DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY
GEORGE OTIS SMITH, DIRECTOR

WATER-SUPPLY PAPER 242

RFACE WATER SUPPLY OF THE UNITED STATES

1907-8

PART II. SOUTH ATLANTIC COAST AND EASTERN GULF OF MEXICO

EPARED UNDER THE DIRECTION OF M. O. LEIGHTON

BY

M. R. HALL AND R. H. BOLSTER

WASHINGTON
GOVERNMENT PRINTING OFFICE
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SURFACE WATER SUPPLY OF THE SOUTH ATLANTIC COAST AND EASTERN GULF OF MEXICO, 1907–8.

By M. R. Hall and R. H. Bolster.

INTRODUCTION.

AUTHORITY FOR INVESTIGATIONS.

This volume contains results of flow measurements made on certain streams in the United States. The work was performed by the water-resources branch of the United States Geological Survey, either independently or in cooperation with organizations mentioned herein. These investigations are authorized by the organic law of the Geological Survey (Stat. L., vol. 20, p. 394), which provides, among other things, as follows:

> Provided that this officer [the director] shall have the direction of the Geological Survey and the classification of public lands and examination of the geological structure, mineral resources, and products of the national domain.

Inasmuch as water is the most abundant and most valuable mineral in nature, the investigation of water resources is included under the above provision for investigating mineral resources. The work has been supported since the fiscal year ending June 30, 1895, by appropriations in successive sundry civil bills passed by Congress under the following item:

> For gaging the streams and determining the water supply of the United States, and for the investigation of underground currents and artesian wells, and for the preparation of reports upon the best methods of utilizing the water resources.

The various appropriations that have been made for this purpose are as follows:

Annual appropriations for the fiscal year ending June 30—

1895	$12,500
1896	20,000
1897 to 1900, inclusive	50,000
1901 to 1902, inclusive	100,000
1903 to 1906, inclusive	200,000
1907	150,000
1908 to 1910, inclusive	100,000

SCOPE OF INVESTIGATIONS.

These investigations are not complete nor do they include all the river systems or parts thereof that might purposefully be studied. The scope of the work is limited to that which can be provided with the appropriations available. The field covered and the character of the work are believed to be the best that could be accomplished under the controlling conditions. It would undoubtedly be of more scientific importance and ultimately of more practical value if the money now applied to wide areas were concentrated on a few small basins. Such a course is impossible because general appropriations made by Congress are applicable to all parts of the country. Each part demands its proportionate share of the benefits.

It is essential that records of stream flow shall be maintained during a period of years sufficient to cover all stages, in order that within reasonable limits the entire range of flow from the absolute maximum to the absolute minimum may be determined. The length of such a period manifestly varies for different streams and can not be absolutely determined. Experience has shown that the records should cover from five to ten years, or for some streams twenty years or more, the limit being determined by the relative importance of the stream and the interdependence of the results and other long-time records on adjacent streams.

In the performance of this work the Geological Survey endeavors to approach as nearly as possible the highest degree of precision which a rational expenditure of time and a judicious expenditure of a small amount of money will allow. In all engineering work there is a point of refinement beyond which it is needless and wasteful to proceed, and this principle applies with especial force to stream-flow measurements. It is confidently believed that with some unavoidable exceptions the stream-flow data presented in the publications of the Survey are sufficiently accurate for all practical purposes. Many of the records are, however, of insufficient length, owing to the unforeseen reduction of appropriations and consequent abandonment of many stations. All persons are cautioned to exercise the greatest care in the utilization of such incomplete records.

Records of varying lengths have been obtained at about 1,400 different points in the United States, and in addition the surface water supply of small areas in Seward Peninsula and the Yukon-Tanana region, Alaska, has been investigated. During 1907 and 1908 regular gaging stations were maintained by the Survey and cooperating organizations at about 740 points in the United States, and in addition numerous miscellaneous measurements were made. Data were also obtained in regard to precipitation, evaporation, storage reser-

voirs, river profiles, and water power in many sections of the country. These data will be made available in the regular surface water-supply papers and in special papers from time to time.

PURPOSES OF THE WORK.

Among the purposes for which the results contained in this volume are requisite are navigation, irrigation, domestic water supply, water power, swamp and overflow land drainage, and flood prevention. The demands of all these interests are immediate.

Navigation.—The Federal Government has expended more than $250,000,000 for the improvement of inland navigation and prospective expenditures will approximate several times this amount. It is obvious that the determination of stream flow is necessary to the intelligent solution of the many problems involved.

Irrigation.—The United States is now expending $42,000,000 on federal irrigation systems, and this amount is far exceeded by the private expenditures of this nature in the arid West. The integrity of any irrigation system is based absolutely on the amount of water available. Therefore investigations of stream flow in that portion of the country are of first importance in the redemption of the lands, as well as constituting an insurance of federal and private investments.

Domestic water supply.—The highest use of water is that of domestic supply, and while the federal interest in this aspect of the matter is less direct than in the aspects already named this use of water nevertheless has so broad a significance with respect to the general welfare that the Federal Government is ultimately and intimately concerned.

Water power.—The time is rapidly approaching when the development of the water power of the country will be an economic necessity. Our stock of coal is being rapidly depleted and the cost of steam power is increasing accordingly. Industry will cease its growth if cheap power is not available, and in that event the United States as a nation will cease to progress. Water power is the only avenue now open. When the electric transmission of power was accomplished, the relation of our water powers to national economy changed entirely. Previous to the day of electric transmission the importance of a water power was largely confined to the locality at which it was generated, but it has now become a public utility in which the individual citizen is vitally interested. Inasmuch as the amount of water power that may be made available is dependent on the flow of rivers, the investigation of flow becomes a prerequisite in the judicious management of this source of energy.

Drainage of swamp and overflowed lands.—More than 70,000,000 acres of the richest land in this country are now practically worthless, or of precarious value. by reason of overflow and swamp con-

ditions. When this land is drained it becomes exceedingly productive and its value increases many fold. Such reclamation would add to the national assets at least $700,000,000. The study of run-off is the first consideration in connection with drainage projects. If, by the drainage of a large area into any particular channel that channel becomes so gorged with water which it had not hitherto been called upon to convey that overflow conditions are created in places where previously the land was not subject to inundation, then drainage results merely in an exchange of land values. This is not the purpose of drainage improvement.

Flood prevention.—The damage from floods in the United States exceeds $100,000,000 annually and in the year 1908 the aggregate damage, based on reliable data, approximated $250,000,000. Such an annual tax on the property of great regions should be reduced in the orderly progress of government. It goes without saying that any consideration of flood prevention must be based on a thorough knowledge of stream flow, both in the contributing areas which furnish the water and along the great lowland rivers.

PUBLICATIONS.

The data on stream flow collected by the United States Geological Survey since its inception have appeared in the annual reports, bulletins, and water-supply papers. Owing to natural processes of evolution and to changes in governmental requirements, the character of the work and the territory covered by these different publications has varied greatly. For the purpose of uniformity in the presentation of reports a general plan has been agreed upon by the United States Reclamation Service, the United States Forest Service, the United States Weather Bureau, and the United States Geological Survey, according to which the area of the United States has been divided into twelve parts, whose boundaries coincide with certain natural drainage lines. The areas so described are indicated by the following list of papers on surface water supply for 1907 and 1908. The dividing line between the North Atlantic and South Atlantic drainage areas lies between York and James rivers.

Papers on surface water supply of the United States, 1907–8.

Part.	No.	Title.	Part.	No.	Title.
I	241	North Atlantic coast.	VI	246	Missouri River basin.
II	242	South Atlantic coast and eastern Gulf of Mexico.	VII	247	Lower Mississippi River basin.
			VIII	248	Western Gulf of Mexico.
III	243	Ohio River basin.	IX	249	Colorado River basin.
IV	244	St. Lawrence River basin.	X	250	Great Basin.
V	245	Upper Mississippi River and Hudson Bay basins.	XI	251	California.
			XII	252	North Pacific coast.

The following table gives the character of data regarding stream flow at regular stations to be found in the various publications of the United States Geological Survey exclusive of all special papers. Numbers of reports are inclusive and dates also are inclusive so far as the data are available.

Stream-flow data in reports of the United States Geological Survey.

[Ann.=Annual Report; B.=Bulletin; W. S.=Water-Supply Paper.]

Report.	Character of data.	Year.
10th Ann., pt. 2	Descriptive information only	
11th Ann., pt. 2	Monthly discharge	1884 to Sept., 1890.
12th Ann., pt. 2	do	1884 to June 30, 1891.
13th Ann., pt. 3	Mean discharge in second-feet	1884 to Dec. 31, 1892.
14th Ann., pt. 2	Monthly discharge (long-time records, 1871 to 1893)	1888 to Dec. 31, 1893.
B. 131	Descriptions, measurements, gage heights, and ratings	1893 and 1894.
16th Ann., pt. 2	Descriptive information only	
B. 140	Descriptions, measurements, gage heights, ratings, and monthly discharge (also many data covering earlier years).	1895.
W. S. 11	Gage heights (also gage heights for earlier years)	1896.
18th Ann., pt. 4	Descriptions, measurements, ratings, and monthly discharge (also similar data for earlier years).	1895 and 1896.
W. S. 15	Descriptions, measurements, and gage heights, eastern United States, eastern Mississippi River, and Missouri River above junction with Republican.	1897.
W. S. 16	Descriptions, measurements, and gage heights, western Mississippi River below junction of Missouri and Platte, and western United States.	1897.
19th Ann., pt. 4	Descriptions, measurements, ratings, and monthly discharge (also some long-time records).	1897.
W. S. 27	Measurements, ratings, and gage heights, eastern United States, eastern Mississippi River, and Missouri River.	1898.
W. S. 28	Measurements, ratings, and gage heights, Arkansas River and western United States.	1898.
20th Ann., pt. 4	Monthly discharge (also for many earlier years)	1898.
W. S. 35 to 39	Descriptions, measurements, gage heights, and ratings	1899.
21st Ann., pt. 4	Monthly discharge	1899.
W. S. 47 to 52	Descriptions, measurements, gage heights, and ratings	1900.
22d Ann., pt. 4	Monthly discharge	1900.
W. S. 65, 66	Descriptions, measurements, gage heights, and ratings	1901.
W. S. 75	Monthly discharge	1901.
W. S. 82 to 85	Complete data	1902.
W. S. 97 to 100	do	1903.
W. S. 124 to 135	do	1904.
W. S. 165 to 178	do	1905.
W. S. 201 to 214	Complete data, except descriptions	1906.
W. S. 241 to 252	Complete data	1907–8.

NOTE.—No data regarding stream flow are given in the 15th and 17th annual reports.

The records at most of the stations discussed in these reports extend over a series of years. An index of the reports containing records prior to 1904 has been published in Water-Supply Paper 119. The first table which follows gives, by years and drainage basins, the numbers of the papers on surface water supply published from 1899 to 1908. Wherever the data for a drainage basin appear in two papers the number of one is placed in parentheses and the portion of the basin covered by that paper is indicated in the second table. For example, in 1904 the data for Missouri River were published in Water-Supply Papers 130 and 131, and the portion of the records contained in Water-Supply Paper 131, as indicated by the second table, is that relating to Platte and Kansas rivers.

Numbers of water-supply papers containing results of stream measurements, 1899–1908.

	1899.[a]	1900.[b]	1901.	1902.	1903.	1904.	1905.	1906.	1907–8.
Atlantic coast and eastern Gulf of Mexico:									
New England rivers	35	47	65, 75	82	97	124	165	201	241
Hudson River to Delaware River, inclusive	35	47, (48)	65, 75	82	97	125	166	202	241
Susquehanna River to York River, inclusive	35	48	65, 75	82	97	126	167	203	241
James River to Yadkin River, inclusive	(35), 36	48	65, 75	(82), 83	(97), 98	126	167	203	242
Santee River to Pearl River, inclusive	36	48	65, 75	83	98	127	168	204	242
St. Lawrence River	36	49	65, 75	(82), 83	97	129	170	206	244
Hudson Bay	.....	.....	66, 75	85	100	130	171	207	245
Mississippi River:									
Ohio River	36	48, (49)	65, 75	83	98	128	169	205	243
Upper Mississippi River	36	49	65, 75	83	98, (99)	128, (130)	171	207	245
Missouri River	(36), 37	49, (50)	66, 75	84	99	130, (131)	172	208	246
Lower Mississippi River	37	50	(65), 66, 75	(83), 84	(98), 99	(128), 131	(169), 173	(205), 209	247
Western Gulf of Mexico	37	50	66, 75	84	99	132	174	210	248
Pacific coast and Great Basin:									
Colorado River	(37), 38	50	66, 75	85	100	133, (134)	175, (177)	211, (213)	249, (251)
Great Basin	38, (39)	51	66, 75	85	100	133, (134)	176, (177)	212, (213)	250, (251)
South Pacific coast to Klamath River, inclusive	(38), 39	51	66, 75	85	100	134	177	213	251
North Pacific coast	38	51	66, 75	85	100	135	(177), 178	214	252

[a] Rating tables and index to Water-Supply Papers 35–39 contained in Water-Supply Paper 39.
[b] Rating tables and index to Water-Supply Papers 47–52 and data on precipitation, wells, and irrigation in California and Utah contained in Water-Supply Paper 52.

Numbers of water-supply papers containing data covering portions of drainage basins.

No.	River basin.	Tributaries included.
35	James	
36	Missouri	Gallatin.
37	Colorado	Green, Gunnison, Grand above junction with Gunnison.
38	Sacramento	Except Kings and Kern.
39	Great Basin	Mohave.
48	Delaware	Wissahickon and Schuylkill.
49	Ohio	Scioto.
50	Missouri	Loup and Platte near Columbus, Nebr. All tributaries below junction with Platte.
65	Lower Mississippi	Yazoo.
82	James	
	St. Lawrence	Lake Ontario, tributaries to St. Lawrence River proper.
83	Lower Mississippi	Yazoo.
97	James	
98	Lower Mississippi	Do.
99	Upper Mississippi	Tributaries from the west.
128	Lower Mississippi	Yazoo.
130	Upper Mississippi	Tributaries from the west.
131	Missouri	Platte, Kansas.
134	Colorado	Data near Yuma, Ariz., repeated.
	Great Basin	Susan, Owens, Mohave.
169	Lower Mississippi	Yazoo.
177	Colorado	Below junction with Gila.
	Great Basin	Susan repeated, Owens, Mohave.
	North Pacific coast	Rogue, Umpqua, Siletz.
205	Lower Mississippi	Yazoo, Homochitto.
213	Colorado	Data at Hardyville repeated; at Yuma, Salton Sea.
	Great Basin	Owens, Mohave.
251	Colorado	All stations in Colorado and Great Basin drainages lying in California repeated.
	Great Basin	

The order of treatment of stations in any basin in these papers is downstream. The main stem of any river is determined on the

basis of drainage area, local changes in name and lake surface being disregarded. After all stations from the source to the mouth of the main stem of the river have been given, the tributaries are taken up in regular order from source to mouth. The tributaries are treated the same as the main stream, all stations in each tributary basin being given before taking up the next one below.

The exceptions to this rule occur in the records for Mississippi River, which are given in four parts, as indicated above, and in the records for large lakes, where it is often clearer to take up the streams in regular order around the rim of the lake than to cross back and forth over the lake surface.

DEFINITION OF TERMS.

The volume of water flowing in a stream—the "run-off" or "discharge"—is expressed in various terms, each of which has become associated with a certain class of work. These terms may be divided into two groups: (1) Those which represent a rate of flow, as second-feet, gallons per minute, miner's inches, and run-off in second-feet per square mile, and (2) those which represent the actual quantity of water, as run-off in depth in inches and acre-feet. They may be defined as follows:

"Second-foot" is an abbreviation for cubic foot per second and is the rate of discharge of water flowing in a stream 1 foot wide, 1 foot deep, at a rate of 1 foot per second. It is generally used as a fundamental unit from which others are computed by the use of the factors given in the following table of equivalents.

"Gallons per minute" is generally used in connection with pumping and city water supply.

The "miner's inch" is the rate of discharge of water that passes through an orifice 1 inch square under a head which varies locally. It is commonly used by miners and irrigators throughout the West and is defined by statute in each State in which it is used.

"Second-feet per square mile" is the average number of cubic feet of water flowing per second from each square mile of area drained, on the assumption that the run-off is distributed uniformly both as regards time and area.

"Run-off in inches" is the depth to which the drainage area would be covered if all the water flowing from it in a given period were conserved and uniformly distributed on the surface. It is used for comparing run-off with rainfall, which is usually expressed in depth in inches.

"Acre-foot" is equivalent to 43,560 cubic feet, and is the quantity required to cover an acre to the depth of 1 foot. It is commonly used in connection with storage for irrigation work.

CONVENIENT EQUIVALENTS.

The following is a list of convenient equivalents for use in hydraulic computations:

1 second-foot equals 40 California miner's inches (law of March 23, 1901).
1 second-foot equals 38.4 Colorado miner's inches.
1 second-foot equals 40 Arizona miner's inches.
1 second-foot equals 7.48 United States gallons per second; equals 448.8 gallons per minute; equals 646,272 gallons for one day.
1 second-foot equals 6.23 British imperial gallons per second.
1 second-foot for one year covers 1 square mile 1.131 feet or 13.572 inches deep.
1 second-foot for one year equals 31,536,000 cubic feet.
1 second-foot equals about 1 acre-inch per hour.
1 second-foot for one day covers 1 square mile 0.03719 inch deep.
1 second-foot for one 28-day month covers 1 square mile 1.041 inches deep.
1 second-foot for one 29-day month covers 1 square mile 1.079 inches deep.
1 second-foot for one 30-day month covers 1 square mile 1.116 inches deep.
1 second-foot for one 31-day month covers 1 square mile 1.153 inches deep.
1 second-foot for one day equals 1.983 acre-feet.
1 second-foot for one 28-day month equals 55.54 acre-feet.
1 second-foot for one 29-day month equals 57.52 acre-feet.
1 second-foot for one 30-day month equals 59.50 acre-feet.
1 second-foot for one 31-day month equals 61.49 acre-feet.
100 California miner's inches equal 18.7 United States gallons per second.
100 California miner's inches equal 96.0 Colorado miner's inches.
100 California miner's inches for one day equal 4.96 acre-feet.
100 Colorado miner's inches equal 2.60 second-feet.
100 Colorado miner's inches equal 19.5 United States gallons per second.
100 Colorado miner's inches equal 104 California miner's inches.
100 Colorado miner's inches for one day equal 5.17 acre-feet.
100 United States gallons per minute equal 0.223 second-feet.
100 United States gallons per minute for one day equal 0.442 acre-foot.
1,000,000 United States gallons per day equal 1.55 second-feet.
1,000,000 United States gallons equal 3.07 acre-feet.
1,000,000 cubic feet equal 22.95 acre-feet.
1 acre-foot equals 325,850 gallons.
1 inch deep on one square mile equals 2,323,200 cubic feet.
1 inch deep on 1 square mile equals 0.0737 second-foot per year.
1 foot equals 0.3048 meter.
1 mile equals 1.60935 kilometers.
1 mile equals 5,280 feet.
1 acre equals 0.4047 hectare.
1 acre equals 43,560 square feet.
1 acre equals 209 feet square, nearly.
1 square mile equals 2.59 square kilometers.
1 cubic foot equals 0.0283 cubic meter.
1 cubic foot equals 7.48 gallons.
1 cubic foot of water weighs 62.5 pounds.
1 cubic meter per minute equals 0.5886 second-foot.
1 horsepower equals 550 foot-pounds per second.
1 horsepower equals 76.0 kilogram-meters per second.
1 horsepower equals 746 watts.
1 horsepower equals 1 second-foot falling 8.80 feet.

1⅓ horsepower equal about 1 kilowatt.

To calculate water power quickly: $\frac{\text{Sec.-ft.} \times \text{fall in feet}}{11}$ = net horsepower on water wheel realizing 80 per cent of theoretical power.

EXPLANATION OF TABLES.

For each drainage basin there is given a brief description of general conditions covering such features as area, source, tributaries, topography, geology, conditions of forestation, rainfall, ice conditions, irrigation, storage, power possibilities, and other special features of importance or interest.

For each regular current-meter gaging station are given in general, and so far as available, the following data: Description of station, list of discharge measurements, table of daily gage heights, rating table, table of monthly and yearly discharges and run-off. For stations located at weirs or dams the gage-height and rating tables are omitted and a table of daily discharge is substituted. For stations where the flow is computed by shifting-channel methods, a table of daily discharge is given in place of rating tables, which are not used in these methods of computation.

In addition to statements regarding the location and installation of current-meter stations the descriptions give information in regard to any conditions which may affect the constancy of the relation of gage height to discharge, covering such points as ice, logging, shifting conditions of flow, and backwater; also full information regarding diversions which decrease the total flow at the measuring section. Statements are also made regarding the accuracy and reliability of the data.

The discharge-measurement table gives the results of the discharge measurements made during the year, including the date, name of hydrographer, width and area of cross section, gage height, and discharge in second-feet.

The table of daily gage heights gives the daily fluctuations of the surface of the river as found from the mean of the gage readings taken each day. At most stations the gage is read in the morning and in the evening. The gage height given in the table represents the elevation of the surface of the water above the zero of the gage. All gage heights during ice conditions, backwater from obstructions, etc., are published as recorded, with suitable footnotes. The rating is not applicable for such periods unless the proper correction to the gage heights is known and applied. Attention is called to the fact that the zero of the gage is placed at an arbitrary datum and has no relation to zero flow or the bottom of the river. In general, the zero is located somewhat below the lowest known flow, so that negative readings shall not occur.

The discharge measurements and gage heights are the base data from which the rating tables and monthly-discharge tables are computed.

The rating table gives, either directly or by interpolation, the discharge in second-feet corresponding to every stage of the river recorded during the period for which it is applicable. It is published to enable engineers to determine the daily discharge by its application to the table of gage heights or to check results in the table of monthly discharge.

In the table of monthly discharge the column headed "Maximum" gives the mean flow, as determined from the rating table, for the day when the mean gage height was highest. As the gage height is the mean for the day, it does not indicate correctly the period when the water surface was at crest height and the corresponding discharge consequently larger than given in this column. Likewise, in the column of "Minimum" the quantity given is the mean flow for the day when the mean gage height was lowest. The column headed "Mean" is the average flow in cubic feet for each second during the month. On this the computations for the remaining columns, which are defined on page 13, are based.

FIELD METHODS OF MEASURING STREAM FLOW.

There are three distinct methods of determining the flow of open-channel streams: (1) By measurements of slope and cross section and the use of Chezy's and Kutter's formulas; (2) by means of a weir or dam; (3) by measurements of the velocity of the current and of the area of the cross section. The method chosen depends on the local physical conditions, the degree of accuracy desired, the funds available, and the length of time that the record is to be continued.

Slope method.—Much information has been collected relative to the coefficients to be used in the Chezy formula, $v = c\sqrt{Rs}$. This has been utilized by Kutter, both in developing his formula for c and in determining the values of the coefficient n which appears therein. The results obtained by the slope method are in general only roughly approximate, owing to the difficulty in obtaining accurate data and the uncertainty of the value for n to be used in Kutter's formula. The most common use of this method is in estimating the flood discharge of a stream when the only data available are the cross section, the slope as shown by marks along the bank, and a knowledge of the general conditions. It is seldom used by the United States Geological Survey. For full information regarding this method the reader is referred to the various text-books on hydraulics.

Weir method.—Relatively few stations are maintained at weirs or dams by the United States Geological Survey. Standard types of

sharp-crested and broad-crested weirs within the limits for which accurate coefficients have been experimentally obtained give very accurate records of discharge if properly maintained. At practically all broad-crested weirs, however, there is a diversion of water either through or around the dam, usually for the purpose of development of water power. The flow is often complicated and the records are subject to errors from such sources as leakage through the dam, backwater at high stages, uncertainty regarding coefficient, crest which is not level, obstructions from logs or ice, use of flashboards, old turbines with imperfect ratings, and many others depending on the type of development and the uses of the diverted water.

In general, records of discharge at dams are usually accurate enough for practical use if no others are available. It has been the general experience of the United States Geological Survey, however, that records at current-meter gaging stations under unobstructed channel conditions are more accurate than those collected at dams, and where the conditions are reasonably favorable are practically as good as those obtained at sharp-crested weirs.

The determination of discharge over the different types of weirs and dams is treated fully in "Weir experiments, coefficients, and formulas" (Water-Supply Paper 200[a]) and in the various text-books on hydraulics. "Turbine water-wheel tests and power tables" (Water-Supply Paper 180) treats of the discharge through turbines when used as meters. The editions of both of these water-supply papers are practically exhausted. They can, however, be consulted at most of the larger libraries of the country or they can be obtained from the Superintendent of Documents, Washington, D. C., at a cost of 20 cents for No. 180 and 35 cents for No. 200. Remittances must be made by postal money order, express order, or New York draft.

Velocity method.—Streams in general present throughout their courses to a greater or less extent all conditions of permanent, semi-permanent, and varying conditions of flow. In accordance with the location of the measuring section with respect to these physical conditions, current-meter gaging stations may in general be divided into four classes—(1) those with permanent conditions of flow; (2) those with beds which change only during extreme high water; (3) those with beds which change frequently but which do not cause a variation of more than about 5 per cent of the discharge curves from year to year; and (4) those with constantly shifting beds. In determining the daily flow different office methods are necessary for each class. The field data on which the determinations are based and the methods of collecting them are, however, in general the same.

[a] Water-Supply Paper 200 is a revision of No. 150, the edition of which is exhausted.

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Great care is taken in the selection and equipment of gaging stations for determining discharge by velocity measurements, in order that the data may have the required degree of accuracy. They are located, as far as possible, at such points that the relation between gage height and discharge will always remain constant for any given stage. The experience of engineers of the Geological Survey has been that permanency of conditions of flow is the prime requisite of any current-meter gaging station when maintained for several years unless funds are available to cover all changes in conditions of flow. A straight, smooth section without cross currents, backwater, boils, etc., at any stage is highly desirable, but on most streams is not attainable except at the cost of a cable equipment. Rough, permanent sections, if measurements are properly made by experienced engineers, taking measuring points at a distance apart of 2 to 5 per cent or less of the total width, will within reasonable limits yield better results for a given outlay of money than semipermanent or shifting sections with smooth, uniform current. So far as possible, stations are located where the banks are high and not subject to overflow at high stages and out of the influence of tributary streams, dams, or other artificial obstructions which might affect the relation between gage height and discharge.

A gaging station consists essentially of a gage for determining the daily fluctuations of stage of the river and some structure or apparatus from which discharge measurements are made, usually a bridge or cable.

The two factors required to determine the discharge of a stream past a section perpendicular to the mean direction of the current are the area of the cross section and the mean velocity of flow normal to that section.

In making a measurement with a current meter a number of points, called measuring points, are measured off above and in the plane of the measuring section at which observations of depth and velocity are taken. (See Pl. I, *B*.) These points are spaced equally for those parts of the section where the flow is uniform and smooth and are spaced unequally for other parts according to the discretion and judgment of the engineer. In general the points should not be spaced farther apart than 5 per cent of the distance between piers, nor farther apart than the approximate mean depth at the time of measurement.

The measuring points divide the total cross section into elementary strips at each end of which observations of depth and velocity are made. The discharge of any elementary strip is the product of the average of the depths at the two ends times the width of the strip times the average of the mean velocities at the two ends of the

A. CURRENT-METER STATION AT LOS ANGELES, CAL.

B. BRIDGE STATION AND CROSS SECTION OF STREAM.

Illustrating 0.2 and 0.8 depth method.

strip. The sum of the discharges of the elementary strips is the total discharge of the stream. (For a discussion of methods of computing the discharge of a stream see Engineering News, June 25, 1908.)

Depths for the determination of the area are usually obtained by sounding with the current meter and cable. In rough sections or swift current an ordinary weight and cable are used, particular care being taken that all observations shall be in the plane of the cross section.

Two methods of determining the velocity of flow of a stream are in general use—the float method and the current-meter method.

The float method with its various modifications of surface, subsurface, and tube or rod floats is now considered obsolete in the ordinary practice of the United States Geological Survey. The use of this method is limited to special conditions where it is impracticable to use the current meter, such as in places where large quantities of ice or débris which may damage the meter are flowing with the current, and for miscellaneous measurements or other work where a high degree of accuracy is not necessary. Tube floats are very satisfactory for use in canals with regular bottoms and even flow of current. Measurements by the float method are made as follows: The velocity of flow of the stream is obtained by observing the time which it takes floats set free at different points across the stream to pass between two range lines about 200 feet apart. The area used is the mean value obtained from several cross sections measured between the two range lines. The chief disadvantages of this method are difficulty in obtaining the correct value of mean area for the course used and uncertainty regarding the proper coefficient to apply to the observed velocity. For further information regarding this method the reader is referred to Water-Supply Paper 95 and to the various text-books covering the general subject of stream flow.

The Price current meter is now used almost to the exclusion of other types of meters by the United States Geological Survey in the determination of the velocity of flow of water in open channels, a use for which it is adapted under practically all conditions. Plate II shows in the center the new type of penta-recording current meter equipped for measurements at bridge and cable stations. On the sides the same type of meter is shown equipped for wading measurements to record by the acoustic method on the left and by the electric method on the right. Briefly, the meter consists of six cups attached to a vertical shaft which revolves on a conical hardened steel point when immersed in moving water. The number of revolutions is indicated electrically. The rating, or relation between the velocity of the moving water and the revolutions of the wheel, is determined for each meter by drawing it through still water for a given distance

at different speeds and noting the number of revolutions for each run. (See Pl. I, *A*.) From these data a rating table is prepared which gives the velocity per second of moving water for any number of revolutions in a given time interval. The ratio of revolutions per second to velocity of flow in feet per second is very nearly a constant for all speeds and is approximately 0.45.

Three classes of methods of measuring velocity with current meters are in general use—multiple-point, single-point, and integration.

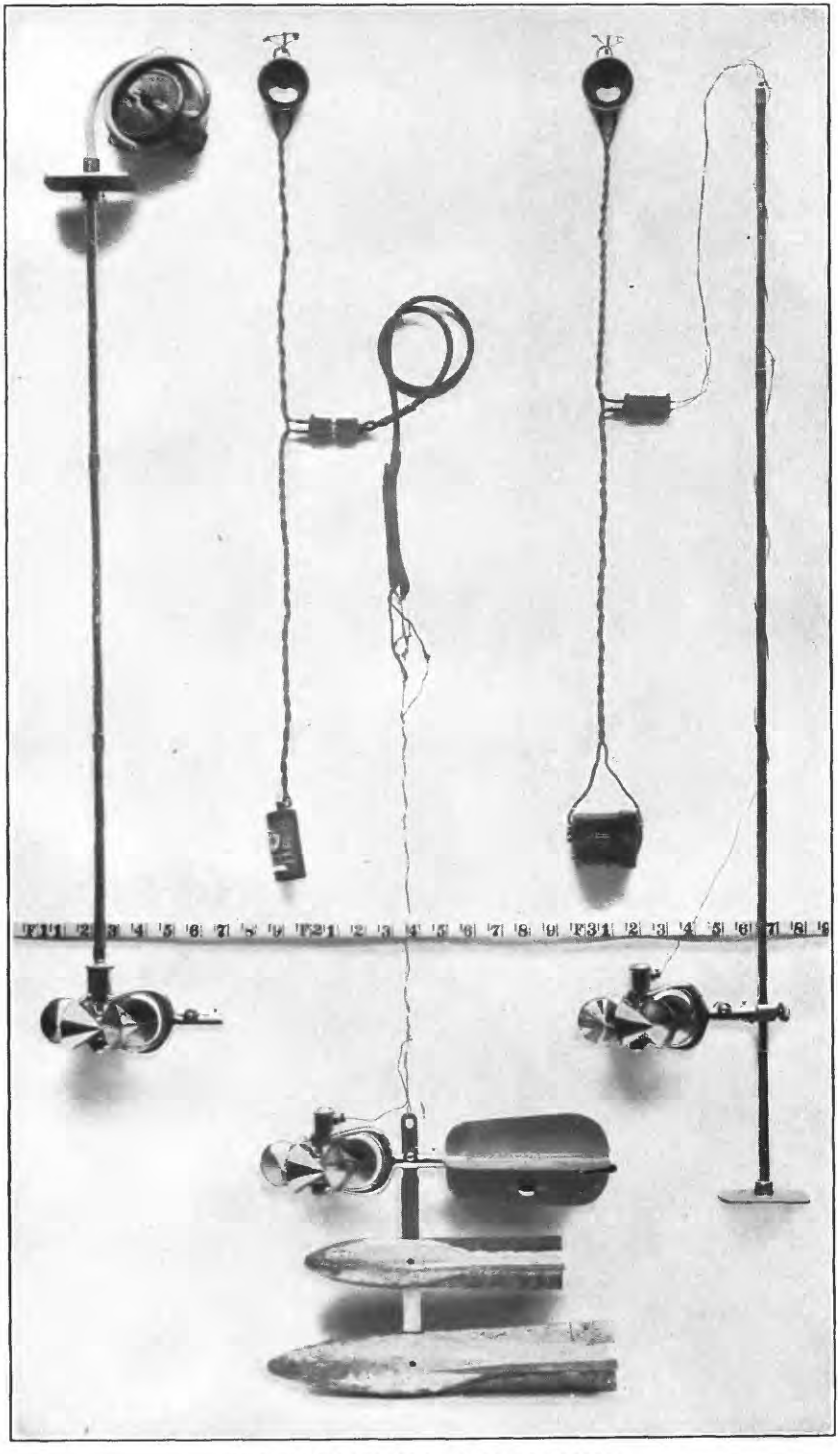
The two principal multiple-point methods in general use are the vertical velocity curve and 0.2 and 0.8 depth.

In the vertical velocity curve method a series of velocity determinations are made in each vertical at regular intervals, usually about 10 to 20 per cent of the depth apart. By plotting these velocities as abscissas and their depths as ordinates and drawing a smooth curve among the resulting points, the vertical velocity curve is developed. This curve shows graphically the magnitude and changes in velocity from the surface to the bottom of the stream. The mean velocity in the vertical is then obtained by dividing the area bounded by this velocity curve and its axis by the depth. This method of obtaining the mean velocity in the vertical is probably the best known, but on account of the length of time required to make a complete measurement its use is largely limited to the determination of coefficients for purposes of comparison and to measurements under ice.

In the second multiple-point method the meter is held successively at 0.2 and 0.8 depth, and the mean of the velocities at these two points is taken as the mean velocity for that vertical. (See Pl. I.) On the assumption that the vertical velocity curve is a common parabola with horizontal axis, the mean of the velocities at 0.22 and 0.79 depth will give (closely) the mean velocity in the vertical. Actual observations under a wide range of conditions show that this multiple-point method gives the mean velocity very closely for open-water conditions and that in a completed measurement it seldom varies as much as 1 per cent from the value given by the vertical velocity curve method. Moreover, the indications are that it holds nearly as well for ice-covered rivers. It is very extensively used in the regular practice of the United States Geological Survey.

The single-point method consists in holding the meter either at the depth of the thread of mean velocity or at an arbitrary depth for which the coefficient for reducing to mean velocity has been determined or must be assumed.

Extensive experiments by means of vertical velocity curves show that the thread of mean velocity generally occurs between 0.5 and 0.7 total depth. In general practice the thread of mean velocity is considered to be at 0.6 depth, and at this point the meter is held in most of the measurements made by the single-point method. A



PRICE PENTA-RECORDING CURRENT METERS.

large number of vertical velocity curve measurements, taken on many streams and under varying conditions, show that the average coefficient for reducing the velocity obtained at 0.6 depth to mean velocity is practically unity. The variation of the coefficient from unity in individual cases is, however, greater than in the 0.2 and 0.8 method and the general results are not as satisfactory.

In the other principal single-point method the meter is held near the surface, usually 1 foot below, or low enough to be out of the effect of the wind or other disturbing influences. This is known as the subsurface method. The coefficient for reducing the velocity taken at the subsurface to the mean has been found to be in general from about 0.85 to 0.95, depending on the stage, velocity, and channel conditions. The higher the stage the larger the coefficient. This method is especially adapted for flood measurements, or when the velocity is so great that the meter can not be kept in the correct position for the other methods.

The vertical integration method consists in moving the meter at a slow, uniform speed from the surface to the bottom and back again to the surface and noting the number of revolutions and the time taken in the operation. This method has the advantage that the velocity at each point of the vertical is measured twice. It is useful as a check on the point methods. In using the Price meter great care should be taken that the vertical movement of the meter is not rapid enough to vitiate the accuracy of the resulting velocity.

The determination of the flow of an ice-covered stream is difficult, owing to diversity and instability of conditions during the winter period and also to lack of definite information in regard to the laws of flow of water under ice. The method now employed is to make frequent discharge measurements during the frozen periods by the 0.2 and 0.8 and the vertical velocity curve methods, and to keep an accurate record of the conditions, such as the gage height to the surface of the water as it rises in a hole cut in the ice, and the thickness and character of the ice. From these data an approximate estimate of the daily flow can be made by constructing a rating curve (really a series of curves) similar to that used for open channels, but considering, in addition to gage heights and discharge, the varying thickness of ice. For information in regard to flow under ice cover, see Water-Supply Paper 187.

OFFICE METHODS OF COMPUTING AND STUDYING DISCHARGE AND RUN-OFF.

At the end of each year the field or base data for current-meter gaging stations, consisting of daily gage heights, discharge measurements, and full notes, are assembled. The measurements are plotted on cross-section paper and rating curves are drawn wherever feasible.

The rating tables prepared from these curves are then applied to the tables of daily gage heights to obtain the daily discharges, and from these applications the tables of monthly discharge and run-off are computed.

Rating curves are drawn and studied with special reference to the class of channel conditions which they represent. (See p. 17.) The discharge measurements for all classes of stations when plotted with gage heights in feet as ordinates and discharges in second-feet as abscissas define rating curves which are more or less generally parabolic in form. In many cases curves of area in square feet and mean velocity in feet per second are also constructed to the same scale of ordinates as the discharge curve. These are used mainly to extend the discharge curves beyond the limits of the plotted discharge measurements, and for checking purposes to avoid errors in the form of the discharge curve and to determine and eliminate erroneous measurements.

For every published rating table the following assumptions are made for the period of application of the table: (*a*) That the discharge is a function of and increases gradually with the stage; (*b*) that the discharge is the same whenever the stream is at a given stage, and hence such changes in conditions of flow as may have occurred during the period of application are either compensating or negligible, except that the rating as stated in the footnote of each table is not applicable for known conditions of ice, log jams, or other similar obstructions; (*c*) that the increased and decreased discharge due to change of slope on rising and falling stages is either negligible or compensating.

As already stated, the gaging stations may be divided into several classes, as indicated in the following paragraphs:

The stations of class 1 represent the most favorable conditions for an accurate rating and are also the most economical to maintain. The bed of the stream is usually composed of rock and is not subject to the deposit of sediment and loose material. This class includes also many stations located in a pool below which is a permanent rocky riffle that controls the flow like a weir. Provided the control is sufficiently high and close to the gage to prevent cut and fill at the gaging point from materially affecting the slope of the water surface, the gage height will for all practical purposes be a true index of the discharge. Discharge measurements made at such stations usually plot within 2 or 3 per cent of the mean-discharge curve and the rating developed from that curve represents a very high degree of accuracy. For illustrative example of a station of this type see Water-Supply Paper 241.

Class 2 is confined mainly to stations on rough mountainous streams with steep slopes. The beds of such streams are as a rule compara-

tively permanent during low and medium stages and when the flow is sufficiently well defined by an adequate number of discharge measurements before and after each flood the stations of this class give nearly as good results as those of class 1. As it is seldom possible to make measurements covering the time of change at flood stage, the assumption is often made that the curves before and after the flood converged to a common point at the highest gage height recorded during the flood. Hence the only uncertain period occurs during the few days of highest gage heights covering the period of actual change in conditions of flow.

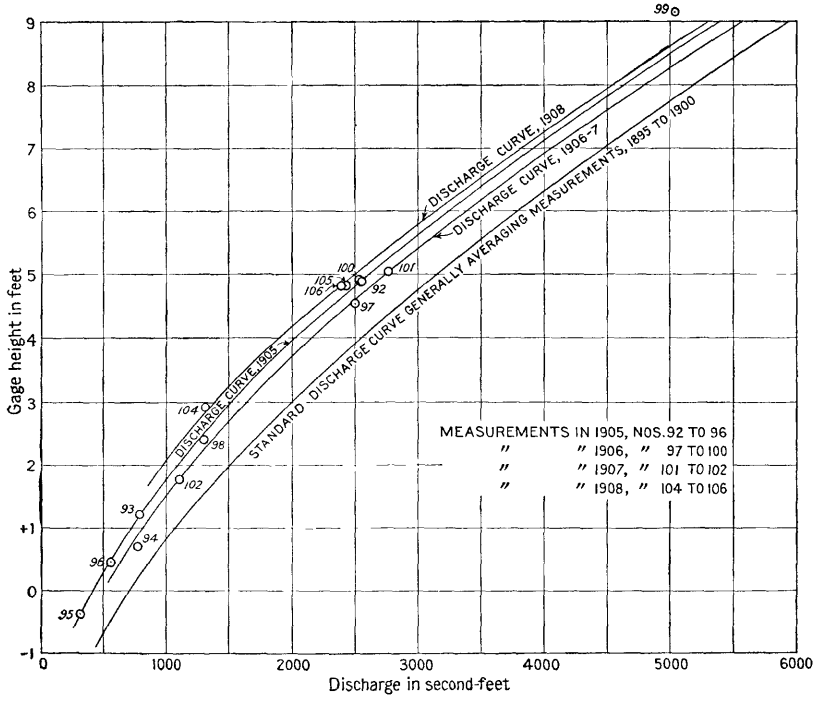


FIGURE 1.—Low and medium stage discharge curves for Ocmulgee River at Macon, Ga.

Class 3 includes most of the current-meter gaging stations maintained by the United States Geological Survey. (See fig. 1.) If sufficient measurements could be made at stations of this class results would be obtained nearly equaling those of class 1, but owing to the limited funds at the disposal of the Survey this is manifestly impossible, nor is it necessary for the uses to which discharge data are applied. The critical points are as a rule at relatively high or low stages. The percentage error, however, is greater at low stages. No absolute rule can be laid down for stations of this class. Each rating curve must be constructed mainly on the basis of the measurements

of the current year, the engineer being guided largely by the past history of the station and the following general law: If all measurements ever made at a station of this class are plotted on cross-section paper, they will define a mean curve which may be called a standard curve. It has been found in practice that if after a change caused by high stage, a relatively constant condition of flow occurs at medium and low stages, all measurements made after the change will plot on a smooth curve which is practically parallel to the standard curve with respect to their ordinates, or gage heights. This law of the parallelism of ratings is the fundamental basis of all ratings and estimates at stations with semipermanent and shifting channels. It is not absolutely correct but, with few exceptions, answers all the practical requirements of estimates made at low and medium stages after a change at a high stage. This law appears to hold equally true whether the change occurs at the measuring section or at some controlling point below. The change is of course fundamentally due to change in the channel caused by cut, or fill, or both, at and near the measuring section. For all except small streams the changes in section usually occur at the bottom. The following simple but typical examples illustrate this law:

(*a*) If 0.5 foot of planking were to be nailed on the bottom of a well-rated wooden flume of rectangular section there would result, other conditions of flow being equal, new curves of discharge, area, and velocity, each plotting 0.5 foot above the original curves when referred to the original gage. In other words, this condition would be analogous to a uniform fill or cut in a river channel which either reduces or increases all three values of discharge, area, and velocity for any gage height. In practice, however, such ideal conditions rarely exist.

(*b*) In the case of a cut or fill at the measuring section there is a marked tendency toward decrease or increase, respectively, of the velocity. In other words, the velocity has a compensating effect and if the compensation is exact at all stages the discharge at a given stage will be the same under both the new and the old conditions.

(*c*) In the case of uniform change along the crest of a weir or rocky controlling point, the area curve will remain the same as before the change, and it can be shown that here again the change in velocity curve is such that it will produce a new discharge curve essentially parallel to the original discharge curve with respect to their ordinates.

Of course in actual practice such simple changes of section do not occur. The changes are complicated and lack uniformity, a cut at one place being largely offset by a fill at another and vice versa. If these changes are very radical and involve large percentages of the total area—as, for example, on small streams—there may result

a wide departure from the law of parallelism of ratings. In complicated changes of section the corresponding changes in velocity which tend to produce a new parallel discharge curve may interfere with each other materially, causing eddies, boils, backwater, and radical changes in slope. In such extreme conditions, however, the measuring section would more properly fall under class 4 and would require very frequent measurements of discharge. Special stress is laid on the fact that in the lack of other data to the contrary the utilization of this law will yield the most probable results.

Slight changes at low or medium stages of an oscillating character are usually averaged by a mean curve drawn among them parallel to the standard curve, and if the individual measurements do not vary more than 5 per cent from the rating curve the results are considered good for stations of this class.

Class 4 comprises stations that have soft, muddy, or sandy beds. Good results can be obtained from such sections only by frequent discharge measurements, the frequency varying from a measurement every two or three weeks to a measurement every day, according to the rate of diurnal change in conditions of flow. These measurements are plotted and a mean or standard curve drawn among them. It is assumed that there is a different rating curve for every day of the year and that this rating is parallel to the standard curve with respect to their ordinates. On the day of a measurement the rating curve for that day passes through that measurement. For days between successive measurements it is assumed that the rate of change is uniform, and hence the ratings for the intervening days are equally spaced between the ratings passing through the two measurements. This method must be modified or abandoned altogether under special conditions. Personal judgment and a knowledge of the conditions involved can alone dictate the course to pursue in such cases. For illustrative example of a station of this type, showing the Bolster method of determining the daily discharge graphically, see Water-Supply Paper 249.

The computations have, as a rule, been carried to three significant figures. Computation machines, Crelle's tables, and the 20-inch slide rule have been generally used. All computations are carefully checked.

After the computations have been completed they are entered in tables and carefully studied and intercompared to eliminate or account for all gross errors so far as possible. Missing periods are filled in, so far as is feasible, by means of comparison with adjacent streams. The attempt is made to complete years or periods of discharge, thus eliminating fragmentary and disjointed records. Full notes accompanying such estimates follow the monthly discharge tables.

For most of the northern stations estimates have been made of the monthly discharge during frozen periods. These are based on measurements under ice conditions wherever available, daily records of temperature and precipitation obtained from the United States Weather Bureau climate and crop reports, observers' notes of conditions, and a careful and thorough intercomparison of results with adjacent streams. Although every care possible is used in making these estimates they are often very rough, the data for some of them being so poor that the estimates are liable to as much as 25 to 50 per cent error. It is believed, however, that estimates of this character are better than none at all, and serve the purpose of indicating in a relative way the proportionate amount of flow during the frozen period. These estimates are, as a rule, included in the annual discharge. The large error of the individual months has a relatively small effect on the annual total, and it is for many purposes desirable to have the yearly discharge computed even though some error is involved in doing so.

ACCURACY AND RELIABILITY OF FIELD DATA AND COMPARATIVE RESULTS.

Practically all discharge measurements made under fair conditions are well within 5 per cent of the true discharge at the time of observation. Inasmuch as the errors of meter measurements are largely compensating, the mean rating curve, when well defined, is much more accurate than the individual measurements. Numerous tests and experiments have been made to test the accuracy of current-meter work. These show that it compares very favorably with the results from standard weirs, and, owing to simplicity of methods, usually gives results that are much more reliable than those from stations at dams, where uncertainty regarding the coefficient and complicated conditions of flow prevail.

The work is, of course, dependent on the reliability of the observers. With relatively few exceptions, the observers perform their work honestly. Care is taken, however, to watch them closely and to inquire into any discrepancies. It is, of course, obvious that one gage reading a day does not always give the mean height for that day. As an almost invariable rule, however, errors from this source are compensating and virtually negligible in a period of one month, although a single day's reading may, when taken by itself, be considerably in error.

In order to give engineers and others information regarding the probable accuracy of the computed results, footnotes are added to the rating tables and an accuracy column is inserted in the monthly discharge table. In the rating tables "well defined" indicates in general that the rating is probably accurate within 5 per cent; "fairly well

defined," within 10 per cent; "poorly defined" or "approximate," within 15 to 25 per cent. These notes are very general and are based on the plotting of the individual measurements with reference to the mean rating curve.

The accuracy column in the monthly-discharge table does not apply to the maximum or minimum nor to any individual day, but to the monthly mean. It is based on the accuracy of the rating, the probable reliability of the observer, and knowledge of local conditions. In this column, A indicates that the mean monthly flow is probably accurate within 5 per cent; B, within 10 per cent; C, within 15 per cent; D, within 25 per cent. Special conditions are covered by footnotes.

USE OF THE DATA.

In general the policy is followed of making available for the public the base data which are collected in the field each year by the Survey engineers. This is done to comply with the law, but also for the express purpose of giving to any engineer the opportunity of examining the computed results and of changing and adjusting them as may seem best to him. Although it is believed that the rating tables and computed monthly discharges are as good as the base data up to and including the current year will warrant, it should always be borne in mind that the additional data collected at each station from year to year nearly always throw new light on data already collected and published, and hence allow more or less improvement in the computed results of earlier years. It is therefore expected that the engineer who makes serious use of the data given in these papers will verify all ratings and make such adjustments in earlier years as may seem necessary. The work of compiling, studying, revising, and republishing data for different drainage basins for five or ten year periods or more is carried on by the United States Geological Survey so far as the funds for such work are available.

The values in the table of monthly discharge are so arranged as to give only a general idea of the conditions of flow at the station, and it is not expected that they will be used for other than preliminary estimates. This is particularly true of the maximum and minimum figures, which in the very nature of the method of collecting these data are liable to large errors. The maximum value should be increased considerably for many stations in considering designs for spillways, and the minimum value should be considered for a group of, say, seven days and not for one day.

The rating table, provided the engineer accepts it, is published primarily to allow him to apply it directly to the daily gage heights and rearrange the daily discharges in order of magnitude or by some other method.

COOPERATION AND ACKNOWLEDGMENTS.

Assistance has been rendered or records furnished by the following persons, to whom special acknowledgment is due: Members of the United States Corps of Engineers; the United States Weather Bureau; Dr. Eugene A. Smith, state geologist, Alabama; Dr. Joseph Hyde Pratt, state geologist, North Carolina; E. A. Killebrew; Tennessee Coal, Iron and Railroad Company.

DIVISION OF WORK.

The field data in the James and Roanoke river drainage basins were collected under the direction of J. C. Hoyt, engineer, assisted by Robert Follansbee, R. G. Knight, A. T. Barrows, and R. J. Taylor.

The field data for drainage basins south of Roanoke River were collected under the direction of M. R. Hall, district engineer, assisted by Warren E. Hall, W. A. Lamb, F. A. Murray, B. M. Hall, jr., and F. P. Thomas.

The ratings, special estimates, and studies of the completed data were made by M. R. Hall and R. H. Bolster. The computations and the preparation of the completed data for publication were made under the direction of R. H. Bolster, assistant engineer, assisted by H. D. Padgett, G. C. Stevens, G. L. Parker, and M. I. Walters.

SOUTH ATLANTIC STATES DRAINAGE.

JAMES RIVER DRAINAGE BASIN.

DESCRIPTION OF BASIN.

The basin of James River, the most important stream in Virginia, extends entirely across the southern part of the State from east to west. It is bounded on the north by the Potomac and York River basins and on the south by that of the Roanoke. Its entire area is approximately 9,700 square miles.

James River proper is formed by the junction of Jackson and Cowpasture rivers in the northern part of Botetourt County. Jackson River has a long and narrow basin bounded on the west by the main range of the Allegheny Mountains and on the east by a secondary range of the same system. Still other ranges divide its basin into parallel valleys having steep sides and heavy slopes.

The basin of Cowpasture River is similar to that of Jackson River, being long and narrow. It parallels the Jackson basin on the east and extends as far east as the Blue Ridge Mountains.

The course of James River from the junction of Jackson and Cowpasture rivers is in general easterly, leading into the lower part of Chesapeake Bay. Its length is about 335 miles. The important tributaries in descending order are: Craig Creek and North, Pedlar,

Buffalo, Rockfish, Hardware, Slate, Rivanna, Willis, Appomattox, and Chickahominy rivers.

James River traverses three distinct geologic provinces—the Allegheny Mountain region, extending from the western edge of the basin to the Blue Ridge Mountains; the Piedmont Plateau, which extends from the Blue Ridge to the fall line at Richmond; and the Coastal Plain east of Richmond. Within the first region the basin is very broken and has steep slopes; here are found deposits of limestone, marble, and lead ores, and anthracite and bituminous coal. Within the Piedmont Plateau region the topography is rolling and the uplands are rounded, with a resulting small range in altitude; this section contains the bituminous coal fields of Goochland, Chesterfield, Powhatan, and Prince Edward counties. The characteristic strata of the Coastal Plain are horizontal beds of clay and sand abounding in fossil shells; the region is generally low and in some parts swampy. The range of altitude for the entire basin is from sea level to 4,000 feet on the crest of the mountains.

With the exception of the mountain sides in the upper part of the basin, which are forested, the drainage area is, for the most part, cleared and under cultivation.

The mean annual rainfall, as shown by the records of the United States Weather Bureau, ranges from 40 to 50 inches, being heaviest at the mouth of the river and decreasing to 45 inches at Richmond. Between this latter point and the upper part of the basin the range is between 40 and 45 inches.

Owing to the southern latitude, James River is not seriously affected by ice; frozen periods usually last from only a few days to two or three weeks.

A study of the topographic sheets which cover nearly the entire drainage basin shows that the upper valleys are so narrow and the headwaters have so much fall that there are few sites that could be utilized for reservoirs of any considerable capacity without building dams of great height and length.

Near Clifton Forge, and again near Balcony Falls, the James flows through ridges of the Alleghenies with sharp falls over beds of solid rock. At other points similar though less pronounced falls and rapids occur as the river cuts through the lesser foothills. The fall line is crossed at Richmond.

A reconnaissance made in 1897 showed 18 dams across James River between Clifton Forge and Richmond. Many of these dams were built for the purpose of diverting water into the old James and Kanawha Canal, which followed the river from Richmond to Buchanan and at one time was utilized throughout that entire distance. It has now been abandoned and its right of way is owned by the Chesapeake and Ohio Railway. The use of the dams was

abandoned with the canal, and although many of them are in good repair, they have not been improved for power purposes.[a]

The greater part of the Coastal Plain is underlain by water-bearing strata which have been penetrated by numerous wells. In the Piedmont Plateau there are few deep wells, but it is probable that moderate amounts of water could be obtained in a considerable percentage of the wells sunk. Within the Appalachian Mountain belt, springs abound which constitute the main source of water supply of the inhabitants. Many of the springs at the higher altitudes yield warm waters, and at a number of places have been developed as resorts. At other springs the waters are bottled and sold for medicinal purposes.

The following gaging stations have been maintained in James River basin:[b]

Jackson River at Covington, Va., 1907–8.
James River at Buchanan, Va., 1895–1908.
James River at Holcomb Rock, Va., 1900–1908.
James River at Cartersville, Va., 1899–1908.
Cowpasture River near Clifton Forge, Va., 1907–8.
North of James River near Glasgow, Va., 1895–1905.
Appomattox River at Mattoax, Va., 1900–1905.

JACKSON RIVER AT COVINGTON, VA.

The gaging station on Jackson River was established May 11, 1907, at the footbridge leading to the West Virginia Pulp and Paper Company's mill just above the Chesapeake and Ohio Railway bridge at Covington, and was discontinued July 31, 1908. It was established in cooperation with the United States Forest Service for the purpose of studying the run-off in the southern Appalachian region.

The nearest important tributary is Dunlap Creek, which enters Jackson River a few hundred yards below the railroad bridge.

During the period covered by the record there were slight ice conditions for a few days, but these did not materially affect the flow.

The datum of the gage remained unchanged during the period covered by the records. Measuring conditions are good and a good low-water rating has been developed.

Discharge measurements of Jackson River at Covington, Va., in 1907.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
		Feet.	*Sq. ft.*	*Feet.*	*Sec.-ft.*
May 11	R. J. Taylor	151	448	1.80	924
June 26	R. G. Knight	153	579	2.60	1,820
July 17	do	127	300	.61	359
July 25	do	115	297	.55	285

[a] For a full report of the 1897 reconnaissance, including brief descriptions of the various dams and the profile of the river, see 19th Ann. Rept. U. S. Geol. Survey, pt. 4, pp. 162–173; also Hydrography of Virginia, Bull. Geol. Survey Virginia No. 3, 1906, pp. 95–99.

[b] All records and discharge data collected in the James River basin prior to 1906 have been revised by engineers of the United States Geological Survey and republished in Hydrography of Virginia, Bull. Geol. Survey Virginia No. 3, 1906, pp. 94–163.

Daily gage height, in feet, of Jackson River at Covington, Va., for 1907 and 1908.

[Observer, James E. Steeley.]

Day.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1						0.80	1.15	0.58	0.50	0.68	0.40	1.30
2						3.72	1.02	.48	.40	.60	.40	1.22
3						2.45	1.00	.40	.40	.48	2.60	1.12
4						1.95	.92	.35	.60	.50	1.80	1.02
5						1.90	.85	.38	.95	.50	1.45	.90
6						1.80	.80	.42	.72	.45	1.22	.85
7						1.50	.80	.60	.50	.45	1.15	.80
8						2.33	.78	.48	.50	.55	1.02	.75
9						3.52	.72	.48	.50	1.48	.95	.75
10						2.50	.95	.55	.50	1.15	1.10	2.30
11					1.80	2.60	.80	.80	.65	.98	2.35	3.70
12					1.65	3.25	.78	.75	.88	.82	1.88	2.62
13					1.48	4.23	.78	.65	.85	.75	1.55	2.08
14					1.38	6.50	.75	.52	.68	.62	1.40	1.92
15					1.28	4.23	.70	.48	.60	.58	1.22	1.75
16					1.22	3.00	.68	.42	.48	.52	1.15	1.62
17					1.20	2.35	.60	.48	.45	.50	1.00	1.48
18					1.12	2.00	.72	.40	.50	.45	1.00	1.35
19					1.40	1.75	1.02	.38	.50	.45	1.62	1.28
20					1.05	1.65	.90	.30	.50	.45	1.75	1.20
21					.95	1.48	.85	.30	.55	.40	1.62	1.15
22					.88	1.55	.78	.45	.50	.40	1.68	1.15
23					.82	2.30	.62	.45	1.62	.40	1.78	3.30
24					.80	2.02	.60	.92	2.00	.38	3.05	4.85
25					.78	2.73	.58	.80	1.45	.35	2.75	3.30
26					.80	2.45	.50	1.32	1.15	.35	2.28	2.45
27					.82	1.90	.50	1.05	.92	.35	1.95	2.12
28					.80	1.55	.45	.85	.85	.38	1.72	1.98
29					.78	1.38	.48	.72	.75	.40	1.55	1.95
30					.75	1.30	.82	.60	.75	.40	1.32	2.42
31					.75		.68	.52		.35		2.83
1908.												
1	2.40	1.15	1.35	4.18	1.80	1.50	.62					
2	2.12	1.05	2.35	3.45	1.75	1.30	.60					
3	1.88	1.00	3.48	2.95	1.70	1.18	.55					
4	1.78	1.20	2.98	2.48	1.58	1.58	.50					
5	1.75	1.12	2.80	2.15	1.50	2.20	.80					
6	1.58	1.10	4.67	1.95	1.48	1.85	.82					
7	1.55	1.15	4.80	1.75	3.18	1.60	1.08					
8	1.60	1.08	4.15	1.62	3.55	1.40	.88					
9	1.52	.90	3.25	1.60	2.68	1.30	.78					
10	1.25	1.10	2.87	1.52	2.40	1.28	.68					
11	1.20	1.05	2.50	1.68	2.62	1.18	.60					
12	6.85	1.30	2.32	1.75	2.22	1.20	.55					
13	4.75	2.52	2.18	1.78	1.95	1.10	.48					
14	3.20	3.55	1.95	1.78	1.75	1.05	.45					
15	2.42	7.00	1.80		1.62	1.08	.48					
16	2.18	5.30	1.72		1.52	1.10	.40					
17	2.00	3.35	1.75	1.90	1.45	.98	.35					
18	1.85	2.60	2.05	1.85	1.48	.85	.35					
19	1.70	2.32	2.52	1.80	1.50	.78	.35					
20	1.55	2.10	2.60	1.68	1.78	.78	.35					
21	1.50	1.82	2.30	1.55	1.72	.85	.32					
22	1.52	1.75	2.15	1.42	1.92	.72	.40					
23	1.65	1.65	2.02	1.35	2.30	.85	.52					
24	1.60	1.60	2.02	1.30	2.10	.68	.45					
25	1.40	1.48	1.87	1.35	1.92	.65	.68					
26	1.45	1.50	1.70	2.40	1.80	.70	.55					
27	1.82	1.58	1.60	2.00	1.80	.88	1.15					
28	1.65	1.48	1.55	1.75	1.88	.70	1.32					
29	1.58	1.38	1.55	1.60	2.52	.60	.92					
30	1.38		1.55	1.50	1.95	.58	.68					
31	1.25		3.22		1.75		.62					

Daily discharge, in second-feet, of Jackson River at Covington, Va., for 1907 and 1908.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1	.....	.....	.....	.....	.....	390	540	314	290	348	260	615
2	.....	.....	.....	.....	.....	.....	479	284	260	320	260	575
3	.....	.....	.....	.....	.....	1,610	470	260	260	284	1,800	525
4	.....	.....	.....	.....	.....	1,080	438	245	320	290	955	479
5	.....	.....	.....	.....	.....	1,040	410	254	450	290	708	430
6	.....	.....	.....	.....	.....	955	390	266	362	275	575	410
7	.....	.....	.....	.....	.....	740	390	320	290	275	540	390
8	.....	.....	.....	.....	.....	1,470	383	284	.....	305	479	372
9	.....	.....	.....	.....	.....	.....	362	284	.....	727	450	372
10	.....	.....	.....	.....	.....	1,670	450	305	290	540	515	1,440
11	.....	.....	.....	.....	955	1,800	390	390	338	462	1,490	.....
12	.....	.....	.....	.....	845	.....	383	372	422	398	1,020	1,820
13	.....	.....	.....	.....	727	.....	383	338	410	372	775	1,210
14	.....	.....	.....	.....	663	.....	372	296	348	327	675	1,050
15	.....	.....	.....	.....	605	.....	355	284	320	314	575	918
16	.....	.....	.....	.....	575	2,360	348	266	284	296	540	824
17	.....	.....	.....	.....	565	1,490	320	284	275	290	470	727
18	.....	.....	.....	.....	525	1,130	362	260	290	275	470	645
19	.....	.....	.....	.....	515	918	479	254	290	275	824	605
20	.....	.....	.....	.....	492	845	430	230	290	275	918	565
21	.....	.....	.....	.....	450	727	410	230	305	260	824	540
22	.....	.....	.....	.....	422	775	383	275	290	260	866	540
23	.....	.....	.....	.....	398	1,440	327	275	824	260	940	.....
24	.....	.....	.....	.....	390	1,150	320	438	1,130	254	.....	.....
25	.....	.....	.....	.....	383	1,970	314	390	708	245	2,000	.....
26	.....	.....	.....	.....	390	1,610	290	627	540	245	1,410	1,610
27	.....	.....	.....	.....	398	1,040	290	492	438	245	1,080	1,240
28	.....	.....	.....	.....	390	775	275	410	410	254	895	1,110
29	.....	.....	.....	.....	383	663	284	362	372	260	775	1,080
30	.....	.....	.....	.....	372	615	398	320	372	260	627	1,570
31	.....	.....	.....	.....	372	.....	348	296	.....	245	.....	2,110
1908.												
1	1,550	540	645	.....	955	740	327	.....	.....	.....	.....	.....
2	1,240	492	1,490	.....	918	615	320	.....	.....	.....	.....	.....
3	1,020	470	.....	2,280	880	555	305	.....	.....	.....	.....	.....
4	940	565	2,330	1,650	796	796	290	.....	.....	.....	.....	.....
5	918	525	2,060	1,280	740	1,320	390	.....	.....	.....	.....	.....
6	796	515	.....	1,080	727	995	398	.....	.....	.....	.....	.....
7	775	540	.....	918	.....	810	506	.....	.....	.....	.....	.....
8	810	506	.....	824	.....	675	422	.....	.....	.....	.....	.....
9	754	430	.....	810	1,900	615	383	.....	.....	.....	.....	.....
10	590	515	2,170	754	1,550	605	348	.....	.....	.....	.....	.....
11	565	492	1,670	866	1,820	555	320	.....	.....	.....	.....	.....
12	.....	615	1,460	918	1,350	565	305	.....	.....	.....	.....	.....
13	.....	1,700	1,300	940	1,080	515	284	.....	.....	.....	.....	.....
14	.....	.....	1,080	940	918	492	275	.....	.....	.....	.....	.....
15	1,570	.....	955	970	824	506	284	.....	.....	.....	.....	.....
16	1,300	.....	895	1,010	754	515	260	.....	.....	.....	.....	.....
17	1,130	.....	918	1,040	708	462	245	.....	.....	.....	.....	.....
18	995	1,800	1,180	995	727	410	245	.....	.....	.....	.....	.....
19	880	1,460	1,700	955	740	383	245	.....	.....	.....	.....	.....
20	775	1,220	1,800	866	940	383	245	.....	.....	.....	.....	.....
21	740	971	1,440	775	895	410	236	.....	.....	.....	.....	.....
22	754	918	1,280	688	1,050	362	260	.....	.....	.....	.....	.....
23	845	845	1,150	645	1,440	410	296	.....	.....	.....	.....	.....
24	810	810	1,150	615	1,220	348	275	.....	.....	.....	.....	.....
25	675	727	1,010	645	1,050	338	348	.....	.....	.....	.....	.....
26	708	740	880	1,550	955	355	305	.....	.....	.....	.....	.....
27	971	796	810	1,130	955	422	540	.....	.....	.....	.....	.....
28	845	727	775	918	1,020	355	627	.....	.....	.....	.....	.....
29	796	663	775	810	1,700	320	438	.....	.....	.....	.....	.....
30	663	.....	775	740	1,080	314	348	.....	.....	.....	.....	.....
31	590	.....	.....	.....	918	.....	327	.....	.....	.....	.....	.....

NOTE.—Daily discharge for 1907 and 1908 based on a well-defined rating curve. The discharge was greater than 2,500 second-feet for all missing days from May 11, 1907, to July 31, 1908.

JAMES RIVER AT BUCHANAN, VA.

The station, which is located at the highway bridge near the Chesapeake and Ohio Railway depot at Buchanan, was established August 18, 1895, in order to study the run-off of the upper James River for water power and other purposes. Previous to July 15, 1906, the records of daily gage height were taken by the Geological Survey, but since that time they have been obtained from the Weather Bureau.

The nearest tributary is Purgatory Creek, which enters James River one-half mile below the bridge. The nearest important tributary is North Branch of James River, 20 miles below Buchanan.

The ice conditions at this station are slight and usually last for short periods only.

The datum of the original wire gage was lowered 2 feet April 3, 1897, to avoid negative readings. Since that date the datum of the gage has remained constant. The wire gage was replaced by a chain gage November 21, 1903. The bed of the river under the bridge is composed of rock overlain with a heavy deposit of mud. There is a rock control several hundred feet below the station, but the plotting of 1906 and 1907 measurements indicates changing conditions of flow. The ratings developed for 1906, 1907, and 1908 are fairly accurate for the periods which they cover.

Discharge measurements of James River at Buchanan, Va., in 1907.[a]

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
		Feet.	*Sq. ft.*	*Feet.*	*Sec.-ft.*
May 9	R. J. Taylor	334	1,880	5.12	5,620
June 24	R. G. Knight	314	1,540	4.44	3,870
July 19	do	317	1,100	2.97	1,570
July 24	do	311	896	2.45	972

[a] Discharge data collected prior to 1906 have been revised by engineers of the United States Geological Survey and republished in Hydrography of Virginia, Bull. Geol. Survey Virginia No. 3, 1906, pp. 102–118.

Daily gage height, in feet, of James River at Buchanan, Va., for 1906,[a] *1907, and 1908.*

[Observer, D. D. Booze.]

Day.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Day.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1906.							1906.						
1		2.6	4.3	5.4	3.3	3.2	17	2.3	4.5	2.7	3.0	2.7	2.7
2		2.5	3.8	5.0	3.2	3.1	18	2.2	4.2	3.1	3.0	2.7	7.3
3		2.5	3.6	4.8	3.1	3.0	19	2.2	4.0	3.0	9.8	2.9	6.6
4		2.5	3.3	8.0	3.0	2.9	20	2.2	3.8	3.0	15.6	6.9	5.6
5		2.3	3.1	9.1	3.0	2.9	21	2.9	3.8	2.9	10.7	7.4	5.2
6		2.3	3.0	7.1	2.9	2.8	22	2.7	3.7	3.0	7.3	5.8	4.8
7		3.6	2.9	6.2	2.9	2.8	23	2.6	4.1	3.0	5.7	4.9	4.4
8		3.3	2.7	5.4	2.8	2.7	24	2.4	4.3	3.1	5.2	4.4	4.2
9		3.3	2.6	4.8	2.8	2.7	25	2.3	4.1	3.1	4.8	4.1	4.0
10		3.0	2.5	4.3	2.7	2.6	26	2.3	3.6	2.8	4.4	3.8	3.5
11		2.8	2.6	3.9	2.7	2.7	27	2.3	3.3	2.6	4.1	3.5	3.2
12		2.7	2.5	3.6	2.8	2.7	28	2.3	3.6	2.7	3.9	3.3	3.6
13		2.9	2.8	3.4	2.8	2.7	29	2.3	4.6	3.9	3.7	3.3	3.5
14		3.4	3.6	3.2	2.8	2.7	30	3.1	4.4	3.4	3.6	3.2	3.5
15		3.6	3.0	3.1	2.7	2.7	31	3.1	4.3	..	3.4	.....	3.5
16	2.3	4.5	2.8	3.0	2.7	2.7							

[a] For 1906 gage heights prior to July 16, see Water-Supply Paper U. S. Geol. Survey No. 203.

Daily gage height, in feet, of James River at Buchanan, Va., etc.—Continued.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1	5.6	3.2	4.5	4.5	3.7	2.8	3.3	2.3	2.0	2.9	2.2	3.5
2	5.2	3.5	4.7	5.0	3.8	6.8	3.2	2.3	2.0	2.8	2.3	3.3
3	4.8	3.9	6.9	4.6	3.6	7.0	3.1	2.3	2.0	2.7	3.1	3.2
4	4.6	3.7	6.0	4.3	3.6	5.3	3.0	2.3	2.0	2.6	4.3	3.1
5	4.4	3.9	5.2	4.3	3.5	4.7	2.9	2.3	2.4	2.5	3.5	3.0
6	4.2	3.7	4.5	4.3	3.5	4.8	2.8	2.3	3.0	2.5	3.2	2.9
7	4.0	3.4	4.4	8.7	5.6	4.4	2.8	2.3	2.5	2.5	2.8	2.8
8	3.8	3.3	4.4	7.4	5.7	4.1	2.7	2.3	2.4	2.5	2.8	2.8
9	3.8	3.4	4.4	8.8	5.1	6.8	2.7	2.3	2.3	2.5	2.7	2.8
10	3.8	3.4	4.4	8.6	4.9	5.4	2.6	2.4	2.2	2.5	2.8	3.6
11	3.8	4.0	5.5	6.8	4.7	4.8	2.6	2.7	2.5	2.5	2.8	9.3
12	3.7	4.2	5.8	5.8	4.5	5.4	2.8	2.6	4.0	2.5	2.7	6.4
13	3.7	3.9	5.5	5.3	4.3	6.0	2.8	2.5	3.5	2.5	3.6	5.1
14	4.1	3.6	6.7	5.0	4.0	16.4	2.8	2.5	3.0	2.4	3.4	5.0
15	4.4	3.6	6.5	4.7	3.8	10.4	2.6	2.4	2.8	2.3	3.2	4.8
16	5.3	3.6	6.0	4.4	3.7	7.2	2.6	2.3	2.7	2.3	3.0	5.0
17	7.2	3.6	5.2	4.2	3.6	5.8	2.6	2.2	2.5	2.3	2.9	4.8
18	7.4	3.6	4.8	4.2	3.4	5.0	2.6	2.2	2.5	2.3	2.9	4.1
19	7.5	3.5	4.4	4.0	3.3	4.5	2.8	2.2	2.5	2.3	2.9	4.0
20	6.8	3.5	5.2	4.0	3.2	4.3	2.7	2.2	2.4	2.3	4.2	3.9
21	5.8	3.5	5.7	3.9	3.2	4.0	2.7	2.2	2.4	2.3	4.0	3.8
22	4.8	3.5	5.1	3.8	3.1	3.7	2.6	2.2	2.4	2.2	4.0	3.7
23	4.6	3.3	4.6	3.7	3.0	3.9	2.6	2.2	6.1	2.2	4.0	5.0
24	4.2	3.3	4.3	4.5	3.0	4.6	2.5	2.4	8.4	2.2	6.7	11.9
25	4.0	3.3	3.9	5.3	2.9	4.6	2.4	2.7	5.3	2.2	7.7	8.0
26	3.8	3.5	3.8	4.8	2.9	4.5	2.4	3.2	4.3	2.2	6.0	6.2
27	3.6	3.9	3.7	4.5	2.9	4.1	2.4	3.0	3.5	2.2	5.0	5.3
28	3.5	3.9	3.6	4.3	2.9	3.8	2.3	2.6	3.2	2.2	4.5	4.8
29	3.3	.....	3.5	4.1	2.9	3.5	2.3	2.4	3.0	2.2	4.0	4.5
30	3.2	.....	3.4	3.8	2.9	3.3	2.3	2.3	2.9	2.2	3.8	4.6
31	3.2	.....	3.3	.....	2.8	.....	2.3	2.3	.....	2.2	.....	6.6
1908.												
1	6.0	4.0	4.0	9.5	4.2	4.4	2.6	2.6	2.7	2.2	4.1	2.7
2	5.2	3.7	4.0	9.4	4.2	3.7	2.8	2.5	2.6	2.2	3.7	2.6
3	4.7	3.3	4.6	7.8	4.2	3.5	2.7	2.4	2.5	2.2	3.4	2.6
4	4.3	3.4	5.9	6.6	4.2	3.9	2.7	2.3	2.4	2.1	3.2	2.5
5	4.3	3.5	6.0	5.6	4.1	5.6	3.3	2.3	2.3	2.1	3.0	2.5
6	4.2	3.5	6.7	5.1	4.1	5.5	3.6	2.2	3.7	2.1	2.8	2.5
7	4.2	3.5	8.6	4.7	4.2	4.7	3.7	2.2	3.0	2.1	2.7	2.5
8	5.5	3.6	8.0	4.4	10.3	4.3	3.5	2.2	2.7	2.0	2.7	2.5
9	5.0	3.5	6.8	4.2	7.1	3.9	3.2	2.5	2.6	2.0	2.6	3.4
10	4.4	3.4	6.1	4.1	5.8	3.7	3.0	2.8	2.5	2.1	2.6	3.3
11	4.0	3.4	5.4	4.1	5.7	3.5	2.8	3.2	2.4	2.4	2.5	3.1
12	8.6	3.4	5.0	4.2	5.0	3.6	2.6	3.0	2.3	2.8	2.4	3.5
13	16.7	4.5	4.8	4.2	4.6	3.9	2.5	2.8	2.3	2.6	2.4	4.8
14	9.2	7.5	4.6	4.2	4.3	3.4	2.5	2.5	2.3	2.4	2.3	4.2
15	6.8	11.0	4.4	4.0	4.0	3.3	2.4	2.4	2.2	2.3	2.3	3.8
16	5.9	18.3	4.2	4.0	4.0	3.9	2.4	2.4	2.2	2.2	2.3	3.4
17	5.4	8.7	4.2	4.3	3.8	3.6	2.3	2.4	2.2	2.2	2.2	3.3
18	5.0	6.7	4.6	4.2	3.8	3.3	2.3	2.4	2.2	2.2	2.5	3.2
19	4.6	5.7	5.0	4.2	4.2	3.1	2.3	2.3	2.2	2.1	3.9	3.1
20	4.4	5.3	6.7	4.1	5.2	3.1	2.3	2.3	2.1	2.1	4.0	3.0
21	4.2	4.9	5.7	4.1	5.3	3.0	2.3	2.2	2.1	2.1	4.0	3.0
22	4.2	4.5	5.4	3.9	5.3	3.0	2.3	2.1	2.1	2.1	3.6	3.0
23	4.1	4.2	5.2	3.8	6.0	2.9	2.3	2.3	2.1	2.1	3.4	3.0
24	4.0	4.1	5.2	3.7	6.6	2.8	2.4	2.1	2.1	4.0	3.2	3.0
25	4.0	4.0	5.2	3.7	5.6	2.8	2.3	2.1	2.0	5.5	3.1	3.3
26	4.0	4.0	4.9	3.8	4.9	2.7	2.3	4.4	2.0	4.0	3.0	3.8
27	4.0	4.4	4.7	3.8	4.4	2.8	2.7	4.0	2.0	3.6	2.9	4.5
28	4.1	4.2	4.3	3.8	4.7	2.8	4.3	3.8	2.0	3.8	2.8	4.1
29	4.3	4.1	4.2	3.8	4.4	2.7	3.6	3.4	2.2	4.1	2.8	4.4
30	4.1	.....	4.2	3.8	5.4	2.6	3.1	3.0	2.2	6.5	2.7	5.0
31	4.1	.....	4.2	.....	4.6	.....	2.7	2.8	.....	4.5	.....	6.6

Rating tables for James River at Buchanan, Va.

FROM 1899 TO 1906.[a]

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge
Feet.	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*
2.10	505	3.70	2,460	5.30	5,785	7.80	12,520
2.20	575	3.80	2,640	5.40	6,015	8.00	13,140
2.30	655	3.90	2,825	5.50	6,250	8.20	13,780
2.40	740	4.00	3,015	5.60	6,485	8.40	14,420
2.50	835	4.10	3,210	5.70	6,725	8.60	15,080
2.60	935	4.20	3,410	5.80	6,965	8.80	15,760
2.70	1,040	4.30	3,610	5.90	7,210	9.00	16,470
2.80	1,155	4.40	3,815	6.00	7,460	10.00	20,300
2.90	1,275	4.50	4,025	6.20	7,970	11.00	24,420
3.00	1,400	4.60	4,235	6.40	8,495	12.00	28,850
3.10	1,530	4.70	4,450	6.60	9,030	13.00	33,600
3.20	1,670	4.80	4,665	6.80	9,575	14.00	38,600
3.30	1,815	4.90	4,885	7.00	10,130	15.00	43,800
3.40	1,965	5.00	5,105	7.20	10,700	16.00	49,200
3.50	2,125	5.10	5,330	7.40	11,290	17.00	54,700
3.60	2,290	5.20	5,555	7.60	11,900	18.00	60,300

FOR 1907.[b]

2.00	585	3.20	1,890	4.40	4,000	6.00	7,600
2.10	660	3.30	2,035	4.50	4,200	6.20	8,100
2.20	740	3.40	2,185	4.60	4,400	6.40	8,620
2.30	825	3.50	2,340	4.70	4,610	6.60	9,140
2.40	915	3.60	2,505	4.80	4,820	6.80	9,680
2.50	1,010	3.70	2,675	4.90	5,040	7.00	10,220
2.60	1,115	3.80	2,850	5.00	5,260	7.20	10,780
2.70	1,225	3.90	3,030	5.20	5,700	7.40	11,340
2.80	1,345	4.00	3,215	5.40	6,160	7.60	11,920
2.90	1,470	4.10	3,405	5.60	6,630	7.80	12,520
3.00	1,605	4.20	3,600	5.80	7,110	8.00	13,140
3.10	1,745	4.30	3,800				

FOR 1908.[c]

2.00	515	2.70	1,135	3.40	2,030	4.10	3,235
2.10	585	2.80	1,245	3.50	2,180	4.20	3,430
2.20	660	2.90	1,360	3.60	2,340	4.30	3,625
2.30	745	3.00	1,480	3.70	2,505	4.40	3,825
2.40	835	3.10	1,610	3.80	2,680	4.50	4,030
2.50	930	3.20	1,745	3.90	2,860	4.60	4,240
2.60	1,030	3.30	1,885	4.00	3,045	4.70	4,450

[a] This table is not applicable for ice or obstructed-channel conditions. It is based on discharge measurements made 1898 to 1906, and is well defined between gage heights 1.8 feet and 10 feet.

[b] This table is not applicable for ice or obstructed-channel conditions. It is based on four discharge measurements made in 1907 and on high-water measurements made in earlier years; it is well defined between gage heights 2 feet and 10 feet. Above 8 feet this table is the same as that for 1906.

[c] This table is not applicable for ice or obstructed-channel conditions. It is based on one discharge measurement made during 1909 and the form of the 1906 curve. It is well defined between gage heights 1.8 feet and 10 feet. Above gage height 4.7 feet the table is the same as the 1906 table.

Monthly discharge of James River at Buchanan, Va., for 1906, 1907, and 1908.

[Drainage area, 2,060 square miles.]

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area).	Accuracy.
	Maximum.	Minimum.	Mean.	Per square mile.		
1906.						
January	18,000	1,860	4,750	2.31	2.66	A.
February	3,270	740	1,300	.631	.66	A.
March	12,800	698	4,250	2.06	2.38	A.
April	8,070	1,530	3,390	1.65	1.84	A.
May	2,210	706	1,310	.636	.73	A.
June	4,560	655	1,180	.573	.64	A.
July	3,450	519	861	.418	.48	B.
August	4,240	655	2,260	1.10	1.27	A.
September	3,610	835	1,520	.738	.82	A.
October	47,000	1,400	7,320	3.55	4.09	A.
November	11,300	1,040	2,460	1.19	1.33	A.
December	11,000	935	2,550	1.24	1.43	A.
The year	47,000	519	2,760	1.34	18.33	
1907.						
January	11,600	1,890	4,600	2.23	2.57	A.
February	3,600	1,890	2,520	1.22	1.27	A.
March	9,950	2,040	5,040	2.45	2.82	A.
April	15,800	2,680	5,700	2.77	3.09	A.
May	6,870	1,340	2,780	1.35	1.56	A.
June	51,400	1,340	7,180	3.49	3.89	A.
July	2,040	825	1,220	.592	.68	A.
August	1,890	740	933	.453	.52	A.
September	14,400	585	2,140	1.04	1.16	A.
October	1,470	740	914	.444	.51	A.
November	12,200	740	2,990	1.45	1.62	A.
December	28,400	1,340	5,420	2.63	3.03	A.
The year	51,400	585	3,450	1.68	22.72	
1908.						
January	53,000	3,040	6,670	3.24	3.74	B.
February	62,000	1,880	6,830	3.32	3.58	B.
March	15,100	3,040	5,860	2.84	3.27	A.
April	18,300	2,500	4,840	2.35	2.62	A.
May	21,500	2,680	5,300	2.57	2.96	A.
June	6,480	1,030	2,390	1.16	1.29	A.
July	3,620	745	1,290	.626	.72	B.
August	3,820	585	1,160	.563	.65	B.
September	2,500	515	814	.395	.44	B.
October	8,760	515	1,580	.767	.88	B.
November	3,240	660	1,540	.748	.83	B.
December	9,030	930	2,280	1.11	1.28	A.
The year	62,000	515	3,380	1.64	22.26	

NOTE.—Since no discharge measurements were made during 1908 the above results are liable to more or less error at low stages. The measurement of 1909, which gave a discharge of 690 second-feet at 2.24 feet, was considered to represent normal conditions of flow at low stages better than the 1907 rating, and hence the 1908 rating curve was drawn through it.

JAMES RIVER AT HOLCOMB ROCK, VA.

The station is located at the works of the Wilson Aluminum Company, at Holcomb Rock. It was established in 1899, and from January, 1900, to date two readings daily have been furnished to the United States Geological Survey through the courtesy of George O. Seward, general manager of the company.[a]

[a] Descriptive matter and discharge data collected prior to 1906 have been republished in Hydrography of Virginia, Bull. Geol. Survey Virginia No. 3, 1906, pp. 138-142.

Daily gage height, in feet, of James River at Holcomb Rock, Va., for 1907 and 1908.

[Observer, George L. Price.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1	5.75	2.1	3.5	2.85	2.4	3.1	2.2	1.4	1.1	2.0	1.3	2.4
2	5.7	2.1	3.5	4.05	2.4	8.45	2.15	1.5	1.3	1.9	1.35	2.35
3	5.15	2.4	5.85	3.25	2.35	7.15	1.95	1.3	1.25	1.75	1.85	2.25
4	3.65	2.5	5.3	2.85	2.3	4.9	1.75	.95	1.25	1.65	3.05	2.1
5	3.35	2.55	4.1	2.7	2.15	4.05	1.95	1.35	1.35	1.6	2.4	2.0
6	2.95	2.5	3.6	2.95	2.35	3.75	1.75	1.3	1.95	1.35	1.95	1.9
7	2.85	2.15	3.3	7.0	4.1	3.35	1.65	1.3	1.75	1.6	2.0	1.85
8	2.7	2.1	3.15	6.85	4.95	3.05	1.85	1.3	1.05	1.6	1.75	1.5
9	2.6	2.1	3.0	9.95	4.1	5.45	1.7	1.3	1.3	1.5	1.7	1.95
10	2.5	1.9	3.3	10.15	3.95	5.0	1.7	1.4	1.2	1.5	1.65	5.2
11	2.5	2.55	3.7	6.9	3.95	3.9	1.7	1.35	1.4	1.7	2.9	8.9
12	2.5	2.95	4.8	5.55	3.45	4.35	1.7	1.5	2.25	1.65	3.35	6.5
13	2.45	2.6	4.65	4.6	2.9	6.0	1.75	1.5	2.5	1.35	2.55	5.2
14	2.5	2.4	6.2	4.0	2.65	16.15	1.55	1.5	1.85	1.45	2.3	4.35
15	3.1	2.4	5.7	3.6	2.5	11.1	1.65	1.4	1.4	1.4	2.1	4.6
16	3.95	2.4	5.2	3.25	2.65	6.95	1.6	1.35	1.5	1.4	1.95	4.55
17	6.0	2.2	4.1	2.95	2.45	5.15	1.6	1.3	1.35	1.4	1.65	4.1
18	6.55	2.3	3.7	2.8	2.25	4.05	1.6	1.1	1.3	1.4	2.05	3.55
19	6.8	2.25	3.45	2.75	1.9	3.45	1.7	1.2	1.5	1.4	2.85	3.25
20	6.5	2.2	3.8	2.6	1.95	3.2	2.0	1.2	1.3	1.05	3.0	3.05
21	4.85	2.15	4.75	2.55	1.9	2.75	1.75	1.2	1.3	1.4	3.0	2.7
22	4.0	2.1	4.25	2.55	1.8	2.4	1.7	1.45	1.15	1.35	3.15	2.5
23	3.3	2.0	3.55	2.55	1.8	2.85	1.6	1.4	9.65	1.25	3.3	7.05
24	2.85	1.7	3.05	3.35	1.7	3.25	1.4	1.4	10.35	1.2	7.1	11.65
25	2.55	1.85	2.8	4.2	1.75	3.1	1.4	2.2	5.25	1.2	8.2	8.55
26	2.45	2.1	2.6	3.7	1.55	3.25	1.45	1.8	3.35	1.2	5.95	6.1
27	2.3	2.5	2.45	3.35	1.7	3.1	1.4	1.55	2.5	1.0	4.5	4.85
28	2.2	2.7	2.35	2.85	1.55	2.6	1.15	1.55	2.35	1.35	3.7	4.2
29	2.1	.....	2.25	2.75	1.55	2.45	1.4	1.4	1.35	1.35	3.15	3.7
30	2.0	.....	2.15	2.55	1.5	2.3	1.5	1.4	2.15	1.3	2.85	4.15
31	2.0	.....	2.05	.....	1.55	.....	1.4	1.3	.....	1.3	.....	5.5
1908.												
1	4.9	2.6	3.05	9.0	2.8	3.0	1.7	1.75	1.7	1.6	3.65	1.75
2	4.5	2.7	3.6	9.15	3.2	2.5	1.7	1.4	1.65	1.6	3.1	1.65
3	3.95	2.75	5.3	7.7	2.9	2.2	1.8	1.6	1.6	1.35	2.5	1.7
4	3.5	2.35	6.3	6.05	2.8	2.55	1.7	1.45	1.55	1.3	2.3	1.65
5	3.45	2.45	5.25	4.9	2.8	5.05	2.4	1.4	1.5	1.4	2.15	1.6
6	3.35	2.25	6.9	4.3	2.75	5.2	2.4	1.35	4.0	1.3	2.05	1.65
7	4.85	2.45	8.9	3.8	3.45	3.9	2.55	1.5	2.55	1.3	2.05	1.8
8	5.3	2.4	7.8	3.45	9.4	3.25	2.45	1.5	2.1	1.25	1.75	2.0
9	4.35	2.35	6.55	3.15	6.65	3.0	2.2	1.45	1.9	1.3	1.85	2.3
10	3.65	2.4	5.65	3.0	5.0	2.9	1.95	1.85	1.8	1.4	1.7	2.2
11	3.15	2.4	4.85	2.95	4.45	2.75	1.8	2.15	1.7	1.15	1.75	2.2
12	11.35	2.15	4.3	2.85	3.9	3.15	1.5	1.95	1.6	1.9	1.7	2.45
13	18.25	3.45	3.95	2.95	3.4	3.05	1.8	1.7	1.4	1.6	1.7	3.55
14	10.0	7.8	3.65	2.75	3.05	2.65	1.6	1.7	1.5	1.45	1.7	3.3
15	7.3	13.95	3.4	2.7	2.75	2.7	1.65	1.65	1.45	1.4	1.65	2.75
16	5.8	17.5	3.25	2.7	2.65	3.8	1.45	1.15	1.5	1.4	1.85	2.55
17	5.1	9.25	3.15	2.8	2.5	3.05	1.5	1.55	1.5	1.2	1.7	2.35
18	4.35	6.75	3.4	2.95	2.5	2.75	1.45	1.5	1.5	1.3	1.8	2.2
19	3.95	5.45	4.05	2.8	2.75	2.45	1.3	1.4	1.5	1.0	2.6	2.2
20	3.55	4.9	5.45	2.85	4.1	2.25	1.45	1.4	1.1	1.2	3.2	2.05
21	3.35	4.25	4.9	2.75	5.5	2.05	1.55	1.4	1.6	1.25	3.05	2.0
22	3.15	3.8	4.3	2.6	6.2	2.25	1.5	1.3	1.4	1.05	2.75	2.0
23	3.1	3.45	4.2	2.45	5.85	2.0	1.6	1.35	1.3	1.2	2.55	1.95
24	3.15	3.25	4.25	2.4	6.1	2.0	1.8	1.45	1.25	3.95	2.35	1 6
25	3.05	3.1	4.25	2.35	4.8	2.1	1.85	1.7	1.3	5.75	2.2	2.05
26	2.8	3.3	3.9	2.35	3.75	1.9	1.8	5.4	1.3	3.3	2.1	2.45
27	3.1	3.85	3.5	3.45	3.25	1.9	1.65	4.5	1.15	2.5	1.95	3.25
28	3.8	3.7	3.25	3.0	3.6	1.7	3.05	3.0	1.6	2.2	1.85	3.0
29	3.3	3.25	3.05	2.65	4.2	1.75	2.9	2.4	1.8	3.6	1.75	3.2
30	2.9	.....	3.05	2.6	4.35	1.75	2.2	2.0	1.6	6.95	1.9	3.9
31	2.7	.....	3.5	.....	3.4	.....	1.95	1.9	.....	5.25	.....	6.4

JAMES RIVER AT CARTERSVILLE, VA.

The gaging station at Cartersville was established January 1, 1899, at the highway bridge crossing the James, between Pemberton and Cartersville, about 50 miles above Richmond. The station was established to determine the flow of James River above Richmond for navigation and power purposes.

Willis River enters James River from the south about 1 mile above the station and Rivanna River enters from the north about 7 miles above the station. There are no important tributaries between Cartersville and Richmond.

During severe winters the discharge at this station is affected for short periods by ice conditions.

The datum of the gage has remained the same since the establishment of the station. Conditions of flow change somewhat from year to year, necessitating three or four measurements annually to adequately define the discharge curve. This is due to the great range of stage and débris and sediment carried in the James River. The left bank overflows for several hundred feet at a stage of about 20 feet. Above the overflow point the discharge is uncertain. The right bank does not overflow. Monthly discharge tables for 1907 and 1908 are being withheld until further measurements have been made.[a]

The following discharge measurement was made:

July 27, 1907. Width, 675 feet; area, 1,790 square feet; gage height, 1.76 feet; discharge, 3,220 second-feet.

Daily gage height, in feet, of James River at Cartersville, Va., for 1907 and 1908.

[Observer, B. W. Palmore.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1	5.78	3.15	4.25	3.75	4.00	5.55	3.44	1.62	1.50	2.64	1.32	3.68
2	6.55	3.52	4.88	3.52	4.01	21.00	3.14	1.64	1.32	2.42	1.38	3.35
3	7.35	3.45	5.40	5.02	4.20	15.14	3.10	1.49	1.25	2.38	2.75	3.14
4	6.38	3.42	6.70	4.50	3.92	11.25	2.70	1.68	3.28	2.08	3.09	2.88
5	5.40	3.48	6.79	3.92	3.88	8.10	2.58	1.48	4.28	1.92	2.74	2.60
6	5.15	3.60	5.50	3.68	3.62	7.40	2.46	1.31	2.50	1.82	3.10	2.58
7	4.68	3.48	5.10	5.75	6.55	6.20	2.42	1.48	1.56	1.70	2.58	2.48
8	4.38	3.35	4.65	8.20	5.65	5.78	2.64	1.55	1.58	1.62	2.35	2.38
9	4.12	3.22	4.35	12.40	9.90	5.57	2.26	1.52	1.66	1.72	2.08	2.65
10	3.80	3.75	4.57	14.10	7.62	5.52	2.30	1.79	1.59	1.66	2.18	5.00
11	3.52	4.10	4.75	12.30	6.35	7.10	2.06	2.30	1.62	1.58	2.50	11.00
12	3.65	4.22	4.88	9.00	5.30	6.20	2.08	2.36	1.82	1.68	2.56	10.20
13	3.60	4.35	6.00	7.50	5.20	5.98	2.14	2.55	2.00	1.74	3.34	8.70
14	3.65	4.22	5.90	7.50	4.65	10.02	2.18	2.56	2.38	1.58	3.42	8.70
15	3.55	4.08	7.45	7.75	4.30	16.89	2.14	2.05	1.88	1.69	2.85	9.00
16	4.10	3.98	7.52	5.25	4.05	15.10	1.86	1.71	1.82	1.58	2.58	7.60
17	4.65	3.75	6.58	4.70	4.92	9.00	1.98	1.65	1.62	1.40	2.52	6.30
18	6.21	3.62	5.82	4.42	4.42	7.30	1.98	2.11	1.56	1.52	2.40	6.00
19	7.65	3.58	5.28	4.25	4.00	5.95	1.90	1.68	1.59	1.29	3.72	5.15
20	7.70	3.38	5.15	4.20	3.70	5.30	3.18	1.48	1.52	1.30	3.68	4.76
21	7.40	3.40	4.90	4.00	3.45	4.85	3.05	1.54	1.58	1.36	3.62	4.20
22	6.68	3.38	5.80	3.80	3.10	4.20	2.28	1.58	1.71	1.25	4.20	3.98
23	5.30	3.15	5.60	3.75	3.02	4.50	2.12	1.38	4.20	1.32	4.88	5.86
24	4.48	3.05	5.00	5.50	2.85	4.82	1.90	1.74	19.00	1.30	9.30	13.60
25	3.90	2.88	4.45	5.02	2.85	4.85	1.81	1.69	11.60	1.21	10.70	12.50

[a] All records and discharge data for this station prior to 1906 have been revised by engineers of the United States Geological Survey and republished in Hydrography of Virginia, Bull. Geol. Survey Virginia No. 3, 1906, pp. 142-152.

Daily gage height, in feet, of James River at Cartersville, Va., for 1907 and 1908—Cont'd.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
26	3.85	3.68	4.10	5.42	2.90	4.35	1.72	1.64	6.68	1.24	9.00	10.00
27	3.55	3.78	3.70	5.48	2.98	3.90	1.71	1.92	4.70	1.32	7.50	7.82
28	3.30	4.02	3.62	5.08	2.95	4.80	1.74	2.19	3.76	1.22	5.75	7.52
29	3.00	.....	3.42	4.58	2.62	4.10	1.59	1.90	3.38	1.58	4.98	7.12
30	3.02	.....	3.15	4.35	2.52	3.85	1.50	1.62	3.16	1.60	4.00	5.75
31	3.15	.....	3.15	.....	2.65	.....	1.68	1.48	.....	1.36	.....	6.48
1908.												
1	6.67	3.77	5.79	6.03	4.28	4.35	2.41	2.75	2.68	2.32	6.78	2.18
2	6.53	3.87	5.17	10.63	4.05	3.94	2.92	2.40	2.44	2.04	5.25	2.28
3	5.77	3.93	5.07	10.37	4.12	3.75	2.48	1.98	2.20	1.74	4.30	2.18
4	5.21	3.80	6.27	9.02	4.02	5.72	2.68	1.78	2.05	1.68	3.81	2.02
5	5.55	3.67	6.00	7.65	3.91	7.31	2.48	1.84	1.94	1.62	3.32	2.11
6	5.20	3.69	7.65	6.26	4.02	5.88	2.38	1.79	8.20	1.50	3.04	2.18
7	5.20	3.87	9.00	5.66	5.70	6.46	2.78	1.69	6.88	1.50	2.90	3.92
8	14.13	3.73	10.45	5.25	8.02	5.06	3.10	1.76	4.52	1.50	2.75	4.72
9	8.65	3.57	9.07	4.89	9.06	4.36	2.92	1.75	3.32	1.48	2.58	3.58
10	7.00	3.53	8.33	4.61	7.84	4.18	2.78	2.43	2.78	1.53	2.42	3.15
11	5.66	3.67	7.21	4.42	6.21	4.05	2.60	2.18	2.52	1.68	2.48	3.15
12	11.70	3.67	6.56	4.25	5.42	3.88	2.40	2.12	2.31	1.64	2.41	3.80
13	17.28	4.47	6.10	4.19	4.98	3.70	1.96	2.68	2.12	1.64	2.38	4.62
14	19.35	6.70	5.64	4.09	4.38	3.66	1.81	2.15	1.94	1.71	2.29	4.28
15	11.45	12.77	5.20	4.07	3.98	3.79	1.80	1.88	1.85	1.81	2.68	4.32
16	9.05	19.04	4.95	4.18	3.62	6.86	1.68	1.72	1.78	1.66	3.10	3.82
17	7.17	19.65	4.84	4.32	3.30	5.02	1.44	1.55	1.71	1.59	2.68	3.42
18	6.57	11.13	4.75	3.97	3.55	4.75	1.39	1.52	1.62	1.50	2.68	3.15
19	6.03	8.85	4.87	4.02	4.14	4.38	1.36	1.36	1.54	1.40	2.51	2.98
20	5.39	8.67	5.49	4.15	4.92	3.30	1.31	1.72	1.46	1.42	2.78	2.88
21	5.03	7.63	5.99	3.98	8.18	3.18	1.31	1.70	1.44	1.40	3.82	2.78
22	4.67	6.67	6.13	3.83	9.36	3.96	1.35	1.39	1.42	1.41	3.80	2.75
23	4.47	6.13	5.83	3.63	8.03	3.25	1.69	1.34	1.46	1.42	3.48	2.90
24	4.11	5.27	6.05	3.55	8.48	3.68	2.78	1.26	1.46	1.75	3.12	2.94
25	3.95	4.96	5.80	3.37	7.26	3.38	2.74	1.38	1.39	3.72	2.92	3.30
26	3.75	6.23	5.57	3.45	6.35	2.92	2.58	13.84	1.39	6.14	2.78	3.48
27	4.53	8.17	5.29	3.42	5.46	2.55	3.98	9.84	1.38	4.35	2.72	3.92
28	4.40	6.54	4.72	3.61	5.02	2.42	5.08	7.04	2.34	3.78	2.50	4.51
29	4.30	6.10	4.63	3.97	5.16	2.28	3.66	5.48	4.93	5.12	2.38	4.96
30	4.53	.....	4.37	3.78	4.95	2.42	4.04	3.87	3.22	8.20	2.28	6.26
31	4.00	.....	4.49	.....	5.58	.....	3.25	3.18	.....	8.41	.....	7.61

COWPASTURE RIVER NEAR CLIFTON FORGE, VA.

The station was established May 13, 1907, in cooperation with the United States Forest Service, for the purpose of studying the run-off in the southern Appalachian region. It is located at the iron highway bridge crossing Cowpasture River 1½ miles above its junction with Jackson River, and about 4 miles southeast of Clifton Forge.

As the station was discontinued August 9, 1908, it was only maintained during one winter, but throughout that period there was little or no change in conditions of flow due to ice.

The gage datum remained unchanged during the period covered by the records. Conditions of flow are permanent and a good low-water rating has been developed.

