

LOW-FLOW FREQUENCY AND FLOW DURATION OF SELECTED
SOUTH CAROLINA STREAMS THROUGH 1987

By Michael G. Zalants

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ABSTRACT

Estimates of consecutive minimum 1-, 3-, 7-, 14-, 30-, 60-, and 90-day average discharges with recurrence intervals from 2 to 50 years, depending upon the length of record, are presented in this report for 55 continuous-record gaging stations in South Carolina for which at least 5 years of unregulated daily mean discharge data existed. Results of low-flow frequency and flow-duration analyses presented in this report are based on daily mean discharge data collected through the 1987 climatic year ending March 31, 1987.

In addition, this study compares the low-flow frequency discharge based on extended periods of record with those of the previous report, and it examines the trends in low-flow discharge.

A comparison of previously published low-flow frequency data with low-flow frequency data presented in this report does not produce any conclusions relating length of additional record available to changes in low-flow frequency discharge. Low-flow frequency data were analyzed for trends, but results were inconclusive, and no adjustments were made to the data used in the frequency analysis.

INTRODUCTION

Knowledge of the low-flow frequency discharge of streams and duration with which low flows of a given magnitude are expected to occur is a basic tool for the planning and management of our water resources. In order to update estimates of low-flow frequency discharges for the continuous-record gaging stations in the State, the U.S. Geological Survey (USGS), in cooperation with the South Carolina Department of Health and Environmental Control, initiated a study in 1988 to compute updated low-flow frequency estimates at continuous-record stream gaging stations operated by the USGS in South Carolina.

Purpose and Scope

This report provides estimates of consecutive 1-, 3-, 7-, 14-, 30-, 60-, and 90-day minimum discharges with recurrence intervals of 2, 5, 10, 20, 30, and 50 years, depending on the length of discharge record available, for 55 continuous-record stream-gaging stations in South Carolina for which at least 5 years of unregulated daily mean discharge data existed in 1987. Flow-duration discharge data also are presented for these continuous-record stations.

Low-flow frequency data at continuous record stations on regulated streams are not computed. For these stations, some descriptive statistics are provided to characterize low-flow information.

The stations are located throughout South Carolina (fig. 1). Data for stations that were discontinued prior to the 1976 climatic year and were used in a previous study by Bloxham (1979) are not included in this study. Only stations at which additional discharge data were collected after the 1976 climatic year, and for which at least 5 years of data are available, or stations established after the 1976 climatic year with at least 5 years of data available, are included in this study. Stations on streams near the coast, at which flow has been determined to be tidally affected, are not included in this study.

Previous Studies

Previous reports by Stallings (1967) and Bloxham (1979) describe the flow-frequency and flow-duration discharges for continuous-record stations in South Carolina. Also, a report by Zalants (1991) presents some flow-frequency discharge estimates for selected continuous-record stations as well as partial-record stations in the Blue Ridge, Piedmont, and upper Coastal Plain physiographic provinces of South Carolina (fig. 1).

Description of the Study Area

The area of this study is the state of South Carolina, which is sub-divided into the Blue Ridge, Piedmont, and upper and lower Coastal Plain physiographic provinces (fig. 1).

The Blue Ridge province encompasses only 2 percent of the land area in South Carolina. It is a mountainous region in the northwestern part of the State with land-surface elevations ranging from 1,000 to 3,550 ft above sea level. The Blue Ridge province is geologically characterized by intrusive granite and metamorphosed volcanic rock. The high average annual rainfall (approximately 80 inches per year) for the Blue Ridge province combined with the water-bearing characteristics of the underlying rocks produce high base flows (Bloxham, 1981).

The Piedmont province includes approximately 35 percent of the land area in the State. It lies between the Blue Ridge and upper Coastal Plain provinces in northwestern South Carolina. Land-surface elevations in this province range from 200 ft above sea level along some parts of the western boundary near the Savannah River to 1,000 ft near the boundary of the Blue Ridge province. The geology of the Piedmont province consists mainly of fractured crystalline rock and metamorphosed volcanic rock of low permeability, but also includes more highly permeable deposits of sand, silt, and clay along the valley floors. The variability in geology and in the ground-water recharge capabilities is reflected in the variance of the base flows in the Piedmont province (Bloxham, 1981).

