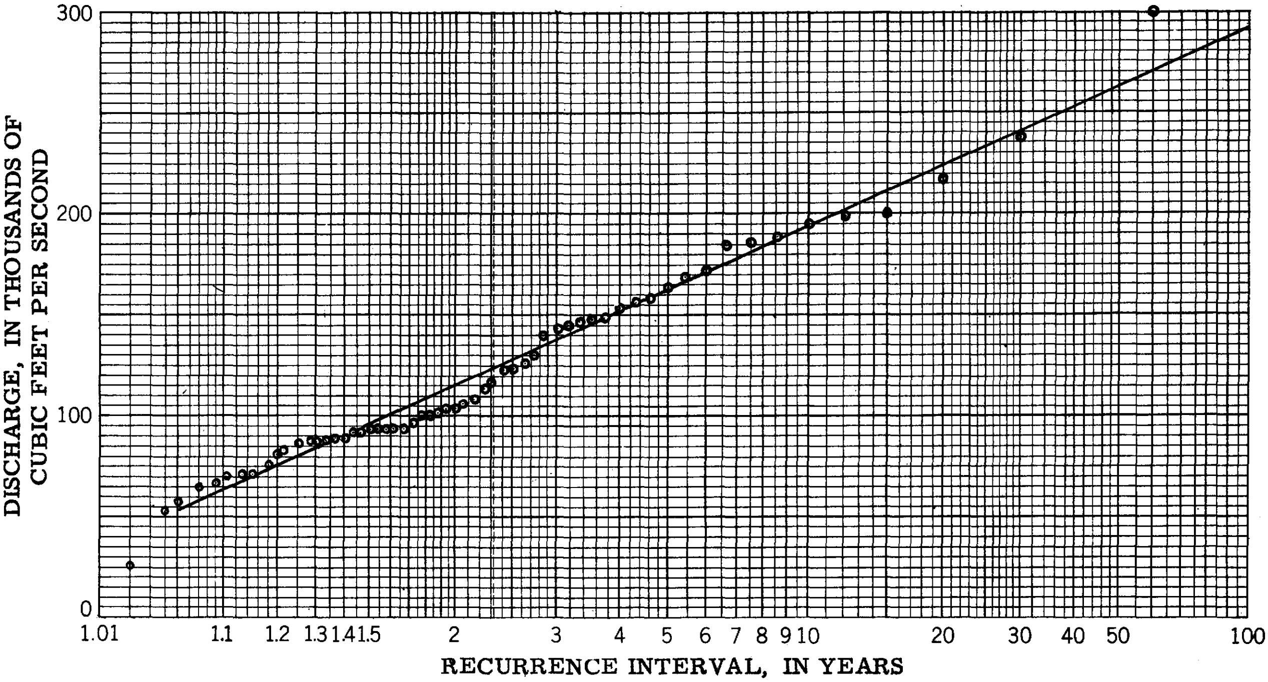


Figure 29.--Frequency of annual floods, Tombigbee River near Coatopa, Ala.

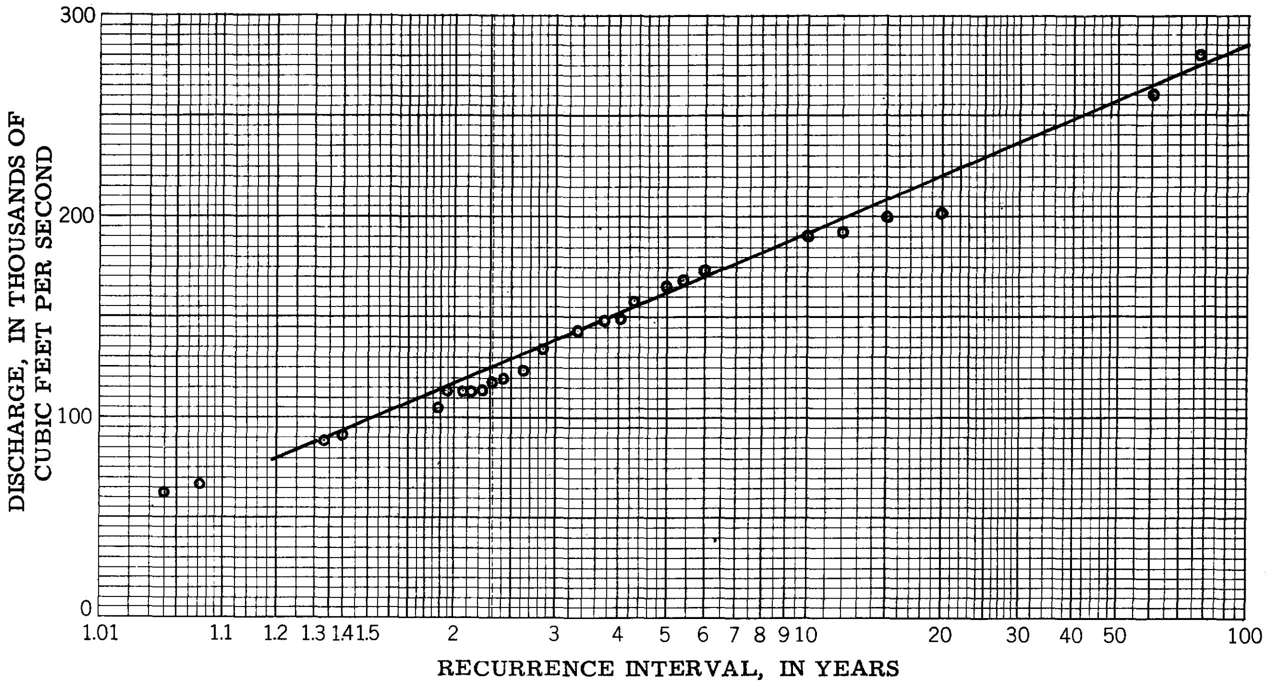


Figure 30.--Frequency of annual floods, Tombigbee River near Leroy, Ala.

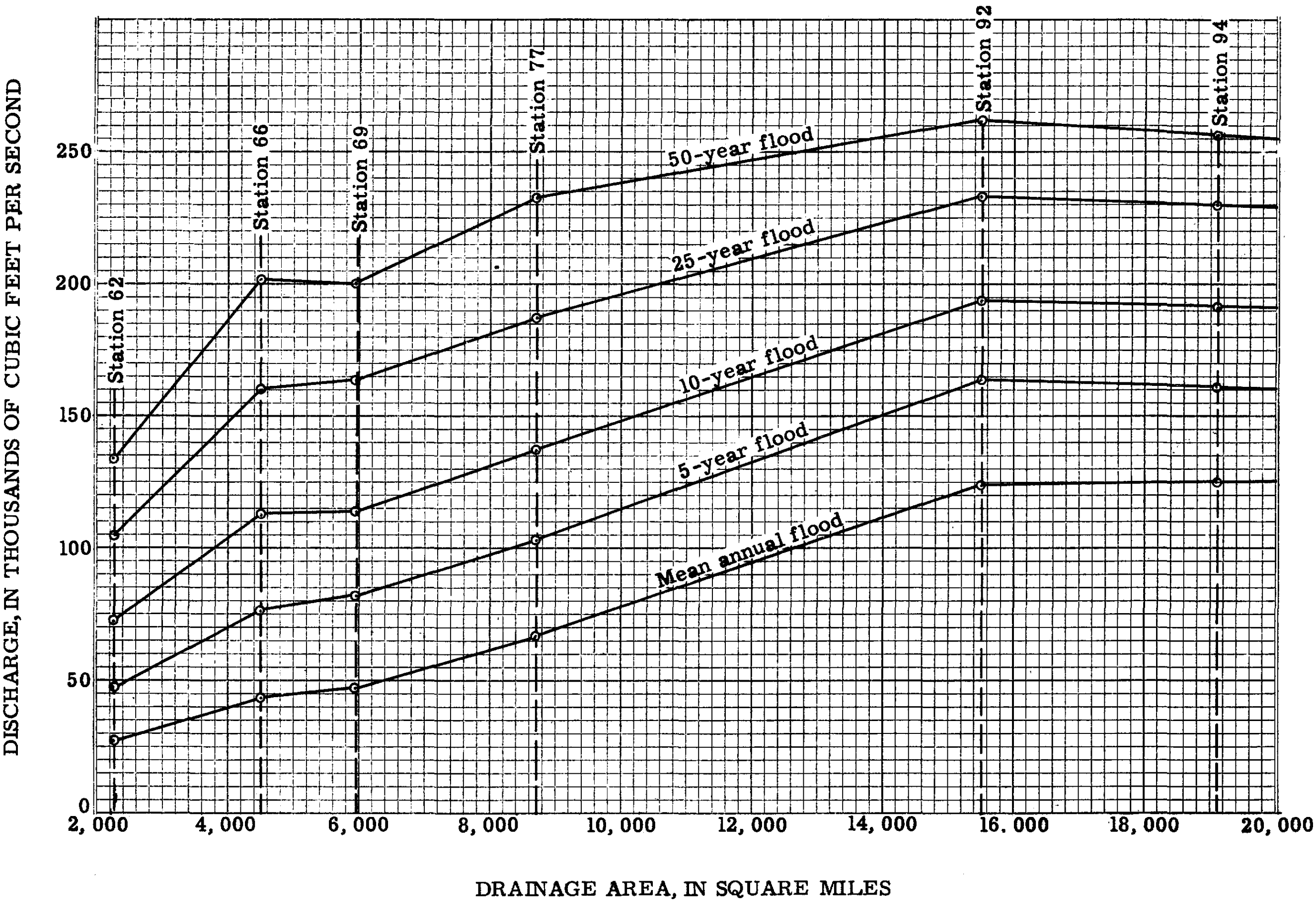


Figure 31.--Relation of selected flood frequencies to drainage area, Tombigbee River main stem.

Table 3.--Data for base gaging stations on main stem Alabama River

Index no.	Station	Drainage area (sq mi)	Period of record	Mean annual flood (cfs), 1891-1951
44	Near Montgomery, Ala --	15,000	1891-1951	128,000
49	At Selma, Ala ---------	17,100	1891-1951	131,000
56	Near Millers Ferry, Ala	20,700	1929-51	145,000
58	At Claiborne, Ala -----	22,000	1929-51	143,000

Table 4.--Data for base gaging stations on main stem Tombigbee River

Index no.	Station	Drainage area (sq mi)	Period of record	Mean annual flood (cfs), 1893-1951
62	At Aberdeen, Miss ---	2,210	1929-51	25,300
66	At Columbus, Miss ---	4,490	1929-51	44,300
69	Near Cochrane, Miss -	5,990	1939-51	47,000
77	At Gainesville, Ala -	8,700	1938-51	67,000
92	Near Coatopa, Ala ---	15,500	1893-1951	124,000
94	Near Leroy, Ala -----	19,100	1929-51	125,000

Black Warrior River

Flood-frequency curves for the two gaging stations on the Black Warrior River (89, 90) are shown in figures 32 and 33 (p.30-31). The curves are based on the period 1929-51. Records of annual peak stages extending back to 1889 are available at station 89; but, because of the nature of the stage-discharge relationship, records of stage cannot be converted into discharge with any assurance before 1929.

Figure 34 (p. 31) is an interpolation diagram from which the discharges for floods having recurrence intervals of 2.33 (mean annual flood), 5, 10, 25, and 50 years may be directly determined for any point along the Black Warrior from the confluence of Locust and Mulberry Fork to the junction with the Tombigbee River at Demopolis, Ala. Dashed parts of the curves in figure 34 represent extensions beyond the plotted data, based on the assumption that flood ratios defined at station 89 are also applicable upstream and that those defined at station 90 are also applicable downstream.

The difference in shape of the flood-frequency curves for stations 89 and 90 is apparent at first glance. A difference in flood-frequency characteristics at the two stations is even more clearly revealed by figure 34, which shows that for a given recurrence interval, floods have higher peak discharges at station 89 than farther downstream at station 90. This behavior of the Black Warrior River suggests a marked change, between stations 89 and 90, of secondary basin characteristics having their greatest influence on minor

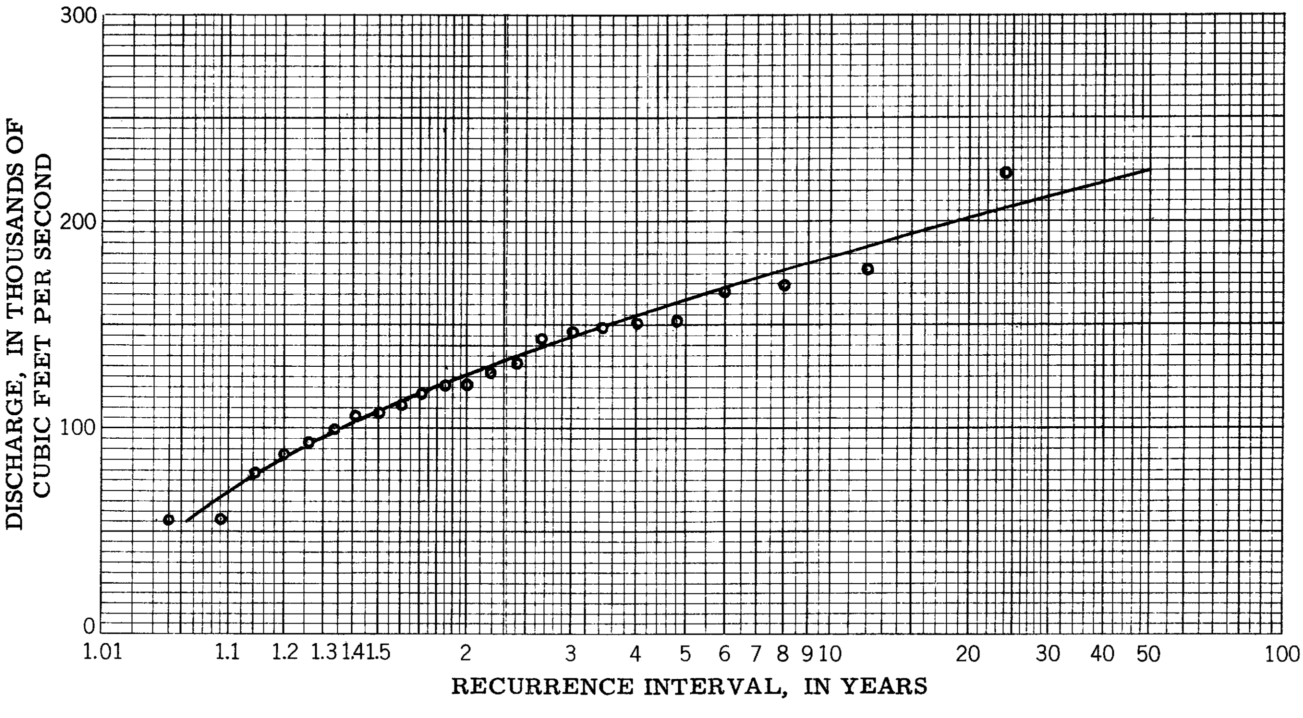


Figure 32.--Frequency of annual floods, Black Warrior River at Tuscaloosa, Ala.

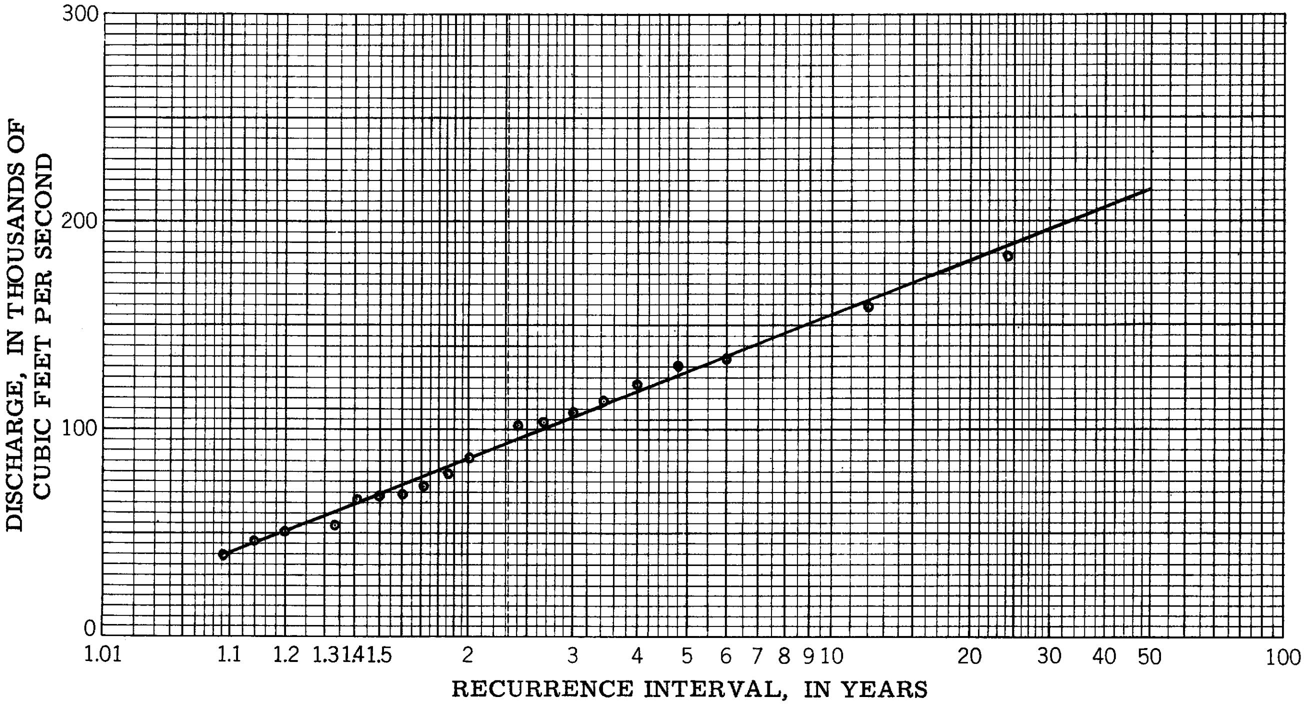


Figure 33.--Frequency of annual floods, Black Warrior River near Eutaw, Ala.

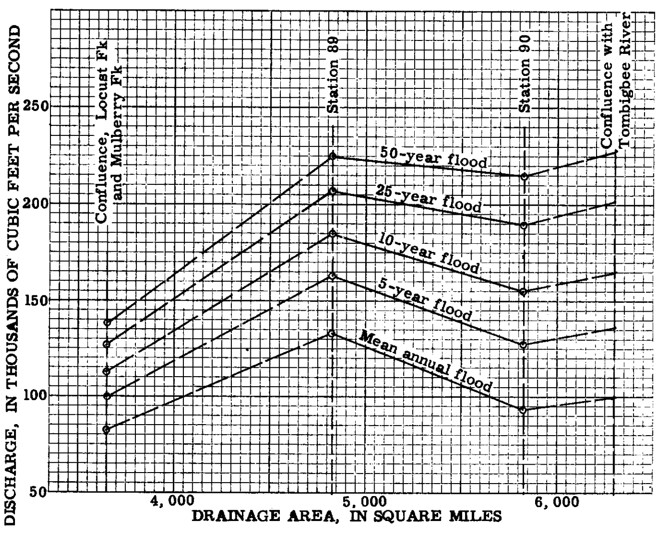


Figure 34.--Relation of selected flood frequencies to drainage area, Black Warrior River main stem.

floods. A study of the basin discloses that a marked physical change does, in fact, take place.

Above station 89 at Tuscaloosa, the Black Warrior River occupies a relatively narrow channel confined by steep hillsides or nearby perpendicular rock bluffs. The bed of the stream is generally of sandstone which, before the installation of the navigation dams, formed a succession of pools separated by steep shallow rock shoals with each shoal having a fall of from a few inches to 19 feet. From the confluence of Locust Fork and Mulberry Fork to Tuscaloosa--a distance of 46½ miles--the stream bed has a fall of 128.5 feet, or an average of 2.8 feet per mile. At Tuscaloosa the slope changes sharply, and fall from Tuscaloosa to the mouth is 58.5 feet in 130½ miles, or an average of 0.45 feet per mile. Below Tuscaloosa, the river enters the Coastal Plain and flows through a broad alluvial valley. The banks are low and subject to wide overflow so that the opportunity for channel storage is tremendously increased.

Data pertaining to gaging-station records used in the analysis of the Black Warrior main stem are given in table 5.

Chattahoochee River

Carter (1951, p. 35) found that the main stem of the Chattahoochee below Norcross, Ga., was sufficiently homogeneous in flood-frequency characteristics so that the gaging-station data (stations 1-4) could be averaged to form a composite frequency curve. The curves of figures 35 and 36 (p. 32), based on Carter's data for the period 1892-1949, may be used to determine the discharge for a flood of any recurrence interval between 1.1 and 50 years at any point on the Chattahoochee River along the Alabama-Georgia State line. The

Table 5.--Data for base gaging stations on main stem Black Warrior River

Index no.	Station	Drainage area (sq mi)	Period of record	Mean annual flood (cfs), 1929-51
89	At Tuscaloosa, Ala --	4,830	1929-51	134,000
90	Near Eutaw, Ala -----	5,820	1932-51	94,500

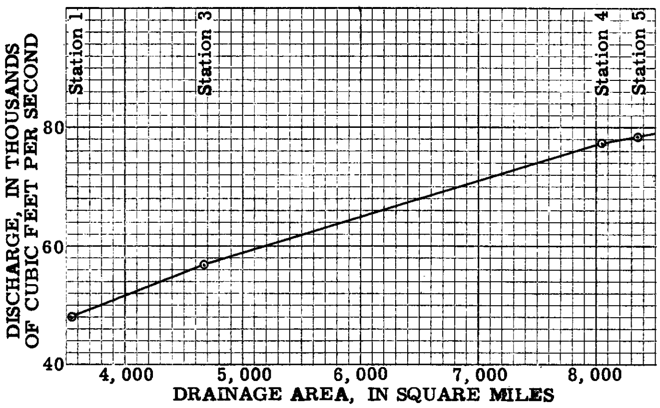


Figure 35.--Variation of mean annual flood with drainage area, Chattahoochee River main stem.

procedure is as follows:

1. Determine the drainage area above the selected site in square miles.

2. From figure 35, determine the mean annual flood for that drainage area.

3. From figure 36, determine the ratio to mean annual flood for the selected recurrence interval.

4. Multiply the mean annual flood by the flood ratio to obtain the desired discharge.

If desired, a complete frequency curve may be defined by plotting discharge determined in the above manner for a number of different recurrence intervals.

Data pertaining to gaging-station records used in the analysis of the Chattahoochee River main stem are given in table 6.

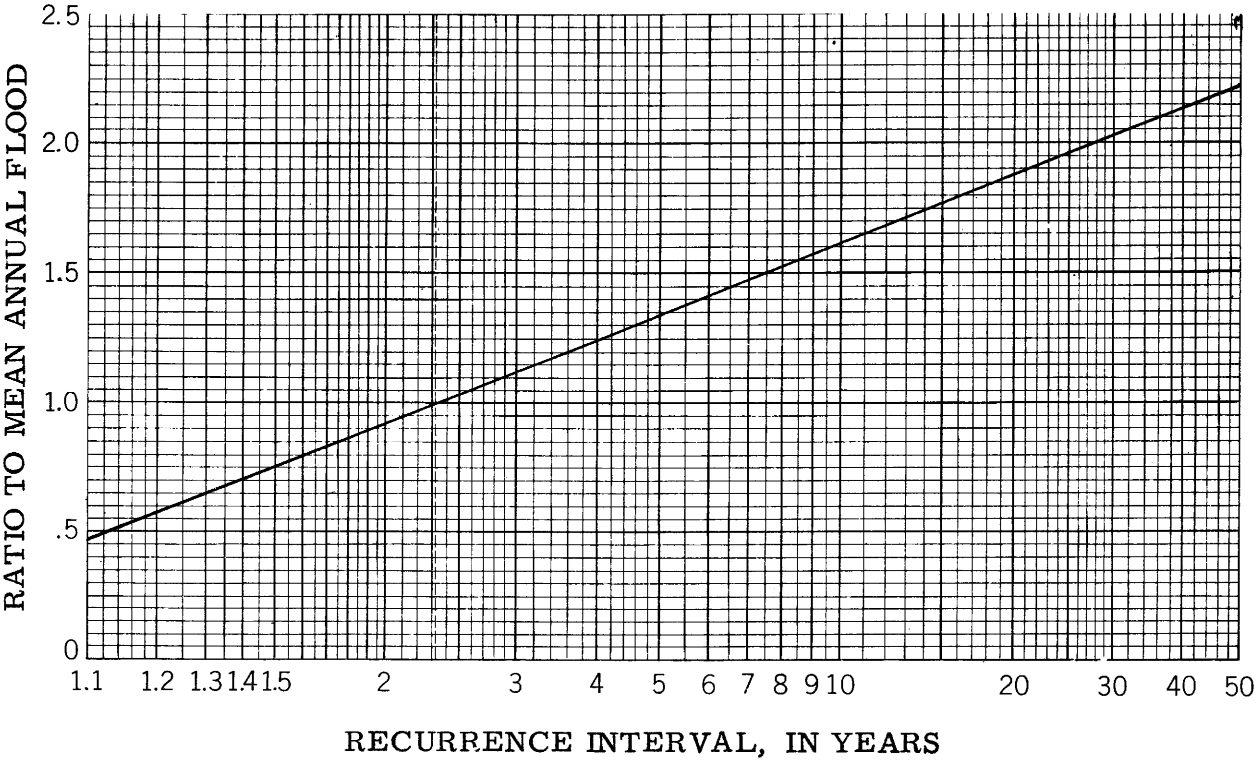


Figure 36.--Composite flood-frequency curve, Chattahoochee River main stem below Norcross, Ga.

Table 6.--Data for base gaging stations on main stem Chattahoochee River

Index no.	Station	Drainage area (sq mi)	Period of record	Mean annual flood (cfs), 1892-1949
1	At West Point, Ga ----	3,550	1897-1949	48,000
2	At Columbus, Ga ------	4,670	1929-51	66,800
3	At Columbia, Ala -----	8,040	1929-51	77,500
4	At Alaga, Ala --------	8,340	1905-48	78,500

SUMMARY OF PROCEDURE FOR ESTIMATING FLOOD MAGNITUDES OF SELECTED FREQUENCY

Alabama has three recognizable "flood regions" for which there have been developed composite frequency curves expressing flood magnitudes as ratios to the mean annual flood. These regional frequency curves, covering recurrence intervals from 1.05 to 50 years, are shown in figure 37, and the regions to which they apply in figure 7 (p. 12). To estimate the mean annual flood on "tributary" streams (in general, those draining less than 3,000 square miles), the State has been divided into 10 "hydrologic areas" in each of which the mean annual flood has been expressed as a function of drainage area. The curves of relation between mean annual flood and drainage area in these areas are shown collectively in figure 38 (p. 34); the areas themselves are outlined on plate 1.

Flood estimates for tributary streams

The following procedure is used to estimate the flood magnitude for any selected recurrence interval from about 1 to 50 years at a particular site on a tributary stream:

1. Determine the drainage area above the site in square miles.

2. Determine from plate 1 the hydrologic area in which the stream lies.

3. Determine the mean annual flood from figure 38 (p. 34), using the hydrologic area determined in step 2. If the site is at or near a gaging station, the mean annual flood as listed in table 2 may be utilized if desired.

4. Determine from plate 1 in which flood region **(outlined in red) the stream lies.**

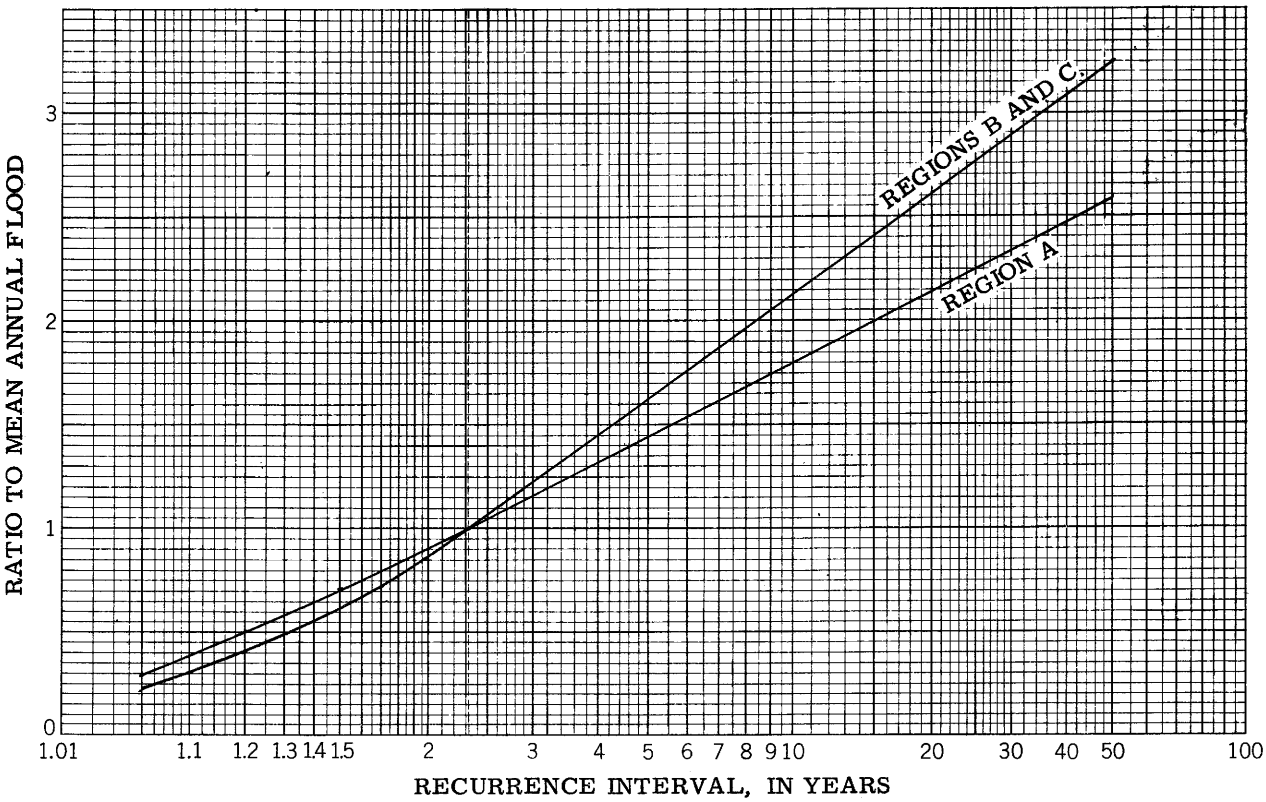


Figure 37.--Composite frequency curves for flood regions of Alabama.