Discharge measurements of Cowpasture River near Clifton Forge, Va., in 1907.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
		Feet.	*Sq. ft.*	*Feet.*	*Sec.-ft.*
May 13	R. J. Taylor	158	346	2.00	671
June 27	R. G. Knight	157	317	1.89	608
July 18	do	155	250	1.39	317
July 25	do	152	209	1.21	210

Daily gage height, in feet, of Cowpasture River near Clifton Forge, Va., for 1907 and 1908.

[Observer, Florence Persinger.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1						2.0	1.7	1.2	1.0	1.0	1.0	3.7
2						7.0	1.6	1.0	1.0	1.0	1.0	3.3
3						3.7	1.5	1.0	1.0	1.0	3.0	3.0
4						2.9	1.4	1.0	1.0	1.0	2.3	2.8
5						2.7	1.4	1.0	1.5	1.0	2.0	2.6
6						2.7	1.4	1.0	1.3	1.0	2.0	2.4
7						2.5	1.4	1.0	1.2	1.0	1.8	2.0
8						2.4	1.3	1.0	1.0	1.0	1.7	1.7
9						4.0	1.3	1.0	1.0	1.0	1.5	1.6
10						3.2	1.3	2.0	1.0	1.0	2.4	6.0
11						3.0	1.3	1.6	1.3	1.0	2.3	4.7
12						3.4	1.3	1.4	1.2	1.0	2.2	4.5
13					2.0	5.0	1.3	1.3	1.2	1.0	2.0	4.0
14					1.9	10.0	1.3	1.3	1.2	1.0	1.8	3.6
15					1.8	5.0	1.2	1.2	1.0	1.0	1.7	3.0
16					1.8	3.4	1.2	1.2	1.0	1.0	1.7	2.7
17					1.7	3.0	1.2	1.2	1.0	1.0	1.5	2.5
18					1.7	2.5	1.4	1.2	1.0	1.0	1.4	2.3
19					1.6	2.3	1.8	1.2	1.0	1.0	2.0	2.0
20					1.6	2.1	1.7	1.2	1.0	1.0	1.8	2.9
21					1.6	1.9	1.5	1.2	1.0	1.0	1.7	2.8
22					1.5	2.0	1.4	1.2	1.0	1.0	2.0	7.0
23					1.5	2.0	1.3	1.2	6.5	1.0	2.0	6.0
24					1.4	2.0	1.3	1.3	4.0	1.0	5.5	5.6
25					1.4	2.0	1.2	1.8	3.5	1.0	5.4	5.0
26					1.5	2.0	1.2	1.6	2.3	1.0	5.0	4.0
27					1.4	1.9	1.2	1.5	2.2	1.0	4.7	3.5
28					1.4	1.9	1.2	1.4	1.2	1.0	4.6	3.0
29					1.4	1.8	1.2	1.3	1.0	1.0	4.4	5.0
30					1.4	1.7	1.2	1.2	1.0	1.0	4.0	4.6
31					1.4		1.2	1.2		1.0		4.3
1908.												
1	4.0	1.0	2.0	6.3	2.0	2.1	1.3	1.5				
2	3.6	1.0	2.0	6.0	2.4	2.0	1.3	1.4				
3	3.3	1.0	4.0	5.4	2.2	2.0	1.3	1.4				
4	3.0	1.0	4.0	4.0	2.0	2.0	1.5	1.2				
5	2.6	1.0	3.7	3.5	2.0	2.0	1.6	1.1				
6	2.3	1.0	6.5	3.0	2.0	1.9	1.8	1.1				
7	2.2	1.0	5.5	2.8	5.0	1.9	1.8	1.1				
8	2.0	1.0	5.0	2.2	7.0	1.8	1.7	1.1				
9	1.8	1.0	4.6	1.5	4.0	1.9	1.5					
10	1.6	1.0	4.3	1.2	3.6	2.0	1.3					
11	1.5	1.0	4.0	1.0	3.4	2.0	1.3					
12	9.0	1.0	3.5	2.0	3.0	2.0	1.2					
13	7.0	1.0	3.0	2.0	2.4	2.0	1.2					
14	6.0	4.0	2.4	1.9	2.0	2.0	1.2					
15	4.0	4.0	2.0	1.6	2.0	2.2	1.1					
16	3.6	7.0	1.7	1.6	2.0	2.3	1.1					
17	3.3	5.3	1.4	1.4	3.3	2.2	1.1					
18	3.0	5.0	1.2	1.2	3.3	2.0	1.1					
19	2.6	4.5	2.3	1.0	3.2	2.0	1.1					
20	2.3	4.0	2.3	1.0	5.0	1.9	1.1					
21	2.0	3.4	2.2	1.0	3.6	1.8	1.1					
22	1.7	3.0	2.0	1.85	3.3	1.7	1.1					
23	1.4	3.0	2.0	1.8	4.0	1.5	1.1					
24	1.3	2.8	1.8	1.8	3.7	1.5	1.1					
25	1.0	2.6	1.6	1.8	3.0	1.5	1.1					
26	1.0	2.5	1.5	1.7	2.7	1.5	1.1					
27	1.0	2.5	1.3	1.7	2.5	1.5	1.1					
28	1.0	2.4	1.3	1.6	2.3	1.4	1.3					
29	1.0	2.3	1.2	1.6	2.1	1.4	2.3					
30	1.0		1.0	1.6	2.1	1.4	2.0					
31	1.0		5.5		2.1		1.8					

Daily discharge, in second-feet, of Cowpasture River near Clifton Forge, Va., for 1907 and 1908.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1.						674	472	221	148	148	148	
2.							414	148	148	148	148	
3.							360	148	148	148		
4.							310	148	148	148	915	
5.							310	148	360	148	674	
6.							310	148	264	148	674	1,000
7.						1,100	310	148	221	148	534	674
8.						1,000	264	148	148	148	472	472
9.							264	148	148	148	360	414
10.							264	674	148	148	1,000	
11.							264	414	264	148	915	
12.							264	310	221	148	830	
13.					674		264	264	221	148	674	
14.					601		264	264	221	148	534	
15.					534		221	221	148	148	472	
16.					534		221	221	148	148	472	
17.					472		221	221	148	148	360	1,100
18.					472	1,100	310	221	148	148	310	915
19.					414	915	534	221	148	148	674	674
20.					414	750	472	221	148	148	534	
21.					414	601	360	221	148	148	472	
22.					360	674	310	221	148	148	674	
23.					360	674	264	221		148	674	
24.					310	674	264	264		148		
25.					310	674	221	534		148		
26.					360	674	221	414	915	148		
27.					310	601	221	360	830	148		
28.					310	601	221	310	221	148		
29.					310	534	221	264	148	148		
30.					310	472	221	221	148	148		
31.					310		221	221		148		
1908.												
1.		148	674		674	750	264	360				
2.		148	674		1,000	674	264	310				
3.		148			830	674	264	310				
4.		148			674	674	360	221				
5.		148			674	674	414	182				
6.	915	148			674	601	534	182				
7.	830	148				601	534	182				
8.	674	148		830		534	472	182				
9.	534	148		360		601	360					
10.	414	148		221		674	264					
11.	360	148		148		674	264					
12.		148		674		674	221					
13.		148		674	1,000	674	221					
14.			1,000	601	674	674	221					
15.			674	414	674	830	182					
16.			472	414	674	915	182					
17.			310	310		830	182					
18.			221	221		674	182					
19.			915	148		674	182					
20.	915		915	148		601	182					
21.	674		830	148		534	182					
22.	472		674	568		472	182					
23.	310		674	534		360	182					
24.	264		534	534		360	182					
25.	148		414	534		360	182					
26.	148	1,100	360	472		360	182					
27.	148	1,100	264	472	1,100	360	182					
28.	148	1,000	264	414	915	310	264					
29.	148	915	221	414	750	310	915					
30.	148		148	414	750	310	674					
31.	148				750		534					

NOTE.—Daily discharges for 1907 and 1908 are based on a well-defined rating curve. The discharge was greater than 1,200 second-feet for all missing days from May 13, 1907, to August 8, 1908.

ROANOKE RIVER DRAINAGE BASIN.

DESCRIPTION OF BASIN.

Roanoke River is formed by the North and South forks, which rise among the eastern foothills of the Appalachian Mountains and unite near Lafayette, at the eastern edge of Montgomery County. From this junction the river flows in a general southeasterly direction and empties into Albemarle Sound in North Carolina. The total drainage area is about 9,200 square miles. The section of river extending from a short distance below Roanoke to the junction of the Dan is known locally as Staunton River and was so called in the reports of the United States Geological Survey prior to 1905.

The principal tributary is Dan River, which rises in Surry County, N. C., and Patrick County, Va., and empties into the Roanoke near Clarksville, in the southwestern part of Mecklenberg County, Va. This is by far the largest tributary, the remaining streams being relatively small and unimportant.

The drainage basin of the Roanoke is divided into two nearly equal parts by the fall line, which crosses the river between Weldon and Gaston. The eastern part, which is known geologically as the Coastal Plain, is built up of unconsolidated sands, gravels, loams, clays, and marls of recent geologic age. It is low and flat and so poorly drained that a large percentage of the area is swampy. The general slope of this section of the basin is from 1 to 3 feet per mile. The river is sluggish and is navigable by light-draft boats at all seasons as far west as Weldon. Above the fall line (in the region known as the Piedmont Plateau) the country is more broken and the river has more fall, having cut its bed down to the underlying metamorphic rocks. Building stones are found in abundance in different sections. Along the river are many fine bottoms which contain some of the best farming lands in the vicinity. The surface is undulating, and the hills rise higher and higher toward the western margin. The range of altitude within the entire basin is 3,000 feet.

The Coastal Plain section of the drainage basin is quite heavily timbered, and large quantities of timber and shingles are shipped. In the Piedmont Plateau area the percentage of forest covering has not been ascertained except for the portion drained by the Dan, in which there are extensive timbered areas.

The mean annual rainfall for the drainage basin within the Piedmont Plateau ranges from 38 to 47 inches in different parts of the area, as determined from six Weather Bureau stations having records of five to sixteen years in length. In the Coastal Plain section the rainfall is somewhat greater, increasing as the coast line is approached.

The drainage basin of Roanoke River has such a southern latitude that there is relatively little effect on the flow of the stream from ice conditions.

There are no lakes within the Roanoke drainage basin, but owing to the hilly character of the upper basin it is probable that sites for reservoirs of moderate capacity exist. Especially is this true for the portion of the basin drained by Dan River. Here the river bed is solid rock overlaid with sands and gravel between the rapids, affording excellent facilities for dams.

In 1905 a survey of Roanoke River was made by the United States Geological Survey from Roanoke, Va., to Weldon, N. C. This survey showed that the fall between the two points was 976 feet in a distance of 231 miles, or an average of 4.2 feet per mile. The following is an extract from the report of that survey,[a] which was prepared by the cooperation of the State and United States geological surveys:

In most cases where there is a power site there is suitable rock for masonry and the bed of the river is suitable for foundations.

The river is divided naturally into six sections:

	Miles.
1. Weldon to Clarksville	70
2. Clarksville to Randolph	25
3. Randolph to Brookneal	32
4. Brookneal to Hurt	30
5. Hurt to Pig River	24
6. Pig River to Roanoke	50

Section 1, Weldon to Clarksville.—This section is 70 miles long; total fall from Clarksville is about 250 feet; average about 36 feet to the mile. The river varies in width from 600 feet to 1,300 feet; banks are low; the valley is from one-half to 1 mile wide; bottom, bowlders and rock. There are many sites favorable for dams and mills. The total fall in the old canal at Weldon is about 90 feet in a distance of 8½ miles. At Eatons Falls, about 14 miles above Weldon, there is a fall of 12 feet in 3,300 feet. From Clarksville to Taylors Ferry, a distance of 13 miles, there is a total fall of 55 feet. The Dan River joins the Roanoke at Clarksville.

Section 2, Clarksville to Randolph.—This stretch is 25 miles long; fall from Richmond is about 49 feet; average about 2 feet per mile. The width varies from 300 to 600 feet; banks low; bottom of river, bowlders and rock; valley one-half to 1 mile wide. The only large falls in this stretch is Tallys Falls near Abbyville, about 8 miles above Clarksville. The total fall is some 18 feet in a distance of 2½ miles; the remainder of the river is of comparatively uniform slope with an occasional fall of a foot or two.

Section 3, Randolph to Brookneal.—The length of this section is about 32 miles; total fall from Brookneal is 48 feet; average per mile 1.5; width about 400 feet; banks high; bottom, bowlders and rock. There are no falls or ripples of any extent on this stretch.

Section 4, Brookneal to Hurt.—Length 30 miles; total fall from Hurt is 151 feet; average per mile, 5 feet; banks of medium height; valley one-fourth to one-half mile wide; bottom, bowlders and rock. Just above Brookneal there is a fall of 18 feet in 1¾ miles. From Green Hill Ferry to Brookneal, a distance of 8 miles, there is a fall of 64 feet.

Section 5, Hurt to Pig River.—Length, 24 miles; fall from Pig River, 72 feet; average per mile, 3 feet; width, about 200 feet; banks low; bottom, bowlders and rock. There are no falls of any magnitude in this section.

[a] Hydrography of Virginia: Bull. Geol. Survey Virginia No. 3, pp. 166-167.

Section 6, Pig River to Roanoke.—Length, 52 miles; fall from Roanoke, 406 feet; average about 8 per mile; width, about 150 feet; banks low; bottom, bowlders and rock; valley narrow.

There are several power sites along this stretch, probably the best being at Smith Mountain Gap, where there is a narrow gorge between vertical walls of rock. A dam at this point, 75 feet high, would develop approximately 2,000 horsepower at low water, this estimate being calculated from the discharge at Roanoke City, where there is a gaging station, assuming that the discharge at Smith Mountain is directly proportional to the drainage areas.[a]

Underground water in small amounts can probably be obtained almost anywhere within the Piedmont Plateau. The waters of the springs of this region contain large amounts of mineral matter and are extensively used for medicinal purposes. Few deep wells have been sunk, but it is probable that moderate amounts of water would be obtained in a considerable percentage of the wells drilled.

The United States Geological Survey has maintained records of flow in this basin since 1896 and the records compiled since that date show the year of greatest run-off to be 1901 and that of least run-off 1904. The total flow in the latter year was less than half that of the former. The region is subject to heavy rainstorms which produce floods that rise very rapidly and subside as quickly. The flood of 1877 is the highest known flood along the river. Below is a table of the heights above low water at various places:

Table of 1877 flood heights along Roanoke River.

	Distance above Weldon in miles.	Height above low water in feet.
South Gaston	14	18
Eatons Ferry	24	18
Boyd's Mill	36	34
St. Tammanys Ferry	40	33
Goodes Ferry	44	33
Taylors Ferry	57	34
Fields Ferry	63	23
Clarksville	70	24
Randolph	95	36
Coles Ferry	116	43
Dearwood Ford	182	32
Above Smith Mountain Gap	190	25
Lynville Ford	210	37
Backwater Ford	221	28

The flood of 1889 was about 5 feet below the 1877 flood at Taylor's Ferry.

[a] The map of the Roanoke River survey was originally issued in 11 sheets having a horizontal scale of 1 inch = 2,000 feet, and a vertical scale of 1 inch = 8 feet. A few sets of this map are available for distribution and may be obtained from the United States Geological Survey.

The following gaging stations have been maintained in the Roanoke basin by the United States Geological Survey:[a]

Roanoke at Roanoke, Va. (1896–1908).
Roanoke at Randolph, Va. (1900–1906).
Roanoke above the Dan at Clarksville, Va. (1895–1898).
Roanoke at Neal, N. C. (1896–1903).
Tinker Creek at Roanoke, Va. (1907–8).
Back Creek near Roanoke, Va. (1907–8).
Dan at Madison, N. C. (1903–1908).
Dan at South Boston, Va. (1900–1907).
Dan at Clarksville, Va. (1895–1898).
Banister at Houston, Va. (1904–5).

ROANOKE RIVER AT ROANOKE, VA.

The station was established July 10, 1896, at the Walnut Street Bridge in Roanoke, in order to study the run-off of the stream for possible water power and comparative purposes. Gage heights were discontinued July 14, 1906, but were recommenced May 7, 1908, and are now being furnished to the United States Geological Survey through the courtesy of the Roanoke Railway and Electric Company.

The nearest tributary of any size is Tinker Creek, which enters Roanoke River about 3 miles below the gaging section. The overflow from Crystal Spring, which is approximately 2 second-feet, enters Roanoke River between Walnut Street Bridge, where the gage is located, and Jefferson Street Bridge, one-third mile above, where discharge measurements are usually made. Crystal Spring is the source of water supply for the city of Roanoke.

Since the establishment of the gage in 1896 the records tend to indicate that the discharge is not materially affected by ice conditions.

The datum of the gage, which is of the chain type, has remained the same since the establishment of the station. Owing to changing conditions of flow frequent measurements are required at low stages to adequately define the true discharge curve from year to year.[b]

Discharge measurements of Roanoke River at Roanoke Va., in 1907.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
		Feet.	*Sq. ft.*	*Feet.*	*Sec.-ft.*
May 7	R. J. Taylor	124	486	2.65	1,330
June 22	R. G. Knight	110	315	1.48	430
July 20	do	110	252	1.12	319
July 24	do	108	195	.88	187

[a] All records and discharge data collected in Roanoke River basin prior to 1906 have been revised by engineers of the United States Geological Survey and republished in Hydrography of Virginia, Bull. Geol. Survey Virginia, No. 3, 1906, pp. 163–213.
All records of discharge in the Roanoke basin prior to 1908, except Roanoke River at Roanoke, Tinker Creek at Roanoke, Back Creek near Roanoke, and Banister River at Houston have been collected by engineers of the United States Geological Survey and will be republished by the North Carolina Geological Survey, Dr. J. H. Pratt, state geologist, in a bulletin entitled "Water powers of North Carolina."

[b] Descriptive matter and discharge data collected prior to 1906 have been revised by engineers of the United States Geological Survey and republished in Hydrography of Virginia, Bull. Geol. Survey Virginia No. 3, 1906, pp. 167–182.

Daily gage height, in feet, of Roanoke River at Roanoke, Va., for 1907 and 1908.

[Observer, C. C. Hogshead.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1						1.85	1.65	0.85	0.8	0.95	0.8	1.4
2						2.65	1.4	.85	.8	.95	.9	1.3
3						2.4	1.3	.85	.8	.9	.9	1.2
4						2.1	1.25	.85	.85	.85	.9	1.1
5						1.9	1.1	.85	.8	.85	.9	1.1
6						1.85	1.2	.9	.75	.85	.9	1.1
7					2.65	1.75	1.15	.9	.7	.85	.8	1.1
8					2.4	1.6	1.05	.9	.7	.8	.8	1.05
9					2.2	1.5	1.0	.9	.7	.8	.8	1.05
10					2.0	1.5	.9	.9	.75	.8	.8	1.05
11					1.9	1.45	1.0	.9	.75	.8	.8	1.05
12					1.75	2.3	1.0	.9	.8	.8	.8	1.05
13					1.7	4.3	1.0	.9	.8	.8	.8	1.05
14					1.65	3.1	1.0	.9	.8	.8	.95	1.05
15					1.6	2.4	.9	.9	.8	.8	.9	1.8
16					1.5	2.1	1.0	.9	.8	.8	.8	1.9
17					1.45	2.0	1.0	.9	.8	.8	.8	1.8
18					1.4	1.85	1.0	.85	.8	.8	.8	1.75
19					1.3	1.75	1.0	.85	.9	.8	.8	1.7
20					1.3	1.55	.95	.8	1.05	.8	.9	1.6
21					1.3	1.5	.95	.8	.85	.8	.9	1.6
22					1.25	1.45	.9	.8	.9	.8	.9	1.8
23					1.2	1.4	.9	1.0	6.7	.8	1.4	2.5
24					1.2	1.4	.9	1.05	2.3	.8	2.7	2.6
25					1.2	2.0	.9	.95	1.9	.8	2.4	2.5
26					1.2	1.55	.9	.9	1.8	.8	2.5	2.05
27					1.2	1.5	.9	.9	1.45	.8	2.4	2.3
28					1.2	1.45	.9	.8	1.3	.9	2.3	2.4
29					1.05	1.4	.9	.8	1.2	.9	2.1	2.6
30					1.05	1.7	.85	.8	1.1	.9	1.8	2.8
31					1.05	.....	.85	.8	.....	.9	.....	2.95
1908.												
1	2.90	0.90	1.70	1.80	1.65	1.25	1.30	.95	1.00	.90	2.10	1.30
2	2.80	.90	1.70	1.80	1.48	1.15	1.20	.87	.97	.82	1.80	1.28
3	2.75	.90	1.75	1.60	1.40	1.12	1.18	.82	.93	.80	1.75	1.20
4	2.75	1.00	1.75	3.50	1.48	1.55	2.50	.85	.90	.80	1.65	1.15
5	2.60	1.05	1.60	2.15	1.37	2.65	1.95	.83	.90	.80	1.55	1.15
6	2.60	1.35	1.65	1.90	1.40	2.05	3.00	.90	3.00	.80	1.48	1.20
7	2.55	1.50	1.65	1.80	1.70	1.80	2.05	.87	1.85	.75	1.40	1.45
8	2.55	1.60	1.60	1.80	2.40	1.65	1.70	.87	1.90	.78	1.40	2.00
9	2.50	1.50	1.60	1.60	2.20	1.50	1.40	.92	1.40	.75	1.35	1.80
10	2.50	1.55	1.59	1.60	1.83	1.50	1.35	1.00	1.30	1.20	1.30	1.65
11	2.90	1.50	1.55	1.60	1.62	1.45	1.30	.90	1.20	2.00	1.35	1.50
12	8.80	1.60	1.50	1.50	1.53	2.95	1.18	.90	1.10	1.50	1.30	1.85
13	3.10	1.60	1.55	1.55	1.47	1.75	1.15	.85	1.05	1.25	1.30	1.95
14	2.90	1.70	1.55	1.50	1.35	1.65	1.10	.78	1.05	1.15	1.25	1.85
15	2.80	1.60	1.50	1.40	1.20	1.55	1.05	.80	1.00	1.10	1.30	1.70
16	2.75	1.60	1.60	1.50	1.35	1.45	1.00	.90	.95	1.00	1.30	1.60
17	2.60	1.70	1.65	1.55	1.28	1.30	1.00	1.05	.93	.98	1.35	1.50
18	2.50	1.60	1.65	1.40	1.23	1.25	.98	.95	.92	.98	1.55	1.48
19	2.35	1.75	1.70	1.40	1.60	1.18	.95	.93	.90	.95	2.50	1.45
20	2.05	1.70	1.60	1.40	1.65	1.16	.97	.85	.90	.90	2.20	1.40
21	1.75	1.80	1.70	1.20	1.85	1.25	.95	.82	.90	.90	2.00	1.35
22	1.75	1.85	1.70	1.30	2.00	1.30	1.00	.80	.90	.92	1.75	1.35
23	1.70	1.90	1.80	1.20	2.05	1.30	.98	1.05	.89	.97	1.65	1.45
24	1.60	1.80	1.80	1.10	1.90	1.23	1.65	.90	.87	6.70	1.55	1.45
25	1.50	1.70	1.70	1.30	1.73	1.17	1.10	1.05	.85	2.80	1.50	1.70
26	1.30	1.80	1.75	1.30	1.60	1.10	1.00	2.45	.85	2.20	1.48	2.70
27	1.20	1.70	1.70	1.30	1.50	1.15	1.00	1.55	.84	1.85	1.45	2.40
28	1.05	1.70	1.70	1.55	1.40	1.05	1.40	1.32	1.00	1.70	1.40	2.10
29	1.05	1.70	1.70	1.45	1.40	1.00	1.15	1.25	1.00	3.45	1.35	2.55
30	1.00	.....	1.70	.....	1.40	.98	1.10	1.15	.95	3.30	1.30	3.65
31	.90	.....	1.80	.....	1.30	.....	1.00	1.05	.....	2.55	.....	3.20

Rating tables for Roanoke River at Roanoke, Va.

FOR 1907.[a]

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*
0.70	132	2.20	920	3.70	2,515
.80	162	2.30	1,000	3.80	2,645
.90	195	2.40	1,090	3.90	2,775
1.00	231	2.50	1,180	4.00	2,905
1.10	271	2.60	1,270	4.20	3,175
1.20	313	2.70	1,370	4.40	3,445
1.30	357	2.80	1,470	4.60	3,715
1.40	404	2.90	1,570	4.80	3,985
1.50	455	3.00	1,680	5.00	4,255
1.60	510	3.10	1,790	5.20	4,525
1.70	568	3.20	1,900	5.40	4,795
1.80	630	3.30	2,020	5.60	5,065
1.90	700	3.40	2,140	5.80	5,335
2.00	770	3.50	2,265	6.00	5,605
2.10	840	3.60	2,390	7.00	6,955

FOR 1905, 1906, AND 1908.[b]

0.70	96	2.40	1,050	4.20	3,175
.80	122	2.50	1,140	4.40	3,445
.90	152	2.60	1,240	4.60	3,715
1.00	186	2.70	1,340	4.80	3,985
1.10	224	2.80	1,440	5.00	4,255
1.20	264	2.90	1,550	5.20	4,525
1.30	310	3.00	1,660	5.40	4,795
1.40	360	3.10	1,780	5.60	5,065
1.50	415	3.20	1,900	5.80	5,335
1.60	470	3.30	2,020	6.00	5,605
1.70	530	3.40	2,140	6.20	5,875
1.80	590	3.50	2,265	6.40	6,145
1.90	655	3.60	2,390	6.60	6,415
2.00	725	3.70	2,515	6.80	6,685
2.10	800	3.80	2,645	7.00	6,955
2.20	880	3.90	2,775	8.00	8,305
2.30	960	4.00	2,905	9.00	9,655

Monthly discharge of Roanoke River at Roanoke, Va., for 1907 and 1908.

[Drainage area, 388 square miles.]

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area).	Accuracy.
	Maximum.	Minimum.	Mean.	Per square mile.		
1907.						
May 7–13	1,320	251	494	1.27	1.18	B.
June	3,310	404	768	1.98	2.21	B.
July	539	178	244	.629	.73	B.
August	251	162	187	.482	.56	B.
September	6,550	132	462	1.19	1.33	B.
October	213	162	173	.446	.51	B.
November	1,370	162	384	.990	1.10	B.
December	1,620	251	632	1.63	1.88	B.
1908.[c]						
January	9,380	152	1,230	3.17	3.66	B.
February	655	152	448	1.15	1.24	B.
March	590	415	506	1.30	1.50	B.
April	2,260	224	494	1.27	1.42	B.
May	1,050	264	478	1.23	1.42	B.
June	1,600	179	421	1.09	1.22	B.
July	1,660	169	358	.923	1.06	C.
August	1,100	117	207	.534	.62	C.
September	1,660	134	262	.675	.75	C.
October	6,550	109	647	1.67	1.92	B.
November	1,140	287	459	1.18	1.32	B.
December	2,450	244	627	1.62	1.87	B.
The year	9,380	109	511	1.32	18.00	

[a] This table is not applicable for ice or obstructed-channel conditions. It is based on four discharge measurements made in 1907 and on high-water measurements made in earlier years. It is well defined between gage heights 0.8 foot and 8 feet.

[b] This table is not applicable for ice or obstructed-channel conditions. It is considered to be the best table to use for normal low-water conditions when no discharge measurements are available, as was the case in 1908.

[c] No discharge measurements were made during 1908; hence the accuracy of the above results is somewhat doubtful at low stages. See rating-table footnote.

ROANOKE[a] RIVER AT RANDOLPH, VA.

This station was established August 27, 1900, and was discontinued August 12, 1906. It is located on the railway bridge about five-eighths of a mile southwest of the Southern Railway station at Randolph.

Little Roanoke River enters Roanoke River from the left about 1 mile below the gaging station. It is a relatively small stream and does not affect the conditions of flow at the station. Dan River enters the Roanoke about 25 miles below Randolph. The discharge is sometimes slightly affected by ice conditions during severe winters.

The datum of the chain gage has remained the same since October 13, 1902. Prior to that date the datum was about 2 feet lower than at present. During the summer of 1902 the bridge to which the gage was attached was replaced by a new one, a temporary gage set by the observer being used during the construction work. Gage height records for that time are approximate.

Conditions of flow at and below the station are liable to change with every flood. During flood stages the river flows under the four-spanned bridge and also through two flood channels through the railroad embankment between the bridge and Randolph station. The velocity of flow through these flood channels is greater than the mean velocity of flow in the main channel. This flood flow forms a well-defined channel below the railroad embankment and enters the river several hundred feet below the station.[b]

The following discharge measurement was made February 22, 1907, by Warren E. Hall:

Width, 250 feet; area, 1,040 square feet; gage height, 5.10 feet; discharge, 2,190 second-feet.

No monthly discharges were published for this station for 1906 because it was expected that more definite data regarding the proper location of the rating curve could be obtained. Owing to limited appropriation, however, this will be impossible for some years; hence, the following rating and monthly discharge tables for 1906 are given:

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[a] Called Staunton River in reports prior to 1905.

[b] All records and discharge data for this station for years prior to 1906 have been revised by engineers of the United States Geological Survey and republished in Hydrography of Virginia, Bull. Geol. Survey Virginia No. 3, 1906, pp. 182–193. Complete records of discharge during the maintenance of the station have also been collected by engineers of the United States Geological Survey and will be republished by the North Carolina Geological Survey, Dr. J. H. Pratt, state geologist, in a bulletin entitled "Water powers of North Carolina."

Rating table for Roanoke River at Randolph, Va., for 1906.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*
3.90	1,300	5.50	2,530	7.20	4,100	12.00	9,460
4.00	1,370	5.60	2,615	7.40	4,300	13.00	10,660
4.10	1,440	5.70	2,700	7.60	4,500	14.00	11,900
4.20	1,510	5.80	2,785	7.80	4,700	15.00	13,200
4.30	1,580	5.90	2,870	8.00	4,900	16.00	14,630
4.40	1,655	6.00	2,960	8.20	5,110	17.00	16,320
4.50	1,730	6.10	3,050	8.40	5,320	18.00	18,590
4.60	1,805	6.20	3,140	8.60	5,530	19.00	21,220
4.70	1,880	6.30	3,230	8.80	5,750	20.00	24,150
4.80	1,960	6.40	3,320	9.00	5,970	21.00	27,150
4.90	2,040	6.50	3,415	9.20	6,190	22.00	30,200
5.00	2,120	6.60	3,510	9.40	6,410	23.00	33,300
5.10	2,200	6.70	3,605	9.60	6,630	24.00	36,600
5.20	2,280	6.80	3,700	9.80	6,850		
5.30	2,360	6.90	3,800	10.00	7,080		
5.40	2,445	7.00	3,900	11.00	8,260		

NOTE.—The above table is not applicable for ice or obstructed-channel conditions. It is based on discharge measurements made during 1905–1907 and the form of earlier rating curves. It is fairly well defined.

Monthly discharge of Roanoke River at Randolph, Va., for 1906.

[Drainage area, 3,080 square miles.]

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area).	Accuracy.
	Maximum.	Minimum.	Mean.	Per square mile.		
January	35,200	2,440	6,200	2.01	2.32	B.
February	8,860	2,000	3,220	1.05	1.09	B.
March	14,000	2,620	4,210	1.37	1.58	B.
April	6,910	2,120	3,980	1.29	1.44	B.
May	5,860	1,300	2,300	.747	.86	B.
June	6,360	2,080	2,880	.935	1.04	B.
July	4,650	1,540	2,360	.766	.88	B.
August 1–11	5,420	3,320	4,020	1.31	.54	B.

TINKER CREEK AT ROANOKE, VA.

The station was established May 7, 1907, at the Lynchburg Avenue Bridge crossing Tinker Creek, on the outskirts of Roanoke. It was established in cooperation with the United States Forest Service for the purpose of studying the run-off from the southern Appalachian region, and was discontinued July 31, 1908.

The nearest important tributary is Glade Creek, which enters Tinker Creek 1 mile below the bridge.

Just below the bridge is a low temporary dam of loose rock extending part way across the channel, which is the controlling point at medium stages. At very low stages there is a small rapid between the bridge and the dam.

There was no effect from ice during the period of maintenance of the station.

During the period covered by the records the gage datum remained unchanged. Conditions of flow are probably permanent, and a good low-water rating has been developed.

Discharge measurements of Tinker Creek at Roanoke, Va., in 1907.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
		Feet.	*Sq. ft.*	*Feet.*	*Sec.-ft.*
May 7	R. J. Taylor	93	176	1.23	168
June 22	R. G. Knight	80	117	.86	90
July 20	do	91	110	.69	56
July 23	do	90	108	.63	39

Daily gage height, in feet, of Tinker Creek at Roanoke, Va., for 1907 and 1908.

[Observer, R. P. Vandergrift.]

Day.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Day.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.							1907.						
1		0.55	0.5	0.6	0.5	0.85	17	0.7	0.5	0.5	0.7	0.6	1.2
2		.55	.5	.6	.9	.8	18	.7	.5	.55	.7	.85	1.05
3		.5	.5	.6	.85	.8	19	.7	.5	.55	.7	1.0	1.0
4		.5	.5	.6	.65	.8	20	.7	.5	.5	.65	.9	1.0
5		.4	.5	.6	.65	.75	21	.7	.5	.5	.6	.9	1.0
6		.4	.5	.6	.65	.75	22	.7	.55	.6	.6	.9	.9
7		.4	.65	.7	.6	.75	23	.6	.6	5.0	.6	1.75	1.9
8		.4	.5	.65	.6	.7	24	.6	.6	1.5	.55	2.0	1.5
9		.45	.55	.6	.6	.7	25	.6	.6	.85	.55	1.0	1.2
10		.75	.4	.6	.6	1.05	26	.5	.5	.9	.55	1.0	1.0
11		.6	.65	.65	.6	1.0	27	.5	.5	.95	.55	.9	1.0
12		.6	.65	.6	.55	.9	28	.6	.4	.95	.55	.9	1.0
13		.65	.65	.55	.6	.9	29	.7	.4	.85	.55	.9	1.0
14		.5	.7	.6	.6	1.5	30	.6	.4	.75	.55	.9	1.25
15		.5	.7	.6	.6	1.65	31	.5	.5		.6		1.05
16	0.7	.5	.6	.6	.6	1.65							

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1908.												
1	1.15	0.75	1.05	1.55	0.8	0.8	0.8					
2	1.05	.75	1.05	1.55	.8	.85	1.05					
3	1.05	.95	1.05	1.4	.8	.9	.85					
4	1.05	.95	1.05	1.25	.8	1.35	1.7					
5	1.05	.95	1.05	1.05	.8	1.1	1.35					
6	1.05	.95	1.3	1.05	.8	1.0	1.55					
7	2.05	.95	1.2	1.05	1.4	1.0	1.4					
8	2.05	.95	1.05	.95	1.25	.9	1.05					
9	1.25	.95	1.05	.95	1.1	1.55	1.0					
10	1.1	.95	1.05	.95	.9	1.1	1.0					
11	1.05	.95	1.05	.95	.9	1.1	1.0					
12	4.05	1.1	1.05	.85	.9	1.0	1.0					
13	2.0	1.65	1.05	.85	.9	1.0	1.0					
14	1.55	1.85	1.05	.85	.9	1.0	.9					
15	1.25	2.5	.95	.85	.9	1.0	.9					
16	1.05	1.55	.95	.85	.8	1.0	.6					
17	1.05	1.35	.95	.85	.8	.9	.8					
18	1.05	1.15	.95	.85	.8	.9	.8					
19	1.05	1.15	.95	.85	.8	.9	.8					
20	1.05	1.15	.85	.85	.8	.9	.8					
21	1.05	1.05	.85	.85	.9	.9	.8					
22	1.05	1.05	.85	.85	.9	.9	.8					
23	.95	1.05	.95	.85	1.0	.9	.8					
24	.95	1.05	1.15	.8	1.0	.9	1.0					
25	.95	1.05	1.1	.75	.8	.8	1.0					
26	.85	1.05	1.05	.75	.8	.8	1.0					
27	.85	1.05	1.05	.78	.8	.8	1.45					
28	.85	1.05	.95	.8	.8	.8	1.15					
29	.85	1.05	.95	.8	.8	.8	1.0					
30	.85		.95	.75	.8	.8	1.0					
31	8		1.05		.8		1.0					

NOTE.—Gage heights prior to July 16, 1907, are not published owing to large errors in the recorded readings.

Daily discharge, in second-feet, of Tinker Creek at Roanoke, Va., for 1907 and 1908.

Day.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Day.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.							1907.						
1	.....	31	24	38	24	84	17	55	24	24	55	38	161
2	.....	31	24	38	95	74	18	55	24	31	55	84	126
3	.....	24	24	38	84	74	19	55	24	31	55	115	115
4	.....	24	24	38	46	74	20	55	24	24	46	95	115
5	.....	13	24	38	46	64	21	55	24	24	38	95	115
6	.....	13	24	38	46	64	22	55	31	38	38	95	95
7	.....	13	46	55	38	64	23	38	38	1,970	38	322	375
8	.....	13	24	46	38	55	24	38	38	245	31	410	245
9	.....	18	31	38	38	55	25	38	38	84	31	115	161
10	.....	64	13	38	38	126	26	24	24	95	31	115	115
11	.....	38	46	46	38	115	27	24	24	105	31	95	115
12	.....	38	46	38	31	95	28	38	13	105	31	95	115
13	.....	46	46	31	38	95	29	55	13	84	31	95	115
14	.....	24	55	38	38	245	30	38	13	64	31	95	174
15	.....	24	55	38	38	290	31	24	24	.....	38	.....	120
16	55	24	38	38	38	290							

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.
1908.								1908.							
1	147	64	126	.....	74	74	74	17	126	201	105	84	74	95	74
2	126	64	126	.....	74	84	126	18	126	149	105	84	74	95	74
3	126	105	126	215	74	95	84	19	126	149	105	84	74	95	74
4	126	105	126	174	74	201	.....	20	126	149	84	84	74	95	74
5	126	105	126	126	74	137	201	21	126	126	84	84	95	95	74
6	126	105	187	126	74	115	.....	22	126	126	84	84	95	95	74
7	.....	105	161	126	215	115	215	23	105	126	105	84	115	95	74
8	.....	105	126	105	174	95	126	24	105	126	147	74	115	95	115
9	174	105	126	105	137	.....	115	25	105	126	137	64	74	74	115
10	137	105	126	105	95	137	115	26	84	126	126	64	74	74	115
11	126	105	126	105	95	137	115	27	84	126	126	70	74	74	230
12	.....	137	126	84	95	115	115	28	84	126	105	74	74	74	149
13	.....	.....	126	84	95	115	115	29	84	126	105	74	74	74	115
14	.....	.....	126	84	95	115	95	30	84	.....	105	64	74	74	115
15	174	.....	105	84	95	115	95	31	74	.....	126	.....	74	.....	115
16	126	.....	105	84	74	115	38								

NOTE.—Daily discharges for 1907 and 1908 are based on a well-defined rating curve. The discharge was greater than 250 second-feet for all missing days from July 16, 1907, to July 31, 1908.

BACK CREEK NEAR ROANOKE, VA.

The station was established May 8, 1907, at a footbridge one-half mile below the settlement of Red Hill and 7 miles south of Roanoke, in cooperation with the United States Forest Service for the purpose of studying the run-off from the southern Appalachian region. It was discontinued July 31, 1908.

The nearest tributary is Narrow Creek, which joins Back Creek a short distance below the station.

There was no effect from ice during the period of maintenance of the station. During the period covered by the records, the datum of the vertical staff gage, which is located 200 feet above the footbridge, remained unchanged. Conditions of flow at this station appear to be permanent and a fairly good low-water rating has been developed.

Discharge measurements of Back Creek near Roanoke, Va., in 1907.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
		Feet.	*Sq. ft.*	*Feet.*	*Sec.-ft.*
May 8	R. J. Taylor	45	52	1.50	97
June 21	R. G. Knight	39	44	1.36	64
July 20	do	40	32	1.16	34
July 23	do	39	26	1.08	25

Daily gage height, in feet, of Back Creek near Roanoke, Va., for 1907 and 1908.

[Observer, W. P. Turner.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1						4.4	1.3	1.0	0.9	1.4	1.4	1.5
2						2.5	1.3	1.0	.9	1.5	1.7	1.5
3						2.1	1.3	1.0	1.1	1.5	1.5	1.5
4						1.7	1.2	1.0	1.2	1.5	1.4	1.5
5						1.7	1.2	1.0	1.1	1.5	1.4	1.5
6						1.6	1.2	1.15	1.0	1.5	1.4	1.5
7						1.5	1.2	1.1	1.0	1.5	1.4	1.5
8					1.5	1.6	1.1	1.0	1.0	1.5	1.4	1.5
9					1.5	1.5	1.1	1.0	1.0	1.5	1.4	1.6
10					1.4	1.4	1.3	1.0	1.0	1.5	1.5	1.8
11					1.4	1.6	1.2	1.4	1.4	1.5	1.5	1.7
12					1.3	1.5	1.2	1.3	1.1	1.4	1.5	1.6
13					1.3	3.1	1.2	1.5	1.0	1.4	1.5	1.5
14					1.2	2.5	1.2	1.2	1.0	1 4	1.4	1.6
15					1.2	2.0	1.3	1.1	1.0	1.4	1.4	1.8
16					1.2	1.8	1.2	1.1	.9	1.4	1.4	1.9
17					1.2	1.6	1.4	1.1	.9	1.4	1.4	1.8
18					1.2	1.5	1.2	1.0	.9	1.4	1.9	1.7
19					1.1	1.4	1.2	1.0	.9	1.4	1.6	1.6
20					1.1	1.4	1.2	1.0	.9	1.4	1.5	1.6
21					1.1	1.35	1.1	1.0	1.0	1.4	1.7	1.6
22					1.1	1.3	1.1	1.5	1.2	1.4	1.6	1.6
23					1.1	1.3	1.1	1.2	6.9	1.4	1.7	3.85
24					1.1	1.3	1.1	1.1	2.5	1.4	2.5	2.5
25					1.2	1.7	1.0	1.0	1.9	1.4	2.0	2.2
26					1.1	1.5	1.0	1.0	1.6	1.4	1.8	1.8
27					1.1	1.4	1.0	1.0	1.5	1.5	1.6	1.7
28					1.1	1.3	1.0	1.0	1.5	1.5	1.6	1.6
29					1.1	1.7	1.1	1.0	1.5	1.4	1.5	1.7
30					1.1	1.4	1.1	1.0	1.4	1.4	1.5	2.2
31					1.2	.....	1.0	1.0	.....	1.4	.....	1.8

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.
1908.								1908.							
1	1.7	1.5	1.6	2.0	1.2	1.1	1.3	17	1.9	2.0	1.4	1.3	1.2	1.3	1.0
2	1.7	1.7	1.5	1.9	1.2	1.0	1.3	18	1.9	1.9	1.4	1.3	1.2	1.2	1.0
3	1.7	1.7	1.5	1.7	1.2	1.1	1.5	19	1.8	1.9	1.4	1.2	1.3	1.2	1.0
4	1.7	1.7	1.5	1.6	1.2	2.5	1.3	20	1.8	1.7	1.5	1.2	1.4	1.2	1.0
5	1.7	1.6	1.7	1.5	1.1	1.5	1.8	21	1.8	1.7	1.5	1.2	1.4	1.2	1.0
6	1.7	1.6	1.7	1.5	1.1	1.4	1.6	22	1.7	1.7	1.5	1.2	1.4	1.2	1.0
7	3.3	1.7	1.7	1.5	1.9	1.3	1.5	23	1.7	1.7	1.6	1.2	1.4	1.2	1.3
8	2.2	1.7	1.6	1.5	1.5	1.3	1.5	24	1.7	1.6	1.5	1.2	1.3	1.1	1.2
9	2.0	1.7	1.6	1.4	1.4	1.9	1.4	25	1.7	1.6	1.5	1.3	1.3	1.1	1.1
10	1.9	1.7	1.6	1.4	1.3	1.4	1.3	26	1.7	1.8	1.5	1.3	1.2	1.35	1.6
11	1.7	1.6	1.5	1.4	1.2	1.3	1.3	27	1.7	1.7	1.4	1.2	1.2	1.2	1.3
12	4.5	2.0	1.6	1.4	1.2	1.8	1.2	28	1.6	1.6	1.4	1.1	1.2	1.1	1.2
13	3.0	2.4	1.5	1.3	1.2	1.5	1.2	29	1.5	1.6	1.4	1.2	1.1	1.1	1.5
14	2.5	2.5	1.5	1.3	1.2	1.4	1.1	30	1.5	.....	1.4	1.4	1.1	1.0	1.2
15	2.2	4.0	1.4	1.4	1.2	1.4	1.1	31	1.5	.....	1.5	.....	1.1	.....	1.1
16	2.0	2.2	1.4	1.3	1.3	1.3	1.0								

Daily discharge, in second-feet, of Back Creek near Roanoke, Va., for 1907 and 1908.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1							55	17	10	72	72	91
2							55	17	10	91	.....	91
3							55	17	27	91	91	91
4							40	17	40	91	72	91
5							40	17	27	91	72	91
6							40	34	17	91	72	91
7						91	40	27	17	91	72	91
8					91	.....	27	17	17	91	72	91
9					91	91	27	17	17	91	72	.....
10					72	72	55	17	17	91	91	.....
11					72	.....	40	72	72	91	91	.....
12					55	91	40	55	27	72	91	.....
13					55	.....	40	91	17	72	91	91
14					40	.....	40	40	17	72	72	.....
15					40	.....	55	27	17	72	72	.....
16					40	.....	40	27	10	72	72	.....
17					40	.....	72	27	10	72	72	.....
18					40	91	40	17	10	72	.....	.....
19					27	72	40	17	10	72	.....	.....
20					27	72	40	17	10	72	91	.....
21					27	64	27	17	17	72	.....	.....
22					27	55	27	91	40	72	.....	.....
23					27	55	27	40	.....	72	.....	.....
24					27	55	27	27	.....	72	.....	.....
25					40	.....	17	17	.....	72	.....	.....
26					27	91	17	17	.....	72	.....	.....
27					27	72	17	17	91	91	.....	.....
28					27	55	17	17	91	91	.....	.....
29					27	.....	27	17	91	72	91	.....
30					27	72	27	17	72	72	91	.....
31					40	.....	17	17	.....	72	.....	.....

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.
1908.								1908.							
1	.....	91	.....	.....	40	27	55	17	.....	.....	72	55	40	55	17
2	.....	.....	91	.....	40	17	55	18	.....	.....	72	55	40	40	17
3	.....	.....	91	.....	40	27	91	19	.....	.....	72	40	55	40	17
4	.....	.....	91	.....	40	.....	55	20	.....	.....	91	40	72	40	17
5	.....	.....	.....	91	27	91	.....	21	.....	.....	91	40	72	40	17
6	.....	.....	.....	91	27	72	.....	22	.....	.....	91	40	72	40	17
7	.....	.....	.....	91	.....	55	91	23	.....	.....	.....	40	72	40	55
8	.....	.....	.....	91	91	55	91	24	.....	.....	91	40	55	27	40
9	.....	.....	.....	72	72	.....	72	25	.....	.....	91	55	55	27	27
10	.....	.....	.....	72	55	72	55	26	.....	.....	91	55	40	64	.....
11	.....	.....	91	72	40	55	55	27	.....	.....	72	40	40	40	55
12	.....	.....	.....	72	40	.....	40	28	.....	.....	72	27	40	27	40
13	.....	.....	91	55	40	91	40	29	91	.....	72	40	27	27	91
14	.....	.....	91	55	40	72	27	30	91	.....	72	72	27	17	40
15	.....	.....	72	72	40	72	27	31	91	.....	91	.....	27	.....	27
16	.....	.....	72	55	55	55	17								

NOTE.—Daily discharges for 1907 and 1908 are based on a well-defined rating curve. The discharge was greater than 100 second-feet for all missing days from May 13, 1907, to July 31, 1908.

DAN RIVER AT MADISON, N. C.

This station is located at the Southern Railway bridge, about one-fourth mile from Madison and about one-half mile above the mouth of Mayo River. It was established May 14, 1903, and was discontinued December 31, 1908.

The datum of the chain gage has remained the same during the maintenance of the station, but conditions of flow are poor. Both

banks are low and overflow; there is an abrupt turn a short distance below the station; and the bed of sand and gravel changes frequently under the effects of a swift current. The rating for this station has changed from year to year and has only been completed for low stages.[a]

Discharge measurements of Dan River at Madison, N. C., in 1907.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
		Feet.	*Sq. ft.*	*Feet.*	*Sec.-ft.*
March 26	Warren E. Hall	139	282	1.70	568
September 5	F. P. Thomas	140	341	2.58	753

Daily gage height, in feet, of Dan River at Madison, N. C., for 1907 and 1908.

[Observers, J. W. Ore and L. W. Lackey.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1	7.8	1.8	3.2	2.8	2.2	2.9	1.95	1.5	0.9	1.65	1.1	1.75
2	4.1	1.75	3.1	2.2	2.3	9.1	1.9	1.65	.8	1.5	1.15	1.65
3	3.4	1.85	3.7	1.85	2.3	4.4	2.0	1.5	.9	1.4	2.7	1.6
4	3.0	1.8	3.2	1.8	2.5	2.9	2.0	1.4	1.0	1.3	1.6	1.5
5	2.85	1.7	2.5	1.7	2.5	2.4	1.9	1.3	1.2	1.25	1.3	1.5
6	2.6	1.6	2.3	1.95	2.4	2.2	1.85	1.2	2.1	1.25	1.2	1.45
7	2.5	1.4	2.2	9.0	2.3	2.05	3.1	1.25	1.3	1.2	1.15	1.5
8	2.4	1.6	2.2	3.2	2.2	2.3	2.65	1.3	1.05	1.2	1.2	1.55
9	2.4	1.75	2.15	2.95	2.2	2.2	1.5	1.4	1.0	1.3	1.15	1.5
10	2.3	1.85	2.2	2.6	2.6	2.0	1.5	1.5	.9	1.25	1.3	5.6
11	2.2	1.8	3.2	2.4	2.1	2.9	1.5	1.6	3.1	1.2	1.35	3.7
12	2.15	1.75	2.8	2.3	1.9	3.3	1.4	1.6	2.2	1.15	1.4	2.4
13	2.1	1.75	2.5	2.2	1.8	2.65	2.0	1.4	1.7	1.1	1.35	2.15
14	2.1	1.65	2.2	2.0	1.8	7.9	2.15	2.0	1.45	1.1	1.3	4.2
15	2.1	1.7	3.1	2.0	1.75	3.6	7.3	1.5	1.3	1.1	1.25	6.3
16	2.05	1.65	2.7	1.95	2.1	2.7	2.8	1.3	1.15	1.1	1.2	4.2
17	2.0	1.6	2.45	1.95	1.9	2.4	2.0	1.5	1.1	1.1	1.2	2.8
18	1.95	1.6	2.3	1.9	1.75	2.2	2.7	3.5	1.05	1.05	1.2	2.4
19	1.9	1.6	2.2	1.9	1.65	2.0	2.2	1.9	1.0	1.0	1.7	2.3
20	1.9	1.65	2.15	1.9	1.65	1.9	1.9	1.5	1.0	.95	1.4	2.25
21	1.85	1.8	1.9	1.8	1.6	2.2	1.8	1.3	.95	.9	1.6	2.15
22	1.8	1.6	1.9	1.8	1.55	2.0	1.7	1.3	.9	.9	1.5	2.0
23	1.75	1.5	1.8	5.8	1.5	3.1	1.6	1.4	5.2	.9	5.2	12.0
24	1.7	1.5	1.8	5.6	1.5	4.4	1.5	1.3	6.0	1.0	10.3	8.4
25	1.65	1.6	1.75	3.1	1.6	2.3	1.4	1.3	2.5	.95	4.2	3.6
26	1.65	4.4	1.7	2.8	1.7	2.0	1.4	1.1	2.4	.9	3.6	3.1
27	1.7	2.8	1.75	2.5	1.6	1.9	1.5	1.1	2.3	1.0	2.8	2.8
28	1.5	2.7	1.7	3.5	1.5	1.7	1.4	1.0	2.15	1.1	2.4	2.5
29	1.6	.....	1.7	2.9	1.4	2.9	1.4	.9	1.9	1.1	1.9	2.15
30	2.0	.....	1.65	2.5	1.4	2.2	1.8	.9	1.8	1.05	1.8	6.0
31	1.9	.....	1.65	.....	1.4	.....	1.5	.9	.....	1.05	.....	5.2
1908.												
1	4.0	2.1	3.2	2.35	3.8	1.7	1.55	1.5	1.9	1.25	2.6	1.6
2	3.1	2.0	3.0	4.6	2.9	1.6	1.5	1.25	2.8	1.15	2.35	1.85
3	2.7	1.6	2.9	3.2	2.4	1.5	3.3	1.2	2.75	1.15	2.2	1.6
4	2.5	2.0	2.75	2.8	2.2	16.4	3.5	1.1	2.3	1.1	2.1	1.55
5	5.9	2.1	2.5	2.55	2.1	5.7	3.1	1.1	1.95	1.1	2.0	1.75
6	3.4	2.1	5.2	2.5	2.1	3.8	3.0	2.9	5.7	1.0	1.8	1.7
7	14.4	2.7	3.9	2.45	5.0	3.2	2.5	2.4	3.3	.8	1.8	3.0
8	12.9	2.45	3.2	2.4	3.4	2.7	2.35	1.9	2.4	1.0	1.8	4.8
9	4.8	2.25	3.0	2.3	2.65	2.3	2.25	1.75	2.05	1.5	1.8	3.0
10	3.6	2.1	2.9	2.3	2.4	2.25	2.0	1.6	1.8	6.7	1.8	2.5
11	2.9	7.4	2.7	2.2	2.15	2.4	1.7	1.5	1.7	3.8	1.75	2.2
12	14.9	7.2	3.0	2.15	2.1	2.6	1.6	1.4	1.6	2.7	2.2	4.2
13	5.7	8.1	2.8	2.1	2.1	2.4	1.55	1.3	1.5	2.1	1.8	2.9
14	4.1	9.9	2.7	2.1	2.0	2.25	1.65	1.25	1.4	1.85	1.75	2.5
15	3.5	12.8	2.65	2.0	2.0	3.2	1.45	1.2	1.35	1.75	4.6	2.2

[a] All records of discharge at this station prior to 1908 have been collected by engineers of the United States Geological Survey and will be republished by the North Carolina Geological Survey, Dr. J. H. Pratt, state geologist, in a bulletin entitled "Water powers of North Carolina."

Daily gage height, in feet, of Dan River at Madison, N. C., for 1907 and 1908—Continued.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1908.												
16	3.2	7.3	2.5	3.9	2.05	3.9	1.4	1.2	1.3	1.65	3.0	2.1
17	2.9	4.5	2.45	3.2	2.0	2.8	1.25	1.2	1.3	1.6	2.45	2.0
18	2.7	4.3	2.5	2.6	1.9	2.5	1.2	1.2	1.3	1.5	2.2	1.95
19	2.5	5.4	2.5	2.3	1.9	2.3	1.6	1.25	1.25	1.5	2.1	2.0
20	2.4	4.1	2.6	2.2	2.15	2.1	1.5	1.25	1.25	1.5	2.1	1.9
21	2.35	3.9	2.65	2.1	2.4	3.2	1.4	1.2	1.2	1.45	2.0	1.8
22	2.35	3.6	3.6	2.0	2.45	2.6	3.85	2.1	1.2	1.45	1.8	9.1
23	2.2	3.1	3.9	1.9	2.45	2.2	2.4	2.9	1.2	1.5	1.8	11.0
24	2.0	2.9	5.8	1.9	2.7	2.0	2.0	3.4	1.15	4.0	1.8	4.7
25	1.8	2.75	4.2	2.25	2.35	1.9	1.75	11.2	1.15	1.55	1.8	3.6
26	2.15	4.1	3.4	2.15	1.95	1.8	1.4	20.3	1.1	2.4	1.8	3.4
27	2.4	3.4	3.0	2.1	1.8	1.75	1.25	6.4	1.1	2.1	1.7	2.6
28	2.3	3.3	2.8	2.0	1.75	1.75	2.6	3.2	2.2	1.95	1.65	2.6
29	2.1	3.0	2.7	1.9	1.7	1.65	2.0	2.8	1.75	4.7	1.6	2.5
30	2.0	.....	2.6	5.5	1.9	1.6	1.75	2.35	1.4	5.5	1.6	2.5
31	2.0	.....	2.5	.....	1.8	.....	1.6	2.0	.....	3.4	.....	3.3

Daily discharge, in second-feet, of Dan River at Madison, N. C., for 1906, 1907, and 1908.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1906.												
1	768	994	714	1,150	542	408	526	1,110	1,370	955	750	642
2	678	842	625	898	574	380	510	1,410	1,030	879	732	625
3	625	714	526	768	608	380	625	.....	955	805	696	625
4	.....	625	.....	768	625	366	574	842	1,030	.....	678	608
5	.....	660	1,030	732	642	352	526	678	936	1,240	678	608
6	1,280	732	860	714	526	.....	495	678	805	955	678	591
7	955	696	732	714	768	591	558	591	732	1,070	660	591
8	898	660	660	642	678	625	465	591	696	955	660	574
9	824	625	660	660	574	591	.....	558	660	786	660	558
10	750	696	625	879	465	558	955	558	642	1,030	642	558
11	696	660	558	786	465	805	558	558	591	842	642	842
12	714	625	542	660	465	574	450	495	558	660	678	696
13	.....	625	542	642	465	625	465	.....	.....	625	660	591
14	.....	625	526	625	450	1,240	465	1,030	1,200	625	660	591
15	1,150	591	678	1,030	450	1,030	436	.....	768	608	642	591
16	994	558	.....	917	436	1,200	.....	.....	660	591	678	574
17	898	526	1,070	786	408	1,410	768	.....	660	625	660	574
18	768	558	842	714	408	1,070	.....	.....	660	732	625	.....
19	732	542	678	678	408	805	732	.....	625	.....	805	1,370
20	696	526	.....	660	394	1,370	732	.....	1,200	.....	.....	.....
21	678	510	1,410	642	394	805	.....	.....	860	.....	1,070	.....
22	625	1,070	917	608	394	1,110	.....	1,070	768	.....	917	955
23	.....	917	842	608	394	750	.....	955	994	1,240	805	842
24	.....	714	786	591	380	558	768	879	936	1,070	732	696
25	.....	625	678	558	380	1,110	.....	805	898	994	696	625
26	1,070	591	879	542	366	.....	660	860	768	955	696	574
27	.....	542	842	526	696	879	558	1,070	696	917	678	558
28	.....	860	805	526	625	625	.....	.....	625	879	660	625
29	.....	.....	824	510	495	591	768	.....	625	805	660	768
30	1,370	.....	955	526	465	558	.....	.....	660	805	642	714
31	1,150	.....	.....	.....	436	.....	.....	.....	.....	768	.....	.....
1907.												
1	.....	558	1,070	917	696	955	608	465	298	510	352	542
2	.....	542	1,030	696	732	.....	591	510	272	465	366	510
3	1,150	574	1,280	574	732	.....	625	465	298	436	879	495
4	994	558	1,070	558	805	955	625	436	325	408	495	465
5	936	526	805	526	805	768	591	408	380	394	408	465
6	842	495	732	608	768	696	574	380	660	394	380	450
7	805	436	696	.....	732	642	1,030	394	408	380	366	465
8	768	495	696	1,070	696	732	860	408	338	380	380	480
9	768	542	678	974	696	696	465	436	325	408	366	465
10	732	574	696	842	842	625	465	465	298	394	408	.....
11	696	558	1,070	768	660	955	465	495	1,030	380	422	1,280
12	678	542	917	732	591	1,110	436	495	696	366	436	768
13	660	542	805	696	558	860	625	436	526	352	422	678
14	660	510	696	625	558	.....	678	625	450	352	408	.....
15	660	526	1,150	625	542	1,240	.....	465	408	352	394	.....

Daily discharge, in second-feet, of Dan River at Madison, N. C., for 1906, 1907, and 1908—Continued.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
16	642	510	879	608	660	879	917	408	366	352	380	.....
17	625	495	786	608	590	768	625	465	352	352	380	917
18	608	495	732	591	542	696	879	1,200	338	338	380	768
19	591	495	696	591	510	625	696	591	325	325	526	732
20	591	510	678	591	510	591	591	465	325	312	436	714
21	574	558	591	558	495	696	558	408	312	298	495	678
22	558	495	591	558	480	625	526	408	298	298	465	625
23	542	465	558	.....	465	1,030	495	436	.....	298	.....	.....
24	526	465	558	.....	465	.....	465	408	.....	325	.....	.....
25	510	495	542	1,030	495	732	436	408	805	312	.....	1,240
26	510	.....	526	917	526	625	436	352	768	298	1,240	1,030
27	526	917	542	805	495	591	465	352	732	325	917	917
28	465	879	526	1,200	465	526	436	325	678	352	768	805
29	495	.....	526	955	436	955	436	298	591	352	591	678
30	625	.....	510	805	436	696	558	298	558	338	558	.....
31	591	.....	510	.....	436	.....	465	298	.....	338	.....	.....
1908.												
1	1,410	660	1,070	750	1,320	526	480	465	591	394	842	495
2	1,030	625	994	.....	955	495	465	394	917	366	750	574
3	879	495	955	1,070	768	465	1,110	380	898	366	696	495
4	805	625	898	917	696	.....	1,200	352	732	352	660	480
5	.....	660	805	824	660	.....	1,030	352	608	352	625	542
6	1,150	660	.....	805	660	1,320	994	955	.....	325	558	526
7	.....	879	1,370	786	.....	1,070	805	768	1,110	272	558	994
8	.....	786	1,070	768	1,150	879	750	591	768	325	558	.....
9	.....	714	994	732	860	732	714	542	642	465	558	994
10	1,240	660	955	732	768	714	625	495	558	.....	558	805
11	955	.....	879	696	678	768	526	465	526	1,320	542	696
12	.....	.....	994	678	660	842	495	436	495	879	696	.....
13	.....	.....	917	660	660	768	480	408	465	660	558	955
14	.....	.....	879	660	625	714	510	394	436	574	542	805
15	1,200	.....	860	625	625	1,070	450	380	422	542	.....	696
16	1,070	.....	805	1,370	642	1,370	436	380	408	510	994	660
17	955	.....	786	1,070	625	917	394	380	408	495	786	625
18	879	.....	805	842	591	805	380	380	408	465	696	608
19	805	.....	805	732	591	732	495	394	394	465	660	625
20	768	.....	842	696	678	660	465	394	394	465	660	591
21	750	1,370	860	660	768	1,070	436	380	380	450	625	558
22	750	1,240	1,240	625	786	842	1,340	660	380	450	558	.....
23	696	1,030	1,370	591	786	696	768	955	380	465	558	.....
24	625	955	.....	591	879	625	625	1,150	366	1,410	558	.....
25	558	898	.....	714	750	591	542	.....	366	480	558	1,240
26	678	.....	1,150	678	608	558	436	.....	352	768	558	1,150
27	768	1,150	994	660	558	542	394	.....	352	660	526	842
28	732	1,110	917	625	542	542	842	1,070	696	608	510	842
29	660	994	879	591	526	510	625	917	542	.....	495	805
30	625	.....	842	.....	591	495	542	750	436	.....	495	805
31	625	.....	805	.....	558	.....	495	625	.....	1,150	.....	1,110

NOTE.—Daily discharges 1906 to 1908 are based on an approximate rating curve. The discharge was greater than 1,400 second-feet for all missing days.

DAN RIVER AT SOUTH BOSTON, VA.

The station is located at the Norfolk and Western Railroad bridge in the town of South Boston. It was established August 27, 1900, and was discontinued May 5, 1907. The data collected at this point are of value principally for power purposes. Banister River, an important tributary, enters Dan River from the north about 7 miles below the station.

Ice conditions do not materially affect flow. The datum of the chain gage has remained the same since the establishment of the

station. At high stages the right bank overflows for several hundred feet under a curved trestle approach to the bridge. Changing conditions of flow require frequent low-water measurements to adequately define the low-water part of the rating curve.[a]

Daily gage height, in feet, of Dan River at South Boston, Va., for 1907.

[Observer, John R. East.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	Day.	Jan.	Feb.	Mar.	Apr.	May.
1	11.20	2.42	5.30	2.90	4.08	17	2.22	2.45	7.45	2.18	.....
2	9.80	2.55	5.60	3.75	3.50	18	2.08	2.25	4.95	2.28	.....
3	7.95	2.42	5.20	3.95	3.02	19	2.18	2.20	3.08	2.75	.....
4	5.20	2.85	4.60	4.15	3.00	20	2.28	2.35	3.18	2.68	.....
5	3.35	3.02	4.30	4.45	.....	21	2.68	2.40	3.12	2.88	.....
6	3.10	3.18	4.55	5.05	.....	22	2.75	2.12	2.60	3.32	.....
7	2.88	3.18	4.02	6.20	.....	23	2.48	2.02	2.40	3.25	.....
8	2.70	3.22	4.45	6.95	.....	24	2.60	1.92	2.25	3.55	.....
9	2.62	3.55	5.80	6.20	.....	25	2.75	1.85	2.20	4.10	.....
10	2.50	3.78	6.25	5.05	.....	26	2.62	2.05	2.25	4.30	.....
11	2.48	4.05	6.30	4.25	.....	27	2.75	2.48	2.20	4.85	.....
12	2.22	4.10	6.00	3.28	.....	28	2.90	3.92	2.15	4.05	.....
13	2.12	4.25	4.35	2.98	.....	29	2.70	.....	2.08	5.15	.....
14	2.25	2.95	4.90	2.80	.....	30	2.35	.....	2.22	4.62	.....
15	2.12	2.70	7.05	2.50	.....	31	2.15	.....	2.28	.....	.....
16	2.35	2.72	10.00	2.70	.....						

Rating table for Dan River at South Boston, Va., for 1904 to 1907.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*
1.80	1,713	3.10	2,746	4.40	3,824	6.40	5,644
1.90	1,791	3.20	2,827	4.50	3,910	6.60	5,838
2.00	1,870	3.30	2,908	4.60	3,997	6.80	6,034
2.10	1,949	3.40	2,989	4.70	4,084	7.00	6,234
2.20	2,028	3.50	3,070	4.80	4,172	7.20	6,434
2.30	2,107	3.60	3,152	4.90	4,260	7.40	6,638
2.40	2,186	3.70	3,234	5.00	4,349	7.60	6,845
2.50	2,265	3.80	3,317	5.20	4,528	7.80	7,055
2.60	2,345	3.90	3,400	5.40	4,709	8.00	7,275
2.70	2,425	4.00	3,484	5.60	4,892	9.00	8,415
2.80	2,505	4.10	3,568	5.80	5,077	10.00	9,700
2.90	2,585	4.20	3,653	6.00	5,264	11.00	11,100
3.00	2,665	4.30	3,738	6.20	5,453	12.00	12,540

NOTE.—The above table is not applicable for ice or obstructed-channel conditions. It is based on discharge measurements made 1903 to 1906 and is fairly well defined.

Monthly discharge of Dan River at South Boston, Va., for 1907.

[Drainage area, 2,750 square miles.]

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area).	Accuracy.
	Maximum.	Minimum.	Mean.	Per square mile.		
January	11,400	1,930	3,040	1.11	1.28	B.
February	3,700	1,750	2,530	.920	.96	B.
March	9,700	1,930	3,830	1.39	1.60	B.
April	6,180	2,010	3,430	1.25	1.40	B.

[a] Descriptive matter and discharge data collected prior to 1906 have been revised by engineers of the United States Geological Survey and republished in Hydrography of Virginia, Bull. Geol. Survey Virginia No. 3, 1906, pp. 197–207.

Complete records of discharge during the maintenance of the station have been collected by engineers of the United States Geological Survey and will be republished by the North Carolina Geological Survey, Dr. J. H. Pratt, state geologist, in a bulletin entitled "Water powers of North Carolina."

YADKIN OR PEDEE RIVER DRAINAGE BASIN.

DESCRIPTION OF BASIN.

Yadkin River, called Pedee River below the junction with the Uharie, rises on the eastern slope of the Blue Ridge Mountains, in Caldwell and Watauga counties, N. C., and flows in a general southeastward direction across North Carolina and South Carolina, emptying into Winyah Bay at Georgetown, S. C. The total length of the stream from source to mouth in its general direction is about 300 miles. The total drainage area is about 10,600 square miles.

There are no large tributaries in this basin which compare in size with the main stream, as is the case in the Santee River basin. The larger of the tributaries are Little Pedee and Lynches rivers, in South Carolina, and South Yadkin River, in North Carolina.

The upper part of the drainage basin is mountainous and largely forest covered. The extreme upper portion of the basin reaches an elevation of 3,000 feet, but the stream beds while yet small get down to 1,500 feet elevation, and 1,000 feet elevation is reached above Wilkesboro, N. C.

The average amount of rainfall for the basin is 50 to 60 inches in the upper portion and 45 to 50 inches in the lower portion.

In North Carolina the main stream and many of its tributaries have a great amount of power, much of which has been developed.

The following gaging stations have been maintained in this river basin:[a]

Yadkin River, North Wilkesboro, N. C., 1903 to 1908.
Yadkin River, Siloam, N. C., 1900 to 1901.
Yadkin River, Salisbury, N. C., 1895 to 1908.
Yadkin River, Norwood, N. C., 1896 to 1899.

YADKIN RIVER AT NORTH WILKESBORO, N. C.

This station is located at the lower highway bridge between Wilkesboro and North Wilkesboro, about one-half mile below North Wilkesboro railroad station and three-fourths mile below the mouth of Reddie River. It was established April 10, 1903.

The datum of the chain gage has remained the same since the establishment of the station. Discharge measuring conditions are poor, owing to changing conditions of flow. The bed of the stream is mainly composed of rock overlain in places with sand, which shifts frequently. The right bank is low and subject to overflow, but all water must pass beneath the bridge approach. The left bank does

[a] Records of discharge at these stations prior to 1908 have been collected by engineers of the United States Geological Survey and will be republished by the North Carolina Geological Survey, Dr. J. H. Pratt, state geologist, in a bulletin entitled "Water powers of North Carolina."

not overflow. The rating has not been developed for high stages, and owing to shifting channel conditions is not good at low stages.[a]

Discharge measurements of Yadkin River at North Wilkesboro, N. C., in 1907.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
		Feet.	*Sq. ft.*	*Feet.*	*Sec.-ft.*
March 27	Warren E. Hall	97	363	1.33	909
September 4	F. P. Thomas	93	269	.90	584

Daily gage height, in feet, of Yadkin River at North Wilkesboro, N. C., for 1907 and 1908.

[Observer, Mrs. U. H. Wyatt.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1	4.6	1.6	2.0	1.9	1.85	8.9	1.65	1.15	0.6	0.9	0.45	0.9
2	3.3	1.65	3.1	1.35	1.85	8.7	1.6	1.0	.6	.85	.95	.8
3	2.9	1.6	2.55	1.3	1.85	4.3	1.5	.9	.65	.8	1.0	.8
4	2.7	1.55	2.0	1.25	1.85	3.0	2.55	.9	.9	.8	.7	.75
5	2.5	1.85	1.8	1.25	1.7	2.4	2.0	.85	.8	.9	.6	.7
6	2.4	1.7	1.7	1.85	1.6	2.0	1.7	.9	.7	.7	.6	.6
7	2.3	1.55	1.6	2.95	1.65	1.75	1.5	.95	.6	.65	.6	.6
8	2.2	1.5	1.9	2.1	1.65	1.9	1.3	1.0	.9	.7	.5	.6
9	2.2	1.5	1.75	2.1	1.45	1.7	1.3	1.0	.8	.6	.55	1.05
10	2.1	1.5	1.9	1.8	1.45	1.65	1.3	1.2	.7	.55	.75	3.4
11	2.1	1.5	2.4	1.7	1.45	4.0	1.2	.9	1.15	.5	.8	2.2
12	2.1	1.5	2.1	1.6	1.35	2.3	1.2	1.25	.9	.5	.65	1.55
13	2.0	1.5	1.9	1.6	1.3	2.1	1.6	1.0	.7	.5	.7	1.3
14	2.0	1.5	1.85	1.5	1.3	2.9	1.4	1.1	.6	.5	.6	4.9
15	1.95	1.45	2.1	1.4	1.3	2.15	1.45	.8	.6	.5	.6	3.4
16	1.95	1.4	1.75	1.4	1.3	1.8	1.3	.75	.65	.5	.55	2.4
17	1.95	1.4	1.65	1.4	1.3	1.65	1.3	1.05	.6	.5	.5	1.9
18	1.9	1.4	1.65	1.4	1.2	1.5	2.3	1.6	.8	.5	.65	1.65
19	1.9	1.4	1.65	1.6	1.2	1.45	2.3	1.1	.6	.5	.8	1.55
20	1.85	1.4	1.6	1.45	1.2	1.9	1.35	.9	.55	.5	.6	1.3
21	1.85	1.4	1.5	1.3	1.2	1.5	1.15	.8	.5	.45	1.5	1.2
22	1.85	1.3	1.4	1.3	1.15	1.5	1.1	.9	.6	.5	1.4	1.1
23	1.7	1.3	1.4	3.5	1.1	1.6	1.05	1.1	9.4	.5	1.85	8.6
24	1.7	1.3	1.35	2.4	1.1	2.1	1.05	1.25	3.2	.5	4.0	3.7
25	1.7	1.65	1.35	2.0	1.2	1.6	1.3	.9	1.8	.5	2.05	2.55
26	1.75	2.1	1.3	1.75	1.2	1.75	1.0	.9	1.3	.5	1.5	2.1
27	1.65	1.75	1.3	4.4	1.5	1.35	1.0	.8	1.1	.65	1.2	1.8
28	1.65	1.75	1.3	2.7	1.15	2.2	.95	.75	1.2	.75	1.1	1.65
29	1.6	.....	1.3	2.3	1.05	3.6	1.1	.75	1.55	.5	1.1	1.5
30	1.6	.....	1.25	2.0	1.05	2.25	1.45	.75	1.1	.45	.9	4.1
31	1.6	.....	1.2	.....	1.2	.....	1.05	.7	.....	.45	.....	3.3
1908.												
1	2.4	1.3	2.6	1.8	2.3	1.25	1.4	1.5	1.55	.9	2.2	1.2
2	2.05	1.05	2.5	3.0	2.0	1.2	1.3	1.3	1.45	.8	2.0	1.2
3	1.85	.8	2.5	2.2	1.9	1.2	2.35	1.2	1.3	.8	1.9	1.05
4	1.75	1.2	2.35	1.95	1.8	3.0	3.4	1.1	1.25	.8	1.8	1.0
5	2.05	1.3	2.4	1.8	1.8	1.8	5.1	1.3	1.3	.8	1.6	1.15
6	1.7	1.35	2.5	1.85	1.7	1.55	3.8	2.8	2.0	.8	1.6	1.05
7	2.8	1.45	2.35	1.7	3.8	1.5	3.4	2.8	2.15	.75	1.5	3.4
8	2.6	1.4	2.2	1.7	2.7	1.4	3.0	1.5	1.85	.75	1.45	2.5
9	2.1	1.4	2.1	1.6	2.3	1.35	2.5	1.45	1.3	1.2	1.35	1.8
10	1.8	1.3	2.0	1.6	2.1	1.4	2.1	1.3	1.2	2.85	1.15	1.55
11	1.85	1.65	1.95	1.55	1.9	1.7	1.8	1.2	1.15	1.5	1.3	1.45
12	9.2	4.8	2.25	1.5	1.8	1.8	1.6	1.1	1.1	1.15	1.4	1.7
13	4.4	7.4	2.0	1.4	1.7	1.7	2.1	1.0	1.05	1.0	1.3	1.45
14	3.2	6.9	1.9	1.4	1.6	1.5	1.7	1.05	1.05	.95	1.55	1.3
15	2.5	12.9	1.85	2.05	1.55	3.2	1.5	1.0	1.0	.95	1.6	1.3

[a] All records of discharge at this station prior to 1908 have been collected by engineers of the United States Geological Survey and will be republished by the North Carolina Geological Survey, Dr. J. H. Pratt, state geologist, in a bulletin entitled "Water powers of North Carolina."

Daily gage height, in feet, of Yadkin River at North Wilkesboro, N. C., for 1907 and 1908—Continued.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1908.												
16	2.25	5.4	1.8	3.4	1.55	2.3	1.4	1.1	.95	.95	1.4	1.25
17	2.05	4.2	1.7	2.55	1.5	1.7	1.3	1.15	.95	.9	1.4	1.2
18	1.85	3.0	1.7	2.2	1.5	1.6	1.3	1.75	.9	.85	1.35	1.2
19	1.7	3.0	1.65	2.05	2.25	1.5	1.3	1.3	.9	.85	1.3	1.2
20	1.6	2.8	1.9	1.9	1.9	2.35	1.2	1.15	.9	.85	1.3	1.1
21	1.5	2.45	2.1	1.7	1.9	2.2	1.3	1.15	.9	.8	1.3	1.1
22	1.5	2.35	2.0	1.6	1.6	1.55	1.7	1.45	.9	.9	1.2	2.9
23	1.45	2.15	2.3	1.6	1.8	2.9	1.5	1.5	.9	5.2	1.2	2.95
24	1.3	2.05	2.85	1.55	1.6	1.9	1.7	2.1	.85	8.6	1.2	2.4
25	1.25	2.0	2.35	3.0	1.5	1.5	1.3	5.9	.85	3.65	1.2	2.2
26	1.3	2.8	2.1	3.2	1.5	1.3	1.15	7.7	.85	2.65	1.2	2.05
27	1.5	2.7	1.95	2.6	1.4	1.25	1.3	3.4	.9	2.2	1.15	1.85
28	1.25	2.3	1.9	2.35	1.4	1.1	1.5	2.6	1.6	2.35	1.15	1.7
29	1.3	2.2	1.8	2.1	1.7	1.1	2.3	2.2	1.2	3.95	1.1	1.6
30	1.15	.....	1.7	2.55	1.6	1.1	2.9	1.9	1.0	3.6	1.1	1.6
31	1.1	.....	1.7	.....	1.35	.....	1.8	1.7	.....	2.7	.....	1.8

Rating table for Yadkin River at North Wilkesboro, N. C., for 1907 and 1908.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*
0.40	470	1.90	1,285	3.40	2,580	5.80	4,900
.50	510	2.00	1,360	3.50	2,670	6.00	5,100
.60	550	2.10	1,435	3.60	2,760	6.20	5,300
.70	590	2.20	1,515	3.70	2,855	6.40	5,500
.80	635	2.30	1,595	3.80	2,950	6.60	5,700
.90	680	2.40	1,680	3.90	3,045	6.80	5,900
1.00	730	2.50	1,770	4.00	3,140	7.00	6,100
1.10	780	2.60	1,860	4.20	3,330	8.00	7,100
1.20	835	2.70	1,950	4.40	3,520	9.00	8,100
1.30	890	2.80	2,040	4.60	3,710	10.00	9,100
1.40	950	2.90	2,130	4.80	3,900	11.00	10,100
1.50	1,010	3.00	2,220	5.00	4,100	12.00	11,100
1.60	1,075	3.10	2,310	5.20	4,300	13.00	12,100
1.70	1,145	3.20	2,400	5.40	4,500		
1.80	1,215	3.30	2,490	5.60	4,700		

NOTE.—The above table is not applicable for obstructed-channel conditions. It is based on one discharge measurement made during 1907 and the form of the 1906 curve. It is not well defined. Above gage height 4.8 feet the rating curve is a tangent, the difference being 100 per tenth.

Monthly discharge of Yadkin River at North Wilkesboro, N. C., for 1907 and 1908.

[Drainage area, 500 square miles.]

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area).	Accuracy.
	Maximum.	Minimum.	Mean.	Per square mile.		
1907.						
January	3,710	1,080	1,480	2.96	3.41	C.
February	1,440	890	1,040	2.08	2.17	C.
March	2,310	835	1,180	2.36	2.72	C.
April	3,520	862	1,320	2.64	2.94	C.
May	1,250	755	945	1.89	2.18	C.
June	8,000	920	1,940	3.88	4.33	C.
July	1,820	705	982	1.96	2.26	C.
August	1,080	590	716	1.43	1.65	C.
September	8,500	510	985	1.97	2.20	C.
October	680	490	546	1.09	1.26	C.
November	3,140	490	778	1.56	1.74	C.
December	7,700	550	1,570	3.14	3.62	C.
The year	8,500	490	1,120	2.25	30.48	

Monthly discharge of Yadkin River at North Wilkesboro, N. C., for 1907 and 1908— Continued.

Month.	Discharge in second-feet.				Run-off (depth in inches in drainage area).	Accuracy.
	Maximum.	Minimum.	Mean.	Per square mile.		
1908.						
January	8,300	780	1,560	3.12	3.60	C.
February	12,000	635	2,320	4.64	5.00	C.
March	2,080	1,110	1,440	2.88	3.32	C.
April	2,580	950	1,430	2.86	3.19	C.
May	2,950	920	1,260	2.52	2.90	C.
June	2,400	780	1,180	2.36	2.63	C.
July	4,200	808	1,430	2.86	3.30	C.
August	6,800	730	1,420	2.84	3.27	C.
September	1,480	658	836	1.67	1.86	C.
October	7,700	612	1,430	2.86	3.30	C.
November	1,520	780	965	1.93	2.15	C.
December	2,580	730	1,160	2.32	2.68	C.
The year	12,000	612	1,370	2.74	37.20	

YADKIN RIVER NEAR SALISBURY, N. C.

This station is located at Piedmont toll bridge, about 6 miles east of Salisbury, N. C., and 1,000 feet above the Southern Railway bridge. It is about 5 miles below the mouth of South Yadkin River.

This station was originally established September 24, 1895, and has been partly maintained at the present location at the toll bridge, and partly at the Southern Railway bridge, where a second gage has been installed. Previously published records of gage heights refer to the gage on the railroad bridge from 1895 to May 31, 1899, and from 1903 to 1905, inclusive. The highway bridge was used from June 1, 1899, to December 31, 1902, and from January 1, 1906, to date. The relation between the two gages at low stages as based on a comparison made during 1905 and 1906 is as follows:

Relation of gages on Yadkin River.

Gage at Southern Railway bridge.	Gage at Piedmont toll bridge.
1.0	1.45
2.0	2.22
3.0	3.05
4.0	3.92
5.0	4.83
6.0	5.78
7.0	6.77
8.0	7.76
9.0	8.75

The datums of the chain gages have remained the same since their establishment. The bed of the stream is composed mainly of rock, but the collection of driftwood against the piers and sand on the bed of the river causes a variable relation between discharge and gage height. Records of discharge collected at this point are, however,

fairly accurate. Overflow of the left bank occurs for a short distance at extreme high stages. The right bank does not overflow.[a]

Discharge measurements of Yadkin River near Salisbury, N. C., in 1907 and 1908.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
1907.		*Feet.*	*Sq. ft.*	*Feet.*	*Sec.-ft.*
March 28	Warren E. Hall	472	2,190	2.74	3,550
1908.					
May 14	Warren E. Hall	472	2,190	2.73	3,620

Daily gage height, in feet, of Yadkin River near Salisbury, N. C., for 1907 and 1908.

[Observer, J. T. Yarbrough.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1	7.2	2.6	3.2	2.8	3.0	2.5	4.0	2.45	2.0	2.7	2.2	2.6
2	5.5	2.6	3.35	3.1	2.95	6.0	3.1	2.45	2.0	2.5	2.25	2.5
3	4.1	2.75	3.9	2.8	2.9	6.4	3.3	2.4	2.0	2.4	2.4	2.5
4	3.6	2.75	3.65	2.65	3.05	4.3	3.2	2.4	2.1	2.4	2.7	2.45
5	3.4	2.6	3.15	2.6	3.1	3.45	2.9	2.55	2.15	2.3	2.4	2.4
6	3.25	2.8	3.0	2.6	2.9	3.0	2.9	2.3	2.9	2.3	2.3	2.45
7	3.1	2.8	2.9	5.2	2.7	2.85	2.85	2.4	2.4	2.4	2.2	2.35
8	3.0	2.6	2.8	4.4	2.7	2.65	2.8	2.6	2.05	2.3	2.25	2.45
9	3.0	2.6	2.95	3.65	2.8	2.75	2.6	2.55	2.1	2.4	2.25	2.5
10	2.95	2.75	3.9	3.25	2.9	2.9	2.55	2.7	2.1	2.3	2.35	3.1
11	2.9	2.75	3.6	3.1	2.8	4.2	2.5	3.25	2.2	2.2	2.5	4.4
12	2.8	2.75	3.45	2.9	2.7	6.9	2.55	2.6	3.2	2.2	2.45	3.65
13	2.9	2.6	3.2	2.85	2.65	4.3	2.8	2.4	2.7	2.15	2.4	3.1
14	2.9	2.6	3.05	2.8	2.5	3.6	3.0	2.6	2.25	2.25	2.25	4.6
15	2.8	2.6	3.4	2.8	2.45	4.2	3.0	2.6	2.1	2.2	2.4	7.7
16	2.75	2.55	3.45	2.65	2.5	3.6	2.75	2.4	2.2	2.2	2.3	5.7
17	2.7	2.6	3.3	2.6	2.55	3.1	2.7	2.25	2.1	2.2	2.3	4.2
18	2.7	2.65	3.0	2.65	2.55	2.75	3.2	2.9	2.05	2.2	2.3	3.5
19	2.8	2.6	2.9	2.6	2.55	2.65	3.05	3.15	2.1	2.1	2.3	3.15
20	2.8	2.6	2.85	2.7	2.5	2.6	3.0	2.65	2.05	2.1	2.5	3.0
21	2.75	2.8	2.8	2.75	2.35	2.7	2.8	2.4	2.0	2.15	2.45	2.8
22	2.7	2.65	2.8	2.7	2.35	2.95	2.6	2.3	1.95	2.1	2.7	2.8
23	2.7	2.55	2.7	3.65	2.35	2.7	2.4	3.4	2.4	2.1	4.3	6.1
24	2.6	2.6	2.7	4.6	2.35	3.9	2.4	2.3	8.0	2.2	7.0	9.8
25	2.6	2.75	2.7	4.1	2.35	3.35	2.4	2.35	4.5	2.1	6.7	6.3
26	2.6	3.4	2.6	3.35	2.5	3.05	2.3	2.3	3.1	2.1	4.4	4.2
27	2.75	3.6	2.6	3.1	2.55	2.7	2.4	2.2	2.7	2.0	3.45	3.6
28	2.7	3.25	2.65	4.2	2.55	3.15	2.4	2.2	2.6	2.25	2.95	3.3
29	2.6	.....	2.6	3.7	2.4	2.95	2.4	2.1	2.85	2.3	2.75	3.1
30	2.55	.....	2.5	3.2	2.3	5.0	2.4	2.1	3.0	2.2	2.8	3.5
31	2.6	.....	2.6	.....	2.3	.....	2.6	2.1	.....	2.2	.....	5.8
1908.												
1	4.5	2.9	3.3	3.2	4.3	2.65	2.4	2.7	2.9	2.5	4.0	2.7
2	3.65	3.3	3.4	4.0	3.55	2.6	2.5	2.5	2.85	2.3	3.45	2.75
3	3.3	3.0	3.35	4.6	3.15	2.5	4.0	2.5	2.7	2.3	3.2	2.8
4	3.1	2.7	3.3	3.75	3.0	3.3	4.6	2.4	2.65	2.35	3.1	2.7
5	3.9	2.9	3.25	3.35	3.0	6.2	5.6	2.35	2.8	2.4	3.05	2.6
6	3.8	3.0	3.8	3.2	2.9	3.8	5.4	3.0	5.7	2.3	2.95	2.7
7	5.1	3.35	3.9	3.2	3.2	3.15	4.5	3.4	5.1	2.35	2.8	3.0
8	8.3	3.15	3.4	3.15	4.1	2.95	3.8	3.05	5.1	2.35	2.85	4.8
9	6.2	3.05	3.3	3.1	3.8	2.65	3.9	2.9	4.5	2.4	2.8	3.9
10	4.2	3.0	3.3	3.0	3.3	2.7	3.9	2.9	3.35	4.0	2.8	3.2
11	3.5	3.05	3.25	3.0	3.2	2.85	3.45	2.6	3.05	6.9	2.8	3.1
12	7.4	3.95	3.4	2.95	2.95	2.85	3.0	2.7	2.65	4.2	3.1	3.35
13	9.1	6.3	3.6	2.9	3.0	3.4	2.8	2.45	2.6	3.2	3.0	3.5
14	5.7	8.15	3.4	2.9	2.8	2.9	2.75	2.5	2.6	2.8	3.2	3.15
15	4.3	8.7	3.25	2.9	2.8	2.9	2.9	2.2	2.5	2.8	5.0	3.0

[a] Records of discharge at this station prior to 1908 have been collected by engineers of the United States Geological Survey and will be republished by the North Carolina Geological Survey, Dr. J. H. Pratt, state geologist, in a bulletin entitled "Water powers of North Carolina."

Daily gage height, in feet, of Yadkin River near Salisbury, N. C., for 1907 and 1908—Continued.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1908.												
16	3.6	11.3	3.15	3.75	2.75	3.85	2.65	2.25	2.5	2.7	4.1	2.95
17	3.4	7.5	3.1	4.1	2.65	3.3	2.55	2.4	2.45	2.5	3.5	2.9
18	3.25	4.8	3.1	3.6	2.8	2.85	2.5	2.25	2.4	2.5	3.1	2.9
19	3.1	4.5	3.15	3.35	3.3	2.75	2.45	2.35	2.35	2.5	3.0	2.8
20	3.0	5.0	3.1	3.2	3.4	2.75	2.65	2.8	2.4	2.4	2.95	2.8
21	3.0	4.6	3.4	3.1	3.6	3.0	2.5	2.8	2.5	2.5	2.85	2.8
22	2.95	4.0	3.75	3.0	3.2	3.45	3.3	2.75	2.4	2.5	2.8	4.0
23	2.9	3.65	3.8	2.9	3.35	2.9	3.7	2.95	2.4	2.7	2.8	8.3
24	2.9	3.5	7.1	2.9	3.15	3.0	3.5	4.8	2.4	5.2	2.7	7.2
25	2.7	3.35	6.5	3.05	3.0	2.8	3.0	6.8	2.4	7.1	2.75	4.8
26	2.75	3.45	4.7	3.1	2.8	2.7	2.9	13.4	2.3	4.7	2.7	3.9
27	2.95	3.9	3.8	3.5	2.7	2.55	2.55	14.1	2.3	3.7	2.7	3.55
28	3.05	3.75	3.55	3.2	2.7	2.7	2.65	7.3	2.7	3.4	2.7	3.3
29	2.9	3.55	3.3	3.2	2.7	2.5	3.3	4.2	3.05	4.6	2.7	3.2
30	2.8	.....	3.25	3.0	2.8	2.4	2.8	3.5	2.9	6.2	2.7	3.1
31	2.8	.....	3.15	.....	2.8	.....	3.2	3.15	.....	5.2	.....	3.5

Rating table for Yadkin River near Salisbury, N. C., for 1907 and 1908.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*
1.90	1,460	3.30	5,390	4.70	10,840	7.00	21,700
2.00	1,680	3.40	5,740	4.80	11,270	7.20	22,720
2.10	1,910	3.50	6,100	4.90	11,710	7.40	23,760
2.20	2,150	3.60	6,460	5.00	12,150	7.60	24,800
2.30	2,400	3.70	6,830	5.20	13,040	7.80	25,860
2.40	2,660	3.80	7,210	5.40	13,940	8.00	26,940
2.50	2,930	3.90	7,590	5.60	14,860	9.00	32,780
2.60	3,210	4.00	7,980	5.80	15,800	10.00	39,300
2.70	3,500	4.10	8,370	6.00	16,750	11.00	46,080
2.80	3,790	4.20	8,770	6.20	17,710	12.00	53,000
2.90	4,090	4.30	9,170	6.40	18,690	13.00	60,000
3.00	4,400	4.40	9,580	6.60	19,680	14.00	67,100
3.10	4,720	4.50	9,990	6.80	20,680	15.00	74,200
3.20	5,050	4.60	10,410				

NOTE.—The above table is not applicable for obstructed-channel conditions. It is based on two discharge measurements made during 1907 and 1908 and on the general form of earlier rating curves. It is fairly well defined.

This table supersedes the rating table used for 1907 in the Water powers of North Carolina: Bull. North Carolina Geol. Survey (in press).

Monthly discharge of Yadkin River near Salisbury, N. C., for 1907 and 1908.

[Drainage area, 3,400 square miles.]

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area).	Accuracy.
	Maximum.	Minimum.	Mean.	Per square mile.		
1907.						
January	22,700	3,070	5,020	1.48	1.71	B.
February	6,460	3,070	3,640	1.07	1.11	B.
March	7,590	2,930	4,600	1.35	1.56	B.
April	13,000	3,210	5,230	1.54	1.72	B.
May	4,720	2,400	3,280	.965	1.11	B.
June	21,200	2,930	6,750	1.99	2.22	B.
July	7,980	2,400	3,750	1.10	1.27	B.
August	5,740	1,910	2,960	.871	1.00	B.
September	26,900	1,570	3,610	1.06	1.18	B.
October	3,500	1,680	2,260	.665	.77	B.
November	21,700	2,150	4,510	1.33	1.48	B.
December	38,000	2,530	8,210	2.41	2.78	B.
The year	38,000	1,570	4,480	1.32	17.91	

Monthly discharge of Yadkin River near Salisbury, N. C., for 1907 and 1908—Cont'd.

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area).	Accuracy.
	Maximum.	Minimum.	Mean.	Per square mile.		
1908.						
January	33,400	3,500	8,640	2.54	2.93	B.
February	48,200	3,500	10,500	3.09	3.33	B.
March	22,200	4,720	6,840	2.01	2.32	B.
April	10,400	4,090	5,360	1.58	1.76	B.
May	9,170	3,360	4,860	1.43	1.65	B.
June	17,700	2,660	4,660	1.37	1.53	B.
July	14,900	2,660	5,580	1.64	1.89	B.
August	67,800	2,150	9,120	2.68	3.09	B.
September	15,300	2,400	4,540	1.34	1.50	B.
October	22,200	2,400	6,370	1.87	2.16	B.
November	12,200	3,500	4,730	1.39	1.55	B.
December	28,600	3,210	6,600	1.94	2.24	B.
The year	67,800	2,150	6,480	1.91	25.95	

NOTE.—The above monthly discharge for 1907 supersedes the corresponding table given in Water powers of North Carolina: Bull. North Carolina Geol. Survey (in press).

MISCELLANEOUS MEASUREMENT IN YADKIN RIVER DRAINAGE BASIN.

The following miscellaneous discharge measurement was made in Yadkin River drainage basin November 13, 1908:

Yadkin River, 1,500 feet below Nottingham Power Company dam, Pedee, N. C.

Gage height referred to Rockingham Power Company's gage, 89.70 feet; discharge, 89 second-feet.

SANTEE RIVER DRAINAGE BASIN.

DESCRIPTION OF BASIN.

Santee River, which is formed by the Congaree and Wateree rivers, drains a large area beginning in the Blue Ridge Mountains in western North Carolina and extending through the central portion of South Carolina to the Atlantic Ocean. Its total length, in the general direction of the course of the river, is about 300 miles.

Wateree River, the more northerly of the two parent streams, rises on the eastern slope of the Blue Ridge Mountains in McDowell County, N. C., and flows first eastward, then in a general southeasterly direction, across North Carolina and a portion of South Carolina, to its junction with the Congaree. In North Carolina, and also that part of its course in South Carolina above Wateree Creek, it is known as Catawba River.

The Congaree, the second of the two streams which by their union make the Santee, is formed by the junction of Broad and Saluda rivers at Columbia, S. C., whence it flows in a southeasterly direction for about 60 miles to its junction with the Wateree. Broad River rises on the eastern slope of the Blue Ridge Mountains in McDowell and Henderson counties, N. C., and Saluda River rises in Pickens and Greenville counties, S. C.

The upper portion of the basin is mountainous, its extreme elevation being 3,000 to 5,000 feet for Catawba River, and from 2,000 to 3,000 feet for Broad and Saluda rivers. These upper portions, even to a much lower elevation than mentioned above, are largely covered with forests, but the greater part of the basin lies in an agricultural section where much of the land is in cultivation.

The average annual rainfall is from 45 inches in the central and lower portions to 60 inches near the headwaters.

Above the fall line, which passes near Camden and Columbia, S. C., there are excellent water powers everywhere, and many large powers have already been developed.

The following gaging stations have been maintained in this river basin:[a]

Catawba River, Old Fort, N. C., 1907.
Catawba River, Morganton, N. C., 1900–1908.
Catawba River, Catawba, N. C., 1896–1905.
Catawba River, Rockhill, S. C., 1895–1903.
Wateree River, Camden, S. C., 1904–1908.
Mill Creek, Old Fort, N. C., 1907.
Linville River, Fonta Flora, N. C., 1907–8.
Linville River, Bridgewater, N. C., 1900.
Johns River, Collettsville, N. C., 1907.
Johns River, Morganton, N. C., 1900–1901.
Broad River (of the Carolinas), Uree, N. C., 1907–8.
Broad River (of the Carolinas), Dellinger, S. C., 1900–1901.
Broad River (of the Carolinas), Gaffney, S. C., 1896–1899.
Broad River (of the Carolinas), Alston, S. C., 1896–1907.
Green River, Saluda, N. C., 1907–8.
Second Broad River, Logan's store, N. C., 1907–8.
Saluda River, Waterloo, S. C., 1896–1905.
Saluda River, Ninety-six, S. C., 1905.

CATAWBA RIVER AT OLD FORT, N. C.

The station is located at a wooden wagon bridge one-half mile south of Old Fort, and one-fourth mile above the mouth of Mill Creek. It was established May 24, 1907, and discontinued December 31, 1907.

The vertical staff gage is attached to the bridge from which discharge measurements are made. The bed of the stream is sandy and liable to shift. An approximate low-water rating has been developed.[b]

[a] All records of discharge at stations in North Carolina prior to 1908 have been collected by engineers of the United States Geological Survey and will be republished by the North Carolina Geological Survey, Dr. J. H. Pratt, state geologist, in a bulletin entitled "Water powers of North Carolina."

[b] All records of discharge at this station have been collected by engineers of the United States Geological Survey and will be republished by the North Carolina Geological Survey, Dr. J. H. Pratt, state geologist, in a bulletin entitled "Water powers of North Carolina."

Discharge measurements of Catawba River at Old Fort, N. C., in 1907.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
		Feet.	*Sq. ft.*	*Feet.*	*Sec.-ft.*
May 24	Warren E. Hall	25	34	1.00	20
May 25	do	25	35	1.03	22
July 10	do	26	30	0.93	15
Do	do	26	30	0.93	15
September 25	do	27	35	1.00	14

Daily gage height, in feet, of Catawba River at Old Fort, N. C., for 1907.

[Observer, W. A. Thomas.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1						2.4	1.1	1.1	0.9	1.0	1.0	1.0
2						2.1	1.0	1.1	.9	1.0	1.0	1.2
3						2.0	1.0	1.1	.9	1.0	1.0	1.0
4						2.4	1.0	1.1	.9	1.0	1.0	1.0
5						2.2	1.0	1.1	.9	1.0	1.0	1.0
6						2.1	1.0	1.1	.9	1.0	1.0	1.0
7						2.2	1.0	1.2	1.5	1.0	1.0	.9
8						2.1	1.0	1.1	1.4	1.0	1.0	.9
9						1.8	1.0	1.1	1.4	1.0	1.0	.9
10						1.6	1.0	1.1	1.3	1.0	1.0	.9
11						1.6	1.0	1.0	1.3	1.0	1.0	.9
12						1.4	1.1	1.0	1.2	1.0	1.0	.8
13						1.4	1.1	1.0	1.0	1.0	1.0	.8
14						1.6	1.0	1.0	1.0	1.0	1.0	1.2
15						1.4	1.1	1.1	1.0	1.0	1.0	1.6
16						1.3	1.4	1.1	1.0	1.0	1.0	1.5
17						1.2	1.2	1.2	1.0	1.0	1.0	1.4
18						1.1	1.2	1.2	1.0	1.0	1.0	1.2
19						1.1	1.1	1.1	1.0	1.0	1.0	1.1
20						1.1	1.1	1.1	1.0	1.0	1.0	1.1
21						1.1	1.1	1.0	1.0	.9	1.2	1.1
22						1.1	1.0	1.0	1.0	.9	1.1	1.1
23						1.1	1.0	1.0	2.2	.9	1.0	1.1
24					1.0	1.2	1.0	1.0	1.6	.9	1.5	1.0
25					1.1	1.1	1.2	.9	1.0	.9	1.4	1.0
26					1.1	1.1	1.1	.9	1.0	1.3	1.3	1.0
27					1.2	1.1	1.1	.9	1.0	1.3	1.2	1.0
28					1.3	1.1	1.0	.9	1.4	1.2	1.1	2.2
29					1.3	1.1	1.0	.9	1.2	1.2	1.0	2.0
30					1.2	1.1	1.1	.9	1.0	1.2	1.0	1.8
31					1.2	.....	1.1	.9	.....	1.1	.....	1.6

Daily discharge in second-feet of Catawba River at Old Fort, N. C., for 1907.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1							27	27	13	19	19	19
2							19	27	13	19	19	36
3							19	27	13	19	19	19
4							19	27	13	19	19	19
5							19	27	13	19	19	19
6							19	27	13	19	19	19
7							19	36	.....	19	19	13
8							19	27	.....	19	19	13
9							19	27	.....	19	19	13
10							19	27	46	19	19	13
11							19	19	46	19	19	13
12							27	19	36	19	19	8
13							27	19	19	19	19	8
14							19	19	19	19	19	36
15							27	27	19	19	19	.....