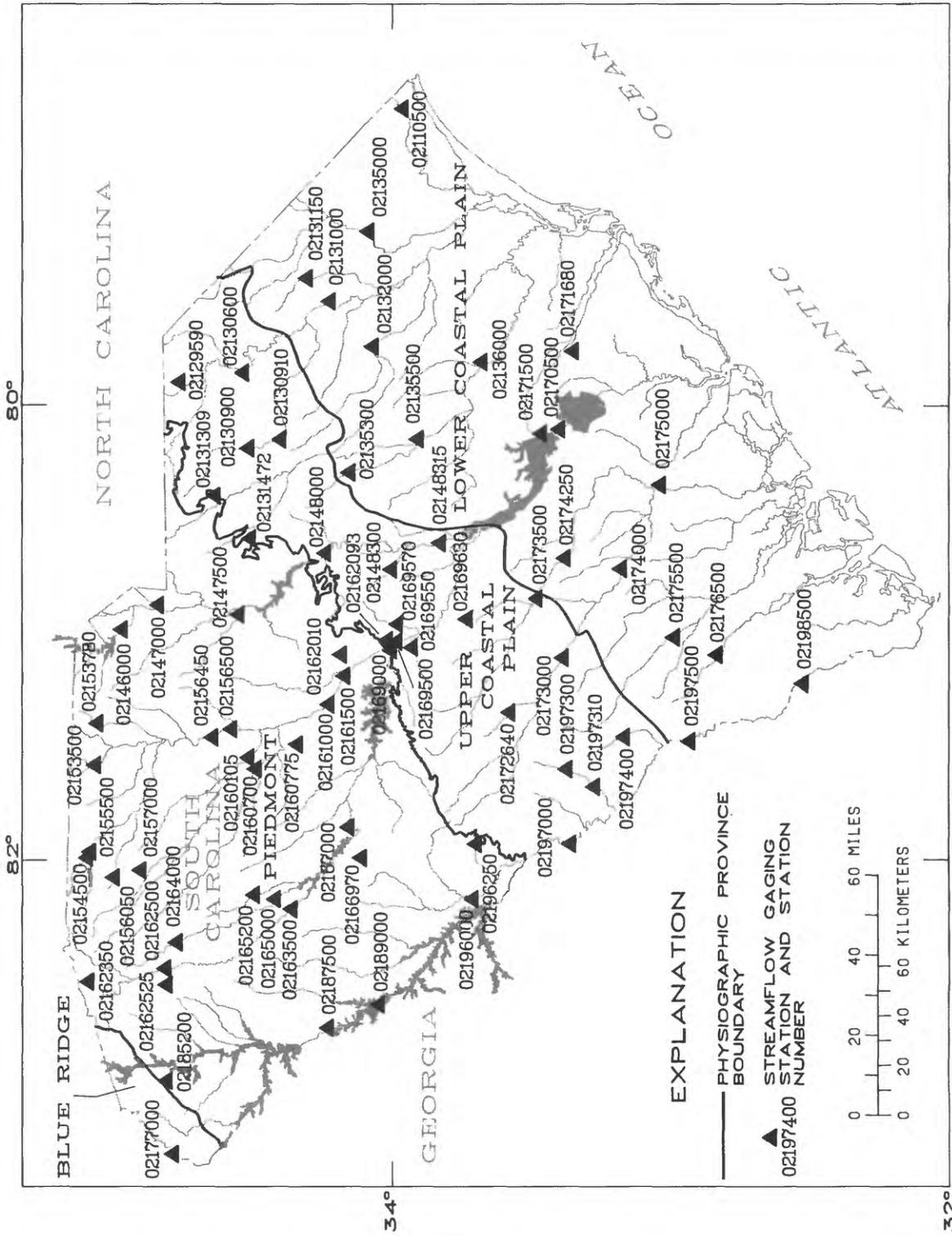


Figure 1.--Physiographic provinces and locations of continuous-record gaging stations in South Carolina.

Approximately 20 percent of the land area in South Carolina is in the upper Coastal Plain province, which encompasses a 20- to 50-mile wide area southeast of the Piedmont province. The terrain of the upper Coastal Plain province has moderate slopes and rounded hills. The geology in the area consists primarily of sedimentary rocks composed of layers of sand, silt, clay, and gravel underlain by igneous rocks. The upper Coastal Plain is characterized by a fairly well-sustained base flow because of the geologic and topographic characteristics, rather than the climatic factors involved (Bloxham, 1976).

About 43 percent of the land area in the State lies in the lower Coastal Plain physiographic province, which lies to the southeast of the upper Coastal Plain. The land surface slopes from an elevation of about 200 ft above sea level at the western boundary to the ocean. Relief of the area is moderate. Stream drainage patterns are characteristically more sinuous in the seaward direction and swamplands occupy much of the stream basins. Stream gradients range from about 20 ft/mi near the western boundary to about 1 ft/mi near the coast. The lower Coastal Plain is underlain by loosely consolidated sedimentary rocks of silt, sand, clay, and gravel overlain by permeable sandy soils. Streams in this area commonly have no flow during drought periods except for the larger streams (Bloxham, 1976).

METHOD OF ANALYSIS

There are three basic steps involved in computing low-flow frequency discharge estimates for continuous-record gaging stations:

- (1) The low-flow discharge data for a station are retrieved and compiled.
- (2) The data for the station are analyzed for trends.
- (3) The data are then ranked and analyzed for frequency of occurrence.

There were a total of 70 continuous-record stations with at least 5 years of discharge record available at the time of this low-flow frequency and flow-duration analysis (fig. 1). The n -day discharge is the average of n consecutive daily discharges. For each of these stations, annual minimum discharges were compiled for periods of n consecutive days, where n was 1, 3, 7, 14, 30, 60, and 90 days. Annual minimum discharges for each n -day period were ranked according to magnitude.

Flow-duration tables of daily discharges equalled or exceeded for selected percentages of time for the entire period of record also were compiled by digital computer (Hutchinson, 1975) from the historical files, and tabulated. These percentiles of exceedence only demonstrate the distribution of the observed daily discharges and cannot be converted to recurrence intervals, such as were computed for the n -day annual minimum flows. The exceedence percentile statistics indicate the daily flow, in cubic feet per second, equalled or exceeded for the indicated percentage of time. For example, a 10-percentile exceedence flow of 200 ft³/s indicates that the daily flow for the period of record is lower than 200 ft³/s 90 percent of the time. To further illustrate this concept, the

50-percentile exceedence flow is the median daily flow for the period of record; the daily flows for the period of record were less than this value 50 percent of the time and greater than this value 50 percent of the time.

The 1-, 7-, and 90-day annual minimum discharge data for all stations were then tested for trends by using the Kendall tau method (Hirsch and others, 1982). In this test, the first observation is compared to all subsequent observations with the assumption that the probability of the latter value being greater is equal to 0.5. Then the second observation is compared to all subsequent observations, and so on. The pluses and minuses (representing comparisons in which subsequent observations were greater than or less than preceding observations, respectively) are then compared statistically to determine if one group is significantly larger than the other. A P-level of 0.05, the 5-percent level of significance, implies that if a hypothesis of a trend in the data is rejected as a result of the analysis, then there is only a 5-percent chance that it should not have been rejected. Thus, a P-level value less than 0.05 indicates that a trend in the data most likely exists.

Next, discharge data collected through the 1987 climatic year were used in computing the flow-frequency and flow-duration values. A climatic year begins April 1 of a given year and ends March 30 of the following year. The frequency analysis of the n-day discharges for stations with 10 or more years of record was made using graphical curve-fitting techniques (Riggs, 1972). A mathematical technique, the log-Pearson Type III method, was not used because the frequency curves produced by that method did not fit the observed data at many of the stations. Annual minimum discharges for each consecutive n-day period were plotted with the appropriate computed recurrence intervals on log-normal probability graph paper, and a frequency curve of best fit was drawn through the points.

The recurrence interval (RI) of each value in the array was computed by the equation:

$$RI = \frac{N + 1}{M}$$

where

- RI is the recurrence interval expressed in years;
- N is the number of years (values) in the array; and
- M is the order number, with the lowest value having an order of 1.

This is the plotting position equation currently in use by the USGS for low-flow frequency analyses. The calculated recurrence interval is the average number of years, between the occurrence of flows equal to or less than the flow corresponding to the order number over a long-term period (Dalrymple, 1960). The reciprocal of RI is the estimated probability that a flow equal to or less than that corresponding to M will be experienced during any given year.