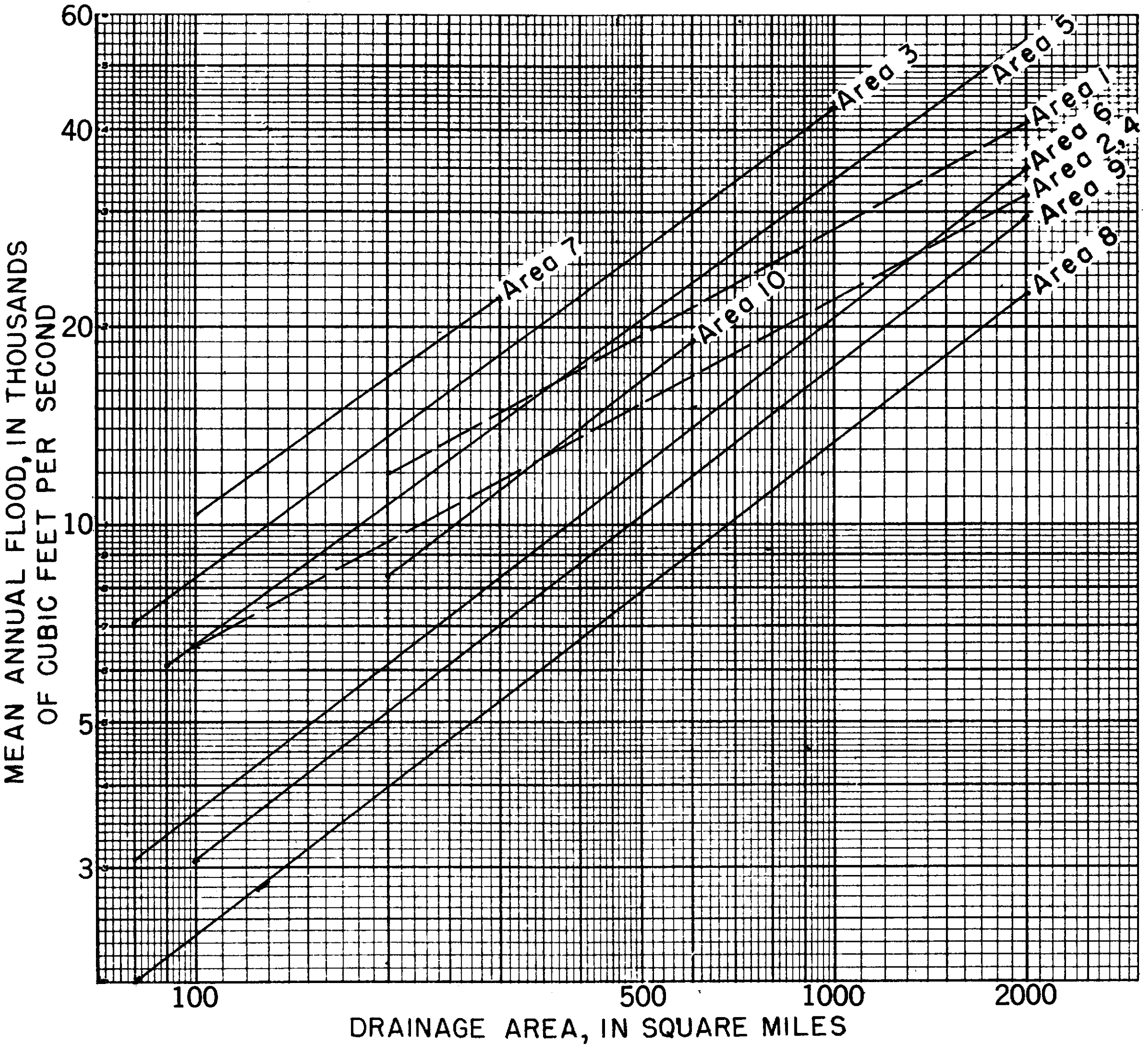


Figure 38.--Summary of curves showing relation of mean annual flood to drainage area for tributary streams in Alabama.

5. Determine from figure 37 (p. 33) the flood ratio for the desired recurrence interval, using the curve for the region determined in step 4. (Flood ratios for recurrence intervals commonly used for design of structures may be obtained directly from table 7.

6. Multiply the mean annual flood by the flood ratio to obtain the desired discharge.

If desired, a complete frequency graph may be defined by plotting values determined in the above manner for a number of different recurrence intervals.

Flood estimates for major rivers

Individual flood-frequency curves have been prepared for determining flood magnitudes and frequencies on the major rivers at gaging station sites. At other points on the major rivers, flood magnitudes and frequencies can be obtained by interpolating between gaging stations, using drainage area as a parameter. Interpolation diagrams are presented from which flood discharges for recurrence intervals commonly used for design of structures can be directly obtained. For ready reference, the flood-frequency curves and interpolation diagrams applicable to the various major rivers are listed in table 8.

MAXIMUM FLOODS KNOWN

Maximum known flood stages and discharges of Alabama streams are shown in table 9 (p. 36); the data are arranged in alphabetical order by river basins and streams. Discharges are given both in cubic feet per second (cfs) and in cubic feet per second per square mile; where possible, stages are given as elevation in feet above the zero of the gage (gage height) and above mean sea level. Nearly all the tabulated discharges represent the maximum occurring during the period of record at a gaging station. At some gaging stations, a greater flood of undetermined discharge is known to have occurred outside the period of station record. For these, the stage of the historic flood is also included in the table.

Table 7.--Flood ratios on tributary streams for selected recurrence intervals

Recurrence interval (years)	Ratio to mean annual flood	
	Region A	Regions B and C
5	1.45	1.62
10	1.80	2.13
25	2.25	2.77
50	2.58	3.25

Data in table 9 are portrayed graphically in figure 39, which shows the tabulated discharges per square mile arrayed against drainage area. Figure 39 is useful for a general comparison of individual peak discharges with the peak floods experienced in Alabama.

Table 8.--Index of text figures to be used for determining flood frequency on major rivers

River	Flood-frequency curves for gaging stations	Interpolation diagram
Coosa-------------	Figs. 17-20 (p. 22-23)	Fig. 21 (p. 24)
Alabama-----------	Figs. 22-25 (p. 24-26)	Fig. 26 (p. 26)
Tombigbee---------	Figs. 27-30 (p. 27-28)	Fig. 31 (p. 29)
Black Warrior------	Figs. 32, 33 (p. 30-31)	Fig. 34 (p. 31)
Chattahoochee------	Fig. 36 (p. 32)	Fig. 35 (p. 32)

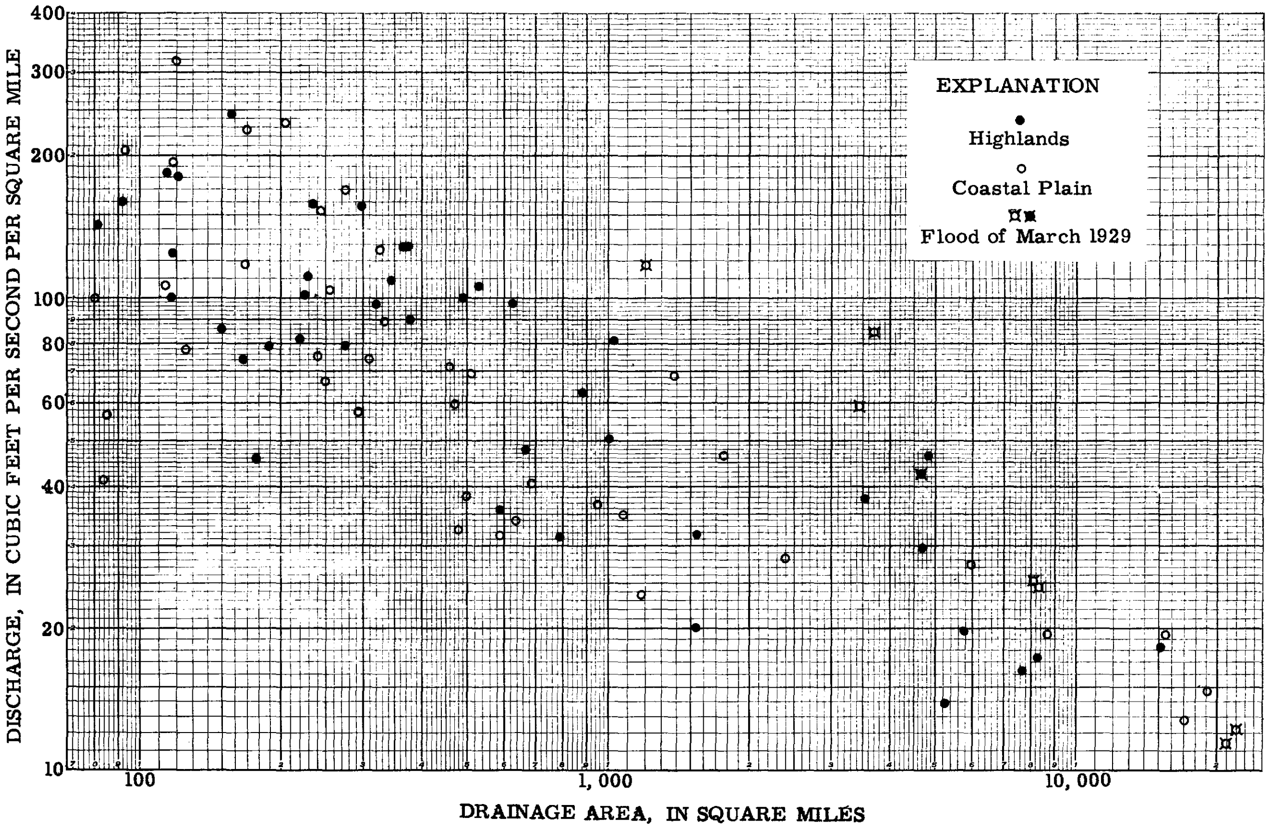


Figure 39.--Unit discharge versus drainage area for maximum known discharge in Alabama.

Table 9.--Maximum stages and discharges

[Locations preceded by an asterisk (*) are at highway bridge in section indicated]

Index no.	Stream and place of determination	Drainage area (square miles)	Period of known floods	Maximum stage and discharge: Date	Gage height (feet)	Elevation above mean sea level (feet)	Discharge: Cfs	Discharge: Cfs per square mile
	Apalachicola River Basin							
(*)	Abbie Creek near Abbieville, Ala., sec. 26, T. 6 N., R. 28 E.	129	---------	1928	--	195.8	---	--
4	Chattahoochee River at Alaga, Ga.	8,340	1827-1951	Mar. 18, 1929	46.0	111.2	207,000	24.8
3	Chattahoochee River at Columbia, Ala.	8,040	---do----	-----do------	56.0	129.0	203,000	25.2
2	Chattahoochee River at Columbus, Ga.	4,670	---do----	Mar. 15, 1929	[a]53.2	238.3	198,000	42.4
1	Chattahoochee River at West Point, Ga.	3,550	1886-1951	Dec. 10, 1919	30.0	581.7	134,000	37.7
	Choctawhatchee River Basin							
10	Choctawhatchee River at Careyville, Fla.	3,490	1929-51	Mar. 17, 1929	27.1	66.1	206,000	59.0
6	Choctawhatchee River near Newton, Ala.	693	------- 1922-27, 1930-51	Mar. 15, 1929 Jan. 17, 1925	45 28.0	184 166.6	--- 28,000	-- 40.4
(*)	Choctawhatchee River near Pinckard, Ala., sec. 27, T. 5 N., R. 25 E.	306	1900-51	March 1929	--	190.4	---	--
8	Pea River at Elba, Ala.	952	------- 1936-51	-----do------ Mar. 17, 1938	43.5 35.0	202.7 194.2	--- 35,000	-- 36.8
7	Pea River near Ariton, Ala.	500	------- 1939-51	March 1929 Mar. 22, 1943	25 20.0	272 266.7	--- 19,100	-- 38.2
9	Pea River near Samson, Ala.	1,170	------- 1936-51	Mar. 15, 1929 Jan. 22, 1936	45.3 37.2	143.2 135.2	--- 27,800	-- 23.8
5	West Fork Choctawhatchee River at Blue Springs, Ala.	85	1944-51	Mar. 29, 1944	9.1	298.3	4,820	56.7
	Escambia River Basin							
13	Conecuh River at Brantley, Ala.	485	------- 1938-51	March 1929 Nov. 29, 1948	26 23.0	252 249.2	--- 15,800	-- 32.6
(*)	Conecuh River at Dozier, Ala. sec. 16, T. 6 N., R. 17 E.	578	-------	March 1929	--	215.7	---	--
(*)	Conecuh River at River Falls, Ala., sec. 2, T. 4 N., R. 15 E.	1,260	-------	-----do------	--	173.3	---	--
15	Conecuh River near Andalusia, Ala.	1,300	1905-51	Mar. 15, 1929	47.6	154.4	154,000	118
18	Conecuh River near Brooklyn, Ala.	2,400	------- 1936-51	March 1929 Dec. 1, 1948	47 38.6	124 115.6	--- 67,300	-- 28.0
12	Conecuh River near Troy, Ala.	240	1944-51	Nov. 28, 1948	16.1	--	18,000	75.0
20	Escambia Creek at Flomaton, Ala.	325	------- 1938-51	March 1929 Sept.27, 1939	25.9 19.3	78.3 71.7	--- 41,400	-- 127
21	Escambia River near Century, Ala.	3,700	1929-51	March 1929	37.8	66.1	315,000	85.1
19	Murder Creek near Evergreen, Ala.	169	------- 1938-51	-----do------ Mar. 16, 1938	26.6 16.6	204.9 194.9	--- 20,000	-- 118
14	Patsaliga Creek at Luverne, Ala.	250	1944-51	Nov. 28, 1948	16.8	284.3	16,700	66.8
-	Pigeon Creek at Huggins Mill near Cohasset, Ala., sec. 11, T. 5 N., R. 13 E.	344	-------	March 1929	--	168.3	---	--
17	Pigeon Creek near Thad, Ala.	296	------- 1938-51	-----do------ Nov. 29, 1948	30 27.1	203 199.7	--- 17,100	-- 57.8
(*)	Sepulga River at Brooklyn, Ala., sec. 33, T. 4 N., R. 13 E.	1,000	-------	March 1929	--	138.8	---	--
(*)	Sepulga River near Cohasset, Ala., sec. 11, T. 5 N., R. 13 E.	510	-------	-----do------	--	172.8	---	--
16	Sepulga River near McKenzie, Ala.	470	------- 1938-51	-----do------ Mar. 17, 1938	33 24.5	189 180.5	--- 28,100	-- 59.8

a Occurred on following day.

Table 9.--Maximum stages and discharges--Continued

Index no.	Stream and place of determination	Drainage area (square miles)	Period of known floods	Maximum stage and discharge: Date	Gage height (feet)	Elevation above mean sea level (feet)	Discharge: Cfs	Cfs per square mile
	Mobile River Basin							
58	Alabama River at Claiborne, Ala.	22,000	1929-51	Mar. 25, 1929	54.6	55.0	270,000	12.3
49	Alabama River at Selma, Ala.	17,100	1886-1951	Apr. 8, 1886	57.0	118.8	220,000	12.9
56	Alabama River near Millers Ferry, Ala.	20,700	1929-51	March 1929	56.8	83.6	238,000	11.5
44	Alabama River near Montgomery, Ala.	15,100	1886-1951	Apr. 1, 1886 Mar. 30, 1888	62.7 60.6	160.6 158.5	--- 274,000	-- 18.1
45	Autauga Creek at Prattville, Ala.	119	1919-51	Dec. 9, 1919	18.8	183.2	23,000	193
(*)	Big Creek near Greensboro, Ala., sec. 15, T. 21 N., R. 4 E.	125	-------	March 1951	--	150.0	---	--
32	Big Canoe Creek near Gadsden, Ala.	238	1938-51	Dec. 29, 1942	29.1	519.7	37,900	159
46	Big Swamp Creek near Hayneville, Ala.	122	1939-48	Nov. 27, 1948	14.7	179.0	39,000	320
(*)	Big Swamp Creek near Letohatchee, Ala., sec. 11, T. 13 N., R. 15 E.	43	1939-51	-----do------	--	210.0	---	--
47	Big Swamp Creek near Lowndesboro, Ala.	242	1941-51	-----do------	21.3	149.2	37,000	153
-	Big Wills Creek near Crudup, Ala.	189	------- 1943-51	1884 Mar. 29, 1951	16.3 14.5	-- --	--- 14,800	-- 78.3
89	Black Warrior River at Tuscaloosa, Ala.	4,830	1889-1951 1901-51	Apr. 18, 1900 Mar. 29, 1951	67.7 66.0	151.0 148.1	--- 223,000	-- 46.2
90	Black Warrior River near Eutaw, Ala.	5,820	1932-51	Apr. 1, 1951	59.1	112.2	183,000	31.4
83	Blackwater Creek near Manchester, Ala.	177	1939-51	Jan. 9, 1946	11.5	412.5	8,050	45.5
54	Boguechitto Creek near Browns, Ala.	93	1942-51	Dec. 28, 1942	20.7	150.1	19,000	204
55	Boguechitto Creek near Orrville, Ala.	276	---do--	Dec. 29, 1942	29.4	120.5	47,000	170
59	Bull Mountain Creek at Tremont, Miss.	120	1941-51	Mar. 29, 1951	9.6	327.0	13,500	112
65	Buttahatchee River near Caledonia, Miss.	823	------- 1929-32, 1940-51	July 1916 Jan. 6, 1949	22.6 18.6	221.2 217.2	--- 30,800	-- 37.4
63	Buttahatchee River near Hamilton, Ala.	308	1942-51	-----do------	28.4	362.2	22,800	74.0
64	Buttahatchee River near Sulligent, Ala.	460	1939-51	Jan. 8, 1946	15.5	303.1	33,000	71.7
51	Cahaba River at Centerville, Ala.	1,030	1902-51	Mar. 29, 1951	34.8	215.5	83,600	81.2
52	Cahaba River at Sprott, Ala.	1,380	1938-51	Apr. 9, 1938	28.6	158.1	95,000	68.8
50	Cahaba River near Acton, Ala.	229	1939-51	Dec. 28, 1942	44.2	419.2	25,500	111
53	Cahaba River near Marion Junction, Ala.	1,780	---do--	Aug. 16, 1939	43.0	129.7	83,400	46.9
-	Calebee Creek near Tuskegee, Ala., sec. 11, T. 16 N., R. 22 E.	120	-------	March 1943	--	242.0	--	--
26	Chattooga River at Gaylesville, Ala.	377	1938-51	Mar. 30, 1951	25.2	574.8	33,700	89.4
33	Choccolocco Creek near Jenifer, Ala.	275	1904-07, 1930-51	Feb. 4, 1936	17.2	571.4	21,900	79.6
34	Choccolocco Creek near Lincoln, Ala.	491	------- 1939-51	1886 Mar. 29, 1951	27.5 25.5	-- 474.0	--- 49,300	-- 100
80	Clear Creek at Falls City, Ala.	151	1940-51	Jan. 8, 1946	11.0	--	13,000	86.1
37	Coosa River at Childersburg, Ala.	8,390	1915-51	Mar. 30, 1951	30.1	412.6	146,000	17.4
30	Coosa River at Gadsden, Ala.	5,800	1886-1951	1886	37.9	523.9	115,000	19.8
28	Coosa River at Leesburg, Ala.	5,270	1938-51	Jan. 24, 1947	35.1	552.9	73,200	13.9
35	Coosa River near Cropwell, Ala.	7,690	1942-51	Mar. 30, 1951	23.7	444.4	126,000	16.4
57	Flat Creek at Fountain, Ala.	253	1944-51	Nov. 27, 1948	23.2	--	26,000	103
38	Hatchet Creek near Rockford, Ala.	225	1945-51	Jan. 6, 1946	24.9	--	22,800	101

Table 9.--Maximum stages and discharges--Continued

Index no.	Stream and place of determination	Drainage area (square miles)	Period of known floods	Maximum stage and discharge: Date	Gage height (feet)	Elevation above mean sea level (feet)	Discharge: Cfs	Discharge: Cfs per square mile
	Mobile River Basin--Continued							
27	Little River near Jamestown, Ala.	121	1929-51	Nov. 28, 1948	12.9	1,190.3	21,800	180
(*)	Little Lubbub Creek near Carrollton, Ala., sec. 13, T. 21 S., R. 1 W.	20	-------	March 1951	--	193.0	---	--
41	Little Tallapoosa River near Wedowee, Ala.	592	------- 1940-51	1919 Nov. 28, 1948	23 20.8	-- --	--- 20,800	-- 35.1
87	Locust Fork at Sayre, Ala.	885	1929-32, 1942-51	Jan. 7, 1949	47.9	306.5	55,300	62.5
85	Locust Fork at Trafford, Ala.	622	-------	1908	60	--	---	--
84	Locust Fork near Cleveland, Ala.	300	1937-51	Dec. 28, 1942	19.2	556.1	47,000	157
(*)	Lost Creek near Jasper, Ala., sec. 21, T. 14 S., R. 8 W.	116	-------	Mar. 29, 1951	24.8	--	[b]11,600	100
(*)	Lubbub Creek near Carrollton, Ala., sec. 2, T. 21 S., R.1 W.	112	-------	March 1951	--	190.0	---	--
(*)	Lubbub Creek near Carrollton, Ala., sec. 27, T. 21 S., R. 1 W.	-	-------	-----do------	--	169.5	---	--
(*)	Lubbub Creek near Reform, Ala., sec. 8, T. 20 S., R. 14 W.	80	-------	-----do------	--	--	[c]8,000	100
68	Luxapalila Creek at Steens, Miss.	309	1944-51	Jan. 6, 1949	19.2	198.6	16,000	51.8
67	Luxapalila Creek near Fayette, Ala.	127	1940-51	Jan. 5, 1949	13.8	336.1	9,910	78.0
78	Mulberry Fork near Garden City, Ala.	365	1929-51	Feb. 4, 1936	24.0	404.5	46,600	128
48	Mulberry River at Jones, Ala.	205	1938-51	April 1938	33.6	198.8	48,000	234
(*)	New River near Winfield, Ala., sec. 10, T. 13 S., R. 11 W.	58	-------	Mar. 29, 1951	23.2	--	[c]6,900	119
88	North River near Samantha, Ala.	220	------- 1939-51	July 1916 February 1936 Mar. 29, 1951	31 31 30.7	-- -- 263.1	--- --- 18,000	-- -- 81.8
76	Noxubee River near Geiger, Ala.	1,080	1940, 1945-51	Mar. 31, 1951	42.7	128.8	37,600	34.8
91	Prairie Creek near Gallion, Ala.	170	1940-51	Dec. 28, 1942	19.3	--	39,000	229
81	Sipsey Fork near Arley, Ala.	537	1936-51	Jan. 8, 1946	62.1	--	57,000	106
79	Sipsey Fork near Falls City, Ala.	375	1944-51	-----do------	29.6	--	48,400	129
82	Sipsey Fork near Sipsey, Ala.	1,020	-------	March 1900	62	--	---	--
70	Sipsey River at Fayette, Ala.	275	1939-51	Jan. 8, 1946 Jan. 7, 1950, Mar. 29, 1951	21.8 21.2	318.5 317.9	--- 20,500	-- 74.5
71	Sipsey River at Moores Bridge, Ala.	406	---do--	Jan. 10, 1946	16.8	257.8	23,600	58.1
72	Sipsey River near Elrod, Ala.	515	1929-32, 1940-51	Jan. 9, 1950, Mar. 31, 1951	18.1	215.9	21,000	40.8
73	Sipsey River near Pleasant Ridge, Ala.	766	1939-51	Apr. 2, 1951	25.5	130.6	21,900	28.6
93	Sucarnoochee River at Livingston, Ala.	635	---do--	Mar. 30, 1951	27.6	117.6	21,500	33.9
36	Talladega Creek at Alpine, Ala.	158	---do--	Mar. 29, 1951	16.6	447.8	39,000	247
42	Tallapoosa River at Wadley, Ala.	1,660	1924-51	Feb. 5, 1936	27.9	629.2	52,800	31.8
(*)	Tallapoosa River near Montgomery, Ala., sec. 18, T. 17 N., R. 19 E.	4,680	1886-1951	1886 and March 1929	--	169	[d]140,000	29.9
39	Tallapoosa River near Ofelia, Ala.	787	--------- 1939-51	December 1919 Nov. 29, 1948	21 16.2	-- --	--- 24,500	-- 31.1
29	Terrapin Creek near Piedmont, Ala.	115	1945-51	Nov. 28, 1948	13.3	--	21,000	183
(*)	Tombigbee River at Coffeeville, Ala., sec. 17, T. 9 N., R. 1 W.	18,500	1874-1951	May 1874	--	52	---	--

See footnotes at end of facing page.

Table 9.--Maximum stages and discharges--Continued

Index no.	Stream and place of determination	Drainage area (square miles)	Period of known floods	Maximum stage and discharge				
				Date	Gage height (feet)	Elevation above mean sea level (feet)	Discharge	
							Cfs	Cfs per square mile
	Mobile River Basin--Continued							
77	Tombigbee River at Gainesville, Ala.	8,700	1937-51	Jan. 11, 1949	53.9	117.2	168,000	19.3
92	Tombigbee River near Coatopa, Ala	15,500	1893-1951	Apr. 22, 1900	--	--	300,000	19.4
69	Tombigbee River near Cochrane, Ala.	5,990	--------- 1939-51	April 1892 Jan. 9, 1949	50.2 46.9	140.0 136.8	--- 163,000	-- 27.2
94	Tombigbee River near Leroy, Ala.	19,100	1874-1951	May 1874	51.8	44.5	280,000	14.6
86	Turkey Creek at Morris, Ala.	81	1942-51	Nov. 28, 1948	23.1	368.2	11,600	143
43	Uphapee Creek near Tuskegee, Ala.	331	------- 1940-51	1929 Mar. 21, 1943	30 27.3	254 250.9	--- 29,600	-- 89.4
	Pascagoula River Basin							
(*)	Big Creek near Mobile, Ala., sec. 1, T. 4 S., R. 4 W.	84	1945-51	July 12, 1950	17.5	--	[b]3,460	41.2
95	Escatawpa River near Wilmer, Ala.	506	1946-51	Nov. 28, 1948	24.0	--	35,000	69.2
	Perdido River Basin							
22	Perdido River at Barrineau Park, Fla.	370	1941-51	Mar. 24, 1944	16.2	42.3	9,390	25.4
	Tennessee River Basin							
107	Bear Creek at Bishop, Ala.	667	1926-51	Dec. 26, 1926	27.0	446.9	32,000	48.0
104	Big Nance Creek at Courtland, Ala.	166	1936-51	Jan. 7, 1950	22.6	560.2	12,300	74.1
106	Cypress Creek near Florence, Ala.	209	1935-51	Mar. 28, 1951	19.2	443.0	25,100	120
103	Elk River near Prospect, Tenn.	1,784	1904-08, 1919-51	Feb. 14, 1948	38.2	601.5	100,000	56.1
98	Flint River near Chase, Ala.	342	1929-51	Sept. 1929	26.0	666.4	46,000	135
(*)	Flint River near Gurley, Ala., sec. 31, T. 4 S., R. 2 E.	-	-------	Mar. 30, 1951	--	600.2	---	--
(*)	Flint River near Huntsville, Ala., sec. 29, T. 3 S., R. 2 E.	-	-------	Mar. 30, 1951	--	626.2	---	--
99	Limestone Creek near Athens, Ala.	388	1886,1929, 1939-51	Feb. 1, 1951	13.2	639.5	14,800	124
97	Paint Rock River near Woodville, Ala.	320	1936-51	Dec. 28, 1942	20.5	591.4	31,300	97.8
105	Shoal Creek at Iron City, Tenn.	348	1927-51	Mar. 13, 1927	23.4	558.3	65,000	187
96	Short Creek near Albertville, Ala.	91.6	------- 1946-51	December 1942 Jan. 5, 1949	21.2 16.4	-- 882.2	--- 14,700	-- 160
	Yellow River Basin							
11	Lightwood Knot Creek at Babbie, Ala.	114	1944-51	Sept.11, 1944	11.9	--	12,100	106

[a] Occurred on following day.
[b] From current-meter measurements.
[c] From rating curve extended above 5,000 cfs.
[d] From rating curve extended above 66,000 cfs.

GAGING-STATION RECORDS

This section contains a brief description and a tabulation of annual floods for each gaging station furnishing base data for the report. Terms used in presenting these data are explained below.

Gage heights represent the water level in feet above an arbitrary datum which is referenced to local bench marks at the gaging station. Where known, the elevation of this arbitrary datum above mean sea level is given in the station description. Changes in datum are noted in the station description and indicated in the tabulation of annual floods by a line across the gage-height column. Significant changes in site are denoted by a full line between two items in the tabulation.

Gage heights listed are the maximum gage height during the "water year" which covers the period October 1 to September 30. This period was chosen because September and October are usually low-flow months and use of the water year instead of the calendar year tends to eliminate any influence that one annual flood might have on another. The maximum flood in each water year is listed, and also the date is shown for the calendar year.

The gage heights were generally obtained from water-stage recorder charts or from graphs based on gage readings by an observer. A few of the gage heights are the maximum stage observed by the Weather Bureau. Many of the gage heights shown for major floods outside the period of record were obtained by leveling to floodmarks pointed out by local residents.

All peak discharges are listed in cubic feet per second (cfs). Peak discharges are computed directly from the peak gage heights through the medium of the stage-discharge relation, except for those streams where this relation is affected by backwater. When backwater is present, the slope of the stream is commonly used as a second variable in computing discharge, and the peak discharge and peak stage do not necessarily occur at the same time. In such cases, both the peak gage height and the gage height at the time of peak discharge are listed.

Some of the figures of peak discharge shown in this report are not in agreement with figures published in the U. S. Geological Survey Water-Supply Papers. The changes are based on a review of the original figures in the light of additional data obtained after they were published. Where such differences exist, the figures shown in the Water-Supply Papers, even though slightly less accurate, will continue to be the official figures of the Geological Survey until the completion of a comprehensive compilation report now in progress. When completed, the compilation report will contain the authoritative figures.

Unless otherwise noted, the streamflow data in this report were collected in cooperation with State agencies, Alabama Power Co., or the Corps of Engineers. When records collected by other agencies are used, credit is given in the gaging-station description.

In the station description the present site of the gaging station is described under "Location"; previous locations are described under "Gage." Where there has been a significant change in location, the note "change in site" is shown in the listing of annual peaks. In many places, gage heights at nearby former sites have been converted to the datum of the present gage. Where the distance between sites or other conditions have made this unfeasible, the note "change in datum" has been shown in the table listing the peaks.