Daily discharge in second-feet of Catawba River at Old Fort, N. C., for 1907—Continued.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
16	.....	.....	.....	.....	.....	46	.....	27	19	19	19	.....
17	.....	.....	.....	.....	.....	36	36	36	19	19	19	.....
18	.....	.....	.....	.....	.....	27	36	36	19	19	19	36
19	.....	.....	.....	.....	.....	27	27	27	19	19	19	27
20	.....	.....	.....	.....	.....	27	27	27	19	19	19	27
21	.....	.....	.....	.....	.....	27	27	19	19	13	36	27
22	.....	.....	.....	.....	.....	27	19	19	19	13	27	27
23	.....	.....	.....	.....	.....	27	19	19	.....	13	19	27
24	.....	.....	.....	.....	19	36	19	19	.....	13	.....	19
25	.....	.....	.....	.....	27	27	36	13	19	13	.....	19
26	.....	.....	.....	.....	27	27	27	13	19	46	46	19
27	.....	.....	.....	.....	36	27	27	13	19	46	36	19
28	.....	.....	.....	.....	46	27	19	13	.....	36	27	.....
29	.....	.....	.....	.....	46	27	19	13	36	36	19	.....
30	.....	.....	.....	.....	36	27	27	13	19	36	19	.....
31	.....	.....	.....	.....	36	.....	27	13	.....	27	.....	.....

NOTE.—Daily discharge based on an approximate rating curve. Beginning May 24 the discharge for all missing days was greater than 50 second-feet.

CATAWBA RIVER NEAR MORGANTON, N. C.

This station was originally established June 19, 1900, at the highway bridge on the road from Morganton to Hartland. It is 1 mile north of Morganton and about 200 yards below the mouth of Upper Creek. In May, 1901, the river throughout this part of its course was from 8 to 15 feet higher than ever before known, and the bridge and gage were destroyed. The present station was established May 15, 1903, and has been maintained continuously to the present time, except from July 1, 1906, to January 16, 1907, when no gage reader was available, and from December 22 to 31, 1907. It is located at the bridge which was built in place of the one carried away by the flood of May, 1901.

The datum of the gage has remained the same since May 15, 1903. There is no relation between the datum of the original and the present gages. The right bank overflows slightly; the left bank does not overflow. A fairly good low-water rating has been developed, and conditions of flow are generally constant, except for relatively short periods.[a]

Discharge measurements of Catawba River near Morganton, N. C., in 1907 and 1908.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
1907.		*Feet.*	*Sq. ft.*	*Feet.*	*Sec.-ft.*
April 1	Warren E. Hall	170	550	1.93	1,230
May 21	....do	170	476	1.50	816
September 27	....do	160	560	1.58	913
1908.					
May 16	Warren E. Hall	171	521	1.72	1,060

[a] All records of discharge at this station prior to 1908 have been collected by engineers of the United States Geological Survey and will be republished by the North Carolina Geological Survey, Dr. J. H. Pratt, state geologist, in a bulletin entitled "Water powers of North Carolina."

Daily gage height, in feet, of Catawba River near Morganton, N. C., for 1907 and 1908.

[Observers, Erwin Edmonston and Oscar A. Gillam.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1	.....	1.9	1.9	2.0	1.95	9.1	1.8	1.35	1.1	1.45	1.15	1.45
2	.....	1.9	3.0	1.7	1.85	5.4	1.7	1.3	1.1	1.4	1.4	1.4
3	.....	1.85	2.3	1.6	2.05	3.35	1.65	1.25	1.1	1.35	1.4	1.4
4	.....	1.8	2.0	1.6	2.15	2.75	1.6	1.2	1.15	1.35	1.25	1.45
5	.....	2.0	1.95	1.55	2.1	2.5	1.55	1.2	1.15	1.35	1.2	1.45
6	.....	1.9	1.9	1.6	1.9	2.35	1.6	1.25	1.15	1.35	1.2	1.4
7	.....	1.8	1.9	1.6	1.85	2.2	1.5	1.2	1.15	1.3	1.15	1.4
8	.....	1.8	1.95	1.55	1.8	2.25	1.45	1.2	1.15	1.3	1.15	1.35
9	.....	1.75	1.9	1.65	1.95	2.2	1.4	1.25	1.1	1.3	1.15	3.15
10	.....	1.75	2.95	1.6	1.8	2.2	1.35	1.3	1.1	1.25	1.35	2.1
11	.....	1.7	2.35	1.65	1.85	2.15	1.65	1.25	1.1	1.25	1.25	1.9
12	.....	1.7	2.1	1.65	1.8	2.15	1.7	1.25	2.4	1.25	1.25	1.85
13	.....	1.7	2.0	1.65	1.7	2.1	5.5	1.3	2.1	1.2	1.2	1.75
14	.....	1.7	2.3	1.65	1.7	2.2	3.5	1.25	1.75	1.2	1.2	6.0
15	.....	1.7	2.1	1.65	1.7	2.1	2.0	1.25	1.5	1.2	1.2	3.6
16	2.0	1.65	1.9	1.6	1.65	1.9	1.9	1.2	1.25	1.2	1.15	2.9
17	1.95	1.7	1.85	1.6	1.6	1.8	1.7	1.3	1.1	1.15	1.35	2.6
18	1.95	1.65	1.8	1.6	1.55	1.6	1.75	1.9	1.1	1.15	1.3	2.0
19	1.9	1.65	1.8	2.0	1.5	1.6	1.65	1.65	1.05	1.15	1.3	1.9
20	1.85	1.7	1.8	1.75	1.5	1.7	1.5	1.3	1.05	1.15	1.3	1.8
21	1.8	1.65	1.75	1.65	1.5	1.65	1.45	1.25	1.05	1.15	2.05	1.75
22	1.8	1.6	1.8	1.7	1.45	1.6	1.4	1.8	1.05	1.15	1.9	.....
23	1.8	1.6	1.7	3.0	1.45	1.65	1.35	1.5	9.9	1.15	3.0	.....
24	1.75	1.85	1.65	2.35	1.45	2.3	1.55	1.5	2.95	1.15	4.2	.....
25	1.7	1.8	1.65	2.05	1.7	2.0	1.5	1.4	2.05	1.15	2.1	.....
26	1.8	1.9	1.65	1.9	1.7	1.8	1.4	1.3	1.75	1.15	1.9	.....
27	1.8	1.9	1.6	2.15	1.7	1.7	1.35	1.2	1.6	1.35	1.7	.....
28	1.75	2.05	1.6	2.4	1.6	2.15	1.35	1.2	1.65	1.25	1.6	.....
29	1.7	.....	1.6	2.2	1.45	2.35	1.35	1.2	1.6	1.2	1.5	.....
30	1.75	.....	1.6	2.05	1.45	1.9	1.4	1.15	1.6	1.15	1.5	.....
31	1.75	.....	.....	.....	1.75	.....	1.4	1.1	.....	1.15	.....	.....
1908.												
1	2.6	1.6	2.55	2.0	2.0	2.0	2.0	1.8	3.9	1.55	6.0	1.75
2	2.3	1.65	2.4	2.0	1.85	1.95	2.55	1.9	3.9	1.55	5.9	1.75
3	2.1	1.7	2.3	1.95	1.75	2.0	3.0	1.95	3.85	1.5	5.8	1.75
4	2.0	1.75	2.4	1.95	1.65	2.05	3.5	1.9	3.8	1.45	5.6	1.8
5	2.5	1.8	2.3	1.95	3.55	2.05	4.0	1.9	3.8	1.45	5.5	1.8
6	2.1	1.8	2.3	1.95	2.85	2.0	3.05	1.9	3.6	1.45	5.3	1.8
7	2.6	1.8	2.3	1.8	2.5	2.0	2.8	2.0	3.55	1.4	5.0	1.8
8	2.3	1.85	2.25	1.8	2.3	2.05	2.55	2.05	3.4	1.4	4.5	1.9
9	2.05	1.85	2.1	1.75	2.15	2.0	2.55	2.95	3.35	2.5	4.2	1.9
10	1.9	1.9	2.1	1.7	2.05	2.0	2.4	2.95	3.3	2.4	4.0	1.95
11	2.7	2.0	2.15	1.65	1.95	1.95	2.2	2.95	3.25	2.25	3.5	1.95
12	10.2	2.5	2.4	1.65	1.9	1.95	1.9	2.9	3.25	2.15	3.2	2.0
13	7.8	2.5	2.25	1.6	1.85	1.9	1.9	2.0	3.15	2.0	2.0	1.95
14	4.4	6.0	2.15	2.4	1.8	1.9	1.9	2.25	3.15	2.0	1.9	1.9
15	2.9	12.0	2.0	2.35	1.8	1.8	1.85	2.1	3.0	2.95	1.9	1.85
16	2.5	4.6	2.0	2.3	1.75	1.8	1.85	2.0	2.9	2.9	1.9	1.8
17	2.35	3.6	1.95	2.2	1.75	1.75	1.8	2.0	2.85	2.85	1.9	1.75
18	2.35	3.3	1.95	2.1	1.75	1.7	1.8	2.95	2.7	2.75	1.85	1.7
19	2.35	3.0	1.9	2.0	2.5	1.8	1.8	2.95	2.75	2.7	1.85	1.7
20	2.05	2.8	2.2	1.9	2.35	1.9	1.95	2.5	2.6	2.6	1.85	1.65
21	2.0	2.6	2.5	1.8	2.25	1.95	1.95	2.3	2.5	2.4	1.85	3.9
22	1.95	2.4	2.75	1.75	2.25	2.0	1.9	3.0	2.4	2.35	1.8	2.7
23	1.8	2.3	3.0	1.75	2.55	1.85	1.8	4.0	2.2	9.5	1.8	2.4
24	1.75	2.35	3.9	1.6	2.35	1.7	1.8	4.6	2.15	9.0	1.7	2.25
25	1.6	2.35	3.6	3.5	2.0	1.7	1.7	11.2	2.15	8.4	1.7	.....
26	1.7	2.45	3.4	2.75	1.85	1.65	1.8	14.8	1.85	8.5	1.7	.....
27	1.8	2.45	3.25	2.5	1.85	1.65	1.9	5.7	1.75	8.2	1.7	2.25
28	1.8	2.5	3.0	2.25	1.9	1.65	1.8	4.8	1.65	7.8	1.65	2.35
29	1.7	2.5	2.75	2.0	1.85	1.65	1.8	4.2	1.6	7.5	1.65	2.3
30	1.6	.....	2.4	2.5	2.0	1.5	1.8	4.0	1.5	7.4	1.65	2.25
31	1.55	.....	3.0	.....	2.0	.....	1.9	3.95	.....	7.0	.....	2.05

NOTE.—August 26, 1908, the highest recorded gage height was 22.0 feet, which is the highest recorded since the reestablishment of the station in 1903. The stage of the flood of May, 1901, was, however, nearly twice as high.

Rating table for Catawba River near Morganton, N. C., for 1906, 1907, and 1908.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*
1.00	400	2.40	1,900	3.80	3,800	6.40	8,540
1.10	470	2.50	2,030	3.90	3,950	6.60	8,960
1.20	550	2.60	2,160	4.00	4,100	6.80	9,380
1.30	640	2.70	2,290	4.20	4,400	7.00	9,800
1.40	740	2.80	2,420	4.40	4,710	8.00	12,000
1.50	840	2.90	2,550	4.60	5,040	9.00	14,300
1.60	950	3.00	2,680	4.80	5,390	10.00	16,600
1.70	1,060	3.10	2,810	5.00	5,750	11.00	19,000
1.80	1,180	3.20	2,940	5.20	6,110	12.00	21,400
1.90	1,300	3.30	3,080	5.40	6,490	13.00	23,900
2.00	1,420	3.40	3,220	5.60	6,880	14.00	26,400
2.10	1,540	3.50	3,360	5.80	7,280	15.00	28,900
2.20	1,660	3.60	3,500	6.00	7,700		
2.30	1,780	3.70	3,650	6.20	8,120		

NOTE.—The above table is not applicable for obstructed-channel conditions. It is based on 30 discharge measurements made during 1903 to 1908, and is well defined below gage height 2 feet. Above 2 feet the rating is based on a measurement at 4.36 feet and at the higher stages is only approximate.

Monthly discharge of Catawba River near Morganton, N. C., for 1907 and 1908.

[Drainage area, 758 square miles.]

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area).	Accuracy.
	Maximum.	Minimum.	Mean.	Per square mile.		
1907.						
January 16–31	1,420	1,060	1,200	1.58	0.94	A.
February	1,480	950	1,150	1.52	1.58	A.
March	2,680	950	1,350	1.78	2.05	A.
April	2,680	895	1,210	1.60	1.78	A.
May	1,600	790	1,090	1.44	1.66	A.
June	14,500	950	2,120	2.80	3.12	B.
July	6,680	690	1,170	1.54	1.78	A.
August	1,300	470	664	.876	1.01	A.
September	16,400	435	1,320	1.74	1.94	A.
October	790	510	585	.772	.89	A.
November	4,400	510	942	1.24	1.38	A.
December 1–21	7,700	690	1,670	2.20	1.72	B.
1908.						
January	17,100	895	2,480	3.27	3.77	B.
February	21,400	950	2,770	3.65	3.94	B.
March	3,950	1,300	2,050	2.70	3.11	B.
April	3,360	950	1,480	1.95	2.18	B.
May	3,430	1,000	1,540	2.03	2.34	B.
June	1,480	840	1,250	1.65	1.84	A.
July	4,100	1,060	1,650	2.18	2.51	B.
August	28,400	1,180	3,950	5.21	6.01	B.
September	3,950	840	2,530	3.34	3.73	B.
October	15,400	740	4,710	6.21	7.16	B.
November	7,700	1,000	2,960	3.91	4.36	B.
December	3,950	1,000	1,480	1.95	2.25	B.
The year	28,400	740	2,400	3.17	43.20	

NOTE.—Discharge interpolated December 25 and 26, 1908.

WATEREE RIVER NEAR CAMDEN, S. C.

This station has been maintained by the United States Weather Bureau since 1891 at the toll bridge about 2 miles west of Camden. Camden is located about 45 miles above the mouth of Wateree River and about 5 miles below the fall line. The United States

Geological Survey has published records of discharge since August 12, 1904. The flood of August, 1908, washed out the bridge and both the United States Geological Survey gage and the United States Weather Bureau gage. A new gage was established September 1, 1908, but records of gage height since that date are withheld, pending the determination of the relation between the original and present gages.

There is some uncertainty regarding the datum to which the gage heights were referred prior to the establishment of the chain gage August, 1904. Conditions of flow are favorable for a good rating and very little shift in river bed has occurred since discharge measurements have been made at this point. Both banks are high, but are liable to overflow at times of extreme floods. The river below has a very small slope, which is unfavorable for good rating at high stages, as the position of the flood crest will greatly affect the slope.[a]

The following discharge measurement was made:

March 14, 1907: Width, 287 feet; area, 3,170 square feet; gage height, 8 feet; discharge, 5,660 second-feet.

Daily gage height, in feet, of Wateree River near Camden, S. C., for 1907 and 1908.

[Observer, H. Arthur Brown.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1	14.6	5.95	11.6	5.55	8.6	12.8	11.6	9.2	4.2	9.2	4.05	8.2
2	20.0	6.4	11.7	7.3	7.8	23.8	10.4	7.0	3.65	6.6	4.15	7.9
3	18.0	7.2	10.8	7.0	7.3	25.3	12.6	5.9	4.0	5.95	3.7	6.8
4	13.0	7.6	10.4	6.9	9.6	23.0	10.8	7.3	4.5	5.4	3.75	5.95
5	10.8	15.9	10.7	6.0	8.9	17.5	7.0	5.25	5.85	4.7	4.1	5.6
6	9.4	15.5	10.0	6.0	7.4	12.0	7.4	5.9	5.1	4.2	4.35	5.3
7	8.6	10.8	8.2	5.45	8.6	9.4	5.9	5.25	5.25	3.7	4.65	5.05
8	9.2	9.0	7.5	5.3	7.5	8.0	5.65	4.45	4.1	4.45	4.6	4.55
9	8.5	8.2	7.7	7.9	8.1	7.0	6.4	4.45	3.8	4.55	4.0	4.75
10	8.4	7.3	7.5	7.5	8.9	6.5	5.7	8.6	4.4	4.55	3.45	7.6
11	7.9	6.8	7.0	6.6	8.8	9.4	5.3	8.1	5.35	4.45	4.6	11.7
12	7.8	8.0	7.7	6.2	8.1	13.4	5.55	8.1	7.5	4.35	4.25	10.2
13	7.4	7.6	7.8	5.9	7.2	15.6	6.0	7.0	6.4	3.75	4.2	10.0
14	6.6	6.8	7.8	5.9	7.2	14.7	6.2	5.65	6.4	3.5	4.35	19.0
15	8.2	6.8	8.2	5.1	6.4	12.9	13.3	5.6	5.2	3.8	4.25	27.0
16	7.5	6.6	11.6	6.0	6.2	9.4	13.7	6.4	4.3	3.8	4.05	27.0
17	7.2	6.1	9.8	5.9	6.2	7.6	10.9	6.2	4.5	4.35	3.55	21.2
18	6.5	5.75	8.0	6.2	5.85	7.6	8.4	8.5	4.75	4.45	3.6	14.8
19	6.4	6.8	8.7	7.0	5.55	6.6	7.6	8.4	4.45	4.45	4.65	11.6
20	6.4	7.2	7.6	8.0	4.7	6.4	7.4	7.8	3.8	3.15	5.45	9.4
21	6.2	10.0	7.2	6.4	5.8	6.4	6.2	6.6	3.35	2.55	5.0	7.6
22	6.8	8.8	6.9	6.1	5.5	6.2	5.4	5.75	3.85	3.9	5.95	7.2
23	6.6	7.6	6.7	13.6	5.5	5.6	6.1	6.8	4.9	4.55	19.8	18.6
24	6.5	7.4	5.8	18.4	5.4	5.8	5.2	9.2	8.8	4.25	23.8	28.5
25	6.5	7.8	5.65	15.6	5.6	9.1	5.4	13.4	20.5	4.55	25.0	28.1
26	5.7	10.7	7.1	11.8	5.5	9.2	7.7	9.4	15.2	4.05	21.4	23.0
27	6.4	10.8	6.4	9.6	7.7	7.6	10.0	7.0	9.2	3 25	14.9	16.0
28	4.8	11.0	6.8	9.0	8.6	12.1	9.0	5.45	7.3	3.2	10.2	12.5
29	7.5	.....	6.1	8.4	7.8	15.6	9.4	5.2	13.5	3.75	8.8	10.3
30	6.5	.....	6.1	10.4	6.4	15.5	8.5	4.75	13.7	4.9	10.6	20.8
31	5.4	.....	5.6	.....	6.0	.....	9.0	4.6	.....	4.15	.....	27.2

[a] All records of discharge at this station prior to 1908 have been collected by engineers of the United States Geological Survey and will be republished by the North Carolina Geological Survey, Dr. J. H. Pratt, state geologist, in a bulletin entitled "Water powers of North Carolina."

Daily gage height, in feet, of Wateree River near Camden, S. C., for 1907 and 1908—Continued.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1908.												
1	25.0	17.7	11.2	10.2	8.6	7.9	5.0	10.6				
2	20.1	23.4	11.0	9.8	7.6	7.6	6.8	8.5				
3	14.8	18.8	10.8	9.5	8.9	7.0	9.6	7.4				
4	12.0	13.8	10.6	8.6	8.3	6.4	16.6	6.2				
5	14.6	10.2	10.5	8.9	8.2	6.4	17.8	6.7				
6	19.5	9.4	10.3	9.4	7.6	7.4	23.0	6.2				
7	20.1	9.8	10.4	9.6	7.6	7.6	21.0	7.5				
8	27.8	10.0	10.0	9.0	7.4	7.8	17.0	10.0				
9	27.6	9.3	10.2	9.6	8.4	7.6	15.2	12.8				
10	21.0	9.6	10.4	8.5	10.0	6.8	15.1	13.0				
11	16.6	17.8	10.2	8.2	9.1	6.8	15.5	9.4				
12	27.4	24.5	10.6	8.1	7.8	6.2	11.3	7.3				
13	29.3	26.4	14.9	8.0	7.4	6.8	9.6	6.7				
14	28.5	27.0	13.7	8.0	7.4	7.5	8.6	6.4				
15	22.9	27.5	10.8	8.0	7.4	8.2	6.9	5.45				
16	17.7	28.6	10.2	9.0	6.9	8.8	8.1	5.2				
17	14.4	28.7	10.0	10.0	6.7	8.4	7.3	6.2				
18	12.3	25.1	9.4	11.4	7.4	8.8	6.2	7.1				
19	11.2	20.8	9.0	10.4	7.7	7.8	5.9	6.45				
20	11.4	22.8	9.1	10.0	9.4	6.6	6.2	8.85				
21	10.8	21.2	16.5	9.6	11.0	6.8	7.3	9.55				
22	10.1	16.8	16.8	8.6	11.4	10.8	6.4	12.4				
23	9.8	14.0	16.4	8.2	8.8	9.0	8.7					
24	9.1	12.8	26.1	8.1	7.8	8.9	9.0					
25	8.8	12.0	28.3	7.8	8.3	10.8	10.2					
26	8.3	11.6	24.7	7.8	8.5	11.9	8.7					
27	9.2	12.0	19.0	9.6	7.8	10.6	9.7					
28	11.6	12.3	14.8	10.8	7.4	8.0	9.2					
29	11.0	12.4	12.4	10.0	6.9	7.0	7.6					
30	9.4		11.4	8.7	7.2	7.2	8.2					
31	8.3		11.9		7.0		9.2					

NOTE.—Bridge and gage washed away by the flood of August, 1908. Maximum stage reached August 27, 1908, was 38.4 feet, which is the highest recorded since the establishment of this station.

Rating table for Wateree River near Camden, S. C., from September 11, 1904, to August 22, 1908.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*
2.50	650	4.30	2,170	6.20	3,880	13.00	10,420
2.60	730	4.40	2,260	6.40	4,060	14.00	11,420
2.70	810	4.50	2,350	6.60	4,245	15.00	12,420
2.80	890	4.60	2,440	6.80	4,435	16.00	13,520
2.90	970	4.70	2,530	7.00	4,625	17.00	14,620
3.00	1,050	4.80	2,620	7.20	4,815	18.00	15,720
3.10	1,135	4.90	2,710	7.40	5,005	19.00	16,820
3.20	1,220	5.00	2,800	7.60	5,195	20.00	17,920
3.30	1,305	5.10	2,890	7.80	5,385	21.00	19,120
3.40	1,390	5.20	2,980	8.00	5,575	22.00	20,320
3.50	1,475	5.30	3,070	8.20	5,765	23.00	21,520
3.60	1,560	5.40	3,160	8.40	5,955	24.00	22,720
3.70	1,645	5.50	3,250	8.60	6,145	25.00	23,920
3.80	1,730	5.60	3,340	8.80	6,335	26.00	25,220
3.90	1,815	5.70	3,430	9.00	6,525	27.00	26,520
4.00	1,900	5.80	3,520	10.00	7,475	28.00	27,820
4.10	1,990	5.90	3,610	11.00	8,425	29.00	29,120
4.20	2,080	6.00	3,700	12.00	9,420	30.00	30,420

NOTE.—The above table is not applicable for obstructed-channel conditions. It is based on 15 discharge measurements made during 1904 to 1908 and is well defined between gage heights 3.5 feet and 16 feet.

Monthly discharge of Wateree River near Camden, S. C., for 1907 and 1908.

[Drainage area, 4,500 square miles.]

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area).	Accuracy.
	Maximum.	Minimum.	Mean.	Per square mile.		
1907.						
January	17,900	2,620	6,050	1.34	1.54	A.
February	13,400	3,480	6,020	1.34	1.40	A.
March	9,120	3,340	5,660	1.26	1.45	A.
April	16,200	2,890	5,530	1.23	1.37	A.
May	7,100	2,530	4,690	1.04	1.20	A.
June	24,300	3,340	9,070	2.02	2.25	A.
July	11,100	2,980	5,650	1.26	1.45	A.
August	10,800	2,300	4,540	1.01	1.16	A.
September	18,500	1,350	4,360	.969	1.08	A.
October	6,720	[a] 690	2,280	.507	.58	A.
November	23,900	1,430	5,530	1.23	1.37	A.
December	28,500	2,400	11,700	2.60	3.00	A.
The year	28,500	[a] 690	5,920	1.32	17.85	
1908.						
January	29,500	5,860	14,200	3.16	3.64	A.
February	28,700	6,810	15,500	3.44	3.71	A.
March	28,200	6,520	10,900	2.42	2.79	A.
April	8,820	5,380	6,630	1.47	1.64	A.
May	8,820	4,340	5,690	1.26	1.45	A.
June	9,320	3,880	5,560	1.24	1.38	A.
July	21,500	2,800	8,160	1.81	2.09	A.

[a] The excessively low discharge for October, 1907, was due to storage above the station and not to natural flow.

MILL CREEK AT OLD FORT, N. C.

The station is located at the footbridge in Old Fort, N. C., a short distance above the mouth of the creek. It was established May 24, 1907, and discontinued December 31, 1907.

The vertical staff gage is located about 500 feet above the footbridge, from which discharge measurements are made. Conditions of flow are probably changeable. An approximate low-water rating has been developed. [a]

Discharge measurements of Mill Creek at Old Fort, N. C., in 1907.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
		Feet.	*Sq. ft.*	*Feet.*	*Sec.-ft.*
May 24	Warren E. Hall	25	27	1.50	[b] 26
May 25	do	45	44	1.52	[c] 33
Do	do	25	28	1.52	[b] 35
July 10	do	25	25	1.50	[b] 28
Do	do	25	26	1.50	[b] 26
September 25	do	25	22	1.44	[b] 21

[a] All records of discharge at this station have been collected by engineers of the United States Geological Survey and will be republished by the North Carolina Geological Survey, Dr. J. H. Pratt, state geologist, in a bulletin entitled "Water powers of North Carolina."

[b] Measurement made at footbridge.

[c] Measurement made at wagon bridge.

Daily gage height, in feet, of Mill Creek at Old Fort, N. C., for 1907.

[Observer, W. A. Thomas.]

Day.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	.....	2.6	1.7	1.6	1.1	1.6	1.6	1.6
2	.....	2.4	1.7	1.6	1.1	1.6	1.6	1.8
3	.....	2.4	1.7	1.5	1.1	1.5	1.6	1.6
4	.....	1.2	1.7	1.5	1.1	1.5	1.6	1.6
5	.....	1.8	1.7	1.5	1.1	1.5	1.6	1.6
6	.....	2.2	1.7	1.5	1.1	1.5	1.6	1.5
7	.....	1.6	1.6	1.6	1.7	1.5	1.6	1.5
8	.....	1.6	1.6	1.5	1.4	1.5	1.6	1.5
9	.....	1.7	1.5	1.5	1.2	1.5	1.6	1.5
10	.....	1.7	1.5	1.5	1.1	1.5	1.6	1.4
11	.....	1.8	1.6	1.4	1.1	1.5	1.6	1.4
12	.....	1.8	1.4	1.4	1.1	1.5	1.6	1.4
13	.....	1.7	1.2	1.4	1.0	1.4	1.6	1.4
14	.....	1.7	1.2	1.4	1.0	1.4	1.6	1.8
15	.....	1.7	1.1	1.5	1.0	1.4	1.6	2.2
16	.....	1.7	1.4	1.4	1.0	1.4	1.6	2.0
17	.....	1.7	1.2	1.6	1.0	1.4	1.6	2.0
18	.....	1.7	1.6	1.6	1.0	1.4	1.6	1.8
19	.....	1.7	1.6	1.5	1.0	1.4	1.6	1.6
20	.....	1.7	1.6	1.5	1.0	1.4	1.6	1.6
21	.....	1.7	1.6	1.5	1.0	1.4	1.8	1.5
22	.....	1.7	1.5	1.4	2.2	1.4	1.7	1.4
23	.....	1.7	1.5	1.4	2.0	1.4	1.6	1.4
24	1.5	1.8	1.5	1.4	1.6	1.4	2.1	1.4
25	1.5	1.7	1.7	1.3	1.5	1.8	2.0	1.4
26	1.5	1.7	1.6	1.3	1.4	1.8	1.9	1.4
27	1.5	1.7	1.6	1.3	1.0	1.7	1.8	1.4
28	1.4	1.7	1.6	1.2	1.8	1.7	1.7	2.6
29	1.4	1.7	1.6	1.2	1.7	1.7	1.6	2.4
30	1.4	1.7	1.7	1.2	1.6	1.7	1.6	2.1
31	2.6	.....	1.7	1.1	.....	1.6	.....	1.8

Daily discharge, in second-feet, of Mill Creek at Old Fort, N. C., for 1907.

Day.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	.....	.....	44	35	8	35	35	35
2	.....	.....	44	35	8	35	35	55
3	.....	.....	44	27	8	27	35	35
4	.....	11	44	27	8	27	35	35
5	.....	55	44	27	8	27	35	35
6	.....	.....	44	27	8	27	35	27
7	.....	35	35	35	44	27	35	27
8	.....	35	35	27	20	27	35	27
9	.....	44	27	27	11	27	35	27
10	.....	44	27	27	8	27	35	20
11	.....	55	35	20	8	27	35	20
12	.....	55	20	20	8	27	35	20
13	.....	44	11	20	5	20	35	20
14	.....	44	11	20	5	20	35	55
15	.....	44	8	27	5	20	35	.....
16	.....	44	20	20	5	20	35	80
17	.....	44	11	35	5	20	35	80
18	.....	44	35	35	5	20	35	55
19	.....	44	35	27	5	20	35	35
20	.....	44	35	27	5	20	35	35
21	.....	44	35	27	5	20	55	27
22	.....	44	27	20	.....	20	44	20
23	.....	44	27	20	.....	20	35	20
24	27	55	27	20	35	20	.....	20
25	27	44	44	15	27	55	80	20
26	27	44	35	15	20	55	67	20
27	27	44	35	15	5	44	55	20
28	20	44	35	11	55	44	44	.....
29	20	44	35	11	44	44	35	.....
30	20	44	44	11	35	44	35	.....
31	.....	.....	44	8	.....	35	.....	55

NOTE.—Daily discharges are based on a poorly defined rating curve. Beginning with May 24 the discharge was greater than 90 second-feet for all missing days.

LINVILLE RIVER AT FONTA FLORA, N. C.

The station is located at a footbridge one-half mile east of Fonta Flora and about 6 miles above the mouth of the river, which is a tributary of Catawba River. It was established May 20, 1907, and discontinued December 31, 1908.

The vertical staff gage is located about 1,200 feet above the footbridge, where the discharge measurements are made. It was washed out August 27, 1908, and replaced by the observer October 6, 1908. On the basis of discharge comparisons with other stations the gage heights October to December, 1908, appear to be slightly low. Measuring conditions appear to be fairly good, and a fair low-water rating has been developed.[a]

Discharge measurements of Linville River at Fonta Flora, N. C., in 1907 and 1908.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
1907.		*Feet.*	*Sq. ft.*	*Feet.*	*Sec.-ft.*
May 21	Warren E. Hall	50	41	1.00	[b] 91
Do	....do	50	41	1.00	[b] 91
July 8	....do	94	176	1.05	[c] 107
September 26	....do	89	90	1.20	[d] 160
September 27	....do	84	81	1.13	[d] 136
1908.					
May 15	Warren E. Hall	85	82	1.18	[d] 141
May 16	....do	85	82	1.08	[d] 129

[a] All records of discharge at this station prior to 1908 have been collected by engineers of the United States Geological Survey and will be republished by the North Carolina Geological Survey, Dr. J. H. Pratt, state geologist, in a bulletin entitled "Water powers of North Carolina."

[b] Measurement made at old bridge.

[c] Measurement made at gage by wading.

[d] Measurement made at new bridge.

Daily gage height, in feet, of Linville River at Fonta Flora, N. C., for 1907 and 1908.

[Observer, W. P. Hemphill.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1						4.0	1.1	1.0	0.8	1.1	0.8	1.1
2						2.5	1.1	1.0	.8	1.1	1.0	1.1
3						1.8	1.2	1.0	.8	1.1	1.0	1.1
4						1.5	1.1	.9	.75	1.05	1.0	1.1
5						1.5	1.1	.9	.75	1.05	1.0	1.1
6						1.2	1.1	.9	.8	.9	1.0	1.05
7						1.2	1.1	.9	.8	.9	1.0	1.05
8						1.2	1.05	.9	.8	.9	1.0	1.05
9						1.5	1.05	.9	.8	.9	1.0	1.1
10						1.5	1.0	.9	.8	.85	1.0	1.7
11						1.2	1.0	.9	1.2	.85	1.0	1.6
12						1.2	1.0	.9	1.0	.9	1.0	1.6
13						1.3	1.0	.9	1.0	.9	1.0	1.6
14						1.2	2.5	.9	1.0	.9	1.0	1.7
15						1.2	2.3	.8	.8	.9	1.0	1.6
16						1.1	2.4	.8	.8	.9	1.0	1.55
17						1.1	1.1	.8	.8	.9	1.0	1.5
18						1.1	1.2	1.2	.8	.9	1 05	1.5
19						1.1	1.2	1.1	.8	.9	1.1	1.4
20					1.0	1.0	1.1	1.0	.8	.8	1.1	1.3
21					1.0	1.1	1.15	1.0	.8	.8	1.2	1.2
22					1.0	1.1	1.1	.9	.8	.8	1.25	1.2
23					1.0	1.1	1.1	.9	4.0	.8	1.3	3.0
24					1.0	1.2	1.1	1.2	2.0	.8	1.3	2.5
25					1.0	1.2	1.1	1.0	1.5	.8	1.25	1.7
26					1.1	1.2	1.1	1.0	1.1	.8	1.2	1.5
27					1.1	1.2	1.0	.9	1.1	.85	1.2	1.5
28					1.0	1.5	1.0	.9	1.15	.8	1.15	1.55
29					1.0	1.2	1.0	.9	1.2	.8	1.15	1.55
30					1.0	1.2	1.05	.8	1.1	.8	1.1	1.8
31					1.0	.....	1.0	.8	.....	.8	.....	1.6
1908.												
1	1.5	1.1	1.5	1.3	1.4	1.15	1.2	1.4	.....	.....	1.7	.9
2	1.45	1.1	1.5	1.3	1.3	1.1	1.3	1.3	.....	.....	1.5	.9
3	1.4	1.1	1.5	1.3	1.3	1.1	1.7	1.2	.....	.....	1.4	.9
4	1.3	1.1	1.5	1.3	1.3	1.1	1.7	1.2	.....	.....	1.2	.9
5	1.5	1.1	1.55	1.3	1.3	1.3	1.8	1.3	.....	.....	1.2	.9
6	1.4	1.2	1.6	1.25	1.3	1.2	1.7	1.3	.....	.8	1.2	1.0
7	1.35	1.2	1.6	1.2	1.5	1.1	1.6	1.3	.....	.8	1.15	1.5
8	1.3	1.2	1.55	1.2	1.5	1.1	1.6	1.2	.....	.75	1.1	1.4
9	1.3	1.2	1.5	1.2	1.5	1.1	2.0	1.2	.....	1.1	1.1	1.3
10	1.4	1.3	1.5	1.2	1.4	1.1	1.6	1.2	.....	2.2	1.1	1.2
11	1.5	1.3	1.5	1.2	1.3	1.1	1.5	1.15	.....	1.5	1.05	1.0
12	4.0	2.2	1.5	1.2	1.3	1.3	1.4	1.1	.....	1.2	1.0	1.0
13	2.0	2.5	1.5	1.15	1.25	1.2	1.3	1.1	.....	1.1	1.0	1.0
14	1.7	2.3	1.45	1.15	1.2	1.1	1.3	1.1	.....	1.1	1.0	1.0
15	1.6	5.3	1.35	1.1	1.2	2.0	1.2	1.3	.....	1.1	1.0	1.0
16	1.6	2.0	1.2	1.7	1.15	1.5	1.2	1.1	.....	1.1	1.0	1.0
17	1.5	1.9	1.2	1.5	1.15	1.3	1.1	1.1	.....	1.0	1.0	1.0
18	1.5	1.8	1.2	1.5	1.1	1.1	1.1	1.35	.....	1.05	1.0	1.0
19	1.4	1.6	1.2	1.4	1.4	1.1	1.1	1.15	.....	1.05	1.0	1.0
20	1.3	1.5	1.2	1.35	1.3	1.1	1.1	1.2	.....	1.0	1.0	1.0
21	1.3	1.45	1.3	1.2	1.2	1.7	1.1	1.3	.....	1.0	1.0	1.0
22	1.3	1.4	1.3	1.2	1.2	1.6	1.1	1.2	.....	2.0	1.0	1.5
23	1.3	1.3	1.5	1.15	1.2	1.5	1.1	1.7	.....	7.0	1.0	1.4
24	1.25	1.3	1.5	1.1	1.2	1.4	1.05	1.5	.....	4.0	1.05	1.3
25	1.2	1.3	1.5	3.0	1.2	1.3	1.1	4.5	.....	2.0	1.05	1.2
26	1.15	1.3	1.5	2.0	1.2	1.3	1.1	4.0	.....	1.8	1.0	1.1
27	1.15	1.25	1.45	1.8	1.2	1.2	1.1	.....	.....	1.8	1.0	1.0
28	1.15	1.2	1.4	1.7	1.2	1.2	1.7	.....	.....	1.5	1.0	1.0
29	1.1	1.2	1.3	1.5	1.3	1.15	1.8	.....	.....	2.2	.9	1.0
30	1.1	.....	1.3	1.5	1.2	1.1	1.8	.....	.....	2.0	.9	1.0
31	1.1	.....	1.3	.....	1.2	.....	1.5	.....	.....	1.8	.....	1.0

Daily discharge, in second-feet, of Linville River at Fonta Flora, N. C., for 1907 and 1908.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1							124	96	50	124	50	124
2							124	96	50	124	96	124
3							156	96	50	124	96	124
4						275	124	72	40	110	96	124
5						275	124	72	40	110	96	124
6						156	124	72	50	72	96	110
7						156	124	72	50	72	96	110
8						156	110	72	50	72	96	110
9						275	110	72	50	72	96	124
10						275	96	72	50	61	96	
11						156	96	72	156	61	96	
12						156	96	72	96	72	96	
13						190	96	72	96	72	96	
14						156		72	96	72	96	
15						156		50	50	72	96	
16						124		50	50	72	96	
17						124	124	50	50	72	96	275
18						124	156	156	50	72	110	275
19						124	156	124	50	72	124	230
20					96	96	124	96	50	50	124	190
21					96	124	140	96	50	50	156	156
22					96	124	124	72	50	50	173	156
23					96	124	124	72		50	190	
24					96	156	124	156		50	190	
25					96	156	124	96	275	50	173	
26					124	156	124	96	124	50	156	275
27					124	156	96	72	124	61	156	275
28					96	275	96	72	140	50	140	
29					96	156	96	72	156	50	140	
30					96	156	110	50	124	50	124	
31					96		96	50		50		
1908.												
1	275	124	275	190	230	140	156	230				72
2	252	124	275	190	190	124	190	190			275	72
3	230	124	275	190	190	124		156			230	72
4	190	124	275	190	190	124		156			156	72
5	275	124		190	190	190		190			156	72
6	230	156		173	190	156		190		50	156	96
7	210	156		156	275	124		190		50	140	275
8	190	156		156	275	124		156		40	124	230
9	190	156	275	156	275	124		156		124	124	190
10	230	190	275	156	230	124		156			124	156
11	275	190	275	156	190	124	275	140		275	110	96
12			275	156	190	190	230	124		156	96	96
13			275	140	173	156	190	124		124	96	96
14			252	140	156	124	190	124		124	96	96
15			210	124	156		156	190		124	96	96
16			156		140	275	156	124		124	96	96
17	275		156	275	140	190	124	124		96	96	96
18	275		156	275	124	124	124	210		110	96	96
19	230		156	230	230	124	124	140		110	96	96
20	190	275	156	210	190	124	124	156		96	96	96
21	190	252	190	156	156		124	190		96	96	96
22	190	230	190	156	156		124	156			96	275
23	190	190	275	140	156	275	124				96	230
24	173	190	275	124	156	230	110	275			110	190
25	156	190	275		156	190	124				110	156
26	140	190	275		156	190	124				96	124
27	140	173	252		156	156	124				96	96
28	140	156	230		156	156				275	96	96
29	124	156	190	275	190	140					72	96
30	124		190	275	156	124					72	96
31	124		190		156		275					96

NOTE.—Daily discharges for 1907 and 1908 are based on a rating curve which is fairly well defined between gage heights 0.9 foot and 1.4 feet. Beginning May 20, 1907, the discharge was greater than 320 second-feet for all missing days, except August 27 to October 5, 1908, when no gage heights were recorded.

JOHNS RIVER AT COLLETTSVILLE, N. C.

The station is located at a footlog, in the town of Collettsville, a short distance above the mouth of Mulberry Creek. It was established May 25, 1907, and was discontinued July 31, 1907. An approximate low-water rating has been developed.[a]

Discharge measurements of Johns River at Collettsville, N. C., in 1907.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
		Feet.	*Sq. ft.*	*Feet.*	*Sec.-ft.*
May 23	Warren E. Hall	51	54	1.00	98
July 9	do	58	64	1.15	114

Daily gage height, in feet, of Johns River at Collettsville, N. C., for 1907.

[Observer, W. T. McLean.]

Day.	May.	June.	July.	Day.	May.	June.	July.	Day.	May.	June.	July.
1		7.5	1.3	12		1.4	1.3	23	1.0	1.4	1.2
2		3.6	1.4	13		1.5	1.4	24	1.0	1.5	1.4
3		2.2	1.4	14		1.5	1.5	25	1.0	1.4	1.3
4		1.8	1.5	15		1.4	1.5	26	1.1	1.3	1.2
5		1.6	1.4	16		1.4	1.6	27	1.2	1.4	1.2
6		1.4	1.4	17		1.4	1.5	28	1.0	1.5	1.2
7		1.3	1.3	18		1.3	1.3	29	1.0	1.7	1.3
8		1.2	1.3	19		1.3	1.5	30	1.0	1.4	1.4
9		2.0	1.2	20		1.3	1.3	31	1.1		1.2
10		1.8	1.2	21		1.4	1.3				
11		1.6	1.2	22		1.3	1.2				

Daily discharge, in second-feet, of Johns River at Collettsville, N. C., for 1907.

Day.	May.	June.	July.	Day.	May.	June.	July.	Day.	May.	June.	July.
1			131	12		144	131	23	98	144	119
2			144	13		158	144	24	98	158	144
3			144	14		158	158	25	98	144	131
4		203	158	15		144	158	26	108	131	119
5		172	144	16		144	172	27	119	144	119
6		144	144	17		144	158	28	98	158	119
7		131	131	18		131	131	29	98	187	131
8		119	131	19		131	158	30	98	144	144
9		238	119	20		131	131	31	108		119
10		203	119	21		144	131				
11		172	119	22		131	119				

[a] All records of discharge at this station have been collected by engineers of the United States Geological Survey and will be republished by the North Carolina Geological Survey, Dr. J. H. Pratt, state geologist, in a bulletin entitled "Water powers of North Carolina."

NOTE.—Daily discharge based on an approximate rating curve. The discharge for missing days from May 23 to July 31 was greater than 250 second-feet.

BROAD RIVER (OF THE CAROLINAS) AT UREE, N. C.

This station is located on the main branch of Broad River, at Uree, about 4 miles above the mouth of Cove Creek and about 3 miles below Buffalo Creek. It was established May 17, 1907.

The datum of the vertical staff gage, which is about 130 feet below the bridge at which the discharge measurements are made, has remained the same since the establishment of the station. Both banks are high and overflow is not liable to occur. The conditions of flow at this station are probably constant, and a good rating has been developed for low stages.[a]

Discharge measurements of Broad River (of the Carolinas) at Uree, N. C., in 1907 and 1908.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
1907.		*Feet.*	*Sq. ft.*	*Feet.*	*Sec.-ft.*
July 5	Warren E. Hall	103	113	1.52	127
May 17	do	104	126	1.60	153
September 30	do	101	117	1.43	92
1908.					
May 18	Warren E. Hall	105	154	1.75	195

[a] All records of discharge at this station prior to 1908 have been collected by engineers of the United States Geological Survey and will be republished by the North Carolina Geological Survey, Dr. J. H. Pratt, state geologist, in a bulletin entitled "Water powers of North Carolina."

Daily gage height, in feet, of Broad River (of the Carolinas) at Uree, N. C., for 1907 and 1908.

[Observer, W. M. Flynn.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1						3.3	1.5	1.6	1.4	1.4	1.3	1.4
2						2.0	1.5	1.5	1.4	1.4	1.6	1.4
3						1.9	1.5	1.4	1.5	1.4	1.4	1.4
4						1.8	1.6	1.4	1.5	1.4	1.4	1.4
5						1.8	1.5	1.4	1.4	1.4	1.4	1.4
6						1.7	1.5	1.4	1.4	1.4	1.4	1.4
7						1.7	1.5	1.4	1.4	1.4	1.35	1.4
8						1.7	1.5	1.4	1.4	1.4	1.35	1.4
9						1.7	1.5	1.5	1.4	1.4	1.35	1.6
10						1.7	1.5	1.5	1.4	1.35	1.4	1.8
11						1.8	1.6	1.6	1.5	1.35	1.4	1.6
12						1.7	1.5	1.5	1.4	1.35	1.4	1.5
13						1.6	1.5	1.6	1.35	1.35	1.4	1.5
14						1.8	1.5	1.5	1.35	1.35	1.4	2.7
15						1.7	1.5	1.4	1.35	1.35	1.4	1.9
16						1.6	1.5	1.4	1.35	1.35	1.4	1.7
17					1.6	1.6	1.5	1.6	1.35	1.35	1.4	1.7
18					1.6	1.6	1.5	1.6	1.35	1.35	1.6	1.6
19					1.6	1.6	1.5	1.6	1.3	1.35	1.6	1.6
20					1.6	1.6	1.5	1.6	1.3	1.35	1.5	1.55
21					1.6	1.6	1.5	1.5	1.3	1.35	1.7	1.5
22					1.5	1.7	1.45	1.5	1.4	1.35	1.5	1.5
23					1.5	1.6	1.45	2.1	3.2	1.35	2.0	2.4
24					1.5	1.7	1.4	1.7	1.6	1.35	1.8	1.9
25					1.6	1.7	1.4	1.5	1.5	1.35	1.6	1.8
26					1.7	1.6	1.4	1.6	1.4	1.35	1.5	1.7
27					1.7	1.6	1.4	1.5	1.4	1.4	1.5	1.7
28					1.6	1.6	1.45	1.4	1.6	1.35	1.5	1.7
29					1.5	1.7	1.4	1.5	1.6	1.35	1.45	1.65
30					1.5	1.6	1.8	1.4	1.45	1.35	1.4	2.2
31					1.6	.....	1.5	1.4	.....	1.35	.....	2.0
1908.												
1	1.8	1.8	1.8	1.8	1.8	1.8	1.6	1.75	2.0	1.7	2.1	1.85
2	1.7	1.8	1.8	1.8	1.75	1.75	1.7	1.7	2.0	1.7	2.1	1.8
3	1.7	1.8	1.8	1.75	1.75	1.8	2.0	1.7	2.0	1.7	2.0	1.8
4	1.7	1.7	1.8	1.75	1.7	1.75	1.8	1.7	2.0	1.7	2.0	1.75
5	1.7	1.6	1.8	1.7	1.7	1.8	2.1	1.7	2.2	1.7	2.0	1.75
6	1.7	1.7	1.8	1.7	1.8	1.8	2.2	2.0	2.0	1.7	2.0	1.75
7	1.8	1.65	1.8	1.7	2.5	1.8	2.0	1.9	2.2	1.7	1.9	2.2
8	1.7	1.65	1.75	1.7	2.0	1.7	1.8	2.9	2.0	1.7	1.9	2.0
9	1.7	1.65	1.8	1.8	1.9	1.7	2.5	2.0	2.0	2.2	1.9	1.85
10	1.6	1.8	1.8	1.8	1.8	1.7	2.1	2.0	1.9	2.4	1.9	1.85
11	3.2	2.0	1.8	1.7	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.85
12	3.4	2.5	1.8	1.7	1.75	1.7	1.8	1.8	1.85	1.9	1.85	1.8
13	2.4	2.45	1.75	1.7	1.7	1.8	1.8	1.8	1.85	1.8	1.85	1.8
14	2.1	2.4	1.75	1.7	1.7	1.75	1.8	1.8	1.85	1.8	2.0	1.8
15	2.0	3.9	1.75	2.1	1.7	1.75	1.75	1.8	1.8	1.75	1.9	1.8
16	1.9	2.4	1.75	1.9	1.7	1.7	1.7	1.8	1.8	1.75	1.85	1.8
17	1.9	2.1	1.7	1.8	1.8	1.7	1.7	2.0	1.8	1.75	1.8	1.8
18	1.8	2.0	1.7	1.8	1.8	1.7	1.7	1.8	1.8	1.7	1.8	1.75
19	1.8	2.0	1.7	1.8	2.1	1.7	1.7	1.75	1.8	1.7	1.8	1.75
20	1.8	1.9	2.0	1.8	1.9	1.7	1.65	1.75	1.8	1.7	1.8	1.75
21	1.7	1.9	1.9	1.75	1.8	1.75	1.65	1.8	1.75	1.7	1.8	1.75
22	1.7	1.9	1.8	1.75	1.8	1.7	1.7	1.8	1.75	2.0	1.8	2.4
23	1.7	1.9	2.1	1.75	1.9	1.75	2.9	2.3	1.75	4.9	1.8	2.0
24	1.6	1.8	2.2	1.7	1.9	1.7	1.8	2.5	1.75	2.8	1.8	1.9
25	1.6	1.8	2.1	2.4	1.8	1.7	1.75	9.2	1.75	2.4	1.8	1.9
26	1.7	1.9	1.9	2.0	1.8	1.65	1.9	4.5	1.7	2.1	1.8	1.9
27	1.7	1.9	1.9	1.9	2.0	1.65	1.9	2.7	1.8	2.0	1.8	1.85
28	1.6	1.9	1.9	1.8	1.8	1.6	2.1	2.4	1.9	2.4	1.8	1.8
29	1.6	1.8	1.85	1.8	1.8	1.6	2.2	2.2	1.8	2.7	1.8	1.8
30	1.6	.....	1.8	1.9	1.9	1.6	1.9	2.2	1.7	2.2	1.8	1.8
31	1.6	.....	1.8	.....	1.8	.....	1.8	2.1	.....	2.2	.....	1.9

Daily discharge, in second-feet, of Broad River (of the Carolinas) at Uree, N. C., for 1907 and 1908.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1							117	149	88	88	62	88
2						302	117	117	88	88	149	88
3						260	117	88	117	88	88	88
4						220	149	88	117	88	88	88
5						220	117	88	88	88	88	88
6						183	117	88	88	88	88	88
7						183	117	88	88	88	75	88
8						183	117	88	88	88	75	88
9						183	117	117	88	88	75	149
10						183	117	117	88	75	88	220
11						220	149	149	117	75	88	149
12						183	117	117	88	75	88	117
13						149	117	149	75	75	88	117
14						220	117	117	75	75	88	
15						183	117	88	75	75	88	260
16						149	117	88	75	75	88	183
17					149	149	117	149	75	75	88	183
18					149	149	117	149	75	75	149	149
19					149	149	117	149	62	75	149	149
20					149	149	117	149	62	75	117	133
21					149	149	117	117	62	75	183	117
22					117	183	102	117	88	75	117	117
23					117	149	102			75	302	
24					117	183	88	183	149	75	220	260
25					149	183	88	117	117	75	149	220
26					183	149	88	149	88	75	117	183
27					183	149	88	117	88	88	117	183
28					149	149	102	88	149	75	117	183
29					117	183	88	117	149	75	102	166
30					117	149	220	88	102	75	88	
31					149		117	88		75		302
1908.												
1	220	220	220	220	220	220	149	202	302	183		240
2	183	220	220	220	202	202	183	183	302	183		220
3	183	220	220	202	202	220	302	183	302	183	302	220
4	183	183	220	202	183	202	220	183	302	183	302	202
5	183	149	220	183	183	220		183		183	302	202
6	183	183	220	183	220	220		302	302	183	302	202
7	220	166	220	183		220	302	260		183	260	
8	183	166	202	183	302	183	220		302	183	260	302
9	183	166	220	220	260	183		302	302		260	240
10	149	220	220	220	220	183		302	260		260	240
11		302	220	183	220	220	220	260	260	260	260	240
12			220	183	202	183	220	220	240	260	240	220
13			202	183	183	220	220	220	240	220	240	220
14			202	183	183	202	220	220	240	220	302	220
15	302		202		183	202	202	220	220	202	260	220
16	260		202	260	183	183	183	220	220	202	240	220
17	260		183	220	220	183	183	302	220	202	220	220
18	220	302	183	220	220	183	183	220	220	183	220	202
19	220	302	183	220		183	183	202	220	183	220	202
20	220	260	302	220	260	183	166	202	220	183	220	202
21	183	260	260	202	220	202	166	220	202	183	220	202
22	183	260	220	202	220	183	183	220	202	302	220	
23	183	260		202	260	202			202		220	302
24	149	220		183	260	183	220		202		220	260
25	149	220			220	183	202		202		220	260
26	183	260	260	302	220	166	260		183		220	260
27	183	260	260	260	302	166	260		220	302	220	240
28	149	260	260	220	220	149			260		220	220
29	149	220	240	220	220	149			220		220	220
30	149		220	260	260	149	260		183		220	220
31	149		220		220		220					260

NOTE.—Daily discharges for 1907 and 1908 are based on a well-defined rating curve. Beginning May 17, 1907, the discharge was greater than 340 second-feet for all missing days.

BROAD RIVER (OF THE CAROLINAS) AT ALSTON, S. C.

The station was established July 3, 1896, at the Southern Railway bridge at Alston, about 27 miles above Columbia, S. C. It was discontinued December 31, 1907.

The datum of the gage has remained the same during the maintenance of the station. Conditions of flow at this point are poor, owing to the shifting channel and to the great fluctuations in stage caused by water powers above. Both banks are high and do not overflow.[a]

The following discharge measurement was made:

March 13, 1907: Width, 531 feet; area, 2,180 square feet; gage height, 4.00 feet; discharge, 4,470 second-feet.

Daily gage height, in feet, of Broad River (of the Carolinas) at Alston, S. C., for 1907.

[Observer, G. M. Heron.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	10.4	3.85	5.6	4.1	4.1	8.0	5.4	4.85	1.95	3.6	2.5	4.4
2	9.2	4.25	5.3	4.2	4.0	11.9	4.55	3.55	2.4	3.25	2.45	4.1
3	7.5	4.3	6.0	4.15	4.05	10.6	4.4	3.55	2.3	2.7	2.35	3.55
4	6.6	4.65	5.8	3.95	4.65	6.5	4.55	3.15	2.05	2.25	3.2	3.6
5	5.6	8.8	4.95	3.6	4.55	4.95	4.55	2.95	2.45	2.6	2.45	3.0
6	5.2	7.2	4.55	3.65	4.45	4.55	3.5	2.35	2.5	2.4	2.55	3.0
7	5.1	5.1	4.25	3.6	4.3	4.15	3.3	2.3	3.8	2.65	2.5	2.75
8	5.0	4.9	4.3	3.7	4.35	3.95	3.35	2.9	2.6	2.25	2.35	2.45
9	5.5	4.45	4.15	4.05	4.85	3.8	2.6	2.9	2.55	2.4	2.45	3.7
10	4.25	4.4	4.2	4.0	4.55	3.8	3.0	4.35	2.45	2.6	2.0	4.75
11	4.4	4.45	4.2	3.7	4.75	4.2	2.9	4.85	4.3	2.55	2.7	5.8
12	4.4	4.15	3.95	3.65	4.1	5.0	2.65	3.75	4.1	2.3	2.65	5.6
13	4.1	3.95	4.1	3.25	4.1	4.85	3.0	2.45	3.4	2.45	2.6	4.95
14	4.3	3.9	4.2	3.45	3.95	4.4	3.7	2.7	2.6	1.95	2.6	12.9
15	4.05	3.85	4.6	3.65	4.0	4.45	5.6	4.45	2.05	2.3	2.5	15.6
16	4.2	3.85	5.0	2.85	3.85	3.9	4.1	5.7	2.95	2.55	2.35	11.8
17	4.0	3.7	4.45	3.1	3.7	3.65	3.7	5.9	2.35	2.25	2.3	7.1
18	4.05	3.85	4.65	2.9	3.6	3.2	3.2	4.95	2.15	2.3	2.65	5.8
19	4.0	3.1	4.0	4.4	3.2	3.65	3.95	4.5	2.2	2.35	2.9	5.6
20	3.95	4.4	4.1	5.0	3.45	3.3	3.25	3.95	2.2	2.4	3.65	4.75
21	4.0	5.2	4.0	4.0	2.55	3.2	3.35	3.5	2.05	1.65	3.0	4.35
22	3.85	4.15	3.8	4.3	2.9	3.1	3.05	2.95	1.7	2.25	8.8	4.15
23	3.75	4.05	3.6	10.6	2.5	3.8	2.6	4.4	4.15	2.2	12.4	14.4
24	3.75	3.85	3.7	10.4	2.7	5.0	2.65	5.2	9.0	2.45	.....	19.6
25	3.7	4.7	3.9	7.5	3.4	5.6	2.55	6.1	7.0	2.35	.....	14.6
26	3.75	4.55	3.7	5.4	3.7	4.65	2.4	4.45	4.0	2.3	.....	9.0
27	3.9	5.0	3.95	4.75	4.3	3.8	4.8	3.2	3.05	1.9	5.8	7.1
28	4.1	4.65	3.9	4.45	4.0	7.5	3.35	2.8	3.2	3.1	4.85	5.6
29	3.65	.....	3.45	4.55	3.9	10.6	5.2	2.55	6.0	2.75	4.85	5.2
30	3.65	.....	3.9	4.4	3.25	6.6	5.3	2.45	5.2	2.45	5.4	13.0
31	3.85	.....	3.45	.....	3.7	.....	5.2	2.35	.....	2.45	.....	15.8

[a] All records of discharge at this station prior to 1908 have been collected by engineers of the United States Geological Survey and will be republished by the North Carolina Geological Survey, Dr. J. H. Pratt, state geologist, in a bulletin entitled "Water powers of North Carolina."

Rating table for Broad River (of the Carolinas) at Alston, S. C., for 1907.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*
1.60	750	3.20	2,780	4.80	6,430	7.80	15,000
1.70	820	3.30	2,970	4.90	6,690	8.00	15,650
1.80	900	3.40	3,170	5.00	6,950	9.00	18,900
1.90	990	3.50	3,370	5.20	7,490	10.00	22,150
2.00	1,080	3.60	3,580	5.40	8,040	11.00	25,500
2.10	1,180	3.70	3,800	5.60	8,600	12.00	29,000
2.20	1,280	3.80	4,020	5.80	9,160	13.00	32,800
2.30	1,390	3.90	4,240	6.00	9,720	14.00	36,800
2.40	1,510	4.00	4,470	6.20	10,280	15.00	41,400
2.50	1,640	4.10	4,700	6.40	10,860	16.00	46,500
2.60	1,780	4.20	4,940	6.60	11,440	17.00	52,400
2.70	1,930	4.30	5,180	6.80	12,020	18.00	58,800
2.80	2,090	4.40	5,420	7.00	12,600	19.00	65.300
2.90	2,250	4.50	5,670	7.20	13,200	20.00	71,800
3.00	2,420	4.60	5,920	7.40	13,800		
3.10	2,600	4.70	6,170	7.60	14,400		

NOTE.—The above table is not applicable for obstructed channel conditions. It is based on discharge measurements made during 1905 to 1907. It is well defined above gage height 6 feet, but it is not well defined below this stage owing to poor conditions of flow.

Monthly discharge of Broad River (of the Carolinas) at Alston, S. C., for 1907.

[Drainage area, 4,610 square miles.]

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area).	Accuracy.
	Maximum.	Minimum.	Mean.	Per square mile.		
January	23,500	3,690	6,610	1.43	1.65	B.
February	18,200	2,600	5,920	1.28	1.33	B.
March	9,720	3,270	5,280	1.15	1.33	B.
April	24,200	2,170	6,060	1.31	1.46	B.
May	6,560	1,640	4,260	.924	1.07	B.
June	28,600	2,600	8,030	1.74	1.94	A.
July	8,600	1,510	4,080	.885	1.02	B.
August	10,000	1,390	4,180	.907	1.05	B.
September	18,900	[a] 820	3,540	.768	.86	B.
October	3,580	[a] 785	1,630	.354	.41	C.
November	30,500	1,080	6,250	1.36	1.52	B.
December	69,200	1,580	15,700	3.41	3.93	A.
The year	69,200	[a] 785	5,960	1.29	17.57	

[a] The excessively low discharge for September and October is due to storage over Sunday at power plants above the gaging station, and hence does not represent natural flow.

NOTE.—Discharge estimated November 24 to 26 on the basis of the discharge at Camden, S. C., and Augusta, Ga.

GREEN RIVER AT SALUDA, N. C.

The station is located at the lower steel bridge about 5 miles southeast of Hendersonville, N. C., and 1 mile above the mouth of Hungry Creek. It was established May 9, 1907, although measurements referred to a bench mark have been previously made at this point.

The datum of the chain gage has remained the same since the establishment of the station. The banks will probably not overflow. Conditions of flow appear to be constant and a good low-water rating has been developed.[a]

Discharge measurements of Green River at Saluda, N. C., in 1907 and 1908.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
1907.		*Feet.*	*Sq. ft.*	*Feet.*	*Sec.-ft.*
April 4	Warren E. Hall	45	104	1.85	99
Do	....do	45	104	1.85	97
May 9	....do	45	104	1.98	128
July 13	....do	45	110	1.71	85
Do	F. P. Thomas	45	110	1.70	84
August 17	Warren E. Hall	45	101	1.54	59
Do	....do	45	100	1.54	58
September 20	....do	45	96	1.40	40
December 10	....do	45	171	3.16	506
Do	....do	45	168	3.12	486
1908.					
April 11	Warren E. Hall	45	123	2.08	155
July 16	F. P. Thomas	45	112	1.86	105
Do	....do	45	113	1.85	101

[a] All records of discharge at this station prior to 1908 have been collected by engineers of the United States Geological Survey and will be republished by the North Carolina Geological Survey, Dr. J. H. Pratt, state geologist, in a bulletin entitled "Water powers of North Carolina."

Daily gage height, in feet, of Green River at Saluda, N. C., for 1907 and 1908.

[Observer, J. C. Gordon.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1						3.1	1.9	1.5	1.4	1.6	1.4	1.8
2						2.2	1.8	1.5	1.4	1.6	2.1	1.8
3						2.1	1.8	1.5	1.6	1.6	1.8	1.8
4						2.0	1.8	1.5	1.7	1.5	1.6	1.7
5						1.9	1.8	1.5	1.5	1.5	1.6	1.6
6						1.9	1.8	1.5	1.5	1.5	1.6	2.0
7						1.8	1.7	1.5	1.5	1.5	1.5	1.7
8						1.9	1.7	1.6	1.5	2.1	1.5	1.7
9					2.0	1.8	1.7	1.5	1.5	1.6	1.5	2.3
10					1.9	3.2	1.7	1.5	1.5	1.6	1.6	3.8
11					2.0	2.1	1.8	1.5	1.8	1.5	1.6	2.5
12					1.9	2.0	1.7	1.6	1.5	1.5	1.5	2.2
13					1.9	1.9	1.8	1.5	1.4	1.5	1.5	2.1
14					1.9	1.9	1.7	1.6	1.4	1.5	1.5	4.5
15					2.0	1.8	1.7	1.5	1.4	1.5	1.5	3.0
16					1.9	1.8	1.7	1.7	1.5	1.5	1.5	2.6
17					1.8	1.8	1.6	1.6	1.5	1.5	1.5	2.4
18					1.8	1.8	1.7	1.7	1.5	1.5	2.0	2.3
19					1.8	1.8	1.7	1.6	1.4	1.5	1.9	2.2
20					1.8	1.7	1.8	1.6	1.4	1.5	1.8	2.1
21					1.8	1.8	1.6	1.5	1.4	1.5	3.0	2.1
22					1.8	1.9	1.6	1.6	1.4	1.5	2.3	2.1
23					1.8	1.9	1.6	1.7	4.0	1.5	2.4	4.6
24					1.8	1.8	1.5	1.8	2.0	1.5	3.1	2.9
25					1.8	1.8	1.6	1.6	1.7	1.5	2.3	2.6
26					2.5	1.7	1.6	1.5	1.6	1.5	2.1	2.4
27					2.0	1.7	1.6	1.5	1.6	1.5	2.0	2.4
28					1.8	1.8	1.6	1.5	1.7	1.5	1.9	2.3
29					1.8	3.5	1.7	1.5	1.9	1.5	1.9	2.2
30					1.9	2.0	1.7	1.5	1.7	1.5	1.8	3.6
31					1.9		1.6	1.4		1.5		2.7
1908.												
1	2.5	2.4	2.4	2.2	2.3	1.9	1.7	1.8	2.3	1.9	2.3	2.0
2	2.4	2.1	2.4	2.2	2.2	1.9	1.8	1.8	2.3	1.9	2.2	2.0
3	2.3	2.2	2.4	2.2	2.2	2.1	2.2	1.8	2.2	1.8	2.2	1.9
4	2.3	2.1	2.4	2.2	2.2	2.0	2.0	1.7	2.2	1.9	2.2	1.9
5	2.4	2.1	2.3	2.1	2.2	2.6	2.4	2.0	2.6	1.8	2.1	1.9
6	2.3	2.2	2.3	2.2	2.2	2.1	2.4	2.2	2.5	1.8	2.1	2.3
7	2.4	2.2	2.3	2.1	3.1	2.0	2.1	2.0	2.3	1.8	2.1	3.2
8	2.3	2.1	2.2	2.1	2.4	2.0	2.0	1.9	2.2	1.8	2.1	2.6
9	2.2	2.1	2.2	2.1	2.3	1.9	2.3	1.9	2.2	2.0	2.0	2.3
10	2.2	2.2	2.2	2.1	2.2	1.9	2.0	2.0	2.2	2.5	2.0	2.2
11	2.2	2.3	2.2	2.1	2.2	1.9	1.9	1.9	2.1	2.0	2.1	2.2
12	3.8	3.1	2.4	2.0	2.2	1.9	1.9	1.8	2.1	1.9	2.0	2.2
13	2.9	3.4	2.2	2.0	2.1	1.9	1.8	1.7	2.1	1.9	2.0	2.1
14	2.7	3.1	2.2	2.0	2.1	1.9	1.8	1.7	2.1	1.9	2.2	2.1
15	2.6	7.6	2.2	2.9	2.1	2.1	1.8	1.7	2.0	1.9	2.1	2.1
16	2.5	3.6	2.2	2.7	2.1	1.9	2.0	1.7	2.0	1.9	2.0	2.1
17	2.4	3.1	2.1	2.5	2.2	1.9	1.9	2.0	2.0	1.8	2.0	2.1
18	2.4	2.9	2.1	2.4	2.3	1.9	1.8	1.8	2.0	1.8	2.0	2.0
19	2.3	2.7	2.1	2.3	2.2	1.8	1.8	1.8	2.0	1.8	2.0	1.9
20	2.3	2.8	2.3	2.2	2.1	1.8	1.7	2.0	2.0	1.8	2.0	1.6
21	2.3	2.8	2.4	2.2	2.1	1.8	1.7	1.9	2.0	1.8	2.0	2.0
22	2.3	2.6	2.3	2.2	2.1	1.8	1.8	2.5	2.0	1.8	2.0	3.2
23	2.2	2.5	2.5	2.2	2.1	1.8	3.1	2.9	2.0	4.0	2.0	2.5
24	2.1	2.5	3.2	2.1	2.0	1.8	1.9	2.8	1.9	2.8	2.0	2.4
25	2.1	2.5	2.7	3.2	2.0	1.9	1.8	7.4	1.9	2.4	2.0	2.3
26	2.1	2.8	2.5	2.5	2.0	1.8	1.8	4.4	1.9	2.2	2.0	2.2
27	2.3	2.6	2.4	2.4	2.0	1.7	1.8	3.2	2.0	2.0	2.0	2.2
28	2.2	2.5	2.4	2.4	2.0	1.7	1.8	2.8	2.2	2.2	2.0	2.1
29	2.1	2.5	2.3	2.3	2.0	1.7	1.9	2.6	2.0	2.8	1.9	2.1
30	2.1		2.3	2.4	2.0	1.7	2.1	2.5	1.9	2.7	1.8	2.1
31	2.1		2.3		1.9		1.9	2.4		2.4		2.2

Rating table for Green River at Saluda, N. C., for 1907 and 1908.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*
1.40	40	2.70	321	4.00	950	5.60	2,110
1.50	52	2.80	357	4.10	1,010	5.80	2,270
1.60	66	2.90	395	4.20	1,070	6.00	2,450
1.70	80	3.00	436	4.30	1,130	6.20	2,630
1.80	96	3.10	480	4.40	1,200	6.40	2,810
1.90	112	3.20	525	4.50	1,270	6.60	2,990
2.00	130	3.30	570	4.60	1,340	6.80	3,170
2.10	151	3.40	620	4.70	1,410	7.00	3,350
2.20	174	3.50	670	4.80	1,480	7.20	3,540
2.30	199	3.60	720	4.90	1,550	7.40	3,730
2.40	226	3.70	775	5.00	1,630	7.60	3,920
2.50	255	3.80	830	5.20	1,790	7.80	4,110
2.60	287	3.90	890	5.40	1,950	8.00	4,300

NOTE.—The above table is not applicable for obstructed channel conditions. It is based on 13 discharge measurements made during 1907 and 1908, and is well defined between gage heights 1.4 feet and 3.2 feet. Above gage height 4.0 feet the rating curve is only approximate.

Monthly discharge of Green River at Saluda, N. C., for 1907 and 1908.

[Drainage area, 51 square miles.]

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area).	Accuracy.
	Maximum.	Minimum.	Mean.	Per square mile.		
1907.						
May 9-31	255	96	114	2.24	1.92	A.
June	670	80	154	3.02	3.37	A.
July	112	52	80.2	1.57	1.81	A.
August	96	40	59.4	1.16	1.34	A.
September	950	40	89.5	1.75	1.95	A.
October	151	52	57.5	1.13	1.30	B.
November	480	40	119	2.33	2.60	A.
December	1,340	66	299	5.86	6.76	A.
1908.						
January	830	151	227	4.45	5.13	A.
February	3,920	151	424	8.31	8.96	B.
March	525	151	213	4.18	4.82	A.
April	525	130	202	3.96	4.42	A.
May	480	112	170	3.33	3.84	A.
June	287	80	116	2.27	2.53	A.
July	480	80	132	2.59	2.99	A.
August	3,730	80	317	6.22	7.17	B.
September	287	112	156	3.06	3.41	A.
October	950	96	174	3.41	3.93	A.
November	199	96	141	2.76	3.08	A.
December	525	66	184	3.61	4.16	A.
The year	3,920	66	205	4.01	54.44	

SECOND BROAD RIVER NEAR LOGANS STORE, N. C.

The station is located about 2 miles south of Logans Store, 6 miles northeast of Rutherfordton, N. C., and about 2 miles above the mouth of Catheys Creek. It was established May 16, 1907, and was discontinued June 30, 1908.

The vertical staff gage is located about 100 yards below the bridge from which discharge measurements are made. Conditions of flow

are probably changeable. An approximate low-water rating has been developed.[a]

Discharge measurements of Second Broad River near Logans Store, N. C., in 1907 and 1908.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
1907.		*Feet.*	*Sq.ft.*	*Feet.*	*Sec.-ft.*
May 16	Warren E. Hall	55	63	1.50	111
July 6	do	55	71	1.63	144
September 28	do	52	67	1.57	129
1908.					
May 19	Warren E. Hall	55	75	1.72	133

Daily gage height, in feet, of Second Broad River near Logans Store, N. C., for 1907 and 1908.

[Observer, J. A. Mode.]

Day.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.								
1		3.6	1.4	1.3	1.2	1.3	1.2	1.4
2		2.7	1.4	1.2	1.2	1.3	1.6	1.4
3		2.3	1.5	1.2	1.4	1.3	1.4	1.3
4		1.9	3.0	1.2	1.3	1.3	1.3	1.3
5		1.7	2.0	1.2	1.2	1.3	1.2	1.3
6		1.6	1.7	1.2	1.2	1.2	1.2	1.3
7		1.6	1.5	1.2	1.2	1.2	1.2	1.3
8		1.7	1.4	1.5	1.3	1.4	1.2	1.3
9		1.6	1.3	1.3	1.3	1.2	1.2	1.6
10		1.6	1.3	1.3	1.2	1.2	1.3	2.6
11		1.8	1.6	1.3	1.7	1.2	1.3	1.8
12		1.5	1.4	1.2	1.2	1.2	1.3	1.6
13		1.5	1.4	1.2	1.2	1.2	1.2	1.5
14		1.7	1.5	1.5	1.2	1.2	1.2	5.6
15		1.5	1.4	1.2	1.2	1.2	1.2	3.3
16	1.5	1.4	1.3	1.3	1.2	1.2	1.2	2.3
17	1.5	1.4	1.3	1.3	1.2	1.2	1.2	1.9
18	1.4	1.4	1.3	1.4	1.2	1.2	1.2	1.8
19	1.4	1.4	1.3	1.3	1.2	1.2	1.4	1.7
20	1.4	1.3	1.3	1.2	1.1	1.2	1.3	1.6
21	1.4	1.5	1.2	1.4	1.1	1.2	2.4	1.6
22	1.4	1.4	1.2	1.4	1.1	1.2	1.8	1.6
23	1.4	1.5	1.2	1.8	2.9	1.2	2.2	9.0
24	1.4	1.6	1.2	1.7	1.9	1.2	3.8	3.3
25	1.4	1.5	1.2	1.4	1.5	1.2	2.1	2.2
26	1.6	1.5	1.2	1.3	1.3	1.2	1.7	1.9
27	2.0	1.4	1.2	1.3	1.3	1.4	1.5	1.7
28	1.5	1.5	1.2	1.2	1.5	1.3	1.5	1.7
29	1.4	1.8	1.2	1.2	1.5	1.2	1.5	1.6
30	1.4	1.6	1.5	1.2	1.3	1.2	1.5	2.9
31	1.5	.....	1.3	1.2	.....	1.2	.....	3.1

[a] All records of discharge at this station prior to 1908 have been collected by engineers of the United States Geological Survey and will be republished by the North Carolina Geological Survey, Dr. J. H. Pratt, state geologist, in a bulletin entitled "Water powers of North Carolina."

Daily gage height, in feet, of Second Broad River near Logans Store, N. C., etc.—Cont'd.

Day.	Jan.	Feb.	Mar.	Apr.	May	June.	Day.	Jan.	Feb.	Mar.	Apr.	May.	June.
1908.							1908.						
1	2.2	1.7	1.8	1.7	1.7	1.5	17	1.8	2.7	1.6	2.0	1.5	1.5
2	2.0	1.6	1.8	1.7	1.6	1.5	18	1.7	2.3	1.6	1.9	1.5	1.4
3	1.9	1.4	1.7	1.7	1.6	1.4	19	1.7	2.5	1.6	1.8	1.7	1.4
4	1.7	1.3	1.7	1.6	1.6	1.4	20	1.6	2.5	1.9	1.7	1.6	1.4
5	1.9	1.5	1.7	1.6	1.5	1.6	21	1.6	2.2	2.6	1.7	1.6	1.8
6	1.7	1.6	1.7	1.6	1.7	1.5	22	1.5	2.1	2.1	1.6	1.5	1.5
7	2.3	1.8	1.7	1.6	3.3	1.5	23	1.5	1.9	2.4	1.6	1.5	2.0
8	2.5	1.6	1.7	1.6	2.3	1.5	24	1.3	1.8	6.8	1.6	1.6	1.5
9	2.0	1.7	1.7	1.6	1.9	1.4	25	1.3	1.8	2.9	1.8	1.7	1.5
10	1.8	1.7	1.7	1.6	1.8	1.4	26	1.4	2.7	2.3	1.8	1.5	1.5
11	1.8	2.2	1.6	1.5	1.7	1.6	27	1.6	2.3	2.1	1.8	1.5	1.5
12	8.5	4.6	1.8	1.5	1.6	1.5	28	1.5	2.0	1.9	1.7	1.5	1.4
13	3.4	5.1	1.6	1.5	1.6	1.5	29	1.5	1.9	1.8	1.6	1.5	1.4
14	2.4	3.7	1.6	1.5	1.6	1.5	30	1.5	.....	1.8	1.7	1.6	1.3
15	2.0	6.4	1.6	2.7	1.5	2.0	31	1.5	.....	1.7	.....	1.5	.....
16	1.8	3.9	1.6	2.4	1.5	1.5							

Daily discharge, in second-feet, of Second Broad River near Logans Store, N. C., for 1907 and 1908.

Day.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.								
1	.....	.....	96	82	70	82	70	96
2	.....	.....	96	70	70	82	126	96
3	.....	.....	110	70	96	82	96	82
4	.....	174	.....	70	82	82	82	82
5	.....	142	190	70	70	82	70	82
6	.....	126	142	70	70	70	70	82
7	.....	126	110	70	70	70	70	82
8	.....	142	96	110	82	96	70	82
9	.....	126	82	82	82	70	70	126
10	.....	126	82	82	70	70	82	.....
11	.....	158	126	82	142	70	82	158
12	.....	110	96	70	70	70	82	126
13	.....	110	96	70	70	70	70	110
14	.....	142	110	110	70	70	70	.....
15	.....	110	96	70	70	70	70	.....
16	110	96	82	82	70	70	70	.....
17	110	96	82	82	70	70	70	174
18	96	96	82	96	70	70	70	158
19	96	96	82	82	70	70	96	142
20	96	82	82	70	60	70	82	126
21	96	110	70	96	60	70	.....	126
22	96	96	70	96	60	70	158	126
23	96	110	70	158	.....	70	.....	.....
24	96	126	70	142	174	70	.....	.....
25	96	110	70	96	110	70	.....	.....
26	126	110	70	82	82	70	142	174
27	190	96	70	82	82	96	110	142
28	110	110	70	70	110	82	110	142
29	96	158	70	70	110	70	110	126
30	96	126	110	70	82	70	110	.....
31	110	.....	82	70	.....	70	.....	.....

Daily discharge, in second-feet, of Second Broad River near Logans Store, N. C., etc. – Con.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	Day.	Jan.	Feb.	Mar.	Apr.	May.	June.
1908.							1908.						
1	.....	142	158	142	142	110	17	158	.....	126	.....	110	110
2	190	126	158	142	126	110	18	142	.....	126	174	110	96
3	174	96	142	142	126	96	19	142	.....	126	158	142	96
4	142	82	142	126	126	96	20	126	.....	174	142	126	96
5	174	110	142	126	110	126	21	126	.....	.....	142	126	158
6	142	126	142	126	142	110	22	110	.....	.....	126	110	110
7	.....	158	142	126	.....	110	23	110	174	.....	126	110	190
8	.....	126	142	126	.....	110	24	82	158	.....	126	126	110
9	190	142	142	126	174	96	25	82	158	.....	158	142	110
10	158	142	142	126	158	96	26	96	.....	.....	158	110	110
11	158	.....	126	110	142	126	27	126	.....	.....	158	110	110
12	.....	.....	158	110	126	110	28	110	190	174	142	110	96
13	.....	.....	126	110	126	110	29	110	174	158	126	110	96
14	.....	.....	126	110	126	110	30	110	.....	158	142	126	82
15	190	.....	126	.....	110	190	31	110	.....	142	.....	110	.....
16	158	.....	126	.....	110	110							

NOTE.—Daily discharge for 1907 and 1908 based on an approximate rating curve. From May 16, 1907, to June 30, 1908, the discharge was greater than 200 second-feet for all missing days.

MISCELLANEOUS MEASUREMENTS IN SANTEE RIVER DRAINAGE BASIN.

The following miscellaneous discharge measurements were made in Santee River drainage basin during 1907:

Measurements in Santee River basin, 1907.

Date.	Stream.	Tributary to—	Locality.	Gage height.	Discharge.
				Feet.	*Sec.-ft.*
May 18	Catawba River	Wateree River	Iron wagon bridge, 3 miles from Marion, N. C.	2.40	284
August 8	Linville River	Catawba River	Railroad bridge, ½ mile east of Saginaw, N. C.	1.76	44
May 17	Cove Creek	Broad River	Near mouth of creek, Nanney, N. C.	1.70	108

RIVER SURVEYS IN SANTEE RIVER DRAINAGE BASIN.

In order to point out power possibilities along Catawba River a profile has been prepared showing the fall between Halltown Road ford near Marion, N. C., and Camden, S. C. In connection with the survey, notes showing tributary streams and other natural and artificial features along the river are indicated. Elevations obtained on this survey from Halltown Road crossing near Marion, N. C., to Connelly Springs, N. C., have been published by the United States Geological Survey [a] and are about to be republished by the North Carolina Geological Survey. [b]

[a] Hall, W. C., and Hoyt, J. C., River surveys and profiles made during 1903: Water-Supply Paper U. S. Geol. Survey No. 115, 1905. Separate sheets showing the Catawba and Broad river profiles, and Water-Supply Paper 115, may be obtained on application to the Director of the United States Geological Survey.

[b] Water powers of North Carolina: Bull. North Carolina Geol. Survey (in press).

In order to show the power possibilities along Broad River (of the Carolinas) the United States Geological Survey has published [a] a profile, compiled from data collected by the army engineers, showing the fall of the river between Columbia, S. C., and Green River, N. C.

SAVANNAH RIVER DRAINAGE BASIN.

DESCRIPTION OF BASIN.

Savannah River rises on the southern slope of the Blue Ridge Mountains in the northeast corner of Georgia and the northwest corner of South Carolina, with some of its headwaters coming across the state line from North Carolina. Its general course is southeast, and it forms the boundary between Georgia and South Carolina from North Carolina to the Atlantic Ocean. The basin is about 260 miles long and contains about 11,100 square miles of area.

The principal tributaries are Tallulah, Seneca, and Broad rivers. Tugaloo River is the name given the main stream above the mouth of Seneca, and in turn it becomes Chattooga River above the mouth of Tallulah.

A small portion of the upper end of the basin has an elevation of 3,000 feet and even more, but the fall is very rapid down to about 1,000 feet.

Above the fall line, which passes a few miles above Augusta, Ga., the main streams and many smaller tributaries are excellent water-power streams, having a good amount of fall and a large minimum flow.

The average annual rainfall reaches 70 inches in the extreme upper portion and from 50 inches to 60 inches in the other parts.

The following gaging stations have been maintained in this river basin: [b]

Chattooga River, Clayton, Ga., 1907–8.
Tugaloo River, Toccoa, Ga., 1907–8.
Tugaloo River, Madison, S. C., 1898–1908.
Savannah River, Calhoun Falls, S. C., 1896–1903.
Savannah River, Woodlawn, S. C., 1905–1908.
Savannah River, Augusta, Ga., 1899–1906.
Stekoa Creek, Clayton, Ga., 1907–8.
Tallulah River, Tallulah Falls, Ga., 1900–1908.
Chauga River, Madison, S. C., 1907.
Seneca River, Clemson College, S. C., 1903–1905.
Broad River (of Georgia), Carlton, Ga., 1897–1908.

[a] Hall, W. C., and Hoyt, J. C., River surveys and profiles made during 1903: Water-Supply Paper U. S. Geol. Survey No. 115, 1905. Separate sheets showing the Catawba and Broad river profiles, and Water-Supply Paper 115, may be obtained on application to the Director of the United States Geological Survey.

[b] Data collected in this drainage basin prior to 1906 have been compiled in Water-Supply Paper No. 197, Water resources of Georgia.

CHATTOOGA RIVER NEAR CLAYTON, GA.

The station is located at an iron wagon bridge 9 miles southeast of Clayton at a point known as Rogues Ford. It is 2½ miles above Stekoa Creek. It was established May 13, 1907, and was discontinued June 30, 1908.

The vertical staff gage is located 50 feet above the bridge from which discharge measurements are made. The bed of the stream is rock and very rough, and the current is badly broken, so that accurate discharge measurements can not be made. An approximate rating has been developed for low stages.

Discharge measurements of Chattooga River near Clayton, Ga., in 1907 and 1908.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
1907.		*Feet.*	*Sq. ft.*	*Feet.*	*Sec.-ft.*
May 13	F. A. Murray	143	284	1.86	568
June 14	do	140	266	1.68	551
July 19	do	140	254	1.61	517
Do	B. M. Hall, jr	142	258	1.61	518
August 30	F. A. Murray	128	184	1.20	287
November 11	do	139	242	1.59	500
1908.					
May 21	M. R. Hall	144	235	1.82	578

Daily gage height, in feet, of Chattooga River near Clayton, Ga., for 1907 and 1908.

[Observer, Bieman Phillips.]

Day.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.								
1		2.3	1.5	1.3	1.2	1.4	1.1	1.6
2		2.1	1.4	1.3	1.2	1.3	1.3	1.5
3		1.9	1.8	1.3	1.2	1.3	1.7	1.5
4		1.8	1.7	1.3	1.3	1.3	1.3	1.5
5		1.7	1.5	1.3	1.3	1.3	1.3	1.5
6		1.6	1.5	1.3	1.2	1.2	1.2	1.4
7		1.6	1.5	1.3	1.2	1.2	1.2	1.4
8		1.7	1.4	1.3	1.2	1.6	1.2	1.4
9		1.8	1.4	1.2	1.2	1.4	1.2	1.6
10		1.7	1.4	1.2	1.2	1.3	1.3	3.2
11		1.6	1.4	1.2	1.2	1.2	1.6	2.1
12		1.6	1.4	1.3	1.2	1.2	1.4	1.9
13	2.25	1.6	1.5	1.3	1.2	1.2	1.3	1.7
14	1.8	1.7	1.5	1.4	1.2	1.2	1.3	3.2
15	1.7	1.6	1.6	1.3	1.2	1.2	1.2	2.4
16	1.8	1.5	1.7	1.3	1.2	1.2	1.2	2.2
17	1.8	1.5	1.6	1.3	1.2	1.2	1.2	1.9
18	1.7	1.5	1.5	1.5	1.2	1.2	1.4	1.9
19	1.7	1.5	1.7	1.6	1.2	1.2	1.7	1.9
20	1.7	1.5	1.5	1.5	1.2	1.2	1.5	1.8
21	1.6	1.5	1.4	1.5	1.2	1.2	2.8	1.7
22	1.6	1.5	1.4	1.4	1.2	1.2	2.1	1.7
23	1.6	1.5	1.3	1.9	4.1	1.2	2.1	4.2
24	1.6	1.6	1.3	1.5	1.8	1.1	3.1	1.7
25	1.6	1.9	1.4	1.5	1.4	1.1	2.3	2.3
26	1.7	1.7	1.3	1.3	1.3	1.1	2.0	2.0
27	1.8	1.6	1.3	1.3	1.3	1.2	1.8	2.0
28	1.6	1.7	1.3	1.2	1.3	1.3	1.8	2.0
29	1.6	1.7	1.4	1.2	1.9	1.2	1.7	2.0
30	1.6	1.5	1.6	1.2	1.5	1.2	1.6	2.3
31	1.8	.....	1.4	1.2	.....	1.1	.....	2.8

Daily gage height, in feet, of Chattooga River near Clayton, Ga., etc.—Continued.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	Day.	Jan.	Feb.	Mar.	Apr.	May.	June.
1908.							1908.						
1	2.4	2.5	2.2	2.1	2.2	1.8	17	2.2	2.9	1.9	2.3	1.9	1.8
2	2.3	2.3	2.2	2.1	2.2	1.7	18	2.1	2.7	1.9	2.2	1.9	1.8
3	2.2	2.0	2.2	2.0	2.1	1.7	19	2.1	2.7	1.8	2.2	2.2	1.7
4	2.1	2.0	2.1	2.0	2.1	1.7	20	2.1	2.6	2.0	2.1	1.9	1.7
5	2.5	2.0	2.1	2.0	2.0	1.9	21	2.0	2.5	2.5	2.0	1.8	1.7
6	2.3	2.1	2.1	2.0	2.0	1.8	22	2.0	2.4	2.2	2.0	1.8	1.7
7	2.1	2.0	2.1	2.0	2.9	1.7	23	2.0	2.3	2.9	2.0	1.8	1.7
8	2.1	2.0	2.0	2.0	2.2	1.7	24	1.9	2.3	3.8	2.0	1.9	1.7
9	2.0	2.0	2.0	2.0	2.1	1.7	25	1.9	2.2	2.6	5.2	1.9	1.7
10	1.9	2.0	2.0	1.9	2.1	1.7	26	1.9	2.5	2.5	2.7	1.8	1.6
11	1.9	2.4	2.0	1.9	2.1	2.1	27	2.2	2.3	2.2	2.6	2.1	1.6
12	3.7	2.7	2.2	1.9	2.1	1.8	28	2.0	2.2	2.3	2.4	2.0	1.6
13	2.9	2.7	2.0	1.8	2.0	1.7	29	1.9	2.2	2.3	2.3	1.9	1.6
14	2.5	2.8	2.0	1.8	1.9	2.1	30	1.9	.....	2.2	2.3	1.9	1.5
15	2.3	7.3	2.0	2.4	1.9	2.2	31	1.8	.....	2.1	.....	1.8	.....
16	2.3	3.3	2.0	2.7	1.9	1.8							

Rating table for Chattooga River near Clayton, Ga., for 1907 and 1908.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*
1.10	245	1.70	535	2.30	910	2.90	1,350
1.20	290	1.80	590	2.40	980	3.00	1,430
1.30	335	1.90	650	2.50	1,050	4.00	2,330
1.40	380	2.00	715	2.60	1,120	5.00	3,330
1.50	430	2.10	780	2.70	1,190	6.00	4,430
1.60	480	2.20	845	2.80	1,270	7.00	5,630

NOTE.—The above table is not applicable for obstructed-channel conditions. It is based on seven discharge measurements made during 1907-8 and is not well defined.

Monthly discharge of Chattooga River near Clayton, Ga., for 1907 and 1908.

[Drainage area, 205 square miles.]

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area).	Accuracy.
	Maximum.	Minimum.	Mean.	Per square mile.		
1907.						
May 13-31	878	480	544	2.65	1.87	A.
June	910	430	521	2.54	2.83	A.
July	590	335	417	2.03	2.34	A.
August	650	290	358	1.75	2.02	A.
September	2,430	290	398	1.94	2.16	B.
October	480	245	305	1.49	1.72	A.
November	1,510	245	506	2.47	2.76	B.
December	2,530	380	780	3.80	4.38	C.
1908.						
January	2,040	590	840	4.10	4.73	C.
February	6,000	715	1,150	5.61	6.05	C.
March	2,130	590	860	4.20	4.84	C.
April	3,550	590	892	4.35	4.85	C.
May	1,350	590	726	3.54	4.08	B.
June	845	430	566	2.76	3.08	A.

TUGALOO RIVER NEAR TOCCOA, GA.

The station is located at Prathers Bridge, 6 miles east of Toccoa, Ga., 8 miles above the Madison (S. C.) station and 4 miles below the mouth of Panther Creek. It was established May 10, 1907, and was discontinued January 31, 1908.

The datum of the chain gage has remained constant since the establishment of the station. The bed of the stream is sandy and liable to shift. An approximate low-water rating has been developed.

Discharge measurements of Tugaloo River near Toccoa, Ga., in 1907.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
		Feet.	*Sq. ft.*	*Feet.*	*Sec.-ft.*
May 10	F. A. Murray	153	570	3.96	1,340
July 20	do	152	495	3.37	1,100
Do	B. M. Hall, jr	152	487	3.37	1,120
November 7	F. A. Murray	139	340	2.42	614

Daily gage height, in feet, of Tugaloo River near Toccoa, Ga., for 1907 and 1908.

[Observer, Mrs. Dora Smith.]

Day.	1907.								Jan., 1908.
	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	
1	.....	5.1	3.0	2.8	2.3	2.8	2.2	3.2	5.9
2	.....	4.7	2.9	2.6	2.2	2.7	2.7	3.2	5.3
3	.....	4.1	2.95	2.8	2.2	2.6	3.9	3.1	4.9
4	.....	3.85	5.0	2.5	2.8	2.6	2.8	3.0	4.7
5	.....	3.65	3.25	2.5	3.3	2.6	2.5	2.9	6.9
6	.....	3.45	3.0	2.5	2.5	2.5	2.5	2.9	5.5
7	.....	3.35	2.9	2.6	2.4	2.5	2.4	2.9	5.2
8	.....	3.35	2.8	2.5	2.4	2.9	2.3	2.8	4.9
9	.....	4.3	2.95	2.5	2.4	2.8	2.3	3.4	4.5
10	3.95	3.75	2.65	2.5	2.5	2.5	2.6	7.5	4.4
11	4.1	3.5	2.65	2.5	2.5	2.5	3.7	5.2	4.3
12	4.15	3.6	2.65	3.9	2.4	2.4	2.9	4.3	12.5
13	3.85	3.35	4.0	2.8	2.3	2.3	2.8	3.8	7.5
14	3.8	3.55	3.0	2.7	2.2	2.3	2.6	7.0	6.3
15	3.85	3.25	3.8	2.7	2.2	2.3	2.5	5.8	5.6
16	4.35	3.15	4.4	3.7	2.3	2.3	2.5	4.9	5.4
17	3.85	3.1	3.4	3.7	2.3	2.3	2.4	4.4	5.2
18	3.7	3.5	4.1	3.2	2.2	2.3	2.8	4.1	5.0
19	3.6	3.4	3.2	2.9	2.2	2.3	3.9	4.0	4.8
20	3.55	3.2	3.4	2.9	2.1	2.2	3.1	3.8	4.7
21	3.5	3.5	3.1	2.9	2.1	2.2	6.3	3.7	4.6
22	3.4	3.1	2.8	3.1	2.1	2.2	5.2	3.5	4.5
23	3.4	3.15	2.8	3.1	10.8	2.2	3.0	11.8	4.4
24	3.35	3.35	2.6	2.8	4.3	2.2	9.3	6.8	4.2
25	3.4	3.1	2.6	2.5	3.2	2.2	5.6	5.5	4.2
26	3.35	3.2	2.7	2.4	2.6	2.2	4.5	4.9	4.1
27	3.9	3.0	2.7	2.4	2.6	2.4	4.0	4.5	5.1
28	3.3	3.5	2.8	2.4	2.9	2.7	3.7	4.5	4.4
29	3.35	5.1	2.8	2.3	4.5	2.3	3.6	4.3	4.4
30	3.2	3.4	4.9	2.3	3.5	2.5	3.4	8.0	4.1
31	3.35	.....	3.1	2.3	.....	2.2	.....	7.5	4.0

Rating table for Tugaloo River near Toccoa, Ga., for 1907 and 1908.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*
2.10	479	3.50	1,140	4.90	1,990	7.60	4,150
2.20	521	3.60	1,195	5.00	2,060	7.80	4,340
2.30	564	3.70	1,250	5.20	2,200	8.00	4,540
2.40	608	3.80	1,305	5.40	2,350	8.20	4,740
2.50	653	3.90	1,360	5.60	2,500	8.40	4,940
2.60	699	4.00	1,420	5.80	2,650	8.60	5,140
2.70	745	4.10	1,480	6.00	2,800	8.80	5,340
2.80	792	4.20	1,540	6.20	2,950	9.00	5,550
2.90	839	4.30	1,600	6.40	3,110	10.00	6,620
3.00	887	4.40	1,665	6.60	3,270	11.00	7,730
3.10	935	4.50	1,730	6.80	3,430	12.00	8,880
3.20	985	4.60	1,795	7.00	3,600	13.00	10,080
3.30	1,035	4.70	1,860	7.20	3,780		
3.40	1,085	4.80	1,925	7.40	3,960		

NOTE.—The above table is not applicable for obstructed-channel conditions. It is based on four discharge measurements made during 1907 and 1908 and on the rating curve for Tugaloo River near Madison, S. C. It is fairly well defined.

Monthly discharge of Tugaloo River near Toccoa, Ga., for 1907 and 1908.

[Drainage area, 535 square miles.]

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area).	Accuracy.
	Maximum.	Minimum.	Mean.	Per square mile.		
1907.						
May 10-31	1,630	985	1,220	2.28	1.87	A.
June	2,130	887	1,200	2.24	2.50	A.
July	2,060	699	1,000	1.87	2.16	A.
August	1,360	564	775	1.45	1.67	B.
September	7,500	479	941	1.76	1.96	B.
October	792	521	618	1.16	1.34	B.
November	5,860	521	1,230	2.30	2.57	B.
December	8,650	792	2,060	3.85	4.44	A
1908.						
January	9,480	1,420	2,310	4.32	4.98	A

TUGALOO RIVER NEAR MADISON, S. C.

The station was originally established at Cooks Ferry, July 19, 1898, and was discontinued December 31, 1901, when the ferry was moved. It was reestablished July 7, 1903, at Holcombs Ferry, 1 mile west of Madison, S. C., and 900 feet below the Southern Railway bridge. It is about 1½ miles above the point where the old station was located and 2 miles below the mouth of Toccoa Creek.

The datum of both gages has remained constant during the period of their maintenance. There is, however, no established relation between the two gage zeros. The elevation of the datum of the present gage is 630.10 feet above sea level. It consists of a vertical timber in three sections, and is located within a few feet of the ferry landing. Discharge measurements are made from the ferryboat or from a small boat held in place by a cable stretched across the river.

Both banks are moderately high, but will overflow for about 200 feet on each side at extreme high stages. The bed of the river is sandy and changeable, necessitating frequent changes in ratings. The high-water part of the rating curve has not yet been developed.[a]

Discharge measurements of Tugaloo River near Madison, S. C., in 1907 and 1908.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
1907.		*Feet.*	*Sq. ft.*	*Feet.*	*Sec.-ft.*
May 9	F. A. Murray	158	628	4.02	1,500
July 20	do	156	488	3.03	1,010
November 6	do	156	340	2.20	623
1908.					
December 16	W. A. Lamb	160	562	3.57	1,240
December 17	do	160	555	3.50	1,160

[a] Data collected at this station prior to 1906 have been published in Water-Supply Paper No. 197, Water resources of Georgia.

Daily gage height, in feet, of Tugaloo River near Madison, S. C., for 1907 and 1908.

[Observer, T. A. Spencer.]