The following criteria were established for extending frequency curves:

1. Curves for stations with 10 or more years of annual low-flow discharge record, but less than 20 years of record, were extended to a recurrence interval of 20 years.
2. Curves for stations with 20 or more years of record, but less than 30 years of record, were extended to a recurrence interval of 30 years.
3. Curves for stations with 30 or more years of record were extended to a recurrence interval of 50 years. No data were compiled for recurrence intervals greater than 50 years.

Within these limits, flow-frequency discharge data were determined from the curves and tabulated for recurrence intervals of 2, 5, 10, 20, 30, and 50 years. The reliability of the flow-frequency discharge data increases with the length of record available for use in the analysis. The graphical curve-fitting procedure on log-normal paper is illustrated in figure 2.

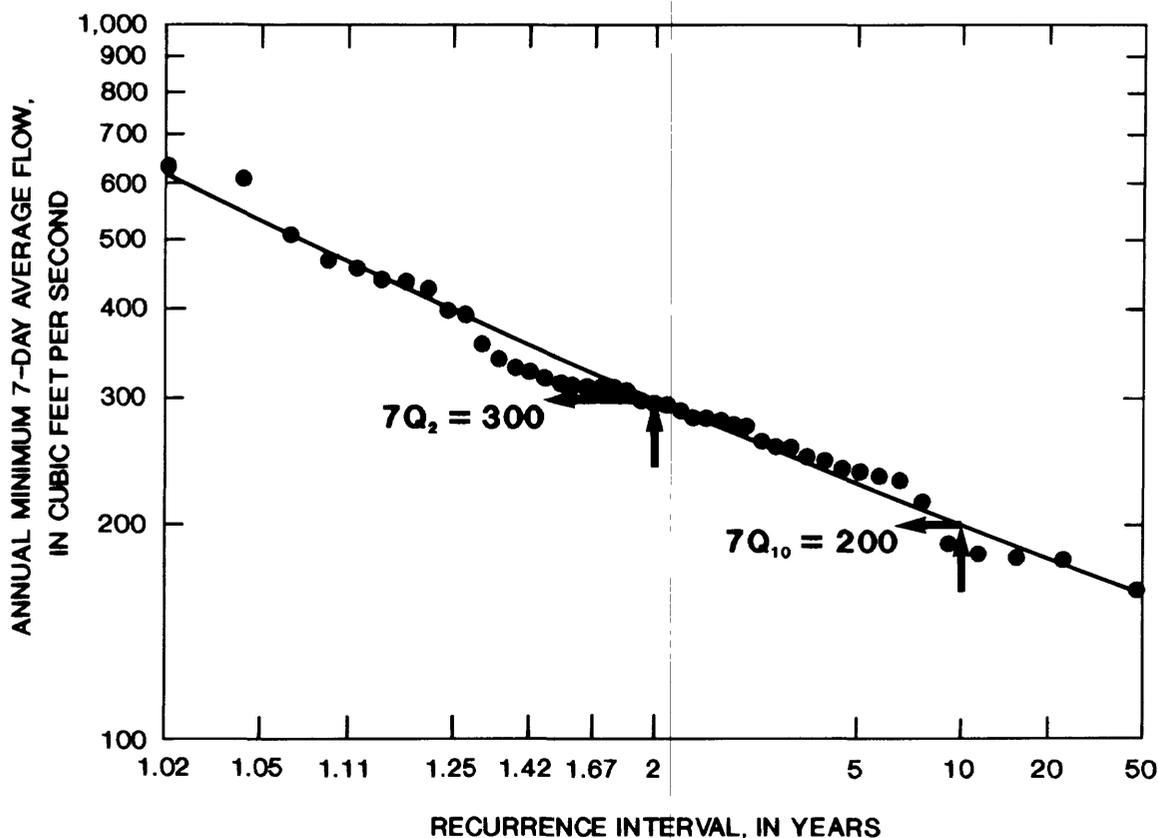


Figure 2.--Low-flow frequency of South Fork Edisto River near Denmark, S.C.

At stations downstream of major sources of streamflow diversion, an adjustment was made to the n-day low-flow data before frequency analyses were made. If the average annual diversion, obtained from the operator of the source of diversion, equalled 10 percent or more of the mean 1-day annual minimum flow for all years of record, then the diversion was considered significant. The diversion estimate for each year of discharge record at the station was added to the annual minimum flow for all consecutive-day periods. A frequency analysis was then made on the adjusted low-flow data in the manner previously described. The results obtained from the analysis of the adjusted data more closely reflect natural streamflow conditions.

Graphical analysis was also used to compute some of the flow-frequency estimates for stations with 5 to 9 years of annual low-flow data available. Frequency curves for these stations were extended to a recurrence interval of 10 years, and flow-frequency estimates were obtained for recurrence intervals of 2, 5, and 10 years.

At other stations with less than 10 years of low-flow data available, the stations were treated as partial-record stations if a frequency curve could not be satisfactorily drawn because of the limited number of data points. Flow-frequency discharge estimates were obtained using correlation of base flows at each of these "partial-record" stations with concurrent base flows of a continuous-record "index" station with known low-flow frequency discharge estimates (Riggs, 1972). The criteria for index station selection for use in correlation were that the proposed index station must have a discharge record at least twice the length of the period of record at the partial-record station and that the two stations have similar drainage areas, basin characteristics, geology, and lie within the same physiographic province. The concurrent base flows were selected from the historical record to cover a considerable range in discharge so as to more accurately define the slope and intercept of the relation. The daily mean base-flow discharge coordinate pairs were plotted on logarithmic graph paper, and a relation line of best fit was drawn through the points. Discharge estimates for selected frequencies at the index station were converted to discharge estimates at the station in question using the relation (fig. 3).