Apalachicola River Basin

(1) Chattahoochee River at West Point, Ga.

Location.--Lat 32°53', long 85°11', just downstream from Oseligee Creek and 1 mile upstream from West Point, Troup County.

Drainage area.--3,550 sq mi.

Gage.--Nonrecording gage operated by U. S. Weather Bureau at Montgomery Street bridge, at site three-quarters of a mile downstream, from July 1896 to October 1912 at datum 548.84 ft above mean sea level. Nonrecording gage, October 1912 to January 1925, and recording gage since January 1925 at present site. Datum of gage at present site is 551.67 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Annual floods before 1914 referred to gage at Montgomery Street bridge.

Stage-discharge relation.--Defined by current-meter measurements below 80,000 cfs and by determination of discharge over Langdale Dam at 134,000 cfs.

Historical data.--Flood of 1886 reached a stage of 25.6 ft; from U. S. Weather Bureau records.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1886	-	25.6	92,800	1924	Apr. 19, 1924	12.6	25,400
				1925	Jan. 19, 1925	24.6	84,800
1897	Mar. 14, 1897	14.1	33,800				
1898	Sept. 6, 1898	18.2	49,600	1926	Apr. 1, 1926	13.7	28,500
1899	Feb. 29, 1899	15.2	37,800	1927	Feb. 14, 1927	12.2	24,100
1900	Feb. 14, 1900	19.5	54,800	1928	Apr. 23, 1928	14.3	30,500
				1929	Mar. 15, 1929	25.4	91,300
1901	May 23, 1901	17.2	45,600	1930	Nov. 16, 1929	13.6	25,100
1902	Dec. 30, 1901	25.0	88,600				
1903	Feb. 9, 1903	20.1	57,500	1931	Nov. 17, 1930	14.4	27,300
1904	Aug. 9, 1904	12.6	29,300	1932	Feb. 22, 1932	14.2	26,700
1905	Jan. 13, 1905	12.6	29,300	1933	Dec. 30, 1932	21.7	56,200
				1934	Mar. 5, 1934	16.5	34,700
1906	Mar. 20, 1906	18.9	52,400	1935	Oct. 12, 1934	15.2	30,200
1907	Mar. 3, 1907	12.5	28,800				
1908	Apr. 26, 1908	15.9	40,500	1936	Apr. 8, 1936	22.9	75,400
1909	Mar. 13, 1909	19.0	52,800	1937	Jan. 6, 1937	18.4	49,900
1910	May 25, 1910	11.2	22,800	1938	Apr. 9, 1938	20.2	63,900
				1939	Mar. 1, 1939	17.6	45,500
1911	Apr. 10, 1911	10.5	22,000	1940	July 10, 1940	14.1	28,600
1912	Mar. 16, 1912	22.9	73,400				
1913	Mar. 15, 1913	18.3	50,000	1941	July 17, 1941	9.1	13,800
1914	Apr. 17, 1914	8.9	16,800	1942	Mar. 22, 1942	20.2	64,200
1915	Dec. 6, 1914	11.6	23,500	1943	Mar. 22, 1943	20.2	64,200
				1944	Apr. 27, 1944	17.7	46,200
1916	July 10, 1916	22.1	65,700	1945	Apr. 25, 1945	20.4	65,700
1917	Mar. 28, 1917	19.6	51,500				
1918	Jan. 12, 1918	16.3	37,700	1946	Jan. 12, 1946	19.6	47,200
1919	Dec. 23, 1918	21.0	59,000	1947	Jan. 21, 1947	19.6	47,200
1920	Dec. 10, 1919	30.0	134,000	1948	July 12, 1948	16.2	32,800
				1949	Nov. 29, 1948	22.4	61,000
1921	Feb. 10, 1921	19.3	50,000	1950	Mar. 16, 1950	10.4	16,000
1922	Mar. 11, 1922	19.6	51,500				
1923	Feb. 14, 1923	16.7	39,400	1951	Apr. 23, 1951	10.7	16,800

Apalachicola River Basin

(2) Chattahoochee River at Columbus, Ga.

Location.--Lat 32°27', long 84°59', at Central of Georgia Ry. bridge in Columbus, Muscogee County, half a mile downstream from Eagle and Phenix Dam, 1¼ miles downstream from City Mills Dams, and 17½ miles downstream from Bartlett Ferry Reservoir.

Drainage area.--4,670 sq mi.

Gage.--Recording gage. Datum of gage is 185.14 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Stage-discharge relation.--Defined by current-meter measurements below 85,000 cfs and by computation of flow over North Highlands Dam to 200,000 cfs. Laboratory rating obtained for North Highlands Dam. Stage-discharge relation affected by backwater.

Historical data.--The record of major floods before the establishment of the gaging station in August 1929 is unusually well established through records of the U. S. Weather Bureau, marks in riverfront factories, and old issues of the Columbus Enquirer dating back to 1827.

Remarks.--Flood flow partly regulated by Bartlett Ferry Reservoir which was completed in 1926 and has a usable capacity of 134,000 acre-feet; drainage area above dam, 4,200 sq mi.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1841	Mar. 11, 1841	43	113,000	1936	Apr. 9, 1936	38.2	84,700
				1937	Jan. 6, 1937	30.5	55,000
1886	Apr. 1, 1886	48.5	154,000	1938	Apr. 9, 1938	37.6	81,700
				1939	Mar. 30, 1939	[a]30.8	59,000
1913	Mar. 15, 1913	42.0	107,000	1940	July 10, 1940	[b]23.6	40,900
1916	July - 1916	41.9	106,000	1941	Aug. 15, 1941	[b]11.6	16,700
				1942	Mar. 22, 1942	[b]37.2	82,500
1920	Dec. 10, 1919	50.6	172,000	1943	Mar. 21, 1943	[a]41.0	102,000
				1944	Mar. 23, 1944	34.1	72,400
1925	Jan. 19, 1925	46.0	133,000	1945	Apr. 26, 1945	33.2	68,800
1929	Mar. 15, 1929	[a]53.2	198,000	1946	Jan. 7, 1946	31.5	62,600
1930	Oct. 1, 1929	24.1	42,000	1947	Jan. 21, 1947	28.9	54,100
				1948	July 12, 1948	36.6	81,900
1931	Nov. 17, 1930	26.6	46,000	1949	Nov. 28, 1948	[b]42.4	104,000
1932	Feb. 22, 1932	22.3	36,000	1950	Mar. 17, 1950	12.3	16,200
1933	Dec. 30, 1932	31.1	58,800				
1934	Mar. 5, 1934	27.6	49,200	1951	Apr. 23, 1951	16.0	24,100
1935	Mar. 6, 1935	22.3	36,100				

a Occurred on following day.
b Did not occur at same time as peak discharge.

Apalachicola River Basin

(3) Chattahoochee River at Columbia, Ala.

Location.--Lat 31°17', long 85°07', in T. 4 N., R. 29 E., at bridge on State Highway 52, a quarter of a mile downstream from Central of Georgia Ry. bridge, half a mile upstream from Omussee Creek, and half a mile east of Columbia.

Drainage area.--8,040 sq mi.

Gage.--Recording gage at same site throughout period. Datum of gage is 73.03 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Stage-discharge relation.--Defined by current-meter measurements below 110,000 cfs and by conveyance-slope study at 203,000 cfs.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1929	Mar. 18, 1929	56.0	203,000	1941	Mar. 9, 1941	16.0	18,400
1930	Oct. 2, 1929	45.6	103,000	1942	Mar. 24, 1942	42.3	81,300
				1943	Mar. 24, 1943	49.5	119,000
1931	Nov. 18, 1930	38.9	73,100	1944	Mar. 25, 1944	45.8	97,000
1932	Feb. 24, 1932	28.2	43,400	1945	Apr. 28, 1945	35.6	59,600
1933	Mar. 22, 1933	37.2	67,100				
1934	Mar. 6, 1934	36.0	63,200	1946	Mar. 30, 1946	39.8	72,600
1935	Mar. 8, 1935	30.6	49,100	1947	Mar. 9, 1947	35.7	59,900
				1948	July 14, 1948	43.3	81,200
1936	Apr. 12, 1936	46.6	102,000	1949	Dec. 1, 1948	49.3	126,000
1937	Mar. 22, 1937	34.8	57,200	1950	Mar. 7, 1950	22.2	28,300
1938	Apr. 11, 1938	44.7	91,500				
1939	Mar. 3, 1939	41.3	77,600	1951	Apr. 24, 1951	22.5	28,800
1940	Feb. 19, 1940	32.6	51,200				

Apalachicola River Basin

(4) Chattahoochee River at Alaga, Ala.

Location.--Lat 31°07', long 85°03', in NE¼ sec. 29, T. 2 N., R. 30 E., at bridge on U. S. Highway 84, half a mile downstream from Atlantic Coast Line RR. bridge and half a mile south of Alaga, Houston County.

Drainage area.--8,340 sq mi.

Gage.--Nonrecording gage operated by U. S. Weather Bureau at railroad bridge half a mile upstream from U. S. Highway 84 from 1904 to 1936. Datum of gage was 65.174 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.
Nonrecording gage at highway bridge from May 1938 to December 1944. Datum of gage was 62.72 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Stage-discharge relation.--Defined at highway bridge by current-meter measurements below 115,000 cfs. Defined at railroad bridge by 4 discharge measurements made during period 1908-11, stage relation between highway and railroad bridge, and discharge records at Columbia.

Remarks.--Discharges for 1929-38, 1945-49 computed from records for Chattahoochee River at Columbia, Ala. (drainage area, 8,040 sq mi).

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1905	Feb. 14, 1905	34.0	67,100	1926	Apr. 2, 1926	34.0	67,100
				1927	Feb. 17, 1927	18.7	28,300
1906	Mar. 23, 1906	29.7	51,400	1928	Apr. 24, 1928	39.6	104,000
1907	Oct. 21, 1906	26.8	44,300	1929	Mar. 18, 1929	46.0	207,000
1908	Apr. 30, 1908	38.2	92,000	1930	Oct. 3, 1929	39.1	105,000
1909	Mar. 16, 1909	35.3	73,500				
1910	Apr. 19, 1910	27.6	46,100	1931	Nov. 19, 1930	34.9	74,600
				1932	Feb. 24, 1932	25.4	44,300
1911	Jan. 6, 1911	18.5	27,900	1933	Mar. 22, 1933	33.2	68,500
1912	Apr. 23, 1912	38.9	97,600	1934	Mar. 7, 1934	33.5	64,500
1913	Mar. 18, 1913	40.2	110,000	1935	Mar. 9, 1935	28.6	50,100
1914	Apr. 17, 1914	14.8	21,400				
1915	July 5, 1915	26.5	43,700	1936	Apr. 12, 1936	40.5	104,000
				1937	Mar. 22, 1937	-	58,400
1916	July 16, 1916	44.0	162,000	1938	Apr. 11, 1938	-	93,400
1917	Mar. 7, 1917	36.9	82,900	1939	Mar. 3, 1939	37.3	74,500
1918	Oct. 1, 1917	27.0	44,800	1940	Feb. 19, 1940	30.4	48,400
1919	Dec. 25, 1918	40.8	116,000				
1920	Dec. 14, 1919	40.7	115,000	1941	Mar. 9, 1941	14.5	18,000
				1942	Mar. 25, 1942	38.3	80,300
1921	Feb. 13, 1921	31.9	58,300	1943	Mar. 24, 1943	42.2	112,000
1922	Mar. 10, 1922	37.6	87,800	1944	Apr. 30, 1944	40.1	92,800
1923	Mar. 20, 1923	34.6	70,000	1945	Apr. 28, 1945	-	61,000
1924	Jan. 26, 1924	27.0	44,800				
1925	Jan. 21, 1925	44.5	173,000	1946	Mar. 30, 1946	-	74,000
				1947	Mar. 9, 1947	-	61,000
				1948	July 14, 1948	-	83,000
				1949	Dec. 1, 1948	-	130,000

Choctawhatchee River Basin

(5) West Fork Choctawhatchee River at Blue Springs, Ala.

Location.--Lat 31°40', long 85°30', in SE¼ sec. 14, T. 8 N., R. 25 E., at bridge on State Highway 10 at Blue Springs, Barbour County, 4 miles downstream from Lindsey Creek.

Drainage area.--85 sq mi.

Gage.--Recording gage. Datum of gage is 289.24 ft above mean sea level, datum of 1929, supplementary adjustment of 1943.

Stage-discharge relation.--Defined by current-meter measurements below 4,500 cfs.

Choctawhatchee River Basin

(5) West Fork Choctawhatchee River at Blue Springs, Ala.--Continued

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1944	Mar. 29, 1944	9.10	4,820	1948	Mar. 7, 1948	6.33	1,660
1945	Mar. 21, 1945	4.68	530	1949	Nov. 27, 1948	7.33	2,550
1946	Mar. 28, 1946	7.92	3,310	1950	Apr. 5, 1950	4.90	586
1947	June 23, 1947	6.98	2,280	1951	Mar. 30, 1951	5.48	970

(6) Choctawhatchee River near Newton, Ala.

Location.--Lat 31°21', long 85°37', in SE¼ sec. 2, T. 4 N., R. 24 E., at bridge on U. S. Highway 231, 1,500 ft upstream from Hurricane Creek, 0.8 mile north of Newton, Dale County, and 1 mile downstream from Atlantic Coast Line RR. bridge.

Drainage area.--693 sq mi.

Gage.--Nonrecording gage June 1906 to August 1908, October 1911 to August 1912 (gage heights only), and recording gage from November 1921 to Sept. 30, 1927, at site 800 ft upstream, at different datum. Nonrecording gage at present site from May 10, 1935, to Sept. 8, 1938, and recording gage thereafter. Datum of present gage is 138.56 ft above mean sea level, datum of 1929, supplementary adjustment of 1943.

Stage-discharge relation.--Defined by current-meter measurements below 20,000 cfs and extended above.

Historical data.--The flood of Mar. 15, 1929, reached a stage of 45 ft; from information by local residents.

Remarks.--Gage-height records since 1931 are contained in reports of U. S. Weather Bureau. Peaks for 1930 and 1931 water years were computed on the basis of U. S. Weather Bureau gage heights at Geneva and a stage-relation curve.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1922	June 2, 1922	16.6	11,400	1938	Nov. 14, 1937	20.1	9,650
1923	Mar. 20, 1923	18.5	13,200	1939	Mar. 1, 1939	19.7	9,430
1924	Jan. 25, 1924	10.6	7,340	1940	Feb. 19, 1940	20.0	9,600
1925	Jan. 17, 1925	a28.0	a28,000				
1926	Sept.22, 1926	23.2	14,700	1941	July 16, 1941	7.0	2,580
1927	Feb. 18, 1927	6.4	3,760	1942	Dec. 26, 1941	10.8	4,710
				1943	Jan. 20, 1943	27.4	19,300
1929	Mar. - 1929	45	-	1944	Apr. 16, 1944	23.4	12,500
1930	Oct. 3, 1929	21.3	10,300	1945	Apr. 25, 1945	9.6	3,880
1931	Nov. 19, 1930	15.6	6,980	1946	Mar. 29, 1946	25.0	14,600
1932	May 24, 1932	9.8	3,810	1947	Mar. 9, 1947	23.7	12,800
1933	Mar. 21, 1933	23.8	12,800	1948	Mar. 8, 1948	21.8	10,700
1934	Mar. 5, 1934	12.6	5,330	1949	Nov. 29, 1948	18.9	8,840
1935	July 14, 1935	12.4	5,220	1950	Apr. 5, 1950	10.7	4,390
1936	Jan. 20, 1936	29.5	25,800	1951	Mar. 29, 1951	12.6	5,400
1937	Sept. 2, 1937	26.4	16,200				

a May have been higher.

Choctawhatchee River Basin

(7) Pea River near Ariton, Ala.

Location.--Lat 31°35', long 85°47', in SW¼ sec. 7, T. 7 N., R. 23 E., at bridge on U. S. Highway 231, 2¼ miles downstream from Bryars Mill Creek, 2¾ miles downstream from Atlantic Coast Line RR. bridge, and 3½ miles west of Ariton, Dale County.

Drainage area.--500 sq mi.

Gage.--Recording. Datum of gage is 246.72 ft above mean sea level, datum of 1929, supplementary adjustment of 1943.

Stage-discharge relation.--Defined by current-meter measurements.

Historical data.--The flood of March 1929 reached a stage of about 25 ft; from information by local residents.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1929	Mar. - 1929	25	-	1945	Apr. 29, 1945	7.4	1,730
1939	Mar. 1, 2, 1939	18.4	13,000	1946	May 22, 1946	17.6	9,160
1940	Feb. 20, 1940	16.3	7,290	1947	Apr. 3, 1947	18.8	13,700
				1948	Mar. 7, 1948	16.1	7,170
1941	Mar. 12, 1941	5.5	1,190	1949	Nov. 29, 1948	18.8	13,700
1942	Feb. 20, 1942	13.9	4,540	1950	Apr. 6, 1950	9.6	2,500
1943	Mar. 22, 1943	20.0	19,100				
1944	Mar. 24, 1944	19.8	18,600	1951	Apr. 21, 1951	7.9	1,900

(8) Pea River at Elba, Ala.

Location.--Lat 31°24', long 86°04', in SE¼ sec. 8, T. 5 N., R. 20 E., at bridge on U. S. Highway 84 at Elba, Coffee County, 500 ft downstream from Whitewater Creek and half a mile upstream from Beaver Dam Creek and Atlantic Coast Line RR. bridge.

Drainage area.--952 sq mi.

Gage.--Nonrecording gage before Mar. 21, 1939, and recording gage thereafter. Datum of gage is 159.24 ft above mean sea level, datum of 1929, supplementary adjustment of 1943.

Stage-discharge relation.--Defined by current-meter measurements below 28,000 cfs.

Historical data.--The flood of March 1929 reached a stage of 43.5 ft; from reports of U. S. Weather Bureau.

Remarks.--Station discontinued in September 1947. Water-year maxima 1948-51; from records of U. S. Weather Bureau at same site.

Choctawhatchee River Basin

(8) Pea River at Elba, Ala.--Continued

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1929	Mar. - 1929	43.5	-	1944	Mar. 24, 1944	25.8	20,900
				1945	Apr. 29, 1945	12.8	6,090
1936	Jan. 21, 1936	29.6	27,400				
1937	Apr. 6, 1937	30.0	27,900	1946	May 21, 1946	22.3	16,500
1938	Mar. 17, 1938	35.0	35,000	1947	Apr. 3, 1947	19.8	13,700
1939	Feb. 28, 1939	20.8	14,800	1948	Mar. 7, 1948	21.2	15,200
1940	Feb. 18, 1940	16.0	9,700	1949	Nov. 30, 1948	21.1	15,100
				1950	Sept. 1, 1950	15.0	8,510
1941	Mar. 7, 1941	10.2	3,600				
1942	Apr. 10, 1942	15.4	8,900	1951	Mar. 29, 1951	13.4	6,860
1943	Jan. 19, 1943	26.8	22,300				

(9) Pea River near Samson, Ala.

Location.--Lat 31°07', long 86°06', in sec. 25, T. 2 N., R. 19 E., at bridge on State Highway 12, 500 ft downstream from Boyenton Creek, 1¾ miles downstream from Louisville & Nashville RR. bridge, 3 miles west of Samson, Geneva County, and 6½ miles upstream from Flat Creek.

Drainage area.--1,170 sq mi.

Gage.--Nonrecording gage before July 24, 1937, and recording gage thereafter. Datum of gage is 97.95 ft above mean sea level, datum of 1929, supplementary adjustment of 1943.

Stage-discharge relation.--Defined by current-meter measurements.

Historical data.--The flood of Jan. 20, 1925, reached a stage of 42.0 ft; from floodmarks (at site 1½ miles upstream, at different datum). The flood of Mar. 15, 1929 reached a stage of 45.3 ft; from floodmarks (present site and datum).

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1925	Jan. 20, 1925	42.0	-	1943	Jan. 21, 1943	33.2	19,200
				1944	Mar. 26, 1944	33.4	19,500
1929	Mar. 15, 1929	45.3	-	1945	Apr. 30, 1945	17.4	5,920
1936	Jan. 22, 1936	37.2	27,800	1946	May 22, 1946	30.5	16,000
1937	Apr. 7, 1937	35.9	23,400	1947	Apr. 6, 1947	26.7	12,900
1938	Mar. 18, 1938	35.8	23,300	1948	Mar. 8, 1948	29.6	15,300
1939	Mar. 2, 1939	28.8	14,200	1949	Dec. 1, 1948	29.9	15,700
1940	Feb. 19, 1940	22.8	9,120	1950	Sept. 2, 1950	19.5	7,100
1941	Dec. 28, 1940	13.6	4,170	1951	Mar. 30, 1951	19.5	7,100
1942	Apr. 11, 1942	20.2	7,460				

Choctawhatchee River Basin

(10) Choctawhatchee River at Caryville, Fla.

Location.--Lat 30°46', long 85°50', in sec. 10, T. 4 N., R. 16 W., at bridge on U. S. Highway 90, 300 ft downstream from Louisville & Nashville RR. bridge, three-quarters of a mile west of Caryville, and 2 miles downstream from Hurricane Creek.

Drainage area.--3,490 sq mi.

Gage.--Recording gage August 1929 to September 1951. Gage-height records collected at same site since 1928 are contained in reports of U. S. Weather Bureau. Datum of gage is 39.00 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 46,000 cfs. Extended above 46,000 cfs on basis of slope-area determination at gage height 27.1 ft.

Historical data.--The flood of Mar. 17, 1929, reached a stage of 27.1 ft; from U. S. Weather Bureau records and floodmarks.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1929	Mar. 17, 1929	27.1	206,000	1941	Dec. 31, 1940	9.5	10,200
1930	Oct. 4, 1929	14.8	49,100	1942	Jan. 5, 1942	11.9	21,400
				1943	Jan. 24, 1943	13.4	33,800
1931	Nov. 19, 1930	13.2	31,700	1944	Mar. 28, 1944	13.6	35,800
1932	Jan. 16, 1932	12.2	23,400	1945	May 3, 1945	10.4	13,300
1933	Mar. 24, 1933	13.6	35,800				
1934	Mar. 8, 1934	12.3	24,000	1946	Mar. 31, 1946	14.0	39,800
1935	Mar. 12, 1935	10.2	12,600	1947	Mar. 10, 1947	14.5	44,800
				1948	Mar. 10, 1948	14.5	44,800
1936	Jan. 24, 1936	14.2	41,800	1949	Dec. 2, 1948	13.2	31,900
1937	Sept. 4, 1937	15.6	56,600	1950	Sept. 3, 1950	12.4	25,100
1938	Mar. 22, 1938	13.0	30,100				
1939	Aug. 18, 1939	14.8	45,800	1951	Apr. 2, 1951	11.1	16,500
1940	Feb. 21,22, 1940	12.9	29,200				

Yellow River Basin

(11) Lightwood Knot Creek at Babbie, Ala.

Location.--Lat 31°16', long 86°19', in SW¼ sec. 36, T. 4 N., R. 17 E., at bridge on State Highway 12, 1 mile east of Babbie, Covington County, 1¼ miles downstream from Poley Creek, and 3½ miles west of Opp.

Drainage area.--114 sq mi.

Gage.--Nonrecording gage from Feb. 15, 1944, to Dec. 30, 1947, and recording gage thereafter.

Stage-discharge relation.--Defined by current-meter measurements below 9,000 cfs and extended above.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1944	Sept. 11, 1944	11.9	12,100	1948	Apr. 1, 1948	7.6	3,440
1945	Apr. 29, 1945	6.6	1,420	1949	Jan. 6, 1949	7.5	3,260
1946	May 20, 1946	8.6	5,100	1950	Apr. 5, 1950	6.8	2,000
1947	Apr. 16, 1947	7.5	3,260	1951	Apr. 20, 1951	7.1	1,660

Escambia River Basin

(12) Conecuh River near Troy, Ala.

Location.--Lat 31°51', long 86°00', in NE¼ sec. 13, T. 10 N., R. 20 E., at bridge on U. S. Highway 231, 1½ miles downstream from Mannings Creek and 3 miles north of Troy, Pike County.

Drainage area.--240 sq mi.

Gage.--Nonrecording gage.

Stage-discharge relation.--Defined by current-meter measurements below 14,000 cfs and extended above.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1944	Mar. 23, 1944	15.6	16,500	1948	Mar. 7, 1948	12.2	5,780
1945	Feb. 25, 1945	9.1	1,260	1949	Nov. 28, 1948	16.1	18,000
1946	May 21, 1946	13.0	8,040	1950	Apr. 6, 1950	10.5	2,820
1947	Apr. 2, 1947	14.0	10,800	1951	Mar. 21, 1951	8.3	820

(13) Conecuh River at Brantley, Ala.

Location.--Lat 31°34', long 86°15', in SE¼ sec. 16, T. 7 N., R. 18 E., at bridge on State Highway 52, half a mile downstream from Moody Mill Creek and three-quarters of a mile southeast of Brantley, Crenshaw County.

Drainage area.--485 sq mi.

Gage.--Nonrecording gage before Oct. 31, 1938, and recording gage thereafter. Datum of gage is 226.2 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 14,000 cfs.

Historical data.--The flood of March 1929 reached a stage of about 26 ft; from information by local residents.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1929	Mar. - 1929	26	-	1944	Mar. 25, 1944	22.6	15,000
				1945	Apr. 30, 1945	11.9	1,970
1938	Mar. 16, 1938	22.8	15,400				
1939	Aug. 19, 1939	22.9	15,600	1946	May 22, 1946	19.9	9,920
1940	July 2, 1940	17.5	6,500	1947	Apr. 4, 1947	20.4	10,800
				1948	Mar. 7, 1948	18.6	7,850
1941	Mar. 13, 1941	9.8	1,430	1949	Nov. 29, 1948	23.0	15,800
1942	Dec. 27, 1941	17.0	5,700	1950	Apr. 8, 1950	14.5	3,330
1943	Mar. 23, 1943	22.9	15,600				
				1951	Apr. 20, 1951	11.4	1,810

Escambia River Basin

(14) Patsaliga Creek at Luverne, Ala.

Location.--Lat 31°44', long 86°17', in SW¼ sec. 29, T. 9 N., R. 18 E., at bridge on State Highways 9 and 10, 1 mile northwest of Luverne, Crenshaw County, and 3 miles downstream from Pond Creek.

Drainage area.--250 sq mi.

Gage.--Nonrecording gage. Datum of gage is 267.53 ft above mean sea level, datum of 1929, supplementary adjustment of 1943.

Stage-discharge relation.--Defined by current-meter measurements below 12,000 cfs and extended above.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1944	Mar. 24, 1944	15.6	13,100	1948	Mar. 7, 1948	13.4	6,800
1945	Feb. 16, 1945	10.4	1,400	1949	Nov. 28, 1948	16.8	16,700
1946	Jan. 7, 1946	13.7	7,550	1950	Apr. 6, 1950	13.3	6,550
1947	Apr. 3, 1951	12.9	5,560	1951	Feb. 4, 1951	10.6	1,690

(15) Conecuh River near Andalusia, Ala.

Location.--Lat 31°16', long 86°36', in NE¼ sec. 1, T. 3 N., R. 14 E., at Simmons Bridge on State Highway 83, 7½ miles southwest of Andalusia, Covington County.

Drainage area.--1,300 sq mi.

Gage.--Nonrecording gage August 1904 to December 1918 (records published as Conecuh River at Beck); recording gage September 1929 to September 1951 at same site and datum. Datum of gage is 106.77 ft above mean sea level, datum of 1929, supplementary adjustment of 1943.

Stage-discharge relation.--Defined by current-meter measurements below 37,000 cfs and by slope-area determination at 154,000 cfs.

Remarks.--Annual floods listed for 1905-19 are mean daily discharges; peak discharges undetermined but probably did not exceed the figures shown by more than 10 percent.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1905	Feb. 18, 1905	24.1	11,400	1933	Mar. 24, 1933	29.6	16,800
1906	Mar. 9, 1906	11.3	4,600	1934	Mar. 9, 1934	24.1	11,300
1907	Oct. 4, 1906	17.6	7,900	1935	Mar. 11, 1935	27.2	13,900
1908	Mar. 28, 1908	31.9	19,000				
1909	June 7, 1909	25.3	12,200	1936	Jan. 20, 1936	34.2	24,800
1910	Apr. 22, 1910	16.0	7,100	1937	Apr. 9, 1937	35.8	28,400
				1938	Mar. 17, 1938	37.3	30,900
1911	Apr. 13, 1911	14.2	6,100	1939	Aug. 20, 1939	38.4	35,900
1912	Apr. 22, 1912	31.6	18,500	1940	Feb. 18, 1940	25.2	11,400
1913	Mar. 19, 1913	39.2	42,000				
1914	Feb. 10, 1914	7.7	2,900	1941	Dec. 17, 1940	11.6	4,080
1915	Jan. 25, 1915	15.5	6,800	1942	Dec. 30, 1941	20.6	8,600
				1943	Mar. 24, 1943	37.4	32,000
1916	July 8, 1916	29.9	16,000	1944	Mar. 25, 1944	36.3	29,800
1917	Mar. 9, 1917	22.7	10,600	1945	Apr. 29, 1945	20.5	8,550
1918	Oct. 3, 1917	29.1	15,000				
1919	Dec. 26, 1918	34.5	24,600	1946	May 22, 1946	30.7	17,200
				1947	Apr. 6, 1947	29.4	15,300
1929	Mar. 15, 1929	47.6	154,000	1948	Mar. 8, 1948	33.4	22,100
1930	Nov. 20, 1929	23.7	11,100	1949	Nov. 30, 1948	37.5	35,400
				1950	Apr. 9, 1950	23.6	10,300
1931	Nov. 20, 1930	26.1	12,900				
1932	Feb. 24, 1932	15.9	5,920	1951	Apr. 21, 1951	17.8	7,300

Escambia River Basin

(16) Sepulga River near McKenzie, Ala.

Location.--Lat 31°27', long 86°47', in SE¼ sec. 30, T. 6 N., R. 13 E., in Conecuh County, at Watt Bridge on U. S. Highway 31, three-eighths of a mile upstream from Old Town Creek, 5½ miles downstream from Persimmon Creek, and 7 miles southwest of McKenzie.

Drainage area.--470 sq mi.

Gage.--Nonrecording gage before Mar. 25, 1939, and recording gage thereafter. Datum of gage is 155.96 ft above mean sea level, unadjusted.