Day.	Jan.	Feb.	Mar.	Apr.	May	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1	10.1	4.0	4.4	3.9	4.2	4.8	2.8	2.6	2.0	2.8	1.95	3.0
2	6.7	6.4	8.3	3.4	3.8	4.8	2.7	2.4	1.95	2.6	2.3	2.95
3	6.1	4.7	6.1	3.3	3.7	4.0	2.8	2.85	1.95	2.5	4.0	3.0
4	5.8	4.8	5.0	3.3	4.4	4.1	5.9	2.3	2.7	2.4	2.7	2.85
5	5.4	6.1	4.6	3.25	4.1	3.4	3.2	2.2	2.75	2.3	2.3	2.75
6	5.2	5.1	4.3	4.4	3.8	3.3	2.9	2.25	2.3	2.3	2.2	2.7
7	5.1	4.6	4.1	4.0	4.3	3.2	2.7	2.35	2.1	2.2	2.15	2.7
8	4.9	4.8	4.4	3.65	4.3	3.2	2.65	2.2	2.05	2.45	2.1	2.7
9	4.8	4.3	4.1	3.6	4.0	4.2	3.1	2.2	2.1	2.7	2.1	3.2
10	4.8	4.1	4.5	3.4	3.85	3.5	2.5	2.15	2.1	2.3	2.3	6.6
11	4.65	4.0	4.35	3.35	3.9	3.35	2.45	2.15	2.2	2.2	3.9	5.3
12	4.6	3.9	4.0	3.4	4.0	3.8	2.5	3.0	2.2	2.15	2.7	4.1
13	4.5	4.3	3.95	3.3	3.7	3.15	3.5	2.5	2.0	2.1	2.7	3.6
14	4.4	3.85	3.9	3.2	4.35	3.5	3.0	2.45	1.95	2.1	2.4	6.4
15	4.9	3.75	4.2	3.15	3.65	3.15	2.9	2.35	1.9	2.1	2.3	5.9
16	4.3	3.7	3.9	3.2	4.0	3.0	3.9	2.85	2.3	2.1	2.2	4.8
17	4.25	3.65	3.8	3.4	3.8	2.95	3.0	2.65	1.95	2.1	2.2	4.2
18	4.2	3.6	3.8	3.7	3.6	2.9	3.05	2.8	2.0	2.1	2.5	3.9
19	4.2	3.9	3.7	4.6	3.5	3.25	4.4	3.75	1.9	2.05	3.6	3.8
20	4.25	3.7	3.7	3.5	3.4	3.05	3.5	2.75	1.85	2.05	2.9	3.6
21	4.3	3.6	3.6	3.3	3.5	2.95	3.15	2.6	1.85	2.0	6.6	3.5
22	4.6	3.5	3.55	3.25	3.25	3.1	2.65	2.7	1.9	2.0	5.2	3.3
23	4.1	3.45	3.5	8.2	3.25	3.3	2.55	3.1	9.3	2.0	4.7	10.7
24	3.95	3.4	3.5	5.1	3.2	3.25	2.45	2.95	4.6	2.0	11.1	7.1
25	3.9	4.1	3.45	4.5	3.3	3.05	2.4	2.45	3.0	2.0	5.8	5.4
26	4.0	3.8	3.6	4.2	3.2	3.1	2.5	2.3	2.6	2.0	4.5	4.8
27	3.95	4.5	3.5	4.25	4.0	2.9	2.4	2.2	2.4	2.15	3.9	4.4
28	3.9	4.05	3.45	4.2	3.3	3.7	2.5	2.15	2.5	2.5	3.5	4.3
29	3.95	.....	3.4	4.1	3.9	4.4	2.7	2.2	4.1	2.15	3.4	4.2
30	3.8	.....	3.35	4.1	3.1	3.4	5.4	2.1	3.3	2.7	3.2	10.2
31	3.75	.....	3.4	.....	3.3	.....	3.0	2.0	.....	2.0	.....	7.9
1908.												
1	6.0	6.5	4.9	5.0	6.0	3.85	3.05	2.95	3.6	2.4	3.4	2.75
2	5.3	5.8	4.9	4.9	5.0	3.75	3.05	2.85	3.1	2.4	3.25	4.1
3	4.9	4.85	5.0	4.8	5.5	3.75	4.25	2.75	3.1	2.3	3.1	3.3
4	4.5	4.5	4.8	4.7	5.2	3.85	3.75	2.85	3.0	2.3	3.3	3.0
5	6.8	4.3	4.8	4.6	5.0	4.0	7.0	2.8	3.1	2.3	3.2	3.0
6	5.5	4.6	4.7	5.2	5.0	4.3	5.8	3.25	5.5	2.3	3.15	3.0
7	5.2	4.5	4.7	4.8	7.6	3.8	6.0	3.75	3.8	2.5	2.9	14.1
8	4.8	4.4	4.5	4.6	5.9	3.7	5.0	3.05	3.4	2.25	3.0	8.2
9	4.5	4.3	4.45	4.5	5.3	3.55	5.2	3.45	3.2	2.4	3.0	5.5
10	4.2	4.5	4.4	4.5	5.1	4.4	5.8	3.65	3.1	6.9	2.8	4.7
11	4.1	8.5	4.35	4.3	4.9	3.85	4.65	3.0	3.1	3.3	2.8	4.1
12	11.7	7.9	5.1	4.3	4.8	3.75	4.25	2.85	2.9	2.8	3.4	4.3
13	7.7	7.6	4.7	4.2	4.6	3.75	3.95	2.75	2.85	2.6	2.9	4.0
14	6.3	7.6	4.5	4.2	4.5	4.5	3.85	2.7	2.8	2.5	3.05	3.8
15	5.5	18.4	4.4	8.1	4.5	5.5	3.75	2.65	2.8	2.5	3.3	3.7
16	5.4	10.5	4.4	8.2	4.5	4.2	3.65	2.65	2.7	2.4	3.2	3.6
17	5.2	8.2	4.3	6.8	4.4	3.75	3.5	3.05	2.7	2.4	2.9	3.7
18	4.9	7.1	4.2	5.7	4.5	3.75	3.35	3.25	2.7	2.35	2.9	3.5
19	4.7	7.2	4.15	6.0	5.3	3.65	3.35	2.8	2.65	2.35	2.8	3.4
20	4.6	6.9	4.4	5.5	4.8	3.55	3.25	4.25	2.85	2.3	2.8	3.3
21	4.4	6.3	7.7	5.1	4.4	3.6	3.15	3.05	2.6	2.35	2.8	3.5
22	4.4	6.0	5.3	4.9	4.2	4.3	3.15	5.0	2.55	2.35	2.7	5.7
23	4.3	5.7	9.7	4.8	4.2	3.65	3.05	6.4	2.55	3.8	2.7	7.0
24	4.1	5.4	17.9	4.6	4.4	3.6	3.2	8.8	2.5	5.5	2.85	5.1
25	4.05	5.4	8.2	12.0	4.1	3.55	3.25	12.4	2.4	3.6	2.8	4.4
26	4.0	5.8	6.8	9.6	4.1	3.45	3.15	6.6	2.4	3.2	2.8	4.3
27	5.0	5.6	6.1	7.4	4.7	3.25	3.1	4.85	2.45	3.1	2.9	4.0
28	4.25	5.5	5.7	6.6	4.3	3.15	2.95	4.25	2.8	2.9	2.8	3.9
29	4.2	5.1	5.5	6.0	4.1	3.1	3.05	3.85	2.9	5.1	2.85	3.8
30	4.0	.....	5.3	5.7	4.6	3.1	3.25	3.65	2.8	4.7	2.8	3.7
31	3.9	.....	5.2	.....	4.0	.....	3.05	3.55	.....	4.5	.....	4.2

Rating tables for Tugaloo River near Madison, S. C.

JANUARY 1, 1907, TO FEBRUARY 14, 1908.[a]

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*
1.80	465	3.20	1,105	4.60	2,125	7.00	4,340
1.90	500	3.30	1,165	4.70	2,210	8.00	5,340
2.00	535	3.40	1,225	4.80	2,295	9.00	6,340
2.10	575	3.50	1,290	4.90	2,380	10.00	7,340
2.20	615	3.60	1,355	5.00	2,465	11.00	8,340
2.30	655	3.70	1,425	5.20	2,640	12.00	9,340
2.40	700	3.80	1,495	5.40	2,820	13.00	10,340
2.50	745	3.90	1,570	5.60	3,000	14.00	11,340
2.60	790	4.00	1,645	5.80	3,180	15.00	12,340
2.70	840	4.10	1,720	6.00	3,365	16.00	13,340
2.80	890	4.20	1,800	6.20	3,555	17.00	14,340
2.90	940	4.30	1,880	6.40	3,745	18.00	15,340
3.00	995	4.40	1,960	6.60	3,940	19.00	16,340
3.10	1,050	4.50	2,040	6.80	4,140		

FEBRUARY 15, TO DECEMBER 31, 1908.[b]

2.20	540	3.30	1,065	4.40	1,820	5.50	2,840
2.30	580	3.40	1,125	4.50	1,905	5.60	2,940
2.40	620	3.50	1,185	4.60	1,990	5.70	3,040
2.50	660	3.60	1,245	4.70	2,080	5.80	3,140
2.60	700	3.70	1,310	4.80	2,175	5.90	3,240
2.70	745	3.80	1,375	4.90	2,270	6.00	3,340
2.80	795	3.90	1,440	5.00	2,365	6.20	3,540
2.90	845	4.00	1,510	5.10	2,460	6.40	3,740
3.00	900	4.10	1,585	5.20	2,555		
3.10	955	4.20	1,660	5.30	2,650		
3.20	1,010	4.30	1,740	5.40	2,745		

Monthly discharge of Tugaloo River near Madison, S. C., for 1907 and 1908.

[Drainage area, 593 square miles.]

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area).	Accuracy.
	Maximum.	Minimum.	Mean.	Per square mile.		
1907.						
January	7,440	1,460	2,300	3.88	4.47	B.
February	3,740	1,220	1,830	3.09	3.22	B.
March	5,640	1,200	1,770	2.98	3.44	B.
April	5,540	1,080	1,600	2.70	3.01	B.
May	1,960	1,050	1,460	2.46	2.84	B.
June	2,300	940	1,290	2.18	2.43	B.
July	3,270	700	1,090	1.84	2.12	B.
August	1,460	535	757	1.28	1.48	B.
September	6,640	482	918	1.55	1.73	B.
October	890	535	631	1.06	1.22	B.
November	8,440	518	1,460	2.46	2.74	B.
December	8,040	840	2,330	3.93	4.53	B.
The year	8,440	482	1,450	2.45	33.23	
1908.						
January	9,040	1,570	2,610	4.40	5.07	B.
February	15,700	1,880	3,910	6.59	7.11	B.
March	15,200	1,620	3,030	5.11	5.89	B.
April	9,340	1,660	3,090	5.21	5.81	B.
May	4,940	1,510	2,240	3.78	4.36	B.
June	2,840	955	1,400	2.36	2.63	B.
July	4,340	872	1,550	2.61	3.01	B.
August	9,740	722	1,730	2.92	3.37	B.
September	2,840	620	911	1.54	1.72	B.
October	4,240	560	1,050	1.77	2.04	B.
November	1,120	745	886	1.49	1.66	B.
December	11,400	770	2,040	3.44	3.97	B.
The year	15,700	560	2,040	3.44	46.64	

[a] The above table is not applicable for obstructed-channel conditions. It is based on two discharge measurements made during 1907 and the form of earlier rating curves. It is not well defined. Above gage height 6.5 feet, the rating curve is a tangent, the difference being 100 per tenth.

[b] The above table is not applicable for obstructed-channel conditions. It is based on two discharge measurements made during 1908 and the form of earlier rating curves. It is not well defined. Above gage height, 6.4 feet, this table is the same as the table for 1907.

SAVANNAH RIVER AT WOODLAWN, S. C.

The station is located at the Charleston and Western Carolina Railway bridge, 1,000 feet from the depot at Woodlawn, S. C., 17 miles above Augusta, Ga., and 10 miles above the Augusta water-power dam. It is 5 miles above Stevens Creek, which is a large tributary from the South Carolina side. It was established November 9, 1905, and has been maintained continuously except from August 27, to October 12, 1908, when the gage was destroyed by a flood which washed out the two main spans of the east-channel bridge.

The original gage was of the standard chain type attached to the railroad bridge. The present temporary staff gage, used since October 12, 1908, consists of three vertical sections attached to trees from 50 to 80 feet above the bridge. The datum of both gages is the same and has not changed since their installation.

Both banks overflow slightly at extreme high stages. An island which divides the channel into two sections also overflows at high stages, the overflow passing through about 900 feet of wooden trestle. The bed of the stream is composed mainly of rock and is quite rough, causing broken and irregular current in some portions of the cross section. Conditions of flow appear to be constant and an excellent rating has been developed for low and medium low stages.

Discharge measurements of Savannah River at Woodlawn, S. C., in 1907 and 1908.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
1907.		*Feet.*	*Sq. ft.*	*Feet.*	*Sec.-ft.*
March 12	M. R. Hall	688	3,190	5.39	8,770
1908.					
July 9	M. R. Hall	604	5,240	8.74	23,200

Daily gage height, in feet, of Savannah River at Woodlawn, S. C., for 1907 and 1908.

[Observers, W. E. Stanfield and J. C. Parks.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1	10.8	5.3	6.7	4.75	5.2	6.6	5.4	5.1	3.3	5.5	3.4	5.9
2	10.0	6.4	7.8	5.0	5.1	7.8	4.5	4.4	3.1	4.45	3.5	4.85
3	7.6	6.8	9.7	4.9	5.0	7.0	5.6	4.15	3.1	4.1	3.5	4.8
4	6.6	10.8	8.5	4.7	5.1	5.5	6.4	4.75	3.45	4.05	4.1	4.8
5	6.3	11.7	6.8	4.5	5.55	5.1	5.0	4.6	4.2	3.8	3.3	4.5
6	6.0	11.1	6.1	4.5	5.2	4.8	4.8	3.85	4.5	3.7	3.45	4.4
7	5.8	8.5	5.8	5.25	5.0	4.6	4.25	3.65	4.15	3.6	4.0	4.3
8	5.7	6.7	5.6	5.4	5.1	4.5	4.0	3.9	3.7	3.65	3.9	4.25
9	5.6	6.0	5.5	5.0	5.5	4.5	3.95	3.65	3.5	3.85	3.9	4.25
10	5.5	5.8	5.45	5.1	5.5	4.65	3.85	3.7	3.55	3.8	3.65	4.45
11	5.45	5.6	5.3	5.0	5.2	4.9	3.85	4.15	4.1	3.8	3.7	4.6
12	5.4	5.5	5.35	5.0	5.1	5.0	4.3	5.3	4.1	3.55	4.5	5.4
13	5.3	5.4	5.25	4.8	5.1	4.9	4.8	4.4	3.9	3.5	4.45	7.8
14	5.3	5.25	5.1	4.8	4.55	4.75	5.2	4.1	3.7	3.4	4.5	11.6
15	5.3	5.2	5.3	4.6	4.6	4.6	5.5	4.05	3.5	3.6	4.3	12.1
16	5.2	5.15	5.45	4.4	4.7	4.4	5.0	4.1	3.25	3.3	3.8	8.8
17	5.2	5.05	5.3	4.5	4.7	4.3	5.4	4.3	3.25	3.4	3.8	6.8
18	5.15	5.0	5.2	4.7	4.8	4.15	5.3	5.0	3.45	3.3	3.95	6.0
19	5.1	5.0	5.15	4.6	4.7	4.1	5.15	5.7	3.2	3.4	4.3	5.65
20	5.2	5.2	5.1	5.3	4.55	4.0	5.0	5.0	3.3	3.45	4.75	5.45
21	5.2	5.4	5.0	5.45	4.4	4.3	4.85	4.7	3.15	3.3	5.15	5.2
22	5.2	5.3	4.9	5.3	4.3	4.1	4.5	4.2	3.1	3.3	9.2	5.0
23	5.1	5.05	4.85	8.3	4.3	4.0	4.05	4.05	4.25	3.25	11.8	14.3
24	5.0	4.95	4.8	10.7	4.3	4.3	3.8	4.2	9.4	3.4	11.8	16.3
25	5.0	5.2	4.75	8.2	4.4	4.4	3.8	4.2	7.8	3.5	9.6	11.8
26	5.0	5.7	4.75	6.7	4.5	4.55	3.7	3.85	5.0	3.2	7.8	8.6
27	5.1	6.3	4.7	6.1	5.2	4.5	4.0	3.7	4.2	3.2	6.2	6.7
28	5.1	6.5	4.7	5.8	5.4	4.45	4.0	3.5	4.2	3.2	5.2	5.95
29	5.0	.....	4.65	5.7	5.35	8.3	5.4	3.7	8.0	3.25	5.5	6.1
30	4.9	.....	4.65	5.05	4.5	6.7	5.25	3.5	6.5	3.3	6.3	11.6
31	4.95	.....	4.55	.....	4.5	.....	5.6	3.4	.....	3.55	.....	15.7
1908.												
1	13.2	14.3	6.0	6.4	6.8	5.25	5.7	4.5	.....	.....	8.1	4.7
2	9.7	14.5	6.2	6.4	6.4	5.15	4.6	4.4	.....	.....	6.4	4.9
3	7.2	10.8	6.3	6.4	6.3	4.85	5.6	4.3	.....	.....	6.5	5.1
4	6.4	8.4	5.75	6.5	6.2	4.7	7.8	4.2	.....	.....	7.8	5.0
5	7.0	6.5	5.45	6.2	5.85	5.3	10.1	4.1	.....	.....	7.0	4.8
6	8.4	6.5	5.3	6.2	5.8	5.6	8.1	5.3	.....	.....	6.0	4.6
7	10.7	6.4	5.25	6.5	5.9	5.55	7.2	9.1	.....	.....	5.6	4.65
8	12.3	6.2	5.15	6.3	6.3	5.25	7.0	8.1	.....	.....	5.3	9.4
9	9.8	6.0	5.35	6.2	6.5	5.0	8.4	7.2	.....	.....	4.9	8.0
10	7.5	6.0	5.5	6.0	5.9	4.8	7.6	7.7	.....	.....	4.7	6.8
11	7.7	12.5	5.5	5.8	5.5	4.9	6.9	7.0	.....	.....	4.45	6.2
12	13.8	13.6	5.6	5.7	5.5	5.2	6.1	6.3	.....	.....	4.35	6.7
13	14.6	11.7	5.7	5.75	5.45	5.4	5.5	5.6	.....	4.8	5.7	7.2
14	10.6	10.6	5.6	5.8	5.5	5.5	5.45	4.85	.....	4.4	7.8	6.1
15	8.0	10.6	5.5	6.1	5.4	5.4	5.3	4.5	.....	4.4	7.0	5.35
16	7.0	14.5	5.5	9.4	5.35	5.5	5.15	4.35	.....	4.25	6.5	5.1
17	6.6	13.0	5.3	12.9	5.2	5.5	5.0	4.2	.....	4.2	6.3	5.0
18	6.4	9.1	5.4	12.0	5.05	5.6	4.8	4.2	.....	4.2	6.1	5.0
19	6.0	8.0	5.3	9.9	5.7	8.4	5.0	4.75	.....	4.2	5.9	5.0
20	6.0	8.4	5.4	7.8	6.3	9.9	5.1	6.5	.....	4.2	5.6	4.9
21	5.7	8.4	6.9	8.4	6.4	8.0	4.95	8.0	.....	4.1	5.2	5.0
22	5.7	8.1	7.9	7.8	5.6	6.8	4.7	7.6	.....	4.1	4.9	8.1
23	5.55	7.6	10.5	6.8	5.3	7.7	4.7	7.7	.....	4.2	4.7	14.9
24	5.5	6.8	15.8	6.6	5.3	9.1	4.5	9.6	.....	4.35	4.6	13.2
25	5.4	6.6	17.7	7.4	5.2	10.0	4.25	16.0	.....	7.0	4.5	9.2
26	5.35	6.4	13.3	10.8	5.1	8.1	4.2	35.8	.....	5.3	4.45	7.4
27	5.4	6.3	9.8	12.3	5.1	7.4	4.4	.....	.....	5.1	4.5	6.8
28	5.6	6.4	8.4	11.0	5.05	7.0	4.5	.....	.....	5.45	4.55	5.95
29	5.85	6.4	7.4	9.1	5.1	6.8	4.4	.....	.....	7.0	4.6	5.7
30	5.55	.....	6.8	7.5	5.6	6.3	4.5	.....	.....	10.8	4.6	5.6
31	6.1	.....	6.7	.....	5.3	.....	4.6	.....	.....	9.6	.....	5.8

NOTE.—The gage was washed out August 27 and was replaced to the same datum October 13, 1908. August 27, 1908, the stage reached 37.6 feet, as determined afterwards by leveling to high-water marks. This is the highest stage recorded since the establishment of this station.

Rating table for Savannah River at Woodlawn, S. C., for 1907 and 1908.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*
3.10	2,640	5.20	8,170	7.60	17,420	19.00	84,360
3.20	2,850	5.30	8,490	7.80	18,350	20.00	90,560
3.30	3,060	5.40	8,820	8.00	19,310	21.00	96,760
3.40	3,280	5.50	9,150	8.20	20,300	22.00	102,960
3.50	3,500	5.60	9,490	8.40	21,310	23.00	109,160
3.60	3,730	5.70	9,830	8.60	22,350	24.00	115,360
3.70	3,960	5.80	10,180	8.80	23,410	25.00	121,560
3.80	4,200	5.90	10,530	9.00	24,490	26.00	127,760
3.90	4,450	6.00	10,890	9.20	25,590	27.00	133,960
4.00	4,700	6.10	11,250	9.40	26,700	28.00	140,160
4.10	4,960	6.20	11,620	9.60	27,820	29.00	146,360
4.20	5,220	6.30	11,990	9.80	28,940	30.00	152,560
4.30	5,490	6.40	12,370	10.00	30,060	31.00	158,760
4.40	5,760	6.50	12,760	11.00	35,760	32.00	164,960
4.50	6,040	6.60	13,150	12.00	41,560	33.00	171,160
4.60	6,330	6.70	13,550	13.00	47,460	34.00	177,360
4.70	6,630	6.80	13,950	14.00	53,460	35.00	183,560
4.80	6,930	6.90	14,360	15.00	59,560	36.00	189,760
4.90	7,230	7.00	14,780	16.00	65,760		
5.00	7,540	7.20	15,630	17.00	71,960		
5.10	7,850	7.40	16,510	18.00	78,160		

NOTE.—The above table is not applicable for obstructed-channel conditions. It is based on 10 discharge measurements made during 1905–1908, and is well defined between gage heights 3 feet and 10 feet. Above gage height 15 feet the rating curve is a tangent, the difference being 620 per tenth. The upper part of the curve is based on a discharge of 200,000 second-feet at gage height 37.6 feet, which was the crest stage of the flood of August, 1908. The estimate of the crest discharge at Woodlawn is based on the corresponding discharge at Augusta, Ga., which was estimated to be 216,000 second-feet, with a possible error of 10 to 15 per cent.

Monthly discharge of Savannah River at Woodlawn, S. C., for 1907 and 1908.

[Drainage area, 6,600 square miles.]

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area).	Accuracy.
	Maximum.	Minimum.	Mean.	Per square mile.		
1907.						
January	34,600	7,230	10,500	1.59	1.83	A.
February	39,800	7,380	12,900	1.95	2.03	A.
March	28,400	6,180	9,780	1.48	1.71	A.
April	34,000	5,760	9,550	1.45	1.62	A.
May	9,320	5,490	7,220	1.09	1.26	A.
June	20,800	4,700	7,840	1.19	1.33	A.
July	12,400	3,960	6,810	1.03	1.19	A.
August	9,830	3,280	5,370	.814	.94	A.
September	26,700	2,640	6,070	.920	1.03	A.
October	9,150	2,850	3,790	.574	.66	A.
November	40,400	3,060	9,780	1.48	1.65	A.
December	67,600	5,360	18,900	2.86	3.30	B.
The year	67,600	2,640	9,040	1.37	18.55	
1908.						
January	57,100	8,660	19,700	2.98	3.44	B.
February	56,500	10,900	25,700	3.89	4.20	B.
March	76,300	8,010	17,300	2.62	3.02	B.
April	46,900	9,830	19,100	2.89	3.22	B.
May	14,000	7,700	9,820	1.49	1.72	A.
June	30,100	6,630	12,800	1.94	2.16	A.
July	30,600	5,220	10,300	1.56	1.80	A.
August[a]	189,000	4,960	26,300	3.98	4.59	B.
September	33,400	6,500	10,400	1.58	1.76	B.
October	34,600	4,960	8,920	1.35	1.56	A.
November	19,800	5,620	9,890	1.50	1.67	A.
December	59,000	6,330	14,200	2.15	2.48	A.
The year	189,000	4,960	15,400	2.33	31.62	

[a] For estimated discharge at the crest of the flood, August, 1908, see rating table, footnote above.

NOTE.—The discharge August 27 to October 12, 1908, was obtained from the application of the 1906 rating for Savannah River at Augusta, Ga., to the corresponding gage heights at that point. Suitable coefficients were applied to the Augusta discharge to obtain the true discharge at Woodlawn.

SAVANNAH RIVER AT AUGUSTA, GA.

Owing to the control of the discharge of Savannah River at Augusta, Ga., by users of water power, the daily gage readings are not a correct index of the true discharge. The errors from this source are greatest at low and medium stages. This station was discontinued December 31, 1906.[a] (See Savannah River at Woodlawn, S. C.)

For view of dam and head of canal on Savannah River near Augusta, Ga., see Plate III, *A*.

STEKOA CREEK NEAR CLAYTON, GA.

This station is located 9 miles southeast of Clayton, at a foot log one-fourth mile from B. F. Phillip's house and 2 miles above the mouth of the creek. It was established May 14, 1907, and was discontinued June 30, 1908.

The vertical staff gage is located 6 feet above the foot log. The bed of the stream is soft and sandy and liable to shift. A fairly good low-water rating has been developed.

Discharge measurements of Stekoa Creek near Clayton, Ga., in 1907 and 1908.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
1907.		*Feet.*	*Sq. ft.*	*Feet.*	*Sec.-ft.*
May 14	F. A. Murray	52	67	1.07	90
June 14	do	52	59	1.03	76
July 19	B. M. Hall, jr	52	66	1.02	80
November 11	F. A. Murray	52	55	.96	68
1908.					
May 21	M. R. Hall	50	75	1.25	124
Do	do	50	75	1.24	128

[a] All data collected at this station from 1899 to 1905, inclusive, and low-water discharge from 1892 to 1905, inclusive, have been compiled in Water-Supply Paper No. 197, Water resources of Georgia. For gage heights after 1906 the reader is referred to the United States Weather Bureau, Washington, D. C.

A. DAM AND HEAD OF CANAL, SAVANNAH RIVER, AUGUSTA, GA.

B. CHATTAHOOCHEE RIVER NEAR FRANKLIN, GA.

Daily gage height, in feet, of Stekoa Creek near Clayton, Ga., for 1907 and 1908.

[Observer, B. F. Phillips.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1						2.0	1.0	1.0	0.9	1.0	0.8	1.0
2						1.2	1.0	1.0	.9	.9	1.8	1.0
3						1.1	1.0	.9	.9	.9	1.0	.95
4						1.1	1.1	.9	.9	.9	1.0	.9
5						1.1	1.0	.9	.9	.9	.9	.9
6						1.0	1.0	.9	.9	.9	.9	.9
7						1.0	1.0	.9	.9	.9	.9	.9
8						1.1	1.0	.9	.9	.9	.9	.9
9						1.1	.9	.9	.9	.9	.9	1.1
10						1.1	.9	.9	.9	.9	1.15	1.7
11						1.0	.9	.9	1.0	.9	1.0	1.2
12						1.0	.9	.9	.9	.9	.9	1.1
13						1.0	1.1	.9	.9	.9	.9	1.1
14					1.1	1.1	1.0	.9	.9	.9	.9	2.0
15					1.2	1.0	1.0	.9	.9	.9	.9	1.4
16					1.1	1.0	1.0	1.1	.9	.9	.9	1.2
17					1.1	1.0	1.0	1.0	.9	.9	.9	1.2
18					1.1	1.0	1.0	1.1	.9	.9	1.2	1.1
19					1.1	1.0	1.9	1.1	.8	.9	1.0	1.1
20					1.0	1.0	1.1	1.0	.8	.9	.9	1.1
21					1.0	1.0	1.1	1.0	.8	.9	2.8	1.0
22					1.0	1.0	1.0	1.0	.8	.9	1.4	1.0
23					1.0	1.0	1.0	1.0	4.2	.9	3.0	2.5
24					1.0	1.0	1.0	1.0	1.1	.9	1.9	1.4
25					1.0	1.0	.9	1.0	1.0	.9	1.4	1.3
26					1.1	1.0	.9	.9	1.0	.9	1.1	1.2
27					1.1	1.0	.9	.9	.9	1.0	1.1	1.2
28					1.1	1.1	1.2	.9	1.2	.9	1.1	1.2
29					1.0	1.2	1.0	.9	1.2	.9	1.1	1.2
30					1.0	1.0	1.4	.9	1.0	.9	1.1	4.7
31					1.2	.....	1.1	.9	.....	.8	.....	1.7
1908.												
1	1.4	1.7	1.3	1.3	1.4	1.2	.....	.....	.....	.....	.....	.....
2	1.3	1.3	1.3	1.3	1.4	1.2	.....	.....	.....	.....	.....	.....
3	1.3	1.2	1.3	1.3	1.4	1.2	.....	.....	.....	.....	.....	.....
4	1.2	1.2	1.3	1.3	1.3	1.2	.....	.....	.....	.....	.....	.....
5	1.5	1.2	1.3	1.2	1.3	1.5	.....	.....	.....	.....	.....	.....
6	1.3	1.2	1.3	1.3	1.3	1.3	.....	.....	.....	.....	.....	.....
7	1.3	1.2	1.3	1.3	1.8	1.2	.....	.....	.....	.....	.....	.....
8	1.3	1.2	1.2	1.3	1.4	1.1	.....	.....	.....	.....	.....	.....
9	1.2	1.2	1.2	1.2	1.4	1.1	.....	.....	.....	.....	.....	.....
10	1.2	1.4	1.2	1.2	1.4	1.1	.....	.....	.....	.....	.....	.....
11	1.2	1.9	1.2	1.2	1.3	1.1	.....	.....	.....	.....	.....	.....
12	3.4	1.7	1.3	1.2	1.3	1.1	.....	.....	.....	.....	.....	.....
13	1.7	1.6	1.2	1.2	1.3	1.1	.....	.....	.....	.....	.....	.....
14	1.4	1.6	1.2	1.2	1.3	1.5	.....	.....	.....	.....	.....	.....
15	1.4	4.9	1.2	2.7	1.2	1.4	.....	.....	.....	.....	.....	.....
16	1.3	2.0	1.2	1.7	1.2	1.3	.....	.....	.....	.....	.....	.....
17	1.3	1.7	1.2	1.6	1.2	1.2	.....	.....	.....	.....	.....	.....
18	1.3	1.5	1.2	1.6	1.2	1.2	.....	.....	.....	.....	.....	.....
19	1.2	1.6	1.2	1.5	1.4	1.1	.....	.....	.....	.....	.....	.....
20	1.2	1.5	1.4	1.4	1.3	1.1	.....	.....	.....	.....	.....	.....
21	1.2	1.5	1.5	1.3	1.3	1.1	.....	.....	.....	.....	.....	.....
22	1.2	1.4	1.4	1.3	1.3	1.1	.....	.....	.....	.....	.....	.....
23	1.2	1.4	3.5	1.3	1.2	1.1	.....	.....	.....	.....	.....	.....
24	1.2	1.4	4.0	1.3	1.2	1.1	.....	.....	.....	.....	.....	.....
25	1.2	1.3	1.8	7.5	1.2	1.1	.....	.....	.....	.....	.....	.....
26	1.2	1.5	1.5	2.0	1.3	1.1	.....	.....	.....	.....	.....	.....
27	1.3	1.4	1.4	1.7	1.3	1.1	.....	.....	.....	.....	.....	.....
28	1.2	1.3	1.4	1.6	1.2	1.1	.....	.....	.....	.....	.....	.....
29	1.2	1.3	1.4	1.5	1.2	1.0	.....	.....	.....	.....	.....	.....
30	1.2	.....	1.3	1.5	1.2	1.0	.....	.....	.....	.....	.....	.....
31	1.2	.....	1.3	.....	1.2	.....	.....	.....	.....	.....	.....	.....

Rating table for Stekoa Creek near Clayton, Ga., for 1907 and 1908.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*
0.80	45	1.50	187	2.20	410	2.90	655
.90	60	1.60	215	2.30	445	3.00	690
1.00	77	1.70	245	2.40	480	4.00	1,090
1.10	95	1.80	276	2.50	515	5.00	1,490
1.20	115	1.90	308	2.60	550	6.00	1,890
1.30	137	2.00	340	2.70	585	7.00	2,290
1.40	161	2.10	375	2.80	620		

NOTE.—The above table is not applicable for obstructed-channel conditions. It is based on 6 discharge measurements made during 1907 and 1908, and is well defined between gage heights 0.8 foot and 1.5 feet. It is only roughly approximate at high stages. Above gage height 3 feet the rating curve is a tangent, the difference being 40 per tenth.

Monthly discharge of Stekoa Creek near Clayton, Ga., for 1907 and 1908.

[Drainage area, 36 square miles.]

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area).	Accuracy.
	Maximum.	Minimum.	Mean.	Per square mile.		
1907.						
May 14–31	115	77	89.2	2.48	1.66	B.
June	340	77	93.1	2.59	2.89	B.
July	308	60	87.5	2.43	2.80	B.
August	95	60	68.3	1.90	2.19	B.
September	1,170	45	102	2.83	3.16	C.
October	77	45	60.6	1.68	1.94	B.
November	690	45	133	3.69	4.12	C.
December	1,370	60	169	4.69	5.41	D.
1908.						
January	850	115	156	4.33	4.99	C.
February	1,450	115	220	6.11	6.59	D.
March	1,090	115	196	5.44	6.27	D.
April	2,490	115	253	7.03	7.84	D.
May	276	115	139	3.86	4.45	B.
June	187	77	110	3.06	3.41	B.

TALLULAH RIVER AT TALLULAH FALLS, GA.

This station is located at the wagon bridge about one-fourth mile above the falls and about one-fourth mile from the village of Tallulah Falls. It was established August 29, 1900, but the record for that year extended only to October 19, when the observer moved away. Readings were resumed January 18, 1901, and were again discontinued December 31, 1901. On July 15, 1904, the station was reestablished and has continued without any break since that time.

The original gage established in 1900 is still in place and other gages which have superseded it have all been set to agree with the original datum. The present gage is of the standard chain type.

Both banks are high and not subject to overflow. The bed of the stream is rough and composed of rocks. Conditions of flow have changed slightly since the establishment of the station, but a good rating has been developed for low stages.[a]

Discharge measurements of Tallulah River at Tallulah Falls, Ga., in 1907 and 1908.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
1907.		*Feet.*	*Sq. ft.*	*Feet.*	*Sec.-ft.*
March 6	F. A. Murray	62	433	2.02	642
Do	do	62	433	2.02	646
May 11	do	60	398	2.04	708
July 17	do	60	348	1.34	354
Do	B. M. Hall, jr	60	360	1.34	340
November 11	F. A. Murray	59	380	1.30	318
November 12	do	59	376	1.22	303
Do	do	59	376	1.23	300
1908.					
May 20	M. R. Hall	62	430	2.18	708
Do	do	62	430	2.16	721
December 18	Wm. A. Lamb	58	409	1.63	431

[a] Data collected at this station prior to 1906 have been compiled in Water-Supply Paper No. 197, Water resources of Georgia.

Daily gage height, in feet, of Tallulah River at Tallulah Falls, Ga., for 1907 and 1908.

[Observer, A. I. McKay.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1	3.3	2.2	2.0	1.7	1.9	1.6	1.2	1.9	0.8	1.4	0.9	1.3
2	2.8	2.6	3.7	1.5	1.8	1.6	1.2	1.7	.9	1.3	1.0	1.2
3	2.6	2.4	2.9	1.5	1.8	1.6	1.3	1.4	1.0	1.2	1.0	1.2
4	2.5	2.1	2.2	1.5	2.1	1.7	2.3	1.0	1.2	1.1	1.0	1.2
5	2.4	2.1	2.2	1.5	2.1	1.7	1.8	.9	1.4	1.1	1.0	1.1
6	2.4	2.0	2.1	1.7	2.0	1.5	1.2	.9	1.0	1.0	1.0	1.0
7	2.3	2.0	2.0	1.7	2.1	1.4	1.2	.8	.8	1.0	1.0	1.2
8	2.3	2.0	2.0	1.7	2.0	1.4	1.2	.7	.8	1.7	1.0	1.6
9	2.2	2.0	2.0	1.7	2.0	1.6	1.2	.7	.9	1.6	1.0	1.8
10	2.2	2.0	2.0	1.6	1.8	1.5	1.2	.6	.9	1.4	1.0	3.1
11	2.2	1.9	1.7	1.5	1.8	1.5	1.2	.6	.9	1.2	.9	3.0
12	2.1	1.9	2.0	1.5	1.8	1.5	1.2	.5	.9	1.0	.9	2.9
13	2.1	1.9	2.0	1.6	1.8	1.5	2.1	.4	.8	1.0	.9	2.9
14	2.1	1.8	1.9	1.5	1.9	1.6	1.9	1.0	.8	1.0	.9	3.3
15	2.0	1.8	2.0	1.5	1.9	1.4	1.4	1.0	.8	1.0	.8	2.1
16	2.0	1.8	1.9	1.5	1.9	1.3	1.6	1.0	.9	.9	.8	2.0
17	2.0	1.8	1.9	1.6	2.0	1.3	1.6	1.6	.8	.9	1.0	2.0
18	2.0	1.8	1.7	1.5	1.8	1.3	1.5	1.6	.8	.8	1.9	2.0
19	2.0	1.7	1.7	1.5	1.8	1.3	2.0	1.2	.7	.8	2.0	1.9
20	2.0	1.7	1.7	1.5	1.8	1.3	1.8	1.2	.7	.8	2.5	1.7
21	1.9	1.7	1.7	1.5	1.7	1.3	1.7	1.1	.7	.8	3.3	1.7
22	1.9	1.7	1.6	1.6	1.7	1.3	1.7	1.3	.8	.8	2.2	2.0
23	1.9	1.6	1.6	2.6	1.6	1.3	1.4	1.2	2.8	.8	2.3	4.2
24	1.9	1.7	1.6	2.8	1.6	1.5	1.3	1.2	1.9	.8	3.0	2.3
25	1.9	1.8	1.5	2.2	1.6	1.3	1.2	1.2	1.4	.8	2.3	2.5
26	1.9	1.9	1.5	1.9	1.8	1.4	1.2	1.2	1.2	.8	1.8	2.3
27	1.9	2.1	1.5	1.8	1.7	1.4	1.0	1.1	1.1	.8	1.6	2.1
28	1.9	2.1	1.5	1.9	1.6	1.3	2.2	1.0	1.4	.8	1.4	2.0
29	1.9	.....	1.5	1.9	1.5	2.2	2.0	.9	2.1	.8	1.3	2.6
30	1.8	.....	1.5	1.9	1.4	1.5	2.5	.9	1.5	.8	1.1	3.6
31	1.8	.....	1.5	.....	1.6	.....	2.0	.8	.....	1.0	.....	3.0
1908.												
1	2.9	2.9	2.5	2.2	2.5	2.0	1.4	1.3	1.5	1.0	1.4	2.0
2	2.4	2.8	2.3	2.3	2.5	2.0	1.4	1.2	1.3	1.0	1.4	2.0
3	2.4	2.8	2.3	2.2	2.5	2.0	1.5	1.1	1.3	1.0	1.4	2.0
4	2.1	2.6	2.3	2.2	2.4	2.1	1.6	1.1	1.3	1.0	1.4	1.8
5	3.0	2.2	2.2	2.2	2.3	2.2	2.0	1.4	1.5	1.0	1.4	1.4
6	2.5	2.2	2.2	2.1	2.3	2.3	2.7	1.7	1.3	1.0	1.4	1.6
7	2.4	2.1	2.2	2.1	3.2	2.3	2.7	1.4	1.3	1.0	1.4	3.4
8	2.4	2.1	2.1	2.1	2.9	2.2	2.6	1.2	1.3	1.0	1.4	6.3
9	2.2	3.0	2.1	2.1	2.4	2.2	2.6	1.2	1.3	1.3	1.4	4.0
10	2.0	3.0	2.1	2.0	2.3	2.4	2.4	1.1	1.3	2.1	1.2	3.8
11	1.9	3.3	2.2	2.0	2.3	2.3	2.4	1.1	1.3	2.1	1.2	2.5
12	4.0	4.5	2.2	2.0	2.1	2.1	2.0	1.1	1.3	2.0	1.3	1.7
13	3.0	4.6	2.0	2.9	2.1	2.1	1.7	1.1	1.2	1.8	1.4	1.6
14	2.0	5.9	2.0	2.9	2.1	2.1	1.7	1.1	1.2	1.4	1.4	1.4
15	2.0	7.0	2.0	2.8	2.1	2.1	1.6	1.0	1.2	1.0	1.3	2.3
16	2.0	5.0	2.0	2.8	2.1	2.1	1.6	1.2	1.1	1.0	1.3	2.3
17	1.8	5.3	2.0	2.5	2.1	2.0	1.6	2.0	1.1	1.0	1.3	2.0
18	1.8	4.0	2.0	2.5	2.1	2.0	1.7	1.9	1.1	1.0	1.2	2.0
19	1.9	3.0	2.1	2.5	2.0	2.0	1.4	2.4	1.1	1.0	1.2	1.7
20	1.9	2.8	2.3	2.6	2.0	1.8	1.4	2.7	1.1	1.0	1.2	1.6
21	1.6	2.6	2.3	2.4	2.0	1.5	1.4	1.2	1.0	1.0	1.2	1.6
22	1.7	2.6	3.0	2.4	2.0	1.5	1.3	2.9	1.0	1.1	1.2	1.5
23	1.8	2.6	3.3	2.3	1.9	1.5	1.3	2.8	1.0	3.9	1.2	2.6
24	2.0	2.6	4.7	2.5	1.9	1.4	1.3	2.5	1.0	2.1	2.0	1.9
25	2.0	2.0	3.2	6.8	1.8	1.3	1.4	3.6	1.0	2.1	2.0	1.7
26	2.0	2.0	2.8	3.4	1.9	1.3	1.3	2.4	1.0	2.0	1.9	1.6
27	2.0	2.0	2.4	3.2	2.1	1.3	1.3	1.6	1.0	2.3	1.4	1.6
28	2.0	1.9	2.1	3.2	2.0	1.3	1.4	1.8	1.0	2.3	1.2	1.6
29	2.0	1.9	2.7	2.8	2.0	1.3	1.4	1.6	1.0	2.3	1.0	1.5
30	2.3	.....	2.5	2.7	2.0	1.3	1.4	1.6	1.0	1.9	1.5	1.5
31	2.6	.....	2.4	.....	2.0	.....	1.3	1.5	.....	1.6	.....	1.4

Rating table for Tallulah River at Tallulah Falls, Ga., for 1907 and 1908.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*
0.40	117	1.70	485	3.00	1,340	4.60	3,000
.50	132	1.80	530	3.10	1,420	4.80	3,260
.60	149	1.90	580	3.20	1,510	5.00	3,530
.70	168	2.00	635	3.30	1,600	5.20	3,810
.80	189	2.10	695	3.40	1,690	5.40	4,110
.90	212	2.20	760	3.50	1,780	5.60	4,410
1.00	237	2.30	825	3.60	1,880	5.80	4,730
1.10	264	2.40	890	3.70	1,980	6.00	5,060
1.20	293	2.50	960	3.80	2,080	6.20	5,410
1.30	325	2.60	1,030	3.90	2,180	6.40	5,780
1.40	360	2.70	1,105	4.00	2,290	6.60	6,160
1.50	400	2.80	1,180	4.20	2,510	6.80	6,540
1.60	440	2.90	1,260	4.40	2,750	7.00	6,930

NOTE.—The above table is not applicable for obstructed-channel conditions. It is based on 21 discharge measurements made during 1906 to 1908 and measurements of earlier years. It is well defined between gage heights 0.4 foot and 6 feet.

Monthly discharge of Tallulah River at Tallulah Falls, Ga., for 1907 and 1908.

[Drainage area, 191 square miles.]

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area).
	Maximum.	Minimum.	Mean.	Per square mile.	
1907.					
January	1,600	530	731	3.83	4.42
February	1,030	440	607	3.18	3.31
March	1,980	400	607	3.18	3.67
April	1,180	400	507	2.65	2.96
May	695	360	537	2.81	3.24
June	760	325	393	2.06	2.30
July	960	237	447	2.34	2.70
August	580	117	265	1.39	1.60
September	1,180	168	291	1.52	1.70
October	485	189	246	1.29	1.49
November	1,600	189	442	2.31	2.58
December	2,510	237	817	4.28	4.93
The year	2,510	117	491	2.57	34.90
1908.					
January	2,290	440	796	4.17	4.81
February	6,930	580	1,690	8.85	9.54
March	3,130	635	928	4.86	5.60
April	6,540	635	1,150	6.02	6.72
May	1,510	530	763	3.99	4.60
June	890	325	589	3.08	3.44
July	1,100	325	517	2.71	3.12
August	1,880	237	539	2.82	3.25
September	400	237	287	1.50	1.67
October	2,180	237	476	2.49	2.87
November	635	237	358	1.87	2.09
December	5,590	360	851	4.46	5.14
The year	6,930	237	745	3.90	52.85

NOTE.—The accuracy of the monthly discharge for 1907–8 is uncertain on account of poor gage heights.

CHAUGA RIVER NEAR MADISON, S. C.

This station is located at the wagon bridge one-fourth mile below the crossing of the Southern Railway, 2 miles from Madison, and about 2 miles above the mouth of the creek. The gage was first established here May 9, 1907, although miscellaneous discharge measurements had been made for several years. This station was discontinued December 31, 1907.

The vertical staff gage is attached to the bridge at which discharge measurements are made. On account of changing conditions of flow it has been impossible to develop a satisfactory rating curve.

Discharge measurements of Chauga River near Madison, S. C., in 1907.

Date	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
		Feet.	*Sq. ft.*	*Feet.*	*Sec.-ft.*
May 9	F. A. Murray	50	117	3.03	326
July 20	B. M. Hall, jr	50	99	2.28	145
November 7	F. A. Murray	48	68	1.70	103

Daily gage height, in feet, of Chauga River near Madison, S. C., for 1907.

[Observer, G. F. Fuller.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1						3.4	2.35	2.1	1.95	2.2	1.55	2.2
2						3.1	2.3	2.15	1.9	2.1	1.6	2.1
3						2.95	2.25	2.1	1.85	1.9	2.2	2.1
4						2.75	4.8	2.1	3.0	1.6	1.8	2.1
5						2.7	2.4	2.1	2.6	1.5	1.75	2.05
6						2.6	2.35	2.15	2.0	1.75	1.75	1.95
7						2.6	2.3	2.0	2.0	1.7	1.7	1.9
8						2.65	2.25	2.05	1.9	1.8	1.7	1.9
9					3.0	2.85	2.2	1.9	1.7	1.8	1.7	1.9
10					2.95	2.65	2.15	1.95	1.8	1.75	1.9	1.8
11					3.0	2.6	2.15	1.95	2.0	1.7	2.0	1.7
12					2.9	2.55	2.15	2.0	1.5	1.7	2.8	1.6
13					2.85	2.5	2.8	1.95	1.5	1.7	2.4	2.9
14					2.85	2.65	2.3	1.9	1.6	1.6	1.6	3.4
15					2.9	2.6	2.35	1.95	1.9	1.6	1.6	2.9
16					2.9	2.5	2.55	2.6	2.0	1.6	1.55	2.7
17					2.8	2.45	2.3	2.1	1.9	1.6	1.5	2.6
18					2.75	2.4	2.25	3.0	1.8	1.6	2.5	2.5
19					2.75	2.8	2.5	2.5	1.7	1.6	2.2	2.4
20					2.7	2.7	2.4	2.3	1.6	1.6	2.8	2.4
21					2.7	2.4	2.2	2.2	1.6	1.55	4.3	2.3
22					2.7	2.4	2.1	2.1	1.6	1.55	2.7	2.3
23					2.7	2.4	2.1	2.0	3.6	1.55	5.6	9.1
24					2.65	2.5	2.1	2.1	2.95	1.85	3.7	4.0
25					2.65	2.4	2.1	2.1	2.3	1.55	3.0	3.1
26					2.65	2.35	2.05	2.0	2.1	1.55	2.6	2.9
27					2.9	2.3	2.2	2.0	2.0	1.75	2.4	2.7
28					2.8	3.5	2.25	2.0	2.7	1.85	2.15	2.5
29					2.75	3.1	2.1	2.0	2.4	1.6	2.2	2.5
30					2.65	2.4	3.7	2.1	2.3	1.55	2.2	7.8
31					3.0	.....	2.3	2.0	.....	1.55	.....	5.4

BROAD RIVER (OF GEORGIA) NEAR CARLTON, GA.

The station is located at the Seaboard Air Line Railway bridge 3 miles east of Carlton, Ga., and 2 miles above the mouth of the south fork. It was established May 27, 1897. The station is now maintained by the United States Weather Bureau.

The datum of the gage has remained constant since the establishment of the station; its elevation is 384 feet above sea level. The left bank overflows for about 400 feet at a gage height of about 16 feet. The bed of the stream is sand and gravel and slightly changeable. An excellent rating has been developed for this station for low and medium low stages.[a]

[a] Data collected at this station prior to 1906 have been compiled in Water-Supply Paper No. 197, Water resources of Georgia.

Daily gage height, in feet, of Broad River (of Georgia) near Carlton, Ga., for 1907 and 1908.

[Observer, M. C. Power.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1	6.7	2.6	4.4	2.6	2.7	5.3	2.4	3.0	1.7	2.3	1.8	2.9
2	6.3	3.5	5.5	2.5	2.7	3.6	2.5	2.6	1.5	2.0	1.8	2.7
3	3.9	3.4	6.3	2.5	2.7	3.0	2.5	2.4	1.5	2.0	1.8	2.5
4	3.6	3.4	5.2	2.5	3.0	2.6	2.4	2.6	4.0	2.0	1.8	2.5
5	3.4	6.0	3.7	2.5	3.0	2.5	2.4	2.0	2.8	2.0	1.8	2.5
6	3.4	6.0	3.4	2.5	3.0	2.4	2.4	2.0	2.2	2.0	1.8	2.4
7	3.3	4.6	3.2	3.0	3.1	2.4	2.3	1.9	2.0	1.9	1.8	2.4
8	3.1	3.5	3.1	2.9	2.9	2.3	2.2	1.9	2.0	1.9	1.8	2.3
9	3.0	3.3	3.0	2.6	2.9	2.3	2.0	1.9	1.9	1.9	1.8	2.3
10	3.0	3.1	3.0	2.6	2.7	2.3	2.2	1.9	1.9	1.9	2.0	3.0
11	3.0	3.1	3.0	2.6	2.6	2.3	2.5	1.9	1.9	1.7	2.0	3.3
12	2.9	3.0	3.0	2.7	2.6	2.2	2.5	1.9	1.9	1.7	2.0	3.0
13	2.9	3.0	2.9	2.6	2.6	2.2	3.7	1.9	1.9	1.7	2.2	2.6
14	2.8	2.9	2.9	2.6	2.6	2.7	2.8	1.9	1.9	1.7	2.2	5.0
15	2.8	2.9	3.0	2.5	2.6	2.6	3.1	2.4	1.9	1.7	2.0	4.9
16	2.8	2.8	3.0	2.5	2.7	2.6	3.5	3.3	2.0	1.7	2.0	4.0
17	2.7	2.8	3.0	2.5	2.6	2.5	2.6	3.1	1.9	1.7	2.0	3.6
18	2.7	2.8	2.9	2.6	2.6	2.4	2.2	2.5	1.8	1.7	2.2	3.0
19	2.6	2.8	2.7	2.6	2.5	2.4	3.4	2.5	1.7	1.7	3.0	3.0
20	2.6	2.8	2.7	2.5	2.4	2.3	3.0	3.0	1.7	1.7	3.0	3.0
21	2.6	2.7	2.7	3.0	2.4	2.3	2.8	2.5	1.7	1.7	3.2	2.9
22	2.6	2.7	2.7	3.0	2.3	2.3	2.5	2.5	1.7	1.7	5.3	2.6
23	2.6	2.7	2.6	6.1	2.3	2.3	2.3	3.3	5.5	1.7	3.9	6.6
24	2.5	2.7	2.6	7.6	2.3	2.3	2.2	2.2	4.1	1.7	6.1	6.2
25	2.5	2.8	2.6	4.7	2.6	2.3	2.1	2.0	2.5	1.7	6.0	5.0
26	2.5	2.9	2.6	3.5	2.4	2.5	2.0	1.9	2.0	1.7	4.0	3.5
27	2.5	4.1	2.6	3.0	3.0	2.4	2.0	1.9	2.0	1.7	2.6	3.0
28	2.5	3.8	2.6	3.0	2.8	2.4	1.9	1.8	2.7	1.8	2.4	3.0
29	2.5	.....	2.6	2.8	2.6	2.5	1.9	1.8	3.2	1.8	3.0	3.0
30	2.5	.....	2.5	2.7	2.5	2.5	3.6	1.8	3.0	1.8	3.6	7.1
31	2.6	.....	2.5	.....	2.6	.....	3.1	1.7	.....	1.8	.....	7.2
1908.												
1	9.1	6.6	3.0	3.0	3.3	2.6	2.5	2.3	3.3	2.4	3.7	2.5
2	4.3	6.0	2.9	3.0	3.0	2.6	2.5	2.2	3.0	2.4	3.0	2.6
3	3.6	5.0	2.9	3.0	3.0	2.5	3.0	2.2	3.0	2.4	2.8	2.6
4	3.0	4.6	2.9	3.0	3.0	2.5	3.6	2.2	2.9	2.4	4.5	2.5
5	4.4	3.0	2.8	3.0	3.0	2.6	5.3	2.8	3.2	2.3	4.4	2.5
6	4.0	3.0	2.8	3.2	3.0	2.5	7.3	4.0	5.0	2.3	3.3	2.5
7	4.4	3.0	2.8	3.5	3.5	2.5	5.2	3.5	6.3	2.3	3.0	3.0
8	5.0	2.8	2.8	3.4	3.7	2.5	5.0	2.7	4.1	2.3	3.0	5.5
9	3.8	2.8	2.7	3.4	3.0	2.5	3.9	4.4	3.0	2.4	2.8	5.5
10	3.0	4.0	2.7	3.0	3.0	2.5	3.7	3.5	2.8	2.4	2.5	4.6
11	3.0	6.6	2.7	3.0	2.8	4.1	4.0	3.0	2.6	4.1	2.5	3.4
12	7.5	8.0	3.0	2.8	2.8	3.2	3.2	2.6	2.5	3.5	2.5	3.0
13	7.3	6.0	3.0	2.8	2.8	2.6	2.6	2.4	2.5	2.5	2.5	3.3
14	5.0	4.6	3.0	2.8	2.8	2.6	2.8	2.3	2.5	2.5	3.3	3.0
15	3.5	7.7	2.8	3.0	2.8	4.0	2.6	2.3	2.5	2.4	3.0	2.9
16	3.3	9.5	2.8	9.1	2.8	3.3	2.5	2.3	2.5	2.4	3.0	2.9
17	3.0	8.0	2.7	7.2	2.7	4.0	2.5	2.3	2.5	2.4	2.8	2.8
18	3.0	3.8	2.7	4.3	2.7	5.3	2.5	2.3	2.4	2.4	2.7	2.7
19	2.9	4.1	2.7	4.3	3.0	4.5	2.5	2.8	2.4	2.3	2.6	2.7
20	2.9	4.6	2.7	4.0	3.4	3.0	2.5	3.2	2.4	2.3	2.6	2.7
21	2.9	3.9	4.6	3.4	3.0	2.7	2.4	3.0	2.4	2.3	2.6	2.7
22	2.6	3.6	3.7	3.3	2.8	2.7	2.4	3.5	2.4	2.3	2.6	6.4
23	2.6	3.4	5.0	3.0	2.7	3.0	2.4	6.5	2.4	3.0	2.6	9.0
24	2.5	3.3	13.4	3.0	2.7	2.8	2.3	15.0	2.4	4.5	2.6	8.6
25	2.5	3.2	10.0	3.3	2.7	2.6	2.3	30.0	2.4	3.5	2.6	4.0
26	2.5	3.2	5.1	9.1	2.7	2.6	2.3	23.5	2.4	3.3	2.6	3.5
27	2.6	3.0	4.0	7.3	2.6	3.4	2.3	8.0	2.4	3.0	2.5	3.3
28	2.8	3.0	3.7	4.7	3.0	2.8	2.3	4.8	2.5	3.6	2.5	3.0
29	2.6	3.0	3.5	3.7	2.8	2.5	2.3	4.0	2.5	6.8	2.5	3.0
30	2.6	.....	3.3	3.4	2.6	2.5	2.3	3.6	2.4	5.7	2.5	3.0
31	2.6	.....	3.2	.....	2.6	.....	2.3	3.4	.....	4.0	.....	3.0

NOTE.—The maximum stage of 39.0 feet, reached August 25, 1908, is the highest recorded since the establishment of this station.

Rating table for Broad River (of Georgia) near Carlton, Ga., for 1906 to 1908, inclusive.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*
1.50	305	3.30	1,290	5.20	3,100	16.00	19,800
1.60	340	3.40	1,370	5.40	3,325	17.00	21,500
1.70	375	3.50	1,450	5.60	3,560	18.00	23,200
1.80	415	3.60	1,535	5.80	3,800	19.00	24,900
1.90	455	3.70	1,620	6.00	4,050	20.00	26,700
2.00	500	3.80	1,705	6.20	4,300	21.00	28,500
2.10	545	3.90	1,790	6.40	4,560	22.00	30,300
2.20	595	4.00	1,880	6.60	4,820	23.00	32,200
2.30	645	4.10	1,970	6.80	5,090	24.00	34,200
2.40	695	4.20	2,065	7.00	5,360	25.00	36,300
2.50	750	4.30	2,160	8.00	6,760	26.00	38,400
2.60	805	4.40	2,255	9.00	8,220	27.00	40,600
2.70	865	4.50	2,350	10.00	9,760	28.00	42,800
2.80	930	4.60	2,450	11.00	11,360	29.00	45,000
2.90	1,000	4.70	2,555	12.00	13,000	30.00	47,200
3.00	1,070	4.80	2,660	13.00	14,700		
3.10	1,140	4.90	2,770	14.00	16,400		
3.20	1,215	5.00	2,880	15.00	18,100		

NOTE.—The above table is not applicable for obstructed-channel conditions. It is based on 11 discharge measurements made during 1904–1906 and one measurement at gage height 9.05 feet made during 1899. Other measurements prior to 1904 serve to still further define the rating curve below 9 feet. It is well defined between gage heights 1.5 feet and 10 feet. The rating table is only approximate for stages above about 20 feet.

Monthly discharge of Broad River (of Georgia) near Carlton, Ga., for 1907 and 1908.

[Drainage area, 762 square miles.]

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area).	Accuracy.
	Maximum.	Minimum.	Mean.	Per square mile.		
1907.						
January	4,960	750	1,220	1.60	1.84	A.
February	4,050	805	1,370	1.80	1.87	A.
March	4,430	750	1,280	1.68	1.94	A.
April	6,200	750	1,220	1.60	1.78	A.
May	1,140	645	847	1.11	1.28	A.
June	3,210	595	822	1.08	1.20	A.
July	1,620	455	811	1.06	1.22	A.
August	1,290	375	649	.852	.98	A.
September	3,440	305	725	.951	1.06	A.
October	645	375	419	.550	.63	A.
November	4,180	415	1,040	1.36	1.52	A.
December	5,610	645	1,710	2.24	2.58	A.
The year	6,200	305	1,010	1.32	17.90	
1908.						
January	8,370	750	1,830	2.40	2.77	A.
February	8,990	930	2,730	3.58	3.86	A.
March	15,400	865	1,980	2.60	3.00	A.
April	8,370	930	2,090	2.74	3.06	A.
May	1,620	805	1,020	1.34	1.54	A.
June	3,210	750	1,110	1.46	1.63	A.
July	5,780	645	1,260	1.65	1.90	A.
August	47,200	595	4,490	5.89	6.79	B.
September	4,430	695	1,050	1.38	1.54	A.
October	5,090	645	1,180	1.55	1.79	A.
November	2,350	750	1,010	1.33	1.48	A.
December	8,220	750	1,790	2.35	2.71	A.
The year	47,200	595	1,800	2.36	32.07	

MISCELLANEOUS MEASUREMENTS IN SAVANNAH RIVER DRAINAGE BASIN.

The following miscellaneous discharge measurements were made in Savannah River drainage basin during 1907:

Miscellaneous measurements in Savannah River basin.

Date.	Stream.	Tributary to—	Locality.	Gage height.	Discharge.
				Feet.	*Sec.-ft.*
June 13	Stekoa Creek	Chattooga River	At wagon bridge ¼ mile southeast of Clayton, Ga.	1.03	25
July 18	do	do	At wagon bridge ¼ mile southeast of Clayton, Ga.	.90	16
May 6	Toxaway Creek	Whitewater River	At bridge just below Lake Toxaway, N. C.	1.05	20

RIVER SURVEYS AND WATER POWER IN SAVANNAH RIVER DRAINAGE BASIN.

Surveys have been made in the Savannah drainage basin as follows:

Tallulah River from mouth near Tallulah Falls to Blalock, Ga.[a b]

Tugaloo and Savannah rivers from head of Tugaloo River to Augusta, Ga.[a]

Chattooga River from mouth to Russell Bridge, 0.7 mile north of Russell, S. C.[a b]

Broad River from mouth to Harrison Bridge near Carnesville, Ga.[a b]

Tugaloo and Savannah rivers from head of Tugaloo River to Lisbon, Ga.[b]

OGEECHEE RIVER DRAINAGE BASIN.

DESCRIPTION OF BASIN.

Ogeechee River drains a small basin in southeastern Georgia lying between the Savannah and Altamaha basins. It rises in Greene County and flows in a southeasterly direction and empties into the Atlantic Ocean. Its main tributary is Cannoochee River, which rises in Emanuel County, Ga., flows southeastward, and joins it about 20 miles from the Atlantic Ocean.

The streams in this basin flow through a country that is mostly low. The current is generally good, but the fall available for power is probably small. The bank on one side or the other of the stream is generally low and swampy.

[a] Elevations taken on these surveys and brief statements regarding possible power development are given in Water resources of Georgia: Water-Supply Paper U. S. Geol. Survey No. 197.

[b] River surveys and profiles of 1903: Water-Supply Paper U. S. Geol. Survey No. 115.

The following gaging stations have been maintained in this river basin:[a]

Ogeechee River, Millen, Ga., 1903.
Williamsons Swamp Creek, Davidsboro, Ga., 1903–4.
Cannoochee River, Groveland, Ga., 1903–1907.

CANNOOCHEE RIVER NEAR GROVELAND, GA.

This station is located at Moody's Bridge, 3 miles south of Groveland, Bryan County, Ga. It is below the mouth of Lotts Creek, which is a tributary of Cannoochee River. The station was established June 12, 1903, and was discontinued December 31, 1907.

The datum of the vertical staff gage, which is fastened to the bridge from which discharge measurements are made, has remained unchanged. Both banks overflow at a stage of about 15 feet. Conditions at this station are poor for obtaining accurate ratings at low stages, owing to the shifting channel. A good rating curve has, however, been developed for medium stages up to the point of overflow.[b]

The following discharge measurement was made:

April 17, 1907: width, 94 feet; area, 263 square feet; gage height, 3.37 feet; discharge, 340 second-feet.

Daily gage height, in feet, of Cannoochee River near Groveland, Ga., for 1907.

[Observer, J. M. Edwards.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	3.3	3.0	4.5	2.3	4.0	5.2	10.2	6.9	2.9	13.5	3.7	5.0
2	3.5	3.3	4.5	2.5	3.6	5.8	10.2	7.2	2.8	16.1	3.7	4.9
3	3.5	4.5	4.8	2.8	3.5	5.6	10.9	7.3	2.7	15.8	3.7	4.8
4	3.5	4.8	5.5	3.0	3.4	5.4	15.0	7.4	2.5	15.2	3.7	4.8
5	3.5	5.0	5.9	2.9	4.1	5.1	16.6	7.6	2.5	14.2	3.8	4.7
6	3.5	5.0	5.4	2.8	4.1	4.9	15.9	7.9	2.5	11.5	4.0	4.6
7	3.3	5.1	4.9	2.0	4.2	3.8	15.7	7.2	2.5	9.5	4.0	4.5
8	3.0	5.5	4.7	3.0	4.3	3.6	14.5	6.9	2.5	8.5	3.8	4.2
9	2.9	6.3	3.8	4.0	4.5	3.3	13.2	6.5	2.4	8.0	3.6	3.9
10	2.7	7.0	3.0	4.4	4.7	3.0	10.4	6.2	2.3	7.7	3.5	4.4
11	2.6	7.0	3.1	4.2	5.0	2.8	7.7	5.7	2.3	8.6	3.4	5.5
12	2.5	6.0	3.1	3.9	5.0	2.5	6.1	5.2	2.4	9.1	3.6	6.0
13	2.5	5.5	3.0	3.7	5.1	2.3	5.9	5.1	2.6	9.8	3.6	6.5
14	2.4	5.0	3.0	3.9	5.1	2.5	5.6	5.8	3.0	9.8	3.8	7.0
15	2.4	4.6	3.2	3.6	5.6	3.2	6.7	6.6	3.3	9.0	3 9	8.9
16	2.3	4.2	3.0	3.5	6.1	3.1	7.3	6.6	4.5	6.8	4.1	10.1
17	2.3	4.0	3.0	3.4	6.0	3.05	8.4	7.5	6.4	6.3	4.4	10.8
18	2.3	3.8	3.0	3.4	5.9	3.0	9.0	7.6	6.2	5.7	4.2	10.8
19	2.3	3.5	2.9	3.3	5.3	3.0	7.8	7.8	6.0	5.3	4.0	10.7
20	2.3	3.5	2.9	4.5	4.8	3.0	7.0	7.7	5.2	5.0	4.4	10.5
21	2.2	4.3	2.8	4.6	4.0	2.7	6.5	7.6	4.5	4.7	4.2	9.8
22	2.2	4.4	2.8	4.8	3.3	2.0	6.0	6.3	4.0	4.6	4.0	8.6
23	2.2	4.5	2.8	5.1	2.9	1.7	5.5	5.9	4.2	4.5	4.0	8.9
24	2.2	4.5	2.8	5.5	2.6	1.8	5.0	5.6	4.4	4.5	4.0	9.2
25	2.3	4.5	2.8	6.3	2.5	1.9	4.8	5.4	4.6	4.4	4.0	9.7
26	2.3	4.4	2.7	6.3	2.4	1.8	4.6	4.9	4.8	4.2	4.0	9.9
27	2.3	4.4	2.6	6.3	2.5	1.8	4.5	4.6	5.2	4.1	4.2	10.2
28	2.8	4.5	2.4	5.2	2.7	2.0	4.9	4.0	5.7	4.0	4.5	10.3
29	2.8	.....	2.4	4.8	2.8	4.3	5.3	3.5	8.2	4.0	4.6	10.4
30	2.9	.....	2.3	4.3	3.0	8.8	6.5	3.2	11.5	3.9	4.8	9.9
31	2.9	.....	2.3	.....	3.2	.....	6.8	3.0	.....	3.8	.....	9.4

[a] Data collected in this drainage basin prior to 1906 have been compiled in Water-Supply Paper No. 197, Water resources of Georgia.

[b] Data collected at this station prior to 1906 have been compiled in Water-Supply Paper No. 197, Water resources of Georgia.

Rating table for Cannoochee River near Groveland, Ga., for 1907.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*
1.70	92	3.20	283	4.70	586	7.40	1,373
1.80	101	3.30	300	4.80	610	7.60	1,438
1.90	110	3.40	318	4.90	635	7.80	1,504
2.00	120	3.50	336	5.00	660	8.00	1,570
2.10	130	3.60	355	5.20	714	9.00	1,915
2.20	141	3.70	374	5.40	769	10.00	2,275
2.30	153	3.80	394	5.60	825	11.00	2,650
2.40	165	3.90	414	5.80	882	12.00	3,025
2.50	178	4.00	434	6.00	940	13.00	3,400
2.60	191	4.10	454	6.20	1,000	14.00	3,775
2.70	205	4.20	475	6.40	1,060	15.00	4,150
2.80	219	4.30	496	6.60	1,121	16.00	4,525
2.90	234	4.40	518	6.80	1,183	17.00	4,900
3.00	250	4.50	540	7.00	1,245		
3.10	266	4.60	563	7.20	1,309		

NOTE.—The above table is not applicable for obstructed-channel conditions. It is based on four discharge measurements made during 1906–7 and measurements of earlier years. It is well defined above gage height 5 feet. Below 5 feet it is not well defined.

Monthly discharge of Cannoochee River near Groveland, Ga., for 1907.

[Drainage area, 960 square miles.]

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area).	Accuracy.
	Maximum.	Minimum.	Mean.	Per square mile.		
January	336	141	211	0.220	0.25	C.
February	1,240	250	613	.639	.67	B.
March	911	153	345	.359	.41	B.
April	1,030	120	466	.485	.54	B.
May	970	165	477	.497	.57	B.
June	1,840	92	379	.395	.44	B.
July	4,750	540	1,830	1.91	2.20	A.
August	1,540	250	1,020	1.06	1.22	B.
September	2,840	153	546	.569	.63	B.
October	4,560	394	1,620	1.69	1.95	A.
November	610	318	430	.448	.50	B.
December	2,580	414	1,540	1.60	1.84	A.
The year	4,750	92	790	.823	11.22	

ALTAMAHA RIVER DRAINAGE BASIN.

DESCRIPTION OF BASIN.

Altamaha River rises in the north central part of Georgia along the southern slope of the Chattahoochee Ridge and flows in a southeasterly direction, emptying into the Atlantic Ocean near Darien. The basin is about 250 miles long and has an area of 14,100 square miles.

The two main tributaries forming the Altamaha are Oconee and Ocmulgee rivers, which unite about 100 miles above Darien. Oconee River rises on the southern slope of Chattahoochee Ridge in Hall County and flows in a southeasterly direction to the Altamaha. Apalachee River enters the Oconee near the southeast corner of Morgan County. Little River enters the main stream about 15 miles above Milledgeville, Ga. Ocmulgee River, the westernmost of the main tributaries, rises on the southern slope of the Chattahoochee Ridge in Fulton, Dekalb, and Gwinnett counties; Yellow, South, and Alcovy rivers are its upper tributaries. Towaliga River enters the Ocmulgee at about the southwest corner of Jasper County, which is above Macon. Ohoopee River is a tributary of the Altamaha about 30 miles below the junction of Oconee and Ocmulgee rivers.

The mean annual rainfall of the basin is about 50 inches.

Above the fall line, which passes near Milledgeville and Macon, all of the streams have considerable amount of slope with many excellent sites for water-power development. For view of shoal on Chattahooche River near Franklin, Ga., see Plate III, *B*.

The following gaging stations have been maintained in this river basin: [a]

South River, Lithonia, Ga., 1903–4.
Ocmulgee River, Jackson, Ga., 1906–1908.
Ocmulgee River, Flovilla, Ga., 1901–1905.
Ocmulgee River, Macon, Ga., 1893–1908.
Yellow River, Almon, Ga., 1897–1901.
Alcovy River, Covington, Ga., 1901–1904.
Alcovy River, Stewart, Ga., 1905–6.
Towaliga River, Juliette, Ga., 1899–1901.
Oconee River, Barnett Shoals, near Watkinsville, Ga., 1901–2.
Oconee River, Greensboro, Ga., 1903–1908.
Oconee River, Carey, Ga., 1896–1898.
Oconee River, Fraleys Ferry near Milledgeville, Ga., 1905–1908.
Oconee River, Milledgeville, Ga., 1903–1905.
Oconee River, Dublin, Ga., 1898–1908.
Middle Oconee River, Athens, Ga., 1901–2.
Apalachee River, Buckhead, Ga., 1901–1908.
Ohoopee River, Reidsville, Ga., 1903–1907.

[a] Data collected in this drainage basin prior to 1906 have been compiled in Water-Supply Paper No. 197 Water resources of Georgia.

OCMULGEE RIVER NEAR JACKSON, GA.

The station is located at Pittmans Ferry, 8 miles southeast of Jackson, one-half mile above the mouth of Yellow Water Creek, 3 miles below Tussahaw Creek, and 6 miles above the old Flovilla station at Lamars Ferry. It is three-fourths mile below the dam of the Central Georgia Power Company, which is now under construction. This station was established May 18, 1906, to take the place of the Lamars Ferry station, for which records of discharge had been obtained from July 26, 1901, to September 27, 1902; from July 1 to December 31, 1903; and from August 1, 1904, to December 31, 1905.

The datum of the vertical staff gage, the lowest section of which is located 15 feet above the ferry cable, has remained constant since the establishment of the station. Both banks overflow at high stages for about 200 feet. Conditions of discharge are constant owing to a permanent rock shoal about 400 feet below the station, which controls the height of water at the gage. An excellent rating has been developed for low stages.[a]

Discharge measurements of Ocmulgee River near Jackson, Ga., in 1907 and 1908.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
1907.		*Feet.*	*Sq. ft.*	*Feet.*	*Sec.-ft.*
March 14	Warren E. Hall	300	1,620	4.90	1,680
March 15	do	300	1,790	5.17	2,180
August 24	do	300	1,420	4.32	709
December 5	do	300	1,500	4.52	1,020
1908.					
February 6	Warren E. Hall	300	1,810	5.67	3,210
June 23	do	298	1,640	5.05	1,980

[a] Records of discharge at the Lamars Ferry station have been compiled in Water-Supply Paper No. 197 Water resources of Georgia.

Daily gage height, in feet, of Ocmulgee River near Jackson, Ga., for 1907 and 1908.

[Observer, C. A. Pittman.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1	6.6	5.5	5.9	4.6	4.9	5.0	4.55	4.35	3.95	4.45	4.05	4.9
2	6.2	7.1	6.9	4.6	4.8	4.9	4.9	4.35	3.9	4.4	4.05	4.8
3	5.4	6.0	8.2	4.6	4.8	4.7	6.0	4.6	4.6	4.25	4.15	4.7
4	5.2	5.5	6.8	4.6	5.2	4.6	4.75	4.35	5.4	4.2	4.2	4.6
5	5.2	8.4	5.8	4.6	5.1	4.5	4.6	4.2	5.0	4.2	4.2	4.5
6	5.0	8.5	5.4	4.8	4.9	4.45	4.5	4.25	4.45	4.1	4.15	4.5
7	4.9	6.3	5.3	5.1	4.8	4.4	4.5	4.9	4.3	4.1	4.1	4.5
8	4.9	5.8	5.2	4.9	4.9	4.4	4.4	4.55	4.3	4.2	4.1	4.45
9	4.8	5.5	5.1	5.0	4.85	4.4	4.3	4.4	4.65	4.3	4.05	4.6
10	4.8	5.3	5.0	4.8	4.8	4.35	4.3	4.35	4.2	4.4	4.2	5.4
11	4.8	5.2	5.0	4.7	4.8	4.35	4.5	4.2	4.2	4.35	4.75	5.2
12	4.75	5.1	4.9	4.7	4.8	4.35	4.45	5.4	4.2	4.15	4.6	4.95
13	4.75	5.0	4.9	4.6	4.7	4.5	4.5	4.9	4.2	4.1	4.45	4.85
14	4.75	5.0	4.9	4.6	4.65	6.0	4.65	4.35	4.2	4.1	4.35	6.1
15	4.7	4.9	5.1	4.6	4.7	5.6	4.4	4.5	4.1	4.1	4.2	6.0
16	4.7	4.85	5.1	4.6	5.0	5.1	4.35	4.85	4.1	4.1	4.2	5.4
17	4.65	4.8	5.0	5.0	4.9	4.7	4.3	4.95	4.05	4.05	4.2	5.2
18	4.65	4.8	4.9	5.1	4.7	4.5	4.45	4.75	4.05	4.05	4.4	5.0
19	4.65	4.8	4.85	5.0	4.6	4.4	4.4	4.45	4.05	4.05	4.6	4.9
20	4.65	4.9	4.85	5.1	4.55	4.4	4.45	4.4	4.0	4.0	4.6	4.8
21	4.65	4.9	4.8	4.9	4.5	4.4	4.3	4.4	4.05	4.0	5.0	4.75
22	4.65	4.9	4.8	4.8	4.5	4.4	4.2	4.5	4.5	4.05	7.5	4.8
23	4.65	4.8	4.8	6.3	4.5	4.4	4.2	4.3	5.8	4.05	6.2	8.1
24	4.65	4.8	4.7	6.4	4.5	4.4	4.15	4.3	4.9	4.05	6.0	8.0
25	4.6	4.9	4.7	5.6	4.5	4.9	4.1	4.3	4.55	4.05	5.6	6.3
26	4.6	5.1	4.7	5.3	4.5	4.5	4.25	4.3	4.35	4.05	5.2	5.5
27	4.6	5.4	4.7	5.2	4.5	4.6	4.3	4.2	4.25	4.05	4.95	5.4
28	4.6	5.8	4.7	5.0	4.5	6.4	4.9	4.1	4.9	4.1	4.7	5.2
29	4.6	.....	4.7	5.2	4.5	6.2	4.6	4.1	4.95	4.05	5.0	5.2
30	4.6	.....	4.7	5.1	4.5	4.85	4.8	4.05	4.7	4.05	5.0	6.1
31	4.8	.....	4.6	.....	4.5	.....	4.55	4.05	.....	4.05	.....	6.6
1908.												
1	6.0	11.6	5.3	5.3	5.6	5.2	4.4	4.2	4.55	4.3	4.7	4.4
2	5.6	10.2	5.2	5.2	5.4	4.95	4.65	4.2	4.5	4.25	4.55	4.6
3	5.2	7.0	5.2	5.2	5.3	4.7	4.85	4.2	4.4	4.2	4.5	4.6
4	5.2	6.1	5.2	5.0	5.1	4.7	4.9	4.2	4.4	4.1	4.9	4.5
5	5.8	5.6	5.2	4.95	5.1	4.75	5.9	4.8	4.6	4.15	5.0	4.45
6	5.7	5.6	5.1	5.1	5.1	4.95	6.2	4.85	6.1	4.2	4.8	4.65
7	6.0	5.4	5.1	5.2	5.4	4.75	5.8	4.55	5.3	4.2	4.6	4.8
8	6.2	5.4	5.1	5.1	5.3	4.7	5.5	4.5	5.0	4.15	4.55	5.2
9	5.8	5.2	5.0	5.0	5.1	4.6	5.6	4.6	4.8	4.3	4.5	5.0
10	5.4	6.4	4.95	4.95	5.0	4.7	5.4	4.9	4.65	4.8	4.4	4.75
11	6.4	9.0	5.0	4.95	4.9	5.0	5.1	4.6	4.5	4.7	4.4	4.6
12	7.8	8.3	5.0	4.85	4.9	4.7	4.8	4.5	4.5	4.5	4.4	4.75
13	6.9	6.8	5.0	4.8	4.85	4.6	4.8	4.4	4.3	4.4	4.4	4.7
14	6.2	6.2	5.0	4.9	4.8	4.7	4.95	4.3	4.3	4.35	4.5	4.6
15	5.6	9.8	4.95	6.0	4.8	6.0	4.6	4.2	4.3	4.3	4.9	4.55
16	5.4	10.2	4.9	5.6	4.75	5.8	4.55	4.2	4.3	4.3	4.8	4.5
17	5.3	7.8	4.9	5.9	4.75	4.95	4.5	4.2	4.3	4.25	4.7	4.5
18	5.2	6.4	4.9	5.4	5.2	5.0	4.5	4.45	4.3	4.2	4.55	4.5
19	5.1	6.7	4.9	5.4	5.2	5.0	4.4	4.55	4.3	4.2	4.5	4.5
20	5.0	6.4	4.9	5.4	5.0	4.75	4.4	4.5	4.3	4.2	4.5	4.45
21	5.0	6.0	5.2	5.2	4.9	5.6	4.4	4.5	4.3	4.2	4.45	4.5
22	4.95	5.6	5.2	5.1	4.8	6.8	4.3	4.65	4.3	4.2	4.4	8.6
23	4.9	5.5	6.0	5.4	4.7	5.2	4.3	5.2	4.3	4.2	4.4	9.2
24	4.85	5.4	9.4	5.3	4.7	4.9	4.3	5.5	4.3	4.25	4.4	7.0
25	4.8	5.4	9.8	6.3	4.8	4.85	4.3	8.9	4.25	4.2	4.4	5.8
26	4.8	5.6	8.1	9.6	5.2	4.7	4.3	9.9	4.2	4.3	4.4	5.4
27	5.1	5.6	6.6	11.1	5.2	4.6	4.3	8.6	4.2	4.3	4.4	5.2
28	4.9	5.4	6.0	8.4	5.4	4.5	4.25	6.7	4.25	4.5	4.4	4.95
29	4.8	5.3	5.6	6.7	5.0	4.5	4.45	5.4	4.3	5.4	4.4	4.8
30	4.8	.....	5.5	6.0	7.2	4.45	4.3	4.9	4.3	5.2	4.4	4.85
31	4.95	.....	5.4	.....	5.6	.....	4.3	4.65	.....	4.85	.....	5.6

Rating table for Ocmulgee River near Jackson, Ga., for 1907 and 1908.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*
3.90	300	5.20	2,220	6.50	5,000	8.60	10,920
4.00	380	5.30	2,420	6.60	5,250	8.80	11,540
4.10	470	5.40	2,620	6.70	5,510	9.00	12,170
4.20	580	5.50	2,820	6.80	5,770	9.20	12,830
4.30	700	5.60	3,030	6.90	6,030	9.40	13,490
4.40	840	5.70	3,240	7.00	6,300	9.60	14,150
4.50	1,000	5.80	3,450	7.20	6,840	9.80	14,820
4.60	1,160	5.90	3,670	7.40	7,380	10.00	15,500
4.70	1,320	6.00	3,890	7.60	7,940	11.00	18,900
4.80	1,490	6.10	4,110	7.80	8,510	12.00	22,300
4.90	1,660	6.20	4,330	8.00	9,100		
5.00	1,840	6.30	4,550	8.20	9,700		
5.10	2,030	6.40	4,770	8.40	10,300		

NOTE.—The above table is not applicable for obstructed-channel conditions. It is based on 10 discharge measurements made during 1906-8, and is well defined between gage heights 4.3 feet and 6 feet. Above gage height 8 feet the rating curve is only approximate. Above gage height 9.7 feet the rating curve is a tangent, the difference being 340 per tenth.

Monthly discharge of Ocmulgee River near Jackson, Ga., for 1907 and 1908.

[Drainage area, 1,400 square miles.]

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area).	Accuracy.
	Maximum.	Minimum.	Mean.	Per square mile.		
1907.						
January	5,250	1,160	1,660	1.19	1.37	A.
February	10,600	1,490	2,990	2.14	2.23	A.
March	9,700	1,160	2,330	1.66	1.91	A.
April	4,770	1,160	1,850	1.32	1.47	A.
May	2,220	1,000	1,340	.957	1.10	A.
June	4,770	770	1,480	1.06	1.18	A.
July	3,890	470	1,040	.743	.86	A.
August	2,620	425	941	.672	.77	A.
September	3,450	300	969	.692	.77	A.
October	920	380	520	.371	.43	B.
November	7,660	425	1,460	1.04	1.16	A.
December	9,400	920	2,640	1.89	2.18	A.
The year	10,600	300	1,600	1.14	15.43	
1908.						
January	8,510	1,490	2,850	2.04	2.35	A.
February	20,900	2,220	6,160	4.40	4.74	B.
March	14,800	1,660	3,290	2.35	2.71	A.
April	19,200	1,490	3,740	2.67	2.98	B.
May	6,840	1,320	2,130	1.52	1.75	A.
June	5,770	920	1,810	1.29	1.44	A.
July	4,330	640	1,480	1.06	1.22	A.
August	15,200	580	2,420	1.73	1.99	A.
September	4,110	580	1,010	.721	.80	A.
October	2,620	470	848	.606	.70	A.
November	1,840	840	1,070	.764	.85	A.
December	12,800	840	2,300	1.64	1.89	A
The year	20,900	470	2,430	1.73	23.42	

OCMULGEE RIVER AT MACON, GA.

The station is located at the Fifth Street Bridge in the city of Macon, near the Southern Railway passenger depot, and about 500 feet above the Central of Georgia Railroad bridge. The United States Weather Bureau established a gage at Macon January 21, 1893, and

October 18, 1895, discharge measurements were begun by the United States Geological Survey. Gage heights are furnished by the United States Weather Bureau.

The several gages which have been used at this point have all been referred to the same datum and have given practically the same readings, varying slightly owing to surface slope between locations. Both banks are high and not subject to overflow. The bed of the river is soft and shifting and a great amount of change in the station rating has occurred owing to change in the river bed at and below the station.[a] For a reproduction of the low-water portion of the ratings given below, see figure 1, page 23.

Discharge measurements of Ocmulgee River at Macon, Ga., in 1907 and 1908.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
1907.		*Feet.*	*Sq. ft.*	*Feet.*	*Sec.-ft.*
April 20	Warren E. Hall	258	1,860	5.04	2,770
August 23	do	217	1,040	1.78	1,100
1908.					
February 13	Warren E. Hall	296	4,060	12.86	9,710
August 13	do	234	1,170	2.92	1,310
October 31	M. R. Hall	254	1,570	4.83	2,430
Do	do	254	1,570	4.83	2,390

[a] Data collected at this station prior to 1906 have been compiled in Water-Supply Paper No. 197, Water resources of Georgia.

Daily gage height, in feet, of Ocmulgee River at Macon, Ga., for 1907 and 1908.

[Observer, United States Weather Bureau.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1	10.8	5.0	8.8	3.1	5.1	4.1	4.4	2.9	0.6	3.6	0.8	5.8
2	10.6	13.3	11.3	3.2	4.6	4.9	3.1	2.3	.4	2.4	.8	4.5
3	8.6	11.8	13.7	3.3	4.2	3.7	7.6	2.3	.1	1.3	.9	3.9
4	6.6	9.4	13.2	3.1	5.9	3.2	8.2	3.6	5.2	1.6	.7	3.4
5	6.0	16.2	10.3	3.0	5.8	2.6	4.4	3.6	3.1	1.4	.7	3.0
6	5.5	14.9	8.1	3.2	4.8	2.6	3.9	2.4	4.2	1.2	1.0	2.7
7	4.9	13.0	6.8	3.8	4.3	2.2	2.5	2.5	2.1	1.1	.9	2.6
8	4.4	9.9	5.6	4.2	4.1	2.0	2.0	3.8	1.5	.9	.9	2.5
9	4.2	8.1	5.2	4.2	7.0	1.9	1.8	2.5	3.2	1.0	.8	2.3
10	4.0	6.8	4.9	4.0	4.8	1.8	1.5	2.5	2.9	1.1	.8	8.1
11	4.0	5.8	4.5	3.4	5.2	1.7	1.6	1.5	1.3	1.6	1.7	7.0
12	3.8	5.3	4.5	3.2	4.0	1.7	1.9	1.8	1.0	1.3	2.9	5.6
13	3.7	4.9	4.4	3.0	3.7	2.9	2.0	5.1	1.1	1.0	2.7	4.5
14	3.6	4.7	4.3	2.9	3.5	3.3	2.0	4.6	1.1	.8	1.2	15.0
15	3.5	4.5	5.0	2.6	4.2	7.6	3.3	2.8	1.1	.6	1.5	12.3
16	3.5	4.3	5.4	2.6	4.6	5.3	2.9	2.8	.8	.8	1.2	9.7
17	3.4	4.1	6.1	4.3	4.7	3.8	2.2	4.2	.6	.9	1.2	7.2
18	3.3	4.0	4.4	8.1	3.9	2.7	1.8	4.4	.7	.8	1.2	5.7
19	3.3	3.9	4.2	9.3	3.3	2.2	1.9	3.3	.7	.8	1.9	5.0
20	3.4	4.1	4.1	5.2	2.9	1.8	1.8	2.7	.7	.8	2.5	4.6
21	3.7	4.5	3.9	5.1	2.9	1.8	1.7	1.7	.6	.7	3.2	4.2
22	3.5	4.1	3.8	4.1	2.4	1.7	1.4	1.4	1.0	.6	6.1	3.8
23	3.2	3.8	3.8	12.2	2.4	1.7	1.1	1.9	1.4	.7	14.4	17.1
24	3.1	3.7	3.5	11.8	2.3	1.6	1.1	1.6	8.2	.8	11.5	15.4
25	3.0	3.9	3.5	9.9	2.4	1.5	1.0	1.6	4.6	.8	9.6	13.5
26	3.2	4.6	3.4	7.3	2.3	3.2	1.0	1.2	2.4	.7	7.3	9.8
27	3.3	5.1	3.3	5.8	2.3	2.3	1.3	1.0	1.8	.7	5.2	7.5
28	3.2	6.8	3.2	5.2	3.0	2.6	3.6	1.1	1.6	.7	4.1	6.4
29	3.1	.....	3.2	6.0	2.6	9.7	3.2	1.0	12.1	.4	5.6	7.6
30	3.0	.....	3.1	6.0	2.3	9.1	4.1	.8	5.9	.8	6.8	10.4
31	3.4	.....	3.0	.....	2.2	.....	4.4	.7	.....	.8	.....	14.0
1908.												
1	11.9	18.1	6.3	6.8	9.9	7.0	3.2	2.5	3.9	2.3	3.9	2.3
2	9.5	18.0	6.0	6.5	7.8	6.5	3.4	2.4	3.6	2.1	3.3	2.7
3	7.7	16.2	6.0	6.0	7.6	5.2	3.5	2.4	3.3	2.1	3.1	2.6
4	6.4	11.0	6.3	5.5	6.9	4.4	4.4	2.4	3.1	1.9	4.0	2.5
5	6.7	9.0	5.9	5.3	6.5	4.8	4.4	2.3	3.2	1.8	4.4	2.5
6	9.2	8.2	5.8	5.2	6.3	5.0	8.5	4.8	6.6	1.7	4.0	2.6
7	12.9	8.2	5.5	4.9	6.3	4.8	7.1	4.5	9.9	1.9	3.8	2.5
8	14.2	7.4	5.4	5.9	6.1	4.4	7.8	3.7	7.1	1.9	3.3	3.5
9	11.0	6.5	5.2	5.3	6.5	4.3	6.8	4.3	5.1	1.9	3.0	4.8
10	8.8	6.4	5.1	5.1	6.0	4.0	8.9	3.6	4.1	2.2	2.8	4.3
11	7.4	17.4	4.9	5.0	5.7	3.9	8.1	3.2	3.6	3.7	2.7	3.9
12	15.9	16.1	4.9	4.6	5.5	4.0	5.4	3.6	3.2	3.4	2.6	3.8
13	13.0	13.8	5.0	4.4	5.3	4.2	4.4	3.3	2.8	3.0	2.5	3.7
14	11.8	11.6	4.9	4.4	5.2	3.8	4.8	2.7	2.6	2.9	2.8	3.4
15	9.2	12.8	4.8	19.7	5.0	3.7	4.6	2.3	2.8	2.5	3.3	3.2
16	7.7	16.5	4.8	16.1	4.9	3.6	4.4	2.2	2.9	2.3	4.0	3.0
17	7.0	15.9	4.7	11.2	4.7	7.1	4.0	2.1	2.4	2.1	3.7	2.8
18	6.3	12.4	4.5	9.5	4.8	5.6	3.1	2.0	2.3	2.1	3.4	2.7
19	5.8	11.3	4.4	7.5	6.9	5.5	4.0	2.9	2.3	2.0	3.2	2.7
20	5.2	12.2	4.3	7.5	6.5	4.9	3.8	3.6	2.4	1.9	2.9	2.7
21	5.2	10.9	4.3	7.3	5.7	4.1	3.6	3.4	2.2	1.8	2.8	2.5
22	5.0	9.3	4.9	6.0	5.6	11.0	3.1	4.2	2.3	1.9	2.7	5.0
23	4.9	8.3	9.7	11.1	4.8	11.6	2.9	4.1	2.4	2.0	2.5	16.9
24	4.6	7.5	18.9	8.9	4.6	6.7	3.1	4.5	2.4	2.4	2.4	14.9
25	4.4	7.1	17.9	8.7	4.7	6.0	3.8	11.8	2.3	2.0	2.3	10.8
26	4.2	6.9	15.6	13.2	4.8	5.7	2.7	17.2	2.1	2.1	2.6	7.7
27	4.0	7.9	12.7	20.1	7.1	4.3	2.4	15.0	2.1	1.9	2.6	6.1
28	5.2	7.5	10.7	19.5	6.1	3.6	2.5	12.5	2.1	3.2	2.5	5.5
29	4.6	6.8	9.1	14.0	6.5	3.5	2.5	10.2	2.2	4.8	2.5	4.8
30	4.2	.....	7.9	12.2	5.8	3.4	3.6	6.0	2.2	3.3	2.4	4.5
31	4.6	.....	7.1	.....	10.9	.....	3.2	4.4	.....	5.2	.....	4.4

Rating tables for Ocmulgee River at Macon, Ga.

FOR 1906 AND 1907.[a]

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*
0.10	525	1.80	1,090	3.50	1,870	6.40	3,650
.20	550	1.90	1,130	3.60	1,920	6.60	3,790
.30	575	2.00	1,170	3.70	1,975	6.80	3,930
.40	605	2.10	1,215	3.80	2,030	7.00	4,070
.50	635	2.20	1,260	3.90	2,085	8.00	4,800
.60	665	2.30	1,305	4.00	2,140	9.00	5,580
.70	695	2.40	1,350	4.20	2,250	10.00	6,440
.80	725	2.50	1,395	4.40	2,370	11.00	7,470
.90	755	2.60	1,440	4.60	2,490	12.00	8,790
1.00	790	2.70	1,485	4.80	2,610	13.00	10,580
1.10	825	2.80	1,530	5.00	2,730	14.00	13,230
1.20	860	2.90	1,575	5.20	2,860	15.00	16,940
1.30	895	3.00	1,620	5.40	2,990	16.00	21,200
1.40	930	3.10	1,670	5.60	3,120	17.00	25,800
1.50	970	3.20	1,720	5.80	3,250	18.00	30,700
1.60	1,010	3.30	1,770	6.00	3,380	19.00	35,750
1.70	1,050	3.40	1,820	6.20	3,510	20.00	40,960

FOR 1908.[b]

1.70	865	3.10	1,425	4.50	2,190	6.80	3,680
1.80	900	3.20	1,470	4.60	2,250	7.00	3,820
1.90	935	3.30	1,520	4.70	2,310	7.20	3,960
2.00	970	3.40	1,570	4.80	2,370	7.40	4,100
2.10	1,005	3.50	1,620	4.90	2,430	7.60	4,240
2.20	1,045	3.60	1,670	5.00	2,490	7.80	4,380
2.30	1,085	3.70	1,725	5.20	2,620	8.00	4,530
2.40	1,125	3.80	1,780	5.40	2,750	9.00	5,310
2.50	1,165	3.90	1,835	5.60	2,880	10.00	6,260
2.60	1,205	4.00	1,890	5.80	3,010	11.00	7,410
2.70	1,245	4.10	1,950	6.00	3,140	12.00	8,790
2.80	1,290	4.20	2,010	6.20	3,270		
2.90	1,335	4.30	2,070	6.40	3,400		
3.00	1,380	4.40	2,130	6.60	3,540		

[a] The above table is not applicable for obstructed-channel conditions. It is based on four discharge measurements made during 1906–7, and on the form of preceding curves. The high-water part of the curve is based on measurements of earlier years. The curve is well defined. This rating table supersedes the rating table used in the 1906 report.

[b] The above table is not applicable for obstructed-channel conditions. It is based on three discharge measurements made during 1908 and on the form of preceding curves. The high-water part of the curve is based on measurements of earlier years; the curve is well defined; above 12 feet it is the same as for 1906–7.

NOTE.—For a reproduction of the low-water portion of the ratings given above, see figure 1, page 23.

Monthly discharge of Ocmulgee River at Macon, Ga., for 1906, 1907, and 1908.

[Drainage area, 2,420 square miles.]

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area).	Accuracy.
	Maximum.	Minimum.	Mean.	Per square mile.		
1906.[a]						
January	40,400	2,550	7,210	2.98	3.44	B.
February	3,720	1,920	2,550	1.05	1.09	A.
March	25,800	1,820	7,170	2.96	3.41	B.
April	5,740	1,720	2,690	1.11	1.24	A.
May	2,610	1,260	1,650	.682	.79	A.
June	30,700	1,170	5,560	2.30	2.57	B.
July	6,930	1,300	3,050	1.26	1.45	B.
August	7,710	1,620	3,450	1.43	1.65	B.
September	6,260	1,260	3,010	1.24	1.38	B.
October	31,700	1,580	6,230	2.57	2.96	B.
November	3,060	1,480	1,800	.744	.83	B.
December	3,930	1,480	2,010	.831	.96	B.
The year	40,400	1,170	3,860	1.60	21.77	
1907.						
January	7,250	1,620	2,500	1.03	1.19	B.
February	22,100	1,980	4,910	2.03	2.11	A.
March	12,300	1,620	3,430	1.42	1.64	A.
April	9,100	1,440	3,010	1.24	1.38	A.
May	4,070	1,260	2,080	.860	.99	A.
June	6,170	970	1,880	.777	.87	A.
July	4,950	790	1,590	.657	.76	A.
August	2,800	695	1,410	.583	.67	A.
September	8,940	525	1,570	.649	.72	A.
October	1,920	605	824	.340	.39	A.
November	14,600	695	2,290	.946	1.06	A.
December	26,300	1,300	5,680	2.35	2.71	B.
The year	26,300	525	2,600	1.07	14.49	
1908.						
January	20,800	1,890	5,150	2.13	2.46	B.
February	31,200	3,400	10,700	4.42	4.77	B.
March	35,200	2,070	5,780	2.39	2.76	B.
April	41,500	2,130	8,630	3.57	3.98	B.
May	7,280	2,250	3,300	1.36	1.57	B.
June	8,220	1,570	2,750	1.14	1.27	B.
July	5,230	1,120	2,250	.930	1.07	A.
August	26,800	970	3,550	1.47	1.70	A.
September	6,160	1,000	1,640	.678	.76	A.
October	2,620	865	1,180	.488	.56	B.
November	2,130	1,080	1,430	.591	.66	B.
December	25,300	1,080	3,180	1.31	1.51	A.
The year	41,500	865	4,130	1.71	23.07	

[a] The monthly discharge for 1906 as given above supersedes the monthly discharge table given in the 1906 report.

ALCOVY RIVER NEAR STEWART, GA.

The station was established September 16, 1905, and was discontinued December 25, 1906. For information and data regarding see earlier reports.[a]

OCONEE RIVER NEAR GREENSBORO, GA.

The station is located at the new wagon bridge about 5 miles west of Greensboro on the road to Madison, Ga. It is below the mouth of Town Creek. It was established July 25, 1903.

[a] Water-Supply Papers 168, 197, and 204, U. S. Geol. Survey.

The datum of the gage has not changed during the maintenance of the station. The left bank is low and overflows at a stage of about 12 to 15 feet for a distance of about 600 feet. The relation of discharge to gage height changes somewhat. A fair rating, however, has been developed for medium and low stages at this point.[a]

Discharge measurements of Oconee River near Greensboro, Ga., in 1907.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
		Feet.	*Sq. ft.*	*Feet.*	*Sec.-ft.*
March 16	M. R. Hall	120	648	4.13	1,560
November 27	do	121	713	4.62	1,750

Daily gage height, in feet, of Oconee River near Greensboro Ga., for 1907 and 1908.

[Observer, A. M. Thurmond.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1	6.7	4.8	8.3	3.0	3.3	7.6	3.0	3.5	0.8	2.85	1.25	3.4
2	9.0	5.6	9.5	3.2	3.3	4.6	2.5	1.95	1.25	2.3	1.45	3.2
3	6.6	4.6	11.1	2.9	3.0	4.0	2.4	2.25	1.25	1.9	1.5	2.95
4	5.2	4.1	11.2	2.7	3.1	3.3	3.5	2.0	3.3	1.95	1.6	2.55
5	4.2	11.2	7.4	3.3	3.4	2.7	3.2	1.35	3.9	1.65	1.6	2.65
6	3.7	10.3	5.6	2.8	3.5	2.4	2.3	1.5	3.2	1.6	1.5	2.4
7	3.6	8.4	4.6	2.2	2.1	2.3	2.4	1.6	1.7	1.5	1.5	2.45
8	3.4	5.8	4.3	3.8	3.8	2.2	1.95	1.3	1.4	1.95	1.35	2.55
9	3.3	4.4	4.1	3.4	3.6	2.1	1.85	3.0	2.0	1.95	1.45	2.55
10	3.3	4.2	4.0	2.9	3.3	2.0	1.75	1.5	1.9	1.85	1.6	3.6
11	3.2	3.9	3.8	2.8	3.0	1.9	2.5	2.65	1.45	1.6	2.45	3.7
12	3.1	3.6	3.6	2.7	2.9	2.7	2.4	2.15	1.15	1.5	3.0	3.5
13	3.1	3.4	3.6	3.0	2.7	2.7	2.8	1.75	1.2	1.15	2.2	3.8
14	3.0	3.3	3.5	2.9	2.7	4.0	2.45	4.4	2.0	1.45	1.95	8.5
15	2.9	3.2	4.0	2.8	2.9	3.5	2.35	5.2	.95	1.4	1.65	7.2
16	2.9	3.1	4.1	3.7	3.0	2.2	2.6	4.0	1.15	1.55	1.65	6.2
17	2.9	3.1	3.7	3.4	2.9	2.4	2.3	4.0	1.45	1.25	1.55	4.4
18	2.8	3.1	3.5	3.0	2.7	2.7	2.0	3.0	1.35	1.3	2.05	3.7
19	2.8	3.7	3.4	2.9	2.7	1.8	2.15	2.95	1.35	1.4	2.95	3.4
20	2.9	3.3	4.0	2.9	2.7	2.0	2.55	2.05	1.25	1.15	3.6	3.2
21	3.0	3.2	3.3	3.6	2.6	1.9	2.25	1.8	1.05	1.25	5.6	3.0
22	2.6	3.1	3.2	8.9	2.4	2.3	1.75	1.55	.95	1.55	10.2	3.4
23	2.5	2.9	3.0	9.3	2.4	2.3	1.85	1.65	7.0	1.4	11.2	12.3
24	2.5	3.1	2.9	8.7	2.3	2.5	1.6	1.45	8.4	1.35	8.0	11.8
25	2.5	3.9	2.9	7.3	2.5	2.6	1.4	2.2	5.8	1.25	7.3	10.2
26	2.7	4.1	2.9	5.6	2.8	2.4	1.55	1.6	2.4	1.4	6.2	6.7
27	2.7	6.9	2.9	4.1	4.9	2.2	1.3	1.65	1.85	1.25	4.8	4.6
28	2.6	7.3	2.8	3.8	2.3	5.6	1.9	1.35	4.6	1.45	3.6	4.4
29	2.6	.....	2.8	3.7	2.6	7.4	3.9	1.3	7.8	1.5	3.9	5.0
30	2.5	.....	2.7	3.5	2.5	4.5	4.2	1.15	4.8	1.55	3.8	9.2
31	2.5	.....	2.7	.....	2.9	.....	3.8	.95	.....	1.45	.....	10.6
1908.												
1	7.4	13.4	4.2	4.6	5.5	2.95	2.25	1.7	3.8	2.1	3.6	2.5
2	6.6	14.2	4.0	4.5	4.9	2.75	2.2	1.7	3.4	1.95	3.2	2.45
3	5.6	11.3	4.2	4.2	4.6	2.75	3.1	1.95	3.2	1.9	2.95	2.55
4	4.2	6.4	4.0	4.0	4.3	3.1	4.8	3.3	3.4	1.9	2.85	2.45
5	5.6	5.4	4.0	3.9	4.1	3.2	5.1	2.95	5.5	1.85	4.6	2.55
6	6.1	4.7	3.9	4.8	4.1	2.95	9.0	3.5	3.8	1.85	5.0	2.55
7	8.4	4.3	3.8	4.6	4.8	2.6	10.8	7.0	4.1	1.9	3.8	3.0
8	8.8	4.2	3.8	4.5	5.0	2.65	8.2	9.0	4.1	2.5	3.2	4.8
9	6.7	4.2	3.7	4.0	5.0	2.55	6.0	9.4	3.2	2.9	3.2	5.4
10	5.3	7.2	3.6	3.9	4.2	2.45	6.0	8.9	3.0	4.7	3.2	4.2
11	7.2	11.2	3.6	4.2	3.8	2.9	4.3	8.3	2.75	5.4	2.95	3.4
12	12.2	11.8	4.0	4.0	3.6	3.8	3.6	3.0	2.55	4.1	2.9	3.0
13	12.1	11.8	4.0	3.4	3.4	3.4	3.1	2.7	2.5	3.1	2.55	3.3
14	10.7	9.1	3.8	3.5	3.5	3.4	2.85	2.6	2.55	2.35	3.1	2.95
15	7.2	10.9	3.5	8.5	3.4	5.4	2.6	2.25	2.45	2.25	3.9	2.85

[a] Data collected at this station prior to 1906 have been compiled in Water-Supply Paper No. 197, Water resources of Georgia.