TREND ANALYSIS

The low-flow data for all stations included in this report were analyzed for trends with a Kendall tau analysis. For stations downstream from a major source of regulation, such as a dam, detection of a trend in low-flow data may indicate a change in the pattern of regulation sometime during the period of discharge record. Trends in low-flow data at unregulated stations could result from changes in climatic cycles, land use, ground-water pumpage, or waste disposal practices that would cause changes in ground-water levels. In either case, if the test indicates a trend, the flow may be considered non-homogeneous for the period of record, and frequency analysis may not be valid. The results of trend analysis of this study were generally inconclusive and the cause of the trends could not be clearly identified. A few unregulated stations displayed trends in all three n-day discharge periods tested. These trends are probably the result

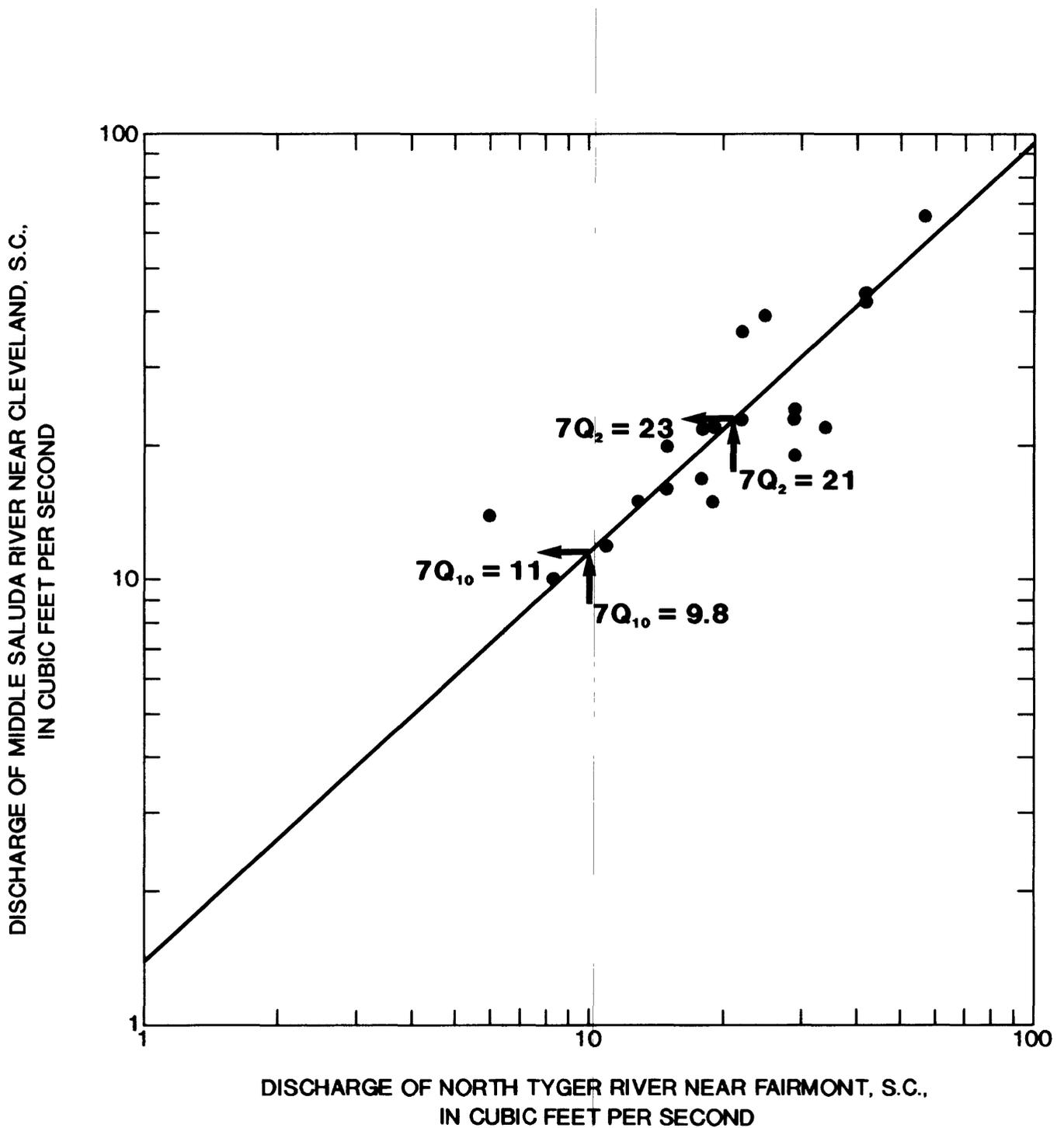


Figure 3.--Relation between concurrent daily mean baseflows of Middle Saluda River near Cleveland, S.C. and North Tyger River near Fairmont, S.C.

of long-term climatic cycles or changes in land or water use. The results of the Kendall tau trend analysis for all stations are included in table 1. The direction of the trend is not given because long-term trends may or may not reflect current trends. The user is encouraged to use table 1 in evaluating the validity of the low-flow data presented in this report.

LOW-FLOW FREQUENCY AND FLOW DURATION

The magnitude and frequency of annual low-flow discharges for the unregulated stations, and flow-duration data for all stations included in this study, are presented in table 2. Information such as location and description of the station, drainage area, period of record, and pertinent remarks are also included in table 2.

The computation of low-flow frequency at a regulated site can be very complex. Low-flow frequency analysis of flows at regulated sites may require that historical flows be routed through a model of the present reservoir system in order to define the flow characteristics. Such a detailed analysis was considered beyond the scope of this study. Therefore, exceedence percentile statistics for annual 7-day minimum flows, rather than conventional low-flow frequency statistics, are presented in table 2 (at the end of report). The exceedence percentiles only demonstrate the distribution of the observed annual 7-day minimum discharges and should not be converted to conventional recurrence intervals such as were computed for unregulated stations. A more detailed discussion of exceedence percentiles is presented earlier in this report. Time-series plots showing annual 7-day minimum discharges for all climatic years of record and exceedence percentiles are also included for regulated stations in table 2 (end of report).

Exceedence percentiles of annual 7-day minimum flow and durations of daily flows are not presented for the regulated stations on the Savannah River because operational procedures were changed in 1988 for dams on the Savannah River, invalidating the present use of data collected prior to 1988 (U.S. Army Corps of Engineers, 1989).

The low-flow frequency discharge estimates presented in this report differ from those reported by Bloxham (1979) at some gaging stations because of the longer period record used in the analysis. Differences between low-flow characteristics presented in this report and those reported by Bloxham (1979) are presented in table 3.