Stage-discharge relation.--Defined by current-meter measurements below 25,000 cfs.

Historical data.--The flood of March 1929 reached a stage of about 33 ft; from information by local residents.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1929	Mar. - 1929	33	-	1944	Mar. 31, 1944	22.3	20,600
1938	Mar. 17, 1938	24.5	28,100	1945	May 1, 1945	8.1	3,040
1939	Aug. 18, 1939	19.5	13,400	1946	Jan. 8, 1946	21.9	19,400
1940	Feb. 20, 1940	16.0	9,000	1947	Apr. 4, 1947	16.5	9,470
1941	Mar. 9, 1941	9.4	4,210	1948	Mar. 8, 1948	19.2	13,300
1942	Dec. 26, 1941	13.5	7,100	1949	Nov. 28, 1948	23.6	21,200
1943	Mar. 23, 1943	21.8	19,100	1950	July 30, 1950	7.7	2,950
				1951	Apr. 21, 1951	12.9	6,920

(17) Pigeon Creek near Thad, Ala.

Location.--Lat 31°29', long 86°39', in N½ sec. 21, T. 6 N., R. 14 E., at bridge on State Highway 55, 1½ miles upstream from Louisville & Nashville RR. bridge, 2 miles southeast of Thad, Covington County, 3 miles upstream from Reedy Creek, and 5½ miles southeast of McKenzie.

Drainage area.--296 sq mi.

Gage.--Recording gage. Datum of gage is 172.58 ft above mean sea level, datum of 1929, supplementary adjustment of 1943.

Stage-discharge relation.--Defined by current-meter measurements below 14,000 cfs.

Historical data.--The flood of March 1929 reached a stage of about 30 ft; from information by local residents.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1929	Mar. - 1929	30	-	1944	Apr. 28, 1944	25.0	12,800
1938	Mar. 18, 1938	26.1	14,400	1945	Apr. 28, 1945	12.7	1,570
1939	Aug. 17,18, 1939	25.3	12,600	1946	Jan. 8, 1946	25.1	12,600
1940	Feb. 18, 1940	17.6	3,740	1947	Apr. 5, 1947	18.5	4,220
1941	Dec. 20, 1940	14.6	2,180	1948	Mar. 7, 1948	22.2	7,540
1942	Dec. 27, 1941	20.6	5,730	1949	Nov. 29, 1948	27.1	17,100
1943	Mar. 23, 1943	25.2	13,400	1950	July 29, 1950	10.1	1,110
				1951	Apr. 20, 1951	14.9	2,520

Escambia River Basin

(18) Conecuh River near Brooklyn, Ala.

Location.--Lat 31°10', long 86°48', in W½ sec. 6, T. 2 N., R. 13 E., in Escambia County, at bridge on U. S. Highway 29, 3 miles downstream from Sepulga River, and 7 miles southwest of Brooklyn.

Drainage area.--2,400 sq mi.

Gage.--Nonrecording gage before Sept. 3, 1937, and recording gage thereafter. Datum of gage is 76.95 ft above mean sea level, datum of 1929, supplementary adjustment of 1943.

Stage-discharge relation.--Defined by current-meter measurements.

Historical data.--The flood of March 1929 reached a stage of about 47 ft; from information by local resident.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1929	Mar. - 1929	47	-	1944	Mar. 27, 1944	37.1	53,300
				1945	Apr. 30, 1945	21.8	14,300
1936	Jan. 22, 1936	34.4	39,000				
1937	Apr. 9, 1937	36.6	50,100	1946	May 25, 1946	31.4	29,900
1938	Mar. 20, 1938	38.0	60,700	1947	Apr. 7, 1947	30.1	27,000
1939	Aug. 21, 1939	37.8	59,100	1948	Mar. 10, 1948	33.8	36,700
1940	Feb. 22, 1940	28.0	21,300	1949	Dec. 1, 1948	38.6	67,300
				1950	Apr. 10, 1950	18.8	10,800
1941	Dec. 17, 1940	18.6	10,300				
1942	Dec. 29, 1941	23.3	14,400	1951	Apr. 23, 1951	23.7	16,800
1943	Mar. 25, 1943	37.8	59,100				

(19) Murder Creek near Evergreen, Ala.

Location.--Lat 31°25', long 87°00', in NW¼ sec. 8, T. 5 N., R. 11 E., at bridge on U. S. Highway 31, 1 mile upstream from Louisville & Nashville RR. bridge, and 2½ miles southwest of Evergreen, Conecuh County.

Drainage area.--169 sq mi.

Gage.--Nonrecording gage before Mar. 25, 1939, and recording gage thereafter. Datum of gage is 178.29 ft above mean sea level, datum of 1929, supplementary adjustment of 1943.

Stage-discharge relation.--Defined by current-meter measurements below 10,000 cfs and extended above on basis of records for Sepulga River near McKenzie.

Historical data.--The flood of March 1929 reached a stage of 26.6 ft; from information by local residents.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1929	Mar. - 1929	26.6	-	1944	Nov. 8, 1943	12.8	6,800
				1945	Apr. 29, 1945	10.3	2,090
1938	Mar. 16, 1938	16.6	20,000				
1939	Mar. 30, 1939	12.3	5,610	1946	Jan. 7, 1946	12.6	6,900
1940	Feb. 18, 1940	10.1	1,760	1947	Apr. 2, 1947	11.0	3,180
				1948	Mar. 3, 1948	11.2	4,100
1941	Dec. 17, 1940	11.0	3,010	1949	Nov. 27, 1948	13.5	10,000
1942	Dec. 24, 1941	11.5	3,900	1950	Apr. 5, 1950	8.9	1,190
1943	Mar. 22, 1943	11.6	4,090				
				1951	Mar. 29, 1951	10.0	2,220

Escambia River Basin

(20) Escambia Creek at Flomaton, Ala.

Location.--Lat 31°01', long 87°15', in NE¼ sec. 33, T. 1 N., R. 8 E., at bridge on U. S. Highway 31 at Flomaton, Escambia County, 1¼ miles upstream from Louisville & Nashville RR. bridge, 1½ miles upstream from Alabama-Florida State line, and 4 miles upstream from Conecuh River.

Drainage area.--325 sq mi.

Gage.--Recording gage. Gage relocated 400 ft downstream to same datum June 1, 1942. Datum of gage is 52.40 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 10,000 cfs and by slope-area determination at 41,400 cfs.

Historical data.--The flood of March 1929 reached a stage of 25.9 ft; from information furnished by Alabama Highway Dept.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1929	Mar. - 1929	25.9	-	1944	Mar. 23, 1944	12.2	9,990
				1945	Apr. 29, 1945	9.6	5,850
1938	Mar. 17, 1938	18.0	33,000				
1939	Sept.27, 1939	19.3	41,400	1946	Mar. 29, 1946	10.6	7,060
1940	May 1, 1940	10.4	6,250	1947	Mar. 8, 1947	11.1	7,880
				1948	Mar. 7, 1948	10.4	6,490
1941	Jan. 17, 1941	6.4	2,790	1949	Nov. 28, 1948	14.5	15,400
1942	Jan. 2, 1942	11.9	8,250	1950	Apr. 5, 1950	8.9	4,570
1943	Mar. 21, 1943	10.4	6,850				
				1951	Mar. 19, 1951	10.3	6,330

(21) Escambia River near Century, Fla.

Location.--Lat 30°58', long 87°15', on line between secs. 9 and 10, T. 5 N., R. 30 W., on State Highway 4, 1½ miles downstream from Conecuh River and 1¾ miles east of Century.

Drainage area.--3,700 sq mi.

Gage.--Nonrecording gage October 1934 to January 1940, recording gage thereafter. Datum of gage is 28.34 ft above mean sea level; Florida State Road Dept. bench mark.

Stage-discharge relation.--Defined by current-meter measurements below 72,000 cfs.

Historical data.--The flood of March 1929 reached a stage of 37.8 ft; from information by local residents (discharge, 315,000 cfs, from rating curve extended above 72,000 cfs).

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1929	Mar. - 1929	37.8	315,000	1943	Mar. 26, 1943	20.6	72,600
				1944	Mar. 30, 1944	20.0	64,400
1935	Mar. 9, 1935	17.7	33,300	1945	May 1, 1945	16.6	22,700
1936	Jan. 3, 1936	19.4	57,100				
1937	Apr. 11, 1937	20.0	64,400	1946	Mar. 29, 1946	17.7	33,900
1938	Mar. 22, 1938	20.7	73,900	1947	Apr. 17, 1947	17.7	33,900
1939	Aug. 22, 1939	20.1	69,800	1948	Mar. 11, 1948	18.6	45,400
1940	July 11, 1940	17.6	32,700	1949	Dec. 2, 1948	20.4	70,200
				1950	Apr. 6, 1950	15.4	17,400
1941	Dec. 19, 1940	15.4	16,300				
1942	Jan. 3, 1942	17.4	30,300	1951	Apr. 24, 1951	16.5	23,100

Perdido River Basin

(22) Perdido River at Barrineau Park, Fla.

Location.--Lat 30°41', long 87°27', in sec. 15, T. 2 N., R. 32 W., at county highway bridge, 1,000 ft downstream from Alligator Creek, and half a mile southwest of Barrineau Park, Escambia County.

Drainage area.--370 sq mi.

Gage.--Nonrecording gage before August 22, 1949, and recording gage thereafter. Datum of gage is 26.11 ft above mean sea level, unadjusted.

Stage-discharge relation.--Defined by current-meter measurements below 5,500 cfs.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1941	Sept. 26, 1941	10.1	3,660	1947	Mar. 9, 1947	15.6	8,740
1942	Jan. 3, 1942	-	[a]9,200	1948	Mar. 4, 1948	11.0	4,440
1943	Jan. 19, 1943	12.0	5,260	1949	Mar.24, 1949	14.3	7,390
1944	Mar. 24, 1944	16.2	9,390	1950	Apr. 6, 1950	14.1	6,800
1945	Apr. 23, 1945	8.2	2,570	1951	Mar.21, 1951	14.4	7,150
1946	Mar. 29, 1946	14.3	7,390				

[a] Discharge measurement.

Mobile River Basin

(23) Coosa River near Rome, Ga.

Location.--Lat 34°12', long 85°16', on downstream side of Mayo Bar lock and dam, 1½ miles upstream from Webb Creek, 6 miles southwest of Rome, Floyd County, and 7½ miles downstream from confluence of Oostanaula and Etowah Rivers.

Drainage area.--4,040 sq mi.

Gage.--Recording gage June 1928 to December 1931 and March 1937 to September 1951; otherwise, staff gage attached to lock wall. All gages set to same datum which is 553.05 ft above mean sea level; levels by Corps of Engineers. Gage-height record collected at same site since 1913 by Corps of Engineers.

Stage-discharge relation.--Defined by current-meter measurements below 63,000 cfs.

Historical data.--Flood of 1886 reached a stage of 40.3 ft on gage at Fifth Avenue in Rome, 7½ miles upstream. From stage relation graph, this is an equivalent of about 43 ft at present site (discharge, 100,000 cfs, based on records for Coosa River at Gadsden, Ala., and extension of rating curve).

Remarks.--Allatoona Reservoir, which was completed in December 1949, will affect future flood flows at this site.

Mobile River Basin

(23) Coosa River near Rome, Ga.--Continued

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1886	-	43	100,000	1932	Feb. 4, 1932	27.8	33,700
				1933	Dec. 30, 1932	37.0	65,000
1914	Apr. 16, 1914	22.0	25,900	1934	Mar. 6, 1934	31.6	42,800
1915	Feb. 2, 1915	25.1	29,900	1935	Mar. 14, 1935	23.5	27,800
1916	July 12, 1916	-	65,500	1936	Apr. 8, 1936	36.9	64,500
1917	Mar. 6, 1917	34.0	51,000	1937	Jan. 4, 1937	34.9	54,600
1918	Jan. 31, 1918	26.2	31,400	1938	Apr. 10, 1938	36.2	61,000
1919	Dec. 24, 1918	32.0	44,000	1939	Mar. 2, 1939	26.5	31,800
1920	Dec. 12, 1919	36.4	62,000	1940	May 15, 1940	20.4	24,000
1921	Feb. 12, 1921	35.9	59,500	1941	July 7, 1941	19.8	23,300
1922	Jan. 24, 1922	33.9	50,600	1942	Mar. 23, 1942	29.5	37,200
1923	Dec. 19, 1922	29.7	37,800	1943	Dec. 31, 1942	33.2	47,800
1924	Apr. 20, 1924	26.6	31,900	1944	Mar. 31, 1944	32.4	45,200
1925	Jan. 20, 1925	32.1	44,300	1945	Feb. 14, 1945	22.9	27,100
1926	Jan. 19, 1926	24.0	28,500	1946	Feb. 12, 1946	36.8	64,000
1927	Dec. 30, 1926	26.6	31,900	1947	Jan. 22, 1947	37.0	65,000
1928	Dec. 17, 1927	20.2	23,700	1948	Feb. 15, 1948	31.0	41,000
1929	Mar. 6, 1929	30.7	40,200	1949	Nov. 30, 1948	36.7	63,500
1930	Mar. 9, 1930	30.9	40,800	1950	Mar. 15, 1950	29.6	37,500
1931	Nov. 17, 1930	24.9	29,700	1951	Mar. 30, 1951	33.6	49,400

(24) Cedar Creek near Cedartown, Ga.

Location.--Lat 34°04', long 85°19', 700 ft downstream from bridge on State Highway 161, 4½ miles upstream from Lake Creek, and 4½ miles northwest of Cedartown, Polk County.

Drainage area.--109 sq mi.

Gage.--Recording gage.

Stage-discharge relation.--Defined by current-meter measurements below 3,000 cfs and by slope-conveyance study at 12,500 cfs.

Historical data.--Flood of November 1948 was the highest since 1886; from information by local residents.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1943	Apr. 19, 1943	10.3	4,500	1948	Feb. 9, 1948	8.6	3,200
1944	Mar. 7, 1944	10.5	4,680	1949	Nov. 28, 1948	16.4	12,500
1945	Mar. 4, 1945	7.9	2,740	1950	Mar. 13, 1950	10.5	4,680
1946	Feb. 10, 1946	15.8	11,400	1951	Mar. 29, 1951	14.5	9,390
1947	Jan. 20, 1947	14.2	8,880				

Mobile River Basin

(25) Chattooga River at Summerville, Ga.

Location.--Lat 34°28', long 85°20', 600 ft downstream from bridge on U. S. Highway 27, 1 mile southeast of Summerville, Chattooga County, and 4 miles upstream from Racoon Creek.

Drainage area.--193 sq mi.

Gage.--Recording gage.

Stage-discharge relation.--Defined by current-meter measurements below 10,000 cfs and extended above by logarithmic plotting.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1938	Apr. 8, 1938	17.7	11,700	1945	Feb. 13, 1945	16.1	7,540
1939	Feb. 28, 1939	16.9	9,460	1946	Jan. 8, 1946	18.8	15,300
1940	Mar. 14, 1940	12.2	2,900	1947	Jan. 20, 1947	17.3	10,500
1941	July 16, 1941	11.4	2,560	1948	Feb. 13, 1948	16.8	9,200
1942	Feb. 17, 1942	14.8	5,090	1949	Nov. 28, 1948	20.6	22,700
1943	Dec. 29, 1942	17.9	12,300	1950	Sept. 8, 1950	17.0	9,720
1944	Mar. 29, 1944	16.2	7,760	1951	Mar. 29, 1951	21.0	24,500

(26) Chattooga River at Gaylesville, Ala.

Location.--Lat 34°16', long 85°34', in SE$\frac{1}{4}$ sec. 11, T. 9 S., R. 10 E., at bridge on county road, 0.2 mile southwest of Gaylesville, Cherokee County, and 9 miles upstream from Little River.

Drainage area.--377 sq mi.

Gage.--Nonrecording gage June 1937 to December 1948 and recording gage thereafter. Datum of gage is 549.56 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Stage-discharge relation.--Defined by current-meter measurements below 17,000 cfs and extended above on basis of area-velocity studies.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1938	Apr. 9, 1938	20.6	12,100	1945	Feb. 15, 1945	18.3	6,830
1939	Mar. 1, 1939	19.3	8,550	1946	Feb. 11, 1946	22.2	18,100
1940	Mar. 14,15,1940	15.7	4,040	1947	Jan. 21, 1947	21.2	14,200
1941	July 16, 1941	17.8	6,140	1948	Feb. 14, 1948	20.6	12,100
1942	Feb. 17, 1942	18.8	7,600	1949	Nov. 29, 1948	24.6	32,000
1943	Dec. 30, 1942	21.1	13,800	1950	Mar. 14, 1950	20.6	12,700
1944	Mar. 29, 1944	20.1	10,600	1951	Mar. 30, 1951	25.2	33,700

Mobile River Basin

(27) Little River near Jamestown, Ala.

Location.--Lat 34°24', long 85°38', in NE$\frac{1}{4}$ sec. 30, T. 7 S., R. 10 E., at site of former county highway bridge, a quarter of a mile upstream from Yellow Creek and present highway bridge, and 2$\frac{1}{2}$ miles west of Jamestown, Cherokee County.

Drainage area.--121 sq mi.

Gage.--Recording gage October 1928 to April 1932 and May 1935 to September 1949; crest-stage gage thereafter. Datum of gage 1,177.4 ft above mean sea level; Alabama Power Co. bench mark.

Stage-discharge relation.--Defined by current-meter measurements below 15,000 cfs and extended above.

Remarks.--Station discontinued in September 1949 (daily records no longer available). Water-year maxima 1948-51 from crest-stage gage.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1929	Mar. 14, 1929	10.4	14,600	1942	Feb. 17, 1942	6.5	5,380
1930	Nov. 14, 1929	9.4	11,900	1943	Dec. 28, 1942	12.2	19,700
1931	Nov. 16, 1930	6.4	4,450	1944	Feb. 27, 1944	8.0	8,350
1932	Jan. 30, 1932	8.6	9,830	1945	Feb. 13, 1945	7.7	7,650
1936	Feb. 4, 1936	11.9	18,800	1946	Jan. 18, 1946	11.6	17,900
1937	Jan. 2, 1937	9.1	11,100	1947	Jan. 20, 1947	9.0	10,900
1938	Apr. 8, 1938	9.0	10,900	1948	Feb.12,14,1948	7.7	7,650
1939	Feb. 29, 1939	8.6	9,830	1949	Nov. 28, 1948	12.9	21,800
1940	Feb. 18, 1940	6.3	4,990				
				1951	Mar. 29, 1951	12.2	19,700
1941	July 17, 1941	4.9	2,850				

(28) Coosa River at Leesburg, Ala.

Location.--Lat 34°11', long 85°45', in NW$\frac{1}{4}$ sec. 12, T. 10 S., R. 8 E., at bridge on U. S. Highway 411, 1 mile east of Leesburg, Cherokee county, and 4 miles downstream from Yellow Creek.

Drainage area.--5,270 sq mi.

Gage.--Nonrecording gage. Datum of gage is 517.77 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements. Stage-discharge relation affected by backwater from return of overbank flow.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1938	Apr. 12, 1938	33.2	64,000	1945	Feb. 15, 1945	23.0	34,800
1939	Mar. 3, 1939	26.1	40,200	1946	Feb. 14, 1946	35.1	73,200
1940	Mar. 16, 1940	21.2	31,700	1947	Jan. 24, 1947	35.1	73,200
1941	July 8, 1941	18.0	26,300	1948	Feb. 15, 1948	31.5	53,600
1942	Feb. 19, 1942	26.3	40,600	1949	Dec. 3, 1948	34.5	69,400
1943	Jan. 1, 1943	30.2	48,300	1950	Mar. 15, 1950	29.4	47,100
1944	Mar. 31, 1944	29.9	47,600	1951	Mar. 30, 1951	34.1	66,900

Mobile River Basin

(29) Terrapin Creek near Piedmont, Ala.

Location.--Lat 33°57', long 85°34', in SE¼ sec. 27, T. 12 S., R. 10 E., at bridge on State Highway 74, 500 ft upstream from Southern Ry. bridge, half a mile upstream from Ladiga Creek, and 3 miles northeast of Piedmont, Calhoun County.

Drainage area.--115 sq mi.

Gage.--Recording gage.

Stage-discharge relation.--Defined by current-meter measurements below 10,000 cfs and extended above on basis of slope and conveyance studies.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1945	May 13, 1945	8.4	3,950	1949	Nov. 28, 1948	13.3	21,000
1946	Mar. 28, 1946	12.0	14,600	1950	Mar. 13, 1950	9.6	5,900
1947	Jan. 20, 1947	11.2	11,000	1951	Mar. 29, 1951	12.7	17,800
1948	Feb. 7, 1948	8.3	3,830				

(30) Coosa River at Gadsden, Ala.

Location.--Lat 34°01', long 86°00', at Etowah County Memorial Bridge on U. S. Highway 241 in Gadsden, Etowah County, 1½ miles upstream from Big Wills Creek.

Drainage area.--5,800 sq mi.

Gage.--Nonrecording gage at Louisville & Nashville RR. bridge 700 ft upstream from November 1890 to September 1926. Recording gage thereafter at present site. Datum of gage is 485.97 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Stage-discharge relation.--Defined by current-meter measurements below 80,000 cfs and extended above by logarithmic plotting.

Historical data.--The flood of Apr. 6, 1886, reached a stage of 37.9 ft; from levels to floodmarks by Corps of Engineers.

Remarks.--Annual flood heights for 1891-1926 from records of U. S. Weather Bureau corrected to present datum. Datum corrections for 1905-25 are uncertain by about half a foot and annual flood heights for those years may be in error by that amount.

Mobile River Basin

(30) Coosa River at Gadsden, Ala.--Continued

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1886	Apr. 6, 1886	37.9	115,000	1921	Feb. 16, 1921	29.3	69,000
				1922	Jan. 23, 1922	25.8	56,000
1891	Feb. 14, 1891	24.6	52,000	1923	Feb. 16, 1923	20.6	40,000
1892	Jan. 20, 1892	30.9	76,000	1924	Apr. 20, 1924	23.5	48,000
1893	Feb. 17, 1893	22.6	46,000	1925	Jan. 21, 1925	24.5	52,000
1894	Feb. 15, 1894	12.3	20,000				
1895	Jan. 11, 1895	21.5	42,000	1926	Jan. 21, 1926	18.8	35,000
				1927	Dec. 29, 1926	23.6	41,400
1896	Feb. 9, 1896	17.2	31,000	1928	Apr. 24, 1928	20.7	37,500
1897	Mar. 20, 1897	23.4	48,000	1929	Mar.16,17,1929	24.6	53,500
1898	Sept. 8, 1898	18.4	34,000	1930	Nov. 17, 1929	25.8	58,100
1899	Mar. 21, 1899	25.9	57,000				
1900	Apr. 19, 1900	23.6	49,000	1931	Nov. 18, 1930	20.3	39,500
				1932	Feb. 5, 1932	23.9	51,000
1901	Jan. 13, 1901	23.5	48,000	1933	Jan. 3, 1933	30.2	72,500
1902	Jan. 4, 1902	24.4	51,000	1934	Mar. 6, 1934	23.3	46,400
1903	Mar. 6, 1903	23.3	48,000	1935	Mar.14,15,1935	20.3	37,900
1904	Mar. 16, 1904	10.7	17,000				
1905	Feb. 13, 1905	20.5	40,000	1936	Apr. 11, 1936	31.1	76,900
				1937	Jan. 5, 1937	26.2	55,800
1906	Mar. 22, 1906	25.8	56,000	1938	Apr. 14, 1938	26.6	57,200
1907	Mar. 4, 1907	21.1	41,000	1939	Mar. 6,7,1939	21.8	42,000
1908	Feb. 17, 1908	21.5	42,000	1940	Mar. 16, 1940	18.6	33,400
1909	Mar. 17, 1909	27.9	64,000				
1910	May 25, 1910	17.9	33,000	1941	July 9, 1941	15.0	24,700
				1942	Feb. 19, 1942	22.3	43,500
1911	Apr. 11, 1911	22.0	44,000	1943	Dec. 30, 1942	27.1	59,100
1912	Mar. 31, 1912	24.5	52,000	1944	Mar. 31, 1944	25.0	51,700
1913	Mar. 18, 1913	22.5	46,000	1945	Feb. 17, 1945	[a]20.0	34,800
1914	Apr. 17, 1914	18.5	34,000				
1915	Feb. 4, 1915	21.9	44,000	1946	Feb. 16, 1946	30.2	71,300
				1947	Jan. 26, 1947	29.7	70,800
1916	July 15, 1916	32.7	85,000	1948	Feb. 17, 1948	[b]26.7	56,000
1917	Apr. 1, 1917	26.1	57,000	1949	Dec. 6, 1948	[a]28.8	66,000
1918	Feb. 2, 1918	23.1	47,000	1950	Mar. 17, 1950	[a]25.3	50,700
1919	Feb. 26, 1919	23.5	48,000				
1920	Apr. 10, 1920	28.3	65,000	1951	Mar. 31, 1951	28.9	64,600

[a] Occurred two days earlier.
[b] Occurred one day earlier.

Mobile River Basin

(31) Big Wills Creek near Crudup, Ala.

Location.--Lat 34°06', long 86°02', in $SE\frac{1}{4}$ sec. 6, T. 11 S., R. 6 E., at county highway bridge 1 mile upstream from Fisher Creek, 2 miles west of Crudup, Etowah County, and 4 miles downstream from Little Duck Creek.

Drainage area.-- 189 sq mi.

Gage.--Nonrecording gage.

Stage-discharge relation.--Defined by current-meter measurements below 11,000 cfs and extended above.

Historical data.--The flood of 1884 reached a stage of 16.3 ft; from information by local residents.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1884	-	16.3	-	1947	Jan. 21, 1947	11.8	7,030
				1948	Feb. 14, 1948	11.0	5,480
1943	Dec. - 1942	13.9	11,000	1949	Jan. 5, 1949	14.2	11,800
1944	Mar. 29, 1944	10.8	5,410	1950	Mar. 14, 1950	12.0	7,430
1945	Feb. 14, 1945	9.5	2,920	1951	Mar. 29, 1951	14.5	14,800
1946	Feb. 10, 1946	13.0	9,530				

(32) Big Canoe Creek near Gadsden, Ala.

Location.--Lat 33°54', long 86°07', in $SW\frac{1}{4}$ sec. 15, T. 13 S., R. 5 E., at bridge on U. S. Highway 11, 400 ft downstream from Rock Creek, 5 miles upstream from mouth, and 10 miles southwest of Gadsden, Etowah County.

Drainage area.--238 sq mi.

Gage.--Nonrecording gage before Dec. 14, 1948, and recording gage thereafter. Datum of gage is 490.56 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 19,000 cfs and extended above on basis of runoff for stations on nearby streams. Stage-discharge relation is occasionally affected by backwater from Coosa River.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1938	Apr. 8, 1938	23.0	20,300	1945	Feb. 13, 1945	14.5	5,100
1939	Feb. 28, 1939	13.8	4,640	1946	Feb. 10, 1946	20.2	13,600
1940	Feb. 18, 1940	14.7	5,240	1947	Jan. 20, 1947	17.6	8,630
1941	July 7, 1941	11.7	3,370	1948	Feb. 9, 1948	15.2	5,840
1942	Feb. 17, 1942	17.2	8,010	1949	Jan. 6, 1949	22.6	18,500
1943	Dec. 29, 1942	29.1	37,900	1950	Mar. 14, 1950	19.2	11,300
1944	Mar. 29, 1944	17.0	7,700	1951	Mar. 30, 1951	21.4	15,800

Mobile River Basin

(33) Choccolocco Creek near Jenifer, Ala.

Location.--Lat 33°34', long 85°56', on line between secs. 5 and 8, T. 17 S., R. 7 E., at Louisville & Nashville RR. bridge, three-quarters of a mile upstream from Salt Creek, and 1½ miles north of Jenifer, Talladega County.

Drainage area.--275 sq mi.

Gage.--Nonrecording gage August 1903 to February 1908, May 1929 to March 1932, May 1935 to July 25, 1942, and recording gage thereafter. Datum of gage is 554.15 ft above mean sea level, adjustment of 1903.

Stage-discharge relation.--Defined by current-meter measurements below 15,000 cfs and extended above by logarithmic plotting.

Remarks.--Gage read once daily during 1904-07 and annual floods listed for that period were computed from maximum observed gage heights; absolute maxima may have been higher.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1904	Aug. 12, 1904	4.0	1,020	1941	Mar. 22, 1941	5.0	1,420
1905	Feb. 10, 1905	7.5	2,370	1942	Mar. 21, 1942	9.7	6,140
1906	Mar. 20, 1906	14.2	14,600	1943	Mar. 21, 1943	10.2	7,030
1907	Feb. 2, 1907	8.7	5,270	1944	Mar. 30, 1944	8.8	4,810
				1945	May 15, 1945	7.0	2,750
1930	Mar. 7, 1930	14.3	14,900				
1931	Nov. 18, 1930	5.8	1,930	1946	Jan. 7, 1946	13.6	13,400
				1947	Jan. 20, 1947	13.0	12,500
1936	Feb. 4, 1936	17.2	21,900	1948	Feb. 9, 1948	9.5	6,310
1937	Apr. 30, 1937	11.5	9,680	1949	Nov. 29, 1948	15.1	16,600
1938	Apr. 8, 1938	16.0	18,800	1950	Mar. 15, 1950	5.7	2,020
1939	Mar. 2, 1939	7.5	3,240				
1940	July 13, 1940	9.6	5,980	1951	Mar. 29, 1951	16.6	20,400

(34) Choccolocco Creek near Lincoln, Ala.

Location.--Lat 33°34', long 86°08', in SW¼ sec. 9, T. 17 S., R. 5 E., at bridge on State Highway 102, three-eighths of a mile downstream from Schmidt's mill, 4 miles south of Lincoln, Talladega County, and 6 miles upstream from mouth.

Drainage area.--491 sq mi.

Gage.--Nonrecording gage before June 4, 1939, and recording gage thereafter. From Jan. 23, 1938, to Jan. 10, 1939, at site 1,000 ft upstream from present site at same datum. Datum of gage is 448.50 ft above mean sea level, datum of 1929, unadjusted.

Stage-discharge relation.--Defined by current-meter measurements below 44,000 cfs.