Daily gage height, in feet, of Oconee River near Greensboro, Ga., for 1907 and 1908—Con.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1908.												
16	5.2	13.2	3.5	8.8	3.4	4.7	2.6	2.25	2.45	2.1	4.2	2.75
17	4.7	13.6	3.4	12.5	3.4	3.9	2.45	2.2	2.35	2.05	3.3	2.85
18	4.4	11.2	3.4	12.2	3.4	4.0	2.55	2.7	2.35	1.95	3.0	2.85
19	4.2	8.8	3.4	7.2	4.2	2.95	2.45	4.6	2.35	1.9	2.95	2.8
20	4.0	7.6	3.4	6.4	4.2	2.75	2.25	4.0	2.35	2.1	2.75	2.85
21	3.7	6.3	5.6	5.4	3.6	2.85	2.1	3.6	2.35	2.15	2.6	4.8
22	3.6	5.5	6.7	4.7	3.4	9.8	2.0	3.8	2.35	2.2	2.55	10.2
23	3.5	5.2	13.8	4.8	3.2	3.9	1.95	4.8	2.15	2.45	2.6	13.6
24	3.5	4.8	14.7	5.0	3.1	3.6	1.85	7.2	2.25	2.35	2.5	13.2
25	3.4	5.2	16.8	7.6	3.7	3.0	1.95	17.1	2.3	2.85	2.55	8.8
26	3.3	5.0	16.8	9.7	3.2	3.0	2.15	32.8	2.2	2.6	2.55	7.4
27	3.4	4.6	13.2	13.2	3.1	3.5	2.05	29.6	2.35	2.6	2.45	4.4
28	3.5	4.4	7.2	15.2	3.4	3.2	2.15	18.6	2.45	5.0	2.55	3.9
29	3.2	4.3	6.4	12.2	3.4	2.8	2.7	9.7	2.3	6.8	2.45	3.6
30	3.3	.....	5.8	6.8	3.9	2.5	2.4	4.6	2.25	5.4	2.55	3.8
31	3.4	.....	4.9	.....	3.4	.....	2.05	4.3	.....	4.5	.....	3.8

NOTE.—The highest stage on August 26, 1908 (35.4 feet), is the highest recorded since the establishment of the station.

Rating table for Oconee River near Greensboro, Ga., for 1907 and 1908.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*
0.80	345	2.70	970	5.20	2,120	17.00	10,590
.90	375	2.80	1,010	5.40	2,220	18.00	11,440
1.00	405	2.90	1,050	5.60	2,330	19.00	12,290
1.10	435	3.00	1,090	5.80	2,440	20.00	13,140
1.20	465	3.10	1,130	6.00	2,550	21.00	14,040
1.30	495	3.20	1,170	6.20	2,660	22.00	14,940
1.40	525	3.30	1,210	6.40	2,770	23.00	15,840
1.50	555	3.40	1,250	6.60	2,880	24.00	16,740
1.60	585	3.50	1,295	6.80	3,000	25.00	17,690
1.70	620	3.60	1,340	7.00	3,120	26.00	18,640
1.80	655	3.70	1,385	8.00	3,740	27.00	19,590
1.90	690	3.80	1,430	9.00	4,410	28.00	20,540
2.00	725	3.90	1,475	10.00	5,110	29.00	21,490
2.10	760	4.00	1,520	11.00	5,840	30.00	22,490
2.20	795	4.20	1,620	12.00	6,590	32.00	24,490
2.30	830	4.40	1,720	13.00	7,340	34.00	26,540
2.40	865	4.60	1,820	14.00	8,140	36.00	28,640
2.50	900	4.80	1,920	15.00	8,940		
2.60	935	5.00	2,020	16.00	9,740		

NOTE.—The above table is not applicable for obstructed-channel conditions. It is based on 18 discharge measurements made during 1903–1907, and is well defined between gage heights 0.8 foot and 11 feet. Above gage height 20 feet the rating curve is approximate.

Monthly discharge of Oconee River near Greensboro, Ga., for 1907 and 1908.

[Drainage area, 1,100 square miles.]

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area).	Accuracy.
	Maximum.	Minimum.	Mean.	Per square mile.		
1907.						
January	4,410	900	1,340	1.22	1.41	A.
February	5,990	1,050	1,970	1.79	1.86	A.
March	5,990	970	1,890	1.72	1.98	A.
April	4,620	795	1,590	1.45	1.62	A.
May	1,970	830	1,080	.982	1.13	A.
June	3,480	655	1,190	1.08	1.20	A.
July	1,620	495	879	.799	.92	A.
August	2,120	390	828	.753	.87	A.
September	4,000	345	1,070	.973	1.09	A.
October	1,030	450	582	.529	.61	A.
November	5,990	480	1,440	1.31	1.46	A.
December	6,820	865	2,240	2.04	2.35	A.
The year	6,820	345	1,340	1.22	16.50	

Monthly discharge of Oconee River near Greensboro, Ga., for 1907 and 1908—Continued.

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area).	Accuracy.
	Maximum.	Minimum.	Mean.	Per square mile.		
1908.						
January	6,740	1,170	2,480	2.25	2.59	A.
February	8,300	1,620	3,920	3.56	3.84	A.
March	10,400	1,250	2,870	2.61	3.01	A.
April	9,100	1,250	3,110	2.83	3.16	A.
May	2,280	1,130	1,480	1.35	1.56	A.
June	4,970	882	1,320	1.20	1.34	A.
July	5,690	672	1,440	1.31	1.51	A.
August	25,300	620	3,940	3.58	4.13	B.
September	2,280	778	1,050	.955	1.07	A.
October	3,000	672	1,100	1.00	1.15	A.
November	2,020	882	1,140	1.04	1.16	A.
December	7,820	882	1,950	1.77	2.04	A.
The year	25,300	620	2,150	1.95	26.56	

OCONEE RIVER AT FRALEYS FERRY, NEAR MILLEDGEVILLE, GA.

The station is located at Fraleys Ferry, 6 miles above Milledgeville, Ga., and about 4 miles below the mouth of Little River. At this point, which is above the dam at Milledgeville, there is nearly natural flow. The river is but slightly affected by dams a great distance upstream. It was established May 23, 1906, to take the place of the Milledgeville station and was discontinued December 31, 1908. A temporary gage was maintained from October 20, 1905, to November 14, 1905, at Fraleys Ferry, and the original station at Milledgeville was maintained from August 22, 1903, to December 31, 1905. The Milledgeville station is now maintained by the United States Weather Bureau, but on account of the daily fluctuation caused by a mill dam above and shifting channel conditions at the station, mean monthly discharges have not been computed since 1904.[a]

The sloping staff gage is located 100 feet above the ferry at which discharge measurements are made. Owing to swiftness of current it has been impossible to make any measurements at high-water stages. The bed of the stream is sandy and changing, but rock shoals below control the water level at this station, and a good rating has been developed for low stages.

The following discharge measurement was made:

February 8, 1908: Width, 280 feet; area, 2,550 square feet; gage height, 7.17 feet; discharge, 4,060 second-feet.

[a] Records of discharge collected at the original Milledgeville station prior to 1906 have been compiled in Water-Supply Paper No. 197, Water resources of Georgia.

Daily gage height, in feet, of Oconee River at Fraleys Ferry, near Milledgeville, Ga., for 1907 and 1908.

[Observer, Jesse Cummings.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1	8.2	8.0	7.9	6.0	6.2	6.9	6.4	5.8	4.7	6.7	5.1	6.9
2	7.9	8.9	.....	6.0	6.1	6.9	6.0	5.6	4.6	6.0	5.0	6.5
3	7.7	8.0	.....	6.0	6.1	6.4	6.2	5.5	4.8	5.6	5.2	6.2
4	7.0	7.7	.....	5.9	6.3	6.0	6.6	5.4	6.0	5.4	5.1	6.0
5	6.7	.....	8.4	5.8	6.6	5.8	6.5	5.4	6.0	5.5	5.1	5.9
6	6.4	.....	7.4	6.0	6.3	5 7	6.2	5.2	5.8	5.4	5.2	5.9
7	6.3	9.0	7.0	6.0	6.1	5.6	5.8	5.3	5.4	5.2	5.1	5.8
8	6.2	8.2	6.8	6.3	6.0	5.4	5.5	5.2	6.1	5.0	5.1	5.8
9	6.2	7.1	6.6	6.3	7.0	5.4	5.4	5.2	6.3	5.4	5.0	5.8
10	6.1	6.8	6.5	6.0	6.4	5.4	5.2	5.5	5.9	5.4	5.3	6.4
11	6.1	6.7	6.4	6.0	6.0	5.3	5.2	5.8	5.6	5.2	5.9	6.5
12	6.0	6.6	6.4	5.8	6.0	5.1	5.2	5.2	5.3	5.2	6.0	6.4
13	6.0	6.4	6.3	5.8	6.0	5.6	5.6	6.3	5.0	5.0	5.8	6.4
14	6.0	6.4	6.3	5.8	6.0	6.6	5.8	5.5	5.0	5.0	5.5	.....
15	6.0	6.3	6.7	5.8	5.9	7.1	5.6	5.6	5.0	5.0	5.4	.....
16	5.9	6.2	6.8	5.8	6.1	6.4	5.6	6.8	4.9	5.1	5.3	8.2
17	5.9	6.2	6.6	6.6	6.0	5.6	5.7	6.8	4.9	5.1	5.3	7.2
18	5.9	6.1	6.4	6.8	6.0	5.5	5.5	6.5	4.8	5.1	5.4	7.4
19	6.0	6.1	6.3	6.6	5.8	5.4	5.6	7.0	4.9	5.1	5.7	6.8
20	6.0	6.2	6.3	6.2	5.7	5.4	5.5	6.0	4.8	5.0	6.0	6.4
21	6.0	6.4	6.2	6.1	5.6	5.3	5.6	5.5	4.8	5.0	6.4	6.2
22	6.0	6.2	6.2	6.6	5.5	5.3	5.4	5.4	4.8	4.9	7.4	6.3
23	5.9	6.2	6.1	8.8	5.5	5.3	5.1	5.4	5.5	5.0	.....	.....
24	5.8	6.0	6.1	8.4	5.4	5.3	5.1	5.3	8.4	5.1	.....	.....
25	5.8	6.3	6.0	8.0	5.5	5.4	5.1	5.3	7.3	5.1	8.2	.....
26	6.0	6.6	6.0	7.2	5.6	5.5	5.2	5.2	6.1	5.1	7.6	8.3
27	6.0	7.4	5.9	6.8	5.9	5.6	7.1	5.1	5.5	5.0	7.0	7.4
28	5.9	7.6	5.9	6.4	6.7	5.6	8.0	5.6	6.6	4.9	6.5	7.2
29	5.9	.....	5.9	6.3	6.0	8.5	8.2	5.1	.....	5.0	7.4	7.2
30	5.9	.....	5.9	6.2	5.6	8.3	7.9	4.9	8.0	5.2	7.4	.....
31	6.1	.....	5.8	.....	5.6	.....	7.0	4.8	.....	5.1	.....	.....
1908.												
1	.....	.....	6.9	7.1	7.8	6.3	5.6	5.4	6.5	5.5	6.6	5.8
2	8.2	.....	6.8	7.0	7.4	6.2	5.5	5.3	6.4	5.4	6.2	5.9
3	7.6	.....	6.7	7.0	7.2	5.9	6.1	5.2	6.2	5.4	6.0	5.9
4	7.2	9.0	6.7	6.8	7.0	5.9	7.0	5.2	6.2	5.4	6.0	5.8
5	7.4	7.6	6.7	6.6	6.9	6.2	7.7	6.2	6.2	5.3	7.0	5.8
6	8.2	7.6	6.7	6.7	6.8	6.3	7.2	8.0	7.6	5.3	7.0	5.8
7	.....	7.4	6.6	7.2	6.8	6.2	8.2	8.1	7.4	5.4	6.4	5.8
8	.....	7.2	6.6	7.0	6.8	6.0	8.0	8.2	7.0	5.5	6.2	6.6
9	9.0	7.0	6.5	6.7	7.0	5.8	7.6	7.2	6.4	5.6	6.0	7.0
10	7.8	9.0	6.5	6.6	6.8	5.8	7.6	8.6	6.2	5.6	5.8	6.8
11	9.0	.....	6.4	6.5	6.6	5.9	6.8	7.6	5.8	6.6	5.8	6.4
12	.....	.....	6.6	6.4	6.5	6.2	6.2	6.2	5.8	6.7	5.8	6.4
13	.....	.....	6.6	6.3	6.3	6.1	6.0	5.8	5.8	6.0	6.0	6.4
14	.....	.....	6.6	6.3	6.3	5.8	6.2	5.6	5.7	5.6	6.3	6.2
15	8.2	.....	6.5	9.0	6.2	5.7	6.2	5.5	5.7	5.6	7.0	6.0
16	7.6	.....	6.4	.....	6.2	6.4	5.8	5.5	5.6	5.6	6.8	6.0
17	7.2	.....	6.4	.....	6.2	6.5	5.7	5.4	5.6	5.5	6.3	6.0
18	7.1	.....	6.3	.....	6.4	6.2	5.7	5.4	5.5	5.5	6.1	5.9
19	6.9	.....	6.3	9.0	6.8	6.1	5.6	6.2	5.5	5.4	6.0	5.9
20	6.7	9.0	6.3	7.7	6.8	6.0	5.6	6.2	5.5	5.4	6.0	5.9
21	6.7	8.2	6.6	7.4	6.6	5.9	5.4	7.4	5.5	5.4	5.9	6.0
22	6.6	7.8	7.5	7.2	6.4	8.5	5.4	7.4	5.6	5.4	5.9	8.0
23	6.6	7.4	8.8	7.7	6.2	8.1	5.3	6.8	5.6	5.3	5.9	.....
24	6.5	7.2	.....	7.4	6.1	6.4	5.3	7.2	5.5	5.5	5.8	.....
25	6.5	7.2	.....	8.3	6.2	6.1	5.3	.....	5.5	5.6	5.9	.....
26	6.5	7.2	.....	.....	6.4	5.9	5.3	.....	5.5	5.6	5.8	8.0
27	6.4	7.4	.....	.....	6.3	5.8	5.3	.....	5.4	5.6	5.8	6.9
28	6.4	7.2	9.0	.....	6.2	5.8	5.3	.....	5.5	6.0	5.8	6.6
29	6.4	7.0	7.8	.....	6.1	5.7	5.3	.....	5.6	7.8	5.8	6.5
30	6.3	.....	7.4	.....	6.4	5.6	6.0	7.3	5.6	8.3	5.8	6.4
31	6.6	.....	7.2	.....	6.6	.....	5.7	6.8	.....	7.4	.....	6.4

NOTE.—The water surface was over the top of the gage for all missing days 1907 and 1908. The stage during these days was greater than 9 feet.

Rating table for Oconee River at Fraleys Ferry, near Milledgeville, Ga., for 1905 to 1908.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*
4.60	690	5.60	1,610	6.60	3,080	7.60	4,880
4.70	760	5.70	1,740	6.70	3,250	7.70	5,070
4.80	830	5.80	1,870	6.80	3,420	7.80	5,260
4.90	910	5.90	2,010	6.90	3,590	7.90	5,450
5.00	990	6.00	2,150	7.00	3,770	8.00	5,650
5.10	1,080	6.10	2,300	7.10	3,950	8.20	6,050
5.20	1,170	6.20	2,450	7.20	4,130	8.40	6,450
5.30	1,270	6.30	2,600	7.30	4,310	8.60	6,850
5.40	1,380	6.40	2,760	7.40	4,500	8.80	7,250
5.50	1,490	6.50	2,920	7.50	4,690	9.00	7,650

NOTE.—The above table is not applicable for obstructed-channel conditions. It is based on six discharge measurements made during 1904 to 1908, and is well defined between gage heights 4.3 feet and 8 feet. This table supersedes the 1905–6 rating table published in the 1906 report.

Monthly discharge of Oconee River at Fraleys Ferry, near Milledgeville, Ga., for 1905 to 1908.

[Drainage area, 2,840 square miles.]

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area).	Accuracy.
	Maximum.	Minimum.	Mean.	Per square mile.		
1905.						
October 20–31	870	600	770	0.271	0.12	A.
November 1–14	2,150	690	1,090	.384	.20	A.
1906.						
May 23–31	2,150	1,490	1,720	.606	.20	A.
June	15,000	1,380	4,380	1.54	1.72	B.
July	12,000	1,610	4,370	1.54	1.78	B.
August	7,250	1,380	3,700	1.30	1.50	A.
September	5,650	1,380	3,000	1.06	1.18	A.
October	10,000	1,610	3,220	1.13	1.30	A.
November	3,080	1,610	1,880	.662	.74	A.
December	4,880	1,610	2,460	.866	1.00	A.
1907.						
January	6,050	1,870	2,580	.908	1.05	A.
February	13,500	2,150	4,270	1.50	1.56	B.
March	10,500	1,870	3,520	1.24	1.43	A.
April	7,250	1,870	2,850	1.00	1.12	A.
May	3,770	1,380	2,160	.761	.88	A.
June	6,650	1,270	2,180	.768	.86	A.
July	6,050	1,080	2,240	.789	.91	A.
August	3,770	830	1,670	.588	.68	A.
September	9,000	690	2,080	.732	.82	A.
October	3,250	910	1,230	.433	.50	A.
November	13,000	990	2,850	1.00	1.12	A.
December	15,000	1,870	5,080	1.79	2.06	C.
The year	15,000	690	2,730	.959	12.99	
1908.						
January	14,000	2,600	5,420	1.91	2.20	C.
February	17,000	3,770	7,850	2.76	2.98	C.
March	21,000	2,600	5,270	1.86	2.14	C.
April	22,000	2,600	6,920	2.44	2.72	C.
May	5,260	2,300	3,090	1.09	1.26	A.
June	6,650	1,610	2,460	.866	.97	A.
July	6,050	1,270	2,480	.873	1.01	A.
August	30,000	1,170	5,950	2.10	2.42	C.
September	4,880	1,380	2,110	.743	.83	A.
October	6,250	1,270	1,990	.701	.81	A.
November	3,770	1,870	2,360	.831	.93	A.
December	14,000	1,870	3,630	1.28	1.48	A.
The year	30,000	1,170	4,130	1.45	19.75	

NOTE.—The discharge for days when the stage was above the top of the gage was estimated from the combined discharge at Greensboro and Buckhead.

OCONEE RIVER AT DUBLIN, GA.

The station is located at the iron highway bridge in the eastern part of Dublin. Continuous records of gage height have been obtained at this point since February 11, 1898. Gage heights are supplied by the United States Weather Bureau. Fragmentary records of gage heights and discharge measurements were obtained prior to 1898.

The datum of the staff gage, which is attached to the lower part of the Wrightsville and Tennile Railroad bridge 500 feet downstream from the highway bridge at which measurements are made, has remained the same since its establishment. The left bank overflows at a stage of about 20 feet for 1,100 feet through an iron frame trestle approach to the bridge. This ground is thickly covered with brushy growth which probably retards the flow of water over the overflow section. The right bank does not overflow. Conditions of flow are changeable, requiring frequent changes in ratings.

Only one discharge measurement was made during 1907 and 1908, and inasmuch as it indicates a radical change in the rating, monthly discharges are withheld pending further information.[a]

The following discharge measurement was made:

April 19, 1907: Width, 254 feet; area, 2,310 square feet; gage height, 5.08 feet; discharge, 7,080 second-feet.

Daily gage height, in feet, of Oconee River at Dublin, Ga., for 1907 and 1908.

[Observer, Mrs. Minnie E. Martin.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1	2.5	1.7	5.2	0.7	3.0	1.0	6.0	5.4	−0.8	6.7	−1.0	6.7
2	4.8	3.7	5.8	.8	2.8	1.0	6.3	5.5	−1.1	7.0	− .9	6.2
3	5.7	6.5	6.0	1.0	2.5	4.0	4.9	3.5	−1.2	6.7	− .9	5.2
4	6.0	7.8	7.0	1.1	2.7	4.0	4.4	1.0	−1.4	3.0	− .9	4.5
5	6.5	8.5	7.8	1.2	3.0	1.3	3.3	1.0	.0	1.3	− .8	3.0
6	5.0	9.2	8.9	1.3	3.2	1.5	2.3	.8	.9	1.0	− .7	2.5
7	3.8	9.9	9.5	1.7	4.5	.9	2.5	.6	1.0	.7	− .7	2.0
8	3.0	10.3	9.3	2.2	2.6	.7	1.3	.5	.7	.5	− .6	1.9
9	2.6	13.0	6.5	3.0	2.0	.4	1.5	.5	.0	.4	− .6	1.7
10	2.5	13.5	4.0	3.2	6.2	.2	1.1	.0	1.6	.5	− .8	1.0
11	2.5	12.0	3.5	2.8	6.0	.1	.1	− .1	2.0	1.0	− .8	1.0
12	2.3	8.9	3.2	2.4	5.0	.0	−1.1	.5	2.6	.4	− .8	1.1
13	2.2	5.0	2.9	2.4	4.5	.0	− .1	1.0	1.2	.0	−1.0	1.2
14	2.0	4.4	2.7	1.5	3.2	.0	.0	1.0	.9	− .1	− .1	5.5
15	2.0	3.5	2.7	1.5	3.0	.8	1.0	2.6	.0	− .3	.7	8.8
16	2.0	3.1	3.5	1.5	2.7	3.0	1.5	1.5	− .4	− .3	.5	9.0
17	1.7	2.8	4.2	1.7	2.7	3.3	1.5	1.8	− .6	− .2	.4	10.3
18	1.5	3.6	3.5	3.5	2.0	1.5	1.1	3.6	− .8	− .3	.0	11.0
19	1.4	2.5	3.2	3.8	2.2	.5	.8	3.5	− .9	− .5	.1	11.3
20	1.4	2.7	3.0	5.5	2.0	.1	.5	3.0	−1.0	− .7	.1	9.5
21	1.6	3.0	2.6	4.5	1.8	− .1	.4	3.0	−1.1	− .8	1.0	9.1
22	1.3	3.0	2.5	4.2	1.0	− .2	.3	1.5	−1.2	− .8	2.2	4.1
23	1.3	4.0	2.1	5.0	1.0	− .3	.5	.5	−1.2	− .9	4.0	6.2
24	1.2	2.7	2.0	5.5	.9	− .4	.2	.0	− .5	− .7	6.6	9.0
25	1.1	2.5	1.7	6.2	.6	− .4	− .4	.0	− .2	− .6	7.2	10.0
26	1.5	2.5	2.5	7.5	.5	− .2	− .5	− .2	.5	− .6	8.5	11.9
27	1.7	3.1	1.1	10.7	.5	.0	− .6	− .5	4.0	− .8	8.0	16.0
28	1.9	4.0	1.0	8.5	1.0	.3	.7	− .5	5.0	− .9	10.0	16.1
29	2.0	.....	1.0	5.4	.9	2.0	.4	− .6	1.5	− .9	9.0	14.9
30	1.9	.....	1.0	4.8	2.5	3.8	4.2	− .7	6.0	− .9	6.4	14.5
31	2.0	.....	.7	.....	1.5	.....	6.5	− .8	.....	−1.0	.....	10.0

[a] Data collected at this station prior to 1906 have been compiled in Water-Supply Paper No. 197, Water resources of Georgia.

Daily gage height, in feet, of Oconee River at Dublin, Ga., for 1907 and 1908—Continued.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1908.												
1	9.4	7.9	6.5	13.6	20.8	2.8	0.9	1.5	20.1	0.4	5.9	1.0
2	9.8	11.2	5.8	10.6	19.5	2.8	.8	.9	17.0	.5	4.8	.9
3	11.0	12.5	5.4	7.1	17.0	2.0	1.0	.2	12.1	.3	2.1	.9
4	12.0	13.1	5.1	5.8	14.6	1.9	.9	.1	5.2	— .1	1.9	1.1
5	12.2	18.5	5.0	5.1	11.1	1.5	2.7	.1	2.3	— .1	1.3	1.5
6	10.8	18.0	5.0	4.8	7.3	1.2	4.5	.2	1.8	— .2	3.0	1.6
7	11.2	16.0	4.9	5.3	6.0	2.9	5.0	3.2	3.5	— .2	4.0	1.4
8	11.5	13.0	4.6	6.0	5.5	2.5	4.9	5.0	4.7	— .2	3.5	1.0
9	9.8	10.9	4.5	5.3	5.2	2.0	6.0	5.7	4.4	.1	2.4	.9
10	11.5	9.0	4.3	5.5	5.1	1.2	6.1	5.9	3.5	.1	2.0	2.7
11	12.3	8.8	4.2	4.9	5.0	1.0	6.3	4.8	2.2	.1	1.5	3.4
12	14.5	8.7	3.7	4.1	4.4	.8	6.4	6.4	1.6	.8	1.5	2.9
13	14.0	12.8	3.7	3.5	3.8	1.8	4.4	6.0	1.3	2.5	1.2	2.4
14	13.5	16.4	3.7	3.3	3.5	1.9	4.0	3.4	1.0	2.1	1.1	3.8
15	12.5	17.5	3.7	4.3	3.2	1.5	3.2	1.2	.8	1.1	1.3	2.5
16	15.7	16.8	3.7	6.3	3.1	.9	3.3	.8	.6	.6	3.8	2.0
17	15.0	16.0	3.0	9.0	3.0	.8	2.8	.8	.5	.5	4.1	1.8
18	13.6	14.7	3.0	12.0	3.0	2.5	1.8	.5	.4	.4	3.1	1.7
19	11.4	14.6	3.0	15.5	3.0	2.8	1.0	.2	.3	.2	2.4	1.7
20	9.5	14.8	3.0	15.7	3.9	2.7	1.0	.7	.2	.1	1.9	1.6
21	7.5	14.3	2.9	14.6	4.5	2.0	1.7	1.2	.1	.1	1.5	1.5
22	6.7	13.8	2.9	13.0	4.3	1.9	.7	2.5	.2	.1	1.2	1.5
23	5.7	13.2	5.5	12.2	3.9	4.0	.4	4.2	.2	.1	1.3	2.7
24	5.0	12.1	10.5	11.5	3.1	6.1	.4	4.4	.2	.0	1.2	6.5
25	4.0	10.4	13.8	10.0	2.9	6.4	.4	4.5	.2	.0	1.1	7.2
26	4.5	8.2	17.0	10.0	2.3	3.9	.6	5.6	.1	.2	1.0	9.0
27	4.0	7.3	21.3	12.3	2.0	3.0	.3	7.0	.2	.3	1.2	10.0
28	4.3	6.8	21.4	15.7	2.3	2.1	.2	9.2	.3	.5	1.2	11.8
29	4.5	6.8	20.1	20.0	2.0	1.4	.2	19.0	.4	.9	1.0	11.0
30	4.0	.....	18.0	22.0	2.0	1.1	.2	23.2	.4	2.3	1.0	8.3
31	4.2	.....	16.0	.....	2.2	.....	.2	22.5	.....	5.3	.....	3.7

APALACHEE RIVER NEAR BUCKHEAD, GA.

The station is located at the iron wagon bridge over Apalachee River, about 3½ miles north of Buckhead, and about 3 miles below the mouth of Hard Labor Creek. It was established February 13, 1901, and was discontinued December 31, 1908.

The datum of the gage has remained the same since the establishment of the station. The right bank overflows at a stage of 10 feet for about 400 feet. The overflowed portion is thickly covered with trees and brushy growth, which greatly retards the flood water passing over it. The left bank does not overflow. Conditions of flow are fairly constant, and a fair rating has been developed at low and medium low stages.[a]

Discharge measurements of Apalachee River near Buckhead, Ga., in 1907.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
		Feet.	*Sq. ft.*	*Feet.*	*Sec.-ft.*
March 16	M. R. Hall	86	331	3.25	611
November 27	do	86	387	3.26	578

[a] Data collected at this station prior to 1906 have been compiled in Water-Supply Paper No. 197, Water resources of Georgia.

Daily gage height, in feet, of Apalachee River near Buckhead, Ga., for 1907 and 1908.

[Observer, G. A. J. Adams.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1	5.4	4.8	6.0	2.4	2.6	5.5	2.55	2.2	1.0	3.0	1.65	3.4
2	5.1	5.7	7.1	2.5	2.7	4.0	2.25	2.15	.8	2.45	1.7	3.0
3	4.5	4.8	9.3	2.6	2.7	3.2	3.4	2.6	.9	2.2	1.6	2.85
4	3.7	3.6	8.0	2.5	2.8	2.5	6.5	2.75	2.9	2.1	1.6	2.55
5	3.5	8.0	5.4	2.6	4.6	2.3	4.3	2.3	2.1	2.05	1.65	2.4
6	3.1	10.9	3.9	2.6	3.1	2.2	3.0	2.0	1.95	1.95	1.65	2.35
7	2.9	7.0	3.6	2.7	2.9	2.1	2.0	2.1	1.9	1.5	1.65	2.3
8	2.8	5.2	3.4	3.0	2.7	2.1	1.9	1.9	2.1	2.0	1.6	2.2
9	2.8	4.0	3.4	3.2	2.9	2.0	1.9	2.0	1.9	2.3	1.6	3.4
10	2.85	3.6	3.2	2.8	2.7	1.8	1.8	3.7	1.85	1.9	1.65	3.0
11	2.8	3.4	3.1	2.65	2.7	1.7	1.75	2.05	1.6	1.8	1.85	2.9
12	2.7	3.2	3.0	2.55	2.6	2.6	1.9	1.4	1.6	1.75	2.0	2.8
13	2.55	3.1	3.0	2.5	2.5	3.5	1.85	1.85	1.45	1.8	2.2	3.2
14	2.55	2.95	2.95	2.65	2.45	5.0	2.5	1.75	1.3	1.1	1.7	6.0
15	2.6	2.85	3.3	2.6	2.5	4.3	1.9	3.3	1.15	1.9	1.5	5.5
16	2.55	2.7	3.4	2.55	2.45	3.8	2.45	3.6	.9	1.85	1.6	5.3
17	2.5	2.65	3.0	2.85	2.5	2.7	2.1	4.0	1.2	1.8	1.7	4.9
18	2.55	2.6	2.9	3.2	2.5	2.35	2.0	5.0	1.3	1.8	1.85	3.5
19	2.55	2.7	2.85	3.0	2.65	2.2	1.9	3.1	1.2	1.8	2.0	3.3
20	2.2	2.8	2.9	2.95	2.3	2.0	1.85	2.1	1.1	1.5	2.45	2.9
21	2.2	3.0	2.9	2.55	2.2	1.7	1.7	1.9	1.2	1.2	3.9	2.6
22	2.15	2.8	2.8	2.45	2.1	1.9	1.3	1.8	1.2	1.6	5.6	2.75
23	2.25	2.7	2.85	5.9	2.05	2.0	1.6	1.8	4.2	1.6	11.4	8.0
24	2.3	2.5	2.4	7.4	2.5	1.95	1.5	1.6	4.4	1.7	9.0	11.0
25	2.4	2.9	2.5	5.2	2.2	2.1	1.45	1.6	3.2	1.65	7.00	6.5
26	2.45	3.7	2.6	3.9	2.1	2.4	2.4	1.6	2.4	1.6	4.8	5.1
27	2.4	4.8	2.55	3.3	2.4	2.8	2.5	1.6	2.1	1.5	3.3	4.4
28	2.4	5.7	2.55	2.9	2.5	2.0	3.9	1.6	2.4	1.5	2.9	4.1
29	2.4	.....	2.5	2.85	2.3	3.9	6.2	1.55	6.8	1.7	3.4	4.5
30	2.4	.....	2.45	2.5	2.1	3.6	3.75	1.3	5.1	1.65	3.4	7.8
31	2.45	.....	2.4	.....	2.0	.....	2.4	1.2	.....	1.6	.....	10.0
1908.												
1	8.8	9.8	4.0	4.0	4.6	2.9	2.1	1.6	3.0	2.0	3.2	2.35
2	5.3	14.2	3.9	3.8	4.1	2.5	2.2	1.5	2.8	1.9	2.7	2.4
3	4.2	10.1	3.8	3.6	3.8	2.4	2.2	1.4	2.6	1.85	2.8	2.35
4	3.8	5.8	3.7	3.4	3.6	2.45	2.6	1.4	2.8	1.9	3.6	2.2
5	4.7	4.6	3.7	3.3	3.4	2.4	2.1	2.2	2.8	1.95	5.5	2.0
6	4.0	4.1	3.6	3.5	3.4	2.5	2.85	3.6	3.8	2.0	3.2	2.85
7	4.8	4.5	3.6	4.0	3.6	2.4	4.0	6.4	3.9	1.9	2.9	3.2
8	7.0	4.0	3.5	3.7	3.6	2.35	3.8	3.8	2.9	2.15	2.55	5.0
9	7.1	3.7	3.5	3.5	3.6	2.3	4.9	8.0	2.65	2.4	2.5	3.8
10	4.9	4.6	3.4	3.2	3.4	2.25	5.6	13.0	2.45	4.6	2.6	3.0
11	3.7	9.3	3.4	3.1	3.1	2.45	3.1	4.5	2.3	4.5	2.5	2.85
12	10.2	11.7	3.5	4.0	3.0	2.9	2.5	2.8	2.25	3.0	2.9	2.6
13	11.0	9.0	3.5	2.9	2.8	2.6	2.95	2.6	2.2	2.4	3.6	2.55
14	6.1	7.2	3.4	3.1	2.75	2.7	2.75	2.2	2.15	2.35	4.6	2.6
15	5.1	8.1	3.3	4.1	2.65	2.8	2.4	2.0	2.1	2.3	4.9	2.5
16	4.4	12.8	3.2	6.7	2.65	2.75	2.4	1.95	2.0	1.95	3.7	2.45
17	4.2	10.0	3.2	6.3	2.7	3.1	2.15	1.85	1.9	1.6	3.3	2.45
18	3.9	7.7	3.1	6.7	2.85	2.55	1.8	2.4	1.8	1.7	3.0	2.5
19	3.7	6.0	3.0	5.0	3.2	2.4	1.8	2.1	1.75	1.8	2.85	2.55
20	3.5	5.8	3.4	4.5	3.5	2.35	1.6	3.2	1.9	1.9	2.7	2.3
21	3.4	5.7	4.5	4.4	3.7	2.5	1.6	10.5	1.9	1.95	2.65	2.2
22	3.3	5.5	4.3	4.3	3.2	2.4	1.4	4.8	1.95	2.05	2.5	7.4
23	3.2	4.0	5.8	5.0	2.65	4.0	1.2	5.0	1.85	2.15	2.4	16.5
24	3.1	4.4	11.6	4.6	2.6	2.6	1.6	5.4	1.75	2.2	2.5	11.3
25	2.95	4.4	13.5	5.4	3.0	2.55	1.4	23.8	1.7	1.95	2.4	6.9
26	3.0	4.7	11.1	5.5	3.8	2.4	1.4	22.9	1.65	2.05	2.35	4.6
27	3.1	4.6	7.3	10.1	3.1	2.4	1.5	16.2	2.0	2.15	2.3	4.1
28	3.5	4.5	5.4	11.9	2.9	2.05	1.4	8.7	2.35	2.4	2.2	3.7
29	3.3	4.2	4.8	7.9	2.9	1.9	1.85	4.9	2.15	4.6	2.2	3.0
30	3.2	.....	4.4	5.5	3.4	1.8	2.2	4.6	2.1	7.2	2.2	3.85
31	3.6	.....	4.2	.....	4.0	.....	1.9	4.3	.....	4.5	.....	3 6

NOTE.—August 25, 1908, the highest stage reached was 27.5 feet, which is the highest recorded since the establishment of the station.

Rating table for Apalachee River near Buckhead, Ga., for 1907 and 1908.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*
0.80	92	2.50	428	4.40	960	11.00	3,185
.90	108	2.60	453	4.60	1,020	12.00	3,535
1.00	124	2.70	478	4.80	1,080	13.00	3,885
1.10	141	2.80	504	5.00	1,140	14.00	4,235
1.20	158	2.90	530	5.20	1,202	15.00	4,585
1.30	176	3.00	557	5.40	1,265	16.00	4,935
1.40	194	3.10	584	5.60	1,329	17.00	5,285
1.50	213	3.20	611	5.80	1,394	18.00	5,635
1.60	232	3.30	639	6.00	1,460	19.00	5,985
1.70	252	3.40	667	6.20	1,526	20.00	6,335
1.80	272	3.50	695	6.40	1,592	21.00	6,685
1.90	293	3.60	723	6.60	1,659	22.00	7,035
2.00	314	3.70	752	6.80	1,727	23.00	7,385
2.10	336	3.80	781	7.00	1,795	24.00	7,735
2.20	358	3.90	810	8.00	2,135		
2.30	381	4.00	840	9.00	2,485		
2.40	404	4.20	900	10.00	2,835		

NOTE.—The above table is not applicable for obstructed-channel conditions. It is based on discharge measurements made during 1901 to 1908, and is fairly well defined between gage heights 0.8 foot and 8 feet. Above about 15 feet the rating curve is approximate. Above gage height 8 feet the rating curve is a tangent, the difference being 35 per tenth.

Monthly discharge of Apalachee River near Buckhead, Ga., for 1907 and 1908.

[Drainage area, 440 square miles.]

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area).	Accuracy.
	Maximum.	Minimum.	Mean.	Per square mile.		
1907.						
January	1,260	347	524	1.19	1.37	A.
February	3,150	428	896	2.04	2.12	A.
March	2,590	404	755	1.72	1.98	A.
April	1,930	404	601	1.37	1.53	A.
May	1,020	314	447	1.02	1.18	B.
June	1,300	252	507	1.15	1.28	A.
July	1,620	176	464	1.05	1.21	B.
August	1,140	158	384	.873	1.01	B.
September	1,730	92	375	.852	.95	B.
October	557	141	276	.627	.72	B.
November	3,320	213	621	1.41	1.57	A.
December	3,180	358	978	2.22	2.56	A.
The year	3,320	92	569	1.29	17.48	
1908.						
January	3,180	544	1,080	2.45	2.82	A.
February	4,300	752	1,730	3.93	4.24	A.
March	4,060	557	1,090	2.48	2.86	A.
April	3,500	530	1,140	2.59	2.89	A.
May	1,020	453	636	1.45	1.67	A.
June	840	272	437	.993	1.11	B.
July	1,330	158	417	.948	1.09	B.
August	7,660	194	1,510	3.43	3.95	A.
September	810	242	392	.891	.99	B.
October	1,860	232	469	1.07	1.23	B.
November	1,300	358	560	1.27	1.42	A.
December	5,110	314	871	1.98	2.28	A.
The year	7,660	158	861	1.96	26.55	

NOTE.—At times the accuracy of the above results may be more or less affected by daily fluctuations caused by stored water above.

OHOOPEE RIVER NEAR REIDSVILLE, GA.

This station is located at the wooden highway bridge known as Sheppards bridge, 4½ miles west of Reidsville. It is below Pendletons Creek and above Rocky Creek. It was established June 13, 1903, and was discontinued December 31, 1907.

The datum of the vertical staff gage, which is attached to the bridge from which discharge measurements are made, has remained the same since the establishment of the station. Conditions of flow are practically permanent at this point, and a good rating has been developed.[a]

The following discharge measurement was made:

April 18, 1907: Width, 109 feet; area, 529 square feet; gage height, 2.39 feet; discharge, 426 second-feet.

Daily gage height, in feet, of Ohoopee River near Reidsville, Ga., for 1907.

[Observer, J. D. Swain.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	2.7	2.1	4.1	1.5	7.6	2.8	6.0	4.5	1.8	16.5	2.2	4.1
2	3.0	2.4	4.1	2.0	6.6	2.6	6.9	5.2	1.7	13.4	2.3	4.4
3	3.0	2.5	4.3	2.4	5.9	2.5	7.1	5.3	1.5	11.9	2.4	4.5
4	2.9	2.6	4.8	2.5	5.6	2.2	8.9	6.0	1.6	11.0	2.5	4.5
5	2.8	3.6	4.6	2.6	5.0	2.1	11.0	6.7	1.7	10.1	2.7	4.4
6	2.3	4.6	4.2	2.3	4.6	2.0	10.7	6.1	1.6	9.4	2.6	4.4
7	2.0	5.2	3.8	2.6	4.2	1.8	9.5	6.0	1.7	8.5	2.4	4.3
8	1.8	6.3	3.4	2.8	4.5	1.6	8.7	5.7	1.6	7.6	2.3	4.3
9	2.1	6.2	3.2	3.0	4.8	1.5	8.4	5.2	1.6	7.1	2.2	4.5
10	2.1	5.8	3.0	2.7	5.2	1.4	7.4	4.5	1.3	7.0	2.2	4.8
11	1.8	5.2	2.8	2.6	5.8	1.3	6.9	4.3	1.2	7.1	2.2	5.2
12	1.8	5.1	2.7	2.9	5.8	1.5	4.7	4.2	1.3	6.8	2.2	5.3
13	1.9	5.0	2.5	3.1	5.8	1.6	3.7	5.2	2.0	6.1	2.4	5.2
14	2.1	4.8	2.5	3.1	5.9	1.3	3.6	6.4	2.9	5.7	2.8	6.3
15	1.7	3.6	2.4	3.1	6.1	1.4	3.4	6.8	3.6	5.4	2.9	7.5
16	1.6	4.6	2.4	2.8	7.3	1.5	3.3	7.5	4.4	5.1	2.8	8.1
17	1.5	4.0	2.5	2.6	7.3	1.6	3.6	7.6	4.5	4.8	2.8	8.4
18	1.6	3.6	2.5	2.4	7.0	1.5	3.9	7.0	4.6	4.4	2.7	9.3
19	1.5	3.5	2.7	2.6	6.4	1.5	4.3	6.6	3.3	4.1	2.6	10.8
20	1.5	3.6	2.9	3.6	5.6	1.3	4.7	6.1	3.0	3.8	2.9	11.6
21	1.4	3.8	3.1	3.8	4.8	1.1	4.5	5.7	2.9	3.4	2.8	11.1
22	1.5	4.2	3.2	4.0	4.3	1.1	4.2	5.1	3.0	3.2	2.7	10.4
23	1.5	4.0	3.2	4.4	3.8	.9	3.2	4.9	3.0	3.1	2.7	9.8
24	1.4	4.1	3.0	5.3	3.2	.8	2.8	4.6	3.1	3.0	2.9	9.8
25	1.3	4.4	2.8	5.7	3.8	.7	2.2	4.5	3.0	2.8	3.1	11.0
26	1.3	4.3	2.4	5.8	3.0	.6	3.1	4.4	2.8	2.6	3.2	11.2
27	1.9	4.2	2.3	5.9	2.7	.7	3.5	3.6	2.7	2.6	3.7	10.6
28	2.3	4.0	2.0	6.4	3.2	1.0	3.6	2.8	3.0	2.5	3.4	11.0
29	2.7	.....	1.8	7.2	3.5	3.7	3.7	2.3	7.8	2.4	3.3	11.2
30	2.6	.....	1.7	8.1	3.5	5.1	3.5	2.0	15.5	2.3	3.7	11.6
31	2.1	.....	1.6	.....	3.3	.....	4.1	1.9	.....	2.3	.....	11.0

[a] Data collected at this station prior to 1906 have been compiled in Water-Supply Paper No. 197, Water resources of Georgia.

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Rating table for Ohoopee River near Reidsville, Ga., for 1904 to 1907, inclusive.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*
0.60	74	2.10	283	3.60	629	6.20	1,602
.70	83	2.20	302	3.70	659	6.40	1,685
.80	93	2.30	321	3.80	690	6.60	1,771
.90	104	2.40	341	3.90	722	6.80	1,860
1.00	115	2.50	361	4.00	755	7.00	1,950
1.10	127	2.60	382	4.20	824	8.00	2,430
1.20	140	2.70	403	4.40	895	9.00	2,950
1.30	153	2.80	425	4.60	968	10.00	3,500
1.40	167	2.90	447	4.80	1,043	11.00	4,120
1.50	182	3.00	470	5.00	1,120	12.00	4,820
1.60	197	3.10	494	5.20	1,198	13.00	5,590
1.70	213	3.20	519	5.40	1,277	14.00	6,440
1.80	230	3.30	545	5.60	1,357	15.00	7,340
1.90	247	3.40	572	5.80	1,438	16.00	8,290
2.00	265	3.50	600	6.00	1,520	17.00	9,290

NOTE.—The above table is not applicable for obstructed-channel conditions. It is based on 30 discharge measurements made during 1903 to 1907, and is well defined.

Monthly discharge of Ohoopee River near Reidsville, Ga., for 1907.

[Drainage area, 1,280 square miles.]

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area).	Accuracy.
	Maximum.	Minimum.	Mean.	Per square mile.		
1907.						
January	470	153	270	0.211	0.24	B.
February	1,640	283	856	.669	.70	B.
March	1,040	197	494	.386	.44	B.
April	2,480	182	737	.576	.64	B.
May	2,230	403	1,170	.914	1.05	A.
June	1,160	74	239	.187	.21	B.
July	4,120	302	1,370	1.07	1.23	A.
August	2,230	247	1,220	.953	1.10	A.
September	7,820	140	708	.553	.62	B.
October	8,790	321	1,820	1.42	1.64	A.
November	659	302	413	.323	.36	B.
December	4,530	789	2,490	1.95	2.25	A.
The year	8,790	74	982	.768	10.48	

RIVER SURVEYS AND WATER POWER IN ALTAMAHA RIVER DRAINAGE BASIN.

Surveys have been made in the Altamaha drainage basin as follows:

South River from Constitution to mouth, near Worthville, Ga.[a] [b]

Ocmulgee River from junction of South and Yellow rivers to Macon, Ga.[a] [b]

Yellow River from mouth to Yellow River, Ga.[a]

Alcovy River from mouth to Dabneys Bridge near Starrsville, Ga.[a]

Towaliga River from mouth to High Falls, Ga.[a]

[a] Elevations taken on these surveys and brief statements regarding possible power development are given in Water resources of Georgia: Water Supply Paper U. S. Geol. Survey No. 197.

[b] River surveys and profiles of 1903: Water Supply Paper U. S. Geol. Survey No. 115.

Oconee and Middle Oconee rivers from Milledgeville to Gainesville Midland Railroad bridge near Watkinsville, Ga.[a]

Apalachee River from mouth to High Shoals at High Shoals, Ga.[a]

Mulberry Fork of Oconee River from mouth to Hoschton, Ga.[a]

Yellow River from mouth, near Worthville, to Yellow River, Ga.[b]

Alcovy River from mouth, near Worthville, to Dabneys Bridge, near Starrsville, Ga.[b]

Towaliga River from mouth, near Berner, to High Falls, Ga.[b]

SATILLO RIVER (OF GEORGIA) DRAINAGE BASIN.

MISCELLANEOUS MEASUREMENT.

The following miscellaneous discharge measurement was made of Satillo River at Macks Bridge, 2½ miles north of Waycross, Ga.:

August 17, 1908: Gage height, 2.95 feet; discharge, 87 second-feet.

ST. JOHNS RIVER DRAINAGE BASIN.

DESCRIPTION OF BASIN.

St. Johns River drains the northern half of the eastern coast of Florida and forms the outlet for an extensive system of lakes in the north central part of the State. It flows in a northerly direction, emptying into the Atlantic Ocean near Jacksonville.

An important feature of this basin is its underground flow, which in many places comes to the surface as very large springs.

The following gaging station has been maintained in this river basin:

Silver Spring at Silverspring, Fla., 1906–7.

SILVER SPRING AT SILVERSPRING, FLA.

Silver Spring forms the outlet for an underground stream or system of streams so large that steamboats run on the stream leading from it into the basin of the spring. This water flows eastward about 9 miles into the Oklawaha River, which has its source in a number of lakes in central Florida, and flows north for a considerable distance, then eastward into St. Johns River, which empties into the Atlantic Ocean.

On May 25, 1906, a station was established at Silverspring for the purpose of observing the amount and fluctuation of the flow from this remarkable spring. It was discontinued December 31, 1907.

[a] Elevations taken on these surveys and brief statements regarding possible power development are given in Water resources of Georgia: Water Supply Paper U. S. Geol. Survey No. 197.

[b] River surveys and profiles of 1903: Water Supply Paper U. S. Geol. Survey No. 115.

The vertical staff gage is attached to a post in the basin and discharge measurements are made from a boat at a point on the outlet stream just below.

The bed of the stream is sandy and is covered with vegetation, making it difficult to measure. At the point usually measured the width is about 100 feet, with a depth of 10 feet.

The following discharge measurement was made:

February 11, 1907: Width, 120 feet; area, 855 square feet; gage height, 3.05 feet; discharge, 608 second-feet.

Daily gage height, in feet, of Silver Spring at Silverspring, Fla., for 1907.

[Observer, F. M. Brown.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	3.5	3.1	2.9	2.6	2.45	2.2	1.9	2.95	2.85	2.6	3.55	3.6
2	3.5	3.1	2.9	2.6	2.3	2.2	1.9	2.95	2.85	2.6	3.55	3.6
3	3.5	3.1	2.85	2.6	2.3	2.2	1.9	2.95	2.8	2.6	3.55	3.6
4	3.45	3.25	2.85	2.6	2.3	2.2	1.9	2.95	2.8	2.6	3.55	3.6
5	3.45	3.2	2.85	2.6	2.3	2.2	1.9	2.95	2.8	2.55	3.55	3.6
6	3.4	3.15	2.85	2.65	2.3	2.2	1.9	2.95	2.8	2.55	3.55	3.6
7	3.35	3.1	2.85	2.65	2.3	2.2	2.8	2.95	2.8	2.55	3.55	3.6
8	3.35	3.1	2.8	2.65	2.35	2.2	2.8	2.95	2.8	2.55	3.55	3.6
9	3.35	3.05	2.8	2.65	2.35	2.15	2.8	2.95	2.8	2.55	3.55	3.5
10	3.3	3.05	2.8	2.5	2.35	2.15	2.8	2.95	2.8	2.5	3.6	3.5
11	3.3	3.05	2.75	2.5	2.35	2.15	2.8	2.8	2.8	2.5	3.6	3.5
12	3.3	3.05	2.75	2.5	2.35	2.15	2.8	2.8	2.8	2.5	3.6	3.5
13	3.3	3.05	2.75	2.5	2.35	2.15	2.8	2.8	2.8	2.3	3.6	3.5
14	3.25	3.0	2.75	2.5	2.35	2.15	2.85	2.8	2.8	3.6	3.6	3.5
15	3.25	3.0	2.7	2.55	2.35	2.15	2.85	2.8	2.75	3.6	3.6	3.5
16	3.25	3.0	2.7	2.55	2.2	2.1	2.85	2.8	2.75	3.6	3.6	3.5
17	3.25	3.0	2.7	2.55	2.2	2.1	2.85	2.8	2.7	3.6	3.6	3.5
18	3.25	2.95	2.7	2.4	2.2	2.1	2.85	2.8	2.7	3.6	3.6	3.5
19	3.25	2.95	2.7	2.4	2.2	2.1	2.85	2.8	2.7	3.6	3.6	3.5
20	3.25	2.95	2.7	2.4	2.2	2.1	2.85	2.8	2.7	3.6	3.6	3.5
21	3.25	2.9	2.7	2.4	2.2	2.05	2.85	2.85	2.7	3.6	3.6	3.5
22	3.25	2.95	2.7	2.4	2.2	2.05	2.85	2.85	2.7	3.6	3.6	3.5
23	3.25	2.95	2.7	2.4	2.2	2.05	2.9	2.85	2.7	3.6	3.6	3.5
24	3.2	2.9	2.7	2.4	2.2	2.05	2.9	2.85	2.7	3.55	3.6	3.5
25	3.2	2.9	2.65	2.4	2.2	2.05	2.9	2.85	2.7	3.55	3.6	3.5
26	3.2	2.9	2.65	2.45	2.2	2.05	2.9	2.85	2.7	3.55	3.6	3.5
27	3.2	2.9	2.65	2.45	2.2	1.9	2.9	2.85	2.7	3.55	3.6	3.5
28	3.2	2.9	2.65	2.45	2.2	1.9	2.9	2.85	2.7	3.55	3.6	3.5
29	3.15	.....	2.6	2.45	2.2	1.9	2.9	2.85	2.7	3.55	3.6	3.55
30	3.15	.....	2.6	2.45	2.2	1.9	2.95	2.85	2.7	3.55	3.6	3.55
31	3.1	.....	2.6	.....	2.2	.....	2.95	2.85	.....	3.55	.....	3.55

MISCELLANEOUS MEASUREMENTS IN ST. JOHNS RIVER DRAINAGE BASIN.

The following miscellaneous discharge measurements were made on Oklawaha River during 1907:

February 9: Above mouth of Silver Spring Run, Silverspring, Fla.; gage height, 1.10 feet; discharge, 250 second-feet.

February 12: One-fourth mile below Paynes Landing, Fla.; gage height, 5.90 feet; discharge, 1,310 second-feet.

EASTERN GULF OF MEXICO DRAINAGE.

PEACE RIVER DRAINAGE BASIN.

MISCELLANEOUS MEASUREMENT.

The following miscellaneous discharge measurement was made on Peace River:

February 4, 1907, at the steel wagon bridge, 1 mile above Arcadia, Fla.: Gage height, 5.10 feet; discharge, 83 second-feet.

WITHLACOOCHEE RIVER (OF FLORIDA) DRAINAGE BASIN.

MISCELLANEOUS MEASUREMENTS.

The following miscellaneous discharge measurements were made in Withlacoochee River drainage basin during 1907:

Date.	Stream.	Tributary to—	Locality.	Gage height.	Discharge.
				Feet.	*Sec.-ft.*
February 6.....	Withlacoochee River.	Gulf of Mexico...	At iron bridge, ½ mile west of Dunnellon, Fla.	4.70	1,300
February 8.....	Blue Spring Run.	Withlacoochee River.	At wagon bridge, ¾ mile from Dunnellon, Fla.	6.12	847

SUWANEE RIVER DRAINAGE BASIN.

DESCRIPTION OF BASIN.

Suwanee River and its principal tributary, Withlacoochee River of Georgia, drain a considerable area in the south-central portion of Georgia. These unite after passing into Florida and continue a southerly course to the Gulf of Mexico, about 10 miles north of Cedar Keys. The eastern branch, Suwanee River, drains a portion of the Okefinokee Swamp in Georgia, and Santa Fe River, a tributary from the east coming in lower down, drains the upper central portion of Florida lying west of St. Johns River.

The following gaging station has been maintained in this river basin:

Suwanee River at White Springs, Fla., 1906–1908.

SUWANEE RIVER AT WHITE SPRINGS, FLA.

The station is located at the county bridge in the town of White Springs, about 600 feet above the point where the flow of White Spring enters the river. It was established May 28, 1906, and was discontinued December 31, 1908.

The datum of the chain gage has remained the same since the establishment of the station. The river channel is cut through soft rock, but the bed is sandy and the flow is probably affected somewhat by the growth of moss and vegetation. An approximate rating has been developed.

Discharge measurements of Suwanee River at White Springs, Fla., in 1906 and 1907.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
1906.		*Feet.*	*Sq. ft.*	*Feet.*	*Sec.-ft.*
May 16	Warren E. Hall	88	397	2.68	154
May 28	do	131	1,860	15.67	5,350
1907.					
February 13	Warren E. Hall	85	356	2.50	93
Do	do	85	373	2.52	95
November 16	do	90	412	3.19	241

Daily gage height, in feet, of Suwanee River at White Springs, Fla., for 1907 and 1908.

[Observer, J. H. Hunt.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1	2.7	2.6	2.5	2.2	3.9	2.6	4.7	3.3	9.4	12.9	4.3	3.1
2	2.7	2.6	2.5	2.2	3.8	2.7	4.2	3.3	8.9	12.9	4.1	3.1
3	2.7	2.6	2.5	2.2	3.7	2.8	3.6	3.2	8.4	12.9	4.0	3.1
4	2.7	2.6	2.5	2.2	3.5	2.9	3.9	3.3	8.0	13.0	3.9	3.1
5	2.7	2.6	2.5	2.2	3.3	3.0	5.5	3.5	7.9	12.9	3.8	3.1
6	2.7	2.6	2.5	2.2	3.2	2.9	6.7	4.1	7.9	12.6	3.7	3.1
7	2.8	2.6	2.5	2.3	3.2	2.7	6.7	5.3	7.8	12.5	3.6	3.1
8	2.7	2.6	2.5	2.4	3.1	2.6	5.8	5.9	7.7	12.5	3.5	3.2
9	2.7	2.6	2.5	2.5	3.0	2.5	5.1	6.7	7.5	12.2	3.5	3.4
10	2.7	2.6	2.5	2.6	2.9	2.4	4.7	7.3	7.8	12.4	3.5	5.3
11	2.7	2.6	2.5	2.6	2.8	2.3	4.4	8.6	7.8	12.2	3.4	8.0
12	2.7	2.6	2.5	2.7	2.8	2.2	4.1	9.3	7.6	11.7	3.4	8.2
13	2.7	2.5	2.5	2.8	2.9	2.1	3.9	9.8	7.5	11.3	3.4	7.9
14	2.7	2.5	2.5	2.7	2.9	2.1	3.7	10.5	8.3	10.9	3.3	16.0
15	2.7	2.5	2.5	2.7	3.0	2.0	3.5	10.7	8.4	10.4	3.3	18.3
16	2.7	2.5	2.5	2.7	3.1	2.0	3.4	10.3	8.4	10.0	3.2	17.5
17	2.7	2.5	2.4	2.7	3.1	2.0	4.1	10.2	8.5	9.6	3.2	17.0
18	2.7	2.5	2.4	2.8	3.4	2.0	5.6	9.9	8.6	9.0	3.2	17.0
19	2.7	2.5	2.4	2.9	3.3	2.0	6.0	9.6	8.6	8.4	3.2	17.2
20	2.6	2.5	2.4	3.2	3.2	1.9	5.7	9.9	8.7	8.0	3.1	17.4
21	2.6	2.5	2.4	3.4	3.1	1.9	5.2	10.2	8.6	7.5	3.1	17.6
22	2.6	2.5	2.4	3.6	3.0	1.9	4.8	10.6	8.6	7.0	3.1	18.2
23	2.6	2.5	2.4	4.2	2.9	1.9	4.3	11.1	8.7	6.7	3.1	18.9
24	2.6	2.5	2.4	4.2	2.9	1.9	3.8	11.4	8.7	6.3	3.0	19.7
25	2.6	2.5	2.3	4.2	2.9	1.9	3.6	11.4	8.7	6.0	3.0	19.8
26	2.6	2.5	2.3	4.1	2.8	1.9	3.5	11.2	8.6	5.7	3.0	19.9
27	2.6	2.5	2.3	4.1	2.7	1.9	3.4	11.1	8.5	5.4	3.0	20.0
28	2.6	2.5	2.3	4.1	2.6	1.9	3.3	10.7	9.3	5.1	3.0	20.2
29	2.6	.....	2.3	4.1	2.6	2.5	3.4	10.4	11.5	4.8	3.0	20.4
30	2.6	.....	2.3	4.1	2.6	3.3	3.5	10.1	12.7	4.6	3.0	20.6
31	2.6	.....	2.3	.....	2.6	.....	3.5	9.8	.....	4.5	.....	20.8
1908.												
1	20.9	12.5	14.8	4.2	3.4	3.2	3.8	6.8	3.1	4.2	2.7	2.5
2	20.9	13.1	14.1	4.2	3.4	3.3	3.8	6.6	3.1	4.2	2.7	2.5
3	20.7	12.8	13.5	4.0	3.4	3.4	3.8	6.4	3.0	4.0	2.7	2.5
4	20.5	12.4	12.7	4.0	3.5	3.4	3.8	6.1	3.0	4.0	2.7	2.5
5	20.2	12.2	12.1	3.9	3.6	3.4	3.8	5.8	3.0	3.9	2.6	2.5
6	19.9	12.1	11.5	3.9	3.7	3.4	3.8	5.5	3.1	3.9	2.6	2.5
7	20.3	12.1	11.0	3.8	3.8	3.3	3.8	5.2	3.1	3.8	2.6	2.4
8	20.7	12.0	10.5	3.7	3.9	3.3	3.9	4.9	3.1	3.8	2.6	2.4
9	20.3	11.9	10.0	3.6	4.0	3.3	3.9	4.7	3.1	3.7	2.6	2.4
10	19.8	11.9	9.6	3.5	4.1	3.2	3.9	4.6	3.2	3.5	2.6	2.4
11	19.4	11.9	9.1	3.5	4.2	3.2	4.0	4.5	3.2	3.4	2.6	2.4
12	20.4	12.1	8.7	3.4	4.2	3.2	4.4	4.4	3.3	3.3	2.6	2.4
13	20.7	12.2	8.3	3.4	4.3	3.1	5.5	4.3	3.3	3.3	2.6	2.4
14	20.5	13.3	7.9	3.3	4.3	3.1	6.5	4.1	3.2	3.2	2.6	2.4
15	20.3	15.8	7.7	3.2	4.3	3.1	7.0	4.0	3.2	3.2	2.7	2.4
16	20.2	16.5	7.3	3.2	4.3	3.1	7.2	3.9	3.2	3.1	2.7	2.3
17	20.0	16.8	7.0	3.1	4.3	3.0	7.3	3.8	3.1	3.1	2.7	2.3
18	19.9	17.1	6.8	3.1	4.3	3.0	7.3	3.7	3.1	3.0	2.8	2.3
19	19.6	17.5	6.5	3.1	4.3	3.2	7.3	3.6	3.1	3.0	2.8	2.3
20	19.3	17.8	6.3	3.1	4.2	3.3	7.6	3.5	3.1	3.0	2.8	2.3

Daily gage height, in feet, of Suwanee River at White Springs, Fla., for 1907 and 1908— Continued.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1908.												
21	18.9	17.9	6.0	3.1	4.1	3.3	7.9	3.4	3.1	3.0	2.8	2.3
22	18.5	17.9	5.8	3.1	4.0	3.4	8.3	3.2	3.1	3.0	2.7	2.3
23	18.0	17.7	5.7	3.1	3.9	3.5	8.5	3.2	3.1	3.0	2.7	2.3
24	17.4	17.5	5.6	3.1	3.8	3.6	8.4	3.2	3.1	2.9	2.7	2.3
25	16.8	17.2	5.5	3.1	3.7	3.8	8.4	3.1	3.1	2.9	2.7	2.3
26	16.1	17.0	5.4	3.0	3.6	4.0	8.1	3.1	3.1	2.8	2.6	2.3
27	15.5	16.5	5.3	3.0	3.5	4.1	7.8	3.1	3.4	2.8	2.6	2.3
28	14.8	16.0	5.0	3.0	3.4	4.1	7.6	3.1	3.7	2.7	2.6	2.3
29	14.3	15.4	4.8	3.1	3.3	4.0	7.5	3.1	4.1	2.7	2.6	2.3
30	13.7	.....	4.6	3.2	3.2	3.9	7.3	3.1	4.1	2.7	2.6	2.3
31	13.1	.....	4.4	.....	3.2	.....	7.0	3.1	.....	2.7	.....	2.3

Rating table for Suwanee River at White Springs, Fla., for 1906, 1907, and 1908.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*
1.90	18	3.50	295	5.20	750	10.00	2,585
2.00	29	3.60	320	5.40	810	11.00	3,035
2.10	41	3.70	345	5.60	870	12.00	3,500
2.20	54	3.80	370	5.80	930	13.00	4,000
2.30	68	3.90	395	6.00	990	14.00	4,500
2.40	83	4.00	420	6.20	1,060	15.00	5,000
2.50	99	4.10	445	6.40	1,130	16.00	5,520
2.60	117	4.20	470	6.60	1,200	17.00	6,070
2.70	135	4.30	495	6.80	1,270	18.00	6,620
2.80	155	4.40	520	7.00	1,340	19.00	7,170
2.90	175	4.50	545	7.20	1,410	20.00	7,720
3.00	195	4.60	570	7.40	1,490	21.00	8,270
3.10	215	4.70	600	7.60	1,570	22.00	8,820
3.20	235	4.80	630	7.80	1,650	23.00	9,370
3.30	255	4.90	660	8.00	1,730	24.00	9,970
3.40	275	5.00	690	9.00	2,135		

NOTE.—The above table is not applicable for obstructed-channel conditions. It is based on five discharge measurements made during 1906 and 1907, and is fairly well defined between gage heights 2.4 feet and 18 feet.

Monthly discharge of Suwanee River at White Springs, Fla., for 1906, 1907, and 1908.

Month.	Discharge in second-feet.			Accuracy.	Month.	Discharge in second-feet.			Accuracy.
	Maximum.	Minimum.	Mean.			Maximum.	Minimum.	Mean.	
1906.					1908.				
June	8,320	1,650	4,930	B.	January	8,220	4,050	7,050	B.
July	9,490	3,800	6,190	B.	February	6,560	3,450	4,900	B.
August	5,250	1,850	3,280	B.	March	4,900	520	1,920	B.
September	4,150	780	2,220	B.	April	470	195	281	B.
October	1,130	395	663	B.	May	495	235	383	B.
November	370	175	249	B.	June	445	195	281	B.
December	175	135	154	B.	July	1,930	370	1,100	B.
1907.					August	1,270	215	503	B.
January	155	117	129	B.	September	445	195	241	B.
February	117	99	107	B.	October	470	135	258	B.
March	99	68	87.9	C.	November	155	117	129	B.
April	470	54	214	B.	December	99	68	78.4	C.
May	395	117	208	B.	The year	8,220	68	1,430	
June	255	18	75.0	C.					
July	1,240	255	551	B.					
August	3,220	235	2,050	B.					
September	3,850	1,530	1,980	B.					
October	4,000	545	2,430	B.					
November	495	195	272	B.					
December	8,160	215	4,320	B.					
The year	8,160	18	1,040						

MISCELLANEOUS MEASUREMENTS IN SUWANEE RIVER DRAINAGE BASIN.

The following miscellaneous discharge measurements were made in Suwanee River drainage basin during 1907:

Date.	Stream.	Tributary to—	Locality.	Gage height.	Discharge.
				Feet.	*Sec.-ft.*
February 16....	Withlacoochee River of Georgia.	Suwanee River.	At wagon bridge on road to Valdosta, Ga.	1.80	64
February 15....	....do.....	....do.....	At wagon bridge ½ mile west of Ousley, Ga.	1.88	629
February 14....	Little River.....	Withlacoochee River.	At wagon bridge 4 miles northwest of Valdosta, Ga.	3.33	598
February 13....	White Springs..	Suwanee River..	At the spring near Suwanee River, White Springs, Fla.	1.46	72

OCKLOCKONEE RIVER DRAINAGE BASIN.

MISCELLANEOUS MEASUREMENT.

The following miscellaneous discharge measurement was made on Ocklockonee River:

June 12, 1908, at the wagon bridge one-half mile from Gibson, Fla.: Gage height, 3.34 feet; discharge, 158 second-feet.

APALACHICOLA RIVER DRAINAGE BASIN.

DESCRIPTION OF BASIN.

The Apalachicola basin is drained almost entirely by Chattahoochee and Flint rivers. These two main streams unite at the extreme southwest corner of Georgia to form the Apalachicola River, which flows south through Florida and empties into the Gulf of Mexico at Apalachicola.

Chattahoochee River rises in the Blue Ridge Mountains in Lumpkin, White, and Habersham counties, Ga., near the northeast corner of the State, and flows southwesterly until it reaches the Alabama line at West Point, Ga. Thence it flows in a southerly direction, forming the western boundary of Georgia, until it reaches Apalachicola River at the southern boundary of the State. Its upper tributaries are Soque and Chestatee rivers, which join the Chattahoochee in Habersham and Hall counties, respectively.

Flint River rises in Fulton County, Ga., a few miles south of Atlanta, and flows in a southerly direction to Apalachicola River. It drains the south central portion of Georgia, extending from Atlanta south to the Florida line. The principal tributaries of Flint River are Whitewater, Elkins, Big Potato, Muckalee, Kinchafoonee, Ichawaynochaway, and Spring creeks.

The mean annual rainfall for the basin is about 50 inches, except for the upper portion of the Chattahoochee drainage, where it reaches 60 inches.

The water-power opportunities of the basin are great, and in most portions the demand for power is good, making this basin an important one for water-power developments.

The following gaging stations have been maintained in this river basin:[a]

Chattahoochee River, Aerial, Ga., 1907–8.
Chattahoochee River, Leaf, Ga., 1907.
Chattahoochee River, Gainesville, Ga., 1901–1903.
Chattahoochee River, Buford, Ga., 1901.
Chattahoochee River, Norcross, Ga., 1902–1908.
Chattahoochee River, Oakdale, Ga., 1895–1904.
Chattahoochee River, West Point, Ga., 1896–1908.
Chattahoochee River, Alaga, Ala., 1908.
Soque River, Demorest, Ga., 1904–1908.
Sweetwater Creek, Austell, Ga., 1904–5.
Flint River, Woodbury, Ga., 1900–1908.
Flint River, Musella, Ga., 1907.
Flint River, Montezuma, Ga., 1905–1908.
Flint River, Albany, Ga., 1902–1908.
Flint River, Bainbridge, Ga., 1908.
Muckalee Creek, Albany, Ga., 1903.
Kinchafoonee Creek, Leesburg, Ga., 1905–1908.
Kinchafoonee Creek, Albany, Ga., 1903.
Ichawaynochaway Creek, Milford, Ga., 1905–1907.

CHATTAHOOCHEE RIVER NEAR AERIAL, GA.

The station is located at the highway bridge 2 miles south of Aerial, 7 miles west of Clarksville, and one-half mile above the mouth of Amy Creek. It was established July 16, 1907.

The datum of the vertical staff gage, which is located 200 feet below the bridge, has remained the same since the establishment of the station. A good rating has been developed for low stages.

Discharge measurements of Chattahoochee River near Aerial, Ga., in 1907.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
		Feet.	*Sq. ft.*	*Feet.*	*Sec.-ft.*
July 16	B. M. Hall, jr	81	153	1.54	262
August 31	F. A. Murray	72	114	1.00	126
November 13	do	77	135	1.20	177

[a] Data collected in this drainage basin prior to 1906 have been compiled in Water-Supply Paper No. 197, Water resources of Georgia.

Daily gage height, in feet, of Chattahoochee River near Aerial, Ga., for 1907 and 1908.

[Observer, G. P. Smith.]

Day.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Day.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.							1907.						
1	.....	1.1	0.9	1.25	0.95	1.4	16	1.5	1.3	1.0	1.0	1.1	2.0
2	.....	1.15	.9	1.2	1.5	1.4	17	1.4	1.1	.95	1.0	1.1	1.9
3	.....	1.1	.95	1.15	1.3	1.4	18	1.35	1.1	.9	1.0	1.4	1.8
4	.....	1.1	1.15	1.1	1.1	1.4	19	1.45	1.1	.9	1.0	1.4	1.75
5	.....	1.05	1.3	1.1	1.1	1.3	20	1.3	1.1	.9	.95	1.3	1.7
6	.....	1.15	1.0	1.05	1.1	1.3	21	1.2	1.1	.9	.95	3.0	1.65
7	.....	1.05	1.0	1.05	1.05	1.3	22	1.2	1.15	.9	.95	2.1	1.6
8	.....	1.05	.9	1.8	1.05	1.3	23	1.2	1.15	7.2	.95	4.1	3.8
9	.....	1.05	1.0	1.1	1.0	1.9	24	1.15	1.2	1.6	.95	3.3	2.4
10	.....	1.05	.95	1.1	1.3	3.0	25	1.2	1.1	1.2	.95	2.25	2.1
11	.....	1.05	1.4	1.05	1.4	2.0	26	1.15	1.0	1.2	.9	1.9	1.95
12	.....	1.2	1.0	1.0	1.2	1.75	27	1.15	1.0	1.1	1.1	1.7	1.85
13	.....	1.2	.95	1.0	1.2	1.65	28	1.1	1.0	1.3	1.05	1.6	1.9
14	.....	1.1	.95	1.0	1.15	3.1	29	1.15	1.0	1.2	1.05	1.55	2.0
15	.....	1.1	.9	1.0	1.1	2.3	30	1.4	1.0	1.35	1.0	1.5	6.5
							31	1.15	.95	.....	.95	.....	2.9

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1908.												
1	2.4	2.8	2.05	2.0	2.4	1.7	1.35	1.3	1.2	1.05	1.3	1.7
2	2.2	2.25	2.05	2.0	2.3	1.7	1.3	1.25	1.2	1.0	1.3	1.8
3	2.1	2.0	2.0	1.95	2.2	1.65	1.75	1.2	1.15	1.0	1.3	1.5
4	2.0	1.95	2.0	1.9	2.2	1.8	1.55	1.3	1.15	1.0	1.5	1.4
5	2.6	1.9	2.0	1.9	2.1	1.8	2.8	1.3	1.35	1.0	1.3	1.3
6	2.25	2.0	1.95	2.2	2.1	1.65	2.1	1.6	1.8	1.0	1.25	1.3
7	2.2	1.9	1.9	2.0	3.0	1.6	2.15	1.4	1.4	1.0	1.2	8.9
8	2.05	1.9	1.9	1.9	2.3	1.6	2.2	1.3	1.3	1.0	1.2	2.8
9	1.95	1.8	1.9	1.9	2.2	1.6	2.95	1.4	1.25	1.1	1.2	2.2
10	1.9	2.4	1.85	1.85	2.2	1.55	2.3	1.3	1.2	1.7	1.15	1.9
11	1.9	2.9	1.85	1.8	2.1	1.9	1.95	1.3	1.2	1.2	1.2	1.8
12	3.7	2.8	2.1	1.8	2.1	1.6	1.8	1.2	1.2	1.15	1.2	1.85
13	2.7	2.7	1.9	1.8	2.0	1.55	1.7	1.2	1.15	1.1	1.15	1.7
14	2.4	2.7	1.9	1.8	2.0	2.2	1.65	1.2	1.15	1.1	1.2	1.6
15	2.2	9.0	1.85	2.9	1.95	1.8	1.6	1.2	1.1	1.1	1.25	1.5
16	2.1	3.5	1.8	2.6	1.9	1.6	1.6	1.2	1.1	1.05	1.2	1.5
17	2.1	2.95	1.7	2.35	1.9	1.6	1.5	1.2	1.1	1.05	1.2	1.5
18	2.1	2.7	1.8	2.2	1.9	1.6	1.5	1.25	1.1	1.0	1.2	1.45
19	2.0	2.75	1.75	2.6	2.2	1.6	1.4	1.4	1.1	1.0	1.15	1.45
20	1.9	2.5	2.05	2.3	2.0	1.5	1.4	1.4	1.1	1.0	1.15	1.4
21	1.9	2.4	2.35	2.2	1.9	1.5	1.35	1.2	1.1	1.0	1.15	1.4
22	1.9	2.35	2.0	2.1	1.85	1.7	1.35	2.45	1.1	1.0	1.1	3.9
23	1.8	2.25	5.8	2.05	1.8	1.6	1.3	1.6	1.1	2.45	1.1	2.4
24	1.75	2.2	4.1	2.0	1.9	1.5	1.4	1.8	1.05	1.65	1.15	2.0
25	1.8	2.2	2.8	9.8	1.85	1.5	1.4	1 8	1.05	1.35	1.2	1.8
26	1.9	2.35	2.5	3.5	1.8	1.4	1.4	1.5	1.05	1.25	1.2	1.75
27	2.0	2.2	2.3	3.0	1.8	1.4	1.3	1.6	1.05	1.2	1.15	1.7
28	1.9	2.1	2.2	2.65	1.8	1.4	1.3	1.4	1.2	1.25	1.2	1.6
29	2.0	2.1	2.15	2.5	1.8	1.4	1.4	1.3	1.1	2.2	1.1	1.6
30	1.8	.....	2.1	2.4	1.8	1.35	1.4	1.3	1.1	1.6	1.1	1.55
31	1.8	.....	2.05	.....	1.75	.....	1.3	1.25	.....	1.4	.....	1.65

Daily discharge, in second-feet, of Chattahoochee River near Aerial, Ga., for 1907 and 1908.

Day.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Day.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.							1907.						
1	.....	150	110	182	120	220	16	250	195	130	130	150	420
2	.....	160	110	170	250	220	17	220	150	120	130	150	380
3	.....	150	120	160	195	220	18	208	150	110	130	220	345
4	.....	150	160	150	150	220	19	235	150	110	130	220	328
5	.....	140	195	150	150	195	20	195	150	110	120	195	310
6	.....	160	130	140	150	195	21	170	150	110	120	.....	295
7	.....	140	130	140	140	195	22	170	160	110	120	.....	280
8	.....	140	110	345	140	195	23	170	160	.....	120	.....	.....
9	.....	140	130	150	130	380	24	160	170	280	120	.....	.....
10	.....	140	120	150	195	.....	25	170	150	170	120	.....	.....
11	.....	140	220	140	220	420	26	160	130	170	110	380	400
12	.....	170	130	130	170	328	27	160	130	150	150	310	362
13	.....	170	120	130	170	295	28	150	130	195	140	280	380
14	.....	150	120	130	160	.....	29	160	130	170	140	265	420
15	.....	150	110	130	150	.....	30	220	130	208	130	250	.....
							31	160	120	.....	120	.....	.....

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1908.												
1	.....	.....	.....	420	.....	310	208	195	170	140	195	310
2	.....	.....	.....	420	.....	310	195	182	170	130	195	345
3	.....	420	420	400	.....	295	328	170	160	130	195	250
4	420	400	420	380	.....	345	265	195	160	130	250	220
5	.....	380	420	380	.....	345	.....	195	208	130	195	195
6	.....	420	400	.....	.....	295	.....	280	345	130	182	195
7	.....	380	380	420	.....	280	.....	220	220	130	170	.....
8	.....	380	380	380	.....	280	.....	195	195	130	170	.....
9	400	345	380	380	.....	280	.....	220	182	150	170	.....
10	380	.....	362	362	.....	265	.....	195	170	310	160	380
11	380	.....	362	345	.....	380	400	195	170	170	170	345
12	.....	.....	.....	345	.....	280	345	170	170	160	170	362
13	.....	.....	380	345	420	265	310	170	160	150	160	310
14	.....	.....	380	345	420	.....	295	170	160	150	170	280
15	.....	.....	362	.....	400	345	280	170	150	150	182	250
16	.....	.....	345	.....	380	280	280	170	150	140	170	250
17	.....	.....	310	.....	380	280	250	170	150	140	170	250
18	.....	.....	345	.....	380	280	250	182	150	130	170	235
19	420	.....	328	.....	.....	280	220	220	150	130	160	235
20	380	.....	.....	.....	420	250	220	220	150	130	160	220
21	380	.....	.....	.....	380	250	208	170	150	130	160	220
22	380	.....	420	.....	362	310	208	.....	150	130	150	.....
23	345	.....	.....	.....	345	280	195	280	150	.....	150	.....
24	328	.....	.....	420	380	250	220	345	140	295	160	420
25	345	.....	.....	.....	362	250	220	345	140	208	170	345
26	380	.....	.....	.....	345	220	220	250	140	182	170	328
27	420	.....	.....	.....	345	220	195	280	140	170	160	310
28	380	.....	.....	.....	345	220	195	220	170	182	170	280
29	420	.....	.....	.....	345	220	220	195	150	.....	150	280
30	345	.....	.....	.....	345	208	220	195	150	280	150	265
31	345	.....	.....	.....	328	.....	195	182	.....	220	.....	295

NOTE.—Daily discharge for 1907 and 1908 based on a well-defined rating curve. Beginning July 16, 1907, the discharge was greater than 450 second-feet for all missing days.

CHATTAHOOCHEE RIVER NEAR LEAF, GA.

The station is located at a covered wagon bridge known as Blacks Bridge, 1 mile from Leaf and about 4 miles above the mouth of Soque River, and 1 mile below Blue Creek. It was established May 8, 1907, and was discontinued December 31, 1907.

The vertical staff gage is attached to the bridge from which discharge measurements are made. The bottom of the river is composed of rock and is rough. The current is swift and considerably broken, especially at low water. A fairly good rating has been developed for low stages.

Discharge measurements of Chattahoochee River near Leaf, Ga., in 1907.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
		Feet.	*Sq. ft.*	*Feet.*	*Sec.-ft.*
May 8	F. A. Murray	111	197	1.42	438
June 15	do	91	139	1.21	267
July 16	do	113	175	1.40	367
August 31	do	71	114	.79	159
November 13	do	95	118	1.02	203

Daily gage height, in feet, of Chattachooche River near Leaf, Ga., for 1907.

[Observer, J. A. Black.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1						2.6	1.05	0.9	0.75	1.05	0.8	1.2
2						1.65	1.05	.9	.75	1.0	1.25	1.2
3						1.5	1.1	.9	1.2	.95	1.0	1.1
4						1.4	1.8	.9	.95	.95	1.0	1.1
5						1.35	1.3	.9	1.05	.9	.9	1.1
6						1.3	1.15	.95	.8	.9	.9	1.1
7						1.25	1.1	.9	.8	.9	.9	1.05
8					1.4	1.3	1.05	.85	.8	1.35	.85	1.05
9					1.45	1.35	1.0	.85	.8	.95	.85	1.5
10					1.35	1.25	1.0	.85	.75	.9	1.6	2.5
11					1.55	1.25	1.0	.85	1.2	.9	1.2	1.7
12					1.4	1.2	1.0	1.05	.8	.85	1.05	1.5
13					1.35	1.2	1.5	.95	.8	.85	1.0	1.4
14					1.3	1.3	1.1	.9	.8	.85	1.0	2.5
15					1.5	1.2	1.2	.9	.75	.85	.95	1.9
16					1.5	1.2	1.55	1.1	.8	.85	.9	1.7
17					1.4	1.15	1.15	.95	.8	.8	.9	1.55
18					1.35	1.1	1.1	1.1	.75	.85	1.2	1.5
19					1.3	1.3	1.2	.95	.75	.8	1.2	1.4
20					1.3	1.2	1.1	.9	.7	.8	1.1	1.4
21					1.3	1.15	1.0	.9	.7	.8	2.25	1.35
22					1.25	1.1	1.0	.95	.7	.8	1.8	1.3
23					1.25	1.2	1.0	.95	3.8	.8	3.4	2.7
24					1.3	1.25	.95	1.0	1.4	.8	2.7	2.0
25					1.35	1.1	1.0	.9	1.1	.8	1.9	1.75
26					1.45	1.1	.95	.85	1.0	.8	1.6	1.6
27					1.3	1.1	.9	.8	.95	.95	1.4	1.55
28					1.25	1.1	.95	.8	1.15	.9	1.35	1.6
29					1.2	1.25	.95	.8	1.45	.85	1.3	1.45
30					1.25	1.1	1.3	.8	1.2	.8	1.2	5.1
31					1.6	.....	.95	.8	.....	.8	.....	2.3

Daily discharge, in second-feet, of Chattahoochee River near Leaf, Ga., for 1907.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1							229	184	149	229	160	286
2						595	229	184	149	212	310	286
3						460	246	184	286	198	212	246
4						390	760	184	198	198	212	246
5						362	333	184	229	184	184	246
6						333	266	198	160	184	184	246
7						310	246	184	160	184	184	229
8					390	333	229	172	160	362	172	229
9					425	362	212	172	160	198	172	460
10					362	310	212	172	149	184	545	.....
11					502	310	212	172	286	184	286	645
12					390	286	212	229	160	172	229	460
13					362	286	460	198	160	172	212	390
14					333	333	246	184	160	172	212	.....
15					460	286	286	184	149	172	198	.....
16					460	286	502	246	160	172	184	645
17					390	266	266	198	160	160	184	502
18					362	246	246	149	172	286	460	
19					333	333	286	198	149	160	286	390
20					333	286	246	184	138	160	246	390
21					333	266	212	184	138	160	.....	362
22					310	246	212	198	138	160	760	333
23					310	286	212	198	.....	160	.....	.....
24					333	310	198	212	390	160	.....	.....
25					362	246	212	184	246	160	.....	702
26					425	246	198	172	212	160	545	545
27					333	246	184	160	198	198	390	502
28					310	246	198	160	266	184	362	545
29					286	310	198	160	425	172	333	425
30					310	246	333	160	286	160	286	.....
31					545	.....	198	160	.....	160	.....	.....

NOTE.—Daily discharge based on a well-defined rating curve. Beginning May 8 the discharge was greater than 860 second-feet for all missing days.

CHATTAHOOCHEE RIVER NEAR NORCROSS, GA.

The station is located at Medlocks Bridge, about 4½ miles north of Norcross, 1½ miles above the mouth of John Creek, and 5 miles below the mouth of Sewanee Creek. This station was established June 10, 1902, to take the place of the Oakdale station, about 30 miles below, which was maintained from July 30, 1896, to May 31, 1904, when its records become unreliable on account of the Bull Sluice power plant above.

The datum of the vertical staff gage and the chain gage, which have been used at this point, have remained the same since the establishment of the station. The right bank is high and only overflows slightly. The left bank will overflow for about 800 feet at a gage height of 16 to 18 feet. The bed of the stream is sandy and changeable, necessitating occasional changes in the rating. Fairly good ratings have been developed for 1907 and 1908.[a]

[a] Data collected at this station prior to 1906 have been compiled in Water-Supply Paper No. 197, Water resources of Georgia.

Discharge measurements of Chattahoochee River near Norcross, Ga., in 1907 and 1908.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge
1907.		*Feet.*	*Sq. ft.*	*Feet.*	*Sec.-ft.*
March 2	M. R. Hall	186	2,340	8.50	9,880
Do	do	186	2,370	8.75	10,200
July 6	M. R. Hall and B. M. Hall, jr	170	1,110	2.61	1,670
1908.					
January 16	M. R. Hall and W. E. Hall	173	1,480	4.00	3,140
October 30	M. R. Hall	177	1,430	4.30	3,180
Do	do	187	1,430	4.30	3,110

Daily gage height, in feet, of Chattahoochee River near Norcross, Ga., for 1907 and 1908.

[Observer, W. O. Medlock.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1	9.3	3.35	4.6	3.15	3.05	4.4	2.3	2.2	1.7	2.5	1.75	2.8
2	5.6	4.4	8.6	3.1	3.0	5.0	2.2	2.05	1.65	2.2	2.0	2.65
3	4.7	4.0	7.8	2.9	2.9	3.45	2.2	2.0	1.7	2.1	2.5	2.55
4	4.4	4.4	5.0	2.8	3.5	3.1	2.6	1.95	3.25	2.0	2.5	2.5
5	4.0	6.3	4.2	2.8	3.3	2.9	3.9	1.9	2.5	2.0	2.1	2.4
6	3.9	4.8	3.9	3.0	2.95	2.75	2.6	1.9	2.35	1.95	1.95	2.4
7	3.75	4.0	3.65	3.35	3.25	2.65	2.3	2.35	2.0	1.9	1.88	2.35
8	3.65	3.75	3.6	3.1	3.7	2.6	2.2	1.95	1.85	1.95	1.9	2.3
9	3.6	3.55	3.65	3.0	3.35	2.8	2.1	1.9	1.8	2.0	1.88	2.5
10	3.55	3.45	3.45	2.95	3.15	2.8	2.1	2.05	1.8	2.0	2.4	4.4
11	3.5	3.35	3.45	2.85	3.15	2.6	2.2	1.9	2.5	1.88	3.65	5.0
12	3.45	3.25	3.35	3.0	3.25	2.5	2.2	2.0	2.2	1.85	2.8	3.55
13	3.4	3.25	3.3	3.1	3.0	2.8	2.4	2.4	1.85	1.8	2.35	3.2
14	3.35	3.15	3.3	2.9	2.9	2.85	2.7	2.5	1.7	1.72	2.2	4.0
15	3.3	3.15	3.5	2.8	3.35	2.7	2.3	2.9	1.7	1.8	2.15	4.9
16	3.25	3.05	3.45	2.8	3.6	2.5	2.6	2.85	1.7	1.8	2.0	3.85
17	3.25	3.05	3.2	2.9	3.2	2.4	2.8	2.6	1.7	1.75	2.05	3.4
18	3.2	3.05	3.2	2.85	2.95	2.35	2.7	2.15	1.7	1.75	2.2	3.2
19	3.2	3.0	3.15	2.95	2.8	2.35	3.0	2.4	1.7	1.68	2.6	3.1
20	3.3	3.1	3.1	3.4	2.75	2.45	2.75	2.3	1.6	1.8	2.5	2.95
21	3.4	3.0	3.1	2.9	2.7	2.5	2.25	2.2	1.6	1.62	3.7	2.8
22	3.15	3.0	3.0	3.1	2.7	2.3	2.1	2.0	1.65	1.75	5.0	2.75
23	3.15	2.9	3.0	6.8	2.6	2.4	2.0	2.3	3.55	1.75	5.2	6.0
24	3.1	2.95	2.95	5.7	2.85	2.7	1.95	2.55	5.8	1.7	9.2	6.4
25	3.05	3.5	2.9	4.0	2.75	2.6	1.95	2.15	2.8	1.75	6.1	4.2
26	3.1	4.2	2.9	3.6	2.9	2.4	1.9	1.95	2.3	1.65	4.0	3.7
27	3.2	5.3	2.9	3.35	3.9	2.3	2.95	1.85	2.05	1.82	3.4	3.45
28	3.05	4.2	2.9	3.25	3.0	2.5	2.3	1.8	2.95	1.85	3.1	3.3
29	3.05	.....	2.9	3.2	2.7	2.65	2.15	1.8	3.5	2.1	3.4	3.4
30	3.0	.....	2.8	3.15	2.6	2.4	2.2	1.8	3.1	1.82	3.1	6.4
31	3.05	.....	2.8	.....	2.85	.....	3.45	1.7	.....	1.78	.....	12.4
1908.												
1	6.0	5.8	3.8	4.0	4.6	3.15	2.5	2.2	2.25	1.9	2.6	2.3
2	4.6	6.3	3.7	3.95	4.4	3.1	2.5	2.15	2.2	1.9	2.45	2.45
3	4.1	4.4	3.7	3.85	4.2	3.0	2.65	2.1	2.2	1.88	2.65	2.65
4	3.75	3.9	3.7	3.7	4.1	3.15	3.55	2.1	2.1	1.85	3.55	2.5
5	5.0	3.65	3.6	3.7	4.1	3.3	4.4	2.45	3.5	1.8	3.1	2.35
6	5.0	3.7	3.6	4.2	4.2	3.2	4.7	3.85	5.6	1.8	2.65	2.3
7	4.4	3.65	3.6	4.3	6.7	3.05	3.6	3.2	3.4	1.8	2.45	6.2
8	4.2	3.45	3.5	3.9	5.8	3.0	3.5	3.1	2.6	1.8	2.4	11.4
9	3.75	3.35	3.5	3.75	4.4	2.9	3.35	3.8	2.35	2.5	2.3	5.3
10	3.55	4.1	3.4	3.7	4.2	2.9	4.2	2.8	2.25	4.4	2.3	3.85
11	4.6	9.2	3.45	3.6	4.0	3.1	3.5	2.45	2.2	3.55	2.25	3.4
12	9.0	7.8	3.7	3.55	3.85	3.15	3.05	2.3	2.2	2.6	2.2	3.55
13	7.0	5.8	3.8	3.45	3.8	2.9	2.85	2.2	2.15	2.25	2.25	3.4
14	5.0	5.3	3.55	3.4	3.7	4.0	2.8	2.2	2.1	2.1	2.35	3.05
15	4.3	10.2	3.4	4.4	3.65	4.1	2.7	2.1	2.1	2.1	2.4	2.9

Daily gage height, in feet, of Chattahoochee River near Norcross, Ga., for 1907 and 1908— Continued.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1908.												
16	4.0	11.4	3.4	6.5	3.6	3.35	2.6	2.1	2.0	2.05	2.45	2.8
17	3.9	6.6	3.3	6.2	3.85	3.0	2.6	2.2	2.0	2.0	2.3	2.7
18	3.75	5.4	3.3	5.1	3.75	2.95	2.5	2.6	2.0	2.0	2.2	2.65
19	3.6	5.4	3.3	6.0	4.3	3.0	2.4	2.6	2.0	1.95	2.35	2.6
20	3.5	5.4	3.8	5.2	4.2	2.9	2.4	2.95	2.0	1.98	2.4	2.7
21	3.4	4.8	5.4	4.5	3.65	3.0	2.3	2.4	2.0	1.98	2.2	2.8
22	3.35	4.4	4.6	4.2	3.5	3.4	2.3	4.3	2.0	1.95	2.15	5.8
23	3.3	4.2	7.4	4.1	3.45	3.45	2.25	4.5	2.0	2.05	2.15	7.8
24	3.25	4.2	12.2	3.9	3.4	3.05	2.25	4.95	2.0	3.7	2.2	4.6
25	3.15	4.0	10.2	9.7	3.65	3.1	2.3	4.45	1.9	3.0	2.2	3.7
26	3.1	4.2	6.0	13.6	3.4	2.8	2.3	4.1	1.9	2.45	2.2	3.35
27	3.25	4.2	5.2	7.4	3.9	2.7	2.3	3.0	1.9	2.3	2.05	3.15
28	3.25	3.95	4.8	5.8	3.45	2.6	2.2	2.7	1.95	2.4	2.05	3.0,
29	3.2	3.85	4.4	5.1	3.4	2.6	2.4	2.5	2.05	3.7	2.2	2.9
30	3.2	.....	4.2	4.8	3.4	2.55	2.4	2.4	2.05	4.2	2.05	3.0
31	3.2	.....	4.1	.....	3.3	.....	2.3	2.3	.....	3.1	.....	3.2

Rating tables for Chattahoochee River near Norcross, Ga.

FOR 1907.[a]

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*
1.60	750	3.00	2,100	4.40	3,740	6.60	6,720
1.70	830	3.10	2,210	4.50	3,860	6.80	7,005
1.80	910	3.20	2,320	4.60	3,980	7.00	7,295
1.90	990	3.30	2,430	4.70	4,110	7.20	7,585
2.00	1,080	3.40	2,540	4.80	4,240	7.40	7,885
2.10	1,170	3.50	2,660	4.90	4,370	7.60	8,185
2.20	1,260	3.60	2,780	5.00	4,500	7.80	8,495
2.30	1,360	3.70	2,900	5.20	4,760	8.00	8,805
2.40	1,460	3.80	3,020	5.40	5,040	9.00	10,440
2.50	1,560	3.90	3,140	5.60	5,320	10.00	12,155
2.60	1,660	4.00	3,260	5.80	5,600	11.00	13,920
2.70	1,770	4.10	3,380	6.00	5,880	12.00	15,760
2.80	1,880	4.20	3,500	6.20	6,160	13.00	17,700
2.90	1,990	4.30	3,620	6.40	6,440	14.00	19,650

FOR 1908.[b]

1.80	765	3.10	1,980	4.40	3,435	6.40	6,240
1.90	850	3.20	2,080	4.50	3,555	6.60	6,550
2.00	940	3.30	2,185	4.60	3,680	6.80	6,860
2.10	1,030	3.40	2,290	4.70	3,805	7.00	7,180
2.20	1,120	3.50	2,400	4.80	3,935	7.20	7,500
2.30	1,210	3.60	2,510	4.90	4,065	7.40	7,820
2.40	1,300	3.70	2,625	5.00	4,200	7.60	8,140
2.50	1,395	3.80	2,740	5.20	4,470	7.80	8,460
2.60	1,490	3.90	2,855	5.40	4,750	8.00	8,785
2.70	1,585	4.00	2,970	5.60	5,035	9.00	10,440
2.80	1,680	4.10	3,085	5.80	5,325		
2.90	1,780	4.20	3,200	6.00	5,625		
3.00	1,880	4.30	3,315	6.20	5,930		

[a] The above table is not applicable for obstructed-channel conditions. It is based on discharge measurements made during 1904 to 1907, and is well defined.

[b] The above table is not applicable for obstructed-channel conditions. It is based on three discharge measurements made during 1908, two measurements made during 1909, and nine measurements made during earlier years above gage height 6 feet. It is well defined. Above gage height 9 feet this table is the same as the 1907 table.

Monthly discharge of Chattahoochee River near Norcross, Ga., for 1907 and 1908.

[Drainage area, 1,170 square miles.]

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area).	Accuracy.
	Maximum.	Minimum.	Mean.	Per square mile.		
1907.						
January	11,000	2,100	2,930	2.50	2.88	A.
February	6,300	1,990	2,880	2.46	2.56	A.
March	9,780	1,880	2,930	2.50	2.88	A.
April	7,000	1,880	2,460	2.10	2.34	A.
May	3,140	1,660	2,160	1.85	2.13	A.
June	4,500	1,360	1,850	1.58	1.76	A.
July	3,140	990	1,510	1.29	1.49	A.
August	1,990	830	1,220	1.04	1.20	A.
September	5,600	750	1,410	1.21	1.35	A.
October	1,560	766	974	.832	.96	A.
November	10,800	870	2,290	1.96	2.19	A.
December	16,500	1,360	3,230	2.76	3.18	A.
The year	16,500	750	2,150	1.84	24.92	
1908.						
January	10,400	1,980	3,250	2.78	3.20	A.
February	14,600	2,240	4,800	4.10	4.42	A.
March	16,100	2,180	3,800	3.25	3.75	A.
April	18,900	2,290	4,430	3.79	4.23	A.
May	6,700	2,180	3,000	2.56	2.95	A.
June	3,080	1,440	1,970	1.68	1.87	B.
July	3,800	1,120	1,740	1.49	1.72	B.
August	4,130	1,030	1,800	1.54	1.78	B.
September	5,040	850	1,240	1.06	1.18	B.
October	3,440	765	1,360	1.16	1.34	B.
November	2,460	985	1,280	1.09	1.22	B.
December	14,600	1,210	2,840	2.43	2.80	A.
The year	18,900	765	2,630	2.24	30.40	

CHATTAHOOCHEE RIVER AT WEST POINT, GA.

The station is located at Montgomery Street Bridge in West Point. It was established July 30, 1896.

The datum of the gage has remained the same since the establishment of the station. The right bank is high and overflows only at high water, when most of the town is flooded. The left bank is somewhat lower and overflows for about 800 feet at a gage height of 20 feet. Conditions at this point are practically permanent and a good rating has been developed.[a]

Discharge measurements of Chattahoochee River at West Point, Ga., in 1907 and 1908.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
1907.		*Feet.*	*Sq. ft.*	*Feet.*	*Sec.-ft.*
March 22	M. R. Hall	384	2,990	3.56	4,530
March 23	do	384	3,060	3.58	4,560
July 26	Warren E. Hall	378	2,360	2.01	1,840
1908.					
March 30	Warren E. Hall	384	3,700	4.73	6,850
December 5	M. R. Hall	362	3,070	2.79	2,940

[a] Data collected at this station prior to 1906 have been compiled in Water-Supply Paper No. 197, Water resources of Georgia.

Daily gage height, in feet, of Chattahoochee River at West Point, Ga., for 1907 and 1908.