Table 1.--Kendall tau trend test P-values for selected continuous-record gaging stations in South Carolina

[--, not applicable]

Station number	Years of record	P-level ¹		
		1-day	7-day	90-day
02110500	36	0.576	0.548	0.391
02129590	7	1.000	1.000	.649
02130600	10	.127	.178	.088
02130900	27	.043	.029	.052
02131000	47	.640	.716	1.000
02131150	20	.074	.134	.162
02131309	10	.127	.243	.530
02131472	6	.452	.707	.848
02132000	57	.586	.513	.536
02135000	45	.148	.120	.295
02135300	18	.058	.044	.021
02135500	28	.663	.342	.149
02136000	57	.001	.001	.012
02146000	45	.000	.089	.868
02147000	19	.006	.033	.012
02147500	30	.004	.006	.014
02148000	57	.033	.018	.940
02148300	13	.622	.582	.759
02148315	3	--	--	--
02153500	32	.069	.178	.173
02153780	6	.848	.707	.707
02154500	57	.040	.146	.794
02155500	23	.086	.026	.018
02156050	7	.368	.368	.548
02156450	5	.086	.462	.462
02156500	48	.000	.191	.689
02157000	36	.989	.935	.496
02160105	13	.017	.033	.033
02160700	13	.300	.300	.100
02160775	6	.035	.060	.085
02161000	6	.452	.707	1.000
02161500	55	.000	.117	.092
02162010	18	.850	.762	.879
02162093	9	.164	.171	.073
02162350	4	.734	.734	.734

Table 1.--Kendall tau trend test P-values for selected continuous-record gaging stations in South Carolina--Continued

[--, not applicable]

Station number	Years of record	P-level ¹		
		1-day	7-day	90-day
02162500	36	0.010	0.057	0.099
02162525	5	1.000	1.000	1.000
02163500	48	.262	.131	.290
02164000	29	.159	.338	.377
02165000	48	.470	.019	.000
02165200	14	.321	.321	.226
02166970	6	1.000	1.000	1.000
02167000	44	.027	.004	.373
02169000	46	.000	.977	.748
02169500	44	.140	.030	.130
02169550	20	.173	.091	.282
02169570	20	.031	.007	.012
02169630	20	.820	1.000	.475
02170500	42	.020	.021	.100
02171500	44	.009	.040	.871
02171680	17	.311	.311	.099
02172640	6	.181	.436	.242
02173000	45	.754	.597	.639
02173500	48	.047	.061	.360
02174000	41	.486	.458	.745
02174250	10	.589	.653	.721
02175000	48	.689	.783	.986
02175500	36	.114	.084	.421
02176500	36	.175	.436	.236
02177000	47	.340	.359	.369
02185200	20	.060	.035	.056
02187500	17	.283	.537	.837
02189000	13	.006	.044	.100
02196000	39	.093	.090	.626
02196250	6	.707	.707	.452
02197000	34	.273	.236	.459
02197300	20	.023	.017	.016
02197310	12	.046	.024	.039
02197400	12	.004	.005	.063
02197500	21	.290	.304	.291
02198500	34	.906	.722	.917

¹P-level values less than 0.05 indicate statistically that a trend in the data most likely exists.

Table 3.--Differences between 7-day, 10-year low-flow discharges in this report and previously published 7-day, 10-year low-flow discharges for continuous-record gaging stations in South Carolina

[--, not applicable]

Station number	Previous estimate ¹	Current estimate	Percentage difference
02110500	6.8	8.2	21
02129590	--	.25	--
02130600	18.5	13	-30
02130900	22	23	5
02131000	1,500	--	--
02131150	.05	.02	-60
02131309	--	0	--
02131472	--	.15	--
02132000	132	140	6
02135000	315	310	-2
02135300	6.7	6.6	-1
02135500	.41	1.2	193
02136000	5.7	7.0	23
02146000	710	--	--
02147000	900	--	--
02147500	1.8	1.0	-44
02148000	490	--	--
02148300	11.5	13	13
02148315	800	--	--
02153500	540	--	--
02153780	--	1.1	--
02154500	43	45	5
02155500	61	80	31
02156050	--	.95	--
02156450	--	.89	--
02156500	740	730	-1
02157000	10	9.8	-2
02160150	--	160	--
02160700	--	80	--
02160775	--	.39	--
02161000	--	790	--
02161500	970	1,000	3
02162010	.5	.53	6
02162093	--	.91	--
02162350	--	11	--

Table 3.--Differences between 7-day, 10-year low-flow discharges in this report and previously published 7-day, 10-year low-flow discharges for continuous-record gaging stations in South Carolina--Continued

[--, not applicable]

Station number	Previous estimate ¹	Current estimate	Percentage difference
02162500	130	160	23
02162525	--	.40	--
02163500	190	190	0
02164000	16	--	--
02165000	36	36	0
02165200	6.4	7.8	22
02166970	--	.25	--
02167000	320	--	--
02169000	260	--	--
02169500	1,800	--	--
02169550	118	120	2
02169570	9.8	5.6	-43
02169630	5.0	5.0	0
02170500	2,320	--	--
02171500	420	--	--
02171680	0	0	0
02172640	--	16	--
02173000	211	200	-5
02173500	225	230	2
02174000	455	480	5
02174250	.74	.70	-5
02175000	422	500	18
02175500	33	37	12
02176500	.03	0	-100
02177000	124	130	5
02185200	24	23	-4
02187500	650	--	--
02189000	1,350	--	--
02196000	1.6	2.1	31
02196250	--	1.3	--
02197000	4,700	--	--
02197300	58	56	-3
02197310	--	100	--
02197400	--	16	--
02197500	4,950	--	--
02198500	5,800	--	--

¹From Bloxham (1979).

SUMMARY

Low-flow discharge estimates for 1-, 3-, 7-, 14-, 30-, 60-, and 90-consecutive-day periods with recurrence intervals of 2, 5, 10, 20, 30, and 50 years, depending on the length of discharge record available, are presented for 55 continuous-record gaging stations in South Carolina for which at least 5 years of unregulated daily mean discharge record existed in 1987. Flow duration values for 5-, 10-, 25-, 50-, 75-, 90-, and 95-percent exceedances are also presented for all continuous-record stations with at least 5 years of discharge record. At 15 continuous-record stations downstream from sources of significant regulation, time-series plots of 7-day annual low-flow discharge with exceedence percentiles as well as tables of exceedence percentile statistics, are presented instead of low-flow frequency analysis results.

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Table 2.--Low-flow statistics for continuous-record gaging stations in

South Carolina

[lat, latitude; long, longitude; ft, feet; mi, mile]

Notes: The station low-flow statistics are presented in the following pages in numerical order by station number.

At stations affected by regulation where statistical analysis was not meaningful, time-series plots of annual seven-day minimum flow are presented.