Historical data.--The flood of 1886 reached a stage of 27.5 ft at original site 1,000 ft upstream; from floodmarks.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1886	-	27.5	-	1945	May 13, 1945	9.1	5,030
1939	Feb. 28, 1939	14.0	9,090	1946	Jan. 7, 1946	21.9	27,700
1940	July 13, 1940	11.6	7,510	1947	Jan. 20, 1947	21.0	23,600
				1948	Feb. 9, 1948	14.4	9,800
1941	Aug. 13, 1941	8.5	4,840	1949	Nov. 28, 1948	21.1	24,100
1942	Mar. 21, 1942	19.7	18,900	1950	Feb. 10, 1950	7.1	3,430
1943	Mar. 21, 1943	16.2	12,200				
1944	Mar. 29, 1944	13.7	9,130	1951	Mar. 29, 1951	25.5	49,300

Mobile River Basin

(35) Coosa River near Cropwell, Ala.

Location.--Lat 33°30', long 86°14', in SE¼ sec. 33, T. 17 S., R. 4 E., at bridge on State Highway 48, 2 miles downstream from Poorhouse Branch and 4 miles southeast of Cropwell, St. Clair County.

Drainage area.--7,690 sq mi.

Gage.--Nonrecording gage. Datum of gage is 420.68 ft above mean sea level, datum of 1929, supplementary adjustment of 1943.

Stage-discharge relation.--Defined by current-meter measurements below 120,000 cfs.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1942	Mar. 22, 1942	13.5	59,900	1947	Jan. 21, 1947	21.0	105,000
1943	Dec. 29, 1942	20.8	104,000	1948	Feb. 10, 1948	17.0	79,500
1944	Mar. 30, 1944	17.3	81,500	1949	Nov. 30, 1948	22.8	117,000
1945	Feb. 18, 1945	12.1	49,800	1950	Mar. 15, 1950	16.4	75,900
1946	Feb. 11, 1946	20.7	103,000	1951	Mar. 30, 1951	23.7	126,000

(36) Talladega Creek at Alpine, Ala.

Location.--Lat 33°21', long 86°14', in SE¼ sec. 21, T. 19 S., R. 4 E., at county highway bridge, half a mile downstream from Southern Ry. bridge, 1 mile north of Alpine, Talladega County, 9 miles southwest of Talladega, and 11 miles upstream from mouth.

Drainage area.--158 sq mi.

Gage.--Nonrecording gage before May 17, 1939, and recording gage thereafter. Datum of gage is 431.24 ft above mean sea level, datum of 1929, supplementary adjustment of 1943.

Stage-discharge relation.--Defined by current-meter measurements below 13,000 cfs and extended by logarithmic plotting to 39,000 cfs on basis of slope-area measurement of 1951 peak discharge made 8 miles upstream and adjusted for difference in drainage area.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1939	Feb. 28, 1939	12.8	3,760	1946	Jan. 7, 1946	15.0	12,800
1940	July 13, 1940	13.2	4,220	1947	Jan. 20, 1947	14.9	12,100
				1948	Mar. 23, 1948	13.6	5,560
1941	Mar. 21, 1941	10.6	2,140	1949	Nov. 28, 1948	14.0	6,740
1942	Mar. 21, 1942	15.2	14,300	1950	Mar. 13, 1950	10.7	2,200
1943	Apr. 19, 1943	13.4	4,820				
1944	Mar. 29, 1944	12.6	3,460	1951	Mar. 29, 1951	16.6	39,000
1945	May 13, 1945	12.3	3,160				

Mobile River Basin

(37) Coosa River at Childersburg, Ala.

Location.--Lat 33°17', long 86°22', in NE¼ sec. 18, T. 20 S., R. 3 E., at Central of Georgia Ry. bridge, 700 ft upstream from bridge on State Highway 91, half a mile downstream from Tallaseehatchee Creek, and 1 mile northwest of Childersburg, Talladega County.

Drainage area.--8,390 sq mi.

Gage.--Nonrecording gage Feb. 19 to May 4, 1914, and recording gage thereafter. Datum of gage is 382.45 ft above mean sea level, datum of 1929, supplementary adjustment of 1943.

Stage-discharge relation.--Defined by current-meter measurements below 117,000 cfs.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1915	Feb. 6, 1915	14.8	56,000	1934	Mar. 4, 1934	22.4	92,400
1916	July 11, 1916	24.7	113,000	1935	Oct. 11, 1934	18.9	75,000
1917	Mar. 5, Apr. 5	20.8	88,600				
1918	Jan. 31, 1918	16.1	62,500	1936	Feb. 5, 1936	28.5	130,000
1919	Oct. 31, 1918	20.7	88,000	1937	Jan. 4, 1937	22.5	94,200
1920	Dec. 10, 1919	24.0	108,000	1938	Apr. 9, 1938	30.0	136,000
				1939	Mar. 7, 1939	17.9	67,500
1921	Feb. 12, 1921	20.3	85,800	1940	Feb. 19, 1940	14.0	48,200
1922	Mar. 11, 1922	20.9	89,200				
1923	Feb. 14, 1923	19.4	80,600	1941	Aug. 13, 1941	10.6	32,700
1924	Apr. 21, 1924	14.5	53,600	1942	Mar. 22, 1942	21.2	85,100
1925	Jan. 19, 1925	20.9	89,000	1943	Dec. 30, 1942	26.4	116,000
				1944	Mar. 30, 1944	22.3	92,700
1926	Jan. 26, 1926	14.6	54,800	1945	Feb. 18, 1945	14.2	49,700
1927	Feb. 14, 1927	17.8	71,600				
1928	Apr. 24, 1928	19.8	83,000	1946	Feb. 12, 1946	25.8	113,000
1929	Mar. 16, 1929	24.8	114,000	1947	Jan. 21, 1947	27.0	127,000
1930	Nov. 18, 1929	22.8	101,000	1948	Feb. 10, 1948	19.9	83,100
				1949	Nov. 30, 1948	28.3	136,000
1931	Nov. 19, 1930	13.9	51,100	1950	Mar. 15, 1950	19.1	78,400
1932	Feb. 3, 1932	17.8	71,700				
1933	Dec. 18, 1932	24.3	110,000	1951	Mar. 30, 1951	30.1	146,000

(38) Hatchet Creek near Rockford, Ala.

Location.--Lat 32°57', long 86°13', in NW¼ sec. 31, T. 23 N., R. 19 E., at bridge on county highway, half a mile downstream from State Highway 11, 1½ miles downstream from Socapatoy Creek, and 4 miles north of Rockford, Coosa County.

Drainage area.--225 sq mi.

Gage.--Nonrecording gage October to Dec. 9, 1944, and recording gage thereafter.

Stage-discharge relation.--Defined by current-meter measurements below 19,000 cfs.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1945	Apr. 25, 1945	20.8	14,700	1949	Nov. 27, 1948	20.1	13,400
1946	Jan. 6, 1946	24.9	22,800	1950	May 3, 1950	12.2	4,320
1947	Jan. 20, 1947	19.6	12,800	1951	Mar. 29, 1951	21.7	18,600
1948	Mar. 23, 1948	16.8	8,960				

Mobile River Basin

(39) Tallapoosa River near Ofelia, Ala.

Location.--Lat 33°20', long 85°35', in SW$\frac{1}{4}$ sec. 34, T. 19 S., R. 10 E., at county highway bridge 1 mile northeast of Ofelia, Randolph County, 1$\frac{1}{2}$ miles upstream from Little Tallapoosa River, and 9 miles east of Lineville.

Drainage area.--787 sq mi.

Gage.--Nonrecording gage before Aug. 10, 1939, and recording gage thereafter.

Stage-discharge relation.--Defined by current-meter measurements below 20,000 cfs.

Historical data.--The flood of December 1919 reached a stage of about 21 ft; from information by local residents.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1920	Dec. - 1919	21		1945	Apr. 25, 1945	8.4	8,530
1939	Feb. 28, 1939	8.8	8,690	1946	Jan. 6, 1946	14.9	21,200
1940	Mar. 14, 1940	8.7	8,460	1947	Jan. 20, 1947	15.3	22,100
				1948	Mar. 23, 1948	11.9	14,500
1941	July 12, 1941	4.9	3,990	1949	Nov. 29, 1948	16.2	24,500
1942	Mar. 21, 1942	14.6	20,500	1950	Feb. 10, 1950	6.4	5,530
1943	Mar. 21, 1943	12.9	16,900				
1944	Apr. 11, 1944	11.9	14,900	1951	Mar. 29, 1951	13.0	16,600

(40) Little Tallapoosa River at Carrollton, Ga.

Location.--Lat 33°36', long 85°05', at city water-pumping plant on U. S. Highway 27 at Carrollton, Carroll County, 1 mile upstream from Central of Georgia Ry. and 3$\frac{1}{2}$ miles upstream from Buck Creek.

Drainage area.--89 sq mi.

Gage.--Nonrecording gage. Datum of gage is 971.25 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Stage-discharge relation.--Defined by current-meter measurements below 5,300 cfs.

Historical data.--Flood of February 1, 1936, reached a stage of 18.2 ft and was the highest flood known by local residents at that time.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1936	Feb. 1, 1936	18.2	5,450	1944	Apr. 12, 1944	12.8	2,780
				1945	July 14, 1945	14.7	3,580
1938	Apr. 8, 1938	16.7	4,730				
1939	Aug. 18, 1939	10.6	1,670	1946	Jan. 7, 1946	14.4	3,430
1940	July 9, 1940	13.1	2,930	1947	Jan. 20, 1947	15.9	4,180
				1948	Feb. 9, 1948	11.1	1,780
1941	July 12, 1941	9.3	990	1949	Nov. 29, 1948	19.3	6,010
1942	Mar. 22, 1942	13.1	2,930	1950	Sept. 8, 1950	10.7	1,670
1943	Mar. 21, 1943	14.1	3,430				
				1951	Mar. 30, 1951	9.3	980

Mobile River Basin

(41) Little Tallapoosa River near Wedowee, Ala.

Location.--Lat 33°21', long 85°33', in NE¼ sec. 25, T. 19 S., R. 10 E., at county highway bridge, 4½ miles northwest of Wedowee, Randolph County, and 5½ miles upstream from mouth.

Drainage area.--592 sq mi.

Gage.--Nonrecording gage August 1913 to June 1914 (gage heights only) and October 1939 to Jan. 31, 1940, and recording gage thereafter.

Stage-discharge relation.--Defined by current-meter measurements below 13,000 cfs and slope-area measurement at 18,700 cfs.

Historical data.--Highest stage known to local residents about 23 ft, date uncertain but probably 1919.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1919	-	23	-	1945	Apr. 25, 1945	16.3	12,000
				1946	Jan. 6, 1946	18.7	16,300
1940	July 9, 1940	14.9	9,040	1947	Jan. 20, 1947	18.4	15,400
1941	July 12, 1941	10.1	4,110	1948	Mar. 23, 1948	18.9	16,400
1942	Mar. 21, 1942	20.4	19,800	1949	Nov. 28, 1948	20.8	20,800
1943	Mar. 21, 1943	17.5	14,000	1950	Mar. 13, 1950	10.7	4,810
1944	Apr. 11, 1944	16.6	12,500	1951	Mar. 29, 1951	12.8	6,920

(42) Tallapoosa River at Wadley, Ala.

Location.--Lat 33°08', long 85°34', in sec. 12, T. 22 S., R. 10 E., at Wadley, Randolph County, a quarter of a mile upstream from bridge on State Highway 63, and three-quarters of a mile downstream from Beaverdam Creek.

Drainage area.--1,660 sq mi.

Gage.--Nonrecording gage. Datum of gage is 601.33 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 42,000 cfs and extended above.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1924	Apr. 18, 1924	10.4	14,400	1938	Apr. 9, 1938	24.5	40,400
1925	Jan. 18, 1925	26.3	46,900	1939	Feb. 28, 1939	17.0	23,800
				1940	Mar. 14, 1940	15.8	21,100
1926	Aug. 1, 1926	13.6	20,300				
1927	Feb. 14, 1927	20.0	33,700	1941	Mar. 22, 1941	9.5	9,900
1928	Apr. 23, 1928	14.6	22,400	1942	Mar. 21, 1942	25.6	44,800
1929	Mar. 15, 1929	25.6	45,400	1943	Mar. 21, 1943	21.4	34,600
1930	Nov. 12, 1929	18.9	31,400	1944	Apr. 12, 1944	17.9	26,600
				1945	Apr. 25, 1945	19.0	29,000
1931	Nov. 16, 1930	13.9	20,900				
1932	Dec. 22, 1931	17.6	28,700	1946	Jan. 7, 1946	24.3	41,600
1933	Mar. 20, 1933	19.8	33,300	1947	Jan. 20, 1947	23.9	40,600
1934	Mar. 4, 1934	17.5	27,400	1948	Mar. 23, 1948	21.2	34,200
1935	Oct. 7, 1934	17.4	27,200	1949	Nov. 28, 1948	25.5	44,700
				1950	Feb. 10, 1950	11.0	12,300
1936	Feb. 5, 1936	27.9	52,800				
1937	Apr. 9, 1937	16.9	24,000	1951	Mar. 30, 1951	18.0	26,700

Mobile River Basin

(43) Uphapee Creek near Tuskegee, Ala.

Location.--Lat 32°28', long 85°42', on east line of sec. 12, T. 17 N., R. 23 E., at bridge on State Highway 81, 1 mile upstream from Red Creek, $1\frac{1}{4}$ miles upstream from bridge of Western Ry. of Alabama, and 4 miles north of Tuskegee, Macon County.

Drainage area.--331 sq mi.

Gage.--Recording gage. Datum of gage is 223.65 ft above mean sea level, datum of 1929, supplementary adjustment of 1943.

Stage-discharge relation.--Defined by current-meter measurements below 26,000 cfs.

Historical data.--The flood of 1929 reached a stage of about 30 ft; from information by local residents.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1929	-	30	-	1945	Feb. 21, 1945	17.0	7,500
				1946	Jan. 7, 1946	21.9	15,700
1940	July 4, 1940	15.3	6,310	1947	Apr. 3, 1947	15.6	6,190
1941	Aug. 14, 1941	15.8	6,620	1948	July 11, 1948	16.5	7,000
1942	Mar. 22, 1942	20.7	12,800	1949	Nov. 27, 1948	27.3	28,300
1943	Mar. 21, 1943	27.3	29,600	1950	Mar. 7, 1950	9.6	2,720
1944	Apr. 27, 1944	26.2	26,500	1951	Mar. 20, 1951	6.5	1,050

(44) Alabama River near Montgomery, Ala.

Location.--Lat 32°25', long 86°25', in $NW\frac{1}{4}$ sec. 31, T. 17 N., R. 17 E., at bridge on U. S. Highway 31, 4 miles upstream from Autauga Creek, and 6 miles northwest of Montgomery, Montgomery County.

Drainage area.--15,100 sq mi.

Gage.--Recording gage. Datum of gage is 97.90 ft above mean sea level, datum of 1929. U. S. Weather Bureau gage since 1890 has been nonrecording gage at foot of Commerce Street in Montgomery, 9 miles upstream from present Geological Survey gage site, at datum 103.22 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 240,000 cfs.

Historical data.--From high-water marks and reports of local residents the floods of April 1, 1886, and March 30, 1888, reached stages of 59.7 and 57.7 ft, respectively, referred to the U. S. Weather Bureau gage at Montgomery. These stages correspond to 62.7 and 60.6 ft, recording gage datum, from gage-height relation curve.

Remarks.--Annual floods shown before 1928 are for calendar years and were obtained from U. S. Weather Bureau records. Gage heights for these floods have been referred to present recording gage datum by means of a gage-height relation curve.

Mobile River Basin

(44) Alabama River near Montgomery, Ala.--Continued

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1886	Apr. 1, 1886	62.7	-	1920	Apr. 5, 1920	47.9	134,000
1888	Mar. 30, 1888	60.6	274,000	1921	Feb. 13, 1921	45.0	124,000
				1922	Mar. 13, 1922	50.4	147,000
1891	Mar. 12, 1891	47.5	132,000	1923	Feb. 16, 1923	37.1	102,000
1892	Jan. 16, 1892	56.7	212,000	1924	Jan. 19, 1924	26.9	74,400
1893	Feb. 19, 1893	44.7	123,000	1925	Jan. 20, 1925	56.1	203,000
1894	Feb. 16, 1894	28.5	78,800				
1895	Mar. 18, 1895	41.9	115,000	1926	Jan. 21, 1926	33.5	92,200
				1927	Feb. 15, 1927	34.1	93,900
1896	Feb. 10, 1896	29.9	82,500	1928	Apr. 25, 1928	47.1	134,000
1897	Mar. 16, 1897	40.1	110,000	1929	Mar. 17, 1929	59.6	256,000
1898	Oct. 10, 1898	30.2	83,300	1930	Nov. 19, 1929	50.1	132,000
1899	Mar. 2, 1899	37.0	102,000				
1900	Feb. 15, 1900	51.0	151,000	1931	Nov. 19, 1930	26.2	72,500
				1932	Feb. 24, 1932	34.0	93,300
1901	Dec. 31, 1901	46.6	129,000	1933	Dec. 31, 1932	52.0	150,000
1902	Mar. 31, 1902	50.2	145,000	1934	Mar. 6, 1934	39.4	111,000
1903	Feb. 13, 1903	51.0	151,000	1935	Mar. 9, 1935	32.7	91,100
1904	Aug. 9, 1904	23.8	65,900				
1905	Feb. 15, 1905	40.1	110,000	1936	Feb. 7,8,1936	55.3	196,000
				1937	May 5,7,1937	40.4	107,000
1906	Mar. 22, 1906	52.7	164,000	1938	Apr. 10, 1938	56.8	214,000
1907	Mar. 5, 1907	35.5	97,600	1939	Aug. 18, 1939	46.1	123,000
1908	Feb. 17, 1908	39.3	108,000	1940	Mar. 16, 1940	31.0	81,600
1909	Mar. 16, 1909	54.3	180,000				
1910	July 5, 1910	31.2	86,000	1941	Mar. 9, 1941	14.4	37,100
				1942	Mar. 23, 1942	42.9	114,000
1911	Apr. 12, 1911	27.2	75,200	1943	Mar. 23, 1943	53.5	164,000
1912	Mar. 18, 1912	47.1	130,000	1944	Apr. 29, 1944	50.4	141,000
1913	Mar. 17, 1913	50.5	148,000	1945	Feb. 22, 1945	34.3	92,000
1914	Apr. 18, 1914	22.6	62,600				
1915	Feb. 5, 1915	33.8	93,100	1946	Jan. 9, 1946	47.2	130,000
				1947	Jan. 23, 1947	49.1	139,000
1916	July 12, 1916	54.3	180,000	1948	Feb. 15, 1948	37.5	101,000
1917	Mar. 7, 1917	50.7	149,000	1949	Dec. 1, 1948	58.2	234,000
1918	Dec. 25, 1918	47.2	131,000	1950	Mar. 17, 1950	29.2	80,600
1919	Dec. 11, 1919	60.0	263,000				
				1951	Apr. 1, 1951	46.2	137,000

Mobile River Basin

(45) Autauga Creek at Prattville, Ala.

Location.--Lat 32°28', long 86°28', in N½ sec. 17, T. 17 N., R. 16 E., at Bridge Street bridge in Prattville, Autauga County, 500 ft downstream from dam, and 5 miles upstream from mouth.

Drainage area.--119 sq mi.

Gage.--The following gages have been used:

1. Jan. 6, 1939, to May 7, 1939, nonrecording gage 100 ft downstream from present site at datum 168.23 ft above mean sea level.
2. May 8, 1939, to June 8, 1939, nonrecording gage 100 ft downstream from present site at datum 166.23 ft above mean sea level.
3. June 9, 1939, to May 14, 1943, recording gage at present site at datum 166.23 ft above mean sea level.
4. May 15, 1943, to Nov. 7, 1943, nonrecording gage 3 miles downstream from present site.
5. Nov. 8, 1943, to Sept. 26, 1944, recording gage half a mile downstream from present site at datum 158.42 ft above mean sea level.
6. Sept. 27, 1944, to date, recording gage at present site. Datum of gage is 164.38 ft above mean sea level, datum of 1929, supplementary adjustment of 1943.

Stage-discharge relation.--Defined by current-meter measurements below 15,000 cfs and extended above at sites in use before 1943. Defined by current-meter measurements below 2,000 cfs and extended above by logarithmic plotting at present site. Stage-discharge relations before and subsequent to 1943 are not comparable owing to major channel improvement during that year.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1920	Dec. 9, 1919	[a]18.85	23,000	1944	Apr. 27, 1944	-	3,940
				1945	Apr. 26, 1945	[a]3.8	1,920
1938	Apr. - 1938	[b]16.0	18,000				
1939	Aug.16,17,1939	[b]16.5	21,800	1946	Jan. 7, 1946	[a]4.8	2,890
1940	Mar. 14, 1940	[b]8.8	2,860	1947	Jan. 20, 1947	[a]4.0	2,060
				1948	May 29, 1948	[a]2.6	968
1941	July 16, 1941	[b]5.0	963	1949	Nov. 28, 1948	[a]5.1	3,200
1942	Mar. 22, 1942	[b]7.0	1,860	1950	July 31, 1950	[a]3.2	1,410
1943	Mar. 21, 1943	[b]7.0	1,860				
				1951	Mar. 30, 1951	[a]4.0	2,160

a Present datum.
b Datum then in use.

Mobile River Basin

(46) Big Swamp Creek near Hayneville, Ala.

Location.--Lat 32°11', long 86°36', in sec. 19, T. 14 N., R. 15 E., at bridge on State Highway 11, 1 mile downstream from Fort Deposit Creek, and 1½ miles southwest of Hayneville, Lowndes County.

Drainage area.--122 sq mi.

Gage.--Recording gage. Datum of gage, 164.25 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 10,000 cfs and by contracted-opening determination at 39,000 cfs.

Remarks.--Station discontinued September 1946. The flood of Nov. 27, 1948, reached a stage of 14.7 ft; based on a floodmark.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1939	Aug. 17, 1939	11.3	10,800	1944	Mar. 23, 1944	12.1	19,100
1940	June 29,30,1940	11.0	10,600	1945	Apr. 25, 1945	10.5	4,120
1941	Mar. 8, 1941	10.1	5,270	1946	Jan. 6, June 1	12.1	17,200
1942	Dec. 23, 1941	11.9	13,000				
1943	Mar. 21, 1943	11.8	14,300	1949	Nov. 27, 1948	14.7	39,000

(47) Big Swamp Creek near Lowndesboro, Ala.

Location.--Lat 32°16', long 86°42', in NE¼ sec. 19, T. 15 N., R. 14 E., at bridge on U. S. Highway 80, 1 mile downstream from Panther Creek, 5 miles west of Lowndesboro, Lowndes County, and 12 miles upstream from mouth.

Drainage area.--242 sq mi.

Gage.--Nonrecording gage December 1937 to April 1938, October 1940 to June 22, 1949, and recording gage thereafter. Datum of gage is 127.95 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 25,000 cfs and extended above.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1941	Mar. 8, 1941	16.6	6,700	1947	Apr. 3, 1947	16.4	5,950
1942	Dec. 24, 1941	18.2	15,500	1948	Mar. 7, 1948	17.0	7,890
1943	Mar. 21, 1943	19.5	24,100	1949	Nov. 27, 1948	21.3	37,000
1944	Mar. 23, 1944	19.0	20,800	1950	July 13, 1950	15.6	3,340
1945	Apr. 25, 1945	18.2	15,500	1951	Apr. 22, 1951	15.0	2,130
1946	June 2, 1946	18.3	16,200				

Mobile River Basin

(48) Mulberry River at Jones, Ala.

Location.--Lat 32°35', long 86°54', in E½ sec. 31, T. 19 N., R. 12 E., at bridge on county highway, 0.4 mile west of Jones, Autauga County, 6 miles upstream from Buck Creek, and 11 miles upstream from mouth.

Drainage area.--205 sq mi.

Gage.--Nonrecording gage before June 2, 1939, and recording gage thereafter. Datum of gage is 165.23 ft above mean sea level, datum of 1929, supplementary adjustment of 1943.

Stage-discharge relation.--Defined by current-meter measurements below 30,000 cfs and extended above by logarithmic plotting.

Historical data.--The flood of April 1938 reached a stage of 33.6 ft; from information by local residents.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1938	Apr. - 1938	33.6	48,000	1945	Apr. 25, 1945	14.2	8,800
1939	Aug. 16, 1939	30.4	32,800	1946	Jan. 7, 1946	10.0	5,360
1940	July 5, 1940	9.6	4,480	1947	Jan. 20, 1947	18.2	11,600
				1948	Mar. 23, 1948	12.4	7,020
1941	July 17, 1941	8.0	3,420	1949	Nov. 27, 1948	10.8	5,820
1942	Mar. 21, 1942	20.0	12,800				
1943	Dec. 28, 1942	18.4	13,600	1950	July 15, 1950	8.0	3,850
1944	Apr. 27, 1944	11.8	7,070	1951	Mar. 29, 1951	23.8	18,200

(49) Alabama River at Selma, Ala.

Location.--Lat 32°24', long 87°01', in T. 17 N., R. 10 E., at Edmond Pettus Bridge on U. S. Highway 80, in Selma, Dallas County, 1 mile upstream from Valley Creek.

Drainage area.--17,100 sq mi.

Gage.--Nonrecording gage from December 1890 to June 21, 1928; recording gage from June 22, 1928, to Apr. 11, 1938; nonrecording gage from Apr. 12, 1938, to May 20, 1940, and recording gage thereafter. Gages before May 21, 1940, were at site 300 ft upstream. All gages maintained at same datum which is 61.80 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 190,000 cfs. Discharge measurements to 144,000 cfs were made in 1906. Stage-discharge relation affected by variable slopes.

Historical data.--The flood of Apr. 8, 1886, reached a stage of 57.0 ft, from floodmarks.

Remarks.--Annual flood heights for 1891-98 and 1914-28 from records of U. S. Weather Bureau. Maxima listed before 1930 are for calendar year.

Mobile River Basin

(49) Alabama River at Selma, Ala.--Continued

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)
1886	Apr. 8, 1886	57.0	221,000
1891	Mar. 14, 1891	48.0	136,000
1892	Jan. 19, 1892	54.0	179,000
1893	Feb. 21, 1893	44.6	123,000
1894	Feb. 17, 1894	30.5	81,000
1895	Mar. 20, 1895	42.6	117,000
1896	Feb. 11, 1896	32.8	87,000
1897	Mar. 26, 1897	41.5	113,000
1898	Oct. 11, 1898	28.5	75,000
1899	Mar. 3, 1899	38.8	104,000
1900	Feb. 17, 1900	48.0	136,000
1901	Jan. 17, 1901	40.0	108,000
1902	Apr. 2, 1902	50.7	152,000
1903	Feb. 15, 1903	50.6	151,000
1904	Aug. 11, 1904	22.9	59,000
1905	Feb. 16, 1905	42.0	115,000
1906	Mar. 24, 1906	50.4	144,000
1907	Mar. 6, 1907	37.5	100,000
1908	Feb. 20, 1908	43.0	116,000
1909	Mar. 18, 1909	52.9	167,000
1910	July 7, 1910	31.6	84,000
1911	Jan. 7, 1911	29.6	78,000
1912	Apr.24,25,1912	48.6	139,000
1913	Mar. 19, 1913	49.4	143,000
1914	Apr. 19, 1914	23.7	62,000
1915	Feb. 6, 1915	35.4	95,000
1916	July 14, 1916	53.9	177,000
1917	Mar. 9, 1917	50.1	148,000
1918	Dec. 26, 1918	46.4	129,000
1919	Dec. 14, 1919	55.9	204,000
1920	Apr. 7, 1920	48.8	145,000
1921	Feb. 14, 1921	43.5	120,000
1922	Mar. 14, 1922	49.6	150,000
1923	Feb. 17, 1923	36.2	95,000
1924	Jan. 20, 1924	30.0	76,000
1925	Jan. 22, 1925	53.6	61,000
1926	Jan. 9, 1926	36.8	97,000
1927	Feb. 17, 1927	37.8	101,000
1928	Apr. 27, 1928	48.0	141,000
1929	Mar. 19, 1929	55.5	204,000
1930	Nov. 20, 1929	50.4	161,000
1931	Nov. 20, 1930	27.8	68,500
1932	Feb. 25, 1932	37.1	93,800
1933	Jan. 1, 1933	50.8	164,000
1934	Mar. 8, 1934	41.3	108,000
1935	Mar. 10, 1935	36.7	92,600
1936	Feb. 10, 1936	53.1	177,000
1937	May 6, 1937	42.3	117,000
1938	Apr. 12, 1938	55.4	192,000
1939	Aug. 19, 1939	53.8	151,000
1940	Mar.16,17,1950	34.8	91,200
1941	Mar. 10, 1941	19.6	44,900
1942	Mar. 25, 1942	44.2	123,000
1943	Mar. 25, 1943	52.4	165,000
1944	Apr. 29, 1944	[a]50.2	153,000
1945	Feb. 23, 1945	37.9	103,000
1946	Jan. 10, 1946	[a]47.2	139,000
1947	Jan. 23, 1947	[a]50.1	153,000
1948	Feb. 15, 1948	40.7	111,000
1949	Dec. 3, 1948	56.0	202,000
1950	Mar. 17, 1950	[a]31.0	79,600
1951	Apr. 2,3,1951	48.0	139,000

a Occurred on following day.

Mobile River Basin

(50) Cahaba River near Acton, Ala.

Location.--Lat 33°22', long 86°49', in SE¼ sec. 23, T. 19 S., R. 3 W., at bridge on U. S. Highway 31, half a mile upstream from Patton Creek, 1 mile northwest of Acton, Shelby County, and 16 miles south of Birmingham.

Drainage area.--229 sq mi.

Gage.--Nonrecording gage Oct. 7, 1938, to Feb. 25, 1939, and recording gage thereafter. Datum of gage is 375.00 ft above mean sea level, adjustment of 1912.

Stage-discharge relation.--Defined by current-meter measurements below 22,000 cfs. Stage-discharge relation affected by variable slopes.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1939	Feb. 28, 1939	19.0	5,200	1946	Feb. 10, 1946	33.1	13,800
1940	Feb. 6, 1940	20.0	5,570	1947	Jan. 20, 1947	29.3	10,800
				1948	Feb. 9, 1948	20.3	5,660
1941	Aug. 3, 1941	17.1	4,510	1949	Nov. 29, 1948	39.8	21,000
1942	Mar. 21, 1942	20.4	5,720	1950	Mar. 14, 1950	20.2	5,580
1943	Dec. 28, 1942	44.2	25,500				
1944	Mar. 29, 1944	26.4	9,230	1951	Mar. 29, 1951	36.8	18,100
1945	Feb. 13, 1945	22.0	6,360				

(51) Cahaba River at Centerville, Ala.