[Observer, A. V. Dunn.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1	9.1	6.1	8.2	3.5	4.4	3.65	3.0	2.5	1.7	3.1	1.9	4.2
2	9.1	8.4	10.9	3.5	4.0	3.65	3.2	2.9	1.7	2.8	1.85	3.7
3	8.1	6.2	12.5	3.5	3.85	4.2	3.5	2.55	1.8	2.55	2.1	3.3
4	5.5	6.5	10.0	3.5	4.0	4.2	3.35	2.5	1.7	2.2	2.2	3.2
5	4.9	12.0	7.2	3.4	4.1	3.6	3.2	2.3	2.6	2.1	2.2	3.1
6	4.5	10.8	5.5	4.0	3.95	3.35	2.8	2.1	3.0	2.1	2.4	2.95
7	4.4	7.2	4.9	3.7	5.0	3.2	3.4	2.3	2.65	2.15	2.15	2.9
8	4.2	5.6	4.6	4.2	4.8	3.1	3.0	2.3	2.25	2.25	2.05	2.9
9	4.1	4.9	4.4	4.0	5.1	2.95	2.6	2.3	2.3	2.8	2.0	3.2
10	4.0	4.6	4.2	3.6	4.8	3.0	2.45	2.25	2.8	2.4	2.35	4.8
11	3.95	4.3	4.2	3.4	4.5	2.8	2.35	2.0	3.2	2.2	3.2	5.1
12	3.9	4.2	4.1	3.3	4.3	3.0	2.4	2.5	3.2	2.1	3.05	5.2
13	3.8	4.0	4.0	3.3	3.9	2.8	2.3	2.7	2.65	2.0	3.3	5.0
14	3.8	3.9	4.0	3.3	3.8	3.3	3.9	2.45	2.4	1.9	2.85	6.0
15	3.7	3.8	4.5	3.3	7.3	3.5	5.2	2.3	2.1	1.85	2.6	6.0
16	3.6	3.75	4.6	3.25	7.6	3.1	3.1	3.2	2.0	1.8	2.4	5.3
17	3.55	3.7	4.1	5.8	5.6	3.1	2.85	3.9	2.0	1.7	2.25	4.8
18	3.55	3.65	3.95	5.8	4.7	2.8	2.6	3.35	1.8	1.8	2.4	4.2
19	3.5	3.6	3.8	5.2	4.1	2.8	2.7	2.9	1.7	1.8	2.8	4.0
20	3.65	3.65	3.8	4.8	3.7	2.8	2.7	2.5	1.7	1.75	3.0	3.7
21	3.75	3.65	3.7	4.1	3.5	2.9	2.9	2.35	1.75	1.8	4.2	3.55
22	3.65	3.6	3.7	5.3	3.4	2.75	2.8	2.7	2.0	1.8	6.1	3.55
23	3.6	3.55	3.6	8.3	3.35	2.7	2.45	2.5	3.7	1.8	7.6	8.9
24	3.45	3.5	3.55	8.0	3.3	2.7	2.3	2.4	3.5	1.8	8.4	10.0
25	3.4	3.95	3.55	7.1	3.35	2.65	2.0	2.55	4.0	1.8	7.8	7.6
26	3.55	4.2	3.5	5.4	3.5	2.7	2.3	2.7	4.3	1.8	7.8	5.6
27	3.55	5.8	3.45	4.7	4.0	2.7	2.65	2.4	2.8	1.7	5.0	4.6
28	3.45	7.0	3.4	4.8	4.0	3.45	2.95	2.1	2.5	1.8	4.0	4.2
29	3.4	.....	3.35	6.8	3.9	3.1	3.3	1.95	2.6	1.75	4.3	4.8
30	3.4	.....	3.35	5.5	3.5	3.1	3.3	1.8	2.8	1.8	4.4	5.8
31	3.9	.....	3.3	.....	3.5	.....	2.95	1.8	.....	1.8	.....	7.0
1908.												
1	8.6	11.8	4.6	4.8	5.2	3.6	2.6	2.45	2.3	1.7	3.3	2.4
2	9.2	11.6	4.4	4.0	5.0	3.55	2.5	2.35	2.35	1.75	2.9	2.9
3	5.4	8.0	4.4	4.2	4.8	3.6	2.5	2.2	2.2	1.7	2.8	3.0
4	4.7	6.2	4.6	4.2	4.5	3.7	2.6	2.2	2.1	1.7	4.2	2.6
5	5.6	5.0	4.4	4.1	4.5	4.2	2.7	2.3	2.15	1.7	4.3	2.6
6	5.8	5.0	4.3	4.2	5.0	4.3	4.4	2.3	5.0	1.7	3.8	2.7
7	6.5	4.8	4.2	4.3	6.0	3.65	4.8	2.6	5.6	1.7	3.25	3.25
8	6.3	4.5	4.1	4.3	6.6	3.4	4.4	3.2	4.8	1.7	2.9	3.85
9	5.5	4.3	4.1	4.3	6.4	3.3	3.75	3.2	3.35	2.05	2.8	7.5
10	4.8	5.4	4.0	4.1	5.1	3.25	4.1	3.25	2.8	3.0	2.5	7.4
11	4.6	7.6	3.9	4.0	4.6	3.85	4.3	3.2	2.5	3.2	2.45	4.4
12	5.6	9.0	3.95	4.0	4.4	3.4	3.7	2.7	2.3	3.75	2.35	3.7
13	7.3	9.2	4.0	3.7	4.2	3.2	3.25	2.35	2.2	3.45	2.3	3.3
14	7.9	7.6	4.0	3.3	4.0	3.35	2.95	2.1	2.15	3.3	2.3	3.3
15	5.8	11.6	4.0	3.9	4.0	3.6	3.0	2.1	2.05	1.95	2.45	3.2
16	5.0	12.6	3.95	6.2	3.85	4.1	2.8	2.0	2.0	1.9	2.5	3.3
17	4.5	11.4	3.85	6.4	3.95	3.75	2.6	2.1	2.0	2.05	2.45	3.2
18	4.2	9.9	3.85	6.2	4.7	3.3	2.5	2.3	1.95	1.95	2.65	2.9
19	4.2	7.0	3.75	5.6	5.2	3.3	2.4	2.6	1.95	2.0	2.55	2.8
20	4.0	6.6	3.7	5.4	4.6	3.1	2.8	3.0	1.9	1.95	2.6	2.75
21	3.95	6.0	3.6	5.4	4.5	3.05	3.0	3.7	1.95	1.9	2.5	2.7
22	3.9	5.6	4.6	4.2	4.2	3.0	2.5	3.5	2.1	1.85	2.1	9.2
23	3.85	5.2	7.0	5.6	3.9	3.2	2.4	3.05	2.05	1.9	2.15	11.4
24	3.75	5.0	11.1	5.0	3.8	3.8	2.7	4.5	2.0	1.9	2.3	8.8
25	3.75	4.8	12.3	10.9	3.8	3.75	2.65	8.4	1.95	1.9	2.3	6.7
26	3.7	5.2	11.8	15.9	4.2	3.2	2.2	8.8	1.9	2.4	2.35	5.9
27	3.8	5.4	9.2	14.6	4.7	3.0	2.9	6.6	1.85	2.7	2.2	4.1
28	3.7	5.0	6.1	12.1	4.2	2.9	2.45	4.0	1.8	2.5	2.25	3.85
29	3.65	4.9	5.6	7.4	3.95	2.8	2.45	3.1	1.9	2.8	2.15	3.5
30	3.75	.....	4.8	5.8	4.2	2.65	2.65	2.8	1.9	3.05	2.15	3.45
31	4.1	.....	4.8	.....	4.2	.....	2.65	2.5	.....	3.25	.....	3.55

Rating table for Chattahoochee River at West Point, Ga., for 1906, 1907, and 1908.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*
1.70	1,490	3.20	3,700	4.70	6,830	7.40	13,340
1.80	1,600	3.30	3,890	4.80	7,060	7.60	13,860
1.90	1,720	3.40	4,080	4.90	7,290	7.80	14,380
2.00	1,840	3.50	4,280	5.00	7,520	8.00	14,900
2.10	1,970	3.60	4,480	5.20	7,980	9.00	17,740
2.20	2,100	3.70	4,680	5.40	8,440	10.00	20,700
2.30	2,240	3.80	4,880	5.60	8,920	11.00	23,860
2.40	2,380	3.90	5,090	5.80	9,400	12.00	27,100
2.50	2,530	4.00	5,300	6.00	9,880	13.00	30,500
2.60	2,680	4.10	5,510	6.20	10,360	14.00	33,900
2.70	2,840	4.20	5,730	6.40	10,840	15.00	37,350
2.80	3,000	4.30	5,950	6.60	11,320	16.00	40,800
2.90	3,170	4.40	6,170	6.80	11,820		
3.00	3,340	4.50	6,390	7.00	12,320		
3.10	3,520	4.60	6,610	7.20	12,820		

NOTE.—The above table is not applicable for obstructed-channel conditions. It is based on 28 discharge measurements made during 1904 to 1908 and is well defined.

Monthly discharge of Chattahoochee River at West Point, Ga., for 1907 and 1908.

[Drainage area, 3,300 square miles.]

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area)	Accuracy.
	Maximum.	Minimum.	Mean.	Per square mile.		
1907.						
January	18,000	4,080	6,170	1.87	2.16	A.
February	27,100	4,280	8,350	2.53	2.64	A.
March	28,800	3,890	7,680	2.33	2.69	A.
April	15,700	3,800	6,790	2.06	2.30	A.
May	13,900	3,890	5,990	1.82	2.10	A.
June	5,730	2,760	3,600	1.09	1.22	A.
July	7,980	1,840	3,280	.994	1.15	A.
August	5,090	1,600	2,550	.773	.89	A.
September	5,950	1,490	2,660	.806	.90	A.
October	3,520	1,490	1,910	.579	.67	A.
November	16,000	1,660	4,980	1.51	1.68	A.
December	20,700	3,170	7,310	2.22	2.56	A.
The year	28,800	1,490	5,110	1.55	20.96	
1908.						
January	18,300	4,580	7,840	2.38	2.74	A.
February	29,100	5,950	13,100	3.97	4.28	A.
March	28,100	4,480	8,520	2.58	2.97	A.
April	40,500	3,890	10,400	3.15	3.51	A.
May	11,300	4,880	6,620	2.01	2.32	A.
June	5,950	2,760	4,170	1.26	1.41	A.
July	7,060	2,100	3,460	1.05	1.21	A.
August	17,200	1,840	4,190	1.27	1.46	A.
September	8,920	1,600	2,620	.794	.89	A.
October	4,780	1,490	2,290	.694	.80	A.
November	5,950	1,970	2,850	.864	.96	A.
December	25,200	2,380	6,450	1.95	2.25	A.
The year	40,500	1,490	6,040	1.83	24.80	

CHATTAHOOCHEE RIVER AT ALAGA, ALA.

This station is located at the Atlantic Coast Line Railway bridge one-fourth mile east of Alaga, 4 miles east of Gordon, and one-half mile west of Saffold, Ga. It is about 35 miles above the junction of Chattahoochee and Flint rivers. It was originally established in

1904 by the United States Weather Bureau. No rating has yet been developed for this station.

The following discharge measurement was made:

June 15, 1908: Width, 260 feet; area, 3,980 square feet; gage height, 6.26 feet: discharge, 8,180 second-feet.

Daily gage height, in feet, of Chattahoochee River at Alaga, Ala., for 1908.

[Observer, James L. Willis.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	27.8	14.3	11.5	13.0	36.7	8.6	4.8	4.2	5.2	2.7	4.7	3.0
2	26.3	30.3	11.0	12.0	29.0	8.5	5.7	4.6	4.7	2.5	4.4	3.1
3	21.6	32.0	10.5	11.7	17.4	7.6	4.8	4.4	4.2	2.5	4.7	3.5
4	19.2	32.0	10.2	10.6	13.5	7.1	5.0	4.1	4.0	2.5	4.9	3.8
5	14.7	23.3	9.9	10.1	12.2	6.8	5.6	3.9	3.9	2.2	4.9	4.4
6	14.0	16.8	9.5	9.9	12.4	6.8	6.1	3.7	3.7	2.1	5.9	4.1
7	17.8	13.8	9.8	10.4	13.2	7.6	5.8	4.2	3.6	2.2	7.0	3.7
8	25.6	12.9	9.7	10.4	13.5	7.9	7.5	4.9	4.5	2.2	6.2	3.6
9	25.9	12.2	9.4	10.0	13.5	7.0	10.0	5.2	8.6	2.4	5.2	3.8
10	24.8	11.5	9.2	9.6	13.4	6.4	9.9	6.3	8.1	2.6	4.4	4.7
11	17.0	13.0	9.0	9.5	12.7	6.0	8.2	5.8	6.7	3.2	4.1	8.0
12	16.5	17.9	8.7	9.1	11.5	6.1	8.0	5.6	5.0	3.3	3.8	11.1
13	17.5	19.3	8.6	8.9	10.3	6.7	8.1	5.2	4.3	4.2	3.6	8.1
14	16.7	19.1	8.5	8.6	9.7	6.9	7.0	4.7	3.8	4.5	3.7	8.6
15	16.3	18.9	8.5	8.4	9.2	6.3	6.8	4.1	3.4	5.0	3.6	8.0
16	16.3	21.6	8.4	8.1	8.9	6.1	5.8	3.6	3.2	4.4	3.5	5.5
17	14.0	25.5	8.4	10.2	8.5	6.3	5.3	3.2	3.0	3.1	3.5	5.0
18	12.4	26.3	8.3	14.0	8.3	6.5	5.3	3.1	2.9	2.7	3.6	4.7
19	11.4	23.7	8.0	13.3	8.2	6.7	5.7	3.1	2.8	2.5	3.6	4.4
20	10.9	24.1	7.9	12.3	9.1	6.3	4.9	3.3	2.8	2.3	3.4	4.2
21	10.2	21.1	7.9	11.3	10.0	6.4	5.5	3.9	3.1	2.5	3.6	4.0
22	9.9	17.6	7.9	10.4	9.5	5.7	5.5	4.6	3.3	2.4	3.5	3.9
23	9.8	15.1	9.6	11.9	8.7	5.6	5.7	6.1	3.3	2.5	3.5	4.5
24	10.0	13.8	25.5	15.4	8.5	5.6	5.9	7.9	3.1	2.5	3.4	12.5
25	9.8	12.7	34.5	17.3	7.7	6.5	4.8	7.2	3.1	2.3	3.3	17.0
26	9.3	12.2	36.5	17.5	7.5	7.6	5.4	9.7	3.1	2.4	3.0	14.7
27	9.0	12.2	35.3	24.9	7.8	7.1	5.9	16.3	3.0	2.4	3.1	11.5
28	8.8	12.4	32.0	33.5	7.6	6.0	5.5	16.9	3.1	2.4	3.2	8.6
29	8.6	12.2	24.7	37.1	8.4	5.3	5.8	13.5	3.0	3.4	3.3	6.8
30	8.5	.....	17.4	38.2	8.6	5.0	5.1	9.1	3.0	4.5	3.1	6.4
31	8.3	.....	14.4	.....	7.9	.....	4.4	6.4	.....	4.6	.....	5.5

SOQUE RIVER NEAR DEMOREST, GA.

This station is located at Cannon Bridge, 2½ miles from Demorest, about 4 miles above the mouth of the river, and 1½ miles below the mouth of Hazel Creek. It was established July 16, 1904.

The datum of the vertical staff gage, which is attached to the bridge from which discharge measurements are made, has remained the same since the establishment of the station. Both banks are high, but the right bank overflows at extreme high water. Conditions of flow at this point are permanent and a good rating has been developed for low and medium low stages.[a]

[a] Data collected at this station prior to 1906 have been compiled in Water-Supply Paper No. 197, Water resources of Georgia.

Discharge measurements of Soque River near Demorest, Ga., in 1907 and 1908.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
1907.		*Feet.*	*Sq. ft.*	*Feet.*	*Sec.-ft.*
January 1	F. A. Murray	87	355	3.53	791
March 5	do	84	281	2.58	448
May 8	M. R. Hall and F. A. Murray	87	245	2.30	328
June 15	F. A. Murray	81	219	2.00	242
July 15	do	85	260	2.51	379
Do	B. M. Hall, jr	86	283	2.51	460
November 8	F. A. Murray	83	194	1.64	155
1908.					
May 20	M. R. Hall	82	249	2.60	452

Daily gage height, in feet, of Soque River near Demorest, Ga., for 1907 and 1908.

[Observer, Charles Cannon.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1	3.4	3.35	2.75	2.3	2.35	2.85	2.0	2.1	1.65	1.9	1.7	2.0
2	3.25	3.8	3.8	2.25	2.35	2.7	2.25	2.0	1.6	1.9	1.8	2.0
3	3.15	2.55	3.0	2.25	2.4	2.45	3.0	2.0	1.6	1.9	1.9	2.0
4	2.9	3.45	2.9	2.2	3.8	2.3	6.2	1.95	3.05	1.95	2.0	2.0
5	2.8	2.9	2.65	2.25	2.45	2.3	2.95	1.9	2.2	2.0	1.9	2.1
6	2.7	2.55	2.5	2.35	2.4	2.2	2.6	1.95	3.45	1.9	1.9	2.05
7	2.75	2.5	2.55	2.3	2.3	2.2	2.2	1.9	2.1	1.8	1.85	2.0
8	2.65	2.45	2.4	2.25	2.35	2.25	2.1	1.8	1.8	2.15	1.8	1.9
9	2.6	2.45	2.35	2.2	2.3	2.3	2.05	1.75	1.75	2.0	1.8	2.8
10	2.55	2.4	2.4	2.25	2.35	2.25	2.3	1.75	1.75	1.9	2.95	2.05
11	2.5	2.45	2.4	2.35	2.4	2.2	2.15	1.75	1.8	1.8	2.55	2.0
12	2.55	2.4	2.35	2.3	2.35	2.2	2.1	1.8	1.75	1.8	2.75	2.0
13	2.4	2.4	2.35	2.25	2.3	2.1	3.05	1.85	1.7	1.75	2.6	2.05
14	2.3	2.35	2.35	2.2	2.3	2.1	2.4	1.85	1.7	1.7	2.35	3.25
15	2.25	2.35	2.5	2.2	2.4	2.05	2.85	2.0	1.65	1.7	2.2	2.45
16	2.25	2.35	2.4	2.2	2.3	2.05	2.6	1.9	1.65	1.7	2.2	2.3
17	2.2	2.3	2.3	2.2	2.3	2.0	2.7	1.8	1.6	1.7	2.1	2.25
18	2.2	2.25	2.25	2.35	2.25	2.0	2.9	2.0	1.6	1.7	2.15	2.3
19	2.2	2.25	2.25	3.05	2.15	2.15	2.4	1.85	1.6	1.7	2.2	2.1
20	2.65	2.25	2.2	2.8	2.15	2.05	2.25	1.8	1.6	1.7	2.35	2.1
21	2.35	2.25	2.2	2.7	2.1	2.0	2.05	1.8	1.55	1.65	3.25	2.1
22	2.3	2.2	2.2	3.8	2.1	2.0	2.0	1.8	1.55	1.65	2.65	2.0
23	2.25	2.2	2.2	4.0	2.15	2.0	2.0	1.85	4.1	1.6	3.4	5.8
24	2.2	2.2	2.2	3.05	2.2	2.0	2.0	1.95	2.8	1.6	6.2	3.1
25	2.2	2.35	2.2	2.7	2.25	2.0	1.9	1.8	2.0	1.6	3.45	2.8
26	2.25	2.85	2.2	2.45	2.6	2.0	1.85	1.8	1.9	1.65	2.35	2.2
27	2.35	2.65	2.2	2.3	2.55	2.0	1.85	1.75	1.95	1.75	2.2	2.15
28	2.25	2.6	2.2	2.45	2.4	2.1	2.0	1.75	2.0	1.7	2.15	2.25
29	2.2	.....	2.2	2.4	2.35	2.4	3.95	1.7	1.95	1.7	2.2	2.75
30	2.3	.....	2.2	2.35	2.3	2.1	2.8	1.7	1.9	1.7	2.1	6.3
31	2.6	.....	2.25	.....	2.5	.....	2.4	1.7	.....	1.65	.....	3.55
1908.												
1	2.85	2.5	2.6	1.65	2.7	2.3	2.35	1.95	1.9	1.7	2.2	2.2
2	2.5	2.65	2.45	1.65	2.7	2.25	2.35	1.95	1.9	1.7	2.2	2.35
3	2.5	2.55	2.4	1.6	2.65	2.25	2.7	2.2	1.95	1.7	2.1	2.15
4	2.45	2.4	2.4	1.6	2.65	2.3	2.8	2.0	2.0	1.7	3.0	2.05
5	3.7	2.35	2.4	1.7	2.6	2.45	3.4	2.0	2.0	1.7	2.75	2.0
6	2.5	2.35	2.4	2.85	2.85	2.6	2.9	2.6	5.0	1.7	2.4	2.0
7	2.6	2.3	2.35	2.7	4.7	2.5	2.45	2.8	3.2	1.7	2.25	8.1
8	2.5	2.3	2.35	1.95	2.9	2.45	2.35	2.25	2.4	1.75	2.05	5.05
9	2.45	2.25	2.4	1.75	2.75	2.45	2.65	2.0	2.35	1.8	1.95	3.15
10	2.45	2.8	2.5	1.65	2.65	2.6	2.4	1.9	2.2	2.0	1.9	2.6
11	6.1	5.0	2.95	1.6	2.65	2.5	2.4	1.85	2.15	1.9	1.9	2.5
12	4.4	4.1	2.8	1.8	2.6	2.65	2.4	1.85	2.15	1.85	1.9	2.6
13	3.2	3.8	2.7	2.0	2.6	2.8	2.45	1.8	2.0	1.85	2.0	2.55
14	2.85	3.4	2.6	4.1	2.6	2.5	3.0	1.8	1.9	1.8	2.1	2.5
15	2.8	9.2	2.6	3.0	2.6	3.9	2.55	1.8	1.85	1.75	1.95	2.5

Daily gage height, in feet, of Soque River near Demorest, Ga., for 1907 and 1908—Con.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1908.												
16	2.65	3.8	2.55	2.8	2.7	2.8	2.3	1.8	1.85	1.75	1.9	2.45
17	2.5	3.4	2.55	3.1	2.7	2.4	2.15	2.0	1.8	1.7	1.9	2.45
18	2.5	3.0	2.65	2.85	2.7	2.35	2.1	.....	1.8	1.75	1.85	2.2
19	2.5	3.2	2.5	2.9	3.0	2.35	2.1	4.4	1.8	1.7	1.85	2.05
20	2.6	2.95	3.4	2.8	2.85	2.35	2.05	.....	1.8	1.7	1.85	2.05
21	2.55	2.85	3.7	2.7	2.75	3.0	2.0	.....	1.8	1.7	1.8	2.8
22	2.5	2.8	2.75	2.65	2.7	2.9	2.0	3.2	1.75	1.75	1.8	6.1
23	2.4	2.7	5.8	2.5	2.7	2.4	2.0	2.25	1.75	3.6	1.8	3.0
24	2.35	2.65	9.0	2.5	2.65	2.35	2.1	3.15	1.7	3.65	1.85	2.55
25	2.25	2.7	4.0	11.75	2.6	2.3	2.0	2.45	1.7	2.25	1.85	2.45
26	2.3	2.7	3.0	4.1	2.6	2.3	2.05	2.2	1.75	2.0	1.85	2.4
27	2.4	2.65	2.85	3.7	2.55	2.3	2.1	2.15	1.8	2.0	1.8	2.35
28	2.25	2.65	2.7	3.4	2.5	2.3	2.1	2.0	1.75	2.15	1.8	2.35
29	2.2	2.6	2.7	3.35	2.5	2.3	2.3	1.9	1.7	3.5	1.85	2.35
30	2.2	.....	2.7	2.9	2.65	2.3	2.05	1.9	1.7	2.35	1.85	2.35
31	2.3	.....	1.65	.....	2.4	.....	1.95	1.9	.....	2.2	.....	2.85

Rating table for Soque River near Demorest, Ga., for 1906, 1907, and 1908.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*
1.50	133	2.90	531	4.30	1,150	6.40	2,520
1.60	151	3.00	568	4.40	1,200	6.60	2,680
1.70	171	3.10	606	4.50	1,255	6.80	2,840
1.80	193	3.20	645	4.60	1,310	7.00	3,000
1.90	217	3.30	685	4.70	1,365	7.20	3,170
2.00	243	3.40	725	4.80	1,420	7.40	3,340
2.10	271	3.50	770	4.90	1,480	7.60	3,520
2.20	300	3.60	815	5.00	1,540	7.80	3,700
2.30	330	3.70	860	5.20	1,665	8.00	3,880
2.40	361	3.80	905	5.40	1,795	9.00	4,780
2.50	393	3.90	950	5.60	1,930	10.00	5,680
2.60	426	4.00	1,000	5.80	2,070	11.00	6,580
2.70	460	4.10	1,050	6.00	2,220	12.00	7,480
2.80	495	4.20	1,100	6.20	2,370		

NOTE.—The above table is not applicable for obstructed-channel conditions. It is based on 29 discharge measurements made during 1904 to 1908, and is well defined below gage height 6 feet. Above gage height 7.4 feet the rating curve is a tangent, the difference being 90 per tenth.

Monthly discharge of Soque River near Demorest, Ga., for 1907 and 1908.

[Drainage area, 158 square miles.]

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area).
	Maximum.	Minimum.	Mean.	Per square mile.	
1907.					
January	725	300	398	2.52	2.90
February	905	300	413	2.61	2.72
March	905	300	372	2.35	2.71
April	1,000	300	400	2.53	2.82
May	905	271	356	2.25	2.59
June	513	243	295	1.87	2.09
July	2,370	205	433	2.74	3.16
August	271	171	206	1.30	1.50
September	1,050	142	259	1.64	1.83
October	286	151	188	1.19	1.37
November	2,370	171	411	2.60	2.90
December	2,440	217	462	2.92	3.37
The year	2,440	142	349	2.21	29.96

Monthly discharge of Soque River near Demorest, Ga., for 1907 and 1908—Continued.

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area).
	Maximum.	Minimum.	Mean.	Per square mile.	
1908.					
January	2,300	300	499	3.16	3.64
February	4,960	315	706	4.47	4.82
March	4,780	161	653	4.13	4.76
April	7,260	151	667	4.22	4.71
May	1,360	361	479	3.03	3.49
June	950	315	401	2.54	2.83
July	725	230	348	2.20	2.54
August[a]	1,200	193	373	2.36	2.72
September	1,540	171	278	1.76	1.96
October	838	171	265	1.68	1.94
November	568	193	250	1.58	1.76
December	3,970	243	589	3.73	4.30
The year	7,260	151	459	2.90	39.47

[a] Discharge is interpolated for days when the gage height was not recorded.

NOTE.—Owing to rather poor gage heights, caused by fluctuations from dam above, the above values are classed as B.

FLINT RIVER NEAR WOODBURY, GA.

The station is located at the Macon and Birmingham Railroad bridge, 3 miles east of Woodbury, Ga. It is below the mouth of Elkins Creek and above Cane Creek. It was established March 29, 1900.

The datum of the vertical staff gage, which is located 300 feet above the bridge from which discharge measurements are made, has remained the same since the establishment of the station. It is 660 feet above sea level. Above gage height 10 feet the banks are subject to overflow for a width of about 350 feet, but all water passes beneath the bridge and its approaches. The bed is rough and irregular, and conditions of flow are practically permanent. A fairly good rating has been developed.[a]

Discharge measurements of Flint River near Woodbury, Ga., in 1907.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
		Feet.	*Sq. ft.*	*Feet.*	*Sec.-ft.*
March 28	M. R. Hall	268	858	0.77	731
November 9	G. F. Harley	279	748	.12	278
November 28	Warren E. Hall	253	983	1.45	1,310

[a] Data collected at this station prior to 1906 have been compiled in Water-Supply Paper No. 197, Water resources of Georgia.

Daily gage height, in feet, of Flint River near Woodbury, Ga., for 1907 and 1908.

[Observer, Rosa B. Craven.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1	2.5	1.7	2.5	0.75	2.3	1.25	1.2	0.85	0.1	0.4	0.05	1.65
2	2.4	2.8	2.9	.80	1.65	1.15	1.45	.7	.0	.4	.1	1.35
3	2.1	4.5	3.5	.75	1.45	.95	3.2	3.9	.0	.3	.15	1.15
4	1.8	4.6	4.0	.7	2.0	.8	2.3	2.3	.15	.2	.1	1.0
5	1.6	4.4	3.4	.7	1.65	.7	1.0	1.2	.55	.2	.1	.9
6	1.4	4.7	2.55	1.15	1.35	.85	.8	.85	.25	.1	.1	.8
7	1.2	5.0	1.9	1.05	1.35	.55	.55	1.25	.2	.1	.1	.8
8	1.1	3.7	1.55	1.15	1.55	.5	.45	.9	.15	.15	.1	.7
9	1.0	2.7	1.35	1.15	1.65	.45	.5	.65	.45	.2	.1	1.05
10	1.0	2.0	1.3	1.0	1.5	.4	1.05	.5	.6	.25	.3	1.9
11	1.0	1.7	1.2	.85	1.35	.4	.65	.4	.6	.25	.65	1.85
12	1.0	1.5	1.15	.8	1.25	.35	.65	.6	.45	.2	.8	1.65
13	1.0	1.3	1.1	.7	1.1	.35	.5	2.65	.35	.1	.7	1.7
14	.9	1.2	1.1	.6	1.0	.7	.45	2.85	.3	.05	.6	3.0
15	.9	1.3	1.55	.6	2.8	.7	1.0	1.5	.2	.0	.4	3.1
16	.9	1.1	1.6	.6	2.65	.55	2.05	3.3	.2	.0	.3	2.75
17	.9	1.1	1.65	2.9	2.5	.45	1.15	2.8	.3	.0	.3	2.2
18	.8	1.0	1.35	3.2	1.9	.4	1.1	2.7	.1	.05	.4	1.75
19	.8	1.0	1.2	2.95	1.35	.35	.8	1.85	05	.0	.75	1.55
20	.9	1.1	1.1	2.5	1.05	.3	.55	1.4	.0	.0	.8	1.35
21	1.1	1.1	1.0	1.8	.9	.25	.6	1.05	.0	.0	1.45	1.2
22	1.0	1.0	1.0	2.25	.8	.2	.55	1.0	.0	.0	2.3	1.2
23	.9	1.0	.95	4.0	.75	.2	.25	.8	1.4	.0	3.2	5.5
24	.8	.9	.85	3.8	.7	.6	.2	.55	1.55	.0	3.6	5.7
25	.8	1.2	.80	3.2	.75	1.0	.35	.4	.95	.0	3.1	5.1
26	.9	1.4	.80	2.45	.8	.9	.5	.35	.8	.0	2.6	4.0
27	1.0	1.8	.75	2.0	1.25	.6	1.7	.25	.45	.0	1.9	2.8
28	.9	2.0	.7	1.65	1.0	2.7	2.0	.2	.35	.0	1.45	2.35
29	.8	.....	.7	3.6	.8	4.2	1.7	.2	.6	.1	1.95	2.45
30	.8	.....	.7	3.8	.7	2.3	2.4	.1	.5	.1	2.05	4.0
31	1.2	.....	.7	.....	.8	.....	2.0	.1	.....	.05	.....	4.8
1908												
1	3.8	6.1	1.7	1.65	2.6	1.05	.2	.5	.55	.35	1.05	.9
2	3.2	7.1	1.6	1.5	2.1	.8	.25	.35	.45	.3	.9	1.2
3	2.4	6.3	1.55	1.4	1.7	.8	1.2	.3	.4	.25	.95	1.15
4	2.05	4.6	1.7	1.35	1.5	.7	1.3	.2	.4	.2	1.15	1.1
5	2.4	3.3	1.7	1.25	1.4	1.5	1.0	1.1	1.4	.2	1.55	.95
6	2.6	2.6	1.65	1.5	1.45	1.25	2.3	1.05	2 9	.2	1.6	.95
7	3.7	2.25	1.55	1.45	1.5	.95	2.2	1.1	2.6	.2	1.45	1.05
8	4.2	2.05	1.5	1.3	1.65	.7	2.7	.65	2.2	.4	1.15	1.35
9	3.5	1.85	1.4	1.25	1.6	.6	2.0	.8	1.55	1.15	.95	1.4
10	2.9	2.7	1.35	1.15	1.35	.6	2.15	.45	1.15	1.25	.9	1.35
11	3.1	4.6	1.3	1.1	1.2	.7	1.65	.4	.75	1.05	.8	1.15
12	3.6	4.8	1.3	1.0	1.1	.65	1.7	.35	.6	.95	.8	1.2
13	3.2	4.4	1.3	.9	1.0	.7	2.0	.25	.5	.85	.8	1.2
14	2.8	3.6	1.3	.9	.9	.65	1.15	.15	.5	.65	.95	1.1
15	2.25	5.8	1.3	1.5	.9	.65	.7	.1	.4	.6	1.15	1.05
16	2.0	6.1	1.2	2.3	.9	.55	.65	.1	.35	.5	1.1	1.0
17	1.85	5.6	1.2	2.3	.9	.5	.55	.05	.35	.5	1.0	.95
18	1.7	4.6	1.2	2.0	1.25	.55	.45	.15	.4	.5	.95	.9
19	1.55	4.2	1.1	1.65	1.65	.85	.4	.45	.3	.4	.9	.9
20	1.5	3.7	1.1	1.55	1.65	1.0	.5	.3	.4	.45	.85	.9
21	1.4	3.2	1.1	1.45	1.45	1.15	.55	.3	.45	.5	.8	1.0
22	1.45	2.7	1.15	1.45	1.15	1.4	.45	.55	.5	.5	.8	3.6
23	1.5	2.3	3.0	2.35	.95	1.45	.35	1.95	.6	.5	.8	5.8
24	1.35	2.1	6.8	2.35	.85	1.05	.35	1.2	.6	.5	.8	5.8
25	1.2	1.9	6.4	3.85	1.05	1.65	.35	3.0	.6	.5	.8	4.8
26	1.2	2.05	5.2	4.8	1.25	.55	.6	5.2	.5	.5	.8	3.3
27	1.35	2.05	3.1	9.2	1.55	.45	.5	5.4	.4	.5	.8	2.3
28	1.8	1.95	3.0	8.0	1.4	.35	.4	3.6	.45	.85	.75	1.75
29	1.6	1.85	2.4	5.5	1.05	.3	.3	2.1	.5	1.55	.7	1.4
30	1.35	.....	1.95	3.6	1.45	.3	.3	1.25	.4	1.45	.7	1.5
31	1.45	.....	1.75	.....	1.65	.....	.4	.75	.....	1.25	.....	1.9

Rating table for Flint River near Woodbury, Ga., for 1907 and 1908.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*
0.00	225	1.30	1,220	2.60	2,720	4.80	6,160
.10	270	1.40	1,320	2.70	2,860	5.00	6,520
.20	320	1.50	1,420	2.80	3,000	5.20	6,880
.30	380	1.60	1,520	2.90	3,140	5.40	7,260
.40	450	1.70	1,630	3.00	3,280	5.60	7,640
.50	520	1.80	1,740	3.20	3,560	5.80	8,040
.60	600	1.90	1,860	3.40	3,850	6.00	8,450
.70	680	2.00	1,980	3.60	4,160	7.00	10,750
.80	760	2.10	2,100	3.80	4,480	8.00	13,250
.90	850	2.20	2,220	4.00	4,800	9.00	15,750
1.00	940	2.30	2,340	4.20	5,140	10.00	18,250
1.10	1,030	2.40	2,460	4.40	5,480		
1.20	1,120	2.50	2,590	4.60	5,820		

NOTE.—The above table is not applicable for obstructed-channel conditions. It is based on nine discharge measurements made during 1906 and 1907 and three earlier measurements above gage height 4 feet. It is well defined.

Monthly discharge of Flint River near Woodbury, Ga., for 1907 and 1908.

[Drainage area, 990 square miles.]

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area).	Accuracy.
	Maximum.	Minimum.	Mean.	Per square mile.		
1907.						
January	2,590	760	1,100	1.11	1.28	A.
February	6,520	850	2,310	2.33	2.43	A.
March	4,800	680	1,540	1.56	1.80	A.
April	4,800	600	1,890	1.91	2.13	A.
May	3,000	680	1,340	1.35	1.56	A.
June	5,140	320	888	.897	1.00	A.
July	3,560	320	1,090	1.10	1.27	A.
August	4,640	270	1,300	1.31	1.51	A.
September	1,470	225	473	.478	.53	A.
October	450	225	277	.280	.32	B.
November	4,160	248	1,110	1.12	1.25	A.
December	7,840	680	2,580	2.61	3.01	A.
The year	7,840	225	1,320	1.34	18.09	
1908.						
January	5,140	1,120	2,380	2.40	2.77	A.
February	11,040	1,800	4,540	4.59	4.95	A.
March	10,300	1,030	2,290	2.31	2.66	A.
April	16,200	850	2,900	2.93	3.27	A.
May	2,720	805	1,300	1.31	1.51	A.
June	1,580	380	792	.800	.89	A.
July	2,860	320	974	.984	1.13	A.
August	7,260	248	1,280	1.29	1.49	A.
September	3,140	380	802	.810	.90	A.
October	1,470	320	645	.652	.75	A.
November	1,520	680	906	.915	1.02	A.
December	8,040	850	1,940	1.96	2.26	A.
The year	16,200	248	1,730	1.75	23.60	

FLINT RIVER NEAR MUSELLA, GA.

The station is located 10 miles southwest of Musella, Ga., and 1 mile below the mouth of Ulcohachee Creek. It was established September 14, 1907, and was discontinued on December 31 of the same year.

Discharge measurements of Flint River near Musella, Ga., in 1907.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
		Feet.	*Sq. ft.*	*Feet.*	*Sec.-ft.*
November 6[a]	G. F. Harley	82	181	2.70	458
Do[a]	do	80	178	2.68	458

[a] Measured from boat ⅜ mile below gage.

Daily gage height, in feet, of Flint River near Musella, Ga., for 1907.

Day.	Sept.	Oct.	Nov.	Dec.	Day.	Sept.	Oct.	Nov.	Dec.
1			2 6	4.2	17	2.9	2.6	2.9	4.9
2		2.8	2.6	4.1	18	2.7	2.7	3	4.2
3		3	2 6	3.9	19	2.6	2.7	3 2	4.4
4		3	2.7	3.7	20	2.7	2.7	3.4	4.2
5		2.9	2 7	3.6					
					21	2.6	2.6	4.9	4.0
6		2.8	2.7	3.2	22	2 6	2 6		3.9
7		2.9		3.4	23	2.9	2.6	9.0	
8		2.7		3.3	24	2.7	2 6		
9		2.8		3.2	25	2.8	2.5		8.9
10		2.8		3.2					
					26	2.6	2.6	4.9	7.1
11		2.8	3	4.6	27	2.9	2.6	4.2	5.2
12		2.8	3.3	4.4	28	3.8	2.6	5.1	4.8
13		2.8	3.2	4.8	29	2.9	2.6	5.6	5.2
14	3	2.7	3.2		30	2.8	2.6	4.7	
15	2.9	2.6	3.1	7.7	31		2.5		
16	2.9	2.6	3	5.3					

NOTE.—Water over the top of the gage December 14, 23, 24, and 30.

FLINT RIVER NEAR MONTEZUMA, GA.

The station is located at the iron highway bridge about 1 mile west of Montezuma. It was established by the United States Weather Bureau, by whom gage heights are supplied, in 1904.

The datum of the chain gage has remained the same since the establishment of the station. The right bank will overflow for a great distance at a stage of about 12 feet. The overflowed portion is largely covered with a dense growth of brush. The left bank is not liable to overflow. Conditions of flow are permanent and a very good rating has been developed. Gage heights obtained at this point, however, are considered too poor to warrant publication of monthly discharge.[a]

Discharge measurements of Flint River near Montezuma, Ga., in 1907 and 1908.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
1907.		*Feet.*	*Sq. ft.*	*Feet.*	*Sec.-ft.*
April 16	F. A. Murray	295	1,350	3.62	1,800
Do	do	295	1,350	3.64	1,830
August 22	Warren E. Hall	196	1,600	4.80	2,370
1908.					
January 3	Warren E. Hall	1,750	5,160	14.05	10,300

[a] Data collected at this station prior to 1906 have been compiled in Water-Supply Paper No. 197, Water resources of Georgia.

FLINT RIVER AT ALBANY, GA.

The station is located at the Atlantic Coast Line bridge in Albany, about 700 feet above the highway bridge where the gage is located. It was originally established by the United States Weather Bureau in 1893. It was maintained with some interruptions until the United States Geological Survey began to make discharge measurements in 1901, and has been maintained continuously since that time, all gage heights being furnished by the United States Weather Bureau, except those for a portion of 1903. On June 17, 1902, a new gage was installed by the Weather Bureau, and its datum was put 9 inches lower than that of the former gage. The 1902 gage heights as published by the Weather Bureau all refer to the new gage datum. The present standard chain gage, installed by the Geological Survey, has the same datum and reads in conformity with the Weather Bureau gage.

The river overflows both banks but only under the approaches to the bridge. The bed is rock and very rough and the current is irregular. Conditions of flow are permanent and a very good rating has been developed.[a]

Discharge measurements of Flint River at Albany, Ga., in 1907 and 1908.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
1907.		*Feet.*	*Sq. ft.*	*Feet.*	*Sec.-ft.*
January 18	M. R. Hall	240	1,550	2.59	[b] 4,240
Do	do	110	2,320	2.52	[c] 4,050
1908.					
January 1	Warren E. Hall	321	4,670	13.44	[b] 17,700
June 9	do	261	1,940	4.36	[b] 6,110

Daily gage height, in feet, of Flint River at Albany, Ga., for 1907 and 1908.

[Observer, D. W. Brosnan.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1	4.1	3.7	3.8	1.6	9.0	2.0	1.5	6.1	1.1	11.0	0.5	7.6
2	4.8	3.7	4.5	1.8	8.1	1.8	1.7	5.6	.8	9.5	.5	7.6
3	5.8	4.3	4.7	1.8	7.8	1.8	2.6	5.0	.6	8.0	.8	7.5
4	6.4	5.4	5.3	1.9	7.9	2.0	4.6	4.4	.5	5.4	.8	7.9
5	7.2	6.5	5.7	1.9	8.4	2.2	6.8	5.0	.7	4.0	.8	8.4
6	7.8	7.4	6.7	2.5	8.4	2.3	7.2	5.9	.7	3.2	.7	8.0
7	6.4	8.1	7.2	3.2	7.5	2.2	7.0	6.9	1.0	2.6	.9	6.6
8	5.4	8.8	7.4	4.5	6.3	1.9	6.8	7.6	1.3	2.3	.9	5.1
9	4.2	9.2	7.3	5.4	5.9	1.6	6.4	7.3	1.2	2.2	.8	4.3
10	3.7	10.3	6.2	6.0	5.8	1.3	4.2	6.2	1.6	2.0	.8	4.1
11	3.4	11.1	5.0	5.8	6.4	1.2	2.8	5.5	2.3	1.8	.7	5.0
12	3.2	10.8	3.8	5.2	7.5	1.1	2.0	6.3	2.3	1.5	1.0	6.0
13	3.2	10.4	3.8	4.2	7.7	1.1	1.7	6.9	2.0	1.5	1.5	6.5
14	3.1	8.8	3.4	3.3	7.8	1.3	2.3	7.5	2.0	1.4	1.7	11.4
15	2.9	6.0	3.2	2.9	7.6	1.8	2.5	8.7	1.8	1.4	1.7	13.5
16	2.6	4.3	3.3	2.7	6.0	2.0	2.3	8.8	1.6	1.3	1.9	13.0
17	2.3	3.5	3.5	2.5	5.8	1.8	2.8	8.6	1.3	1.2	1.9	15.8
18	2.3	3.3	4.3	2.4	5.8	1.5	2.8	8.0	1.2	1.1	2.0	15.3
19	2.7	3.2	4.9	2.5	6.3	1.2	3.0	6.0	1.2	1.0	1.8	14.2
20	3.4	3.5	5.2	3.5	7.3	1.1	3.5	5.8	1.1	1.0	1.6	13.0

[a] Data collected at this station prior to 1906 have been compiled in Water-Supply Paper No. 197, Water resources of Georgia.

[b] Measurement made at Atlantic Coast Line Railway bridge.

[c] Measurement made at Georgia Northern Railway bridge.

Daily gage height, in feet, of Flint River at Albany, Ga., for 1907 and 1908—Continued.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
21	2.7	4.0	5.0	5.5	7.2	1.0	4.0	5.8	1.1	0.9	1.9	11.6
22	2.2	3.8	4.4	7.0	6.3	.8	3.5	5.6	1.0	.8	2.2	10.7
23	2.2	3.7	3.4	7.7	4.6	.7	2.7	5.4	.9	.8	2.6	11.0
24	2.9	3.5	2.8	8.6	3.4	.6	1.9	3.8	.8	.8	4.6	11.6
25	2.6	3.5	2.4	9.5	2.8	.5	1.3	3.0	.8	.7	6.4	12.7
26	2.7	3.4	2.4	10.2	2.5	.6	1.2	2.6	1.0	.6	7.3	13.5
27	2.8	3.2	2.2	10.4	2.2	.7	1.1	2.0	1.3	.6	8.3	14.4
28	2.9	3.5	2.1	10.3	2.2	.9	1.0	1.7	1.6	.6	8.7	14.7
29	3.1	.....	1.8	10.3	2.1	1.2	2.4	1.5	2.1	.5	8.5	14.9
30	3.2	.....	1.8	10.0	2.1	1.4	3.9	1.4	9.1	.5	8.0	15.0
31	3.5	.....	1.7	.....	2.0	.....	5.1	1.4	.....	.5	.....	14.8
1908.												
1	13.9	7.1	9.8	20.2	23.5	4.1	2.8	2.3	7.9	1.6	1.4	1.2
2	12.5	9.4	8.0	17.5	26.8	3.9	2.5	2.0	7.3	1.5	1.8	1.0
3	10.5	17.4	6.8	13.8	28.0	3.7	2.1	1.8	6.0	1.5	2.5	1.0
4	11.4	21.0	6.0	10.3	27.0	3.7	1.9	1.5	5.5	1.4	3.0	1.2
5	13.4	21.4	5.7	8.0	26.7	3.6	1.9	1.5	3.9	1.3	3.1	1.4
6	14.5	21.6	5.5	7.3	21.5	3.6	2.1	1.5	4.0	1.3	2.8	1.7
7	15.2	18.8	5.4	6.9	17.0	3.5	2.7	1.4	3.5	1.1	2.4	1.7
8	15.7	16.2	5.4	6.7	12.0	4.2	3.1	1.4	3.5	.9	2.1	1.8
9	16.3	15.4	5.3	6.5	9.2	4.5	3.3	2.0	3.6	.8	2.1	1.9
10	16.4	16.0	5.1	6.1	8.1	4.5	4.2	2.5	4.0	1.0	2.1	1.8
11	17.3	15.9	4.8	6.0	7.0	4.3	5.0	3.0	4.1	.8	2.0	1.6
12	16.8	13.9	4.6	5.8	7.0	3.8	5.4	3.2	3.9	.9	2.0	2.0
13	16.9	11.3	4.6	5.5	6.8	3.2	5.4	2.9	3.5	.9	1.9	2.4
14	16.9	10.8	4.5	5.0	6.2	3.0	5.3	2.4	3.2	.9	1.9	2.4
15	16.2	10.9	4.5	4.8	5.5	2.9	4.8	2.0	2.8	.8	1.8	3.3
16	14.8	13.0	4.4	5.0	5.2	2.7	4.0	1.8	2.3	.7	1.5	3.6
17	13.2	14.7	4.4	6.3	4.6	2.5	3.9	1.5	1.8	.7	1.3	3.4
18	11.0	15.3	4.2	7.7	4.1	2.2	3.9	1.3	1.5	.6	1.1	2.9
19	10.4	15.5	4.2	9.0	4.0	2.2	4.2	1.3	1.3	.6	1.3	2.5
20	9.7	16.0	4.2	9.6	3.8	2.5	4.5	1.2	1.3	.6	1.6	2.5
21	8.8	16.4	4.1	10.1	4.4	2.5	4.3	1.1	1.5	.7	1.9	2.3
22	8.0	16.7	4.4	10.3	4.5	2.3	4.0	1.0	1.7	.7	1.9	2.4
23	7.4	16.9	5.3	10.3	4.5	2.1	3.6	1.6	1.7	.6	1.7	2.8
24	7.2	16.5	11.0	9.0	4.4	2.1	3.1	2.1	1.6	.6	1.5	2.6
25	7.1	15.6	19.4	8.3	4.3	2.1	2.6	2.7	1.6	.6	1.5	2.2
26	6.8	15.0	23.1	9.3	4.9	2.0	2.4	4.3	1.6	.6	1.5	2.0
27	6.5	14.7	23.2	11.0	5.1	2.5	2.3	5.2	1.7	.6	1.6	2.2
28	6.5	14.5	22.1	15.0	4.9	3.1	2.5	6.1	1.7	.8	1.7	3.6
29	6.4	12.9	21.5	18.5	4.5	3.4	2.6	6.8	1.8	.9	1.7	5.6
30	6.4	.....	22.2	19.8	4.2	3.2	2.6	7.4	1.8	1.0	1.5	7.4
31	6.3	.....	21.8	.....	4.2	.....	2.4	7.8	.....	1.3	.....	7.4

Rating table for Flint River at Albany, Ga., for 1906, 1907, and 1908.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*
0.50	2,330	2.30	4,000	4.20	6,015	11.00	14,420
.60	2,420	2.40	4,100	4.40	6,245	12.00	15,750
.70	2,510	2.50	4,200	4.60	6,475	13.00	17,150
.80	2,600	2.60	4,300	4.80	6,705	14.00	18,630
.90	2,690	2.70	4,400	5.00	6,940	15.00	20,140
1.00	2,780	2.80	4,500	5.20	7,180	16.00	21,700
1.10	2,870	2.90	4,600	5.40	7,420	17.00	23,300
1.20	2,960	3.00	4,700	5.60	7,670	18.00	24,900
1.30	3,050	3.10	4,805	5.80	7,920	19.00	26,600
1.40	3,140	3.20	4,910	6.00	8,170	20.00	28,300
1.50	3,235	3.30	5,015	6.20	8,420	21.00	30,000
1.60	3,330	3.40	5,120	6.40	8,670	22.00	31,800
1.70	3,425	3.50	5,230	6.60	8,920	23.00	33,600
1.80	3,520	3.60	5,340	6.80	9,170	24.00	35,400
1.90	3,615	3.70	5,450	7.00	9,420	25.00	37,200
2.00	3,710	3.80	5,560	8.00	10,670	26.00	39,000
2.10	3,805	3.90	5,670	9.00	11,920	27.00	40,800
2.20	3,900	4.00	5,785	10.00	13,170	28.00	42,600

NOTE.—The above table is not applicable for obstructed-channel conditions. It is based on 25 discharge measurements made during 1903 to 1908 and is well defined below gage height 20 feet.

Monthly discharge of Flint River at Albany, Ga., for 1907 and 1908.

[Drainage area, 5,000 square miles.]

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area).	Accuracy.
	Maximum.	Minimum.	Mean.	Per square mile.		
1907.						
January	10,400	3,900	5,570	1.11	1.28	A.
February	14,600	4,910	7,960	1.59	1.66	A.
March	9,920	3,420	6,070	1.21	1.40	A.
April	13,700	3,330	7,330	1.47	1.64	A.
May	11,900	3,710	8,070	1.61	1.86	A.
June	4,000	2,330	3,140	.628	.70	A.
July	9,670	2,780	5,160	1.03	1.19	A.
August	11,700	3,140	7,510	1.50	1.73	A.
September	12,000	2,330	3,330	.666	.74	A.
October	14,400	2,330	4,180	.836	.96	A.
November	11,500	2,330	4,670	.934	1.04	A.
December	21,400	5,900	14,000	2.80	3.23	A.
The year	21,400	2,330	6,420	1.28	17.43	
1908.						
January	23,800	8,540	15,600	3.12	3.60	A.
February	31,100	9,540	20,700	4.14	4.46	A.
March	34,000	5,900	13,000	2.60	3.00	A.
April	28,600	6,700	13,100	2.62	2.92	A.
May	42,600	5,560	14,100	2.82	3.25	A.
June	6,360	3,710	4,870	.974	1.09	A.
July	7,420	3,620	5,170	1.03	1.19	A.
August	10,400	2,780	4,560	.912	1.05	A.
September	10,500	3,050	4,870	.974	1.09	A.
October	3,330	2,420	2,700	.540	.62	A.
November	4,800	2,870	3,600	.720	.80	A.
December	9,920	2,780	4,420	.884	1.02	A.
The year	42,600	2,420	8,890	1.78	24.09	

FLINT RIVER AT BAINBRIDGE, GA.

The station is located at the county wagon bridge one-half mile from Bainbridge, and about 25 miles above the mouth of the river or junction with Chattahoochee River. It was established in 1904 by the United States Weather Bureau. The measurement of discharge at this point was begun by the United States Geological Survey in 1908. No rating has yet been developed.

Discharge measurements of Flint River at Bainbridge, Ga., in 1908.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
		Feet.	*Sq. ft.*	*Feet.*	*Sec.-ft.*
June 11	Warren E. Hall	332	3,810	8.50	8,260
August 18	do	312	2,640	5.55	5,440

Daily gage height, in feet, of Flint River at Bainbridge, Ga., in 1908.

[Observer, Leonard W. Willis.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	18.5	11.1	14.8	24.4	21.5	9.7	7.0	7.0	11.0	5.7	5.0	4.9
2	17.5	14.6	13.3	23.9	22.6	9.5	6.6	6.8	11.0	5.4	5.6	4.9
3	17.5	15.4	13.9	22.8	24.3	9.5	6.4	6.5	10.6	5.3	5.9	4.9
4	17.0	18.6	13.5	20.5	26.7	9.2	6.3	6.4	8.8	5.2	5.9	4.9
5	17.0	20.5	13.1	16.5	26.8	9.0	6.5	6.0	7.5	5.1	5.6	5.1
6	17.0	21.5	12.7	15.5	27.1	8.9	6.7	6.1	7.3	5.3	5.6	5.2
7	18.0	21.4	12.3	14.5	26.2	8.9	7.0	6.1	7.1	4.8	5.6	5.3
8	18.5	21.1	12.0	13.8	24.2	8.8	7.3	6.1	7.1	4.7	5.7	5.4
9	19.2	20.8	11.9	13.3	20.8	8.8	7.5	6.4	7.1	4.7	5.9	5.2
10	20.0	20.8	11.8	12.9	16.7	8.9	7.8	6.6	7.3	4.7	6.0	5.0
11	20.8	20.3	11.5	12.7	15.7	8.5	8.3	7.2	7.7	4.8	5.8	5.0
12	21.1	19.3	11.2	11.1	14.8	8.4	8.7	7.4	7.8	4.9	5.6	5.1
13	20.9	18.0	11.0	11.9	14.0	8.4	8.9	7.1	7.4	5.2	5.4	5.2
14	20.6	17.0	10.8	11.6	13.2	8.3	9.0	6.7	7.0	5.5	5.3	5.3
15	20.5	16.8	10.5	10.8	12.5	8.2	9.0	6.3	6.6	5.9	5.1	5.7
16	20.2	17.0	10.5	11.1	12.0	7.9	8.7	6.0	6.2	5.2	4.9	6.1
17	19.5	17.4	10.3	10.9	11.3	7.6	8.5	5.7	6.0	5.1	4.8	6.3
18	18.6	17.9	10.2	11.9	11.0	7.3	8.4	5.5	5.7	5.0	5.0	6.1
19	17.5	18.5	10.1	13.1	10.7	7.1	7.8	5.2	5.6	4.9	5.3	5.8
20	16.7	18.8	9.8	13.5	10.4	7.1	7.6	5.4	5.6	4.7	5.3	5.5
21	15.6	19.1	9.6	14.0	10.4	7.1	7.6	5.0	5.6	4.6	5.3	5.3
22	14.7	19.5	9.6	14.2	10.4	7.1	8.1	5.1	5.3	4.6	5.2	5.2
23	14.0	20.0	10.0	14.3	10.4	7.1	8.3	6.4	5.1	4.6	5.0	5.2
24	13.4	20.0	12.7	14.0	10.4	7.1	8.3	6.8	5.6	4.6	5.0	5.2
25	13.0	20.0	15.7	13.6	10.2	7.1	7.7	6.6	5.7	4.6	5.0	5.5
26	12.8	19.5	21.8	13.8	10.0	7.5	7.5	7.5	5.7	4.6	5.0	6.4
27	12.7	18.8	24.1	14.1	9.8	7.5	7.3	8.8	5.7	4.6	4.9	7.0
28	12.5	17.5	25.6	15.5	9.8	7.7	7.7	10.0	5.7	4.6	4.7	7.8
29	11.3	16.2	25.8	18.1	10.1	7.6	8.0	10.5	5.7	4.6	4.7	8.4
30	12.1	.....	25.4	20.2	10.1	7.3	8.0	10.7	5.7	4.6	4.7	9.0
31	11.8	.....	24.8	.....	9.9	.....	7.4	10.9	.....	4.7	.....	9.5

KINCHAFOONEE CREEK NEAR LEESBURG, GA.

The station is located at the iron highway bridge 1 mile east of Leesburg. It was established August 30, 1905.

The datum of the vertical gage and the present chain gage have remained the same since the establishment of the station. The right bank is lower than the bridge and probably overflows at extreme high stages around the end of the bridge approach. The left bank does not overflow. Conditions of flow are probably permanent and a very good rating has been developed for low and medium stages.[a]

Discharge measurements of Kinchafoonee Creek near Leesburg, Ga., in 1907 and 1908.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
1907		*Feet.*	*Sq. ft.*	*Feet.*	*Sec.-ft.*
January 19	M. R. Hall	107	342	2.72	503
April 20	F. A. Murray	113	403	3.20	664
August 22	Warren E. Hall	115	374	3.29	586
1908.					
January 2	Warren E. Hall	158	1,020	7.85	2,230
February 12	do	154	960	7.51	1,960
June 10	do	108	314	2.30	416
August 20	do	90	213	1.25	263

[a] Data collected at this station prior to 1906 have been compiled in Water-Supply Paper No. 197, Water resources of Georgia.

Daily gage height, in feet, of Kinchafoonee Creek near Leesburg, Ga., for 1907 and 1908.

[Observer, J. H. Jones.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1	3.5	3.7	3.3	1.7	3.1	1.4	1.8	2.65	.....	9.5	1.6	.....
2	3.6	4.1	3.4	1.7	3.2	1.4	1.6	3.95	1.4	8.8	1.6	7.2
3	3.6	4.4	3.5	1.7	3.5	1.4	1.7	3.15	1.3	7.8	.....	7.0
4	3.7	4.7	3.6	1.6	3.3	1.3	.....	.....	1.45	6.8	1.8	7.0
5	3.8	5.1	3.5	1.5	3.1	1.3	3.5	4.15	2.1	4.95	1.9	6.6
6	3.8	5.2	3.5	2.7	2.8	1.3	3.9	4.8	2.9	.....	1.8	6.0
7	3.7	5.1	3.3	3.1	2.5	1.3	.....	6.9	2.9	2.9	1.8	5.4
8	3.6	5.0	3.1	3.4	2.3	1.3	2.1	6.9	.....	2.55	1.65	.....
9	3.6	4.9	2.9	4.1	2.0	1.2	1.4	6.1	2.45	2.75	1.6	4.6
10	3.5	4.7	2.8	5.0	2.8	1.2	1.1	5.45	2.05	2.6	.....	5.1
11	3.4	4.5	2.7	5.6	3.1	1.2	1.0	.....	2.4	2.6	1.85	5.9
12	3.3	4.1	2.6	4.4	3.5	1.1	1.1	7.6	2.35	2.5	2.15	6.6
13	3.2	3.7	2.6	3.3	3.8	1.1	1.0	9.2	2.35	.....	2.45	7.2
14	3.1	3.4	2.6	3.0	3.6	1.1	.....	9.1	2.1	2.4	2.7	8.4
15	3.0	3.2	2.7	2.9	3.0	1.1	1.0	8.8	.....	2.3	2.55	.....
16	3.0	3.0	2.9	2.8	3.5	1.2	1.2	8.4	2.4	2.2	2.4	10.6
17	2.8	2.8	3.1	2.7	3.9	1.3	1.6	7.0	2.25	2.05	.....	11.2
18	2.7	2.7	3.2	2.5	4.0	1.2	1.8	.....	1.95	1.9	2.4	10.2
19	2.6	2.8	3.3	2.6	3.7	1.1	2.0	3.65	1.9	1.85	2.4	8.9
20	2.7	3.0	3.5	3.0	3.3	1.0	1.7	3.5	1.85	.....	2.4	7.8
21	2.9	3.1	3.1	3.2	2.7	1.0	.....	3.45	1.45	1.7	2.6	7.0
22	2.9	3.0	2.8	3.5	2.5	.9	1.2	2.95	.....	1.6	3.7	.....
23	2.8	3.0	2.6	4.6	2.4	1.0	1.1	2.6	2.2	1.5	4.35	8.1
24	2.8	3.0	2.6	5.1	2.3	1.2	.9	2.7	2.45	1.45	.....	8.8
25	2.7	2.9	2.5	5.6	2.0	.9	.9	.....	2.25	1.4	5.2	.....
26	2.7	3.0	2.3	5.8	1.9	.9	1.3	2.15	2.05	1.4	6.5	10.0
27	2.9	3.2	2.2	5.1	1.8	.9	1.2	2.0	2.0	.....	7.1	9.3
28	3.2	3.3	2.2	4.5	1.8	1.0	.....	1.85	2.15	1.5	.....	8.2
29	3.4	.....	2.0	3.8	1.6	1.3	1.7	1.65	.....	1.6	7.0	.....
30	3.5	.....	1.9	3.4	1.5	1.5	2.3	1.5	8.4	1.7	7.4	7.8
31	3.4	.....	1.8	.....	1.5	.....	2.8	1.65	.....	1.6	.....	7.8
1908.												
1	.....	7.3	.....	6.8	11.2	2.6	1.85	2.25	1.9	1.4	.....	1.5
2	7.0	.....	6.0	6.5	9.9	2.6	1.7	.....	1.8	1.3	2.1	1.75
3	8.0	15.7	6.0	6.2	.....	2.45	1.6	2.05	1.75	1.2	2.0	2.1
4	7.9	15.5	5.6	5.9	7.8	2.4	.....	1.85	1.8	.....	1.95	2.5
5	.....	12.9	5.2	.....	7.1	2.4	.....	1.6	1.7	1.1	2.15	2.35
6	7.1	10.5	5.0	5.4	6.5	2.7	2.55	1.35	.....	1.1	2.45	.....
7	8.4	9.0	5.0	5.0	5.9	.....	2.55	1.45	1.9	1.1	2.4	1.9
8	10.2	8.4	.....	5.0	5.8	2.75	2.4	1.5	1.85	1.1	.....	1.9
9	11.5	.....	4.9	5.0	5.8	2.55	2.25	.....	1.75	1.15	2.2	1.8
10	11.1	7.4	4.8	4.9	.....	2.25	2.0	2.35	1.6	1.35	2.15	1.8
11	11.4	7.8	4.8	4.8	5.4	2.1	2.45	2.5	1.5	.....	2.0	2.05
12	.....	7.6	4.7	.....	4.8	2.0	.....	2.25	1.5	1.65	2.0	2.25
13	10.1	7.5	4.6	4.6	4.3	1.9	2.45	2.1	.....	1.55	2.0	.....
14	9.4	7.5	4.5	4.2	3.9	.....	2.4	1.85	1.3	1.45	2.0	2.9
15	8.7	8.4	.....	4.0	3.6	2.0	2.35	1.65	1.2	1.4	.....	3.15
16	7.8	.....	4.4	3.9	3.4	2.0	2.3	.....	1.45	1.3	1.8	2.95
17	7.3	8.3	4.3	4.0	.....	1.95	2.4	1.35	1.4	1.3	1.7	2.5
18	7.0	8.6	4.3	4.4	3.1	1.9	2.55	1.25	1.25	.....	1.6	2.1
19	.....	9.4	4.2	.....	3.1	1.8	.....	1.1	1.1	1.2	1.7	2.0
20	6.4	9.2	4.0	4.6	3.1	1.8	5.2	1.1	.....	1.1	1.7	.....
21	6.1	8.8	4.0	4.6	3.0	.....	5.8	1.1	1.4	1.1	1.7	1.8
22	6.0	.....	.....	4.4	2.9	2.0	4.5	1.25	1.55	1.1	.....	1.9
23	6.0	.....	6.6	4.6	2.8	2.05	2.85	.....	1.75	1.0	1.7	2.25
24	6.0	8.0	10.3	4.7	.....	2.15	2.5	2.35	1.9	1.0	1.65	2.45
25	5.9	7.4	17.2	4.6	2.6	2.4	2.6	2.85	1.8	.....	1.6	.....
26	.....	6.8	16.8	.....	2.85	2.9	.....	3.6	1.55	1.0	.....	2.7
27	5.8	6.6	14.6	8.4	3.1	3.0	4.0	4.1	.....	1.1	1.6	.....
28	5.6	6.2	13.0	9.4	2.95	.....	3.2	4.6	1.6	1.15	1.6	2.5
29	5.5	6.2	.....	9.9	2.8	2.7	2.7	4.7	1.7	1.4	.....	2.35
30	5.5	.....	8.8	10.8	.....	2.1	2.45	.....	1.5	1.85	1.5	2.05
31	5.6	.....	7.7	.....	.....	.....	2.35	2.05	.....	1.9	.....	1.9

Rating table for Kinchafoonee Creek near Leesburg, Ga., for 1907 and 1908.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*
0.90	209	2.40	444	3.90	754	6.60	1,597
1.00	222	2.50	462	4.00	778	6.80	1,682
1.10	236	2.60	481	4.20	827	7.00	1,770
1.20	250	2.70	500	4.40	878	8.00	2,250
1.30	264	2.80	519	4.60	931	9.00	2,800
1.40	279	2.90	539	4.80	986	10.00	3,400
1.50	294	3.00	559	5.00	1,043	11.00	4,050
1.60	309	3.10	579	5.20	1,102	12.00	4,700
1.70	325	3.20	600	5.40	1,164	13.00	5,400
1.80	341	3.30	621	5.60	1,229	14.00	6,100
1.90	357	3.40	642	5.80	1,296	15.00	6,850
2.00	374	3.50	664	6.00	1,366	16.00	7,600
2.10	391	3.60	686	6.20	1,439	17.00	8,350
2.20	408	3.70	708	6.40	1,516	18.00	9,100
2.30	426	3.80	731				

NOTE.—The above table is not applicable for obstructed-channel conditions. It is based on 13 discharge measurements made during 1905–1908 and is well defined below gage height 9 feet.

Monthly discharge of Kinchafoonee Creek near Leesburg, Ga., for 1907 and 1908.

[Drainage area, 480 square miles.]

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area).	Accuracy.
	Maximum.	Minimum.	Mean.	Per square mile.		
1907.						
January	731	481	604	1.26	1.45	A.
February	1,100	500	731	1.52	1.58	A.
March	686	341	532	1.11	1.28	A.
April	1,300	294	688	1.44	1.61	A.
May	778	294	524	1.09	1.26	A.
June	294	209	246	.512	.57	A.
July	754	209	334	.696	.80	A.
August	2,920	294	1,100	2.29	2.64	A.
September	2,470	264	499	1.04	1.16	A.
October	3,100	279	672	1.40	1.61	A.
November	1,950	309	690	1.44	1.61	A.
December	4,180	931	2,210	4.60	5.30	B.
The year	4,180	209	736	1.53	20.87	
1908.						
January	4,380	1,200	2,170	4.52	5.21	B.
February	7,380	1,440	2,820	5.88	6.34	B.
March	8,500	778	2,100	4.38	5.05	B.
April	3,920	754	1,350	2.81	3.14	A.
May	4,180	481	1,100	2.29	2.64	A.
June	559	341	428	.892	1.00	A.
July	1,300	309	532	1.11	1.28	A.
August	958	236	418	.871	1.00	A.
September	357	236	308	.642	.72	A.
October	357	222	260	.542	.62	A.
November	453	294	355	.740	.83	A.
December	590	294	416	.867	1.00	A.
The year	8,500	222	1,020	2.13	28.83	

NOTE.—Discharge interpolated for all days when the gage was not read.

ICHAWAYNOCHAWAY CREEK AT MILFORD, GA.

The station is located at the wagon bridge at Milford, Ga. It was established August 29, 1905, and was discontinued December 31, 1907.

Gage heights for 1905 and 1906 are from a standard chain gage attached to the downstream side of the bridge located about 100 feet

above the remains of an old wooden dam, which retains the water at a higher level than it would otherwise have. During 1907 a vertical staff gage located below the old dam was used. Its datum is several feet lower than that of the chain gage and variation of the water surface at the two gages is radically different.

A relation was established between the two gages and an approximate rating was developed which is applicable to the 1907 gage heights.[a]

Discharge measurements of Ichawaynochaway Creek at Milford, Ga., in 1907.

Date.	Hydrographer.	Width.	Area of section.	Gage height.[b]	Discharge.
		Feet.	*Sq. ft.*	*Feet.*	*Sec.-ft.*
January 22	M. R. Hall	126	496	3.18	690
Do	do	120	499	3.19	705
April 27	F. A. Murray	142	735	6.18	1,790
August 21	Warren E. Hall	124	485	2.91	666

Daily gage height, in feet, of Ichawaynochaway Creek at Milford, Ga., for 1907.

[Observer, W. J. Kidd.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	5.0	3.4	3.9	3.3	4.55	1.9	1.3	2.4	1.8	11.9	2.35	5.3
2	5.0	3.5	4.0	3.4	4.5	1.85	1.4	2.6	1.8	8.6	2.35	5.2
3	4.8	4.0	4.05	3.7	4.4	1.85	1.5	3.0	1.75	6.5	2.35	5.1
4	4.5	4.3	4.0	4.0	3.9	1.8	1.6	3.0	2.0	5.6	2.35	4.8
5	4.5	4.6	3.85	4.3	3.8	1.8	1.9	2.9	2.5	5.1	2.3	4.6
6	4.5	4.8	3.6	4.8	3.6	1.8	2.15	2.8	2.6	4.6	2.25	4.5
7	4.35	5.0	3.2	5.3	3.45	1.75	2.3	2.9	2.6	4.4	2.2	4.4
8	4.35	4.9	3.1	6.2	3.4	1.75	2.35	3.1	2.7	4.4	2.3	4.5
9	4.2	4.75	3.0	7.0	3.4	1.8	2.0	3.5	2.75	4.3	2.3	4.7
10	4.2	4.65	2.9	6.5	3.5	1.9	1.9	3.4	2.7	4.0	2.35	4.9
11	3.9	4.5	2.9	5.4	3.45	2.1	1.9	3.2	2.65	3.7	2.4	5.1
12	3.9	4.1	3.0	5.1	3.4	2.0	1.9	3.2	2.6	3.4	2.5	5.5
13	4.05	3.6	3.1	4.8	3.2	1.9	1.9	3.3	2.6	3.1	2.6	6.1
14	3.9	3.2	3.2	4.3	3.1	1.9	1.85	3.5	2.55	2.9	2.7	7.7
15	3.9	3.1	3.3	4.2	3.0	1.85	1.85	4.0	2.5	2.9	2.75	8.5
16	3.75	3.0	3.4	3.7	3.0	1.8	1.8	5.9	2.5	2.85	2.8	9.1
17	3.6	3.05	3.5	3.2	2.9	1.75	1.8	4.0	2.4	2.8	3.1	9.5
18	3.3	3.1	3.5	3.5	2.9	1.7	1.8	3.5	2.3	2.8	3.3	9.2
19	3.3	3.2	3.4	3.8	2.8	1.65	1.75	3.0	2.3	2.7	3.6	8.7
20	3.15	3.3	3.2	3.5	2.7	1.6	1.75	2.4	2.2	2.7	3.95	8.2
21	3.15	3.4	3.0	4.0	2.5	1.55	1.7	3.0	2.0	2.6	4.2	7.5
22	3.15	3.5	2.8	4.2	2.4	1.5	1.7	2.6	2.9	2.55	4.4	6.8
23	3.1	3.5	2.75	4.9	2.3	1.5	1.7	2.0	3.1	2.55	4.5	6.3
24	3.05	3.55	2.7	5.4	2.2	1.45	1.7	2.0	3.2	2.5	4.6	6.1
25	3.0	3.55	2.7	6.0	2.2	1.45	1.7	1.95	3.35	2.5	4.7	6.0
26	3.1	3.6	2.6	7.0	2.2	1.4	2.9	1.95	3.75	2.45	4.75	6.2
27	3.2	3.7	2.5	6.5	2.15	1.3	3.5	1.9	4.0	2.45	4.8	6.4
28	3.7	3.8	2.4	6.0	2.1	1.3	3.0	1.9	4.5	2.45	4.9	6.35
29	3.6	.....	2.4	5.4	2.1	1.25	3.1	1.85	7.0	2.4	5.0	6.1
30	3.4	.....	2.35	4.6	2.05	1.2	2.9	1.85	10.5	2.4	5.2	5.7
31	3.3	.....	2.3	.....	2.0	.....	2.5	1.8	.....	2.4	.....	5.6

NOTE.—New staff gage installed January 27. By means of simultaneous readings on the two gages a relation between the two has been established and gage heights January 1–27 referred to the new gage.

[a] Data collected at this station prior to 1906 have been compiled in Water-Supply Paper No. 197, Water resources of Georgia.

[b] 1907 gage heights refer to the new gage.

Rating table for Ichawaynochaway Creek at Milford, Ga., for 1907.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*
1.20	335	2.70	605	4.20	1,000	6.20	1,800
1.30	350	2.80	625	4.30	1,030	6.40	1,900
1.40	365	2.90	645	4.40	1,065	6.60	2,000
1.50	380	3.00	665	4.50	1,100	6.80	2,100
1.60	395	3.10	690	4.60	1,135	7.00	2,200
1.70	410	3.20	715	4.70	1,170	7.20	2,320
1.80	425	3.30	740	4.80	1,205	7.40	2,440
1.90	445	3.40	765	4.90	1,240	7.60	2,560
2.00	465	3.50	790	5.00	1,280	7.80	2,680
2.10	485	3.60	820	5.20	1,360	8.00	2,800
2.20	505	3.70	850	5.40	1,440	9.00	3,500
2.30	525	3.80	880	5.60	1,520	10.00	4,200
2.40	545	3.90	910	5.80	1,600	11.00	5,000
2.50	565	4.00	940	6.00	1,700	12.00	5,800
2.60	585	4.10	970				

NOTE.—The above table is not applicable for obstructed-channel conditions. It is based on 12 discharge measurements made during 1905–1907 and is not well defined.

Monthly discharge of Ichawaynochaway Creek at Milford, Ga., for 1907.

[Drainage area, 640 square miles.]

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area).	Accuracy.
	Maximum.	Minimum.	Mean.	Per square mile.		
January	1,280	665	892	1.39	1.60	C.
February	1,280	665	893	1.40	1.46	C.
March	955	525	705	1.10	1.27	C.
April	2,200	715	1,250	1.95	2.18	C.
May	1,120	465	688	1.08	1.24	C.
June	485	335	408	.638	.71	C.
July	790	350	476	.744	.86	C.
August	1,650	425	658	1.03	1.19	C.
September	4,600	418	794	1.24	1.38	C.
October	5,720	545	1,030	1.61	1.86	C.
November	1,360	505	791	1.24	1.38	C.
December	3,850	1,060	1,940	3.03	3.49	C.
The year	5,720	335	877	1.37	18.62	

MISCELLANEOUS MEASUREMENT IN APALACHICOLA RIVER DRAINAGE BASIN.

The following miscellaneous discharge measurement was made in Apalachicola River drainage basin:

March 28, 1907: Cane Creek, tributary to Flint River at foot log near mouth of creek near Woodbury, Ga.: Gage height, 0.65 foot; discharge, 63 second-feet.

RIVER SURVEYS AND WATER POWER IN APALACHICOLA RIVER DRAINAGE BASIN.

Surveys have been made in the Apalachicola River drainage basin as follows:

Chattahoochee River from Columbus to Nacoochee, Ga.[a]

Soque River from mouth to Clarksville, Ga.[a] [b]

[a] Elevations taken on these surveys and brief statements regarding possible power development are given in Water-Supply Paper No. 197, Water resources of Georgia.

[b] River surveys and profiles of 1903: Water-Supply Paper U. S. Geol. Survey No. 115, 1905.

Chestatee River from mouth to Willow, Ga.[a] [b]

Flint River from Woodbury, Ga., to line of Creek Agency Reserve, near Roberta, Ga.[a]

Chattahoochee River from Keith's bridge at mouth of Chestatee River to Nacoochee, Ga.[b]

Chattahoochee River from Chattahoochee to Franklin, Ga.[b]

Chattahoochee River from West Point to Columbus, Ga.[b]

CHOCTAWHATCHEE RIVER DRAINAGE BASIN.

DESCRIPTION OF BASIN.

Choctawhatchee River drains the southeastern part of Alabama and that portion of Florida lying immediately south. The main river rises in Barbour County, Ala., a short distance west of Eufaula, Ala., and flows in a southwesterly and southerly direction through Choctawhatchee Bay to the Gulf of Mexico. Pea River is the principal tributary and enters from the west at Geneva, Ala. This branch is the longer of the two above the junction, having its head in Bullock County near Union Springs, Ala.

These are moderately swift streams, even at low water, and at places the fall is sufficient to make considerable shoals or rapids and offer practicable sites for water-power development.

The following gaging stations have been maintained in this river basin:

Choctawhatchee River, Newport, Ala., 1906–1908.
Choctawhatchee River, Geneva, Ala., 1904.
Double Bridges Creek, Geneva, Ala., 1904.
Pea River, Elba, Ala., 1906.
Pea River, Pera, Ala., 1904–1908.

CHOCTAWHATCHEE RIVER NEAR NEWTON, ALA.

The station is located at the steel highway bridge 1 mile north of Newton and about the same distance from Elba Junction. Gage height records have been obtained for a portion of the time only, as it has been difficult to keep an observer. The station was originally established June 11, 1906, and records of discharge have been obtained from June 11 to October 13, 1906, and from April 22, 1907, to August 22, 1908. The gage used during 1906 was at Elba Junction, about 1 mile above the present station, but these readings were changed to agree with the Newton gage.

Both banks are high and not liable to overflow. Conditions of flow are probably permanent, and an excellent rating has been developed for low-water stages.

[a] Elevations taken on these surveys and brief statements regarding possible power development are given in Water-Supply Paper No. 197, Water resources of Georgia.

[b] River surveys and profiles of 1903: Water-Supply Paper U. S. Geol. Survey No. 115, 1905.

Discharge measurements of Choctawhatchee River near Newton, Ala., in 1907 and 1908.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
1907.		*Feet.*	*Sq. ft.*	*Feet.*	*Sec.-ft.*
January 23	M. R. Hall	113	198	3.76	747
April 22	F. A. Murray	117	361	4.88	1,720
April 25	do	119	433	5.49	2,200
November 22	Warren E. Hall	113	274	4.32	1,130
1908.					
June 15	Warren E. Hall	115	176	3.46	572

Daily gage height, in feet, of Choctawhatchee River near Newton, Ala., for 1907 and 1908.

[Observer, A. E. Killebrew.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1					5.4	3.2	2.95	3.6	2.75	6.0	3.0	5.7
2					5.7	3.2	3.35	3.55	2.75	5.3	3.2	5.3
3					5.0	3.15	3.6	3.5	2.6	5.1	3.2	5.0
4					4.7	3.0	3.8	3.35	4.0	4.3	3.4	4.6
5					4.4	2.9	3.7	3.2	3.9	4.1	3.3	4.2
6					4.2	2.9	3.65	3.3	3.65	4.1	3.15	4.1
7					3.95	2.9	3.45	3.2	3.2	4.0	3.1	4.0
8					3.8	2.9	3.35	3.35	3.3	4.0	3.1	4.7
9					3.95	2.75	3.15	3.5	3.35	3.9	3.1	7.7
10					4.2	2.7	2.9	3.75	3.3	3.75	3.3	7.4
11					4.3	2.7	2.7	5.7	3.2	3.7	3.2	6.0
12					4.2	3.0	2.6	5.3	3.45	3.55	3.4	5.7
13					3.85	3.35	2.45	4.3	3.35	3.4	3.5	9.2
14					3.7	3.15	3.05	3.9	3.25	3.3	3.35	9.6
15					4.0	2.85	3.9	3.4	3.15	3.15	3.25	9.4
16					4.3	2.65	3.75	3.3	2.85	3.1	3.2	8.5
17					4.2	2.55	3.45	3.15	2.85	3.0	3.15	7.0
18					3.95	2.5	3.8	3.0	2.75	3.1	3.3	5.8
19					3.8	2.4	3.65	2.9	2.85	3.1	3.4	5.2
20					3.55	2.5	3.35	2.75	3.6	3.05	3.4	4.8
21					3.4	2.4	3.15	2.85	4.2	3.0	3.7	4.6
22				4.9	3.3	2.5	3.05	3.0	4.6	3.0	4.4	6.0
23				6.6	3.15	2.5	2.85	3.35	5.0	3.0	5.4	9.0
24				6.2	3.2	2.6	2.8	3.1	4.9	3.0	6.0	8.8
25				5.6	3.2	2.7	3.1	4.2	3.85	3.0	5.4	7.8
26				5.2	3.3	2.9	3.2	5.0	3.75	3.0	5.0	6.3
27				4.8	3.4	2.9	5.4	4.6	3.8	3.0	4.5	6.0
28				4.4	3.4	2.9	5.0	4.4	7.2	3.3	6.2	7.6
29				4.9	3.3	2.9	4.6	3.9	10.3	3.2	6.6	8.7
30				5.4	3.2	2.8	4.2	3.4	7.4	3.15	6.2	9.2
31					3.2		3.75	2.85		3.1		9.0
1908.												
1	8.8	12.8	5.0	5.4	7.6	3.85		3.25				
2	7.4	11.7	4.8	5.2	6.1	3.8		3.75				
3	6.2	9.0	4.6	5.1	5.6	3.8		3.55				
4	6.5	7.5	4.6	5.0	5.4	3.8		3.5				
5	5.9	6.6	4.6	4.8	5.2	3.7	3.8	3.2				
6	7.4	6.0	4.5	4.7	5.8	3.7	3.6	3.0				
7	11.6	5.6	4.5	5.2	6.0	3.6	3.25	3.0				
8	10.0	5.2	4.4	5.1	5.8	3.55	2.15	2.9				
9	9.4	5.6	4.4	4.8	5.6	3.9	3.65	3.75				
10	8.9	6.6	4.3	4.6	5.4	3.8	3.65	3.55				
11	8.5	6.1	4.2	4.5	5.0	3.7	3.9	3.5				
12	7.9	5.8	4.2	4.4	4.8	3.6	4.05	3.2				
13	7.1	6.0	4.9	4.2	4.5	3.6	3.95	3.0				
14	6.6	6.5	5.1	4.2	4.2	3.5	3.95	3.0				
15	6.4	6.6	4.4	5.2	4.2	3.5	3.95	2.9				
16	6.0	6.2	4.2	5.1	4.1	3.4	3.7	2.85				
17	5.8	5.7	4.2	4.8	4.1	3.55	3.45	2.7				
18	5.6	5.4	4.1	4.6	4.0	3.5	3.3	2.6				
19	5.4	9.6	4.1	4.6	4.0	3.35	3.35	2.85				
20	5.2	7.8	4.2	4.5	3.9	3.25	3.75	3.0				

Daily gage height, in feet, of Choctawhatchee River near Newton, Ala., for 1907 and 1908—Continued.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1908.												
21	5.0	6.8	4.2	4.4	3.9	3.2	3.75	3.65				
22	5.0	6.2	5.2	7.0	3.8	3.5	4.15	3.9				
23	4.9	5.5	12.0	6.4	3.8	3.4	4.25					
24	4.8	5.1	20.6	6.0	3.7	3.4	4.25					
25	5.2	5.0	24.2	9.5	3.6	3.3	6.0					
26	5.0	5.8	15.5	9.0	3.5	3.1	4.8					
27	4.8	5.4	8.8	17.8	3.65	3.1	4.4					
28	4.8	5.2	7.0	21.5	4.6	3.0	3.95					
29	4.6	5.0	6.2	13.8	4.2	2.95	3.6					
30	4.7		5.8	10.0	3.95	2.9	3.5					
31	5.8		5.5		3.9		3.4					

Daily discharge, in second-feet, of Choctawhatchee River near Newton, Ala., for 1906, 1907, and 1908.

Day.	June.	July.	Aug.	Sept.	Oct.	Day.	June.	July.	Aug.	Sept.	Oct.
1906.						1906.					
1		650	510	330	1,290	17	1,200	1,290	430	250	
2		1,290	430	330	1,740	18	970	1,290	470	250	
3		555	360	330	1,830	19	770	1,290	330	300	
4		470	300	330	1,830	20	470	1,120	250	360	
5		470	350	202	1,120	21	430	650	250	510	
6		470	350	202	1,740	22	345	600	250	830	
7		430	350	395	1,740	23	330	470	330	600	
8		300	350	770	1,650	24	300	510	395	395	
9		470	350	970	1,470	25	300	600	830	395	
10		510	350	1,120	1,120	26	300	770	510	395	
11	430	710	350	1,740	900	27	430	1,120	430	395	
12	510	1,380	300	1,120	900	28	430	1,290	430	970	
13	555	1,650	300	970	830	29	395	1,290	330	1,560	
14	600	1,290	510	430		30	470	710	330	1,470	
15	1,040	1,290	600	395		31		600	330		
16	1,290	1,290	830	250							

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1					2,110	470	378	650	315	2,710	395	2,410
2					2,410	470	532	625	315	2,010	470	2,010
3					1,740	450	650	600	275	1,830	470	1,740
4					1,470	395	770	532	900	1,120	555	1,380
5					1,200	360	710	470	830	970	510	1,040
6					1,040	360	680	510	680	970	450	970
7					865	360	578	470	470	900	430	900
8					770	360	532	532	510	900	430	1,470
9					865	315	450	600	532	830	430	
10					1,040	300	360	740	510	740	510	
11					1,120	300	300	2,410	470	710	470	2,710
12					1,040	395	275	2,010	578	625	555	2,410
13					800	532	238	1,120	532	555	600	
14					710	450	412	830	490	510	532	
15					900	345	830	555	450	450	490	
16					1,120	288	740	510	345	430	470	
17					1,040	262	578	450	345	395	450	
18					865	250	770	395	315	430	510	2,510
19					770	226	680	360	345	430	555	1,920
20					625	250	532	315	650	412	555	1,560
21					555	226	450	345	1,040	395	710	1,380
22				1,650	510	250	412	395	1,380	395	1,200	2,710
23					450	250	345	532	1,740	395	2,110	
24					470	275	330	430	1,650	395	2,710	
25				2,310	470	300	430	1,040	800	395	2,110	
26				1,920	510	360	470	1,740	740	395	1,740	
27				1,560	555	360	2,110	1,380	770	395	1,290	2,710
28				1,200	555	360	1,740	1,200		510		
29				1,650	510	360	1,380	830		470		
30				2,110	470	330	1,040	555		450		
31					470		740	345		430		

Daily discharge, in second-feet, of Choctawhatchee River near Newton, Ala., for 1906, 1907, and 1908—Continued.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1908.												
1	.....	.....	1,740	2,110	.....	800	375	490	.....	.....	.....	.....
2	.....	.....	1,560	1,920	.....	770	375	740	.....	.....	.....	.....
3	.....	.....	1,380	1,830	2,310	770	375	625	.....	.....	.....	.....
4	.....	.....	1,380	1,740	2,110	770	375	600	.....	.....	.....	.....
5	2,610	.....	1,380	1,560	1,920	710	770	470	.....	.....	.....	.....
6	.....	2,710	1,290	1,470	2,510	710	650	395	.....	.....	.....	.....
7	.....	2,310	1,290	1,920	2,710	650	490	395	.....	.....	.....	.....
8	.....	1,920	1,200	1,830	2,510	625	173	360	.....	.....	.....	.....
9	.....	2,310	1,200	1,560	2,310	830	680	740	.....	.....	.....	.....
10	.....	.....	1,120	1,380	2,110	770	680	625	.....	.....	.....	.....
11	.....	.....	1,040	1,290	1,740	710	830	600	.....	.....	.....	.....
12	.....	2,510	1,040	1,200	1,560	650	935	470	.....	.....	.....	.....
13	.....	2,710	1,650	1,040	1,290	650	865	395	.....	.....	.....	.....
14	.....	.....	1,830	1,040	1,040	600	865	395	.....	.....	.....	.....
15	.....	.....	1,200	1,920	1,040	600	865	360	.....	.....	.....	.....
16	2,710	.....	1,040	1,830	970	555	710	345	.....	.....	.....	.....
17	2,510	2,410	1,040	1,560	970	625	578	300	.....	.....	.....	.....
18	2,310	2,110	970	1,380	900	600	510	275	.....	.....	.....	.....
19	2,110	.....	970	1,380	900	532	532	345	.....	.....	.....	.....
20	1,920	.....	1,040	1,290	830	490	740	830	.....	.....	.....	.....
21	1,740	.....	1,040	1,200	830	470	740	680	.....	.....	.....	.....
22	1,740	.....	1,920	.....	770	600	1,000	830	.....	.....	.....	.....
23	1,650	2,210	.....	.....	770	555	1,080	.....	.....	.....	.....	.....
24	1,560	1,830	.....	2,710	710	555	1,080	.....	.....	.....	.....	.....
25	1,920	1,740	.....	.....	650	510	2,710	.....	.....	.....	.....	.....
26	1,740	2,510	.....	.....	600	430	1,560	.....	.....	.....	.....	.....
27	1,560	2,110	.....	.....	680	430	1,200	.....	.....	.....	.....	.....
28	1,560	1,920	.....	.....	1,380	395	865	.....	.....	.....	.....	.....
29	1,380	1,740	.....	.....	1,040	378	650	.....	.....	.....	.....	.....
30	1,470	.....	2,510	.....	865	360	600	.....	.....	.....	.....	.....
31	2,510	.....	2,210	.....	830	.....	555	.....	.....	.....	.....	.....

NOTE.—Daily discharge for 1906, 1907, and 1908 based on a well-defined rating curve. Discharge for missing days April 22, 1907, to August 22, 1908, greater than 2,800 second-feet. Discharge estimated August 5 to 11, 1906, and July 1–4, 1908.

PEA RIVER AT PERA, ALA.

The station is located at the Elton wagon bridge, about one-half mile west of Pera, a station on the Georgiana and Graceville branch of the Louisville and Nashville Railroad. It was established August 27, 1904.

The datum of the chain gage has remained the same since the establishment of the station. Both banks are subject to overflow during extreme high water. Conditions of flow appear to be very nearly permanent and a good rating has been developed.

Discharge measurements of Pea River at Pera, Ala., in 1907 and 1908.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
1907.		*Feet.*	*Sq. ft.*	*Feet.*	*Sec.-ft.*
April 23	F. A. Murray	114	1,650	18.54	6,660
Do	do	114	1,660	18.57	6,700
November 25	Warren E. Hall	100	1,310	14.70	4,920
1908.					
June 18	Warren E. Hall	80	518	4.58	654

Daily gage height, in feet, of Pea River at Pera, Ala., for 1907 and 1908.

[Observer, W. G. Early.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1	17.3	7.8	9.4	4.9	10.2	5.2	3.8	7.8	3.6	10.8	4.1	14.8
2	14.9	7.5	13.4	5.2	10.0	5.2	4.8	6.6	3.35	8.8	4.2	13.8
3	12.6	7.0	13.2	5.1	10.0	5.0	6.0	5.6	3.45	7.8	5.6	13.0
4	11.9	6.8	13.0	5.1	10.5	4.7	6.6	7.0	8.9	6.8	4.6	12.4
5	12.3	13.5	11.0	5.0	9.2	4.5	6.2	7.0	10.4	6.2	4.0	10.8
6	11.1	13.9	11.4	17.1	7.8	4.4	5.7	7.1	6.6	7.6	4.2	9.4
7	10.0	10.7	11.6	16.2	7.0	4.2	5.3	7.0	5.6	6.6	3.95	8.5
8	8.4	9.7	9.9	10.3	7.8	4.0	4.8	6.0	4.6	6.2	3.8	8.0
9	7.6	9.1	8.4	9.6	10.4	4.0	4.4	6.4	9.0	7.6	3.9	10.0
10	7.1	8.9	7.7	9.6	9.8	3.8	4.0	8.8	8.0	6.3	3.95	15.9
11	7.0	8.5	7.2	9.3	9.2	3.8	3.5	10.7	6.4	5.5	4.2	15.8
12	6.7	7.9	6.7	9.0	8.4	3.8	3.75	11.4	5.6	5.2	4.5	12.6
13	6.4	7.4	6.5	6.3	7.8	3.8	4.1	10.0	5.0	4.8	4.8	13.3
14	6.3	6.5	6.4	6.0	7.4	4.0	4.6	12.3	4.8	4.6	4.6	18.7
15	6.1	6.2	6.4	5.5	14.6	3.9	5.8	7.2	4.4	4.4	4.5	18.8
16	6.0	6.1	9.2	5.2	16.8	3.55	8.8	5.8	4.5	4.4	4.4	18.2
17	5.9	6.0	8.6	5.2	11.2	3.35	7.5	5.2	4.2	4.2	4.3	16.0
18	5.9	5.8	8.8	6.2	9.2	3.5	6.6	4.6	3.85	4.2	4.6	15.1
19	5.9	5.6	8.8	6.5	7.7	3.6	5.6	4.2	3.75	4.2	5.0	14.0
20	5.9	7.2	9.8	12.2	7.0	3.4	5.3	4.2	3.65	4.1	4.8	12.1
21	6.7	7.0	8.7	11.5	6.6	3.2	4.4	4.4	3.85	3.95	7.0	11.1
22	6.4	6.8	8.3	10.2	6.0	3.2	4.0	4.4	6.0	4.0	11.3	11.4
23	5.9	5.9	6.5	16.4	5.5	3.25	4.1	4.2	10.2	4.0	16.2	20.3
24	5.7	5.8	6.5	17.4	5.5	3.2	3.95	4.1	7.8	4.3	14.9	22.2
25	5.4	5.8	5.8	15.0	6.2	3.6	3.5	9.3	5.8	4.1	12.6	21.0
26	6.8	7.5	5.6	12.9	6.1	5.1	3.4	9.6	6.8	4.1	11.2	19.6
27	8.3	8.9	5.5	11.8	5.6	4.8	3.55	6.1	5.9	4.0	11.2	19.2
28	7.3	8.0	5.3	10.9	6.4	4.6	5.0	5.3	6.2	4.2	14.6	18.4
29	6.8	.....	5.3	9.7	6.0	4.2	8.6	4.5	17.2	3.9	16.0	20.8
30	6.5	.....	5.0	9.8	5.4	4.3	8.5	4.0	15.7	3.7	17.3	22.3
31	6.8	.....	4.8	.....	5.3	.....	7.6	3.85	.....	3.85	.....	22.4
1908.												
1	22.8	21.0	10.4	12.6	23.4	7.5	4.0	4.9	4.0	4.2	4.6	3.85
2	22.8	26.0	10.1	11.6	21.8	6.6	4.2	5.1	3.8	3.85	4.4	4.0
3	22.4	24.5	9.8	10.6	19.0	5.9	4.8	5.2	3.55	3.6	4.4	4.1
4	20.2	24.5	9.4	10.0	15.0	5.6	4.6	4.8	4.3	3.85	5.2	4.2
5	16.6	26.0	9.2	9.6	12.2	6.6	6.6	4.4	5.1	3.15	6.8	4.2
6	15.3	22.9	9.0	9.3	14.2	6.0	7.1	4.4	6.9	3.15	6.4	3.9
7	19.1	18.0	8.8	9.4	15.0	6.6	6.1	4.4	7.4	3.05	6.0	3.85
8	22.6	14.0	8.6	10.0	14.2	6.0	5.3	4.4	5.4	2.95	4.9	4.0
9	21.7	12.5	8.4	9.8	13.8	5.4	4.8	5.2	5.2	4.9	4.5	3.9
10	20.1	13.4	8.2	9.6	12.6	5.1	7.8	5.3	4.9	6.0	4.3	3.85
11	20.3	15.6	8.2	9.1	11.8	5.0	6.7	4.6	4.5	4.9	4.0	3.85
12	20.4	14.4	8.1	8.6	10.2	5.8	5.0	4.1	4.2	4.4	4.2	4.0
13	19.0	13.3	8.0	8.2	9.8	5.9	5.4	4.0	3.95	4.0	4.2	4.8
14	17.0	12.8	7.8	8.0	8.8	5.2	5.8	3.75	3.75	3.75	4.0	6.2
15	15.0	14.6	7.7	8.0	8.2	5.0	5.2	3.55	3.55	3.6	4.1	5.4
16	14.2	15.6	7.6	12.6	7.8	4.8	4.9	3.45	3.35	3.35	4.0	5.0
17	13.7	14.1	7.0	12.6	7.4	4.6	4.4	3.35	3.2	3.35	4.2	4.7
18	12.8	13.2	6.4	10.4	7.2	4.5	4.0	3.3	3.1	3.25	4.0	4.4
19	11.7	17.4	6.2	9.5	7.3	4.6	4.0	3.05	3.05	3.1	3.95	4.3
20	11.1	18.6	7.2	9.0	7.3	5.0	3.95	3.1	3.75	3.15	3.95	4.2
21	10.6	16.8	8.2	8.8	7.2	5.0	6.2	3.25	5.4	3.1	4.0	4.1
22	10.8	15.0	8.1	9.8	7.2	4.9	5.2	3.6	7.3	3.05	3.9	5.0
23	10.9	13.8	14.0	15.5	6.8	4.8	5.0	5.7	6.4	3.0	3.85	6.0
24	10.5	13.2	23.8	14.3	6.5	4.6	5.4	6.4	5.2	3.0	4.0	5.6
25	10.0	12.2	26.6	15.2	6.2	6.3	8.4	6.9	4.8	3.0	4.0	5.2
26	9.8	13.7	27.8	20.0	6.0	6.4	8.0	7.4	4.7	3.05	4.0	5.0
27	10.2	13.0	29.8	25.4	6.6	5.0	7.2	6.9	4.2	3.15	4.0	4.6
28	9.4	11.6	30.5	29.8	6.6	4.4	6.2	6.6	3.95	4.0	3.85	4.5
29	9.4	11.0	25.9	27.4	7.0	4.4	5.6	5.9	4.0	5.7	3.8	4.2
30	9.0	.....	19.9	25.8	8.2	4.2	5.6	5.1	4.2	5.4	3.8	4.2
31	9.6	.....	14.9	.....	8.6	.....	5.6	4.4	.....	5.0	.....	4.7

Rating table for Pea River at Pera, Ala., for 1907 and 1908.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*
2.90	363	4.70	739	7.00	1,476	17.00	5,970
3.00	390	4.80	764	7.20	1,552	18.00	6,430
3.10	407	4.90	789	7.40	1,630	19.00	6,890
3.20	425	5.00	815	7.60	1,710	20.00	7,350
3.30	443	5.10	842	7.80	1,791	21.00	7,810
3.40	461	5.20	870	8.00	1,873	22.00	8,270
3.50	480	5.30	898	8.20	1,957	23.00	8,730
3.60	499	5.40	927	8.40	2,041	24.00	9,190
3.70	519	5.50	957	8.60	2,127	25.00	9,650
3.80	539	5.60	988	8.80	2,214	26.00	10,110
3.90	559	5.70	1,019	9.00	2,302	27.00	10,570
4.00	580	5.80	1,051	10.00	2,750	28.00	11,030
4.10	601	5.90	1,084	11.00	3,210	29.00	11,490
4.20	623	6.00	1,117	12.00	3,670	30.00	11,950
4.30	645	6.20	1,185	13.00	4,130	31.00	12,410
4.40	668	6.40	1,255	14.00	4,590		
4.50	691	6.60	1,327	15.00	5,050		
4.60	715	6.80	1,401	16.00	5,510		

NOTE.—The above table is not applicable for obstructed-channel conditions. It is based on 23 discharge measurements made during 1904–1908, and is well defined between gage heights 1.5 feet and 20 feet. Above gage height 10 feet the rating curve is a tangent, the difference being 46 per tenth.

Monthly discharge of Pea River at Pera, Ala., for 1907 and 1908.

[Drainage area, 1,180 square miles.]

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area).	Accuracy.
	Maximum.	Minimum.	Mean.	Per square mile.		
1907.						
January	6,110	927	1,950	1.65	1.90	A.
February	4,540	988	1,830	1.55	1.61	A.
March	4,310	764	2,040	1.73	1.99	A.
April	6,156	789	2,640	2.24	2.50	A.
May	5,880	898	2,060	1.75	2.02	A.
June	870	425	597	.506	.56	B.
July	2,210	461	965	.818	.94	B.
August	3,810	549	1,440	1.22	1.41	A.
September	6,060	452	1,450	1.23	1.37	A.
October	3,120	519	980	.831	.96	B.
November	6,110	539	1,860	1.58	1.76	A.
December	8,450	1,870	5,270	4.47	5.15	A.
The year	8,450	425	1,920	1.63	22.17	
1908.						
January	8,640	2,300	5,110	4.33	4.99	A.
February	10,100	3,210	5,650	4.79	5.17	A.
March	12,200	1,180	4,060	3.44	3.97	A.
April	11,900	1,870	4,140	3.51	3.92	A.
May	8,910	1,120	3,010	2.55	2.94	A.
June	1,670	623	947	.803	.90	B.
July	2,040	570	1,020	.864	1.00	A.
August	1,630	398	788	.668	.77	B.
September	1,630	398	747	.633	.71	B.
October	1,120	382	552	.468	.54	B.
November	1,400	539	680	.576	.64	B.
December	1,180	549	705	.597	.69	B.
The year	12,200	382	2,280	1.94	26.24	

PEA RIVER AT ELBA, ALA.