The exceedence percentile scales on these plots represent empirically determined values; therefore, exceedence percentiles would not be interpolated for intermediate discharge values.

STATION NUMBER AND NAME.--02110500: Waccamaw River near Longs, S.C.

LOCATION.--Lat 33°54'45'', long 78°42'55'', Horry County, at bridge on State Highway 9, 500 ft downstream from Buck Creek, 2.1 mi southeast of Longs, and at mile 85.4.

DRAINAGE AREA.--1,110 mi², approximately.

PERIOD OF RECORD.--March 1950 to March 1987.

REMARKS.--No significant regulation or diversion upstream.

Recurrence intervals (years)	MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS						
	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	32	34	36	40	53	96	167
5	15	15	16	17	22	31	51
10	8.1	8.0	8.2	9.1	12	16	24
20	3.0	3.3	3.6	4.2	6.1	8.3	13
30	1.1	1.6	2.8	2.7	3.8	5.8	9.0
50	.1	.58	1.1	1.5	1.9	3.7	5.3

‡ DURATION OF DAILY FLOW						
Flow equalled or exceeded for indicated percentage of time (cubic feet per second)						
5	10	25	50	75	90	95
4,500	3,200	1,700	670	180	51	29

STATION NUMBER AND NAME.--02129590: Whites Creek near Wallace, S.C.

LOCATION.--Lat 34°45'20'', Long 79°53'00'', Marlboro County, at bridge on Highway 1, 100 ft downstream from lake spillway, and 3.0 mi northwest of Wallace.

DRAINAGE AREA.--26.4 mi².

PERIOD OF RECORD.--October 1979 to March 1987.

REMARKS.--No significant regulation or diversion upstream.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	2.1	2.2	2.5	2.6	4.0	6.0	6.1
5	.08	.14	.30	.44	.88	2.9	4.7
10	.04	.12	.25	.25	.63	2.6	4.4

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)						
5	10	25	50	75	90	95
98	73	40	19	8.4	4.3	2.5

STATION NUMBER AND NAME.--02130600: Cedar Creek at Society Hill, S.C.

LOCATION.--Lat 34° 31'30'', long 79° 51'05'', Darlington County, 300 ft downstream from U.S. Highway 52, 0.3 mi upstream from Seaboard Coast Line Railroad, at Society Hill, and at mile 1.7.

DRAINAGE AREA.--58.2 mi².

PERIOD OF RECORD.--October 1970 to March 1981.

REMARKS.--No significant regulation or diversion upstream.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	21	23	25	31	39	45	54
5	12	14	17	22	27	32	38
10	8.5	9.9	13	17	22	26	30
20	6.4	7.5	9.8	13	17	20	23

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)						
5	10	25	50	75	90	95
230	160	110	74	46	32	24

STATION NUMBER AND NAME.--02130900: Black Creek near McBee, S.C.

LOCATION.--Lat 34°30'50", Long 80°11'00", Chesterfield County, at bridge on Highway 1, 0.2 mi upstream from Little Alligator Creek, 5.3 mi northwest of McBee, and at mile 59.1.

DRAINAGE AREA.--108 mi².

PERIOD OF RECORD.--October 1959 to March 1987.

REMARKS.--Infrequent fluctuations at low flow caused by small lakes upstream. No adjustment was made of data used in the frequency analysis.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	38	41	42	50	54	67	78
5	24	25	27	30	34	42	51
10	19	19	23	24	27	33	41
20	15	15	17	19	22	27	34
30	14	14	15	17	19	24	31

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)						
5	10	25	50	75	90	95
360	280	210	140	79	50	39

STATION NUMBER AND NAME.--02131000: Pee Dee River at Peedee, S.C.

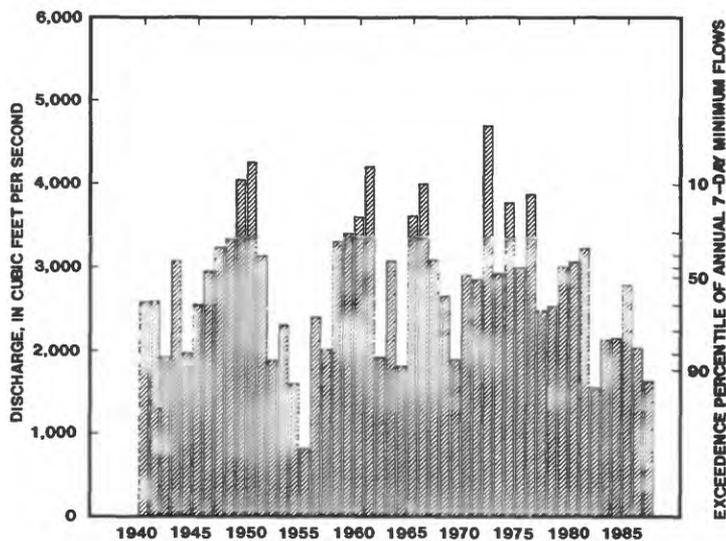
LOCATION.--Lat 34°12'15", long 79°32'55", Marion County, at bridge on U.S. Highway 76 at Peedee, 0.2 mi downstream from Seaboard Coast Line Railroad, 8.2 mi downstream from Black Creek, and at mile 100.2.

DRAINAGE AREA.--8,830 mi², approximately.

PERIOD OF RECORD.--October 1938 to March 1987.

REMARKS.--Flow regulated by six reservoirs in North Carolina with a combined usable capacity of 30,819,624,000 ft³. A time-series plot of annual seven-day minimum flows is presented in lieu of frequency analysis results.

ANNUAL 7-DAY MINIMUM FLOWS AND PERCENTILES.



EXCEEDENCE PERCENTILES OF ANNUAL 7-DAY MINIMUM FLOWS

Annual 7-day minimum flow exceeded for indicated percentage of years

(cubic feet per second)

10	20	30	40	50	60	70	80	90
4,000	3,400	3,200	3,000	2,900	2,600	2,300	2,000	1,800

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)

5	10	25	50	75	90	95
26,000	20,000	12,000	7,100	4,500	3,100	2,400

STATION NUMBER AND NAME.--02131150: Catfish Canal at Sellers, S.C.

LOCATION.--Lat 34°17'04'', long 79°26'32'', Marion County, at bridge on State Highway 38, 2.0 mi east of Sellers, 2.3 mi upstream from Stackhouse Creek, and at mile 25.6.