Location.--Lat 32°56', long 87°08', in E½ sec. 26, T. 23 N., R. 9 E., at bridge on U. S. Highway 82, a quarter of a mile west of Centerville, Bibb County, half a mile upstream from Gulf Mobile and Ohio RR. bridge, and 2½ miles upstream from Sandy Creek.

Drainage area.--1,030 sq mi.

Gage.--The following gages at the same site have been used by the Geological Survey:

1. Aug. 7, 1901, to Feb. 5, 1908, nonrecording gage at datum 1.15 ft lower than present datum.
2. May 6, 1929, to Mar. 31, 1932, nonrecording gage at present datum.
3. May 29, 1935, to Jan. 31, 1939, nonrecording gage at present datum.
4. Jan. 31, 1939, to date, recording gage; datum of gage is 180.74 ft, above mean sea level, datum of 1929, supplementary adjustment of 1944.

The U. S. Weather Bureau has operated a nonrecording gage at the same site since December 1916. The datum of this gage was lowered 0.3 ft on Mar. 1, 1919, to present datum which is the same as datum of present U. S. Geological Survey gage.

Stage-discharge relation.--Defined by current-meter measurements below 73,000 cfs. Stage-discharge relation affected by variable slope.

Remarks.--Unless otherwise noted, annual floods before 1929 and from 1932-35 were computed from maximum stage observed which may not represent the absolute maximum. Annual flood stages for 1902-07 are referred to datum then in use; other stages are to present datum. Peak for July 8, 1916, from levels to a high-water mark by Alabama Highway Dept.

Mobile River Basin

(51) Cahaba River at Centerville, Ala.--Continued

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1902	Mar. 28, 1902	[a]36.7	70,100	1931	Nov. - 1930	21.8	13,800
1903	Feb. 8, 1903	31.6	39,500	1932	Mar. 31, 1932	30.1	37,600
1904	Feb. 8, 1904	11.5	4,790	1933	Mar. 30, 1933	28.0	24,200
1905	Feb. 9, 1905	25.9	18,600	1934	Mar. 3, 1934	32.0	47,000
				1935	Mar. 7, 1935	28.0	24,200
1906	Mar. 19, 1906	[a]35.5	64,000				
1907	May 15, 1907	25.2	17,200	1936	Feb. 4, 1936	35.8	76,200
				1937	Mar. 20, 1937	28.8	27,300
1916	July 8, 1916	[a]36.2	80,000	1938	Apr. 8, 1938	36.6	82,800
1917	Mar. 4, 1917	27.1	21,600	1939	Aug. 16, 1939	31.6	45,900
1918	Jan. - 1918	21.5	10,500	1940	Feb. 6, 1940	27.0	27,100
1919	Oct. 30, 1918	33.0	54,000				
1920	Dec. 9, 1919	32.8	53,000	1941	Mar. 7, 1941	21.8	15,600
				1942	June 13, 1942	30.5	43,400
1921	Apr. 17, 1921	31.0	40,000	1943	Dec. 28, 1942	34.4	77,700
1922	Mar. 11, 1922	25.0	17,000	1944	Mar. 29, 1944	28.0	31,600
1923	Feb. 13, 1923	30.0	34,000	1945	May 13, 1945	27.5	30,100
1924	Feb. 27, 1924	21.5	10,500				
1925	Jan. 18, 1925	29.1	29,000	1946	Feb. 10, 1946	29.3	37,200
				1947	Jan. 20, 1947	30.6	43,900
1926	Jan. - 1926	24.0	15,000	1948	Feb. 9, 1948	26.0	24,800
1927	Feb. 14, 1927	27.0	21,400	1949	Nov. 28, 1948	32.6	57,400
1928	Apr. 22, 1928	29.5	31,000	1950	Mar. 14, 1950	21.2	13,900
1929	Mar. - 1929	32.5	50,600				
1930	Nov. 15, 1929	34.0	61,000	1951	Mar. 29, 1951	34.8	83,600

[a] Crest.

Mobile River Basin

(52) Cahaba River at Sprott, Ala.

Location.--Lat 32°40', long 87°14', in NE¼ sec. 35, T. 20 N., R. 8 E., at bridge on State Highway 43, half a mile upstream from Goose Creek, 1 mile west of Sprott, Perry County, and 5½ miles northeast of Marion.

Drainage area.--1,380 sq mi.

Gage.--Nonrecording gage Oct. 14, 1938, to May 10, 1947, and recording gage at same site thereafter. Datum of gage is 129.51 ft above mean sea level, datum of 1929, supplementary adjustment of 1943.

Stage-discharge relation.--Defined by current-meter measurements below 78,000 cfs.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1938	Apr. 9, 1938	[a]28.6	95,000	1945	May 14, 1945	20.1	25,600
1939	Aug. 16, 1939	27.5	85,200				
1940	Feb. 7, 1940	19.6	23,400	1946	Feb. 12, 1946	20.9	29,400
				1947	Jan. 21, 1947	23.3	44,200
1941	Mar. 9, 1941	15.7	12,400	1948	Feb. 11, 1948	19.3	23,300
1942	Mar. 22, 1942	21.7	35,000	1949	Nov. 30, 1948	24.1	50,100
1943	Dec. 29, 1942	27.2	80,800	1950	Mar. 15, 1950	15.7	13,100
1944	Mar. 30, 1944	21.4	32,100				
				1951	Mar. 30, 1951	27.2	80,000

a By levels to high-water mark, by Corps of Engineers.

(53) Cahaba River near Marion Junction, Ala.

Location.--Lat 32°27', long 87°11', on line between secs. 16 and 21, T. 17 N., R. 9 E., at bridge on U. S. Highway 80, half a mile upstream from Southern Ry. bridge, 3 miles downstream from Oakmulgee Creek, 3½ miles east of Marion Junction, Dallas County, and 20 miles upstream from mouth.

Drainage area.--1,780 sq mi.

Gage.--Nonrecording gage July 2, 1937, to Jan. 13, 1939, and recording gage thereafter. Datum of gage is 86.72 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 75,000 cfs. Stage-discharge relation affected by backwater.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1939	Aug. 16, 1939	43.0	83,400	1946	Feb. 14, 1946	35.1	25,300
1940	Feb. 9, 1940	29.7	16,600	1947	Jan. 22, 1947	39.6	44,900
1941	Mar. 10, 1941	22.4	12,200	1948	Feb. 13, 1948	32.0	20,700
1942	Mar. 24, 1942	[a]36.8	29,000	1949	Dec. 1, 1948	39.4	42,800
1943	Dec. 30, 1942	[a]41.6	77,600	1950	Mar. 17, 1950	20.9	12,500
1944	Apr. 1, 1944	37.4	29,500	1951	Mar. 31, 1951	41.8	80,400
1945	Feb. 24, 1945	30.7	19,100				

a Did not occur at same time as peak discharge.

Mobile River Basin

(54) Boguechitto Creek near Browns, Ala.

Location.--Lat 32°26', long 87°20', in NW¼ sec. 24, T. 17 N., R. 7 E., at bridge on U. S. Highway 80, a third of a mile upstream from Southern Ry. bridge, 2 miles east of Browns, Dallas County, and 2½ miles downstream from Washington Creek.

Drainage area.--93 sq mi.

Gage.--Nonrecording gage before Dec. 10, 1949, and recording gage thereafter. Datum of gage is 129.39 ft above mean sea level, datum of 1929, supplementary adjustment of 1943.

Stage-discharge relation.--Defined by current-meter measurements below 14,000 cfs.

Historical data.--The flood of Dec. 28, 1942, reached a stage of 20.7 ft; from floodmarks.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1943	Dec. 28, 1942	20.7	19,000	1948	Mar. 23, 1948	14.8	3,290
1944	Mar. 23, 1944	16.4	6,710	1949	Feb. 16, 1949	14.6	3,000
1945	Mar. 26, 1945	17.2	9,440	1950	May 21, 1950	10.6	1,020
1946	Mar. 28, 1946	14.3	2,800	1951	Mar. 29, 1951	19.0	14,200
1947	Jan. 20, 1947	16.6	7,320				

(55) Boguechitto Creek near Orrville, Ala.

Location.--Lat 32°18', long 87°17', in NW¼ sec. 4, T. 15 N., R. 8 E., at bridge on State Highway 22, 300 ft downstream from Louisville & Nashville RR. bridge, three-quarters of a mile downstream from Tatum Creek, and 2 miles west of Orrville, Dallas County.

Drainage area.--276 sq mi.

Gage.--Nonrecording gage. Datum of gage was 91.09 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 24,000 cfs and extended above by logarithmic plotting.

Historical data.--The flood of Dec. 29, 1942, reached a stage of 29.4 ft; from floodmarks.

Remarks.--Station discontinued in September 1949.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1943	Dec. 29, 1942	29.4	47,000	1947	Jan. 20, 1947	25.4	23,400
1944	Apr. 27, 1944	26.6	32,400	1948	Mar. 4, 1948	20.7	9,160
1945	Mar. 26, 1945	25.4	23,400	1949	Feb. 16, 1949	22.8	13,600
1946	Mar. 28, 1946	24.3	16,600				

Mobile River Basin

(56) Alabama River near Millers Ferry, Ala.

Location.--Lat 32°07', long 87°24', in NW¼ sec. 8, T. 13 N., R. 7 E., at bridge on State Highway 28, just downstream from Prairie Creek, and 2¼ miles northwest of Millers Ferry, Wilcox County.

Drainage area.--20,700 sq mi.

Gage.--Nonrecording. Datum of gage is 26.82 ft above mean sea level, datum of 1929, supplementary adjustment of 1943.

Stage-discharge relation.--Defined by current-meter measurements below 217,000 cfs; stage-discharge relation affected by variable slope.

Historical data.--Flood in April 1886 reached a stage of from 1 to 5 ft higher than that of March 1929; from information by local residents.

Remarks.--Records for 1932-37 from U. S. Weather Bureau.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1929	Mar. - 1929	56.8	238,000	1941	Mar. 10, 1941	26.7	58,600
				1942	Mar. 27, 1942	47.4	132,000
1932	Feb. 26, 1932	41.9	107,000	1943	Mar. 27, 1943	52.9	184,000
1933	Jan. 3,4,1933	51.8	173,000	1944	May 2, 1944	51.7	174,000
1934	Mar. 9, 1934	45.0	122,000	1945	Feb. 24, 1945	42.8	112,000
1935	Mar. 13, 1935	43.7	117,000				
				1946	Jan. 13, 1946	49.3	150,000
1936	Feb. 12, 1936	53.1	187,000	1947	Jan. 26, 1947	51.5	172,000
1937	May 9, 1937	46.2	129,000	1948	Feb. 15, 1948	45.4	129,000
1938	Apr. 14, 1938	56.6	237,000	1949	Dec. 5, 1948	56.2	215,000
1939	Aug. 20, 1939	54.8	206,000	1950	Mar. 19, 1950	35.2	90,200
1940	Mar. 16, 1940	39.3	104,000				
				1951	Apr. 4,5,1951	49.9	155,000

(57) Flat Creek at Fountain, Ala.

Location.--Lat 31°37', long 87°25', in SE¼ sec. 36, T. 8 N., R. 6 E., at bridge on State Highway 11, three-quarters of a mile downstream from St. Louis-San Francisco Ry. bridge, 1 mile northwest of Fountain, Monroe County, 2 miles upstream from Bradley Mill Creek, and 8 miles upstream from mouth.

Drainage area.--253 sq mi.

Gage.--Nonrecording gage Mar. 10, 1943, to July 12, 1944, and recording gage at same site thereafter.

Stage-discharge relation.--Defined by current-meter measurements below 17,000 cfs and extended above by logarithmic plotting.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1944	Apr. 27, 1944	21.2	17,300	1948	Dec. 11, 1947	18.7	8,900
1945	Apr.29,30,1945	12.7	3,250	1949	Nov. 27, 1948	23.2	26,000
1946	May 21, 1946	18.9	9,700	1950	July 30, 1950	11.6	2,860
1948	Apr. 3, 1947	18.2	7,950	1951	Apr. 21, 1951	14.7	4,490

Mobile River Basin

(58) Alabama River at Claiborne, Ala.

Location.--Lat 31°32', long 87°31', in NE¼ sec. 25, T. 7 N., R. 5 E., at bridge on U. S. Highway 84, at Claiborne, Monroe County, half a mile downstream from Limestone Creek and 12 miles west of Monroeville.

Drainage area.--22,000 sq mi.

Gage.--Recording gage. Datum of gage is 0.4 ft above mean sea level, datum of 1929, supplementary adjustment of 1943.

Stage-discharge relation.--Defined by current-meter measurements below 220,000 cfs.

Historical data.--The flood of Mar. 25, 1929, is reported to have reached a stage of 54.6 ft.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1929	Mar. 25, 1929	54.6	270,000	1941	Mar. 11, 1941	30.0	59,800
				1942	Mar. 29, 1942	44.0	134,000
1931	Nov. 22, 1930	33.0	72,800	1943	Mar. 29, 1943	49.0	183,000
1932	Feb. 27, 1932	40.9	114,000	1944	May 4, 1944	47.7	168,000
1933	Jan. 6, 1933	48.0	172,000	1945	May 1, 1945	41.4	114,000
1934	Mar. 11, 1934	42.3	122,000				
1935	Mar. 14, 1935	42.3	122,000	1946	Jan. 17, 1946	45.9	150,000
				1947	Jan. 29, 1947	47.2	163,000
1936	Feb. 15, 1936	49.0	183,000	1948	Feb. 19, 1948	43.1	128,000
1937	May 11, 1937	43.2	128,000	1949	Dec. 9, 1948	52.0	219,000
1938	Apr.16,17,1938	52.2	227,000	1950	Mar. 21, 1950	35.8	84,900
1939	Aug. 24, 1939	50.1	197,000				
1940	Mar.19,20,1940	38.5	99,200	1951	Apr.7,8, 1951	45.7	148,000

(59) Bull Mountain Creek at Tremont, Miss.

Location.--Lat 34°14', long 88°16', in SW¼ sec. 5, T. 10 S., R. 10 E., Chickasaw meridian, at bridge on U. S. Highway 78, 0.7 mile northwest of Tremont, 1 mile upstream from Johns Creek, 1½ miles upstream from Cypress Creek, 3¼ miles upstream from Chubby Creek, and 8 miles southeast of Fulton.

Drainage area.--120 sq mi.

Gage.--Nonrecording gage before July 22, 1949, and recording gage thereafter. Datum of gage is 317.39 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1941	July 5, 1941	7.5	2,100	1947	Jan. 2, 1947	8.0	3,660
				1948	Feb. 13, 1948	9.4	11,600
1944	Mar. 29, 1944	9.1	8,800	1949	Jan. 5, 1949	8.8	7,000
1945	Feb. 22, 1945	8.8	6,800	1950	Jan. 6, 1950	9.0	8,240
1946	Jan. 8, 1946	9.5	13,000	1951	Mar. 29, 1951	9.6	13,500

Mobile River Basin

(60) Bull Mountain Creek near Smithville, Miss.

Location.--Lat 34°05', long 88°24', in SE¼ sec. 30, T. 11 S., R. 9 E., at old bridge on State Highway 25, 0.8 mile upstream from Mississippian Ry. bridge, 1.1 miles north of Smithville, and 3½ miles upstream from mouth.

Drainage area.--335 sq mi.

Gage.--Nonrecording gage before Oct. 14, 1948, and recording gage thereafter. Datum of gage is 234.81 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1941	July 7, 1941	9.3	2,110	1947	Jan. 3, 1947	13.0	9,100
1942	Mar. 19, 1942	10.8	4,050	1948	Feb. 13, 1948	15.2	24,800
1943	Dec. 30, 1942	11.4	4,800	1949	Jan. 5, 1949	14.4	17,400
1944	Mar. 29, 1944	14.9	22,000	1950	Jan. 7, 1950	13.9	14,200
1945	Feb. 23, 1945	13.7	12,900	1951	Mar. 29, 1951	15.5	26,700
1946	Jan. 9, 1946	14.3	17,100				

(61) East Fork Tombigbee River at Bigbee, Miss.

Location.--Lat 34°01', long 88°31', in NE¼ sec. 25, T. 12 S., R. 7 E., Chickasaw meridian, at bridge on State Highway 6, 0.2 mile upstream from St. Louis-San Francisco Ry. bridge, 0.5 mile southeast of Bigbee, 2 miles northwest of Amory, 3.7 miles upstream from confluence with West Fork, 8¼ miles downstream from Boguefala Creek, and 15¼ miles downstream from Bull Mountain Creek.

Drainage area.--1,194 sq mi.

Gage.--Nonrecording gage before Sept. 9, 1949, and recording gage thereafter. Datum of gage is 190.0 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 26,000 cfs and extended above on basis of area-velocity studies and runoff for stations on nearby streams.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1937	Jan. 24, 1937	15.7	13,200	1944	Mar. 30, 1944	24.0	49,600
1938	Apr. 21, 1938	16.7	15,000				
1939	Feb. 17, 1939	20.0	25,600	1946	Feb. 11, 1946	22.5	36,500
1940	Apr. 21, 1940	18.0	25,200				
				1948	Feb. 15, 1948	24.9	52,800
1941	Dec. 16, 1940	10.9	5,330	1949	Jan. 6, 1949	23.6	42,000
1942	Mar. 20, 1942	15.5	12,100	1950	Feb. 16, 1950	21.4	29,600
1943	Jan. 1, 1943	13.0	7,790	1951	Mar. 30, 1951	23.6	43,900

Mobile River Basin

(62) Tombigbee River at Aberdeen, Miss.

Location.--Lat 33°49', long 88°31', in N½ sec. 27, T. 14 S., R. 19 W., Huntsville meridian, at bridge on U. S. Highway 45, 1.3 miles downstream from St. Louis-San Francisco Ry. bridge, 1.5 miles east of Aberdeen, 2 miles downstream from Matubby Creek, 6 miles downstream from Halfway Creek, 13¼ miles upstream from McKinley Creek, and at mile 384.6 (authority, U. S. Weather Bureau).

Drainage area.--2,210 sq mi.

Gage.--Nonrecording gage before Aug. 30, 1939, and recording gage thereafter. Before Nov. 4, 1934, at site 1.3 miles upstream at same datum. Datum of gage is 154.71 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements.

Historical data.--The flood of April 20, 1892, reached a stage of 44.8 ft at former site, 1.3 miles upstream.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1892	Apr. 20, 1892	44.8	-	1940	Apr. 22, 1940	33.9	19,800
1929	Mar. 25, 1929	39.2	31,100	1941	Dec. 18, 1940	26.9	10,500
1930	May 21, 1930	36.1	20,700	1942	Mar. 19, 1942	28.2	14,200
				1943	Mar. 15, 1943	32.7	19,300
1931	Feb. 27, 1931	26.5	9,780	1944	Mar. 30, 1944	40.7	68,600
1932	Dec. 16, 1931	39.6	33,100	1945	Mar. 6, 1945	36.8	29,000
1933	Dec. 15, 1932	38.4	27,800				
1934	Mar. 5, 1934	34.0	16,600	1946	Jan. 10, 1946	39.9	59,000
1935	Mar. 14, 1935	34.6	21,100	1947	Jan. 5, 1947	37.0	28,500
				1948	Feb. 15, 1948	42.0	97,000
1936	Apr. 11, 1936	34.8	21,300	1949	Jan. 6, 1949	41.4	87,000
1937	Jan. 25, 1937	34.6	20,900	1950	Feb. 16, 1950	38.5	39,800
1938	Apr. 10, 1938	30.8	14,000				
1939	June 20, 1939	35.4	22,800	1951	Mar. 31, 1951	40.5	64,300

(63) Buttahatchee River near Hamilton, Ala.

Location.--Lat 34°03', long 88°01', in sec. 4, T. 12 S., R. 14 W., at Stuck Springs, three-quarters of a mile downstream from Lamar-Marion County line, 7 miles downstream from Woods Creek, and 7 miles south of Hamilton, Marion County.

Drainage area.--308 sq mi.

Gage.--Recording gage. Datum of gage was 333.84 ft above mean sea level, datum of 1929, supplementary adjustment of 1944.

Stage-discharge relation.--Defined by current-meter measurements below 21,000 cfs.

Remarks.--Station discontinued in December 1950.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1942	Feb. 16, 1942	16.9	4,740	1946	Jan. 8, 1946	27.8	21,300
1943	Dec. 28, 1942	20.7	7,200	1947	Apr. 11, 1947	24.0	12,500
1944	Mar. 28, 1944	27.5	20,600	1948	Feb. 12, 1948	26.1	17,300
1945	Feb. 22, 1945	25.2	15,200	1949	Jan. 5, 1949	28.1	22,100
				1950	Jan. 6, 1950	28.4	22,800

Mobile River Basin

(64) Buttahatchee River near Sulligent, Ala.

Location.--Lat 33°55', long 88°09', in NE¼ sec. 19, T. 13 S., R. 15 W., at bridge on State Highway 19, 1 mile upstream from Bogue Creek, 1½ miles northwest of Sulligent, Lamar County, and 2 miles downstream from Beaver Creek.

Drainage area.--460 sq mi.

Gage.--Nonrecording gage. Datum of gage is 287.58 ft above mean sea level, datum of 1929, supplementary adjustment of 1941.

Stage-discharge relation.--Defined by current-meter measurements below 30,000 cfs.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1939	May 23, 1939	13.6	3,470	1946	Jan. 8, 1946	15.5	33,000
1940	Mar. 4, 1940	13.8	3,640	1947	Apr. 12, 1947	14.4	11,800
				1948	Feb. 13, 1948	15.1	25,400
1941	Mar. 8, 1941	13.5	3,390	1949	Jan. 5, 1949	15.4	27,000
1942	Feb.18, 1942	12.9	3,000	1950	Jan. 7, 1950	16.4	32,800
1943	Dec.29, 1942	13.9	6,920				
1944	Mar.29, 1944	15.2	26,000	1951	Mar. 29, 1951	15.7	29,700
1945	Feb.23, 1945	14.4	11,200				

(65) Buttahatchee River near Caledonia, Miss.

Location.--Lat 33°42', long 88°21', in SW¼ sec. 5, T. 16 S., R. 17 W., Huntsville meridian, at bridge on county road, 600 ft downstream from Elbethel Creek, 2 miles northwest of Caledonia, 2 miles upstream from Dry Creek, 16 miles north of Columbus, and 19 miles upstream from mouth.

Drainage area.--823 sq mi.

Gage.--Nonrecording gage. Before Sept. 12, 1951, gage was located 50 ft upstream from present site. Before June 1, 1932, datum of gage was 0.62 ft lower than present datum. Present datum of gage is 198.59 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements.

Historical data.--The flood of July 1916 reached a stage of about 22.6 ft; from information by local residents.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1916	July - 1916	22.6	-	1943	Mar. 16, 1943	13.4	10,400
				1944	Mar. 30, 1944	17.6	30,700
1929	Mar. 25, 1929	17.0	21,100	1945	Feb. 24, 1945	16.5	19,200
1930	Nov. 15, 1929	17.4	23,000	1946	Jan. 9, 1946	17.6	26,200
1931	Mar. 31, 1931	13.2	7,700				
1932	Feb. 18, 1932	15.3	13,100	1947	Apr. 14, 1947	15.5	16,000
				1948	Feb. 15, 1948	17.5	24,000
1940	Mar. 6, 1940	13.3	9,700	1949	Jan. 6, 1949	18.6	30,800
1941	Mar. 11, 1941	10.6	4,850	1950	Jan. 8, 1950	18.5	30,100
1942	Feb. 28, 1942	10.4	4,380	1951	Mar. 30, 1951	18.4	29,400

Mobile River Basin

(66) Tombigbee River at Columbus, Miss.

Location.--Lat 33°28', long 88°26', in NW¼ sec. 20, T. 18 S., R. 18 W., Huntsville meridian, in Columbus on left bank, 1,400 ft upstream from Gulf Mobile and Ohio RR. bridge, 1,600 ft downstream from bridge on U. S. Highway 45, 2.3 miles upstream from Luxapalila Creek, 6.7 miles downstream from Tibbee River, and at mile 334.0 (authority, U. S. Weather Bureau).

Drainage area.--4,490 sq mi.

Gage.--Nonrecording gage before Nov. 7, 1934, and recording gage thereafter. Nonrecording gages were located at various sites within a quarter mile upstream and downstream from present site. Before Mar. 13, 1934, datum was 4.00 ft higher than present datum. Present datum of gage is 128.91 ft above mean sea level, datum of 1929, supplementary adjustment of 1941.

Stage-discharge relation.--Defined by current-meter measurements.

Historical data.--Maximum stage known, 44.1 ft, present datum, April 8, 1892, from floodmark.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1892	Apr. 8, 1892	[a]42.6	-	1940	July 5, 1940	30.0	46,500
1929	Mar. 25, 1929	29.6	65,000	1941	Mar. 10, 1941	17.9	19,400
1930	May 21, 1930	28.8	60,000	1942	Feb. 27, 1942	17.9	19,500
				1943	Mar. 17, 1943	23.7	28,800
1931	Mar. 1, 1931	13.2	13,800	1944	Mar. 31, 1944	37.6	114,000
1932	Dec. 20, 1931	26.7	49,300	1945	Feb. 24, 1945	31.4	53,000
1933	Dec. 16, 1932	26.9	50,300				
1934	Mar. 7, 1934	28.7	41,500	1946	Feb. 16, 1946	36.0	90,700
1935	Mar. 9, 1935	28.1	39,400	1947	Apr. 15, 1947	30.7	49,400
				1948	Feb. 16, 1948	38.3	135,000
1936	Feb. 7, 1936	26.9	35,700	1949	Jan. 7, 1949	39.3	148,000
1937	Jan. 27, 1937	26.2	33,900	1950	Jan. 9, 1950	-	79,800
1938	Apr. 11, 1938	24.0	29,500				
1939	Mar. 2, 1939	24.2	29,800	1951	Mar. 31, 1951	37.8	118,000

a Present datum.

(67) Luxapalila Creek near Fayette, Ala.

Location.--Lat 33°43', long 87°52', in SW¼ sec. 26, T. 15 S., R. 15 W., at bridge on State Highway 18, 3 miles northwest of Fayette, Fayette County.

Drainage area.--127 sq mi.

Gage.--Nonrecording gage Feb. 18, 1939, to May 16, 1945, and recording gage at same site thereafter. Datum of gage is 322.33 ft above mean sea level, datum of 1929, supplementary adjustment of 1944.

Stage-discharge relation.--Defined by current-meter measurements below 9,000 cfs.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1940	Apr. 4, 1940	12.4	6,260	1946	Jan. 8, 1946	13.6	9,310
1941	Aug. 1, 1941	11.5	4,940	1947	Apr. 11, 1947	11.2	4,600
1942	Mar. 17, 1942	11.3	4,710	1948	Feb. 12, 1948	11.6	5,060
1943	Mar. 12, 1943	12.0	5,600	1949	Jan. 5, 1949	13.8	9,910
1944	Mar. 28, 1944	12.1	5,750	1950	Jan. 6, 1950	13.1	7,880
1945	Feb. 22, 1945	11.3	4,710	1951	Mar. 29, 1951	13.2	8,150

Mobile River Basin

(68) Luxapalila Creek at Steens, Miss.

Location.--Lat 33°34', long 88°19', in NE¼ sec. 27, T. 17 S., R. 17 W., Huntsville meridian, at bridge on county road a quarter of a mile southeast of Steens, 1 mile upstream from Yellow Creek, and 6½ miles northeast of Columbus.

Drainage area.--309 sq mi.

Gage.--Nonrecording gage before Sept. 30, 1947, and recording gage thereafter. Datum of gage is 179.45 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 8,100 cfs and extended above on basis of runoff for stations on nearby streams.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1944	Mar. 29, 1944	17.4	8,280	1948	-	-	-
1945	Feb. 14, 1945	16.1	6,050	1949	Jan. 6, 1949	19.2	16,000
1946	Jan. 10, 1946	18.0	10,500	1950	Jan.7,8, 1950	18.3	11,500
1947	Jan. 20, 1947	16.2	6,210	1951	Mar. 30, 1951	18.6	12,700

(69) Tombigbee River near Cochrane, Ala.

Location.--Lat 33°05', long 88°14', in sec. 7, T. 24 N., R. 2 W., at bridge on State Highway 17, 200 ft upstream from Alabama, Tennessee and Northern RR. bridge, 1¼ miles northeast of Cochrane, Pickens County, 2¼ miles downstream from Boguechitto Creek, and 7 miles southwest of Aliceville.

Drainage area.--5,990 sq mi.

Gage.--Nonrecording gage 200 ft downstream at present datum before July 9, 1939, and recording gage thereafter. Datum of gage is 89.85 ft above mean sea level, datum of 1929, supplementary adjustment of 1946.

Stage-discharge relation.--Defined by current-meter measurements below 160,000 cfs. Stage-discharge relation affected by variable slopes.

Historical flood data.--The flood of April 1892 reached a stage of 50.2 ft; from information by local residents.

Remarks.--Gage-height records collected at same site November 1909 to September 1924 are contained in reports of U. S. Weather Bureau. These were not used because of uncertain stage-discharge relation.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1892	Apr. - 1892	50.2	-	1945	Mar. 10, 1945	[c]37.7	54,800
1939	Mar. 3, 1939	33.2	35,000	1946	Feb. 15, 1946	[d]42.9	92,800
1940	July 8, 1940	[a]36.3	42,600	1947	Jan. 9, 1947	[e]36.4	52,700
				1948	Feb. 19, 1948	44.5	107,000
1941	Mar. 11, 1941	22.2	22,600	1949	Jan. 9, 1949	46.9	163,000
1942	Mar. 23, 1942	23.4	22,400	1950	Jan. 12, 1950	[d]41.8	77,200
1943	Mar. 18, 1943	[b]33.5	31,600				
1944	Apr. 3, 1944	43.8	108,000	1951	Apr. 2, 1951	45.0	124,000

a Occurred on July 16, 1940.
b Occurred on Mar. 23, 1943.
c Occurred on Feb. 28, 1945.
d Occurred on following day.
e Occurred on Jan. 11, 1947.

Mobile River Basin

(70) Sipsey River at Fayette, Ala.

Location.--Lat 33°40', long 87°49', in SW¼ sec. 8, T. 16 S., R. 12 W., at bridge on county road, 1 mile southeast of Fayette, Fayette County, and 1½ miles downstream from Southern Ry. bridge.

Drainage area.--275 sq mi.

Gage.--Nonrecording gage Feb. 13, 1939, to June 9, 1949, and recording gage at same site thereafter. Datum of gage is 296.72 ft above mean sea level, datum of 1929, supplementary adjustment of 1941.