The station was established June 8, 1906, and was discontinued December 31, 1906.

For information and data regarding stream flow at this point, see previous publications.[a]

ESCAMBIA RIVER DRAINAGE BASIN.

DESCRIPTION OF BASIN.

Escambia River drains the south central portion of Alabama and empties into the Gulf of Mexico through Escambia Bay and Pensacola Bay. Conecuh River joins the Escambia about 5 miles south of the Alabama-Florida state line, and is very much the larger of the two branches. Conecuh River rises in Bullock County, Ala., very close to the headwaters of Pea River, in the Choctawhatchee drainage basin, and flows southwestward throughout its course. Pigeon and Patsaliga creeks, both from the west, are the principal tributaries of Conecuh River. The Conecuh and its tributaries are swift streams, and at places there are rocky shoals and rapids.

The following gaging station has been maintained in this river basin:

Conecuh River at Beck, Ala., 1904–1908.

CONECUH RIVER AT BECK, ALA.

The station is located at Simmons Bridge, at Beck, about 12 miles below the mouth of Patsaliga Creek. The nearest railway station is Andalusia, Ala., 8 miles east on the Central of Georgia and Louisville and Nashville railroads. It was established August 24, 1904.

The datum of the chain gage has remained the same since the establishment of the station. Both banks are subject to overflow. Conditions of flow at this station are practically permanent, and an excellent rating has been developed.

Discharge measurements of Conecuh River at Beck, Ala., in 1907 and 1908.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
1907.		*Feet.*	*Sq. ft.*	*Feet.*	*Sec.-ft.*
April 24	F. A. Murray	157	1,970	14.74	6,940
November 23	Warren E. Hall	133	1,420	10.74	4,770
Do	do	133	1,420	10.71	4,600
1908.					
June 16	Warren E. Hall	119	410	3.28	806

[a] Water-Supply Paper U. S. Geol. Survey No. 204, 1907.

Daily gage height, in feet, of Conecuh River at Beck, Ala., for 1907 and 1908.

[Observers, E. R. Spicer and J. F. Hicks.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1	7.6	4.5	10.4	3.8	7.9	4.9	2.9	4.7	.....	5.0	2.1	.....
2	7.3	4.8	12.5	3.7	7.4	.....	3.1	4.3	.....	4.4	2.5	9.9
3	6.6	.....	12.1	3.8	7.1	4.1	4.0	4.4	3.1	3.8	.....	9.7
4	6.4	4.1	11.0	3.7	8.0	3.8	4.4	.....	2.6	3.6	2.5	9.4
5	6.4	4.0	10.5	3.5	.....	3.6	5.0	5.0	2.6	3.2	2.7	8.6
6	6.6	3.9	10.9	9.9	7.0	3.4	4.4	4.2	2.8	.....	2.7	8.1
7	6.4	3.7	12.1	.....	6.2	3.2	.....	5.6	2.5	3.8	2.5	7.5
8	6.1	3.8	12.4	5.8	6.1	3.1	4.3	5.1	.....	3.7	2.4	.....
9	5.8	3.7	11.3	5.3	7.0	.....	4.2	4.7	4.1	4.7	2.4	6.6
10	5.3	.....	9.0	5.5	7.7	2.8	3.6	9.9	4.5	4.4	.....	9.0
11	4.7	3.8	7.3	5.4	7.8	2.7	2.8	.....	3.0	3.0	2.6	9.5
12	4.4	3.7	6.2	5.3	.....	3.4	2.7	9.5	2.8	2.8	2.6	8.4
13	4.1	3.9	5.4	5.4	7.7	3.0	2.5	6.7	2.7	.....	2.8	10.8
14	4.0	4.8	6.4	.....	7.7	3.1	.....	12.8	2.5	2.5	2.7	13.1
15	3.8	4.4	7.3	4.2	13.6	2.9	4.4	12.2	.....	2.4	2.7	.....
16	3.8	4.0	7.6	3.7	12.7	.....	3.7	9.2	2.4	2.4	2.6	12.4
17	3.7	.....	.....	3.6	12.8	2.8	5.4	5.8	2.4	2.3	.....	11.3
18	3.7	3.8	7.8	4.0	11.7	2.7	5.4	.....	2.3	2.2	3.0	10.8
19	3.6	3.7	7.9	5.9	.....	2.7	5.3	4.0	2.2	2.2	2.9	10.5
20	3.8	3.8	8.0	7.6	10.3	2.6	3.9	3.6	2.4	.....	2.8	10.7
21	4.0	3.6	8.2	.....	9.8	2.6	.....	3.3	2.8	2.1	3.5	10.8
22	4.1	.....	7.8	12.4	9.1	2.5	3.0	3.2	.....	2.1	5.8	.....
23	4.3	3.6	6.8	14.3	6.4	.....	2.7	3.1	5.6	2.0	10.0	18.4
24	4.0	.....	.....	14.6	10.4	2.4	2.5	3.3	4.1	2.2	.....	19.3
25	3.8	4.3	4.7	13.6	5.4	2.3	2.4	.....	3.6	2.2	8.7	19.9
26	3.6	4.8	4.3	11.4	.....	2.3	3.9	3.1	3.2	2.1	8.5	18.0
27	3.9	5.6	4.0	10.0	5.3	2.4	3.6	2.6	2.8	.....	8.2	16.0
28	4.1	5.4	3.8	.....	6.9	2.5	.....	2.6	4.6	2.3	.....	16.6
29	4.0	.....	3.5	9.9	6.2	2.4	3.8	2.8	.....	2.2	11.8	.....
30	4.0	.....	3.4	9.2	.....	.....	5.1	2.5	5.7	2.1	11.7	23.4
31	4.4	.....	.....	.....	5.0	.....	5.7	2.8	.....	2.1	.....	25.1
1908.												
1	.....	20.5	.....	15.0	22.1	4.4	2.8	3.4	2.1	2.2	.....	2.2
2	22.2	.....	8.2	12.0	23.2	4.7	2.8	.....	2.0	2.2	2.5	2.2
3	23.3	20.8	7.8	9.7	.....	4.1	2.8	3.5	2.0	2.1	2.5	2.3
4	22.9	19.9	7.5	8.6	16.1	4.1	.....	3.4	2.2	.....	3.1	2.3
5	.....	23.7	6.9	.....	11.4	4.0	.....	3.0	2.2	1.7	3.6	2.3
6	.....	24.9	6.5	7.2	14.4	3.9	3.5	3.0	.....	1.6	3.9	.....
7	19.1	21.8	6.4	6.8	13.6	.....	4.7	2.8	.....	1.8	3.5	2.3
8	18.0	17.1	.....	7.0	12.6	4.2	4.2	3.2	2.5	1.7	.....	2.3
9	17.6	.....	6.0	7.2	11.1	4.2	4.1	.....	2.5	1.7	2.8	2.3
10	15.9	12.7	5.8	7.1	.....	4.0	4.0	2.9	2.4	1.9	2.6	2.2
11	15.8	12.2	5.7	6.5	9.2	3.8	4.1	2.9	2.8	.....	2.7	2.2
12	.....	11.1	5.7	.....	8.8	4.4	.....	2.9	2.7	2.1	2.5	2.7
13	17.4	10.3	5.5	6.0	8.2	3.7	4.0	2.7	.....	2.3	2.4	.....
14	16.5	9.6	5.4	5.9	7.8	.....	3.6	2.4	2.2	2.1	2.4	2.8
15	14.4	11.5	.....	6.1	6.7	3.4	3.6	2.4	1.9	2.0	.....	2.9
16	12.6	.....	5.1	9.4	6.0	3.3	3.2	.....	1.9	1.9	2.3	2.7
17	11.6	11.4	5.1	7.5	.....	3.1	3.8	2.3	1.9	1.9	2.3	2.6
18	11.0	10.9	5.0	7.3	5.2	3.0	2.7	2.2	1.7	.....	2.3	2.5
19	.....	14.7	4.9	.....	5.9	3.1	.....	1.9	1.8	1.8	2.3	2.5
20	9.4	14.3	4.8	7.1	6.1	3.3	2.4	2.0	.....	1.8	2.2	.....
21	8.7	14.8	4.7	7.0	6.2	.....	3.6	1.9	2.0	1.8	2.2	2.5
22	8.3	.....	.....	8.3	6.4	3.5	3.5	2.0	2.5	1.8	.....	3.1
23	8.1	.....	14.3	7.8	6.0	3.5	3.0	.....	2.8	1.7	2.3	2.9
24	7.7	11.5	22.4	8.0	.....	3.6	4.2	2.7	3.5	1.7	2.3	3.0
25	7.3	10.9	26.1	14.1	4.7	7.0	3.6	2.5	2.8	.....	2.2	3.2
26	.....	12.5	28.2	.....	4.5	3.7	.....	2.5	2.4	1.7	.....	3.0
27	7.0	11.6	29.6	16.8	4.6	3.9	4.1	2.6	.....	1.7	2.2	.....
28	6.8	10.3	31.9	18.9	4.2	.....	4.6	2.7	2.3	2.1	2.2	2.8
29	6.6	9.2	.....	18.8	4.5	3.1	5.3	2.6	2.2	2.1	.....	2.6
30	6.4	.....	25.1	21.7	.....	2.9	4.1	.....	2.2	2.1	2.2	2.6
31	7.3	.....	19.0	.....	.....	.....	3.6	2.3	.....	2.5	.....	3.1

Rating table for Conecuh River at Beck, Ala., for 1907 and 1908.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*
1.60	300	3.50	920	5.80	2,030	15.00	7,090
1.70	325	3.60	960	6.00	2,140	16.00	7,640
1.80	350	3.70	1,000	6.20	2,250	17.00	8,190
1.90	375	3.80	1,045	6.40	2,360	18.00	8,740
2.00	400	3.90	1,090	6.60	2,470	19.00	9,290
2.10	430	4.00	1,135	6.80	2,580	20.00	9,840
2.20	460	4.10	1,180	7.00	2,690	21.00	10,390
2.30	490	4.20	1,225	7.20	2,800	22.00	10,940
2.40	520	4.30	1,270	7.40	2,910	23.00	11,490
2.50	550	4.40	1,320	7.60	3,020	24.00	12,040
2.60	585	4.50	1,370	7.80	3,130	25.00	12,590
2.70	620	4.60	1,420	8.00	3,240	26.00	13,140
2.80	655	4.70	1,470	9.00	3,790	27.00	13,690
2.90	690	4.80	1,520	10.00	4,340	28.00	14,240
3.00	725	4.90	1,570	11.00	4,890	29.00	14,790
3.10	760	5.00	1,620	12.00	5,440	30.00	15,340
3.20	800	5.20	1,720	13.00	5,990	31.00	15,890
3.30	840	5.40	1,820	14.00	6,540	32.00	16,440
3.40	880	5.60	1,920				

NOTE.—The above table is not applicable for obstructed-channel conditions. It is based on 18 discharge measurements made during 1904–1908 and is well defined between gage heights 1.2 feet and 16 feet. Above gage height 5.6 feet the rating curve is a tangent, the difference being 55 per tenth.

Monthly discharge of Conecuh River at Beck, Ala., for 1907 and 1908.

[Drainage area, 1,290 square miles.]

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area).	Accuracy.
	Maximum.	Minimum.	Mean.	Per square mile.		
1907.						
January	3,020	960	1,540	1.19	1.37	A.
February	1,920	960	1,200	.930	.97	A.
March	5,720	880	3,120	2.42	2.79	A.
April	6,870	920	2,880	2.23	2.49	A.
May	6,320	1,620	3,290	2.55	2.94	A.
June	1,570	490	738	.572	.64	A.
July	1,980	520	1,100	.853	.98	A.
August	5,880	550	1,850	1.43	1.65	A.
September	1,980	460	871	.675	.75	A.
October	1,620	400	703	.545	.63	A.
November	5,330	430	1,620	1.26	1.41	A.
December	12,600	2,470	5,920	4.59	5.29	A.
The year	12,600	400	2,070	1.60	21.91	
1908.						
January	11,800	2,360	6,310	4.89	5.64	A.
February	12,500	3,900	6,830	5.29	5.70	A.
March	16,400	1,470	5,270	4.09	4.72	A.
April	10,800	2,080	4,240	3.29	3.67	A.
May	11,600	1,220	3,810	2.95	3.40	A.
June	2,690	690	1,070	.829	.92	A.
July	1,770	520	993	.770	.89	A.
August	920	375	613	.475	.55	A.
September	920	325	495	.384	.43	A.
October	550	300	383	.297	.34	B.
November	1,090	460	574	.445	.50	A.
December	800	460	589	.457	.53	A.
The year	16,400	300	2,600	2.01	27.29	

NOTE.—Discharge is interpolated for days when the gage height was not recorded.

MOBILE RIVER DRAINAGE BASIN.

DESCRIPTION OF BASIN.

The Mobile River system drains about two-thirds of the State of Alabama and large areas in Georgia and Mississippi. Its basin is triangular in shape and is nearly 300 miles wide near the headwaters in Georgia, Alabama, and Mississippi. It is designated the Mobile basin because its waters enter the Gulf of Mexico through Mobile River, which is formed by the union of Alabama and Tombigbee rivers at a point near the coast.

The main stream of Alabama River branch has many names. Beginning at the headwaters it is Cartecay River, which with Ellijay River makes the Coosawattee. This with Connasauga River forms Oostanaula River, and at Rome, Ga., the Oostanaula and the Etowah rivers unite to form Coosa River. Six miles above Montgomery, Ala., Tallapoosa River joins the Coosa and forms Alabama River. Cahaba River is a tributary of the Alabama and joins it about 10 miles below Selma. Hillabee Creek flows into Tallapoosa River just above Sturdevant. Talladega and Choccolocco creeks are tributaries of the Coosa.

Tombigbee River rises in the northeastern part of Mississippi and enters Alabama in Pickens County. Its principal tributary is the Black Warrior, which is formed by the junction of Mulberry Fork and Sipsey Fork. Locust Fork enters the Black Warrior some distance below the junction.

The mean annual rainfall is about 50 inches.

Coosa and Tallapoosa rivers and their tributaries are important water-power streams, and offer many exceptionally good locations for development.

The following gaging stations have been maintained in this river basin:[a]

Cartecay River, Cartecay, Ga., 1904, 1905, 1907.
Coosawattee River, Carters, Ga., 1896–1908.
Oostanaula River, Resaca, Ga., 1896–1908.
Coosa River, Rome, Ga., 1897–1903.
Coosa River, Lock No. 4, Ala., above Riverside, Ala., 1890–1901.
Coosa River, Riverside, Ala., 1896–1908.
Coosa River, Lock No. 5, near Childersburg, Ala., 1892–1897.
Coosa River, Wetumpka, Ala., 1896–1898.
Alabama River, Montgomery, Ala., 1899–1903.
Alabama River, Selma, Ala., 1900–1908.
Ellijay River, Ellijay, Ga., 1907.

[a] Data collected in this drainage basin in Alabama prior to 1904 have been compiled in Water powers of Alabama: Water-Supply Paper U. S. Geol. Survey No. 107. Data collected in this drainage basin in Georgia prior to 1906 have been compiled in Water resources of Georgia: Water-Supply Paper U. S. Geol. Survey No. 197.

Conasauga River, Beaverdale, Ga., 1907–8.
Etowah River, Ball Ground, Ga., 1907–8.
Etowah River, Canton, Ga., 1892–1905.
Etowah River near Rome, Ga., 1904–1908.
Etowah River at Rome, Ga., 1903.
Amicalola River, Potts Mountain, Ga., 1907–8.
Choccolocco Creek, Jenifer, Ala., 1903–1908.
Tallapoosa River, Sturdevant, Ala., 1900–1908.
Talladega Creek, Nottingham, Ala., 1900–1904.
Tallapoosa River, Susanna, Ala., 1900–1901.
Tallapoosa River, Milstead, Ala., 1897–1903.
Hillabee Creek, Alexander City, Ala., 1900–1903.
Big Sandy Creek, Dadeville, Ala., 1900–1901.
Cahaba River, Centerville, Ala., 1901–1908.
Tombigbee River, Columbus, Miss., 1900–1908.
Tombigbee River, Epes, Ala., 1900–1908.
Black Warrior River, Cordova, Ala., 1900–1908.
Black Warrior River, Coal, Ala., 1908.
Black Warrior River, Tuscaloosa, Ala., 1889–1905.
Clear Creek, Elk, Ala., 1904–5.
Locust Fork, Black Warrior River, Palos, Ala., 1901–1905.

CARTECAY RIVER NEAR CARTECAY, GA.

The station is located at a wooden bridge about 1½ miles from Cartecay, 6 miles from Ellijay, Ga., and about 1 mile below the mouth of Licklog Creek. It was originally established June 27, 1904, and was discontinued December 31, 1905. It was reestablished May 4, 1907, and was again discontinued November 2, 1907.

The datum of the vertical staff gage, which is attached to the bridge from which discharge measurements are made, has remained the same since the establishment of the station. Conditions of flow are somewhat changeable. A fair rating has been developed for low stages.[a]

Discharge measurements of Cartecay River near Cartecay, Ga., in 1907.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
		Feet.	*Sq. ft.*	*Feet.*	*Sec.-ft.*
May 4	M. R. Hall	57	85	1.63	234
August 6	F. P. Thomas	58	80	1.30	159
Do	do	58	83	1.32	168
November 15	M. R. Hall	56	59	1.02	133

[a] Data collected at this station prior to 1906 have been compiled in Water-Supply Paper No. 197, Water resources of Georgia.

Daily gage height, in feet, of Cartecay River near Cartecay, Ga., for 1907.

[Observer, Jesse Holden.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.
1						4.10	1.30	1.40	0.92	1.50	1.35
2						1.95	1.40	1.30	.88	1.05	1.25
3						1.75	1.35	1.30	1.40	1.15	.....
4					1.63	1.75	1.30	1.20	1.45	1.10	.....
5					1.60	1.65	1.30	1.15	1.30	1.10	.....
6					1.60	1.55	1.25	1.31	1.10	1.25	.....
7					1.90	1.50	1.20	1.10	.92	1.00	.....
8					1.65	2.65	1.20	1.00	.90	1.25	.....
9					1.55	1.80	1.20	.98	.98	1.00	.....
10					1.40	1.55	1.35	.92	1.15	1.00	.....
11					1.35	1.50	1.40	.98	1.35	1.00	.....
12					1.35	1.50	1.80	1.60	1.20	.92	.....
13					1.30	1.60	1.80	1.70	1.05	.90	.....
14					1.35	1.65	1.70	2.40	.95	.85	.....
15					1.95	1.40	1.60	2.35	.92	.80	.....
16					1.70	1.40	1.50	2.00	.90	.80	.....
17					1.40	1.40	1.45	1.45	.82	.80	.....
18					1.40	1.40	1.40	1.25	.80	.80	.....
19					1.30	1.70	1.50	1.35	.80	.80	.....
20					1.30	1.50	1.50	1.30	.80	1.00	.....
21					1.30	1.45	1.30	1.20	.80	1.00	.....
22					1.30	1.60	1.20	1.35	1.25	1.05	.....
23					1.30	1.65	1.20	1.20	2.40	.90	.....
24					1.50	2.20	1.15	1.20	1.10	1.00	.....
25					1.40	1.70	1.50	1.30	.90	1.00	.....
26					2.40	1.40	1.60	1.20	.88	1.00	.....
27					1.55	1.40	1.50	1.10	.80	1.20	.....
28					1.40	1.40	1.60	1.05	2.65	1.20	.....
29					1.40	1.30	1.40	1.05	1.65	1.10	.....
30					1.40	1.30	1.70	1.00	1.25	1.25	.....
31					2.70	.....	1.50	1.00	.....	1.20	.....

Daily discharge, in second-feet, of Cartecay River near Cartecay, Ga., for 1907.

Day.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Day.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.
1	.....	.....	174	195	103	218	184	17	195	195	206	206	87	84	.....
2	.....	336	195	174	97	126	164	18	195	195	195	164	84	84	.....
3	.....	280	184	174	195	144	.....	19	174	267	218	184	84	84	.....
4	250	280	174	154	206	135	.....	20	174	218	218	174	84	117	.....
5	242	254	174	144	174	135	.....	21	174	206	174	154	84	117	.....
6	242	230	164	176	135	164	.....	22	174	242	154	184	164	126	.....
7	321	218	154	135	103	117	.....	23	174	254	154	154	.....	100	.....
8	254	.....	154	117	100	164	.....	24	218	.....	144	154	135	117	.....
9	230	293	154	114	114	117	.....	25	195	267	218	174	100	117	.....
10	195	230	184	103	144	117	.....	26	.....	195	242	154	97	117	.....
11	184	218	195	114	184	117	.....	27	230	195	218	135	84	154	.....
12	184	218	293	242	154	103	.....	28	195	195	242	126	.....	154	.....
13	174	242	293	267	126	100	.....	29	195	174	195	126	254	135	.....
14	184	254	267	.....	108	92	.....	30	195	174	267	117	164	164	.....
15	336	195	242	.....	103	84	.....	31	.....	.....	.....	218	117	.....	154	.....
16	267	195	218	350	100	84	.....								

NOTE.—Daily discharge based on a fairly well defined rating curve. On missing days from May 4 to November 2 the discharge was greater than 380 second-feet.

COOSAWATTEE RIVER AT CARTERS, GA.

The station is located at the iron highway bridge at Carters, Murray County, Ga., one-half mile below the mouth of Talking Rock Creek. It was established August 15, 1896, and with the exception of a short period from August 26 to November 3, 1900, the record is continuous to December 31, 1908, when the station was discontinued.

The datum of the gage has remained the same since the establishment of the station. Both banks are fairly high, but overflow at flood stages. Conditions of flow are changeable. A fair rating has been developed for low and medium stages for 1907 and 1908.[a]

Discharge measurements of Coosawattee River at Carters, Ga., in 1907 and 1908.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
1907.		*Feet.*	*Sq. ft.*	*Feet.*	*Sec.-ft.*
April 29	M. R. Hall and O. P. Hall	107	423	2.80	1,120
July 18	M. R. Hall	105	313	1.94	652
1908.					
July 13	M. R. Hall	110	307	1.95	697
December 11	do	111	326	2.08	691

Daily gage height, in feet, of Coosawattee River at Carters, Ga., for 1907 and 1908.

[Observer, Robert P. Messer.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1	7.0	5.0	4.6	2.8	2.7	8.0	2.9	1.65	1.2	2.9	1.4	2.5
2	4.5	6.5	10.5	2.8	2.7	4.2	2.65	1.9	1.2	2.45	1.9	2.5
3	4.0	5.0	6.0	2.7	3.35	2.75	2.4	1.55	1.35	2.35	1.75	2.4
4	3.6	4.0	5.0	2.7	2.9	2.25	2.3	1.45	1.75	2.25	1.7	2.25
5	3.6	6.0	5.5	2.7	2.75	1.95	2.25	1.4	1.55	1.95	1.7	2.15
6	3.5	9.0	4.8	2.8	2.85	1.85	2.2	1.3	1.45	1.75	1.8	2.0
7	3.5	6.0	4.7	2.8	4.4	1.8	2.1	1.4	1.4	1.6	1.7	2.0
8	3.4	5.0	4.6	2.9	3.15	3.25	2.1	1.4	1.55	1.6	1.7	1.9
9	3.3	4.5	4.5	2.9	3.45	2.9	2.0	1.3	1.45	1.6	1.95	2.1
10	3.3	4.0	4.5	2.8	3.05	2.8	2.15	1.3	1.4	1.6	3.0	3.75
11	3.1	3.5	4.5	2.8	3.6	2.7	2.3	1.3	1.5	1.55	2.5	3.2
12	3.0	3.3	4.4	2.7	2.9	2.6	3.5	1.2	1.45	1.5	1.95	3.15
13	3.0	3.2	4.0	2.7	2.9	2.5	2.75	2.15	1.4	1.5	1.75	3.0
14	2.9	3.1	3.8	2.8	2.8	2.5	2.3	2.0	1.4	1.5	1.7	2.95
15	2.8	3.1	3.8	2.8	5.5	2.5	2.2	1.9	1.35	1.5	1.7	2.8
16	2.8	3.0	3.7	2.7	3.75	2.4	2.1	1.75	1.3	1.5	1.6	2.8
17	2.8	3.0	3.7	2.7	3.1	2.4	2.0	1.5	1.3	1.45	1.6	3.1
18	2.7	3.0	3.6	2.7	3.0	2.4	2.0	2.05	1.3	1.4	1.85	2.9
19	2.7	3.0	3.6	2.7	2.9	2.55	1.9	1.95	1.3	1.4	2.05	2.85
20	4.0	2.9	3.5	2.8	2.75	2.5	1.85	1.9	1.2	1.4	1.8	2.75
21	3.0	2.9	3.4	2.8	2.55	2.4	2.05	1.65	1.2	1.4	1.8	2.7
22	2.8	2.9	3.3	2.9	2.5	2.4	1.85	1.6	4.0	1.4	2.9	3.1
23	2.7	3.0	3.1	4.6	2.5	2.35	1.8	2.05	10.4	1.4	5.8	4.7
24	2.7	3.5	3.0	4.0	2.45	2.3	2.0	1.95	2.85	1.6	8.7	2.95
25	2.8	3.7	2.9	3.5	2.4	3.5	1.95	2.65	1.95	1.5	5.0	2.85
26	3.0	3.9	2.8	3.2	5.0	2.5	1.85	2.35	1.7	1.45	2.7	2.7
27	2.8	4.8	2.8	3.0	3.75	2.4	1.8	2.7	1.5	1.4	2.6	2.85
28	2.8	4.0	2.7	2.8	2.65	2.3	1.8	1.85	2.25	1.4	2.55	3.0
29	2.7	.....	2.7	2.8	2.0	2.2	1.8	1.75	6.0	1.4	2.5	10.7
30	2.7	.....	2.7	2.7	1.95	2.2	1.95	1.4	3.25	1.4	2.5	7.2
31	2.8	.....	2.8	.....	4.2	.....	1.85	1.4	.....	1.4	.....	4.2

[a] Data collected at this station prior to 1906 have been compiled in Water-Supply Paper No. 197, Water resources of Georgia.

Daily gage height, in feet, of Coosawattee River at Carters, Ga., for 1907 and 1908—Con.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1908.												
1	3.9	4.2	3.15	3.3	3.65	2.85	1.6	1.2	3.8	1.0	1.8	1.7
2	3.7	2.95	3.25	3.25	3.45	2.75	1.75	1.2	1.25	1.0	1.8	2.0
3	3.9	2.8	3.25	3.15	3.4	2.65	1.8	1.35	1.2	.95	1.75	1.8
4	4.5	2.8	3.15	3.1	3.4	2.85	1.7	1.2	1.2	.95	2.4	1.6
5	6.8	3.25	3.1	3.35	3.7	3.05	1.95	1.3	3.0	.95	2.2	1.45
6	3.5	2.9	3.0	3.95	3.95	2.85	1.75	1.55	3.8	.95	2.0	2.7
7	2.9	2.8	3.0	3.7	5.8	2.65	1.7	1.3	2.6	.95	1.9	14.7
8	2.75	2.8	3.0	3.7	3.95	2.55	1.9	1.7	2.05	.9	1.85	5.0
9	2.65	2.95	2.9	3.55	3.75	2.45	2.1	2.35	2.0	1.75	1.65	2.75
10	2.6	6.7	2.9	3.45	3.45	2.35	3.55	1.85	1.9	2.2	1.55	2.35
11	4.2	4.8	3.0	3.4	3.35	2.3	3.3	1.55	1.85	2.05	1.35	2.15
12	6.2	4.0	3.15	3.3	3.3	2.2	3.2	1.4	1.8	1.55	1.3	2.5
13	5.0	4.6	3.15	3.2	3.2	2.5	3.3	1.4	1.65	1.35	1.2	2.35
14	4.2	4.0	3.05	3.2	3.05	2.7	3.15	1.3	1.45	1.2	1.2	2.15
15	3.9	14.0	3.0	3.95	2.75	2.4	3.05	1.3	1.35	1.1	1.15	1.65
16	3.75	5.5	2.9	5.2	2.6	2.2	2.95	1.3	1.3	1.1	1.6	1.4
17	3.6	3.75	2.8	4.4	2.5	2.15	2.75	1.45	1.2	1.05	1.45	2.25
18	3.35	3.45	2.8	6.2	2.85	2.1	2.55	1.8	1.1	1.05	1.25	2.35
19	3.25	3.4	2.7	4.9	3.05	2.05	2.3	1.45	1.1	1.0	1.2	2.2
20	3.15	3.9	2.7	4.0	2.75	1.95	2.05	1.4	1.1	1.0	1.1	2.9
21	3.0	3.55	2.85	3.9	2.65	1.85	1.85	1.4	1.1	1.0	1.1	2.55
22	2.75	3.45	3.65	3.75	2.55	1.8	1.65	4.6	1.1	.95	1.05	2.3
23	2.7	3.4	12.3	3.55	2.45	1.8	1.45	2.55	1.05	1.1	1.0	2.0
24	2.6	3.4	11.8	3.35	2.4	1.95	1.4	2.5	1.05	1.05	1.05	1.85
25	2.6	3.3	6.2	4.8	2.3	1.85	1.4	3.3	1.0	1.0	1.1	1.8
26	2.65	4.4	5.2	4.0	2.45	1.75	1.4	2.15	1.0	1.0	1.1	1.7
27	2.85	3.9	4.6	3.7	3.35	1.7	1.35	1.7	1.0	1.15	1.6	1.65
28	2.75	3.5	4.0	3.5	3.2	1.7	1.35	1.65	1.15	1.4	1.5	1.6
29	2.7	3.25	3.75	3.4	3.15	1.6	1.3	1.55	1.05	2.4	1.4	1.5
30	2.7	.....	3.55	3.85	3.05	1.6	1.3	1.5	1.0	2.1	1.4	1.85
31	3.25	.....	3.4	.....	3.0	.....	1.25	1.35	.....	1.95	.....	1.65

Rating table for Coosawattee River at Carters, Ga., for 1907 and 1908.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*
0.90	260	2.30	840	3.70	1,675	6.20	3,410
1.00	290	2.40	890	3.80	1,740	6.40	3,560
1.10	320	2.50	940	3.90	1,805	6.60	3,700
1.20	350	2.60	1,000	4.00	1,870	6.80	3,850
1.30	390	2.70	1,060	4.20	2,000	7.00	3,990
1.40	430	2.80	1,120	4.40	2,130	8.00	4,710
1.50	470	2.90	1,180	4.60	2,270	9.00	5,430
1.60	510	3.00	1,240	4.80	2,410	10.00	6,150
1.70	550	3.10	1,300	5.00	2,550	11.00	6,870
1.80	590	3.20	1,360	5.20	2,690	12.00	7,590
1.90	640	3.30	1,420	5.40	2,840	13.00	8,310
2.00	690	3.40	1,480	5.60	2,980	14.00	9,030
2.10	740	3.50	1,545	5.80	3,130	15.00	9,750
2.20	790	3.60	1,610	6.00	3,270		

NOTE.—The above table is not applicable for obstructed-channel conditions. It is based on four discharge measurements made during 1907 and 1908 and measurements made prior to these years above gage height 3 feet. It is fairly well defined below gage height 8 feet. Above gage height 5 feet the rating curve is a tangent, the difference being 72 per tenth.

Monthly discharge of Coosawattee River at Carters, Ga., for 1907 and 1908.

[Drainage area, 531 square miles.]

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area).
	Maximum.	Minimum.	Mean.	Per square mile.	
1907.					
January	3,990	1,060	1,400	2.64	3.04
February	5,430	1,180	1,970	3.71	3.86
March	6,510	1,060	1,930	3.63	4.18
April	2,270	1,060	1,200	2.26	2.52
May	2,910	665	1,320	2.49	2.87
June	4,710	590	1,100	2.07	2.31
July	1,540	590	771	1.45	1.67
August	1,060	350	577	1.09	1.26
September	6,440	350	850	1.60	1.78
October	1,180	430	532	1.00	1.15
November	5,210	430	1,000	1.88	2.10
December	6,650	640	1,430	2.69	3.10
The year	6,650	350	1,170	2.21	29.84
1908.					
January	3,850	1,000	1,570	2.96	3.41
February	9,030	1,120	1,950	3.67	3.96
March	7,810	1,060	1,870	3.52	4.06
April	3,410	1,300	1,750	3.30	3.68
May	3,130	840	1,360	2.56	2.95
June	1,270	510	819	1.54	1.72
July	1,580	370	756	1.42	1.64
August	2,270	350	595	1.12	1.29
September	1,740	290	539	1.02	1.14
October	890	275	394	.742	.86
November	890	290	464	.874	.98
December	9,530	430	1,060	2.00	2.31
The year	9,530	275	1,090	2.06	28.00

NOTE.—Owing to poor gage readings during much of the above period the values for the monthly means can not be classed as better than C and for some short periods may be much poorer.

OOSTANAULA RIVER AT RESACA, GA.

The station is located at the bridge of the Western and Atlantic Railroad in the town of Resaca, 800 feet south of the depot. It is 3 miles below the junction of the Conasauga and Coosawattee rivers. The station, which was originally established August 1, 1896, has been jointly maintained by the United States Weather Bureau and United States Geological Survey. From 1899 to 1904 only partial records of gage height were obtained.

There has been no change in the datum of the gage since the establishment of the station. The left bank is low and overflows during high water for 480 feet. Conditions of flow at this station are practically permanent and a good rating has been developed for low and medium stages.[a]

Discharge measurements of Oostanaula River at Resaca, Ga., in 1907 and 1908.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
1907.		*Feet.*	*Sq. ft.*	*Feet.*	*Sec.-ft.*
July 20	M. R. Hall	142	894	3.37	1,330
November 5	Warren E. Hall	138	866	2.69	1,030
1908.					
December 12	M. R. Hall	159	1,120	4.49	2,160

[a] Data collected at this station prior to 1906 have been compiled in Water-Supply Paper No. 197, Water resources of Georgia.

Daily gage height, in feet, of Oostanaula River, at Resaca, Ga., for 1907 and 1908.

[Observer, Duncan A. Norton.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1	16.4	5.0	10.8	5.0	4.6	9.6	4.4	3.2	2.0	6.0	2.6	4.0
2	13.6	15.5	15.6	5.8	4.4	9.0	4.8	3.0	2.0	4.4	2.4	3.8
3	10.4	14.4	18.0	4.4	4.2	5.4	4.4	3.0	2.2	3.6	3.6	3.4
4	7.8	14.6	14.4	4.2	5.0	5.6	4.2	2.8	3.6	3.6	3.4	3.4
5	6.8	13.8	9.4	4.2	5.8	5.4	4.2	2.8	3.4	3.4	3.0	3.2
6	6.6	13.0	8.6	5.4	6.4	5.0	3.8	2.8	2.6	3.6	3.0	3.4
7	5.2	9.6	5.8	7.0	6.2	4.8	3.6	2.8	2.4	3.6	2.8	3.4
8	4.4	7.6	7.2	5.8	9.0	4.6	3.6	2.8	2.0	3.3	2.8	3.4
9	4.2	7.0	6.7	5.4	7.0	9.0	3.4	2.8	2.0	3.6	2.6	3.4
10	4.2	6.4	6.0	5.2	5.6	10.0	3.4	3.0	2.2	3.2	2.6	5.0
11	4.0	6.0	5.2	5.0	5.6	8.8	3.4	2.8	2.0	3.0	5.8	4.4
12	4.0	5.8	4.8	4.8	6.8	6.4	3.8	2.8	2.8	2.8	5.0	4.2
13	4.0	5.6	4.4	5.0	6.2	4.8	5.0	3.6	2.6	2.8	3.8	4.0
14	4.0	5.4	4.4	4.8	5.2	5.2	7.8	3.0	2.2	2.6	3.6	6.6
15	4.0	5.2	4.6	4.8	8.2	4.8	6.8	4.8	2.2	2.4	3.4	8.6
16	4.0	5.2	7.4	4.4	12.2	4.6	4.6	3.4	2.2	2.4	3.2	7.4
17	3.9	5.0	6.4	4.6	9.2	4.4	4.4	2.8	2.1	2.4	3.0	6.0
18	3.8	5.0	5.7	4.8	6.4	4.4	4.0	3.0	2.1	2.4	3.2	5.6
19	3.8	4.8	5.5	4.6	5.6	4.0	3.8	4.0	2.1	2.4	4.2	5.0
20	5.0	5.0	5.4	5.0	5.4	3.8	3.4	2.8	2.0	2.4	3.9	4.6
21	5.8	5.2	5.2	4.8	4.8	3.8	3.6	2.8	2.0	2.4	5.4	4.4
22	5.2	5.0	5.2	4.6	4.6	3.8	3.6	2.6	2.0	2.2	5.6	4.2
23	5.0	4.8	5.0	4.6	4.4	3.6	3.2	2.4	11.2	2.2	10.4	5.6
24	4.8	4.6	4.8	9.2	4.8	4.6	3.0	2.6	14.8	2.2	15.6	9.2
25	4.8	7.7	4.8	8.2	5.2	5.2	3.0	4.6	6.0	2.2	14.6	9.6
26	4.6	7.6	4.6	6.0	4.6	6.0	3.0	3.6	3.8	2.2	12.0	8.4
27	5.0	11.0	4.6	5.4	6.4	5.0	3.0	2.8	3.4	2.4	7.2	7.4
28	4.5	10.2	4.4	4.0	4.8	5.0	3.4	2.6	3.6	3.6	5.6	7.0
29	3.9	.....	4.4	5.0	4.6	7.6	3.6	2.4	11.2	3.4	4.8	7.3
30	3.6	.....	4.2	4.8	4.6	5.6	4.2	2.4	9.2	3.0	4.2	7.8
31	3.4	.....	4.3	.....	5.6	.....	3.6	2.2	.....	2.8	.....	14.4
1908.												
1	11.5	9.4	5.3	6.0	5.6	4.0	2.4	2.0	2.0	1.8	2.0	2.0
2	8.4	10.2	5.2	5.8	5.4	3.8	2.2	1.8	1.8	1.8	2.0	4.2
3	6.4	8.2	5.2	5.6	5.0	3.8	2.2	1.6	1.6	1.7	2.0	3.8
4	4.7	6.0	5.1	5.4	5.0	3.8	2.2	1.6	1.5	1.7	2.2	2.8
5	11.2	5.8	5.0	5.2	5.0	3.6	6.8	1.6	1.5	1.7	2.4	2.4
6	14.4	6.0	5.0	6.6	5.6	5.4	6.6	3.0	8.2	1.6	2.2	2.4
7	10.8	5.6	5.0	8.0	6.6	5.4	5.6	3.6	5.6	1.6	2.0	14.0
8	8.2	5.4	5.0	6.0	9.4	5.0	5.0	2.8	3.4	1.6	1.8	20.0
9	5.6	5.7	4.9	5.6	6.8	4.8	4.4	4.8	2.8	1.8	1.8	16.7
10	4.8	8.8	4.8	5.4	6.4	4.2	5.6	4.4	2.0	3.2	1.7	10.0
11	4.2	16.2	4.8	5.2	6.0	4.4	5.2	4.0	1.8	5.4	1.8	5.0
12	9.4	15.0	5.4	5.0	5.4	4.4	4.4	3.4	1.8	2.8	1.6	3.6
13	11.2	11.4	6.2	4.6	5.2	3.6	4.0	3.4	1.6	2.8	1.6	4.6
14	7.6	10.8	6.4	4.4	5.0	3.4	3.8	2.8	1.6	2.6	1.6	4.2
15	5.7	17.0	5.8	6.0	4.8	3.4	3.6	2.3	1.5	2.4	2.0	4.0
16	4.8	20.0	5.4	10.0	4.4	3.2	3.4	1.8	1.5	2.2	2.0	3.8
17	5.8	18.0	5.2	7.6	4.4	3.2	3.0	1.6	1.4	2.2	2.0	3.6
18	5.4	15.6	5.0	6.6	4.4	3.2	2.8	1.6	1.4	1.8	1.8	3.6
19	5.2	9.8	4.8	12.6	4.6	3.0	2.4	3.4	1.3	1.8	1.8	3.4
20	5.0	8.6	5.4	11.2	5.4	3.0	2.2	2.6	1.2	1.6	1.8	3.2
21	4.6	7.0	10.4	8.6	5.0	3.0	2.0	2.0	1.2	1.6	1.8	3.3
22	5.8	6.2	8.6	6.0	4.8	3.0	2.0	2.6	1.2	1.4	1.8	6.7
23	5.4	6.2	7.6	5.4	4.6	3.4	2.0	6.4	1.1	1.4	1.8	13.4
24	4.8	5.8	17.4	5.4	4.4	2.8	1.8	4.4	1.1	1.6	1.8	9.0
25	4.4	5.8	19.8	7.8	4.4	2.6	1.8	6.4	1.1	1.6	1.6	7.4
26	4.4	8.2	16.8	9.8	6.0	2.6	1.8	6.0	1.1	1.6	1.6	5.4
27	5.2	8.6	10.4	8.6	5.4	2.6	1.6	3.6	1.6	1.6	1.6	4.4
28	5.8	7.4	7.4	6.4	5.0	2.6	1.6	3.2	1.7	1.6	1.6	4.2
29	6.0	5.5	6.8	5.8	4.8	2.6	1.6	2.8	1.7	1.6	1.6	4.0
30	5.8	.....	6.4	5.6	4.6	2.4	1.6	2.4	1.7	2.0	1.6	4.0
31	5.0	.....	6.2	.....	4.4	.....	2.2	2.2	.....	2.0	.....	4.0

Rating table for Oostanaula River at Resaca, Ga., for 1906, 1907, and 1908.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*
1.10	310	2.80	1,055	4.50	2,155	7.40	4,650
1.20	340	2.90	1,110	4.60	2,230	7.60	4,850
1.30	371	3.00	1,170	4.70	2,305	7.80	5,050
1.40	404	3.10	1,230	4.80	2,380	8.00	5,250
1.50	439	3.20	1,290	4.90	2,455	9.00	6,280
1.60	476	3.30	1,350	5.00	2,530	10.00	7,420
1.70	515	3.40	1,410	5.20	2,690	11.00	8,640
1.80	556	3.50	1,475	5.40	2,850	12.00	9,930
1.90	599	3.60	1,540	5.60	3,010	13.00	11,280
2.00	644	3.70	1,605	5.80	3,170	14.00	12 680
2.10	691	3.80	1,670	6.00	3,340	15.00	14,120
2.20	740	3.90	1,735	6.20	3,520	16.00	15,600
2.30	790	4.00	1,800	6.40	3,700	17.00	17,100
2.40	840	4.10	1,870	6.60	3,880	18.00	18,600
2.50	890	4.20	1,940	6.80	4,060	19.00	20,100
2.60	945	4.30	2,010	7.00	4,250	20.00	21,600
2.70	1,000	4.40	2,080	7.20	4,450		

NOTE.—The above table is not applicable for obstructed-channel conditions. It is based on 14 discharge measurements made during 1904–1908, and is well defined below gage height 6 feet. Above gage height 16 feet the rating curve is a tangent, the difference being 150 per tenth.

Monthly discharge of Oostanaula River at Resaca, Ga., for 1907 and 1908.

[Drainage area, 1,610 square miles.]

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area).	Accuracy.
	Maximum.	Minimum.	Mean.	Per square mile.		
1907.						
January	16,200	1,410	3,260	2.02	2.33	A.
February	14,900	2,230	5,400	3.35	3.49	A.
March	18,600	1,940	4,410	2.74	3.16	A.
April	6,500	1,800	2,760	1.71	1.91	A.
May	10,200	1,940	3,390	2.11	2.43	A.
June	7,420	1,540	3,200	1.99	2.22	A.
July	5,050	1,170	1,850	1.15	1.33	A.
August	2,380	740	1.190	.739	.85	A.
September	13,800	644	2,120	1.32	1.47	A.
October	3,340	740	1.190	.739	.85	A.
November	15,000	840	3,090	1.92	2.14	A.
December	13.300	1,290	3.390	2.11	2.43	A.
The year	18,600	644	2,940	1.82	24.61	
1908.						
January	13,300	1,940	4,230	2.63	3.03	A.
February	21,600	2,850	7,380	4.58	4.94	B.
March	21,300	2,380	4,930	3.06	3.53	A.
April	10,700	2,080	4,160	2.58	2.88	A.
May	6,720	2,080	2,790	1.73	1.99	A.
June	2,850	840	1,530	.950	1.06	A.
July	4,060	476	1,380	.857	.99	A.
August	3,700	476	1,320	.820	.95	A.
September	5,450	310	751	.466	.52	A.
October	2,850	404	683	.424	.49	A.
November	840	476	573	.356	.40	A.
December	21,600	644	3,970	2.47	2.85	A.
The year	21,600	310	2,810	1.74	23.63	

COOSA RIVER AT RIVERSIDE, ALA.

The station is located at the Southern Railway bridge in the village of Riverside. It is 1 mile above Blue Eye and about 7 miles above Choccolocco Creek. It was established September 25, 1896.

The datum of the gage has remained the same since the establishment of the station. Both banks are high and do not overflow. The bed of the stream is rocky and permanent. A good rating has been developed.[a]

The following discharge measurement was made:

October 28, 1907: Width, 505 feet; area, 3,300 square feet; gage height, 1.29 feet; discharge, 2,890 second-feet.

Daily gage height, in feet, of Coosa River at Riverside, Ala., for 1907 and 1908.

[Observer, S. T. Waits.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1	11.7	7.1	9.8	3.1	4.9	7.8	3.25	2.5	1.55	2.65	1.55	4.3
2	12.6	9.3	12.5	3.25	4.4	8.8	3.25	2.35	1.55	3.25	1.6	3.85
3	12.2	10.1	14.0	3.5	4.0	8.8	3.25	2.2	1.5	4.0	1.4	3.45
4	11.4	10.6	14.0	3.6	4.0	7.8	3.0	2.0	2.0	3.1	1.4	3.2
5	10.1	11.5	13.5	3.6	4.0	6.3	2.65	1.9	2.75	2.45	1.45	2.85
6	8.2	11.0	12.8	3.6	4.1	4.9	2.5	1.8	2.2	2.2	1.5	2.65
7	6.0	10.6	11.3	3.75	4.7	4.2	2.35	1.6	1.9	2.0	1.45	2.5
8	5.3	9.8	9.4	4.0	5.2	3.75	2.2	1.55	2.0	2.0	1.4	2.45
9	4.9	8.2	6.7	4.2	5.4	3.45	2.1	2.4	2.15	2.05	1.4	2.4
10	4.6	6.6	6.0	4.2	5.6	3.2	2.05	2.4	2.0	2.05	1.4	3.1
11	4.4	5.8	5.8	3.85	5.8	3.5	2.0	3.0	1.75	2.0	1.4	3.3
12	4.3	5.3	5.4	3.6	5.9	4.0	2.0	3.0	2.0	1.8	1.9	3.7
13	4.2	4.9	4.9	3.3	5.5	4.3	2.0	2.75	2.25	1.75	2.85	4.2
14	4.0	4.8	4.7	3.3	5.0	3.9	2.75	2.6	1.95	1.65	2.35	5.0
15	3.8	4.4	4.7	3.4	7.5	3.35	3.6	2.3	1.8	1.55	2.15	5.3
16	3.65	4.1	4.6	3.4	10.4	3.35	3.4	2.0	1.7	1.45	1.95	5.7
17	3.55	3.95	4.6	3.4	11.0	3.45	3.4	2.9	1.65	1.4	1.9	5.9
18	3.5	3.8	4.5	3.35	10.4	3.0	3.25	2.8	1.5	1.4	1.85	5.4
19	3.45	3.7	4.5	3.6	8.2	2.65	2.9	2.7	1.3	1.35	1.95	4.7
20	3.4	3.6	4.2	3.7	5.4	2.55	2.4	2.6	1.25	1.35	2.1	4.0
21	4.2	3.55	4.0	3.7	5.1	2.45	2.5	2.5	1.2	2.35	2.85	3.75
22	4.2	3.5	3.9	3.65	4.4	2.35	2.65	2.5	1.9	1.35	3.75	3.5
23	4.2	3.5	3.8	4.0	4.0	2.35	2.35	2.45	3.6	1.35	6.1	3.4
24	3.85	3.5	3.7	4.5	3.8	2.35	2.15	2.5	7.0	1.3	8.5	4.3
25	3.55	4.8	3.55	5.8	4.2	2.35	2.0	2.6	7.1	1.3	9.2	5.3
26	3.4	5.7	3.4	6.1	4.6	2.6	1.95	2.7	6.2	1.3	9.3	5.2
27	3.3	6.8	3.35	6.2	5.3	2.8	1.9	2.4	4.4	1.3	8.8	5.1
28	3.25	8.1	3.2	5.9	4.4	2.95	2.2	2.2	3.7	1.3	7.2	5.0
29	3.2	.....	3.1	4.8	4.2	3.3	2.5	1.95	2.9	1.3	5.9	5.1
30	3.2	.....	3.1	4.9	4.1	3.5	2.8	1.75	2.75	1.3	5.1	6.1
31	3.4	.....	3.1	.....	4.9	.....	2.7	1.55	.....	1.5	.....	8.4
1908.												
1	9.6	5.6	6.2	5.6	4.8	3.7	1.75	1.55	1.65	.95	1.15	1.25
2	10.4	7.6	5.6	5.1	4.4	3.3	1.7	1.55	1.55	.95	1.25	1.65
3	10.2	8.4	5.2	4.8	4.2	2.95	1.65	1.5	1.45	.95	1.55	1.95
4	8.5	8.2	6.3	4.5	4.0	2.7	1.7	1.45	1.35	.95	1.65	2.05
5	6.8	7.0	5.9	4.2	3.95	2.45	1.7	1.45	1.25	.95	1.7	2.75
6	7.2	6.15	5.4	4.2	4.6	2.6	1.7	1.45	1.85	.9	1.7	2.95
7	8.0	5.8	5.0	4.2	4.7	2.75	2.1	1.85	2.4	.9	1.6	6.8
8	8.4	5.5	4.8	4.4	4.9	3.1	3.8	2.55	3.9	.9	1.55	10.6
9	7.8	5.4	4.4	4.7	5.0	3.0	4.4	2.7	4.1	1.05	1.45	11.7
10	7.0	5.4	4.1	4.4	5.2	2.9	3.5	2.85	3.05	1.15	1.35	11.8
11	6.1	7.9	4.0	4.1	5.1	2.8	2.85	3.05	2.1	1.85	1.25	11.0
12	6.4	9.7	4.0	3.8	4.2	2.7	3.05	2.95	1.75	2.4	1.2	8.7
13	6.5	11.1	4.0	3.65	3.8	2.6	3.6	2.5	1.6	2.95	1.15	6.7
14	6.5	12.0	4.2	3.5	3.5	2.6	3.1	1.95	1.45	2.25	1.1	4.2
15	6.6	14.3	4.4	3.4	3.45	2.6	2.85	1.7	1.35	1.85	1.1	3.35

[a] Data collected at this station prior to 1904 have been compiled in Water-Supply Paper No. 107, Water powers of Alabama.

Daily gage height, in feet, of Coosa River at Riverside, Ala., for 1907 and 1908—Cont'd.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1908.												
16	6.6	14.6	4.3	4.7	3.45	2.6	2.25	1.55	1.35	1.25	1.1	3.1
17	6.0	14.4	4.2	6.2	3.35	2.5	2.0	1.45	1.35	1.25	1.15	2.8
18	5.6	14.1	4.0	6.6	3.35	2.5	1.9	1.35	1.3	1.25	1.2	2.55
19	5.2	13.9	3.9	6.6	3.7	2.45	1.18	1.35	1.2	1.15	1.2	2.4
20	5.0	13.7	3.9	6.5	3.7	2.4	1.8	1.5	1.2	1.15	1.2	2.45
21	4.8	12.4	5.2	7.2	3.6	2.25	1.75	1.65	1.15	1.1	1.15	2.85
22	4.4	9.9	6.3	7.4	3.45	2.1	1.7	1.95	1.15	1.1	1.15	3.05
23	4.2	8.0	8.0	6.6	3.45	2.1	1.65	2.05	1.15	1.1	1.15	5.2
24	4.0	6.3	12.1	5.4	3.25	2.35	1.6	2.05	1.15	1.05	1.15	8.2
25	3.85	5.9	13.0	6.0	3.0	2.5	1.6	3.35	1.15	1.0	1.1	8.7
26	3.7	5.6	13.2	7.2	2.85	2.6	1.65	3.7	1.2	1.0	1.05	8.0
27	3.55	5.8	13.0	8.1	3.35	2.35	1.55	3.35	1.15	1.0	1.05	6.1
28	3.4	6.6	12.6	8.3	4.5	2.15	1.55	3.25	1.1	1.05	1.15	4.8
29	3.35	7.0	11.1	8.0	4.9	2.0	1.5	2.95	1.05	1.15	1.15	4.7
30	3.35	.....	9.0	6.0	4.0	1.9	1.45	2.55	1.0	1.15	1.15	4.6
31	3.35	.....	6.0	.....	3.85	.....	1.55	1.85	.....	1.1	.....	4.2

Rating table for Coosa River at Riverside, Ala., for 1906, 1907, and 1908.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*
0.90	2,085	2.30	5,160	3.70	9,340	6.20	18,270
1.00	2,255	2.40	5,425	3.80	9,660	6.40	19,050
1.10	2,435	2.50	5,695	3.90	9,980	6.60	19,840
1.20	2,620	2.60	5,970	4.00	10,300	6.80	20,640
1.30	2,810	2.70	6,250	4.20	10,970	7.00	21,440
1.40	3,010	2.80	6,540	4.40	11,660	8.00	25,600
1.50	3,215	2.90	6,835	4.60	12,360	9.00	29,800
1.60	3,430	3.00	7,135	4.80	13,070	10.00	34,060
1.70	3,655	3.10	7,440	5.00	13,800	11.00	38,320
1.80	3,890	3.20	7,750	5.20	14,540	12.00	42,580
1.90	4,130	3.30	8,060	5.40	15,280	13.00	46,840
2.00	4,380	3.40	8,380	5.60	16,020	14.00	51,100
2.10	4,635	3.50	8,700	5.80	16,760	15.00	55,360
2.20	4,895	3.60	9,020	6.00	17,500		

NOTE.—The above table is not applicable for obstructed-channel conditions. It is based on 13 discharge measurements made during 1905–1907; one made during 1909 and on numerous measurements made prior to 1905. It is well defined. Above gage height 9 feet the rating curve is a tangent, the difference being 426 per tenth.

Monthly discharge of Coosa River at Riverside, Ala., for 1907 and 1908.

[Drainage area, 7,060 square miles.]

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area).	Accuracy.
	Maximum.	Minimum.	Mean.	Per square mile.		
1907.						
January	45,100	7,750	15,700	2.22	2.56	A.
February	40,400	8,700	19,600	2.78	2.90	A.
March	51,100	7,440	19,700	2.79	3.22	A.
April	18,300	7,440	10,600	1.50	1.67	A
May	38,300	9,660	15,900	2.25	2.59	A.
June	29,000	5,290	10,800	1.53	1.71	A.
July	9,020	4,130	5,980	.847	.98	A.
August	7,140	3,320	5,300	.751	.87	A.
September	21,800	2,620	6,400	.907	1.01	A.
October	10,300	2,810	4,090	.579	.67	A.
November	31,100	3,010	9,420	1.33	1.48	A.
December	27,300	5,420	11,500	1.63	1.88	A.
The year	51,100	2,620	11,200	1.59	21.54	

Monthly discharge of Coosa River at Riverside, Ala., for 1907 and 1908—Continued.

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area).	Accuracy.
	Maximum.	Minimum.	Mean.	Per square mile.		
1908.						
January	35,800	8,220	18,000	2.55	2.94	A.
February	53,700	15,300	30,300	4.29	4.63	A.
March	47,700	9,980	20,300	2.88	3.32	A.
April	26,900	8,380	15,900	2.25	2.51	A.
May	14,500	6,690	10,300	1.46	1.68	A.
June	9,340	4,130	5,960	.844	.94	A.
July	11,700	3,110	4,930	.698	.80	A.
August	9,340	2,910	4,920	.697	.80	A.
September	10,600	2,260	3,650	.517	.58	A.
October	6,980	2,080	2,800	.397	.46	A.
November	3,660	2,340	2,750	.390	.44	A.
December	41,700	2,720	15,500	2.20	2.54	A.
The year	53,700	2,080	11,300	1.60	21.64	

ALABAMA RIVER AT SELMA, ALA.

The station is located at the iron highway bridge in Selma. It was originally established by the United States Engineer Corps, but is now maintained by the United States Weather Bureau. Discharge measurements were begun by the United States Geological Survey in 1900, and the station ratings were applied to the gage heights for 1899. The present gage, which is of the standard chain type, is the property of the United States Geological Survey and was installed March 21, 1906.

The datum of the gage has remained the same since the establishment of the station, but the bad condition and probable change in the low-water section of the gage has introduced some uncertainty in the low-water gage heights prior to the establishment of the present chain gage. Both banks are high but the left is subject to overflow at extreme high water. Conditions of flow are somewhat changeable, but a fairly good rating has been developed for recent years. Gage heights are available prior to 1899, but owing to changing conditions of flow the present ratings are not applicable.[a]

The following discharge measurement was made:

March 26, 1908: Width, 544 feet; area, 20,400 square feet; gage height, 35.97 feet; discharge, 106,000 second-feet.

[a] Data collected at this station prior to 1904 have been compiled in Water-Supply Paper No. 107, Water powers of Alabama.

Daily gage height, in feet, of Alabama River at Selma, Ala., for 1907 and 1908.

[Observer, Clarence F. Brislin.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1	17.3	7.8	19.8	6.0	15.8	10.2	9.1	7.2	1.8	4.5	0.0	15.5
2	23.5	10.4	26.3	6.1	15.7	11.0	8.6	6.7	1.3	3.4	.0	15.5
3	26.9	18.5	31.7	6.1	14.0	13.3	8.0	5.4	.9	2.9	.1	11.5
4	28.3	24.9	35.3	6.1	12.6	14.9	8.2	4.5	.8	2.8	.1	9.7
5	28.2	28.8	37.2	6.1	11.7	15.1	9 4	5.1	.7	4.4	.6	7.9
6	26.4	31.5	37.5	6.4	11.5	14.2	8.3	4.7	.6	4.0	.5	6.5
7	23.6	33.4	36.5	6.8	11.4	12.7	6.9	3.9	.8	3.1	.3	5.4
8	19.7	33.9	34.2	7.9	12.3	10.6	5.7	3.2	2.1	2.5	.3	4.7
9	15.4	32.6	30.7	7.7	16.3	8.7	4.6	3.0	1.7	1.9	.2	4.3
10	12.3	29.8	25.9	8.1	18.6	7.5	4.0	3.5	1.4	1.6	.4	4.7
11	10.7	25.4	20.0	8.4	.20.1	6.7	3.9	4.1	1.9	1.6	.5	6.9
12	9.8	19.9	15.0	8.2	19.9	6.5	3.5	4.0	2.5	1.7	.8	11.0
13	9.2	15.4	12.5	7.5	19.1	6.4	3.2	3.9	3.0	1.6	.7	11.0
14	8.7	12.6	11.4	6.7	17.8	7.2	3.2	4.7	2.9	1.4	.9	11.4
15	8.3	11.1	10.8	6.1	18.2	8.5	3.5	4.3	2.9	1.0	.8	13.6
16	7.9	10.1	10.7	5.6	22.9	9.2	4.2	3.6	2.3	.8	.9	15.6
17	7.6	9.4	11.3	5.7	29.3	8.7	5.9	3.1	1.6	.5	.2	15.6
18	7.3	8.7	11.2	6.7	32.6	7.3	6.0	2.5	1.2	.4	2.1	14.5
19	7.0	8.3	10.6	11.7	33.5	6.5	5.5	2.2	1.0	.3	2.4	13.5
20	6.9	8.0	10.0	13.4	32.2	5.9	5.1	2.7	.6	.2	1.2	12.2
21	7.0	7.8	9.4	14.8	28.4	5.3	4.5	3.4	.4	.2	1.7	10.6
22	7.7	7.6	8.9	14.5	22.1	4.7	3.6	3.2	.1	.1	3.1	8.9
23	8.6	7.3	8.4	16.1	15.5	4.3	3.5	2.8	.1	.1	10.6	10.4
24	8.3	7.1	8.0	20.7	11.4	4.1	3.7	2.7	.3	.1	18.6	15.0
25	7.9	7.9	7.6	23.8	10.8	4.1	3.4	2.8	.2	.0	23.2	19.0
26	7.4	9.2	7.4	23.9	11.0	4.7	3.1	2.6	7.3	.0	24.6	20.1
27	7.0	11.3	7.0	20.9	11.4	5.4	3.0	2.4	8.6	.0	23.4	18.3
28	6.7	13.4	6.7	17.5	12.8	5.3	3.6	2.2	8.1	.0	20.7	16.0
29	6.5	.....	6.4	15.1	13.5	6.0	6.5	1.9	7.6	.0	18.2	16.5
30	6.3	.....	6.3	13.9	13.8	6.7	6.3	1.7	6.4	.0	16.8	20.7
31	6.6	.....	6.1	.....	11.6	.....	6.1	1.7	.....	.0	.....	25.0
1908.												
1	28.6	10.9	14.7	26.1	34.0	9.2	2.7	2.2	3.3	— .5	— .5	— .2
2	31.5	20.1	13.6	20.0	29.4	8.5	2.5	1.7	2.3	— .5	— .5	.0
3	32.0	25.3	13.6	14.6	21.4	7.5	2.2	1.7	1.6	— .7	.0	.3
4	30.5	28.0	12.7	11.8	14.5	6.6	2.0	1.8	1.1	— .7	.3	.8
5	27.3	29.0	11.6	10.8	10.5	6.0	2.2	1.9	.7	— .8	1.1	1.2
6	24.2	25.5	12.1	9.6	12.0	6.7	2.9	1.7	.5	— .9	3.4	1.5
7	22.2	22.4	12.5	9.1	17.1	6.5	3.3	1.4	.4	— .9	3.7	1.7
8	22.0	17.6	11.8	8.7	20.8	5.9	3.3	1.4	.4	— .9	2.5	1.9
9	22.5	14.8	11.0	8.4	20.9	5.3	3.7	2.0	2.2	— .8	1.6	2.1
10	22.5	13.3	10.1	8.4	17.2	5.1	4.5	2.6	4.2	— .7	1.0	10.2
11	22.0	12.5	9.6	8.4	13.7	5.1	6.3	3.3	5.1	— .6	.9	15.0
12	21.0	18.0	9.1	8.2	12.0	5.0	6.1	3.5	4.6	— .4	.9	16.7
13	21.6	20.6	8.7	8.0	11.0	4.8	5.2	3.1	3.5	— .3	.7	16.5
14	21.7	22.2	8.6	7.5	9.7	4.6	4.4	3.2	2.3	— .3	.6	15.2
15	20.5	25.8	8.4	7.1	8.4	5.0	4.4	2.9	1.4	— .2	.3	12.1
16	18.1	31.3	8.4	8.0	7.9	5.1	4.8	2.4	.8	1.9	.2	8.3
17	16.2	35.0	8.4	12.3	7.7	4.6	4.1	1.7	.5	1.8	.0	5.5
18	14.9	37.6	8.4	14.9	7.9	4.3	3.1	1.2	.2	1.0	— .1	4.0
19	13.5	42.1	8.3	14.4	9.6	4.1	2.6	.7	.1	.5	— .2	3.3
20	12.3	43.0	7.8	13.5	11.2	3.8	2.2	.6	.0	— .1	— .2	2.9
21	11.2	42.7	7.6	12.5	12.4	3.6	2.0	.8	— .1	— .2	— .3	2.7
22	10.4	38.7	7.3	11.7	11.5	3.5	2.1	1.0	— .1	— .4	— .2	2.5
23	10.0	36.5	8.9	12.7	9.8	3.5	2.2	1.4	— .2	— .5	.0	2.4
24	9.6	33.1	18.1	13.9	8.2	3.8	2.4	2.4	— .3	— .6	.0	5.7
25	9.4	27.5	27.7	15.4	7.4	3.5	2.2	4.0	— .4	— .6	— .1	10.4
26	9.0	21.7	34.8	22.1	6.8	4.0	2.4	4.7	— .5	— .7	— .1	12.7
27	8.4	18.0	38.7	29.4	6.4	4.4	2.2	4.4	— .4	— .8	— .2	12.3
28	7.8	16.4	39.4	33.5	6.9	4.4	2.3	4.6	— .3	— .7	— .2	12.6
29	7.1	15.2	37.2	35.2	7.5	3.7	2.8	4.8	— .2	— .7	— .3	10.8
30	7.1	.....	34.6	35.5	8.4	3.1	2.5	4.4	— .4	— .7	— .3	8.4
31	6.9	.....	30.9	.....	8.9	.....	2.3	3.9	.....	— .6	.....	6.4

Rating table for Alabama River at Selma, Ala., for 1906, 1907, and 1908.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*
−0.90	4,660	1.40	8,520	4.40	14,200	21.00	54,500
− .80	4,820	1.50	8,700	4.60	14,600	22.00	57,200
− .70	4,980	1.60	8,880	4.80	15,000	23.00	59,900
− .60	5,140	1.70	9,060	5.00	15,400	24.00	62,600
− .50	5,300	1.80	9,240	5.20	15,820	25.00	65,300
− .40	5,460	1.90	9,420	5.40	16,240	26.00	68,000
− .30	5,620	2.00	9,600	5.60	16,660	27.00	70,800
− .20	5,780	2.10	9,790	5.80	17,080	28.00	73,600
− .10	5,940	2.20	9,980	6.00	17,500	29.00	76,400
0.00	6,100	2.30	10,170	7.00	19,600	30.00	79,200
.10	6,270	2.40	10,360	8.00	21,800	31.00	82,000
.20	6,440	2.50	10,550	9.00	24,000	32.00	84,800
.30	6,610	2.60	10,740	10.00	26,300	33.00	87,600
.40	6,780	2.70	10,930	11.00	28,600	34.00	90,400
.50	6,950	2.80	11,120	12.00	31,000	35.00	93,200
.60	7,120	2.90	11,310	13.00	33,450	36.00	96,000
.70	7,290	3.00	11,500	14.00	36,000	37.00	98,900
.80	7,460	3.20	11,880	15.00	38,600	38.00	101,800
.90	7,630	3.40	12,260	16.00	41,200	39.00	104,700
1.00	7,800	3.60	12,640	17.00	43,800	40.00	107,600
1.10	7,980	3.80	13,020	18.00	46,400	41.00	110,500
1.20	8,160	4.00	13,400	19.00	49,100	42.00	113,400
1.30	8,340	4.20	13,800	20.00	51,800	43.00	116,300

NOTE.—The above table is not applicable for obstructed-channel conditions. It is based on 32 discharge measurements made during 1900–1906 and is well defined. Above gage height 18 feet the rating curve is a tangent, the difference being 275 per tenth.

Monthly discharge of Alabama River at Selma, Ala., for 1907 and 1908.

[Drainage area 15,400 square miles.]

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area).	Accuracy.
	Maximum.	Minimum.	Mean.	Per square mile.		
1907.						
January	74,400	18,100	33,100	2.15	2.48	A.
February	90,100	19,800	42,700	2.77	2.88	A.
March	100,000	17,700	44,600	2.90	3.34	A.
April	62,300	16,700	29,300	1.90	2.12	A.
May	89,000	28,100	46,000	2.99	3.45	A.
June	38,900	13,600	22,200	1.44	1.61	A.
July	24,900	11,500	16,100	1.05	1.21	A.
August	20,000	9,060	12,600	.818	.94	A.
September	23,100	6,270	10,500	.682	.76	A.
October	14,400	6,100	8,480	.551	.64	B.
November	64,200	6,100	19,000	1.23	1.37	A.
December	65,300	14,000	33,200	2.16	2.49	A.
The year	100,000	6,100	26,500	1.72	23.29	
1908.						
January	84,800	19,400	45,900	2.98	3.44	A.
February	116,000	28,400	67,700	4.40	4.74	A.
March	106,000	20,300	42,300	2.75	3.17	A.
April	94,600	19,800	39,600	2.57	2.87	A.
May	90,400	18,300	33,300	2.16	2.49	A.
June	24,500	11,700	15,600	1.01	1.13	A.
July	18,100	9,600	11,800	.766	.88	A.
August	15,000	7,120	10,600	.688	.79	A.
September	15,600	5,300	8,050	.523	.58	B.
October	9,420	4,660	5,580	.362	.42	B.
November	12,800	5,300	6,940	.451	.50	B.
December	43,000	5,780	19,800	1.29	1.49	A.
The year	116,000	4,660	25,600	1.66	22.50	

ELLIJAY RIVER AT ELLIJAY, GA.

This station is located at a wagon bridge in the town of Ellijay, about three-fourths mile above the junction of the Ellijay and Cartecay rivers. Miscellaneous discharge measurements were made during 1904. Beginning May 4, 1907, a daily record of gage heights was kept. This station was discontinued December 31, 1907.

The vertical staff gage is located 4 feet below the bridge from which discharge measurements are made. Conditions of flow appear to be practically permanent. A good rating has been developed for low stages.

Discharge measurements of Ellijay River at Ellijay, Ga., in 1907.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
		Feet.	*Sq. ft.*	*Feet.*	*Sec.-ft.*
May 4	M. R. Hall	71	101	2.03	247
August 5	F. P. Thomas	74	92	1.66	178
Do	do	74	93	1.64	182
November 16	M. R. Hall	69	72	1.46	122
Do	do	69	70	1.45	112

Daily gage height, in feet, of Ellijay River at Ellijay, Ga., for 1907.

[Observer, J. R. Smith.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	.....	.....	.....	.....	.....	3.9	2.0	1.85	1.6	2.9	1.8	1.9
2	.....	.....	.....	.....	.....	2.5	2.0	1.8	1.6	2.2	1.85	1.8
3	.....	.....	.....	.....	.....	3.6	2.0	1.75	1.9	2.0	1.8	1.8
4	.....	.....	.....	.....	2.1	2.3	1.9	1.7	1.9	1.9	1.8	1.8
5	.....	.....	.....	.....	1.9	2.1	1.9	1.7	1.8	1.9	1.75	1.8
6	.....	.....	.....	.....	1.9	2.0	1.8	1.65	1.8	1.85	1.7	1.8
7	.....	.....	.....	.....	2.9	1.8	1.8	1.6	1.7	1.85	1.65	1.8
8	.....	.....	.....	.....	2.2	1.7	1.8	1.6	1.7	1.8	1.6	1.8
9	.....	.....	.....	.....	2.1	3.5	1.8	1.6	1.65	1.75	1.6	1.9
10	.....	.....	.....	.....	2.1	2.5	1.7	1.6	1.6	1.75	1.6	2.1
11	.....	.....	.....	.....	2.6	2.2	1.7	1.55	1.9	1.7	1.6	2.0
12	.....	.....	.....	.....	2.1	2.0	1.9	1.55	1.8	1.7	1.6	1.95
13	.....	.....	.....	.....	2.1	2.0	2.5	1.9	1.7	1.7	1.6	1.8
14	.....	.....	.....	.....	1.95	2.1	2.5	1.9	1.65	1.65	1.6	2.2
15	.....	.....	.....	.....	2.9	1.9	2.0	1.95	1.6	1.6	1.6	2.4
16	.....	.....	.....	.....	2.3	1.9	1.9	1.95	1.6	1.6	1.6	2.4
17	.....	.....	.....	.....	2.1	1.9	1.85	1.95	1.55	1.55	1.6	2.3
18	.....	.....	.....	.....	2.05	1.8	1.8	2.55	1.5	1.5	1.7	2.3
19	.....	.....	.....	.....	2.05	2.0	2.9	1.95	1.45	1.45	1.8	2.1
20	.....	.....	.....	.....	1.95	1.9	2.5	1.9	1.4	1.4	1.8	2.0
21	.....	.....	.....	.....	1.9	1.8	2.2	1.8	1.4	1.4	1.8	1.9
22	.....	.....	.....	.....	1.9	1.8	1.9	1.7	1.4	1.4	2.0	1.9
23	.....	.....	.....	.....	1.9	2.0	1.8	1.9	1.4	1.35	3.0	2.5
24	.....	.....	.....	.....	1.9	2.0	1.8	1.8	3.5	1.35	3.0	2.5
25	.....	.....	.....	.....	2.1	3.0	1.7	1.8	2.5	1.3	2.9	2.45
26	.....	.....	.....	.....	2.3	2.5	1.7	1.8	1.9	1.3	2.8	2.4
27	.....	.....	.....	.....	1.95	2.0	1.9	1.75	2.5	2.3	2.6	2.4
28	.....	.....	.....	.....	1.9	1.9	1.9	1.7	3.3	1.9	2.4	2.35
29	.....	.....	.....	.....	1.85	2.0	1.85	1.65	2.9	1.85	1.9	2.35
30	.....	.....	.....	.....	1.85	2.0	1.9	1.6	2.2	1.85	1.9	3.5
31	.....	.....	.....	.....	3.1	.....	1.9	1.6	.....	1.8	.....	3.2

Rating table for Ellijay River at Ellijay, Ga., for 1907.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*
1.30	85	2.00	240	2.70	410	3.40	591
1.40	105	2.10	264	2.80	435	3.50	618
1.50	126	2.20	288	2.90	460	3.60	646
1.60	148	2.30	312	3.00	485	3.70	674
1.70	170	2.40	336	3.10	511	3.80	702
1.80	193	2.50	360	3.20	537	3.90	730
1.90	216	2.60	385	3.30	564		

NOTE.—The above table is not applicable for obstructed-channel conditions. It is based on 13 discharge measurements made during 1904, 1905, and 1907, and is well defined below gage height 2 feet.

Monthly discharge of Ellijay River at Ellijay, Ga., for 1907.

[Drainage area, 90 square miles.]

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area).	Accuracy.
	Maximum.	Minimum.	Mean.	Per square mile.		
May 4–31	511	204	274	3.04	3.17	B.
June	730	170	296	3.29	3.67	B.
July	460	170	231	2.57	2.96	B.
August	372	137	188	2.09	2.41	B.
September	618	105	215	2.39	2.67	B.
October	460	85	178	1.98	2.28	B.
November	485	148	226	2.51	2.80	B.
December	618	193	283	3.14	3.62	B.

CONASAUGA RIVER AT BEAVERDALE, GA.

The station is located at upper Kings Bridge at Beaverdale, just below the mouth of Sugar Creek. It was established May 31, 1907, and was discontinued June 30, 1908. A fairly good rating has been developed for low stages.

Discharge measurements of Conasauga River at Beaverdale, Ga., in 1907.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
		Feet.	*Sq. ft.*	*Feet.*	*Sec.-ft.*
May 31	F. A. Murray	109	375	3.50	618
August 16	do	86	183	1.66	141
October 23	Olin P. Hall	57	64	1.40	106

Daily gage height, in feet, of Conasauga River at Beaverdale, Ga., for 1907 and 1908.

[Observers, Geo. W. La Duke and W. C. Bryant.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1	.....	.....	.....	.....	.....	3.3	2.3	1.9	1.2	2.5	1.5	2.1
2	.....	.....	.....	.....	.....	3.2	2.6	1.9	1.2	2.0	1.45	2.0
3	.....	.....	.....	.....	.....	2.7	2.3	1.9	1.2	1.9	1.6	1.9
4	.....	.....	.....	.....	.....	2.7	2.2	1.8	1.7	1.8	1.6	1.7
5	.....	.....	.....	.....	.....	2.5	2.2	1.6	1.6	1.6	1.55	1.7
6	.....	.....	.....	.....	.....	2.4	2.2	1.6	1.5	2.0	1.5	1.6
7	.....	.....	.....	.....	.....	2.3	2.0	1.7	1.3	2.0	1.45	1.5
8	.....	.....	.....	.....	.....	6.4	2.0	1.6	1.2	2.1	1.4	1.9
9	.....	.....	.....	.....	.....	3.5	1.9	1.6	1.3	1.9	1.5	1.8
10	.....	.....	.....	.....	.....	3.4	2.0	1.6	1.2	1.8	3.0	2.5

Daily gage height, in feet, of Conasauga River at Beaverdale, Ga., for 1907 and 1908—Continued.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
11						3.2	2.0	1.5	1.6	1.8	2.6	2.4
12						2.6	1.9	1.5	1.6	1.8	2.3	2.2
13						2.6	7.8	1.4	1.4	1.9	2.0	2.1
14						2.6	3.2	1.4	1.3	1.8	1.8	5.5
15						2.6	2.7	1.5	1.3	1.6	1.8	4.5
16						2.3	2.5	1.6	1.3	1.5	1.7	3.0
17						2.2	2.3	1.5	1.2	1.5	1.6	2.6
18						2.2	2.2	1.6	1.2	1.5	2.6	2.5
19						2.2	2.2	1.6	1.2	1.5	2.4	2.3
20						2.1	2.3	1.5	1.2	1.5	2.0	2.2
21						2.2	2.0	1.5	1.2	1.5	3.0	2.1
22						2.2	1.9	1.6	3.6	1.4	6.0	2.0
23						2.2	1.9	1.8	6.7	1.4	7.6	6.5
24						3.3	1.8	1.8	2.6	1.6	9.1	4.6
25						4.9	1.8	2.0	2.0	1.5	6.0	4.3
26						3.0	1.8	1.9	2.2	1.5	3.5	4.0
27						3.7	1.9	1.6	1.7	2.0	3.0	3.5
28						2.9	1.9	2.0	5.5	1.9	2.5	3.2
29						2.6	1.9	1.4	5.9	1.7	2.4	2.9
30						2.4	2.0	1.4	3.0	1.5	2.2	7.5
31					3.6		1.8	1.3		1.5		5.8

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	Day.	Jan.	Feb.	Mar.	Apr.	May.	June.
1908.							1908.						
1	3.0	6.5	2.6	2.4	2.4	2.0	17	3.6	4.9	2.4	2.5	2.0	2.2
2	2.0	4.0	2.6	2.4	2.3	2.0	18	3.2	3.5	2.3	3.0	2.0	2.1
3	1.6	3.1	2.5	2.3	2.2	2.0	19	2.8	3.2	2.2	3.9	4.5	2.1
4	1.6	3.7	2.5	2.3	2.7	5.2	20	2.7	2.9	4.5	3.4	2.6	2.1
5	5.3	3.5	2.4	2.4	2.4	3.7	21	2.6	2.7	4.0	2.9	2.3	2.0
6	4.5	3.0	2.4	2.5	2.5	5.0	22	2.5	2.6	3.5	2.6	2.2	2.0
7	3.9	2.5	2.3	2.3	3.8	3.0	23	2.4	2.5	5.7	2.5	2.2	1.9
8	3.4	2.3	2.3	2.2	2.6	2.5	24	2.3	2.5	9.2	2.5	2.1	1.9
9	2.8	2.2	2.2	2.2	2.5	2.3	25	2.3	2.4	5.2	7.0	2.1	1.8
10	2.6	6.8	2.2	2.2	2.4	2.2	26	2.3	3.3	4.0	3.5	2.5	1.8
11	2.5	5.2	2.3	2.1	2.3	2.4	27	2.7	3.3	3.2	2.7	2.8	1.8
12	7.5	4.0	4.5	2.1	2.2	2.3	28	2.5	2.8	2.9	2.6	2.5	1.8
13	4.5	6.0	3.2	2.1	2.1	2.2	29	2.4	2.6	2.7	2.5	2.4	1.8
14	3.5	5.2	2.9	2.1	2.1	2.1	30	2.3	.....	2.6	2.5	2.3	1.7
15	3.3	11.3	2.7	3.0	2.1	3.0	31	2.3	.....	2.5	.....	2.0	.....
16	3.0	6.5	2.5	2.9	2.1	2.4							

Daily discharge, in second-feet, of Conasauga River at Beaverdale, Ga., for 1907 and 1908.

Day.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Day.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.								1907.							
1	543	258	177	84	307	117	215	17	236	258	117	84	117	130	333
2	510	333	177	84	195	111	195	18	236	236	130	84	117	333	307
3	360	258	177	84	177	130	177	19	236	236	130	84	117	282	258
4	360	236	160	144	160	130	144	20	215	258	117	84	117	195	236
5	307	236	130	130	130	124	144	21	236	195	117	84	117	447	215
6	282	236	130	117	195	117	130	22	236	177	130	648	105	.....	195
7	258	195	144	94	195	111	117	23	236	177	160	.....	105	.....	.....
8	.....	195	130	84	215	105	177	24	543	160	160	333	130	.....	1,060
9	612	177	130	94	177	117	160	25	1,200	160	195	195	117	.....	920
10	577	195	130	84	160	447	307	26	447	160	177	236	117	612	801
11	510	195	117	130	160	333	282	27	685	177	130	144	195	447	612
12	333	177	117	130	160	258	236	28	417	177	195	.....	177	307	510
13	333	.....	105	105	177	195	215	29	333	177	105	.....	144	282	417
14	333	510	105	94	160	160	.....	30	282	195	105	447	117	236	.....
15	333	360	117	94	130	160	1,010	31	.....	160	94	.....	117	.....	.....
16	258	307	130	94	117	144	447								

Daily discharge, in second-feet, of Conasauga River at Beaverdale, Ga., for 1907 and 1908—Continued.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	Day.	Jan.	Feb.	Mar.	Apr.	May.	June.
1908.							1908.						
1	447	.....	333	282	282	195	17	648	1,200	282	307	195	236
2	195	801	333	282	258	195	18	510	612	258	447	195	215
3	130	478	307	258	236	195	19	388	510	236	762	1,010	215
4	130	685	307	258	236	.....	20	360	417	1,010	577	333	215
5	.....	612	282	282	282	685	21	333	360	801	417	258	195
6	1,010	447	282	307	307	1,250	22	307	333	612	333	236	195
7	762	307	258	258	723	447	23	282	307	.....	307	236	177
8	577	258	258	236	333	307	24	258	307	.....	307	215	177
9	388	236	236	236	307	258	25	258	282	.....	.....	215	160
10	333	.....	236	236	282	236	26	258	543	801	612	307	160
11	307	.....	258	215	258	282	27	360	543	510	360	388	160
12	.....	801	1,010	215	236	258	28	307	388	417	333	307	160
13	1,010	.....	510	215	215	236	29	282	333	360	307	282	160
14	612	.....	417	215	215	215	30	258	.....	333	307	258	144
15	543	.....	360	447	215	447	31	258	.....	307	.....	195	.....
16	447	.....	307	417	215	282							

NOTE.—Daily discharge for 1907 and 1908 based on a fairly well-defined rating curve. From June 1, 1907, to June 30, 1908, the discharge was greater than 1,300 second-feet for all missing days.

ETOWAH RIVER NEAR BALL GROUND, GA.

This station is located at the iron bridge about 2½ miles from Ball Ground and one-fourth mile below the mouth of Long Swamp Creek, which is a large tributary of Etowah River. It was first established May 16, 1907, although miscellaneous measurements were made during 1905.

The vertical staff gage is located 75 feet below the bridge. The left bank does not overflow, but the right bank overflows about 500 feet beyond the end of the bridge approach at high stages. A good rating has been developed for low stages.

Discharge measurements of Etowah River near Ball Ground, Ga., in 1907 and 1908.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
1907.		*Feet.*	*Sq. ft.*	*Feet.*	*Sec.-ft.*
May 16	F. A. Murray	93	388	4.02	1,250
June 20	do	80	313	3.04	758
August 8	F. P. Thomas	80	258	2.39	497
1908.					
May 14	M. R. Hall	87	385	4.05	1,290
Do	do	87	394	4.05	1,270

Daily gage height, in feet, of Etowah River near Ball Ground, Ga., for 1907 and 1908.

[Observer, R. O. Ellis.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1						6.0	3.0	2.6	2.15	2.9	2.15	3.1
2						4.3	2.9	2.55	2.1	2.65	2.45	2.95
3						3.95	2.9	2.5	2.25	2.6	3.05	2.85
4						3.6	4.4	2.4	2.8	2.55	2.55	2.8
5						3.5	3.05	2.35	4.2	2.7	2.45	2.8
6						3.45	2.9	2.45	2.6	2.45	2.5	2.8
7						3.4	2.85	2.45	2.45	2.4	2.4	2.75
8						3.3	2.75	2.4	2.35	2.5	2.4	2.7
9						3.3	2.6	3.1	2.3	2.45	2.35	3.8
10						3.25	2.65	2.55	2.2	2.4	5.2	6.2
11						3.2	3.1	2.4	3.0	2.3	4.0	4.2
12						3.35	2.9	3.6	2.5	2.3	3.05	3.6
13						3.65	3.1	3.0	2.4	2.3	2.85	3.4
14						3.55	2.9	2.7	2.25	2.3	2.65	5.5
15						3.2	3.05	4.5	2.2	2.3	2.45	4.4
16					4.0	3.1	2.9	4.1	2.3	2.35	2.4	4.0
17					3.95	3.0	2.8	3.3	2.35	2.25	2.45	3.65
18					3.8	3.0	2.95	2.95	2.3	2.25	2.85	3.55
19					3.5	2.95	3.0	2.7	2.0	2.2	3.05	3.45
20					3.5	2.95	2.85	2.85	2.0	2.3	2.8	3.3
21					3.3	3.0	2.7	2.8	2.05	2.1	4.8	3.25
22					3.3	3.35	2.65	2.6	3.3	2.15	4.4	3.15
23					3.3	3.25	2.6	3.3	6.0	2.1	6.1	6.9
24					3.5	3.1	2.8	2.65	3.7	2.2	9.2	5.0
25					4.05	3.05	2.75	3.2	2.8	2.25	4.8	4.2
26					3.95	2.95	2.8	2.5	2.6	2.25	3.85	3.8
27					4.2	2.95	3.2	2.35	2.4	2.35	3.45	3.7
28					3.5	3.7	3.05	2.3	4.6	2.75	3.35	3.8
29					3.25	3.45	2.65	2.25	3.95	2.4	3.5	4.0
30					3.3	3.0	2.6	2.25	3.3	2.15	3.3	14.0
31					4.0		2.65	2.2		2.1		8.9
1908.												
1	5.2	6.8	4.2	4.4	4.7	3.75	3.0	2.75	2.45	2.15	2.35	2.45
2	4.5	5.0	4.2	4.3	4.6	3.6	3.1	2.65	2.35	2.2	2.3	3.5
3	4.2	4.3	4.2	4.2	4.4	3.55	3.1	2.5	2.3	2.2	2.35	2.6
4	4.0	4.1	4.2	4.1	4.4	4.0	3.35	2.6	2.45	2.2	3.95	2.5
5	6.2	4.0	4.1	4.1	4.5	4.2	4.1	2.7	2.7	2.1	3.0	2.3
6	4.8	4.3	4.0	4.7	4.4	3.9	4.4	4.2	4.5	2.0	2.5	2.35
7	4.6	3.95	4.0	4.4	6.9	3.65	3.85	3.35	3.05	2.1	2.35	11.8
8	4.3	3.85	4.0	4.2	5.2	3.5	3.45	3.65	2.75	2.15	2.35	6.2
9	4.1	3.75	3.95	4.1	4.5	3.4	4.3	4.6	2.65	3.15	2.3	4.3
10	3.9	7.5	3.9	4.0	4.4	3.45	5.2	3.1	2.4	3.95	2.35	3.55
11	6.6	9.6	4.0	4.0	4.2	3.65	3.5	3.0	2.35	2.85	2.3	3.3
12	7.8	6.2	4.4	3.95	4.2	3.35	3.3	2.75	2.35	2.5	2.25	3.9
13	5.6	5.2	4.2	3.9	4.1	3.3	3.05	2.65	2.35	2.45	2.15	3.35
14	4.8	5.4	4.0	3.9	4.2	3.85	3.0	2.55	2.4	2.35	2.5	3.2
15	4.5	11.2	3.95	5.2	4.0	3.8	2.95	2.5	2.3	2.4	2.6	3.1
16	4.4	7.2	3.9	5.5	4.1	3.45	3.05	2.6	2.35	2.3	2.4	2.95
17	4.2	5.6	3.9	6.6	4.0	3.4	2.9	2.65	2.35	2.25	2.3	2.9
18	4.2	5.2	3.85	5.2	4.2	3.45	2.75	2.7	2.3	2.2	2.35	2.85
19	4.0	5.6	3.8	6.7	4.6	3.6	2.8	2.65	2.2	2.25	2.45	2.8
20	3.9	5.1	5.2	5.3	4.8	3.4	2.75	2.7	2.3	2.2	2.3	2.75
21	3.85	4.8	5.7	4.8	4.2	4.0	2.75	2.45	2.4	2.3	2.25	2.85
22	3.8	4.6	4.5	4.6	3.95	3.95	2.75	3.95	2.1	2.2	2.2	6.3
23	3.75	4.5	9.8	4.6	3.75	3.5	2.7	3.25	2.1	2.65	2.35	5.3
24	3.65	4.4	15.0	4.4	3.8	3.5	2.75	4.0	2.15	2.55	2.4	4.0
25	3.6	4.4	6.7	15.0	5.4	3.4	2.7	3.7	2.1	2.35	2.35	3.7
26	3.65	5.2	5.6	7.2	5.5	3.25	2.75	3.1	2.1	2.4	2.5	3.45
27	3.85	4.6	5.1	5.9	4.8	3.05	2.65	2.85	2.15	2.3	2.4	3.1
28	3.65	4.4	4.8	5.2	4.2	3.1	2.55	2.7	2.2	2.45	2.35	3.05
29	3.7	4.3	4.7	4.8	4.3	3.15	3.1	2.65	2.4	3.9	2.25	2.95
30	3.65		4.6	5.0	4.2	3.05	2.9	2.6	2.2	2.95	2.2	2.85
31	3.8		4.4		3.85		2.85	2.55		2.45		3.1

Daily discharge, in second-feet, of Etowah River near Ball Ground, Ga., for 1907 and 1908.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1						2,530	730	555	382	685	382	775
2						1,420	685	535	365	575	495	708
3						1,220	685	515	418	555	752	662
4						1,020	1,480	475	640	535	535	640
5						975	752	455	1,360	595	495	640
6						950	685	495	555	495	515	640
7						925	662	495	495	475	475	618
8						875	618	475	455	515	475	595
9						875	555	775	435	495	455	1,140
10						850	575	535	400	475	1,980	.....
11						825	775	475	730	435	1,240	1,360
12						900	685	1,020	515	435	752	1,020
13						1,050	775	730	475	435	662	925
14						1,000	685	595	418	435	575	2,180
15						825	752	1,540	400	435	495	1,480
16					1,240	775	685	1,300	435	455	475	1,240
17					1,220	730	640	875	455	418	495	1,050
18					1,140	730	708	708	435	418	662	1,000
19					975	708	730	595	330	400	752	950
20					975	708	662	662	330	435	640	875
21					875	730	595	640	348	365	1,720	850
22					875	900	575	555	875	382	1,480	800
23					875	850	555	875	2,530	365	.....	.....
24					975	775	640	575	1,080	400	.....	1,860
25					1,270	752	618	825	640	418	1,720	1,360
26					1,220	708	640	515	555	418	1,160	1,140
27					1,360	708	825	455	475	455	950	1,080
28					975	1,080	752	435	1,600	618	900	1,140
29					850	950	575	418	1,220	475	975	1,240
30					875	730	555	418	875	382	875	.....
31					1,240	.....	575	400	.....	365	.....	.....
1908.												
1	1,980	.....	1,360	1,480	1,660	1,110	730	618	495	382	455	495
2	1,540	1,860	1,360	1,420	1,600	1,020	775	575	455	400	435	975
3	1,360	1,420	1,360	1,360	1,480	1,000	775	515	435	400	455	555
4	1,240	1,300	1,360	1,300	1,480	1,240	900	555	495	400	1,220	515
5	.....	1,240	1,300	1,300	1,54	1,360	1,300	595	595	365	730	435
6	1,720	1,420	1,240	1,660	1,480	1,190	1,480	1,360	1,540	330	515	455
7	1,600	1,220	1,240	1,480	.....	1,050	1,160	900	752	365	455	.....
8	1,420	1,160	1,240	1,360	1,980	975	950	1,050	618	382	455	.....
9	1,300	1,110	1,220	1,300	1,540	925	1,420	1,600	575	800	435	1,420
10	1,190	.....	1,190	1,240	1,480	950	1,980	775	475	1,220	455	1,000
11	.....	.....	1,240	1,240	1,360	1,050	975	730	455	662	435	875
12	.....	.....	1,480	1,220	1,360	900	875	618	455	515	418	1,190
13	2,250	1,980	1,360	1,190	1,300	875	752	575	455	495	382	900
14	1,720	2,120	1,240	1,190	1,360	1,160	730	535	475	455	515	825
15	1,540	.....	1,220	1,980	1,240	1,140	708	515	435	475	555	775
16	1,480	.....	1,190	2,180	1,300	950	752	555	455	435	475	708
17	1,360	2,250	1,190	.....	1,240	925	685	575	455	418	435	685
18	1,360	1,980	1,160	1,980	1,360	950	618	595	435	400	455	662
19	1,240	2,250	1,140	.....	1,600	1,020	640	575	400	418	495	640
20	1,190	1,920	1,980	2,050	1,720	925	618	595	435	400	435	618
21	1,160	1,720	2,320	1,720	1,360	1,240	618	495	475	435	418	662
22	1,140	1,600	1,540	1,600	1,220	1,220	618	1,220	365	400	400	.....
23	1,110	1,540	.....	1,600	1,110	975	595	850	365	575	495	2,050
24	1,050	1,480	.....	1,480	1,140	975	618	1,240	382	535	475	1,240
25	1,020	1,480	.....	.....	2,120	925	595	1,080	365	455	455	1,080
26	1,050	1,980	2,250	.....	2,180	850	618	775	365	475	515	950
27	1,160	1,600	1,920	2,460	1,720	752	575	662	382	435	475	775
28	1,050	1,480	1,720	1,980	1,360	775	535	595	400	495	455	752
29	1,080	1,420	1,660	1,720	1,420	800	775	575	475	1,190	418	708
30	1,050	.....	1,600	1,860	1,360	752	685	555	400	708	400	662
31	1,140	.....	1,480	.....	1,160	.....	662	535	.....	495	.....	775

NOTE.—Daily discharge 1907-8 based on a well-defined rating curve. Beginning May 16, 1907, the discharge was greater than 2,600 second-feet for all missing days.

ETOWAH RIVER NEAR ROME, GA.

The station is located at Freemans Ferry about 5 miles above Rome and 1 mile below Dikes Creek. It was established August 17, 1904, to take the place of the station maintained at Rome about 5 miles below the present location. The original station at Rome was maintained from July 1 to December 31, 1903.

No change has occurred since the establishment of the station in the datum of the vertical staff gage, the lower section of which is about 250 feet below the ferry. Both banks are subject to overflow during high water. Conditions of flow are probably permanent, and an excellent rating has been developed for low stages.[a]

Discharge measurements of Etowah River near Rome, Ga., in 1907.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
		Feet.	*Sq. ft.*	*Feet.*	*Sec.-ft.*
July 19	M. R. Hall	300	870	2.39	1,590
November 6	Warren E. Hall	300	732	1.95	1,030

Daily gage height, in feet, of Etowah River near Rome, Ga., for 1907 and 1908.

[Observer, R. M. Patillo.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1	10.5	3.5	8.4	3.0	3.0	3.9	2.6	2.25	1.9	2.8	2.05	2.85
2	5.3	5.4	12.0	3.0	3.0	4.7	2.85	2.1	1.9	2.2	2.1	2.65
3	4.0	4.7	13.0	3.0	3.0	4.2	2.5	2.1	1.95	2.1	2.05	2.5
4	3.9	5.5	6.0	2.9	3.5	4.0	2.55	2.0	2.25	2.0	2.0	2.5
5	3.8	8.0	5.0	2.9	3.2	3.6	2.9	2.0	2.75	2.0	1.95	2.45
6	3.6	6.0	4.8	3.0	3.0	3.2	2.45	3.65	2.7	1.95	1.95	2.4
7	3.5	5.4	4.2	3.0	3.3	2.8	2.4	3.05	2.2	1.95	1.9	2.3
8	3.4	4.0	4.0	3.0	4.2	2.7	2.3	2.3	2.05	2.0	1.9	2.3
9	3.4	4.0	4.0	3.0	3.8	2.7	2.3	2.1	2.1	2.0	1.9	2.3
10	3.4	3.7	3.8	3.1	4.0	2.7	2.25	2.4	2.15	1.95	2.2	4.9
11	3.2	3.5	3.7	3.1	4.0	2.7	2.4	2.3	2.15	1.9	3.5	4.4
12	3.2	3.5	3.6	3.2	3.6	2.8	2.4	2.35	2.1	1.9	2.75	3.55
13	3.2	3.4	3.5	3.3	3.4	2.9	2.5	2.35	2.0	1.9	2.25	3.0
14	3.0	3.2	3.5	3.2	3.6	4.0	2.4	2.55	1.9	1.9	2.2	3.75
15	3.0	3.0	3.5	3.1	3.9	2.9	2.5	2.85	1.9	1.85	2.1	4.2
16	2.9	3.0	3.4	3.0	4.5	2.8	2.4	3.5	1.9	1.85	2.0	3.5
17	2.9	3.0	3.4	3.0	6.6	2.6	2.3	3.3	1.9	1.85	2.0	3.2
18	2.9	3.0	3.4	3.0	5.9	2.6	2.35	2.7	1.85	1.85	2.2	3.05
19	2.9	2.9	3.3	3.0	4.5	2.5	2.4	2.3	1.8	1.85	2.6	2.95
20	2.9	3.1	3.3	3.0	3.9	2.5	2.5	2.2	1.8	1.8	2.55	2.8
21	2.9	3.2	3.0	4.0	3.2	2.5	2.35	2.1	1.8	1.8	3.3	2.7
22	2.8	3.2	3.0	4.5	3.2	2.5	2.2	2.2	1.85	1.8	4.1	2.6
23	2.8	3.1	3.0	6.0	3.0	2.5	2.1	2.5	3.95	1.8	4.8	3.15
24	2.8	3.5	3.0	5.6	3.0	3.1	2.0	2.4	3.95	1.8	6.4	4.6
25	2.8	4.8	3.0	4.5	2.9	2.9	2.1	2.7	2.7	1.8	5.0	3.6
26	3.0	8.4	3.0	3.5	3.2	3.3	2.3	2.4	2.15	1.8	3.6	3.1
27	3.0	8.2	3.1	3.5	3.2	3.0	3.1	2.35	2.0	1.9	3.0	2.95
28	2.9	8.4	3.1	3.3	3.1	3.3	3.1	2.25	2.1	1.9	2.8	2.9
29	2.8	.....	3.0	3.2	3.1	3.5	2.75	2.0	2.85	2.0	2.65	3.1
30	2.8	.....	3.0	3.2	2.9	3.1	2.5	2.0	3.15	2.0	3.25	7.6
31	3.0	.....	3.0	.....	3.2	.....	2.4	1.9	.....	2.0	.....	11.8

[a] Data collected at this station prior to 1906 have been compiled in Water-Supply Paper No. 197, Water resources of Georgia.