DRAINAGE AREA.--27.4 mi².

PERIOD OF RECORD.--November 1966 to March 1987.

REMARKS.--Some seasonal diversion for agricultural use in upper reaches of stream.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	1.1	1.1	1.3	1.4	1.9	3.0	4.5
5	.0	.25	.28	.29	.40	1.0	1.8
10	.0	.01	.02	.02	.03	.31	.80
20	.0	.0	.0	.0	.0	.09	.28
30	.0	.0	.0	.0	.0	.05	.12

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)

5	10	25	50	75	90	95
98	68	35	15	4.8	1.8	0.97

STATION NUMBER AND NAME.--02131309: Fork Creek at Jefferson, S.C.

LOCATION.--Lat 34°38'19'', long 80°23'20'', Chesterfield County, on upstream side, at center of span on State Highway 151 bridge, 1.0 mi south of intersection of State Highway 765 and 151, at Jefferson.

DRAINAGE AREA.--24.3 mi².

PERIOD OF RECORD.--October 1976 to March 1987.

REMARKS.--No significant regulation or diversion upstream.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	0.23	0.27	0.38	0.50	1.0	1.8	2.8
5	.02	.02	.02	.05	.13	.35	.96
10	.0	.0	.0	.0	.0	.09	.49
20	.0	.0	.0	.0	.0	.02	.27

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)						
5	10	25	50	75	90	95
76	54	31	12	3.7	1.1	0.42

STATION NUMBER AND NAME.--02131472: Hanging Rock Creek near Kershaw, S.C.

LOCATION.--Lat 34°30'58'', long 80°34'59'', Lancaster County, at bridge on State Road 770, 2.1 mi south of Kershaw, and 4.0 mi upstream from mouth.

DRAINAGE AREA.--23.9 mi².

PERIOD OF RECORD.--October 1980 to March 1987.

REMARKS.--Some possible regulation by Kershaw City Reservoir located about 1 mile upstream.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	0.43	0.70	0.72	0.95	2.0	3.0	3.4
5	.16	.22	.25	.32	.67	1.2	1.9
10	.10	.13	.15	.18	.37	.66	1.4

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)						
5	10	25	50	75	90	95
74	46	26	11	4.5	1.7	1.0

STATION NUMBER AND NAME.--02132000: Lynches River at Effingham, S.C.

LOCATION.--Lat 34°03'15", long 79°45'15", Florence County, at bridge on U.S. Highway 52, 75 ft upstream from Seaboard Coast Line Railroad, 1.0 mi south of Effingham, and at mile 43.4.

DRAINAGE AREA.--1,030 mi², approximately.

PERIOD OF RECORD.--August 1929 to March 1987.

REMARKS.--No significant regulation or diversion upstream.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	210	220	220	240	270	320	370
5	160	160	160	170	190	220	250
10	130	140	140	150	160	180	210
20	120	120	120	120	130	160	170
30	110	110	110	110	120	140	160
50	97	98	100	100	110	130	140

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)						
5	10	25	50	75	90	95
3,000	2,200	1,300	670	380	260	210

STATION NUMBER AND NAME.--02135000: Little Pee Dee River at Galivants Ferry, S.C.

LOCATION.--Lat 34°03'25", long 79°14'50", Horry - Marion County line, at bridge on U.S. Highway 501, at Galivants Ferry, 1.0 mi downstream from Lake Swamp, at mile 41.7.

DRAINAGE AREA.--2,790 mi², approximately.

PERIOD OF RECORD.--October 1941 to March 1987.

REMARKS.--No significant regulation or diversion upstream.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	560	560	580	600	700	850	1,000
5	370	380	390	400	450	520	610
10	290	300	310	320	340	380	460
20	230	230	240	260	270	300	360
30	200	200	220	230	250	260	320
50	170	170	180	200	210	220	270

DURATION OF DAILY FLOW

Flow equalled or exceed for indicated percentage of time (cubic feet per second)

5	10	25	50	75	90	95
9,500	7,300	4,400	2,100	1,100	640	500

STATION NUMBER AND NAME.--02135300: Scape Ore Swamp near Bishopville, S.C.

LOCATION.--Lat 34°09'02'', long 80°18'18'', Lee County, at bridge on U.S. Highway 15, 0.1 mi downstream from Beaverdam Creek, 0.9 mi upstream from Seaboard Coast Line Railroad, and 5.8 mi southwest of Bishopville.

DRAINAGE AREA.--96.0 mi².

PERIOD OF RECORD.--July 1968 to March 1987.

REMARKS.--No significant regulation or diversion upstream.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	14	14	15	18	23	31	36
5	8.1	8.4	9.0	10	12	16	20
10	5.8	6.0	6.6	7.4	8.6	11	14
20	4.3	4.5	5.0	5.5	6.2	8.1	11

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)

5	10	25	50	75	90	95
280	210	140	80	36	21	15

STATION NUMBER AND NAME.--02135500: Black River near Gable, S.C.

LOCATION.--Lat 33°54'00'', long 80°09'55'', Clarendon County, at bridge on U.S. Highway 378, 1.0 mi downstream from Church Branch, 6.3 mi northwest of Gable, and at mile 123.1.

DRAINAGE AREA.--401 mi².

PERIOD OF RECORD.--June 1951 to June 1966, April 1972 to March 1987.

REMARKS.--No significant regulation or diversion upstream.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	7.4	9.0	11	18	25	44	74
5	1.7	2.1	2.7	3.6	6.8	11	28
10	.0	0.53	1.2	1.3	3.0	5.2	15
20	.0	.0	.0	.0	0.9	1.8	9.0
30	.0	.0	.0	.0	.0	.60	6.7

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)						
5	10	25	50	75	90	95
1,300	910	480	240	88	25	11

STATION NUMBER AND NAME.--02136000: Black River at Kingstree, S.C.

LOCATION.--Lat 33°39'40'', long 79°50'10'', Williamsburg County, at bridge on U.S. Highway 52 at Kingstree, 1.0 mi downstream from Kingstree Swamp Canal, and at mile 86.7.

DRAINAGE AREA.--1,252 mi².

PERIOD OF RECORD.--August 1929 to March 1987.