Stage-discharge relation.--Defined by current-meter measurements below 14,000 cfs and extended above on basis of runoff for stations on nearby streams.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1939	Feb. 16, 1939	19.6	10,600	1946	Jan. 8, 1946	21.8	20,000
1940	Apr. 5, 1940	18.7	5,120	1947	Jan, 21, 1947	18.3	6,600
				1948	Feb, 14, 1948	19.1	8,800
1941	Mar. 9, 1941	16.1	1,960	1949	Jan. 6, 1949	21.1	17,900
1942	Mar. 19, 1942	16.6	2,180	1950	Jan. 7, 1950	21.2	20,500
1943	Dec. 29, 1942	18.9	7,140				
1944	Mar. 29, 1944	20.0	14,400	1951	Mar. 29, 1951	21.2	20,500
1945	Mar. 5, 1945	19.3	9,110				

(71) Sipsey River at Moores Bridge, Ala.

Location.--Lat 33°27', long 87°46', in NW¼ sec. 35, T. 18 S., R. 12 W., at bridge on State Highway 171, 1 mile east of Moores Bridge, Tuscaloosa County, and 6 miles downstream from Bear Creek.

Drainage area.--406 sq mi.

Gage.--Nonrecording gage. Datum of gage is 240.95 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 15,000 cfs and extended above on basis of runoff for stations on nearby streams.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1939	Feb. 5, 1939	14.4	9,350	1946	Jan. 10, 1946	16.8	23,600
1940	July 13, 1940	13.8	6,520	1947	Jan. 22, 1947	13.9	7,190
				1948	Feb. 15, 1948	14.5	10,200
1941	Aug. 2, 1941	13.5	5,140	1949	Jan. 7, 1949	15.8	17,500
1942	Mar. 22, 1942	13.3	4,320	1950	Jan. 8, 1950	16.4	21,100
1943	Mar. 15, 1943	14.2	8,390				
1944	Mar. 30, 1944	15.4	14,400	1951	Mar. 30, 1951	16.5	21,700
1945	Feb. 16, 1945	14.2	8,390				

Mobile River Basin

(72) Sipsey River near Elrod, Ala.

Location.--Lat 33°15', long 87°46', in NE¼ sec. 3, T. 21 S., R. 12 W., at bridge on U. S. Highway 82, a quarter of a mile upstream from Gulf Mobile and Ohio RR. bridge, 1 mile east of Elrod, Tuscaloosa County, and 2 miles downstream from Box Creek.

Drainage area.--515 sq mi.

Gage.--Nonrecording gage from Aug. 29, 1928, to Mar. 31, 1932, at railroad bridge a quarter of a mile downstream from present site and at datum 1.93 ft higher than present datum. Nonrecording gage at present site Nov. 1 to Dec. 10, 1939, and recording gage thereafter. Datum of gage is 197.81 ft above mean sea level, datum of 1929, supplementary adjustment of 1944.

Stage-discharge relation.--Defined by current-meter measurements below 15,000 cfs and extended above.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1930	Nov. 17, 1929	14.1	15,500	1945	Feb. 17, 1945	15.2	7,400
1931	Apr. 5, 1931	11.7	4,690				
1932	Feb. 22, 1932	12.3	7,090	1946	Jan. 11, 1946	17.8	18,600
				1947	Jan. 23, 1947	15.0	6,400
1940	July 13, 1940	15.4	8,260	1948	Feb. 16, 1948	15.6	9,200
1941	Aug. 1, 1941	15.0	6,560	1949	Jan. 7, 1949	17.3	17,700
1942	Mar. 23, 1942	14.2	3,630	1950	Jan. 9, 1950	18.1	21,000
1943	Mar. 17, 1943	15.2	7,760				
1944	Mar. 31, 1944	16.4	12,200	1951	Mar. 31, 1951	18.1	21,000

(73) Sipsey River near Pleasant Ridge, Ala.

Location.--Lat 33°02', long 88°07', in S½ sec. 20, T. 24 N., R. 1 W., at bridge on State Highway 40, 450 ft downstream from Hughes Creek, 2½ miles northwest of Pleasant Ridge, Greene County, and 6 miles upstream from mouth.

Drainage area.--766 sq mi.

Gage.--Nonrecording gage. From Jan. 31, 1939, to Dec. 21, 1942, gage was 300 ft upstream from present site at different datum, but all gage readings have been reduced to present datum which is 105.13 ft above mean sea level, datum of 1929, supplementary adjustment of 1946.

Stage-discharge relation.--Defined by current-meter measurements. Stage-discharge relation affected by backwater.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1939	Feb. 10, 1939	19.0	8,190	1946	Jan. 13, 1946	22.7	15,000
1940	July 16, 1940	19.2	7,020	1947	Jan. 21, 1947	[a]18.4	7,410
				1948	Feb. 15, 1948	[b]23.7	9,050
1941	Aug. 5, 1941	14.0	5,150	1949	Jan. 10, 1949	25.8	16,900
1942	Mar. 28, 1942	11.0	3,460	1950	Jan. 11, 1950	24.1	19,100
1943	Mar. 21, 1943	22.0	12,800				
1944	Apr. 3, 1944	22.7	10,400	1951	Apr. 2, 1951	25.5	21,900
1945	Feb. 22, 1945	20.0	9,110				

a Occurred on Jan. 26, 1947.
b Occurred on Feb. 19, 1948.

Mobile River Basin

(74) Noxubee River near Brooksville, Miss.

Location.--Lat 33°13', long 88°42', in center of sec. 19, T. 16 N., R. 16 E., Choctaw meridian, at bridge on county road, a quarter of a mile downstream from Shotbag Creek, 3½ miles upstream from Lynn Creek, 4½ miles downstream from Octoc Creek, 5¾ miles upstream from Yellow Creek, and 7 miles west of Brooksville.

Drainage area.--440 sq mi.

Gage.--Nonrecording gage before July 22, 1949, and recording gage thereafter.

Stage-discharge relation.--Defined by current-meter measurements below 14,000 cfs and extended above on basis of velocity-area studies and logarithmic plotting.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1940	July 9, 1940	21.4	19,600	1946	Feb. 11, 1946	20.9	17,100
1941	Mar. 11, 1941	17.9	3,360	1947	June 4, 1947	20.4	13,300
1942	Feb. 17, 1942	15.5	2,100	1948	Feb. 15, 1948	19.7	8,600
1943	Mar. 27, 1943	16.0	2,050	1949	Jan. 6, 1949	23.3	46,600
1944	Mar. 29, 1944	21.0	18,000	1950	Jan. 7, 1950	21.9	27,600
1945	Feb. 23, 1945	20.5	13,800	1951	Mar. 29, 1951	23.9	55,000

(75) Noxubee River at Macon, Miss.

Location.--Lat 33°06', long 88°34', in NE¼ sec. 4, T. 14 N., R. 17 E., Choctaw meridian, at bridge on U. S. Highway 45 in Macon, a quarter of a mile upstream from Cedar Creek, 1 mile downstream from Gulf Mobile and Ohio RR. bridge, 1½ miles downstream from Horse Hunters Creek, and 6¼ miles upstream from Running Water Creek.

Drainage area.--812 sq mi.

Gage.--Nonrecording gage before Aug. 10, 1939, and recording gage thereafter. Before May 31, 1932, gage was at site 40 ft downstream at different datum. Datum of present gage is 142.38 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1929	Mar. 15, 1929	26.5	7,450	1944	Mar. 30, 1944	29.9	23,400
1930	May 20, 1930	29.6	10,200	1945	Feb. 21, 1945	29.2	18,300
1931	Mar. 28, 1931	22.3	4,670				
1932	Feb. 22, 1932	26.6	7,410	1946	Feb. 11, 1946	30.0	24,200
				1947	Jan. 21, 1947	27.7	9,600
1939	Feb. 8, 1939	27.5	8,190	1948	Mar. 7, 1948	28.2	12,100
1940	July 10, 1940	30.3	25,000	1949	Jan. 6, 1949	32.7	50,000
				1950	Feb. 15, 1950	30.3	23,200
1941	Apr. 4, 1941	23.3	4,700				
1942	Feb. 18, 1942	20.7	3,430	1951	Mar. 30, 1951	33.0	52,000
1943	Mar. 22, 1943	26.1	5,750				

Mobile River Basin

(76) Noxubee River near Geiger, Ala.

Location.--Lat 32°55', long 88°18', in SE¼ sec. 33, T. 23 N., R. 3 W., at bridge on State Highway 17, half a mile upstream from Woodards Creek, 1 mile upstream from Alabama, Tennessee and Northern RR. bridge, and 4 miles north of Geiger, Sumter County.

Drainage area.--1,080 sq mi.

Gage.--Nonrecording gage at site 1 mile downstream from present site Mar. 5, 1939, to Oct. 24, 1940. Datum of gage was 84.64 ft above mean sea level, datum of 1929. Nonrecording gage at present site Oct. 15, 1942, to June 5, 1949, and recording gage thereafter. Datum of gages at present site is 86.08 ft above mean sea level, datum of 1929, supplementary adjustment of 1946.

Stage-discharge relation.--Defined by current-meter measurements below 32,000 cfs. Stage-discharge relation affected by backwater.

Remarks.--Records at present site before July 26, 1944, are fragmentary.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1940	July 10, 1940	41.3	22,800	1948	Feb. 16, 1948	36.0	14,500
				1949	Jan. 8, 1949	41.6	27,900
1945	Feb. 24, 1945	38.7	19,700	1950	Jan. 11, 1950	39.3	22,400
1946	Feb. 14, 1946	38.9	20,300	1951	Mar. 31, 1951	42.7	37,600
1947	Jan. 21, 1947	34.5	12,000				

(77) Tombigbee River at Gainesville, Ala.

Location.--Lat 32°49', long 88°09', in SE¼ sec. 2, T. 21 N., R. 2 W., at bridge on State Highway 39 at Gainesville, Sumter County, and 2 miles downstream from Noxubee River.

Drainage area.--8,700 sq mi.

Gage.--Recording gage. Datum of gage is 63.29 ft above mean sea level, datum of 1929, supplementary adjustment of 1946.

Stage-discharge relation.--Defined by current-meter measurements below 155,000 cfs. Stage-discharge relation affected by variable slope.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1937	Jan. 30, 1937	44.5	53,600	1945	Mar. 1, 1945	46.8	64,000
1938	Apr. 10, 1938	47.1	65,000				
1939	Mar. 7, 1939	44.3	53,500	1946	Feb. 17, 1946	50.9	112,000
1940	July 11, 1940	[a]46.7	62,500	1947	Jan. 26,27,1947	45.4	60,400
				1948	Feb. 21, 1948	51.2	119,000
1941	Mar. 9, 1941	[b]29.2	31,900	1949	Jan. 11, 1949	53.9	168,000
1942	Mar. 22, 1942	34.0	35,800	1950	Jan. 14, 1950	[c]49.9	101,000
1943	Mar. 22, 1943	[c]45.2	56,600				
1944	Apr. 5, 1944	50.6	112,000	1951	Apr. 3, 1951	[c]52.9	141,000

a Occurred on July 17, 1940.
b Occurred on Mar. 11, 1941.
c Occurred on following day.

Mobile River Basin

(78) Mulberry Fork near Garden City, Ala.

Location.--Lat 34°00', long 86°45', in NE$\frac{1}{4}$ sec. 16, T. 12 S., R. 2 W., at bridge on U. S. Highway 31, 1,000 ft downstream from Louisville & Nashville RR. bridge, 1 mile southwest of Garden City, Cullman County, and 5$\frac{1}{2}$ miles downstream from Mud Creek.

Drainage area.--365 sq mi.

Gage.--Nonrecording gage before Jan. 5, 1939, and recording gage thereafter. Datum of gage is 380.54 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 33,000 cfs and extended above.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1929	Mar. 14, 1929	16.4	26,000	1941	Aug. 1, 1941	20.1	35,000
1930	Nov. 14, 1929	18.0	30,400	1942	Aug. 19, 1942	11.5	11,800
				1943	Dec. 28, 1942	23.6	44,400
1931	Nov. 16, 1930	8.6	6,250	1944	Mar. 28, 1944	16.3	23,500
1932	Dec. 14, 1931	12.2	14,300	1945	Feb. 13, 1945	14.4	18,700
1933	Oct. 16, 1932	16.3	24,800				
1934	Mar. 3, 1934	12.2	14,300	1946	Jan. 8, 1946	20.3	34,400
1935	Mar. 12, 1935	12.4	13,900	1947	Jan. 20, 1947	16.3	23,500
				1948	Feb. 12, 1948	17.9	27,700
1936	Feb. 4, 1936	24.0	46,600	1949	Jan. 5, 1949	20.6	35,200
1937	Apr. 29, 1937	16.8	25,500	1950	Mar. 13, 1950	18.1	28,300
1938	Apr. 8, 1938	16.0	23,300				
1939	Feb. 28, 1939	20.8	37,000	1951	Mar. 29, 1951	20.6	35,200
1940	July 13, 1940	14.6	19,500				

(79) Sipsey Fork near Falls City, Ala.

Location.--Lat 34°03', long 87°16', in NE$\frac{1}{4}$ sec. 33, T. 11 S., R. 7 W., at bridge on county road, 1$\frac{1}{4}$ miles downstream from Clifty Fork, 1$\frac{3}{4}$ miles north of Falls City, Winston County, and 2$\frac{1}{4}$ miles upstream from Clear Creek.

Drainage area.--375 sq mi.

Gage.--Recording gage.

Stage-discharge relation.--Defined by current-meter measurements below 16,000 cfs and extended above on basis of runoff for stations on nearby streams.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1944	Mar. 28, 1944	17.5	19,700	1948	Feb. 12, 1948	20.8	27,000
1945	Feb. 13, 1945	15.2	14,400	1949	Jan. 5, 1949	23.0	32,200
1946	Jan. 8, 1946	29.6	48,400	1950	Jan. 6, 1950	23.6	33,600
1947	Apr. 11, 1947	14.2	12,400	1951	Mar. 29, 1951	25.8	39,000

Mobile River Basin

(80) Clear Creek at Falls City, Ala.

Location.--Lat 34°02', long 87°16', in NE¼ sec. 9, T. 12 S., R. 7 W., at bridge on county road a quarter of a mile upstream from Clear Creek Falls, half a mile south of Falls City, Winston County, and 2 miles upstream from mouth.

Drainage area.--151 sq mi.

Gage.--Recording gage.

Stage-discharge relation.--Defined by current-meter measurements below 7,000 cfs and extended above on basis of runoff for stations on nearby streams.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1940	July 4, 1940	4.6	3,670	1946	Jan. 8, 1946	11.0	13,000
1941	Mar. 7, 1941	4.0	2,870	1947	Jan. 20, 1947	4.6	3,480
1942	Mar. 17, 1942	4.2	3,080	1948	Feb. 13, 1948	7.1	6,640
1943	Dec. 28, 1942	6.1	5,350	1949	Jan. 5, 1949	9.1	9,670
1944	Mar. 29, 1944	7.4	7,030	1950	Jan. 6, 1950	9.1	9,670
1945	Feb. 13, 1945	5.5	4,600	1951	Mar. 29, 1951	10.1	11,700

(81) Sipsey Fork near Arley, Ala.

Location.--Lat 33°59', long 87°13', in N½ sec. 19, T. 12 S., R. 6 W., at Duncan Bridge, 3 miles downstream from Clear Creek, and 5 miles south of Arley, Winston County.

Drainage area.--537 sq mi.

Gage.--Nonrecording gage.

Stage-discharge relation.--Defined by current-meter measurements below 24,000 cfs and extended on basis of records for station near Falls City and for Clear Creek at Falls City.

Remarks.--Station discontinued in September 1945. Peak stage for 1946 determined from high-water marks.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1936	Feb. 4, 1936	51.0	38,000	1942	Mar. 17, 1942	21.5	9,440
1937	Apr. 29, 1937	34.5	19,000	1943	Dec. 28, 1942	38.2	22,600
1938	Apr. 8, 1938	32.5	17,400	1944	Mar. 29, 1944	42.8	26,700
1939	Feb. 28, 1939	41.8	26,000	1945	Feb. 13, 1945	-	18,900
1940	July 9, 1940	23.0	10,500	1946	Jan. 8, 1946	62.1	57,000
1941	Mar. 7, 1941	14.3	6,070				

Mobile River Basin

(82) Sipsey Fork near Sipsey, Ala.

Location.--Lat 33°52', long 87°04', in sec. 33, T. 13 S., R. 5 W., 200 ft downstream from Leith Creek, 3½ miles northeast of Sipsey, Walker County, and 5 miles upstream from mouth.

Drainage area.--1,020 sq mi.

Gage.--Nonrecording gage.

Stage-discharge relation.--Affected by variable slope but fairly well defined for annual maximum discharges by current-meter measurements to 50,000 cfs.

Historical data.--The flood of March 1900 reached a stage of 62 ft; from information by local residents.

Remarks.--Station discontinued in September 1937. Site in backwater from Lock and Dam 17 on Black Warrior River since December 1937.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1900	Mar. - 1900	62	-	1933	Oct. 17, 1932	51.6	46,200
				1934	Mar. 3, 1934	[a]41.6	32,400
1929	Mar. 23, 1929	56.0	50,300	1935	Mar. 13, 1935	[a]40.8	31,200
1930	Nov. 14, 1929	56.3	50,400	1936	Feb. 4, 1936	[a]57.0	51,400
1931	Nov. 16, 1930	35.0	19,200	1937	Apr. 30, 1937	[a]43.9	34,900
1932	Mar. 31, 1932	34.3	18,600				

a Did not occur at same time as peak discharge.

(83) Blackwater Creek near Manchester, Ala.

Location.--Lat 33°55', long 87°15', in SE¼ sec. 15, T. 13 S., R. 7 W., at bridge on county highway, a quarter of a mile downstream from unnamed tributary, 2 miles east of Manchester, Walker County, and 5½ miles north of Jasper.

Drainage area.--177 sq mi.

Gage.--Recording gage. Datum of gage is 401.04 ft above mean sea level, datum of 1929, unadjusted.

Stage-discharge relation.--Defined by current-meter measurements below 6,500 cfs.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1939	Feb. 28, 1939	9.8	6,200	1946	Jan. 9, 1946	11.5	8,050
1940	July 9, 1940	6.4	2,300	1947	Jan. 20, 1947	7.5	3,250
				1948	Feb. 14, 1948	8.0	3,800
1941	Mar. 8, 1941	5.5	1,520	1949	Jan. 7, 1949	9.9	6,070
1942	Mar. 18, 1942	5.7	1,660	1950	Jan. 8, 1950	10.0	6,200
1943	Dec. 28, 1942	7.2	3,140				
1944	Mar. 30, 1944	8.6	4,670	1951	Mar. 30, 1951	11.0	7,350
1945	Mar. 4, 1945	7.1	3,110				

Mobile River Basin

(84) Locust Fork near Cleveland, Ala.

Location.--Lat 34°02', long 86°34', in NE¼ sec. 6, T. 12 S., R. 1 E., at bridge on State Highway 38, 2 miles north of Cleveland, Blount County, and 2½ miles downstream from Graves Creek.

Drainage area.--300 sq mi.

Gage.--Nonrecording gage before April 12, 1945, and recording gage thereafter. Before April 19, 1940, at site 300 ft upstream at present datum. Datum of gage is 536.94 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 34,000 cfs and extended above on basis of runoff for stations on nearby streams.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1937	Jan. 3, 1937	13.7	17,000	1945	Feb. 13, 1945	12.0	13,800
1938	Apr. 8, 1938	15.7	21,600				
1939	Feb. 28, 1939	11.7	12,600	1946	Feb. 10, 1946	12.9	19,400
1940	Apr. 4, 1940	11.0	11,200	1947	Jan. 20, 1947	11.8	15,400
				1948	Feb. 14, 1948	11.0	12,500
1941	Aug. 1, 1941	14.0	21,800	1949	Jan. 5, 1949	15.9	35,100
1942	Feb. 17, 1942	10.0	11,000	1950	Mar. 13, 1950	13.7	22,700
1943	Dec. 28, 1942	19.2	47,000				
1944	Feb. 27, 1944	10.8	13,000	1951	Mar. 29, 1951	14.5	26,700

(85) Locust Fork at Trafford, Ala.

Location.--Lat 33°50', long 86°45', in SW¼ sec. 9, T. 14 S., R. 2 W., at bridge on county highway three-quarters of a mile northwest of Trafford, Jefferson County, and 2¾ miles upstream from Curley Creek.

Drainage area.--622 sq mi.

Gage.--Nonrecording gage before Jan. 27, 1934, and recording gage thereafter. Datum of gage is 309.12 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements.

Historical data.--A flood in 1908 reached a stage of about 60 ft; from information by local residents.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1908	-	60	-	1941	Aug. 1, 1941	38.0	28,000
				1942	Feb. 17, 1942	35.4	24,300
1931	Nov. 17, 1930	31.5	20,000	1943	Dec. 29, 1942	56.4	55,800
1932	Jan. 30, 1932	33.5	22,200	1944	Mar. 29, 1944	35.7	24,300
1933	Dec. 12, 1932	31.2	19,700	1945	Feb. 13, 1945	34.8	23,500
1934	Mar. 4, 1934	33.9	22,000				
1935	Oct. 11, 1934	39.0	28,100	1946	Feb. 10, 1946	45.6	38,000
				1947	Jan. 16, 1947	41.5	32,400
1936	Feb. 5, 1936	50.8	45,500	1948	Feb. 14, 1948	33.8	22,600
1937	Jan. 3, 1937	40.3	30,300	1949	Jan. 6, 1949	59.1	60,700
1938	Apr. 9, 1938	44.8	37,000	1950	Mar. 14, 1950	48.8	43,000
1939	Feb. 28, 1939	29.1	17,600				
1940	Apr. 4, 1940	25.5	13,700	1951	Mar. 29, 1951	53.4	51,100

Mobile River Basin

(86) Turkey Creek at Morris, Ala.

Location.--Lat 33°44', long 86°49', in SE¼ sec. 12, T. 15 S., R. 3 W., at bridge on U. S. Highway 31 at Morris, Jefferson County, three-quarters of a mile downstream from Cunningham Creek and 4 miles upstream from mouth.

Drainage area.--81 sq mi.

Gage.--Nonrecording gage. Datum of gage is 345.15 ft above mean sea level, unadjusted.

Stage-discharge relation.--Defined by current-meter measurements below 10,000 cfs.

Historical data.--The flood of December 1942 reached a stage of 22.6 ft; from information by local residents.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1943	Dec. - 1942	22.6	-	1948	Feb. 9, 1948	9.1	2,480
1944	Mar. 29, 1944	11.0	3,510	1949	Nov. 28, 1948	23.1	11,600
1945	Feb. 13, 1945	15.3	6,250	1950	Mar. 13, 1950	16.6	7,120
1946	Feb. 10, 1946	18.7	8,550	1951	Mar. 29, 1951	20.1	9,500
1947	Jan. 15, 1947	19.0	8,750				

(87) Locust Fork at Sayre, Ala.

Location.--Lat 33°43', long 86°59', in NW¼ sec. 29, T. 15 S., R. 4 W., at bridge on county highway at Sayre, Jefferson County, 1½ miles downstream from Camp Creek.

Drainage area.--885 sq mi.

Gage.--Nonrecording gage before June 30, 1949, and recording gage thereafter. Datum of gage is 258.64 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 53,000 cfs.

Remarks.--Water-year maxima 1929-32 computed on basis of records for station 9 miles upstream published as Locust Fork near Warrior (drainage area, 865 sq mi).

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1929	Mar. 16, 1929	-	37,000	1945	Feb. 14, 1945	29.5	22,800
1930	Nov. 15, 1929	-	53,700	1946	Feb. 11, 1946	38.9	37,500
1931	Nov. 17, 1930	-	19,000	1947	Jan. 16, 1947	34.5	29,800
1932	Jan. 30, 1932	-	24,700	1948	Feb. 15, 1948	27.9	20,900
				1949	Jan. 7, 1949	47.9	55,300
1943	Dec. 29, 1942	45.0	50,000	1950	Mar. 14, 1950	40.0	39,400
1944	Mar. 30, 1944	32.0	27,500	1951	Mar. 30, 1951	43.9	47,200

Mobile River Basin

(88) North River near Samantha, Ala.

Location.--Lat 33°29', long 87°36', in SW¼ sec. 16, T. 18 S., R. 10 W., at bridge on county highway, 1¼ miles upstream from Cripple Creek, and 4 miles north of Samantha, Tuscaloosa County.

Drainage area.--220 sq mi.

Gage.--Recording gage. Datum of gage is 232.39 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 14,000 cfs and extended above.

Historical data.--Floods in July 1916 and February 1936 reached a stage of about 31 ft; from information by local residents.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1916	July - 1916	31	-	1944	Mar. 29, 1944	17.0	8,100
				1945	Mar. 4, 1945	13.7	6,040
1936	Feb. - 1936	31	-				
				1946	Feb. 10, 1946	19.7	9,950
1939	Feb. 28, 1939	23.0	12,000	1947	Jan. 20, 1947	14.6	6,590
1940	July 4, 1940	14.4	6,880	1948	Feb. 7, 1948	13.1	5,680
				1949	Nov. 28, 1948	20.5	10,400
1941	Mar. 7, 1941	9.8	3,900	1950	Mar. 13, 1950	26.0	14,000
1942	Feb. 17, 1942	13.4	6,200				
1943	Dec. 28, 1942	-	8,000	1951	Mar. 29, 1951	30.7	18,000

(89) Black Warrior River at Tuscaloosa, Ala.

Location.--Lat 33°13', long 87°35', in NW¼ sec. 22, T. 21 S., R. 10 W., 55 ft downstream from Gulf Mobile and Ohio RR. bridge and half a mile upstream from Tuscaloosa Lock and Dam.

Drainage area.--4,830 sq mi.

Gage.--Before 1905, nonrecording gage 250 ft downstream from present site at datum 2.5 ft higher than present datum. August 1928 to August 1939, nonrecording gage above former Lock 10, 0.7 mile upstream from present site and at same datum. August 1938 to March 1951, recording gage at present site and datum. Present datum of gage is 83.35 ft above mean sea level, datum of 1929, supplementary adjustment of 1944.

Stage-discharge relation.--Defined by current-meter measurements below 200,000 cfs for period 1929-51. Stage-discharge relation affected by variable slope and is of doubtful accuracy before 1929.

Remarks.--Annual flood stages shown for 1906-28 are calendar-year maxima observed by U. S. Weather Bureau on nonrecording gage below former Lock 10, at present datum. All gage-heights listed are referred to present datum.

Mobile River Basin

(89) Black Warrior River at Tuscaloosa, Ala.--Continued

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1889	Feb. 19, 1889	59.1	-	1921	Feb. 12, 1921	58.0	-
1890	Mar. 1, 1890	61.4	-	1922	Mar. 12, 1922	56.2	-
				1923	Feb. 14, 1923	55.4	-
1891	Mar. 9, 1891	62.9	-	1924	Mar. 7, 1924	53.6	-
1892	Apr. 8, 1892	65.7	-	1925	Jan. 19, 1925	54.7	-
1893	Feb. 17, 1893	58.1	-				
1894	Mar. 18, 1894	39.2	-	1926	Dec. 26, 1926	61.8	-
1895	Mar. 17, 1895	54.5	-	1927	Dec. 17, 1927	54.5	-
				1928	Apr. 23, 1928	62.5	-
1896	Mar. 21, 1896	40.4	-	1929	Mar. 15, 1929	62.2	132,000
1897	Mar. 8, 1897	57.3	-	1930	Nov. 15, 1929	65.1	166,000
1898	Jan. 27, 1898	46.0	-				
1899	Mar. 17, 1899	62.8	-	1931	Nov. 17, 1930	49.8	55,500
1900	Apr. 18, 1900	67.7	215,000	1932	Feb. 17, 1932	54.8	78,000
				1933	Oct. 18, 1932	61.4	127,000
1901	Jan. 13, 1901	59.0	-	1934	Mar. 4, 1934	57.6	99,700
1902	Mar. 29, 1902	63.1	-	1935	Mar. 7, 1935	58.8	106,000
1903	Feb. 18, 1903	59.3	-				
1904	Dec. 29, 1904	29.0	-	1936	Feb. 5, 1936	63.5	148,000
1905	Feb. 10, 1905	59.4	-	1937	Jan. 3, 1937	58.7	107,000
				1938	Apr. 8, 1938	[a]63.0	144,000
1906	Jan. 24, 1906	56.1	-	1939	Mar. 1, 1939	59.7	121,000
1907	Feb. 3, 1907	52.7	-	1940	Feb. 6, 1940	[a]55.2	112,000
1908	Mar. 25, 1908	55.2	-				
1909	Mar. 14, 1909	63.0	-	1941	Mar. 7, 1941	47.5	55,900
1910	July 8, 1910	34.0	-	1942	Feb. 18, 1942	53.3	87,800
				1943	Dec. 29, 1942	[b]60.0	117,000
1911	Jan. 3,4,1911	54.5	-	1944	Mar. 29, 1944	[a]61.6	150,000
1912	Apr. 24, 1912	50.0	-	1945	Feb. 14, 1945	55.6	93,500
1913	Feb. 28, 1913	58.7	-				
1914	Apr. 1, 1914	46.1	-	1946	Feb. 10, 1946	[b]63.2	169,000
1915	Feb. 3, 1915	54.1	-	1947	Jan. 20, 1947	[a]60.9	146,000
				1948	Feb. 14, 1948	59.9	121,000
1916	July 8, 1916	66.3	-	1949	Jan. 5, 1949	[b]63.9	177,000
1917	Apr. 7, 1917	56.3	-	1950	Mar. 14, 1950	62.0	152,000
1918	Jan. 31, 1918	48.3	-				
1919	Dec. 10, 1919	56.6	-	1951	Mar. 29, 1951	66.0	223,000
1920	Apr. 3, 1920	61.3	-				

a Did not occur at same time as peak discharge.
b Occurred on following day.

Mobile River Basin

(90) Black Warrior River near Eutaw, Ala.

Location.--Lat 32°49', long 87°49', in SE¼ sec. 6, T. 21 N., R. 3 E., at bridge on State Highway 41 between Eutaw and Wedgeworth, 1¼ miles downstream from Big Creek and 4 miles southeast of Eutaw, Greene County.

Drainage area.--5,820 sq mi.

Gage.--Recording gage. Datum of gage is 53.11 ft above mean sea level, adjustment of 1912.