Daily gage height, in feet, of Etowah River near Rome, Ga., for 1907 and 1908—Con.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1908.												
1	6.6	6.3	3.75	3.7	3.7	2.9	2.3	2.15	1.95	1.7	2.05	1.9
2	4.0	6.0	3.6	3.7	3.6	2.8	2.3	2.1	1.9	1.7	1.95	2.45
3	3.7	4.2	3.6	3.6	3.5	2.75	2.3	2.0	1.9	1.65	2.0	2.35
4	3.45	3.7	3.55	3.45	3.4	3.0	2.5	2.0	1.9	1.65	2.05	2.15
5	4.1	3.7	3.5	3.4	3.45	3.15	3.2	2.1	1.9	1.7	2.1	2.0
6	5.0	3.65	3.45	3.8	3.7	3.05	3.7	2.5	4.2	1.7	2.05	2.0
7	4.2	3.6	3.4	3.85	5.2	2.9	4.0	2.65	3.3	1.65	2.0	7.7
8	4.2	3.3	3.35	3.6	5.0	2.75	3.05	2.7	2.4	1.6	2.0	10.5
9	3.7	3.2	3.3	3.45	3.9	2.7	2.7	3.1	2.1	2.0	1.95	4.6
10	3.35	3.85	3.2	3.4	3.55	2.65	3.35	2.8	2.0	4.4	2.0	3.15
11	3.3	9.8	3.2	3.4	3.45	2.7	3.65	2.35	1.95	2.85	2.0	2.85
12	5.3	7.8	3.4	3.25	3.35	2.75	2.75	2.2	1.9	2.3	2.0	2.7
13	5.6	5.2	3.6	3.2	3.25	2.65	2.5	2.1	1.9	2.0	1.9	2.75
14	3.4	4.6	3.4	3.2	3.2	2.7	2.4	2.0	1.9	2.0	1.9	2.55
15	3.4	10.8	3.3	3.75	3.2	2.85	2.3	2.0	1.85	1.9	1.95	2.4
16	3.55	11.8	3.2	4.9	3.45	2.8	2.35	1.95	1.8	1.9	2.0	2.35
17	3.5	7.2	3.15	4.2	3.6	2.65	2.3	1.95	1.8	1.85	1.95	2.3
18	3.4	5.1	3.1	4.2	3.55	2.65	2.2	2.0	1.75	1.85	1.9	2.3
19	3.25	4.8	3.1	5.2	3.3	2.6	2.3	2.1	1.75	1.8	1.9	2.3
20	3.15	4.8	3.2	4.8	3.4	2.6	2.3	2.25	1.75	1.8	1.9	2.3
21	3.1	4.3	5.0	4.0	3.25	2.5	2.2	2.0	1.9	1.8	1.9	2.4
22	3.05	4.0	4.4	3.75	3.05	3.35	2.1	2.1	1.9	1.8	1.9	4.2
23	3.0	3.9	7.3	3.6	3.0	2.85	2.1	2.5	1.9	1.8	1.9	6.0
24	2.9	3.7	15.8	3.6	3.0	2.65	2.1	2.85	1.8	1.85	1.9	4.3
25	2.9	3.75	12.6	8.7	3.2	2.7	2.1	3.35	1.8	1.9	1.9	3.2
26	2.9	5.3	6.4	10.0	4.2	2.6	2.1	2.75	1.7	1.9	1.9	2.9
27	2.9	4.8	4.8	5.4	3.85	2.45	2.1	2.45	1.7	1.9	1.9	2.7
28	2.9	4.2	4.4	4.5	3.2	2.4	2.1	2.25	1.7	1.9	1.85	2.55
29	2.85	3.95	4.2	4.1	3.05	2.35	2.15	2.1	1.75	2.35	1.85	2.5
30	2.85	.....	4.0	3.9	3.1	2.3	2.35	2.0	1.75	2.6	1.85	2.5
31	2.85	.....	3.85	.....	3.1	.....	2.2	2.0	.....	2.35	.....	2.5

Rating table for Etowah River near Rome, Ga., for 1907 and 1908.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*
1.60	710	3.10	2,490	4.60	5,100	7.00	10,200
1.70	800	3.20	2,645	4.70	5,290	7.20	10,660
1.80	895	3.30	2,805	4.80	5,480	7.40	11,130
1.90	990	3.40	2,965	4.90	5,670	7.60	11,610
2.00	1,090	3.50	3,130	5.00	5,860	7.80	12,100
2.10	1,195	3.60	3,300	5.20	6,260	8.00	12,600
2.20	1,305	3.70	3,470	5.40	6,660	9.00	15,180
2.30	1,420	3.80	3,645	5.60	7,080	10.00	17,880
2.40	1,540	3.90	3,820	5.80	7,500	11.00	20,700
2.50	1,665	4.00	4,000	6.00	7,930	12.00	23,600
2.60	1,790	4.10	4,180	6.20	8,370	13.00	26,660
2.70	1,920	4.20	4,360	6.40	8,820	14.00	29,800
2.80	2,055	4.30	4,540	6.60	9,280	15.00	33,000
2.90	2,195	4.40	4,720	6.80	9,740	16.00	36,300
3.00	2,340	4.50	4,910				

NOTE.—The above table is not applicable for obstructed-channel conditions. It is based on 17 discharge measurements made during 1904–1907, and is well defined below gage height 4 feet. Above gage height 7 feet the rating curve becomes uncertain and is only approximate at high stages.

Monthly discharge of Etowah River near Rome, Ga. for 1907 and 1908.

[Drainage area, 1,800 square miles.]

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area).	Accuracy.
	Maximum.	Minimum.	Mean.	Per square mile.		
1907.						
January	19,300	2,060	3,220	1.79	2.06	A.
February	13,600	2,200	5,110	2.84	2.96	A.
March	26,700	2,340	5,030	2.79	3.22	A.
April	7,930	2,200	3,040	1.69	1.89	A.
May	9,280	2,200	3,390	1.88	2.17	A.
June	5,290	1,660	2,530	1.41	1.57	A.
July	2,490	1,090	1,620	.900	1.04	A.
August	3,380	990	1,610	.894	1.03	A.
September	3,910	895	1,440	.800	.89	A.
October	2,060	895	1,040	.578	.67	A.
November	8,820	990	2,210	1.23	1.37	A.
December	23,000	1,420	3,540	1.97	2.27	A.
The year	26,700	895	2,820	1.56	21.14	
1908.						
January	9,280	2,120	3,430	1.91	2.20	A.
February	23,000	2,640	5,810	3.23	3.48	A.
March	35,600	2,490	5,550	3.08	3.55	A.
April	17,900	2,640	4,650	2.58	2.88	A.
May	6,260	2,340	3,170	1.76	2.03	A.
June	2,880	1,420	1,970	1.09	1.22	A.
July	4,000	1,200	1,740	.967	1.11	A.
August	2,880	1,040	1,450	.806	.93	A.
September	4,360	800	1,140	.633	.71	A.
October	4,720	710	1,150	.639	.74	A.
November	1,200	942	1,040	.578	.64	A.
December	19,300	990	3,050	1.69	1.95	A.
The year	35,600	710	2,850	1.58	21.44	

AMICALOLA RIVER NEAR POTTS MOUNTAIN, GA.

The station is located at a covered wagon bridge known as Steels Bridge, 2 miles east of Potts Mountain post-office, and 15 miles from Ball Ground, Ga., which is the nearest railroad station. It was established June 21, 1907, and was discontinued December 31, 1908.

The vertical staff gage is located 30 feet below the bridge. The left bank is high and does not overflow; the right bank is lower and may overflow for a distance of about 100 feet at high stages. An approximate rating has been developed for low stages.

Discharge measurements of Amicalola River near Potts Mountain, Ga., in 1907 and 1908.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
1907.		*Feet.*	*Sq. ft.*	*Feet.*	*Sec.-ft.*
June 21	F. A. Murray	51	116	1.64	160
August 7	F. P. Thomas	50	106	1.40	131
1908.					
May 15	M. R. Hall	52	126	1.94	273
Do	do	52	126	1.94	267

Daily gage height, in feet, of Amicalola River near Potts Mountain, Ga., for 1907 and 1908.

[Observer, J. A. Whitmore.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1							1.6	1.5	1.35	1.6	1.4	1.65
2							1.65	1.45	1.35	1.55	1.6	1.6
3							1.65	1.45	1.4	1.5	1.5	1.6
4							1.75	1.4	2.0	1.5	1.5	1.55
5							1.65	1.4	2.2	1.6	1.45	1.5
6							1.6	1.4	1.9	1.5	1.45	1.5
7							1.55	1.4	1.4	1.5	1.4	1.5
8							1.55	1.4	1.4	1.55	1.4	1.5
9							1.5	1.4	1.4	1.5	1.4	3.0
10							1.5	1.4	1.35	1.5	1.45	1.9
11							2.0	1.4	2.0	1.45	1.45	1.9
12							1.8	1.4	1.4	1.4	1.5	1.85
13							1.8	1.45	1.4	1.4	1.45	1.8
14							1.6	1.7	1.4	1.4	1.45	3.0
15							1.75	2.1	1.4	1.4	1.4	2.2
16							1.7	1.8	1.4	1.4	1.4	1.9
17							1.5	1.5	1.4	1.4	1.4	1.8
18							1.5	1.45	1.4	1.4	1.75	1.8
19							1.55	1.45	1.4	1.4	1.5	1.7
20							1.5	1.4	1.4	1.35	1.5	1.6
21							1.5	1.4	1.4	1.3	2.5	1.6
22						1.75	1.5	1.4	1.4	1.3	2.0	1.6
23						1.8	1.5	1.4	6.0	1.35	5.5	3.0
24						1.7	1.5	1.4	2.0	1.3	2.25	2.3
25						1.7	1.75	1.55	1.6	1.3	2.2	2.2
26						1.7	1.5	1.45	1.55	1.3	2.0	2.0
27						1.65	1.6	1.4	1.5	1.5	1.9	2.0
28						2.1	1.5	1.4	5.5	1.5	1.9	2.3
29						1.7	1.5	1.4	2.6	1.45	1.8	2.5
30						1.65	1.9	1.35	1.8	1.4	1.7	6.5
31							1.5	1.35		1.4		3.0
1908.												
1	2.5	2.8	2.1	2.2	2.3	1.9	1.6	1.5	1.4	1.3	1.35	1.6
2	2.4	2.3	2.1	2.2	2.25	1.9	1.6	1.5	1.4	1.3	1.3	1.5
3	2.2	2.1	2.05	2.1	2.2	1.9	1.6	1.5	1.4	1.3	1.3	1.4
4	2.0	2.0	2.05	2.1	2.2	2.25	1.6	1.5	1.4	1.3	1.3	1.4
5	3.0	2.0	2.05	2.0	2.2	1.9	1.7	1.5	1.45	1.3	1.3	1.4
6	2.2	2.0	2.0	2.5	2.5	1.85	2.0	1.5	1.7	1.3	1.3	1.4
7	2.1	2.0	2.0	2.1	2.6	1.85	1.9	1.55	1.5	1.3	1.3	9.0
8	2.1	1.9	1.95	2.0	2.2	1.8	1.75	1.7	1.4	1.6	1.3	5.0
9	2.0	1.9	1.95	2.0	2.1	1.8	2.4	1.75	1.4	1.5	1.3	3.0
10	2.0	3.1	1.95	2.0	2.1	1.8	2.3	1.6	1.35	1.6	1.3	2.0
11	1.9	3.2	2.0	2.0	2.1	1.8	1.8	1.5	1.35	1.4	1.3	1.9
12	3.0	2.6	2.0	2.0	2.05	1.8	1.7	1.5	1.35	1.3	1.5	1.9
13	2.5	2.5	2.0	2.0	2.0	1.8	1.7	1.5	1.35	1.3	1.3	1.8
14	2.3	2.65	2.0	2.0	2.0	2.0	1.6	1.5	1.35	1.3	1.35	1.8
15	2.2	8.2	2.0	3.0	2.0	1.8	1.6	1.4	1.35	1.3	1.35	1.6
16	2.2	3.1	2.0	2.5	2.0	1.75	1.6	1.4	1.33	1.3	1.3	1.5
17	2.1	2.7	1.95	3.0	2.1	1.7	1.55	1.5	1.35	1.3	1.3	1.5
18	2.1	2.5	1.95	2.3	2.0	1.7	1.55	1.5	1.35	1.25	1.3	1.5
19	2.1	2.65	1.95	2.6	1.95	1.7	1.5	1.4	1.35	1.25	1.3	1.5
20	2.0	2.5	2.4	2.5	1.95	1.7	1.5	1.4	1.4	1.25	1.3	1.5
21	2.0	2.3	2.3	2.35	1.95	1.7	1.5	1.4	1.4	1.25	1.3	1.5
22	1.95	2.3	2.2	2.4	1.9	1.7	1.5	1.8	1.35	1.25	1.3	2.7
23	1.9	2.2	2.8	2.4	1.9	1.7	1.5	1.6	1.35	1.3	1 3	2.4
24	1.9	2.2	3.9	2.3	1.9	1.8	1.5	1.6	1.3	1.3	1.3	1.8
25	1.9	2.2	3.5	4.3	3.6	1.75	1.5	1.6	1.3	1.3	1.3	1.7
26	1.9	2.5	2.5	2.5	3.5	1.7	1.5	1.6	1.3	1.3	1.3	1.7
27	1.9	2.3	2.4	2.7	2.2	1.7	1.5	1.6	1.3	1.3	1.3	1.6
28	1.9	2.2	2.35	2.5	2.0	1.7	1.5	1.5	1.35	1.35	1.3	1.6
29	1.95	2.2	2.3	2.3	2.0	1.65	1.6	1.5	1.3	1.5	1.3	1.6
30	1 9		2.3	2.1	2.0	1.65	1.6	1.45	1.3	1.1	1.3	1.5
31	1.9		2.3		2.0		1.5	1.4		1.35		1.5

Daily discharge, in second-feet, of Amicalola River near Potts Mountain, Ga., for 1907 and 1908.

Day.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Day.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.								1907.							
1	.....	154	130	102	154	110	168	17	.....	130	130	110	110	110	214
2	.....	168	120	102	142	154	154	18	.....	130	120	110	110	198	214
3	.....	168	120	110	130	130	154	19	.....	142	120	110	110	130	182
4	.....	198	110	290	130	130	142	20	.....	130	110	110	102	130	154
5	.....	168	110	375	154	120	130								
								21	.....	130	110	110	94	510	154
6	.....	154	110	250	130	120	130	22	198	130	110	110	94	290	154
7	.....	142	110	110	130	110	130	23	214	130	110	.....	102	.....	760
8	.....	142	110	110	142	110	130	24	182	130	110	290	94	398	420
9	.....	130	110	110	130	110	760	25	182	198	142	154	94	375	375
10	.....	130	110	102	130	120	250								
								26	182	130	120	142	94	290	290
11	.....	290	110	290	120	120	250	27	168	154	110	130	130	250	290
12	.....	214	110	110	110	130	232	28	330	130	110	.....	130	250	420
13	.....	214	120	110	110	120	214	29	182	130	110	560	120	214	510
14	.....	154	182	110	110	120	760	30	168	250	102	214	110	182	.....
15	.....	198	330	110	110	110	375	31	.....	130	102	.....	110	.....	760
16	.....	182	214	110	110	110	250								

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1908.												
1	510	660	330	375	420	250	154	130	110	94	102	154
2	465	420	330	375	398	250	154	130	110	94	94	130
3	375	330	310	330	375	250	154	130	110	94	94	110
4	290	290	310	330	375	398	154	130	110	94	94	110
5	760	290	310	290	375	250	182	130	120	94	94	110
6	375	290	290	510	510	232	290	130	182	94	94	110
7	330	290	290	330	560	232	250	142	130	94	94	.....
8	330	250	270	290	375	214	198	182	110	154	94	.....
9	290	250	270	290	330	214	465	198	110	130	94	760
10	290	.....	270	290	330	214	420	154	102	154	94	290
11	250	.....	290	290	330	214	214	130	102	110	94	250
12	760	560	290	290	310	214	182	130	102	91	94	250
13	510	510	290	290	290	214	182	130	102	94	94	214
14	420	585	290	290	290	290	154	130	102	94	102	214
15	375	.....	290	760	290	214	154	110	102	94	102	154
16	375	.....	290	510	290	198	154	110	102	94	94	130
17	330	610	270	760	330	182	142	130	102	94	94	130
18	330	510	270	420	290	182	142	130	102	.....	94	130
19	330	585	270	560	270	182	130	110	102	.....	94	130
20	290	510	465	510	270	182	130	110	110	.....	94	130
21	290	420	420	442	270	182	130	110	110	.....	94	130
22	270	420	375	465	250	182	130	214	102	.....	94	610
23	250	375	660	465	250	182	130	154	102	94	94	465
24	250	375	.....	420	250	214	130	154	94	94	94	214
25	250	375	.....	.....	.....	198	130	154	94	94	94	182
26	250	510	510	510	.....	182	130	154	94	94	94	182
27	250	420	465	610	375	182	130	154	94	94	94	154
28	250	375	442	510	290	182	130	130	102	102	94	154
29	270	375	420	420	290	168	154	130	94	130	94	154
30	250	.....	420	465	290	168	154	120	94	110	94	130
31	250	.....	420	.....	290	.....	130	110	.....	102	.....	130

NOTE.—The daily discharge for 1907–8 is based on a rating curve, which is fairly well-defined below gage height 2 feet, but is only approximate above 2 feet. Beginning June 22, 1907, the discharge was greater than 760 second-feet for all missing days.

CHOCCOLOCCO CREEK AT JENIFER, ALA.

The station is located at the Louisville and Nashville Railroad bridge, 1¼ miles north of Jenifer and about three-fourths mile above the mouth of Salt Creek. It was established August 20, 1903, and was discontinued February 3, 1908.

The datum of the vertical staff gage, which is located 20 feet above the bridge, has remained the same since the establishment of the station. The right bank overflows under the trestle approach to the bridge at a gage height of about 6 feet. The left bank is high and will not overflow. Conditions of flow are probably permanent and a good rating has been developed for low stages.[a]

The following discharge measurement was made:

October 29, 1907: Width, 95 feet; area, 138 square feet; gage height, 2.08 feet; discharge, 147 second-feet.

Daily gage height, in feet, of Choccolocco Creek at Jenifer, Ala., for 1907 and 1908.

[Observer, W. J. Tolbert.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1	6.7	8.6	5.2	3.1	3.4	3.5	2.8	2.3	2.0	2.1	2.0	2.7
2	5.9	8.7	7.3	3.0	3.2	3.2	2.6	2.3	2.0	2.1	2.0	2.5
3	4.0	7.5	6.7	2.8	3.1	3.0	2.7	2.2	2.0	2.1	2.1	2.4
4	3.7	5.5	5.6	2.8	3.6	2.9	2.7	2.2	2.1	2.0	2.1	2.35
5	3.5	6.5	5.0	2.8	3.4	2.9	2.6	2.2	2.1	2.1	2.0	2.3
6	3.3	5.8	4.7	3.1	3.5	2.8	2.6	2.2	2.2	2.1	2.0	2.25
7	3.2	4.7	4.6	3.0	3.7	2.8	2.5	2.2	2.1	2.1	2.1	2.2
8	3.1	4.1	4.5	3.1	3.9	2.7	2.4	2.1	2.0	2.0	2.0	3.3
9	3.0	3.8	4.4	3.0	4.0	2.7	2.4	2.1	2.0	2.0	2.0	3.1
10	3.0	3.6	3.2	2.9	3.9	2.7	2.4	2.1	2.1	2.0	2.0	3.0
11	3.0	3.4	3.2	2.8	3.8	2.7	2.4	2.2	2.1	2.0	2.0	2.9
12	3.0	3.3	3.2	2.75	3.7	2.7	2.4	2.3	2.1	2.1	2.2	2.9
13	3.0	3.3	3.2	2.75	3.4	2.7	2.5	2.2	2.25	2.0	2.1	2.8
14	2.9	3.2	3.1	2.7	3.8	2.7	2.5	2.2	2.0	1.95	2.0	2.7
15	2.85	3.1	3.5	2.7	5.9	3.1	2.65	2.2	1.9	2.0	2.0	3.2
16	2.8	3.0	3.3	2.7	6.3	2.75	2.5	2.3	2.1	2.0	2.0	3.1
17	2.8	3.0	3.1	3.2	6.6	2.7	2.4	2.2	2.0	1.95	2.0	2.7
18	2.8	3.0	3.0	3.2	4.2	2.7	2.3	2.2	2.0	1.9	2.1	2.6
19	2.8	3.0	3.0	3.6	3.7	2.6	2.3	2.2	2.0	1.9	2.1	2.6
20	3.0	3.0	2.9	3.9	3.2	2.5	2.3	2.1	2.0	1.9	2.2	2.5
21	3.1	3.0	2.9	3.3	3.2	2.5	2.3	2.1	1.9	1.9	2.5	2.5
22	3.1	2.9	2.9	3.2	3.2	2.5	2.3	2.1	2.1	2.0	2.8	2.4
23	2.8	2.9	2.85	4.1	3.2	2.7	2.3	2.2	2.9	2.0	3.2	2.6
24	2.7	2.8	2.8	3.25	3.1	2.9	2.2	2.2	2.7	1.9	3.7	2.7
25	2.7	3.3	2.8	3.2	3.2	2.7	2.2	2.2	2.2	1.9	3.3	2.7
26	2.8	3.2	2.8	3.3	3.2	3.1	2.2	2.1	2.1	2.0	2.7	2.6
27	2.9	3.2	2.8	3.2	3.6	2.7	2.4	2.1	2.0	2.0	2.5	2.5
28	2.8	3.8	2.8	3.2	3.1	3.0	2.7	2.0	2.1	1.9	2.4	2.5
29	2.7	.....	2.8	3.8	3.0	3.2	2.4	2.0	2.1	2.0	2.1	2.9
30	2.7	.....	2.8	3.4	3.0	3.2	2.8	2.0	2.2	1.9	2.8	3.7
31	3.0	.....	2.8	.....	3.3	.....	2.4	2.0	.....	2.0	.....	4.5

Day.	Jan.	Feb.	Day.	Jan.	Feb.	Day.	Jan.	Feb.	Day.	Jan.	Feb.
1908.			1908.			1908.			1908.		
1	5.2	4.6	9	3.3	.....	17	3.0	.....	25	2.6	.....
2	3.8	4.9	10	3.0	.....	18	2.9	.....	26	2.55	.....
3	3.25	3.8	11	3.0	.....	19	2.8	.....	27	2.5	.....
4	3.0	.....	12	3.6	.....	20	2.75	.....	28	2.5	.....
5	3.7	.....	13	3.5	.....	21	2.7	.....	29	2.5	.....
6	3.8	.....	14	3.25	.....	22	2.7	.....	30	2.5	.....
7	3.65	.....	15	3.0	.....	23	2.7	.....	31	2.5	.....
8	3.5	.....	16	3.0	.....	24	2.6	.....			

[a] Data collected at this station prior to 1904 have been compiled in Water-Supply Paper No. 107, Water powers of Alabama.

Rating table for Choccolocco Creek at Jenifer, Ala., for 1907 and 1908.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*
1.90	109	3.00	470	4.10	1,015	5.40	1,920
2.00	130	3.10	515	4.20	1,075	5.60	2,080
2.10	153	3.20	560	4.30	1,135	5.80	2,260
2.20	178	3.30	605	4.40	1,195	6.00	2,440
2.30	205	3.40	650	4.50	1,260	6.20	2,620
2.40	235	3.50	700	4.60	1,325	6.40	2,800
2.50	270	3.60	750	4.70	1,395	6.60	3,000
2.60	305	3.70	800	4.80	1,465	6 80	3,200
2.70	345	3.80	850	4.90	1,535	7.00	3,100
2.80	385	3.90	905	5.00	1,610	8.00	4,500
2.90	425	4.00	960	5.20	1,760	9.00	5,600

NOTE.—The above table is not applicable for obstructed-channel conditions. It is based on 33 discharge measurements made during 1903–1908, and is well defined below gage height 6 feet.

Monthly discharge of Choccolocco Creek at Jenifer, Ala., for 1907 and 1908.

[Drainage area, 272 square miles.]

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area).	Accuracy.
	Maximum.	Minimum.	Mean.	Per square mile.		
1907.						
January	3,100	345	621	2.28	2.63	A.
February	5,270	385	1,250	4.60	4.79	A.
March	3,730	385	895	3.29	3.79	A.
April	1,020	345	534	1.96	2.19	A.
May	3,000	470	876	3.22	3.71	A.
June	700	270	400	1.47	1.64	A.
July	385	178	258	.949	1.09	A.
August	205	130	169	.621	.72	A.
September	425	109	161	.592	.66	A.
October	153	109	129	.474	.55	A.
November	800	130	228	.838	.94	A.
December	1,260	178	385	1.42	1.64	A.
The year	5,270	109	492	1.81	24.35	
1908.						
January	1,760	270	524	1.93	2.22	A.

TALLAPOOSA RIVER AT STURDEVANT, ALA.

The station is located at the Central of Georgia Railroad bridge, one-quarter mile west of Sturdevant. It is 6 miles east of Alexander City, and about 5 miles below the mouth of Hillabee Creek. It was established July 19, 1900.

Measurements prior to 1906 were referred to a standard chain gage attached to the bridge. During 1906 the bridge was replaced by a new one and the present vertical staff gage was located at Stowe's boat landing, about 2,000 feet upstream. All gage readings on the new gage are reduced to conform to the standard gage readings at the bridge, thus eliminating any difference in the published records that arise from change in the gage. Both banks overflow for about 200 feet at extreme high stages. Conditions of flow appear to be somewhat changeable, but a fairly good rating has been developed.[a]

[a] Data collected at this station prior to 1904 have been compiled in Water-Supply Paper No. 107, Water powers of Alabama.

Discharge measurements of Tallapoosa River at Sturdevant, Ala., in 1907 and 1908.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
1907.		*Feet.*	*Sq. ft.*	*Feet.*	*Sec.-ft.*
July 30	Warren E. Hall	386	2,720	3.20	3.270
1908.					
March 28	Warren E. Hall	396	3,340	4.62	5.770
October 24	M. R. Hall	189	979	.73	591

Daily gage height, in feet, of Tallapoosa River at Sturdevant, Ala., for 1907 and 1908.

[Observer, C. J. Stowe.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1	10.0	4.8	7.9	3.4	4.3	4.1	3.8	2.25	1.05	1.5	1.0	3.5
2	8.0	11.6	10.8	3.45	4.1	3.75	3.3	1.95	.95	1.5	1.05	3.15
3	6.6	9.5	10.1	3.4	3.8	3.6	3.25	2.15	.85	1.35	1.45	2.8
4	4.9	6.8	8.2	3.25	4.1	3.4	3.25	1.9	1.05	1.25	1.65	2.5
5	4.4	10.8	6.3	3.15	4.3	3.3	3.05	1.7	.9	1.25	1.55	2.35
6	4.1	8.7	4.1	3.3	3.9	3.3	2.6	1.6	1.6	1.15	1.5	2.25
7	3.9	6.8	4.7	3.45	7.1	3.05	2.35	1.9	1.7	1.35	1.35	2.15
8	3.85	5.4	4.4	4.1	5.8	2.85	2.25	1.8	1.45	1.35	1.25	2.15
9	3.7	4.9	4.3	4.0	6.5	2.8	2.35	1.95	1.25	2.4	1.15	2.2
10	3.7	4.5	4.1	3.6	5.2	2.8	2.5	2.35	1.05	1.9	1.5	4.9
11	3.6	4.3	4.1	3.25	4.8	2.75	2.35	1.7	3.95	1.6	2.25	5.0
12	3.55	4.1	4.0	3.15	4.7	3.15	2.55	2.4	2.85	1.45	2.25	4.1
13	3.5	4.1	3.9	3.05	4.4	2.8	2.35	2.85	1.5	1.25	2.05	3.6
14	3.5	4.0	3.9	2.95	4.1	3.6	2.25	3.05	1.35	1.15	1.8	5.0
15	3.4	3.9	4.2	2.85	8.7	4.0	2.2	2.4	1.35	1.05	1.6	4.5
16	3.3	3.8	4.1	2.85	9.7	3.3	2.6	1.95	1.25	1.0	1.45	4.2
17	3.3	3.7	4.0	6.8	7.5	2.95	2.6	1.7	1.15	1.0	1.35	3.8
18	3.25	3.6	3.8	6.0	5.2	2.7	2.35	2.7	1.0	1.0	1.5	3.3
19	3.25	3.55	3.7	5.6	4.6	2.6	2.05	2.25	1.0	1.05	1.6	3.25
20	3.55	3.6	3.65	5.4	4.1	2.5	1.9	1.95	.9	1.0	2.05	3.05
21	3.3	3.6	3.6	4.5	3.9	2.4	1.9	1.8	.8	.95	4.1	2.85
22	3.4	3.55	3.5	4.5	3.7	2.35	1.95	3.8	1.0	.9	6.7	2.7
23	3.3	3.45	3.45	7.0	3.5	2.35	2.05	2.7	3.7	1.0	8.0	7.5
24	3.25	3.4	3.4	6.6	3.7	2.7	1.9	1.95	2.6	1.05	7.5	6.1
25	3.2	4.3	3.3	5.2	3.6	2.8	1.7	1.7	1.95	1.0	5.6	4.7
26	3.3	4.7	3.3	4.5	3.6	3.5	2.35	1.5	1.9	1.05	4.1	4.0
27	3.5	5.3	3.25	4.1	5.0	3.3	3.9	1.6	1.6	1.05	3.4	3.5
28	3.35	6.1	3.2	4.4	4.9	3.2	3.25	1.5	1.5	1.15	2.95	3.3
29	3.25	.....	3.2	7.1	4.1	4.5	2.8	1.45	1.7	1.05	2.6	5.7
30	3.15	.....	3.15	5.1	3.65	4.1	3.25	1.35	1.6	1.0	3.4	6.6
31	3.7	.....	3.2	.....	4.4	.....	2.8	1.25	.....	1.0	.....	7.0
1908.												
1	6.8	10.7	4.1	3.7	3.8	3.05	1.6	1.5	1.25	.6	1.45	1.35
2	4.6	8.6	3.9	3.6	3.5	2.8	1.5	1.6	1.15	.55	1.6	2.45
3	4.1	6.5	3.85	3.55	3.4	2.65	1.9	1.6	1.05	.6	2.25	2.35
4	3.7	5.1	4.1	3.4	3.25	2.7	2.05	1.35	1.0	.6	4.7	2.05
5	5.0	4.4	4.4	3.3	3.15	3.7	1.8	2.05	.9	.7	3.6	1.8
6	5.2	4.5	4.0	3.4	4.5	3.05	2.35	2.35	3.3	.7	2.8	1.8
7	5.3	4.3	3.85	3.35	5.1	2.8	3.5	2.95	4.3	.75	2.2	2.5
8	5.0	4.1	3.7	3.4	4.6	2.85	3.6	2.35	3.25	.6	1.9	2.85
9	4.3	3.8	3.6	3.3	4.1	2.6	2.95	2.0	2.5	.6	1.6	4.25
10	3.9	5.0	3.5	3.25	3.75	2.4	2.5	1.9	1.95	.8	1.45	3.6
11	4.3	6.5	3.45	3.15	3.4	2.7	2.5	1.7	1.6	1.5	1.6	2.5
12	5.5	6.3	3.4	3.05	3.25	2.95	2.65	1.8	1.35	1.95	1.6	2.25
13	4.8	5.5	3.4	2.95	3.15	2.6	2.55	1.5	1.15	1.45	1.45	2.05
14	3.9	6.1	3.5	2.95	3.0	2.4	2.15	1.35	1.05	1.25	1.25	1.9
15	3.7	13.5	3.4	2.95	2.95	2.5	1.9	1.15	1.0	1.05	1.35	1.85
16	3.6	11.5	3.3	5.0	2.85	2.4	1.75	1.05	.9	1.0	1.35	1.75
17	3.6	8.6	3.3	5.0	2.95	2.35	1.7	1.0	.8	.9	1.3	1.7
18	3.5	6.2	3.25	4.2	4.3	2.15	1.5	1.05	.75	.8	1.25	1.7
19	3.4	6.6	3.25	3.7	5.0	2.05	1.5	1.8	.7	1.05	1.35	1.6
20	3.25	5.8	3.15	3.4	4.6	1.95	1.6	2.7	.65	.9	1.25	1.6
21	3.15	5.1	3.15	3.95	3.9	1.95	2.4	2.85	.65	.8	1.25	1.7
22	3.15	4.8	3.25	3.5	3.4	1.8	2.05	3.7	.7	.65	1.25	5.8
23	3.15	4.5	5.1	4.2	3.15	2.95	1.7	3.9	.8	.7	1.25	6.9
24	3.05	4.2	9.6	3.9	2.95	2.6	1.5	4.1	.7	.7	1.2	5.1
25	2.95	4.1	8.4	8.1	2.95	3.35	1.7	2.4	.7	.75	1.25	3.9

Daily gage height, in feet, of Tallapoosa River at Sturdevant, Ala., for 1007 and 1908— Continued.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1908.												
26	2.85	4.1	6.7	8.2	3.7	2.7	3.4	2.8	0.7	0.75	1.25	2.85
27	2.95	4.7	5.2	8.2	4.2	2.4	2.4	2.7	.7	.6	1.25	2.7
28	2.9	4.5	4.6	6.0	3.9	1.9	1.95	2.45	.65	.9	1.2	2.4
29	2.85	4.2	4.2	4.3	3.3	1.8	1.85	2.05	.6	1.05	1.25	2.25
30	2.85	.....	3.95	3.95	3.9	1.7	2.0	1.7	.6	1.45	1.25	2.15
31	2.85	.....	3.9	.....	3.7	.....	1.95	1.45	.....	1.45	.....	2.05

Rating table for Tallapoosa River at Sturdevant, Ala., for 1907 and 1908.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*
0.50	480	2.00	1,560	3.50	3,600	6.00	9,440
.60	530	2.10	1,670	3.60	3,770	6.20	10,000
.70	580	2.20	1,780	3.70	3,950	6.40	10,560
.80	635	2.30	1,900	3.80	4,130	6.60	11,140
.90	690	2.40	2,020	3.90	4,320	6.80	11,740
1.00	750	2.50	2,140	4.00	4,510	7.00	12,350
1.10	815	2.60	2,270	4.20	4,910	8.00	15,550
1.20	880	2.70	2,400	4.40	5,330	9.00	18,750
1.30	950	2.80	2,530	4.60	5,770	10.00	21,950
1.40	1,020	2.90	2,670	4.80	6,250	11.00	25,150
1.50	1,100	3.00	2,810	5.00	6,760	12.00	28,350
1.60	1,180	3.10	2,960	5.20	7,280	13.00	31,550
1.70	1,270	3.20	3,110	5.40	7,800	14.00	34,750
1.80	1,360	3.30	3,270	5.60	8,330		
1.90	1,460	3.40	3,430	5.80	8,880		

NOTE.—The above table is not applicable for obstructed-channel conditions. It is based on over 30 discharge measurements made during 1900–1908 and is well defined below gage height 10 feet. Above gage height 7 feet the rating curve is a tangent, the difference being 320 per tenth.

Monthly discharge of Tallapoosa River at Sturdevant, Ala., for 1907 and 1908.

[Drainage area, 2,500 square miles.]

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area).	Accuracy.
	Maximum.	Minimum.	Mean.	Per square mile.		
1907.						
January	22,000	3,040	4,940	1.98	2.28	A.
February	27,100	3,430	8,030	3.21	3.34	A.
March	24,500	3,040	6,280	2.51	2.89	A.
April	12,700	2,600	5,600	2.24	2.50	A.
May	21,000	3,600	6,810	2.72	3.14	A.
June	5,550	1,960	3,110	1.24	1.38	A.
July	4,320	1,270	2,300	.920	1.06	A.
August	4,130	915	1,660	.664	.77	A.
September	4,420	635	1,270	.508	.57	B.
October	2,020	690	912	.365	.42	B.
November	15,600	750	3,140	1.26	1.41	A.
December	14,000	1,720	4,840	1.94	2.24	A.
The year	27,100	635	4,070	1.63	22.00	
1908.						
January	11,700	2,600	4,510	1.80	2.08	A.
February	33,200	4,130	9,900	3.96	4.27	A.
March	20,700	3,040	5,340	2.14	2.47	A.
April	16,200	2,740	5,310	2.12	2.36	A.
May	7,020	2,600	3,990	1.60	1.84	A.
June	3,950	1,270	2,220	.888	.99	A.
July	3,770	1,100	1,790	.716	.83	A.
August	4,710	750	1,800	.720	.83	A.
September	5,120	530	1,080	.432	.48	B.
October	1,510	505	715	.286	.33	B.
November	6,010	880	1,370	.548	.61	B.
December	12,000	985	2,690	1.08	1.24	A.
The year	33,200	505	3,390	1.35	18.33	

CAHABA RIVER AT CENTERVILLE, ALA.

The station is located at the iron highway bridge, one-fourth mile west of Centerville and one-half mile above the Mobile and Ohio Railroad bridge. It was established August 7, 1901, and was discontinued February 5, 1908.

The datum of the gage has remained the same since the establishment of the station. The right bank overflows at extreme high water and the left bank overflows under the approach to the bridge. Conditions of flow at this point are changeable. The rating table can only be considered as fair at low stages.[a]

The following discharge measurement was made:

October 26, 1907: Width, 122 feet; area, 330 square feet; gage height, 1.60 feet; discharge, 251 second-feet.

Daily gage height, in feet, of Cahaba River at Centerville, Ala., for 1907 and 1908.

[Observer, Mrs. Laura Lawson.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1	18.3	9.5	17.6	3.0	9.5	11.6	2.7	2.3	1.5	2.4	1.5	3.2
2	14.0	22.0	22.5	2.7	8.6	10.5	3.7	1.9	1.6	2.3	3.5	3.0
3	9.3	23.8	20.2	2.7	7.5	7.3	3.5	1.7	2.5	2.2	3.7	2.9
4	7.4	16.6	16.5	2.7	7.3	6.0	3.4	1.9	2.0	2.1	3.5	2.6
5	6.7	21.5	10.7	7.4	6.9	4.8	2.8	2.0	1.9	2.1	2.0	2.6
6	5.7	18.8	8.5	5.3	6.1	4.7	2.5	1.9	1.5	1.7	1.9	2.5
7	5.3	13.5	7.2	4.6	10.1	4.0	2.3	2.3	1.4	1.4	1.7	2.4
8	4.8	10.0	6.3	4.0	14.9	3.8	2.2	2.0	1.4	2.4	1.7	2.4
9	4.7	8.2	5.7	3.5	12.5	3.5	1.7	2.4	2.0	2.1	1.7	2.7
10	4.5	7.2	5.2	3.3	10.6	4.0	2.0	2.3	2.0	2.0	1.6	6.2
11	4.4	6.2	4.8	3.0	10.5	3.2	2.0	2.3	1.9	1.9	1.5	5.9
12	4.2	5.4	4.3	3.0	7.5	4.0	3.1	2.7	1.9	1.8	1.5	4.3
13	4.0	5.3	4.3	3.0	7.2	3.4	2.7	2.9	1.8	1.7	1.4	4.7
14	3.8	4.7	4.2	3.0	6.3	3.8	2.4	2.2	1.8	1.6	1.4	6.9
15	3.7	4.2	5.7	3.0	25.2	4.8	3.3	2.1	1.9	1.5	1.3	6.9
16	3.5	4.2	5.2	2.8	23.3	3.8	2.9	2.0	1.8	1.5	1.4	5.8
17	3.5	4.0	4.5	11.5	18.1	3.4	2.5	3.0	1.6	1.4	1.4	6.4
18	3.5	4.0	4.3	10.5	13.2	3.2	2.4	1.8	1.5	1.4	1.4	4.4
19	3.0	4.0	3.8	17.8	8.9	3.0	1.9	1.6	1.5	1.4	1.5	4.3
20	5.8	3.8	3.7	14.8	8.5	2.9	1.3	1.5	1.4	1.4	1.6	4.3
21	7.1	3.6	3.7	8.7	8.2	2.4	2.0	2.6	1.4	1.4	2.4	3.4
22	5.6	3.2	3.5	9.7	7.0	2.4	2.4	1.9	5.0	1.4	6.0	6.9
23	4.7	3.5	3.5	18.3	5.9	3.5	2.4	1.7	7.9	1.4	11.2	6.0
24	4.4	3.5	3.3	13.5	4.1	3.3	2.4	1.7	12.0	1.4	10.5	5.9
25	4.0	7.3	3.3	10.0	7.5	2.9	2.4	1.6	11.5	1.4	7.9	5.4
26	4.0	5.7	3.3	9.5	7.9	2.4	1.9	1.4	7.4	1.2	6.9	4.6
27	4.0	5.4	3.2	8.3	8.5	2.4	2.0	1.4	2.9	1.2	4.4	4.0
28	3.6	7.0	3.0	6.9	7.8	2.3	4.2	1.4	2.6	1.3	3.4	6.0
29	3.4	.....	3.0	7.0	5.5	2.3	3.8	1.4	2.5	1.4	3.4	14.1
30	4.7	.....	3.0	7.6	5.1	2.5	3.7	1.4	2.4	1.6	3.3	16.6
31	5.7	.....	3.0	.....	7.0	.....	3.5	1.4	.....	1.7	.....	16.0

Day.	Jan.	Feb.	Day.	Jan.	Feb.	Day.	Jan.	Feb.	Day.	Jan.	Feb.
1908.			1908.			1908.			1908.		
1	12.6	15.3	9	8.1	.....	17	6.1	.....	25	3.7	.....
2	8.8	12.9	10	6.9	.....	18	5.8	.....	26	3.8	.....
3	7.0	10.8	11	7.7	.....	19	5.9	.....	27	3.7	.....
4	6.0	9.6	12	13.9	.....	20	5.2	.....	28	3.5	.....
5	8.7	8.5	13	13.7	.....	21	4.7	.....	29	3.4	.....
6	10.2	.....	14	10.0	.....	22	4.4	.....	30	3.3	.....
7	10.2	.....	15	7.4	.....	23	4.2	.....	31	3.7	.....
8	10.2	.....	16	6.9	.....	24	3.9	.....			

[a] Data collected at this station prior to 1904 have been compiled in Water-Supply Paper No. 107, Water powers of Alabama.

Rating table for Cahaba River at Centerville, Ala., for 1907 and 1908.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*
1.20	152	3.00	638	4.80	1,332	9.00	3,500
1.30	176	3.10	669	4.90	1,376	10.00	4,050
1.40	200	3.20	701	5.00	1,420	11.00	4,600
1.50	225	3.30	733	5.20	1,512	12.00	5,150
1.60	250	3.40	766	5.40	1,604	13.00	5,700
1.70	275	3.50	800	5.60	1,698	14.00	6,250
1.80	300	3.60	836	5.80	1,794	15.00	6,800
1.90	326	3.70	874	6.00	1,890	16.00	7,350
2.00	352	3.80	912	6.20	1,990	17.00	7,900
2.10	378	3.90	950	6.40	2,090	18.00	8,450
2.20	405	4.00	990	6.60	2,192	19.00	9,000
2.30	432	4.10	1,030	6.80	2,296	20.00	9,550
2.40	460	4.20	1,072	7.00	2,400	21.00	10,100
2.50	488	4.30	1,114	7.20	2,510	22.00	10,650
2.60	517	4.40	1,156	7.40	2,620	23.00	11,200
2.70	546	4.50	1,200	7.60	2,730	24.00	11,750
2.80	576	4.60	1,244	7.80	2,840	25.00	12,300
2.90	607	4.70	1,288	8.00	2,950	26.00	12,850

NOTE.—The above table is not applicable for obstructed-channel conditions. It is based on one discharge measurement made during 1907 and the form of previous curves. It is not well defined. Above gage height 7 feet the rating curve is a tangent, the difference being 55 per tenth.

Monthly discharge of Cahaba River at Centerville, Ala., for 1907 and 1908.

[Drainage area, 1,040 square miles.]

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area).
	Maximum.	Minimum.	Mean.	Per square mile.	
1907.					
January	8,620	640	1,760	1.69	1.95
February	11,600	701	3,300	3.17	3.30
March	10,900	638	2,320	2.23	2.57
April	8,620	546	2,620	2.52	2.81
May	12,400	1,030	3,840	3.69	4.25
June	4,930	432	1,120	1.08	1.20
July	1,070	176	544	.523	.60
August	638	200	345	.332	.38
September	5,150	200	833	.801	.89
October	460	152	269	.259	.30
November	4,710	176	887	.853	.95
December	7,680	460	1,840	1.77	2.04
The year	12,400	152	1,640	1.58	21.21
1908.					
January	6,200	733	2,440	2.35	2.71
February 1–5	6,960	3,220	4,830	4.64	.86

NOTE.—Owing to a rather poor rating curve and somewhat doubtful gage heights, values at this station can not be classed as better than C.

TOMBIGBEE RIVER AT COLUMBUS, MISS.

The station is located at the county highway bridge at the south end of Main street in the city of Columbus, Miss. Gage heights from 1900 to 1904 have been furnished by the United States Weather Bureau and estimates of discharge based thereon. On July 13, 1905, the present chain gage was installed by the United States Geological Survey at the highway bridge 1,000 feet above the gage of the United States Weather Bureau. The new gage was set to read the same as

the United States Weather Bureau gage at low water, which makes it practically on the same datum, as the low-water surface is almost level. The right bank is high and seldom overflows. The left bank overflows only under the bridge approach at a gage height of about 20 feet. The bed of the stream is of soft limestone or chalk, and conditions of flow are somewhat changeable at low stages. A good rating has been developed for 1907 and 1908.[a]

Discharge measurements of Tombigbee River at Columbus, Miss., in 1907 and 1908.

Date	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
1907.		*Feet.*	*Sq. ft.*	*Feet.*	*Sec.-ft.*
October 22	Warren E. Hall	93	910	−3.51	366
1908.					
July 17	Warren E. Hall	100	1,020	−2.62	770

Daily gage height, in feet, of Tombigbee River at Columbus, Miss., for 1907 and 1908.

[Observer, C. R. Shackelford.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1	5.3	6.8	11.6	−0.7	6.9	9.2	−1.9	−2.2	−3.5	−3.4	−3.5	−1.8
2	4.9	15.7	14.6	− .8	11.7	9.0	−2.0	−2.4	−3.5	−3.4	−3.5	−2.0
3	5.0	15.4	15.7	− .7	12.1	9.6	−1.3	−2.5	−3.5	−3.5	−3.3	−2.1
4	4.8	14.6	15.9	− .8	13.3	10.4	−1.5	−2.7	−3.6	−3.6	−3.1	−2.2
5	4.4	14.4	16.3	− .9	13.8	10.8	−1.6	−2.9	−3.6	−3.5	−2.9	−2.2
6	3.9	14.0	16.4	− .1	13.2	10.3	−1.6	−3.0	−3.7	−3.6	−2.6	−2.3
7	3.5	12.7	16.0	1.0	13.9	8.9	−1.5	−3.2	−3.7	−3.6	−2.7	−2.5
8	2.9	10.5	14.5	1.5	15.0	7.2	−1.8	−3.2	−3.7	−3.5	−3.0	−2.6
9	2.3	8.0	12.0	1.7	15.1	5.4	−2.2	−3.3	−3.6	−3.5	−3.2	−2.5
10	1.7	5.7	9.3	1.3	15.2	3.5	−2.5	−3.3	−3.6	−3.0	−3.1	−2.1
11	1.4	4.7	7.3	.6	15.7	1.4	−2.7	−3.3	−3.7	−2.8	−3.2	−1.7
12	1.4	3.9	5.5	− .1	15.6	2.8	−2.7	−3.2	−3.7	−2.4	−3.0	−1.4
13	1.6	2.8	3.8	− .5	14.6	1.7	−2.5	−3.2	−3.6	−2.5	−2.5	−1.1
14	1.8	1.7	2.5	− .9	12.5	1.0	−1.7	−3.3	−3.6	−2.9	−2.5	−1.0
15	1.6	.9	4.1	−1.2	13.0	1.9	− .5	−3.0	−3.6	−3.1	−2.6	− .5
16	1.2	.5	6.2	−1.4	13.8	3.6	− .9	−3.2	−3.6	−3.2	−2.9	− .7
17	.8	.2	7.0	−1.0	13.4	3.4	−1.3	−3.3	−3.6	−3.3	−2.7	− .8
18	.4	.0	7.5	1.5	13.3	2.1	−1.6	−3.4	−3.6	−3.5	−2.9	− .9
19	.2	− .2	7.2	2.7	14.2	0.6	−1.9	−3.5	−3.6	−3.6	−3.0	−1.1
20	.2	− .3	6.3	3.4	14.5	− .3	−2.2	−3.5	−3 7	−3.5	−3.0	−1.2
21	1.0	− .4	5.3	3.0	13.6	− .9	−2.3	−3.5	−3.7	−3.5	−2.7	−1.6
22	1.8	− .5	4.0	2.5	11.4	− .6	−2.4	−3.2	−3.7	−3.5	−1.9	−1.7
23	2.3	− .6	3.1	2.3	8.9	− .8	−2.4	−3.3	−3.6	−3.5	−1.6	−1.7
24	2.1	− .7	2.3	1.9	6.8	− .9	−2.5	−3.3	−2.7	−3.5	− .7	−1.0
25	1.8	1.3	1.3	1.3	4.6	−1.1	−2.4	−3.2	−2.4	−3.5	− .6	− .4
26	1.1	5.5	.5	.9	2.3	−1.1	−2.6	−3.2	−2.0	−3.5	− .5	− .2
27	.4	7.1	.2	.3	6.8	−1.2	−2.8	−3.3	−2.1	−3.5	− .7	.1
28	− .1	8.1	− .1	.0	10.2	−1.2	−1.0	−3.3	−2.6	−3.5	− .9	.1
29	− .4	.....	− .3	− .2	9.6	−1.2	−1.1	−3.3	−3.0	−3.6	−1.3	− .2
30	− .7	.....	− .5	2.9	9.9	−1.6	−1.7	−3.3	−3.2	−3.5	−1.7	− .4
31	− .6	.....	− .6	.....	9.8	.....	−1.8	−3.4	.....	−3.5	.....	1.5

[a] Data collected at this station prior to 1904 have been compiled in Water-Supply Paper No. 107, Water powers of Alabama.

Daily gage height, in feet, of Tombigbee River at Columbus, Miss., for 1907 and 1908—Continued.

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1908.												
1	3.2	3.3	6.2	11.4	7.9	0.0	−2.5	−1.8	−2.9	−3.3	−3.6	−2.3
2	4.2	6.0	4.8	8.3	5.2	− .2	−2.6	−2.0	−3.1	−3.4	−3.6	−2.7
3	4.9	6.0	4.0	5.8	3.5	− .2	−2.7	−1.1	−3.1	−3.4	−3.6	−2.9
4	4.9	6.1	4.0	3.4	2.5	− .2	−2.5	.3	−3.2	−3.5	−3.6	−2.9
5	5.3	5.4	4.4	2.0	2.8	6.0	−2.4	1.5	−3.3	−3.5	−3.5	−2.8
6	6.3	6.6	5.0	1.4	13.5	8.7	−1.7	1.4	−3.3	−3.6	−3.5	−2.7
7	6.7	6.9	5.9	1.1	14.7	9.0	−1.1	1.1	−3.4	−3.6	−3.5	1.8
8	6.7	6.6	6.9	1.6	14.9	10.0	−1.1	2.0	−3.4	−3.6	−3.5	4.7
9	6.0	6.0	7.7	2.3	16.4	10.6	− .4	2.1	−3.4	−3.6	−3.5	5.2
10	4.9	6.9	7.6	2.5	17.1	10.0	− .2	1.6	−3.5	−3.6	−3.5	5.2
11	4.0	8.4	6.9	1.6	16.3	8.1	.6	.9	−3.5	−3.6	−3.5	5.0
12	3.9	8.4	6.4	.8	13.7	5.4	.4	.1	−3.5	−3.5	−3.5	3.4
13	4.0	10.4	5.6	.3	8.8	3.5	− .4	− .8	−3.5	−3.5	−3.5	1.7
14	4.1	14.4	4.8	.0	4.5	1.1	−1.4	−1.5	−3.6	−3.5	−3.4	.7
15	4.2	16.4	3.8	.2	3.1	1.0	−1.8	−1.8	−3.6	−3.6	−3.4	.2
16	4.0	18.2	2.9	.7	5.7	1.0	−2.3	−2.0	−3.6	−3.5	−3.3	− .2
17	4.4	20.5	2.1	2.4	6.2	1.4	−2.5	−1.8	−3.6	−3.5	−3.3	− .6
18	4.4	21.6	1.4	2.8	4.5	1.1	−2.7	−1.9	−3.7	−3.5	−3.2	−1.1
19	4.1	22.9	1.0	3.0	7.4	.4	−2.5	−1.8	−3.7	−3.5	−3.3	−1.4
20	3.7	23.2	.8	2.7	8.6	− .2	−2.6	−1.8	−3.7	−3.6	−3.3	−1.6
21	3.1	22.5	5.6	1.9	7.5	− .7	−2.4	−2.3	−3.7	−3.6	−3.3	−1.4
22	2.5	21.1	7.2	1.1	6.8	−1.1	−1.4	−2.3	−3.2	−3.6	−3.3	5.4
23	2.1	19.4	11.0	.6	5.5	−1.6	−1.1	−1.7	− .8	−3.6	−3.3	7.4
24	1.4	17.3	16.2	.1	3.5	−1.7	−1.3	−1.4	− .9	−3.6	−3.3	7.0
25	.9	14.9	17.8	1.6	1.7	−1.9	−1.8	− .7	−1.6	−3.6	−3.3	6.8
26	.6	12.4	19.4	6.6	.6	−2.0	−1.9	− .7	−2.2	−3.6	−3.2	6.5
27	.2	9.3	21.0	7.9	− .1	−2.1	−1 7	−1.0	−2.7	−3.6	−3.2	5.6
28	.1	8.4	21.1	9.4	− .5	−2.2	−1.6	−1.5	−2.9	−3.6	−3.2	3.4
29	.4	7.4	20.0	10.1	− .8	−2.2	−1.7	−2.0	−3.0	−3.6	−2.7	1.5
30	.5	.....	18.0	9.8	− .9	−2.4	−1.8	−2.4	−3.2	−3.6	−2.6	.6
31	.5	.....	14.8	.....	.2	.....	−1.6	−2.7	.....	−3.6	.....	.3

Rating table for Tombigbee River at Columbus, Miss., for 1907 and 1908.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*
−3.70	310	−1.80	1,260	.20	2,755	8.00	12,540
−3.60	345	−1.70	1,325	.40	2,935	9.00	14,040
−3.50	380	−1.60	1,390	.60	3,115	10.00	15,590
−3.40	420	−1.50	1,455	.80	3,305	11.00	17,170
−3.30	460	−1.40	1,520	1.00	3,500	12.00	18,800
−3.20	500	−1.30	1,590	1.20	3,700	13.00	20,500
−3.10	545	−1.20	1,660	1.40	3,900	14.00	22,200
−3.00	590	−1.10	1,730	1.60	4,110	15.00	23,900
−2.90	635	−1.00	1,800	1 80	4,320	16.00	25,600
−2.80	685	− .90	1,870	2.00	4,540	17.00	27,300
−2.70	735	− .80	1,940	2 20	4,760	18 00	29,000
−2.60	785	− .70	2,015	2.40	4,990	19.00	30,700
−2.50	840	− .60	2,090	2.60	5,220	20 00	32,400
−2.40	895	− .50	2,170	2.80	5,450	21.00	34,100
−2.30	950	− .40	2,250	3.00	5,680	22.00	35,800
−2.20	1,010	− .30	2,330	4.00	6,920	23.00	37,500
−2.10	1,070	− .20	2,410	5.00	8,240	24.00	39,200
−2.00	1,130	− .10	2,495	6 00	9,620		
−1.90	1,195	.00	2,580	7.00	11,060		

NOTE.—The above table is not applicable for obstructed-channel conditions. It is based on 36 discharge measurements made during 1901–1908, and is well defined. Above gage height 12 feet the rating curve is a tangent, the difference being 170 per tenth.

Monthly discharge of Tombigbee River at Columbus, Miss., for 1907 and 1908.

[Drainage area, 4,440 square miles.]

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area).	Accuracy.
	Maximum.	Minimum.	Mean.	Per square mile.		
1907.						
January	8,640	2,020	4,550	1.02	1.18	A.
February	25,100	2,020	9,740	2.19	2.28	A.
March	26,300	2,090	11,800	2.66	3.07	A.
April	6,160	1,520	3,290	.741	.83	A.
May	25,100	4,880	18,600	4.19	4.83	A.
June	16,800	1,390	6,490	1.46	1.63	A.
July	2,170	685	1,210	.273	.31	B.
August	1,010	380	527	.119	.14	B.
September	1,130	310	449	.101	.11	B.
October	895	345	445	.100	.12	B.
November	2,170	380	957	.216	.24	B.
December	4,000	785	1,680	.378	.44	A.
The year	26,300	310	4,980	1.12	15.18	
1908.						
January	10,600	2,660	6,370	1.43	1.65	A.
February	37,800	6,040	19,800	4.46	4.81	A.
March	34,300	3,300	14,000	3.15	3.63	A.
April	17,800	2,580	6,640	1.50	1.67	A.
May	27,500	1,870	11,100	2.50	2.88	A.
June	16,500	895	5,290	1.19	1.33	A.
July	3,120	735	1,410	.318	.37	B.
August	4,650	735	2,040	.459	.53	A.
September	1,940	310	590	.133	.15	B.
October	460	345	364	.082	.09	B.
November	785	345	443	.100	.11	B.
December	11,600	635	4,730	1.07	1.23	A.
The year	37,800	310	6,060	1.37	18.45	

TOMBIGBEE RIVER AT EPES, ALA.

The station is located at the bridge of the Alabama Great Southern Railroad, one-half mile from Epes, Ala.

A record of approximate gage heights has been kept by the Alabama Great Southern Railroad for a number of years, being based on a gage painted on one of the bridge piers. During 1900 and 1901 discharge measurements were made by the United States Geological Survey and a rating developed for these years. November 29, 1904, the station was reestablished by the United States Geological Survey.

The datum of the chain gage, which is practically the same as that of the old gage, has remained the same since its installation. The right bank is high and is not subject to overflow. The left bank will not overflow until a stage of 38 feet has been reached. During floods it overflows for seven-eighths of a mile under the trestle approach to the bridge. Conditions of flow at this point are practically permanent and a good rating has been developed.[a]

Discharge measurements of Tombigbee River at Epes, Ala., in 1907 and 1908.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
1907.		*Feet.*	*Sq. ft.*	*Feet.*	*Sec.-ft.*
October 25	Warren E. Hall	106	670	0.54	664
1908.					
March 25	Warren E. Hall	289	8,190	32.55	35,100

[a] Data collected at this station prior to 1904 have been compiled in Water-Supply Paper No. 107, Water powers of Alabama.

Daily gage height, in feet, of Tombigbee River at Epes, Ala., for 1907 and 1908.

[Observer, J. C. Horton.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1	19.9	14.2	26.4	4.35	16.0	22.1	4.25	2.85	0.9	1.4	0.5	3.35
2	20.6	20.7	33.1	4.3	20.2	20.8	5.0	2.6	.85	.9	.65	3.05
3	18.8	25.4	36.0	4.15	22.9	19.7	4.55	2.25	.8	1.0	.7	2.85
4	17.2	29.4	37.0	3.8	24.8	18.8	4.25	2.05	.8	.95	.7	2.65
5	15.2	32.8	37.1	4.05	25.7	18.8	4.5	1.85	.7	.75	.9	2.5
6	14.0	34.7	36.8	5.0	26.4	18.9	3.85	1.85	.7	.65	1.05	2.35
7	12.4	35.2	36.6	7.8	30.4	18.8	3.75	1.55	.7	.6	1.4	2.15
8	11.4	35.4	36.3	8.1	32.6	17.8	3.65	1.35	.7	.65	1.5	2.0
9	10.4	34.9	35.8	7.9	34.6	15.8	3.3	1.2	1.05	.65	1.4	2.35
10	9.4	33.8	35.0	7.7	35.0	13.1	2.9	1.2	.85	.7	1.35	2.5
11	8.7	30.3	32.2	7.4	34.7	10.6	2.4	1.3	.7	.7	1.2	3.05
12	8.4	25.1	30.4	6.6	34.0	8.8	2.15	1.25	.65	.95	1.1	3.3
13	8.2	19.6	25.6	5.8	33.4	8.5	2.2	1.15	.7	1.35	1.0	3.75
14	8.2	15.8	19.9	5.2	33.2	8.2	2.35	1.1	.7	1.65	1.25	4.3
15	8.0	12.6	14.8	4.6	36.1	8.1	2.7	1.1	.75	1.8	1.5	4.95
16	7.6	9.2	12.6	4.4	36.6	7.8	3.3	1.2	.7	1.55	1.5	5.2
17	7.2	7.8	13.1	8.5	36.7	8.6	4.15	1.2	.7	1.3	1.5	4.95
18	6.6	6.9	14.0	9.2	36.0	9.3	3.45	1.25	.7	1.05	1.4	4.5
19	6.1	6.4	11.4	12.3	35.2	8.0	3.1	1.25	.65	.85	1.4	4.15
20	6.2	6.0	14.4	11.7	34.1	6.4	2.85	4.1	.5	.75	1.4	4.0
21	6.4	5.6	13.8	11.3	33.1	5.4	2.55	2.6	.5	.6	1.5	3.85
22	6.6	5.4	12.4	12.4	32.0	4.5	2.3	2.25	.5	.6	2.0	4.35
23	7.3	5.2	11.0	14.5	30.5	4.05	2.1	2.6	.5	.6	2.5	5.7
24	7.7	5.2	9.2	14.4	28.3	4.25	2.1	2.9	1.35	.6	3.35	4.9
25	7.6	7.3	8.3	12.4	25.2	4.0	2.0	2.4	1.2	.5	4.05	4.55
26	7.2	9.7	7.1	9.8	20.9	3.8	2.0	2.3	1.3	.5	4.45	5.1
27	6.7	13.6	6.2	7.8	17.6	4.05	1.95	2.3	1.65	.5	4.5	5.4
28	5.8	18.2	5.6	7.2	20.3	4.2	1.95	1.7	1.9	.5	4.3	5.9
29	5.3	.....	5.2	6.4	22.8	3.85	2.85	1.3	1.85	.5	3.95	9.0
30	5.0	.....	4.7	6.0	23.7	4.25	3.45	1.15	1.6	.5	3.75	10.2
31	7.4	.....	4.7	.....	22.8	.....	3.1	.95	.....	.5	.....	10.3
1908.												
1	9.5	13.7	38.9	39.7	18.0	6.0	2.6	3.25	1.95	1.05	.5	1.8
2	10.0	15.3	34.9	39.1	16.5	6.8	2.6	4.85	1.75	1.0	.5	2.2
3	10.5	16.3	29.4	37.2	13.4	6.4	2.8	13.4	1.6	.85	.65	2.1
4	11.0	15.7	23.1	33.3	10.8	6.0	2.4	12.6	1.35	.8	.7	2.0
5	12.3	14.8	18.5	26.8	15.2	8.2	2.2	14.0	1.3	.7	.7	2.0
6	12.9	14.7	15.6	18.4	30.2	13.2	2.7	13.5	1.3	.7	.7	2.2
7	13.5	14.9	14.5	12.9	33.6	16.2	2.95	11.0	1.45	.7	.7	3.35
8	13.7	15.3	14.2	9.0	35.0	17.4	3.8	8.7	1.6	.7	.7	9.6
9	13.5	15.1	14.5	8.5	35.4	17.9	4.25	8.7	1.35	.8	.7	12.8
10	12.9	16.3	15.1	9.0	35.2	18.4	5.2	9.6	1.15	.8	.8	13.8
11	13.9	18.9	15.1	9.2	35.0	18.2	6.0	8.4	1.0	.8	.8	13.6
12	14.8	20.2	14.5	8.6	34.6	16.6	6.2	7.0	1.0	.8	.8	13.0
13	14.1	21.6	13.7	7.6	34.1	13.7	6.0	5.4	.95	.8	.8	11.1
14	12.9	27.7	13.0	6.8	32.8	13.2	5.2	4.55	.85	.95	.8	9.0
15	11.8	35.2	11.4	12.2	30.0	11.7	4.2	4.0	.75	1.1	.8	7.4
16	11.5	37.3	9.7	17.5	26.4	10.2	3.45	3.4	.7	1.05	.8	6.6
17	11.2	38.3	7.7	16.4	25.6	8.9	2.95	2.95	.7	.85	.8	6.0
18	10.9	38.7	7.1	16.0	25.8	8.4	2.35	2.75	.7	.8	.9	5.6
19	10.7	41.3	6.9	15.5	28.0	7.8	2.1	4.05	.7	.7	.95	5.2
20	10.3	42.3	6.7	15.1	28.6	6.7	2.55	5.8	.7	.7	1.1	4.6
21	9.8	43.1	6.6	14.2	28.8	5.8	2.85	4.95	.7	.7	1.1	4.15
22	9.7	43.7	10.1	13.1	27.0	5.4	3.25	3.2	.7	.7	1.1	5.9
23	9.7	44.1	21.3	11.8	24.5	4.9	3.9	2.65	.7	.7	1.1	12.1
24	8.7	44.3	28.8	9.8	21.0	4.45	4.35	2.85	.9	.6	1.1	16.4
25	7.9	44.5	32.7	14.3	17.1	4.05	4.15	3.35	2.95	.6	1.1	17.1
26	7.3	44.5	34.5	17.4	13.7	3.55	4.5	4.05	2.75	.5	1.1	16.5
27	6.7	44.1	35.7	18.2	10.6	3.35	3.7	4.4	2.3	.5	1.1	15.4
28	6.1	43.1	36.6	18.2	8.8	3.1	4.2	4.2	2.0	.5	1.15	13.6
29	5.5	41.5	37.6	18.1	7.4	2.8	4.45	3.4	1.6	.5	1.25	11.5
30	5.1	.....	38.6	18.1	6.4	2.6	4.0	2.8	1.25	.5	1.45	8.8
31	6.3	.....	39.4	.....	5.6	.....	3.8	2.3	.....	.5	.....	7.3

Rating table for Tombigbee River at Epes, Ala., for 1907 and 1908.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*
0.50	640	2.80	2,140	6.20	5,268	26.00	25,860
.60	695	2.90	2,215	6.40	5,476	27.00	26,900
.70	750	3.00	2,290	6.60	5,684	28.00	27,940
.80	810	3.10	2,370	6.80	5,892	29.00	28,980
.90	870	3.20	2,450	7.00	6,100	30.00	30,020
1.00	930	3.30	2,530	8.00	7,140	31.00	31,060
1.10	990	3.40	2,610	9.00	8,180	32.00	32.100
1.20	1,055	3.50	2,690	10.00	9,220	33.00	33,140
1.30	1,120	3.60	2,780	11.00	10,260	34.00	34,180
1.40	1,185	3.70	2,870	12.00	11,300	35.00	35,220
1.50	1,250	3.80	2,960	13.00	12,340	36.00	36,260
1.60	1,315	3.90	3,050	14.00	13,380	37.00	37,300
1.70	1,380	4.00	3,140	15.00	14,420	38.00	38,340
1.80	1,445	4.20	3,320	16.00	15,460	39.00	39,380
1.90	1,510	4.40	3,500	17.00	16,500	40.00	40,420
2.00	1,575	4.60	3,680	18.00	17,540	41.00	41,460
2.10	1,645	4.80	3,870	19.00	18,580	42.00	42,500
2.20	1,715	5.00	4,060	20.00	19,620	43.00	43,540
2.30	1,785	5.20	4,250	21.00	20,660	44.00	44,580
2.40	1,855	5.40	4,450	22.00	21,700	45.00	45,620
2.50	1,925	5.60	4,652	23.00	22,740		
2.60	1,995	5.80	4,856	24.00	23,780		
2.70	2,065	6.00	5,060	25.00	24,820		

NOTE.—The above table is not applicable for obstructed-channel conditions. It is based on 11 discharge measurements made during 1905–1908, and is well defined. Above gage height, 6 feet, the rating curve is a tangent, the difference being 104 per tenth.

Monthly discharge of Tombigbee River at Epes, Ala., for 1907 and 1908.

[Drainage area, 8,830 square miles.]

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area).	Accuracy.
	Maximum.	Minimum.	Mean.	Per square mile.		
1907.						
January	20,200	4,060	8,800	0.997	1.15	A.
February	35,600	4,250	17,600	1.99	2.07	A.
March	37,400	3,780	20,000	2.27	2.62	A.
April	13,900	2,960	7,000	.793	.88	A.
May	37,000	15,500	28,900	3.27	3.77	A.
June	21,800	2,960	9,660	1.09	1.22	A.
July	4,060	1,540	2,390	.271	.31	A.
August	3,230	900	1,470	.166	.19	A.
September	1,510	640	880	.100	.11	B.
October	1,440	640	842	.095	.11	B.
November	3,590	640	1,600	.181	.20	A.
December	9,530	1,580	3,640	.412	.48	A.
The year	37,400	640	8,570	.970	13.11	
1908.						
January	14,200	4,160	9,720	1.10	1.27	A.
February	45,100	13,100	29,900	3.39	3.66	A.
March	39,800	5,680	20,500	2.32	2.68	A.
April	40,100	5,890	16,600	1.88	2.10	A.
May	35,600	4,650	22,800	2.58	2.97	A.
June	18,000	2,000	8,310	.941	1.05	A.
July	5,270	1,640	2,960	.335	.39	A.
August	13,400	1,780	5,220	.591	.68	A.
September	2,250	750	1,120	.127	.14	A.
October	990	640	776	.088	.10	B.
November	1,220	640	867	.098	.11	B.
December	16,600	1,440	7,780	.881	1.02	A.
The year	45,100	640	10,500	1.19	16.17	

BLACK WARRIOR RIVER NEAR CORDOVA, ALA.

The station is located at the Kansas City, Memphis and Birmingham Railroad bridge, which crosses the river below the mouth of Cane Creek, 1 mile east of Cordova. It is 12 miles below the junction of Mulberry and Sipsey Forks and 6 miles below Blackwater Creek. May 21, 1900, discharge measurements were begun by the United States Geological Survey and the gage which had formerly been used by the United States Weather Bureau was repaired and read daily. Since 1904 the United States Engineer Corps has maintained the gage and furnished readings to the United States Geological Survey. The portion of the gage below 12 feet has been changed a number of times, and although the datum has been supposed to remain the same it is probable that the readings have been affected by these changes. The low-water portion is now in bad condition, making the recent low-water readings uncertain.

The lower 12 feet of the gage is an inclined timber fastened to a rock just below the bridge. The portion from 12 to 55 feet is a vertical timber fastened to the bridge pier on the left bank of the river. The right bank will not overflow. The left bank overflows only under the second span of the bridge. Conditions of flow at low stages are very changeable, and except when frequent ratings are made estimates of discharge are liable to considerable error. The rating for medium stages is accurate.[a]

Discharge measurements of Black Warrior River near Cordova, Ala., in 1908.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
		Feet.	*Sq. feet.*	*Feet.*	*Sec.-ft.*
October 2	H. G. Stokes	180	472	−0.9	95
December 26	do	186	1,740	3.7	3,760

[a] Data collected at this station prior to 1904 have been compiled in Water-Supply Paper No. 107, Water powers of Alabama.

Daily gage height, in feet, of Black Warrior River near Cordova, Ala., for 1907 and 1908.

[Observer, Don M. Smith.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1907.												
1	14.5	2.9	9.3	0.7	4.0	7.2	6.1	−0.35	−0.75	−0.3	−0.7	0.45
2	8.8	19.5	19.3	.65	2.8	5.8	.1	− .4	− .75	− .4	− .65	.3
3	6.3	15.2	21.3	.6	2.2	4.2	1.7	− .35	− .8	− .4	− .65	.2
4	5.2	12.5	13.2	.6	2.6	3.4	1.0	− .45	− .85	− .4	− .55	.1
5	4.4	8.1	9.4	.55	2.4	2.6	.5	− .55	− .7	− .1	− .45	.0
6	3.8	5.8	6.5	1.5	3.1	2.1	.2	− .6	− .3	.8	− .35	− .1
7	3.1	4.0	5.4	1.8	5.6	1.6	.1	− .65	− .9	.4	− .3	− .2
8	2.5	3.2	4.3	2.1	9.9	1.2	.0	− .7	− .9	.45	− .3	− .2
9	2.0	2.4	3.6	1.7	10.9	1.1	− .2	− .7	− .9	.45	− .3	− .1
10	2.2	2.4	3.2	1.4	8.1	1.0	− .25	− .55	.6	.4	− .3	1.3
11	2.1	2.5	2.8	1.2	9.4	.9	− .3	− .65	.6	.2	− .25	1.9
12	2.0	2.6	2.45	1.0	9.6	.8	− .35	− .7	.75	.0	− .25	1.5
13	1.8	2.4	2.0	.8	6.0	.7	1.3	− .75	.9	− .3	− .2	1.0
14	1.6	2.2	1.7	.6	4.5	.6	2.0	− .7	.0	− .4	− .2	1.3
15	1.5	1.9	3.0	.5	12.6	.5	1.7	− .65	− .3	− .5	− .25	1.75
16	1.4	1.7	3.7	.45	15.1	.5	1.0	.0	− .4	− .55	− .25	1.75
17	1.4	1.5	3.2	1.4	8.8	.5	.5	− .2	− .4	− .55	− .25	1.3
18	1.4	1.4	2.8	1.3	5.8	.4	.3	− .3	− .4	− .55	− .2	1.05
19	1.4	1.4	2.3	1.2	4.4	.2	.2	− .4	− .5	− .6	.0	1.0
20	1.3	1.5	2.0	1.05	3.5	.1	.1	− .5	− .6	− .6	.1	.8
21	1.6	1.4	1.8	1.0	2.6	.1	.1	− .6	− .7	− .6	.5	.6
22	2.4	1.2	1.6	1.0	2.1	.1	.4	− .65	− .75	− .65	1.05	.5
23	1.8	1.0	1.4	1.3	1.8	.05	.25	− .7	.6	− .65	1.45	1.6
24	1.7	.9	1.3	2.0	1.6	.2	.1	− .75	.9	− .65	2.45	4.0
25	1.6	7.8	1.2	1.7	1.1	1.6	.0	− .85	.2	− .65	1.8	3.0
26	1.5	8.7	1.0	1.4	.9	1.1	− .2	− .9	.0	− .7	1.3	2.0
27	1.4	9.9	.85	1.2	3.4	.8	− .3	− .9	.0	− .7	.9	1.55
28	1.3	7.5	.8	1.2	3.0	.5	− .4	− .95	.1	− .65	.6	1.3
29	1.2	.....	.8	2.5	2.4	.3	− .3	−1.0	− .1	− .7	.5	1.9
30	1.1	.....	.7	2.8	2.0	.2	− .25	− .8	− .2	− .7	.55	2.1
31	1.2	.....	.7	.....	2.9	.....	− .3	− .7	.....	− .7	.....	3.9
1908.												
1	3.7	5.0	3.7	3.3	2.0	2.7	− .3	.2	− .6	− .9	− .9	− .4
2	2.9	9.0	3.1	2.75	1.6	1.85	− .4	− .3	− .7	− .9	− .9	.0
3	2.05	5.7	3.6	2.3	1.3	1.55	− .45	− .1	− .7	− .9	− .4	− .1
4	2.4	4.7	16.5	1.95	1.0	1.85	− .2	− .2	− .75	− .9	− .2	− .2
5	4.1	3.7	12.8	1.75	2.35	2.7	.0	− .25	− .65	− .9	− .2	− .3
6	7.0	4.6	9.2	4.2	19.4	3.1	.2	− .3	− .55	− .9	− .3	− .2
7	5.2	4.4	7.3	8.6	21.5	2.1	.1	− .4	− .65	− .9	− .5	17.0
8	3.9	3.7	5.8	5.8	13.3	1.65	.0	− .45	− .7	− .9	− .6	17.5
9	3.3	3.0	4.4	3.5	7.5	1.2	1.1	− .2	− .75	− .8	− .65	6.0
10	2.85	5.3	3.75	2.8	4.9	.85	.6	− .3	− .8	− .8	− .65	2.3
11	2.2	12.3	3.1	2.0	3.9	1.0	.2	− .35	− .85	− .7	− .65	1.8
12	6.7	9.8	3.9	1.75	2.9	1.0	.05	− .4	− .9	− .7	− .7	1.5
13	6.7	8.6	3.55	1.5	2.45	.9	.05	− .45	− .9	− .7	− .7	1.0
14	5.6	14.0	3.0	1.3	1.9	.7	− .1	− .5	− .9	− .75	− .7	.8
15	4.1	22.8	2.75	1.2	1.8	1.6	− .2	− .55	− .9	− .75	− .7	.7
16	3.3	24.3	2.6	2.3	6.5	2.15	− .3	− .6	− .9	− .75	− .7	.6
17	3.7	16.5	2.4	2.6	6.4	1.5	− .2	− .7	− .95	− .8	− .7	.5
18	3.4	9.2	2.15	2.0	6.0	.85	− .3	− .5	− .95	− .8	− .7	.4
19	3.1	12.5	1.9	1.8	10.1	.55	− .15	− .6	− .95	− .8	− .7	.4
20	2.7	16.2	2.6	2.0	8.8	.3	.0	− .7	− .95	− .8	− .7	.3
21	2.35	9.2	12.0	2.5	5.8	.0	.85	− .8	− .95	− .8	− .7	.3
22	2.2	7.0	8.5	2.15	4.4	− .1	.5	− .4	− .95	− .8	− .7	6.1
23	2.05	6.0	12.0	1.85	3.05	− .1	.2	.2	− .95	− .85	− .75	13.2
24	1.9	5.0	26.8	1.5	2.7	.3	.1	.8	− .95	− .85	− .75	8.6
25	1.65	4.0	24.5	4.2	1.75	.5	.0	.3	−1.0	− .85	− .7	5.2
26	1.4	4.9	16.8	6.0	.85	.3	.3	.5	−1.0	− .85	− .4	4.1
27	1.35	5.8	9.4	4.8	4.2	.0	.5	1.0	−1.0	− .85	− .1	2.9
28	1.3	5.0	6.8	3.5	4.3	− .1	.4	.3	−1.0	− .85	− .2	2.1
29	1.15	4.2	5.6	2.45	2.2	− .15	.2	− .3	− .9	− .85	− .3	1.8
30	1.0	.....	4.8	2.15	3.8	− .2	.0	− .4	− .9	− .85	− .4	1.5
31	1.0	.....	4.0	.....	5.1	.....	− .1	− .5	.....	− .85	.....	1.3

Rating tables for Black Warrior River near Cordova, Ala.

FOR 1906 AND 1907.[a]

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*
−1.00	28	0.70	1,075	2.80	3,290	11.00	14,650
− .9	53	.80	1,170	3.00	3,525	12.00	16,150
− .8	80	.90	1,265	3.20	3,765	13.00	17,650
− .7	110	1.00	1,360	3.40	4,005	14.00	19,150
− .6	145	1.10	1,455	3.60	4,260	15.00	20,650
− .5	190	1.20	1,550	3.80	4,520	16.00	22,150
− .4	240	1.30	1,650	4.00	4,780	17.00	23,650
− .3	300	1.40	1,750	4.20	5,040	18.00	25,150
− .2	365	1.50	1,850	4.40	5,300	19.00	26,650
− .1	430	1.60	1,955	4.60	5,560	20.00	28,150
0.00	500	1.70	2,060	4.80	5,820	21.00	29,650
.10	575	1.80	2,165	5.00	6,080	22.00	31,150
.20	650	1.90	2,270	6.00	7,430	23.00	32,650
.30	730	2.00	2,380	7.00	8,830	24.00	34,150
.40	810	2.20	2,600	8.00	10,230	25.00	35,650
.50	895	2.40	2,830	9.00	11,650	26.00	37,150
.60	985	2.60	3,060	10.00	13,150	27.00	38,650

FOR 1908.[b]

−1.00	70	− .4	290	.20	685	.80	1,170
− .9	95	− .3	345	.30	760	.90	1,265
− .8	125	− .2	405	.40	835	1.00	1,360
− .7	155	− .1	470	.50	915		
− .6	195	.0	540	.60	995		
− .5	240	.10	610	.70	1,080		

[a] The above table is not applicable for obstructed-channel conditions. It is based on discharge measurements made during 1900 to 1906, and is well defined between gage heights 1 and 14 feet. Below gage height 1 foot the 1906 rating curve is assumed to apply to 1907, although no measurements were made during 1907 to confirm this. See 1908 rating. Above gage height 8.8 feet the rating curve is a tangent, the difference being 150 per tenth.

[b] The above table is not applicable for obstructed-channel conditions. It is based on one discharge measurement made during 1908 and the general form of the 1906 to 1907 rating curve and is well defined between gage heights 1 foot and 14 feet. Below gage height 0.5 foot the rating is radically different from that for 1907 as based on the low-water measurement made during 1908. General intercomparisons of discharge in the Black Warrior and adjacent drainage basins for 1907 and 1908 tend to show that the rating curves as used above are essentially correct. Above gage height 1 foot the 1908 rating is the same as for 1907.

Monthly discharge of Black Warrior River near Cordova, Ala., for 1907 and 1908.

[Drainage area, 1,900 square miles.]

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area).	Accuracy.
	Maximum.	Minimum.	Mean.	Per square mile.		
1907.						
January	19,900	1,460	3,460	1.82	2.10	B.
February	27,400	1,260	6,180	3.25	3.38	B.
March	30,100	1,080	5,620	2.96	3.41	B.
April	3,290	852	1,610	.847	.94	B.
May	20,800	1,260	6,350	3.34	3.85	B.
June	9,110	538	1,850	.974	1.09	B.
July	2,380	240	766	.403	.46	B.
August	500	28	158	.083	.10	C.
September	1,260	53	419	.221	.25	B.
October	1,170	110	321	.169	.19	B.
November	2,890	110	698	.367	.41	B.
December	4,780	365	1,640	.863	.99	B.
The year	30,100	28	2,420	1.28	17.17	

Monthly discharge of Black Warrior River near Cordova, Ala., for 1907 and 1908—Con.

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area).	Accuracy.
	Maximum.	Minimum.	Mean.	Per square mile.		
1908.						
January	8,830	1,360	3,770	1.98	2.28	B
February	34,600	3,520	11,200	5.89	6.35	B.
March	38,400	2,270	9,740	5.13	5.91	B.
April	11,100	1,550	3,490	1.84	2.05	B.
May	30,400	1,220	6,810	3.58	4.13	B.
June	3,640	405	1,460	.768	.86	B.
July	1,460	265	616	.324	.37	B.
August	1,360	125	424	.223	.26	B.
September	218	70	111	.058	.06	C
October	155	95	117	.062	.07	C.
November	470	95	218	.115	.13	B.
December	24,400	290	4,280	2.25	2.59	C.
The year	38,400	70	3,520	1.85	25.06	

BLACK WARRIOR RIVER NEAR COAL, ALA.

The station is located one-fourth mile below the mouth of Locust Fork of Black Warrior River, near the foot of the rapids known as Fork Shoals. It is one-half mile above Taylors Ferry, which is 3 miles from Coal and 20 miles from Bessemer, Ala., the nearest railroad station. It was established September 2, 1908. The gage heights and discharge measurements have been furnished by the Tennessee Coal, Iron, and Railroad Company.

The vertical staff gage is located at Taylors Ferry, one-half mile below the measuring section. The left bank is high and does not overflow. The right bank overflows for about 200 feet at high stages. An excellent rating has been developed for 1908.

Discharge measurements of Black Warrior River near Coal, Ala., in 1908 and 1909.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
1908.		*Feet.*	*Sq. ft.*	*Feet.*	*Sec.-ft.*
September 2	H. G. Stokes	550	772	1.05	473
September 8	do	555	1,070	2.00	1,750
September 18	do	441	550	.80	194
October 19	do	333	270	.83	218
December 9	do	595	3,490	6.60	12,400
December 10	do	570	2,400	4.80	8,020
1909.					
January 5	H. G. Stokes	570	3,370	6.65	13,100
January 6	do	620	4,870	9.00	22,100

Daily gage height, in feet, of Black Warrior River near Coal, Ala., for 1908.

[Observer, A. P. Waldrop.]

Day.	Sept.	Oct.	Nov.	Dec.	Day.	Sept.	Oct.	Nov.	Dec
1	1.1	0.8	0.8	1.0	17	0.85	0.9	0.8	2.1
2	1.1	.8	.8	1.35	18	.8	.85	.8	2.0
3	1.0	.8	.8	1.5	19	.8	.85	.8	2.0
4	.9	.8	.8	1.4	20	.8	.85	.8	2.0
5	.9	.8	.9	1.3	21	.8	.85	.8	2.2
6	.9	.8	.9	1.3	22	.8	.85	.8	9.05
7	1.5	.8	.8	12.5	23	.8	.8	.8	12.0
8	1.95	.8	.8	13.5	24	.8	.8	.9	9.1
9	1.45	.8	.8	7.85	25	.8	.8	.9	6.75
10	1.15	.85	.8	4.6	26	.8	.8	.9	5.3
11	1.0	.9	.8	3.7	27	.8	.8	.9	4.5
12	1.0	.9	.8	2.95	28	.8	.8	.9	3.95
13	.95	.9	.8	2.9	29	.8	.8	.9	3.65
14	.9	.9	.8	2.8	30	.8	.8	.9	3.35
15	.9	.9	.8	2.55	31	.....	.75	.....	3.15
16	.9	.9	.8	2.25					

Rating table for Black Warrior River near Coal, Ala., for 1908.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*
0 70	90	2.10	1,910	3.50	4,530	5.80	10.280
.80	190	2.20	2,070	3.60	4,740	6.00	10,880
.90	295	2.30	2,230	3.70	4,960	6.20	11,510
1.00	405	2.40	2,400	3.80	5,180	6.40	12,170
1.10	520	2.50	2,570	3.90	5,400	6.60	12,850
1.20	640	2.60	2.750	4.00	5,630	6.80	13,550
1.30	765	2.70	2,930	4.20	6,090	7.00	14,270
1.40	895	2.80	3,120	4.40	6,570	8.00	18,070
1.50	1,030	2.90	3,310	4.60	7,060	9.00	22,100
1.60	1,170	3.00	3,500	4.80	7,560	10.00	26,200
1.70	1,310	3.10	3,700	5.00	8,070	11.00	30,400
1.80	1,450	3.20	3,900	5.20	8,600	12.00	34,700
1 90	1,600	3.30	4,110	5.40	9,140	13.00	39,100
2.00	1,750	3.40	4,320	5.60	9,700	14.00	43,600

NOTE.—The above table is not applicable for obstructed-channel conditions. It is based on eight discharge measurements made during 1908 and 1909 and is well defined.

Monthly discharge of Black Warrior River near Coal, Ala., for 1908.

[Drainage area, 3,560 square miles.]

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area).	Accuracy.
	Maximum.	Minimum.	Mean.	Per square mile.		
September	1,680	190	378	0.106	0.12	A.
October	295	140	222	.062	.07	A.
November	295	190	222	.062	.07	A.
December	41,400	405	8,500	2.39	2.76	A.

MISCELLANEOUS MEASUREMENTS IN MOBILE RIVER DRAINAGE BASIN.

The following miscellaneous discharge measurements were made in Mobile River drainage basin during 1907 and 1908:

Miscellaneous measurements in Mobile basin.

Date.	Stream.	Tributary to—	Locality.	Gage height.	Discharge.
1907.				*Feet.*	*Sec.-ft.*
August 16	Conasauga River	Oostanaula River	At wagon bridge 1/4 mile west of Alaculsey, Ga.	0.95	26
Do	Jack River	Conasauga River	1 mile below Alaculsey, Ga.	1.73	32
May 16	Long Swamp Creek.	Etowah River	At wagon bridge near mouth of creek, Ball Ground, Ga.	1.97	179
June 22	Little River	....do	Hawkins Bridge, Woodstock, Ga.	1.22	102
1908.					
October 23	Tombigbee River	Mobile River	At Frisco System railroad bridge, Bigbee, Miss.	4.23	132
October 2[a]	Locust Fork / Black Warrior River.	Black Warrior River.	Gaging station at Palos, Ala.	.05	44
October 12[a]	....do	....do	....do	.15	90
November 25[a]	....do	....do	....do	.20	61

[a] Measurement by H. G. Stokes.

RIVER SURVEYS AND WATER POWER.

Surveys have been made in the Mobile drainage basin as follows:

Etowah River from Rome to mouth of Little River, Georgia.[a]

Coosawattee River from Carters to Ellijay, Ga.[a]

Big Sandy Creek from mouth to the new bridge near Dadeville, Ala.[b]

Coosa River from Wetumpka to Greensport, Ala.[b]

Cahaba River from mouth to the Shelby County line.[b]

Black Warrior River from Tuscaloosa, Ala., to the mouth of Mulberry Fork.[b]

In order to point out the power possibilities along Tallapoosa River, a profile has been published by the United States Geological Survey showing the fall between Tallapoosa, Ga., and Matilda, Ala., with notes on tributary streams and other prominent natural and artificial features along the river.[c]

[a] Elevations taken on these surveys and brief statements regarding possible power development are given in Water resources of Georgia: Water-Supply Paper U. S. Geol. Survey No. 197.

[b] Surveys made, elevations taken, and information regarding water power are given in Water powers of Alabama: Water-Supply Paper U. S. Geol. Survey No. 107.

[c] Sheets showing this profile may be obtained upon application to the Director of the Geological Survey. Elevations from Milstead, Ala., to Griffin Shoals, near Matilda, Ala., are contained in Water powers of Alabama (Water-Supply Paper 107), together with information regarding water-power development.

PASCAGOULA RIVER DRAINAGE BASIN.

MISCELLANEOUS MEASUREMENTS.

The following miscellaneous discharge measurements were made in Pascagoula River drainage basin during 1908:

Miscellaneous measurements in Pascagoula Basin.

Date.	Stream.	Tributary to—	Locality.	Gage height.	Discharge.
				Feet.	*Sec.-ft.*
March 21	Pascagoula River.	Gulf of Mexico	M., J. & K. C. R. R. bridge, Merrill, Miss.	[a] 6.40	5,920
March 24	Chickasawhay River.	Pascagoula River.	At wagon bridge, Shubuta, Miss.	[a] 20.50	7,790
March 20	Leaf River	do	N. O. & N. E. R. R. bridge, ½ mile from Hattiesburg, Miss.	[a] 4.30	1,410

[a] United States Weather Bureau gage.

PEARL RIVER DRAINAGE BASIN.

DESCRIPTION OF BASIN.

Pearl River drains the south central part of Mississippi. It rises near the center of the State and flows south into Lake Borgne, an arm of the Gulf of Mexico.

The following gaging stations have been maintained in this river basin:

Pearl River, Jackson, Miss., 1901–1908.
Bogue Chitto, Warnerton, La., 1906.

PEARL RIVER AT JACKSON, MISS.

The station is located at Jackson, Miss., one-eighth mile above the Alabama and Vicksburg Railway bridge and two blocks east from the end of the South State street car line. It was established June 24, 1901.

The datum of the chain gage has remained the same since the establishment of the station. The right bank is high and does not overflow. The left bank is of cleared ground and overflows for several hundred feet at a stage of about 20 feet. The bed of the stream is shifting, necessitating frequent measurements at low stages. A fair rating has been developed for 1907 and 1908.[a]

Discharge measurements of Pearl River at Jackson, Miss., in 1907 and 1908.

Date.	Hydrographer.	Width.	Area of section.	Gage height.	Discharge.
1907.		*Feet.*	*Sq. ft.*	*Feet.*	*Sec.-ft.*
October 24	Warren E. Hall	80	282	0.98	192
1908.					
March 18	Warren E. Hall	138	903	5.63	2,030
July 27	do	114	492	2.40	629

[a] Data collected at this station prior to 1904 have been compiled in Water-Supply Paper No. 107, Water powers of Alabama.

Daily gage height, in feet, of Pearl River at Jackson, Miss., for 1907 and 1908.

[Observer, J. B. Flowers.]

Day.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept	Oct.	Nov.	Dec.
1907.												
1	7.3	5.1	18.0	4.0	9.6	8.8	2.9	1.8	2.0	1.0	0.8	5.0
2	8.7	7.4	21.0	3.6	11.0	7.6	3.0	1.8	2.0	1.0	.8	4.7
3	9.7	10.2	23.3	3.6	10.3	7.3	2.9	2.0	1.9	.9	.8	3.6
4	9.9	12.0	24.7	3.3	10.9	6.7	2.9	2.1	1.7	.9	.8	3.3
5	10.2	16.4	25.7	3.3	12.1	6.3	3.4	2.1	1.7	1.0	.8	3.1
6	10.4	17.6	26.3	3.3	13.2	6.1	3.9	2.0	1.5	1.0	.7	3.0
7	10.5	18.7	26.9	3.3	14.4	6.0	3.8	2.2	1.6	.9	.7	2.9
8	10.6	19.3	27.2	3.3	16.1	5.7	3.9	2.1	1.5	1.0	.7	2.7
9	10.7	19.5	27.2	3.4	18.8	4.8	3.7	1.8	1.5	1.1	1.0	2.8
10	10.5	19.4	26.1	3.5	19.6	4.7	3.2	1.6	1.5	1.0	1.0	2.9
11	10.0	19.2	25.8	3.7	20.0	4.3	2.9	1.6	1.7	1.0	1.0	2.9
12	9.4	18.9	25.8	3.9	20.7	4.2	3.1	1.7	2.1	1.4	1.0	2.8
13	8.5	18.5	24.9	4.1	21.0	3.9	2.9	1.8	2.9	1.7	.9	2.8
14	7.8	18.0	23.7	4.0	21.1	4.0	3.3	1.6	3.0	1.8	.9	4.6
15	7.3	17.1	22.2	3.7	22.5	4.0	2.8	1.8	2.7	1.7	.9	4.6
16	6.8	16.0	20.3	3.4	23.3	4.0	3.0	2.0	2.2	1.5	.9	4.6
17	6.2	14.3	17.8	4.0	23.3	4.1	3.1	2.1	1.9	1.4	1.0	4.1
18	5.8	12.6	14.3	4.4	22.9	3.7	3.0	2.0	1.6	1.3	1.0	4.2
19	5.2	10.5	11.3	6.1	21.8	3.3	2.5	2.1	1.4	1.2	1.0	4.4
20	4.7	9.0	9.6	7.2	20.9	3.1	2.3	2.3	1.3	1.0	1.0	3.7
21	4.7	7.9	8.3	8.0	19.8	3.9	2.3	2.3	1.2	1.0	.9	3.6
22	4.4	6.9	7.2	8.5	19.1	3.0	2.2	2.2	1.2	1.0	1.5	3.6
23	4.5	6.1	7.1	8.4	18.6	2.8	2.0	2.2	1.1	1.0	2.6	3.6
24	4.5	6.8	6.9	8.5	16.9	2.7	1.8	2.4	1.1	1.0	3.4	3.5
25	4.3	6.5	6.3	8.6	16.3	2.6	1.5	2.2	.9	.9	3.1	3.4
26	4.1	8.8	5.8	8.3	15.3	2.5	1.6	2.3	.9	.9	4.7	3.4
27	3.9	11.0	5.6	7.9	15.1	2.3	1.5	2.6	1.1	.9	4.7	3.3
28	3.8	13.0	5.1	7.8	14.3	2.8	1.7	2.8	1.1	.9	5.0	3.3
29	3.7	.....	5.1	7.6	12.5	2.5	2.3	3.0	1.0	.9	5.5	3.3
30	3.6	.....	4.6	7.4	10.5	2.9	2.8	3.1	1.0	.8	5.7	6.4
31	3.5	.....	4.5	.....	9.7	.....	2.1	2.7	.....	.8	.....	7.8
1908.												
1	7.9	10.1	26.2	27.8	18.2	13.3	2.9	2.7	3.4	1.5	.3	1.1
2	8.3	11.4	24.9	27.9	17.2	11.2	2.6	4.7	3.3	1.5	.3	1.1
3	8.3	12.4	23.8	27.0	16.0	8.8	2.3	6.8	2.7	1.3	.4	1.0
4	8.3	13.2	22.3	26.1	14.6	7.9	2.1	10.0	2.5	1.3	.5	1.0
5	8.2	12.9	20.4	25.1	16.3	6.6	2.4	12.9	2.3	1.2	.5	.9
6	7.9	13.0	19.4	24.0	25.2	5.6	2.6	15.8	2.1	1.0	.5	1.5
7	7.7	13.7	17.5	22.3	28.2	4.9	2.5	18.0	2.1	1.0	.4	2.1
8	7.6	14.1	15.4	19.8	28.6	4.5	2.5	19.8	2.0	1.0	.4	2.4
9	7.4	14.3	11.4	16.0	28.0	4.4	2.6	21.0	1.8	1.0	.4	2.3
10	7.1	16.6	9.2	11.9	27.7	4.7	2.6	21.6	1.6	1.0	.5	3.4
11	9.9	17.8	8.6	9.1	26.8	4.8	2.8	21.0	1.6	1.0	.5	4.1
12	11.8	18.1	8.0	8.1	26.7	4.7	3.0	19.2	1.5	1.0	.5	4.5
13	12.3	21.4	7.5	7.7	26.4	5.5	3.4	15.3	1.5	1.0	.5	4.6
14	12.6	23.1	7.1	7.1	26.2	5.7	3.6	10.0	1.4	.8	.6	4.5
15	12.6	24.5	6.9	6.5	26.0	6.1	3.6	6.5	1.4	.7	.5	4.0
16	11.6	25.1	6.5	6.9	26.2	6.0	3.4	5.4	1.4	.6	.5	3.6
17	11.4	25.5	6.4	7.8	25.8	6.0	3.0	4.7	1.4	.6	.4	3.4
18	10.9	26.0	5.8	8.4	25.1	6.8	2.9	4.2	1.2	.6	.6	3.3
19	9.7	27.0	5.6	8.7	24.8	7.4	2.8	4.3	1.2	.5	.6	3.3
20	9.1	27.8	5.2	9.2	24.5	7.4	2.7	5.3	1.2	.4	.5	3.3
21	8.9	28.6	5.0	10.8	24.3	6.9	2.4	4.7	1.2	.4	.5	3.4
22	8.1	29.4	4.9	12.1	24.7	6.2	2.3	4.7	1.2	.6	.5	3.5
23	7.0	29.8	13.0	13.8	24.9	5.6	2.0	4.6	1.1	.6	.4	4.0
24	5.9	29.7	18.7	15.1	24.8	5.3	1.9	4.6	1.1	.5	.5	3.3
25	5.1	29.7	21.3	18.3	24.6	5.1	2.7	4.1	1.1	.4	.5	4.5
26	5.1	29.3	23.7	20.0	24.0	4.9	2.8	4.0	1.3	.4	.8	4.9
27	5.1	28.9	24.0	20.4	23.3	4.8	2.5	5.3	1.7	.6	.9	5.5
28	4.9	27.9	24.9	20.6	22.2	4.5	2.3	4.8	1.9	.5	.9	5.7
29	4.8	27.1	26.0	20.3	20.8	3.3	2.5	4.3	1.8	.5	.9	5.8
30	4.8	.....	26.8	19.4	19.0	3.2	2.3	3.8	1.8	.4	.9	5.9
31	5.1	.....	27.5	.....	16.3	.....	2.6	3.7	.....	.4	.....	5.0

Rating table for Pearl River at Jackson, Miss., for 1907 and 1908.

Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.	Gage height.	Discharge.
Feet.	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*	*Feet.*	*Sec.-ft.*
0.30	100	2.20	555	4.20	1,405	12.00	5,935
.40	110	2.30	590	4.40	1,495	13.00	6,600
.50	120	2.40	630	4.60	1,585	14.00	7,300
.60	130	2.50	670	4.80	1,675	15.00	8,000
.70	145	2.60	710	5.00	1,770	16.00	8,700
.80	160	2.70	750	5.20	1,870	17.00	9,500
.90	180	2.80	790	5.40	1,980	18.00	10,300
1.00	200	2.90	830	5.60	2,090	19 00	11,100
1.10	220	3.00	870	5.80	2,200	20.00	12,000
1.20	240	3.10	910	6.00	2,310	21.00	12,900
1.30	265	3.20	955	6.20	2,420	22.00	13,900
1.40	290	3.30	1,000	6.40	2,530	23.00	15,000
1.50	320	3.40	1,045	6.60	2,640	24.00	16,200
1.60	350	3.50	1,090	6.80	2,750	25.00	17,500
1.70	380	3.60	1,135	7.00	2,860	26.00	19,000
1.80	415	3.70	1,180	8.00	3,435	27.00	20,700
1.90	450	3.80	1,225	9.00	4,035	28 00	22,600
2.00	485	3.90	1,270	10 00	4,635	29 00	24,500
2.10	520	4 00	1,315	11.00	5,285	30 00	26,400

NOTE.—The above table is not applicable for obstructed-channel conditions. It is based on two discharge measurements made during 1907–8 below gage height 4 feet and the form of previous curves. Above gage height 4 feet it is based on eight measurements. It is fairly well defined.

Monthly discharge of Pearl River at Jackson, Miss., for 1907 and 1908.

[Drainage area, 3,120 square miles.]

Month.	Discharge in second-feet.				Run-off (depth in inches on drainage area).	Accuracy.
	Maximum.	Minimum.	Mean.	Per square mile.		
1907.						
January	5,090	1,090	2,920	0.936	1.08	A.
February	11,600	1,820	6,930	2.22	2.31	B.
March	21,100	1,540	10,500	3.37	3.88	C.
April	3,800	1,000	2,040	.654	.73	A.
May	15,400	4,400	9,680	3.10	3.57	C.
June	3,920	590	1,530	.490	.55	A.
July	1,270	320	770	.247	.28	B.
August	910	350	539	.173	.20	B
September	870	180	373	.120	.13	B.
October	415	160	225	.072	.08	B.
November	2,140	145	531	.170	.19	B.
December	3,320	750	1,240	.397	.46	B.
The year	21,100	145	3,110	.996	13.46	
1908.						
January	6,320	1,680	3,640	1.17	1.35	A.
February	26,000	4,700	15,500	4.97	5.36	C.
March	21,600	1,720	9,380	3.01	3.47	C.
April	22,400	2,580	9,690	3.11	3.47	C.
May	23,700	7,720	16,300	5.22	6.02	C.
June	6,810	955	2,400	.769	.86	A.
July	1,140	450	740	.237	.27	B.
August	13,500	750	4,450	1.43	1.65	A.
September	1,040	220	409	.131	.15	B.
October	320	110	169	.054	.06	B.
November	180	100	127	.041	.05	C.
December	2,260	180	1,120	.359	.41	B.
The year	26,000	100	5,330	1.71	23.12	

NOTE.—Under certain conditions backwater due to gorging takes place at this station above about a 15-foot stage.

BOGUE CHITTO AT WARNERTON, LA.

This station was established April 28, 1906, and was discontinued July 31, 1906.

For gage heights covering this period and one discharge measurement see previous publications.[a]

MISCELLANEOUS MEASUREMENT IN PEARL RIVER DRAINAGE BASIN.

The following miscellaneous discharge measurement was made in Pearl River drainage basin, March 19, 1908:

Pearl River, at wagon bridge, 2 miles below Columbia, Miss.: Gage height, 8.15 feet; discharge, 4,810 second-feet.

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[a] Water-Supply Paper No. 204.

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