Stage-discharge relation.--Defined by current-meter measurements below 149,000 cfs. Stage-discharge relation affected by variable slope.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1933	Dec. 17, 1932	54.4	85,600	1943	Jan. 2, 1943	52.7	79,800
1934	Mar. 7, 1934	[a]51.0	68,200	1944	Apr. 1, 1944	55.0	109,000
1935	Mar. 9, 1935	[a]52.2	72,700	1945	Feb. 15, 1945	[d]48.2	54,300
1936	Feb. 7, 1936	[a]56.3	130,000	1946	Feb. 13, 1946	[a]55.9	134,000
1937	Jan. 6, 1937	[b]51.8	66,700	1947	Jan. 23, 1947	55.2	114,000
1938	Apr. 11, 1938	55.7	122,000	1948	Feb. 16, 1948	54.6	102,000
1939	Mar. 4, 1939	[a]52.1	69,300	1949	Jan. 9, 1949	56.8	158,000
1940	July 18, 1940	48.7	50,400	1950	Mar. 17, 1950	54.2	103,000
1941	Mar. 9, 1941	[a]39.7	39,500	1951	Apr. 1, 1951	59.1	183,000
1942	Feb. 20, 1942	[c]45.0	46,000				

a Occurred on following day.
b Occurred on Jan. 29, 1937.
c Occurred on Mar. 24, 1942.
d Occurred on Feb. 24, 1945.

(91) Prairie Creek near Gallion, Ala.

Location.--Lat 32°32', long 87°41', in SE¼ sec. 9, T. 18 N., R. 4 E., at bridge on State Highway 13, 4 miles upstream from Little Prairie Creek, and 4 miles northeast of Gallion, Hale County.

Drainage area.--170 sq mi.

Gage.--Recording gage.

Stage-discharge relation.--Defined by current-meter measurements below 31,000 cfs and extended above. Stage-discharge relation affected by backwater from Black Warrior River.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1940	Feb. 6, 1940	15.1	7,500	1946	Dec. 25, 1945	14.3	5,100
1941	Mar. 7, 1941	15.7	10,500	1947	Jan. 19, 1947	16.5	16,300
1942	Mar. 21, 1942	16.5	16,300	1948	Mar. 23, 1948	17.1	21,100
1943	Dec. 28, 1942	19.3	39,000	1949	Jan. 5, 1949	15.5	9,400
1944	Mar. 23, 1944	16.9	19,500	1950	May 21, 1950	13.7	4,280
1945	Mar. 26, 1945	17.6	25,100	1951	Mar. 29, 1951	18.6	32,400

Mobile River Basin

(92) Tombigbee River near Coatopa, Ala.

Location.--Lat 32°26', long 88°02', in sec. 19, T. 17 N., R. 1 E., at Moscow Memorial Bridge on U. S. Highway 80, 2 miles upstream from Sucarnoochee River, and 5 miles southeast of Coatopa, Sumter County.

Drainage area.--15,500 sq mi.

Gage.--Nonrecording gage Aug. 2, 1928, to Oct. 31, 1939, and recording gage at same site thereafter. Datum of gage is 29.30 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 212,000 cfs and extended above by logarithmic plotting. Stage-discharge relation affected by variable slope.

Remarks.--Gage heights of annual floods listed for period 1893 to 1928 are from U. S. Weather Bureau records for gage at Demopolis, 15 miles upstream. Corresponding discharges were computed on basis of stage-discharge relation for Coatopa gage and gage-height relation between Demopolis and Coatopa gages. Datum of U. S. Weather Bureau gage at Demopolis is 23.11 ft above mean sea level.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1893	Feb. 25, 1893	54.8	93,000	1923	Feb. 20, 1923	54.8	93,000
1894	Mar. 27, 1894	46.2	70,000	1924	Mar. 15, 1924	52.8	86,000
1895	Mar. 29, 1895	53.1	87,000	1925	Jan. 25, 1925	53.0	87,000
1896	Feb. 17, 1896	55.4	96,000	1926	Jan. 26, 1926	48.2	75,000
1897	Mar. 29, 1897	59.2	126,000	1927	Jan. 5, 1927	65.3	188,000
1898	Feb. 1, 1898	50.4	81,000	1928	May 1, 1928	61.2	144,000
1899	Mar. 24, 1899	63.7	172,000	1929	Mar. 29, 1929	51.4	185,000
1900	Apr. 22, 1900	73.1	300,000	1930	Nov. 22, 1929	50.2	164,000
1901	Jan. 21, 1901	54.0	91,000	1931	Apr. 8, 1931	32.1	57,400
1902	Apr. 3, 1902	68.9	237,000	1932	Feb. 29, 1932	46.8	124,000
1903	Feb. 22, 1903	65.1	186,000	1933	Dec. 22, 1932	49.5	153,000
1904	Mar. 31, 1904	24.1	26,000	1934	Mar. 12, 1934	42.7	88,000
1905	Feb. 18, 1905	59.8	130,000	1935	Mar. 19, 1935	47.1	123,000
1906	Mar. 26, 1906	57.2	106,000	1936	Feb. 12, 1936	48.7	145,000
1907	Mar. 8, 1907	51.7	83,000	1937	Feb. 1, 1937	46.4	113,000
1908	Feb. 26, 1908	56.5	101,000	1938	Apr. 9-14, 1938	49.6	158,000
1909	Mar. 21, 1909	65.9	195,000	1939	Mar. 7-10, 1939	45.9	104,000
1910	July 14, 1910	38.2	52,000	1940	July 18-21, 1940	45.1	100,000
1911	Apr. 16, 1911	47.1	71,000	1941	Mar. 11, 1941	34.1	65,600
1912	Apr. 25, 1912	61.9	149,000	1942	Mar. 24, 1942	41.6	87,800
1913	Mar. 18, 1913	54.7	93,000	1943	Mar. 26, 1943	45.4	103,000
1914	Apr. 11, 1914	44.7	65,000	1944	Apr. 7, 1944	48.4	140,000
1915	Feb. 10, 1915	53.9	91,000	1945	Feb. 26, 1945	45.0	108,000
1916	July 15, 1916	66.3	200,000	1946	Feb. 20, 1946	50.1	169,000
1917	Mar. 12, 1917	54.6	93,000	1947	Jan. 26, 1947	48.7	147,000
1918	Feb. 6, 1918	47.1	71,000	1948	Feb. 23, 1948	49.1	156,000
1919	Mar. 19, 1919	53.2	88,000	1949	Jan. 14, 1949	51.1	199,000
1920	Apr. 10, 1920	61.6	148,000	1950	Jan. 18, 1950	45.9	117,000
1921	Apr. 25, 1921	54.9	94,000	1951	Apr. 6, 1951	52.4	217,000
1922	Mar. 20, 1922	56.5	100,000				

Mobile River Basin

(93) Sucarnoochee River at Livingston, Ala.

Location.--Lat 32°34', long 88°12', in SE¼ sec. 33, T. 19 N., R. 2 W., at bridge on U. S. Highway 80, 500 ft upstream from Southern Ry. bridge, three-quarters of a mile southwest of Livingston, Sumter County, and 9 miles upstream from Alamuchee Creek.

Drainage area.--635 sq mi.

Gage.--Recording gage. Datum of gage is 90.04 ft above mean sea level, datum of 1929, supplementary adjustment of 1944.

Stage-discharge relation.--Defined by current-meter measurements below 17,000 cfs and extended above.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1939	Mar. 30,31,1939	22.8	6,800	1946	Feb. 12, 1946	23.9	9,190
1940	July 11, 1940	24.6	11,100	1947	Jan. 20, 1947	24.7	12,200
				1948	Mar. 6, 1948	24.4	11,100
1941	Mar. 11, 1941	20.0	3,620	1949	Nov. 30, 1948	26.9	17,600
1942	Mar. 23, 1942	24.4	10,300	1950	Jan. 9, 1950	26.2	15,600
1943	Mar. 23, 1943	24.2	10,500				
1944	Mar. 31, 1944	23.0	7,280	1951	Mar. 30, 1951	27.6	21,500
1945	Feb. 16, 1945	22.1	5,510				

(94) Tombigbee River near Leroy, Ala.

Location.--Lat 31°34', long 88°02', in sec. 13, T. 17 N., R. 1 W., at Lock 1, 4 miles upstream from Jackson Creek and 5 miles northwest of Leroy, Washington County.

Drainage area.--19,100 sq mi.

Gage.--Nonrecording. Datum of gage is 7.28 ft below mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 200,000 cfs and extended above by logarithmic plotting.

Historical data.--A flood in May 1874 reached a stage of 51.8 ft, and the flood of April 1900 reached a stage of 50.6 ft; from information by Corps of Engineers.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1874	May - 1874	51.8	280,000	1938	Apr. 10, 1938	46.0	192,000
				1939	Mar. 13-15, 1939	39.8	114,000
1900	Apr. 27, 1900	50.6	260,000	1940	July 25,26, 1940	39.0	105,000
1916	July 23, 1916	46.8	200,000	1941	Mar. 14,15, 1941	34.0	66,700
				1942	Mar. 28-30, 1942	37.5	90,900
1929	Apr. 2, 1929	46.0	190,000	1943	Mar. 29-31, 1943	39.7	113,000
1930	Nov. 28,29, 1929	43.0	149,000	1944	Apr. 12, 1944	41.6	144,000
				1945	Mar. 6,7,1945	39.2	114,000
1931	Apr. 10,11, 1931	33.9	62,500				
1932	Mar. 5, 6, 1932	40.8	120,000	1946	Feb. 24,25, 1946	43.5	169,000
1933	Dec. 29, 1932	44.7	165,000	1947	Jan. 30,31, 1947	42.1	149,000
1934	Mar. 16,17, 1934	37.9	88,900	1948	Mar. 7,8,1948	42.7	158,000
1935	Mar. 22-24, 1935	41.1	123,000	1949	Jan. 19,20, 1949	43.8	173,000
				1950	Jan. 24, Mar. 29	39.2	114,000
1936	Feb. 17, 1936	42.0	134,000				
1937	Feb. 4-6,1937	40.5	117,000	1951	Apr. 10,11, 1951	45.8	201,000

Pascagoula River Basin

(95) Escatawpa River near Wilmer, Ala.

Location.--Lat 30°52', long 88°25', in NW$\frac{1}{4}$ sec. 19, T. 2 S., R. 4 W., at bridge on State Highway 42 at Alabama-Mississippi State line, a quarter of a mile upstream from Gulf Mobile and Ohio RR. bridge, half a mile upstream from Rocky Creek, and 4 miles northwest of Wilmer, Mobile County.

Drainage area.--506 sq mi.

Gage.--Recording gage.

Stage-discharge relation.--Defined by current-meter measurements below 15,000 cfs and extended above by logarithmic plotting.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1946	Mar. 28, 1946	18.4	8,600	1949	Nov. 28, 1948	24.0	35,000
1947	Apr. 16, 1947	18.3	8,480	1950	Sept. 2, 1950	17.2	7,220
1948	Mar. 7, 1948	20.9	16,600	1951	Mar. 31, 1951	19.6	11,300

Tennessee River Basin

(96) Short Creek near Albertville, Ala.

Location.--Lat 34°18', long 86°11', in NE$\frac{1}{4}$ sec. 35, T. 8 S., R. 4 E., on left bank, 325 ft downstream from county highway bridge, 800 ft downstream from Turkey Creek, 3 miles northeast of Albertville, Marshall County, and 4.4 miles upstream from Scarham Creek.

Drainage area.--91.6 sq mi.

Gage.--Recording gage. Datum of gage is 865.80 ft above mean sea level, datum of 1929, supplementary adjustment of 1936.

Stage-discharge relation.--Defined by current-meter measurements below 14,000 cfs.

Historical data.--Flood of December 1942 reached a stage of 21.2 ft; from floodmark.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1943	Dec. - 1942	21.2	-	1948	Feb. 14, 1948	11.6	7,110
				1949	Jan. 5, 1949	16.4	14,800
1946	Feb. 10, 1946	12.8	8,620	1950	Mar. 13, 1950	12.6	7,890
1947	Jan. 15, 1947	11.7	7,110	1951	Mar. 29, 1951	15.6	13,200

Tennessee River Basin

(97) Paint Rock Creek near Woodville, Ala.

Location.--Lat 34°37', long 86°18', in NW¼ sec. 10, T. 5 S., R. 3 E., on left bank, 20 ft downstream from bridge on U. S. Highway 72, 1,000 ft downstream from Southern Ry. bridge, 2 miles west of Woodville, Jackson County, and 4 miles upstream from Little Paint Creek.

Drainage area.--320 sq mi.

Gage.--Nonrecording gage before Jan. 17, 1938, and recording gage thereafter. Datum of gage is 570.95 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 26,000 cfs.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1936	Feb. 4, 1936	19.2	19,600	1944	Mar. 29, 1944	18.6	14,600
1937	Jan. 3, 1937	18.8	16,400	1945	Feb. 18, 1945	18.3	13,200
1938	Apr. 9, 1938	18.0	11,300				
1939	Feb. 4, 1939	20.4	29,200	1946	Jan. 9, 1946	18.8	16,400
1940	Feb. 19, 1940	16.9	7,920	1947	Jan. 21, 1947	17.6	9,120
				1948	Feb. 13, 1948	19.9	23,600
1941	Mar. 8, 1941	16.4	6,260	1949	Jan. 5, 1949	20.8	28,700
1942	Mar. 22, 1942	15.0	4,570	1950	Jan. 7, 1950	19.4	19,400
1943	Dec. 28, 1942	20.5	31,300				
				1951	Mar. 29, 1951	20.3	27,500

(98) Flint River near Chase, Ala.

Location.--Lat 34°49', long 86°29', in SW¼ sec. 36, T. 2 S., R. 1 E., on left bank 250 ft downstream from Nashville, Chattanooga & St. Louis Ry. bridge, a third of a mile downstream from Brier Fork, 0.4 mile downstream from county highway bridge, and 5 miles northeast of Chase, Madison County.

Drainage area.--342 sq mi.

Gage.--Recording gage. Datum of gage is 640.37 ft above mean sea level, datum of 1929. Before May 18, 1934, nonrecording gage at Nashville, Chattanooga & St. Louis Ry. bridge 250 ft upstream, at same datum.

Stage-discharge relation.--Defined by current-meter measurements below 27,000 cfs and extended above.

Historical data.--Flood of September 1929 reached a stage of 26.0 ft; from floodmarks.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1929	Sept. - 1929	26.0	46,000	1941	Jan. 2, 1941	7.3	3,780
				1942	Feb. 17, 1942	7.7	4,150
1931	Apr. 4, 1931	6.2	4,120	1943	Dec. 28, 1942	14.2	12,800
1932	Aug. 18, 1932	10.1	7,540	1944	Mar. 29, 1944	16.8	18,300
1933	May 10, 1933	15.0	14,200	1945	Feb. 17, 1945	15.1	14,500
1934	Mar. 2, 1934	17.3	18,400				
1935	Mar. 12, 1935	14.9	14,500	1946	Jan. 8, 1946	17.6	20,000
				1947	Jan. 20, 1947	11.4	7,950
1936	July 4, 1936	18.1	22,000	1948	Feb. 13, 1948	17.8	19,800
1937	Jan. 2, 1937	14.5	13,000	1949	Jan. 5, 1949	23.6	37,700
1938	July 21, 1938	10.5	7,680	1950	Jan. 6, 1950	15.4	13,200
1939	Feb. 3, 1939	17.8	21,400				
1940	Mar. 14, 1940	7.4	3,870	1951	Feb. 1, 1951	22.0	32,300

Tennessee River Basin

(99) Limestone Creek near Athens, Ala.

Location.--Lat 34°45', long 86°49', at bridge on U. S. Highway 72, 2.4 miles downstream from Cooperrun Branch and 6 miles east of Athens, Limestone County.

Drainage area.--119 sq mi.

Gage.--Recording gage. Datum of gage is 626.34 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 12,000 cfs.

Historical data.--The flood of 1886 reached a stage of 12.9 ft, and the flood of March 1929 reached a stage of 12.6 ft; from information by local residents. The flood of Feb. 3, 1939, reached a stage of 10.4 ft; from floodmarks.

Remarks.--Records furnished by Tennessee Valley Authority.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1886	-	12.9	-	1944	Mar. 29, 1944	11.5	7,720
				1945	Feb. 17, 1945	10.1	5,900
1929	Mar. - 1929	12.6	-				
				1946	Jan. 8, 1946	11.7	7,940
1939	Feb. 3, 1939	10.4	-	1947	Jan. 20, 1947	7.9	3,140
1940	July 8, 1940	8.0	3,800	1948	Feb. 13, 1948	11.4	8,140
				1949	Jan. 5, 1949	12.9	13,300
1941	Jan. 2, 1941	5.8	1,890	1950	Jan. 6, 1950	11.1	7,520
1942	Feb. 17, 1942	7.2	3,040				
1943	Dec. 28, 1942	7.9	3,700	1951	Feb. 1, 1951	13.2	14,800

Tennessee River Basin

(100) Elk River at Estill Springs, Tenn.

Location.--Lat 35°16', long 86°07', in center of stream on downstream end of old bridge pier, 250 ft upstream from bridge on U. S. Highway 41 A, 400 ft downstream from Nashville, Chattanooga & St. Louis Ry. bridge, three-quarters of a mile southeast of Estill Springs, Franklin County, 1.0 mile upstream from Taylor Creek, 1.4 miles upstream from Rock Creek, and 1.8 miles downstream from Estill Springs hydroelectric plant.

Drainage area.--282 sq mi.

Gage.--Before Sept. 30, 1926, staff gage on left bank at site 100 ft downstream from present site; recording gage thereafter at same datum and at present site. Datum of gage is 859.10 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 18,000 cfs.

Remarks.--Powerplant above station no longer in operation.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1922	Mar. 2, 1922	13.5	10,300	1937	Jan. 3, 1937	11.0	7,050
1923	Feb. 4, 1923	9.2	5,320	1938	Apr. 23, 1938	8.1	4,280
1924	Feb. 27, 1924	7.7	4,120	1939	Feb. 4, 1939	15.2	13,500
1925	Apr. 28, 1925	5.6	2,490	1940	Mar. 14, 1940	6.5	3,000
1926	Nov. 9, 1925	5.7	2,610	1941	Apr. 5, 1941	7.1	3,480
1927	Dec. 26, 1926	16.4	11,100	1942	Mar. 17, 1942	5.9	2,520
1928	Apr. 23, 1928	11.2	8,060	1943	Dec. 29, 1942	15.2	14,400
1929	Mar. 23, 1929	20.2	22,900	1944	Mar. 29, 1944	11.9	8,440
1930	Nov. 16, 1929	8.3	4,930	1945	May 13, 1945	11.8	8,280
1931	Mar. 29, 1931	4.1	1,360	1946	Jan. 8, 1946	15.6	15,200
1932	Apr. 26, 1932	7.5	4,100	1947	Jan. 20, 1947	9.8	5,800
1933	Feb. 15, 1933	11.8	8,960	1948	Feb. 13, 1948	16.6	16,400
1934	Mar. 3, 1934	14.0	11,500	1949	Jan. 6, 1949	17.7	18,500
1935	Mar. 13, 1935	10.3	6,240	1950	Jan. 20, 1950	13.2	10,800
1936	Mar. 25, 1936	9.2	5,260	1951	Feb. 2, 1951	14.2	12,400

(101) Elk River near Fayetteville, Tenn.

Location.--On downstream side of powerhouse at dam of Tennessee Electric Power Co., 2 miles southwest of Fayetteville, Lincoln County.

Drainage area.--897 sq mi.

Gage.--Recording gage. Datum of gage was 637.67 ft above mean sea level, datum of 1909.

Stage-discharge relation.--Defined by current-meter measurements below 35,000 cfs.

Remarks.--Station discontinued in 1934.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1926	Aug. 19, 1926	14.3	9,220	1931	Mar. 28, 1931	10.3	5,400
1927	Dec. 28, 1926	25.8	34,900	1932	Jan. 30, 1932	17.6	13,300
1928	Apr. 24, 1928	20.4	18,400	1933	Feb. 15, 1933	23.1	25,300
1929	Mar. 23, 1929	28.2	45,600	1934	Mar. 3, 1934	24.3	29,200
1930	Mar. 7, 1930	18.8	15,300				

Tennessee River Basin

(102) Richland Creek near Pulaski, Tenn.

Location.--Lat 35°13', long 87°06', on right bank a quarter of a mile upstream from bridge on U. S. Highway 64, 1 mile downstream from Weakly Creek, and 4 miles west of Pulaski, Giles County.

Drainage area.--366 sq mi.

Gage.--Recording gage. Datum of gage is 642.54 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 17,000 cfs and extended to 62,400 cfs on the basis of a contracted-opening determination of peak flow.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1935	Mar. 12, 1935	17.2	12,700	1944	Mar. 29, 1944	18.4	17,200
				1945	Feb. 22, 1945	22.5	42,200
1936	Apr. 6, 1936	18.2	16,700				
1937	Jan. 2, 1937	20.1	25,400	1946	Jan. 8, 1946	21.1	31,500
1938	Jan. 23, 1938	14.8	6,850	1947	Jan. 2, 1947	17.4	13,800
1939	Feb. 3, 1939	19.4	21,900	1948	Feb. 13, 1948	24.6	62,400
1940	Apr. 19, 1940	16.4	9,950	1949	Nov. 29, 1948	18.6	14,300
				1950	Feb. 14, 1950	20.6	23,900
1941	Apr. 4, 1941	14.2	6,240				
1942	Jan. 1, 1942	11.6	4,460	1951	Feb. 1, 1951	20.8	25,400
1943	May 11, 1943	14.0	6,060				

Tennessee River Basin

(103) Elk River near Prospect, Tenn.

Location.--Lat 35°02', long 86°57', on right bank 50 ft upstream from highway bridge, 1.1 miles downstream from Richland Creek, 3.2 miles east of Prospect, Giles County, 5.2 miles upstream from Ford Creek, and 7.7 miles upstream from Tennessee-Alabama State line.

Drainage area.--1,784 sq mi.

Gage.--July 1904 to February 1908, and January 1919 to March 1934, nonrecording gage at site 11¾ miles downstream from present site at datum 13.52 ft lower than present (published as Elk River near Elkmont, Tenn., drainage area 1,843 sq mi), thereafter, recording gage at present site. Present datum of gage is 563.29 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 58,000 cfs and extended to 100,000 cfs.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1904	Aug. 11, 1904	6.0	5,650	1933	Feb. 17, 1933	-	31,900
1905	Feb. 9, 1905	18.2	22,100	1934	Mar. 4, 1934	31.1	42,100
1906	Jan. 22, 1906	19.1	23,300	1935	Mar. 14, 1935	25.9	28,200
1907	Mar. 2, 1907	18.4	22,400	1936	Apr. 7, 1936	26.6	29,900
1908	Dec. 30, 1907	12.5	14,400	1937	Jan. 3, 1937	31.8	43,200
1919	Mar. 18, 1919	21.9	-	1938	Apr. 22, 1938	18.4	16,100
1920	Apr. 3, 1920	25.5	-	1939	Feb. 16, 1939	31.7	41,900
1921	Apr. 17, 1921	25.0	31,300	1940	Apr. 20, 1940	19.6	17,700
1922	Mar. 12, 1922	25.0	31,300	1941	Apr. 5, 1941	18.5	16,200
1923	Feb. 14, 1923	20.5	25,200	1942	Mar. 18, 1942	19.0	16,900
1924	Jan. 4, 1924	23.5	29,300	1943	Dec. 29, 1942; Jan. 1, 1943	22.1	21,000
1925	Jan. 11, 1925	11.0	12,400	1944	Mar. 30, 1944	32.2	43,400
1926	Nov. 13, 1925	15.6	18,700	1945	Feb. 22, 1945	33.0	46,000
1927	Dec. 28, 1926	28.2	42,000	1946	Jan. 9, 1946	33.2	46,600
1928	Apr. 23,24,1928	21.0	26,100	1947	Jan. 3, 1947	28.0	31,200
1929	Mar. 24, 1929	30.5	57,000	1948	Feb. 14, 1948	38.2	100,000
1930	Mar. 8, 1930	20.1	24,800	1949	Jan. 6, 1949	34.0	58,700
1931	Mar. 29, 1931	12.6	14,600	1950	Jan. 7, 1950	32.3	47,300
1932	Jan. 31, 1932	19.3	23,700	1951	Feb. 2, 1951	33.7	56,200

(104) Big Nance Creek at Courtland, Ala.

Location.--Lat 34°40', long 87°19', in SW¼ sec. 30, T. 4 S., R. 7 W., on right bank pier at downstream side of bridge on State Highway 20, at Courtland, Lawrence County.

Drainage area.--166 sq mi.

Gage.--Nonrecording gage before Sept. 30, 1940, and recording gage thereafter. Datum of gage is 537.60 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 11,500 cfs.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1936	Apr. 3, 1936	16.8	4,030	1946	Feb. 10, 1946	21.0	8,180
1937	Jan. 3, 1937	16.1	3,790	1947	Jan. 2, 1947	15.7	3,960
1938	Mar. 11, 1938	15.3	3,520	1948	Feb. 13, 1948	21.5	9,060
1939	Feb. 16, 1939	19.8	6,980	1949	Jan. 5, 1949	22.5	10,800
1940	July 10, 1940	17.0	4,550	1950	Jan. 7, 1950	22.6	12,300
				1951	Feb. 1, 1951	22.4	11,300

Tennessee River Basin

(105) Shoal Creek at Iron City, Tenn.

Location.--Lat 35°01', long 87°35', on right bank, 600 ft upstream from Louisville & Nashville RR. bridge, 700 ft downstream from highway bridge, 0.2 mile downstream from Holly Creek, and a quarter of a mile east of Iron City, Lawrence County.

Drainage area.--348 sq mi.

Gage.--Before Feb. 24, 1931, staff gage at railroad bridge 600 ft downstream from present site at datum 1.54 ft lower. Feb. 25, 1931 to Sept. 30, 1933, staff gage at site 75 ft downstream from present site at present datum; thereafter, recording gage at present site. Present datum of gage is 534.91 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 20,000 cfs and extended to 57,000 cfs on basis of contracted-opening determination of peak discharge.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1927	Mar. 13, 1927	[a]23.4	65,000	1940	Apr. 19, 1940	16.6	22,000
1928	Mar. 9, 1928	15.1	13,000				
1929	Mar. 23, 1929	17.3	15,400	1941	July 12, 1941	8.5	5,420
1930	Mar. 7, 1930	12.0	9,600	1942	Feb. 24, 1942	5.8	3,170
				1943	Dec. 28, 1942	12.1	10,800
1931	Feb. 25, 1931	10.8	7,120	1944	Feb. 9, 1944	16.1	19,300
1932	July 7, 1932	14.0	10,300	1945	Feb. 22, 1945	17.7	23,900
1933	Oct. 17, 1932	16.0	26,000				
1934	Mar. 3, 1934	12.9	13,100	1946	Jan. 8, 1946	15.9	18,700
1935	Mar. 12, 1935	14.9	20,800	1947	Apr. 16, 1947	9.2	5,810
				1948	Feb. 13, 1948	22.9	61,000
1936	Apr. 6, 1936	15.4	20,900	1949	Mar. 27, 1949	15.3	17,100
1937	May 4, 1937	17.9	28,900	1950	Feb. 14, 1950	19.2	32,500
1938	Jan. 23, 1938	10.8	7,990				
1939	Feb. 15, 1939	14.9	17,500	1951	Feb. 1, 1951	18.2	27,200

[a] Present site and datum.

(106) Cypress Creek near Florence, Ala.

Location.--Lat 34°48', long 87°42', in NE¼ sec. 9, T. 3 S., R. 11 W., 100 ft downstream from bridge on State Highway 2, 2 miles west of Florence, Lauderdale County, 4 miles downstream from Cox Creek, and 4 miles upstream from mouth.

Drainage area.--209 sq mi.

Gage.--Recording gage. Datum of gage is 423.78 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 20,000 cfs and extended logarithmically to 25,100 cfs.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1935	Mar. 12, 1935	9.4	8,270	1944	Mar. 28, 1944	11.1	10,800
				1945	Feb. 22, 1945	12.9	13,600
1936	Apr. 6, 1936	8.0	6,170				
1937	May 4, 1937	16.6	20,600	1946	Nov. 22, 1945	13.4	14,500
1938	Aug. 29, 1938	6.5	4,760	1947	Apr. 16, 1947	6.2	4,400
1939	Feb. 15, 1939	11.7	11,700	1948	Feb. 13, 1948	17.4	18,800
1940	Apr. 19, 1940	13.0	14,000	1949	Mar. 27, 1949	13.2	12,700
				1950	Feb. 14, 1950	13.4	13,600
1941	July 4, 1941	3.8	2,280				
1942	Mar. 17, 1942	4.5	2,880	1951	Mar. 28, 1951	19.2	25,100
1943	Dec. 28, 1942	8.0	6,630				

Tennessee River Basin

(107) Bear Creek at Bishop, Ala.

Location.--Lat 34°39', long 88°07', in $SE\frac{1}{4}$ sec. 5, T. 5 S., R. 15 W., on left bank 20 ft upstream from highway bridge, half a mile downstream from Little Bear Creek, and three-quarters of a mile southwest of Bishop, Colbert County.

Drainage area.--667 sq mi.

Gage.--Nonrecording gage at datum 5.06 ft lower than present datum before May 28, 1934, and recording gage at present datum thereafter. Datum of gage is 419.91 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 28,000 cfs.

Annual peak stages and discharges

Water year	Date	Gage height (feet)	Discharge (cfs)	Water year	Date	Gage height (feet)	Discharge (cfs)
1927	Dec. 26, 1926	27.0	32,000	1940	Apr. 19, 1940	14.6	9,280
1928	Apr. 24, 1928	22.2	15,800				
1929	Mar. 24, 1929	26.6	30,500	1941	July 5, 1941	13.3	7,070
1930	Mar. 7, 1930	20.5	11,400	1942	Mar. 17, 1942	16.3	13,300
				1943	Dec. 29, 1942	14.1	7,950
1931	Apr. 1, 1931	17.4	6,100	1944	Mar. 29, 1944	20.2	25,400
1932	Dec. 14, 1931	22.4	16,400	1945	Feb. 22, 1945	18.3	19,000
1933	-	-	-				
1934	June 7, 1934	17.6	17,000	1946	Jan. 8, 1946	19.4	22,000
1935	Mar. 7, 1935	15.2	11,400	1947	Jan. 2, 1947	17.3	15,200
				1948	Feb. 14, 1948	21.4	29,600
1936	Apr. 6, 1936	16.9	16,100	1949	Jan. 6, 1949	20.5	26,700
1937	Jan. 2, 1937	15.7	12,400	1950	Jan. 8, 1950	20.1	25,000
1938	Mar. 12, 1938	14.7	9,480				
1939	Feb. 15, 1939	17.7	17,700	1951	Mar. 29, 1951	19.7	27,200

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