REMARKS.--No significant regulation or diversion upstream.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	27	28	30	34	48	85	122
5	10	11	12	14	18	30	45
10	6.3	6.9	7.0	8.6	10	16	24
20	4.2	4.6	4.7	5.8	6.8	9.2	14
30	3.4	3.8	3.9	4.7	5.4	6.6	10
50	2.6	2.9	3.0	3.7	4.1	4.4	6.8

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)						
5	10	25	50	75	90	95
3,600	2,400	1,200	440	150	46	21

STATION NUMBER AND NAME.--02146000: Catawba River near Rock Hill, S.C.

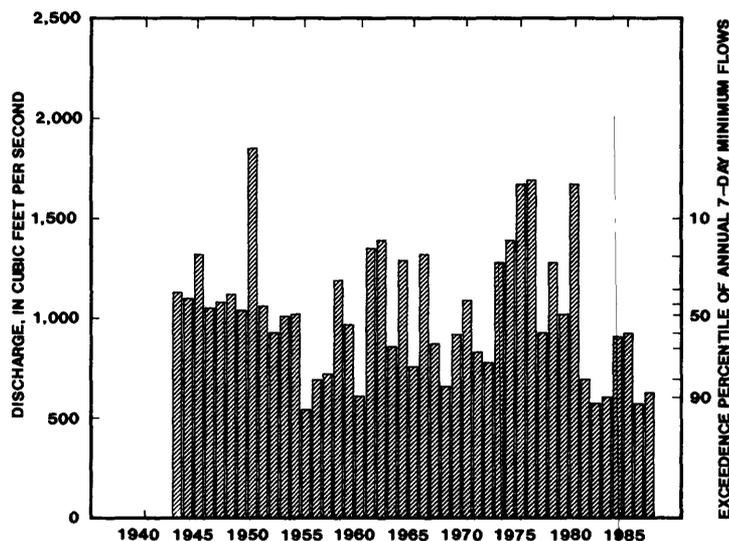
LOCATION.--Lat 34°50'05", long 80°58'27", York County, at bridge on U.S. Highway 21, 3.5 mi downstream from Lake Wylie Dam, 5.0 mi northeast of Rock Hill, 7.5 mi upstream from Sugar Creek, and at mile 137.6.

DRAINAGE AREA.--3,050 mi², approximately.

PERIOD OF RECORD.--September 1895 to September 1903, April 1942 to March 1987.

REMARKS.--Flow regulated since 1905 by Lake Wylie with a usable capacity of 6,542,000,000 ft³ and by other reservoirs upstream. A time-series plot of annual seven-day minimum flow is presented in lieu of frequency analysis results.

ANNUAL 7-DAY MINIMUM FLOWS AND PERCENTILES



EXCEEDENCE PERCENTILES OF ANNUAL 7-DAY MINIMUM FLOWS

Annual 7-day minimum flow exceeded for indicated percentage of years (cubic feet per second)								
10	20	30	40	50	60	70	80	90
1,500	1,300	1,100	1,100	1,000	920	850	700	610

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)						
5	10	25	50	75	90	95
10,300	8,660	5,910	3,600	1,540	881	711

STATION NUMBER AND NAME.--02147000: Catawba River near Catawba, S.C.

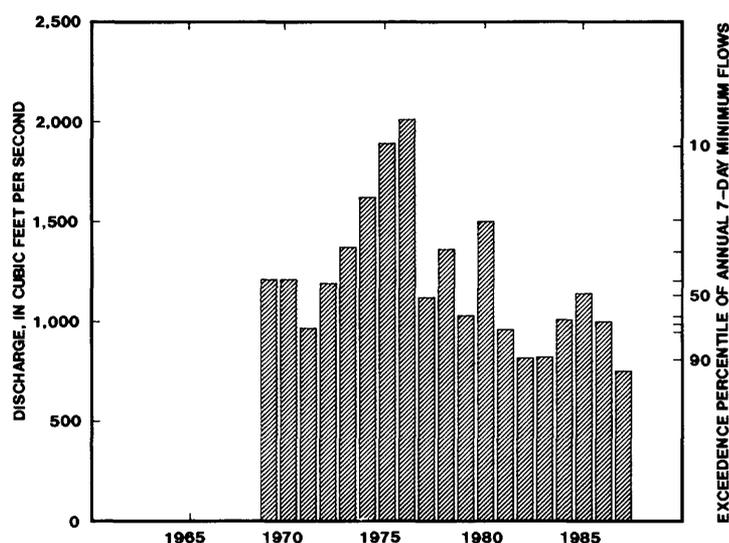
LOCATION.--Lat 34°51'09'', long 80°52'06'', York County, 60 ft downstream from Seaboard Coast Line Railroad, 200 ft downstream from Twelvemile Creek, 2.5 mi east of Catawba, and at mile 122.8.

DRAINAGE AREA.--3,530 mi², approximately.

PERIOD OF RECORD.--October 1968 to March 1987.

REMARKS.--Flow regulated since 1905 by Lake Wylie with a usable capacity of 2,520,500,000 ft³. A time-series plot of annual seven-day minimum flow and time is presented in lieu of frequency analysis results.

ANNUAL 7-DAY MINIMUM FLOWS AND PERCENTILES



EXCEEDENCE PERCENTILES OF ANNUAL 7-DAY MINIMUM FLOWS

Annual 7-day minimum flow exceeded for indicated percentage of years (cubic feet per second)

10	20	30	40	50	60	70	80	90
1,900	1,500	1,400	1,200	1,100	1,000	1,000	960	820

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)

5	10	25	50	75	90	95
12,000	10,000	7,300	4,500	2,200	1,100	930

STATION NUMBER AND NAME.--02147500: Rocky Creek at Great Falls, S.C.

LOCATION.--Lat 34°33'45", long 80°55'00", Chester County, 350 ft downstream from Turkey Branch, 1.0 mi west of Great Falls, and at mile 1.8.

DRAINAGE AREA.--194 mi².

PERIOD OF RECORD.--February 1951 to September 1981, August 1986 to March 1987.

REMARKS.--No significant regulation or diversion upstream.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	13	14	15	18	22	29	38
5	5.5	6.0	6.3	8.0	12	17	21
10	.68	.92	1.0	3.1	6.5	11	14
20	.0	.0	.15	.41	1.1	6.2	7.4
30	.0	.0	.06	.06	.20	2.1	4.0

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)						
5	10	25	50	75	90	95
730	370	150	69	35	19	13

STATION NUMBER AND NAME.--02148000: Wateree River near Camden, S.C.

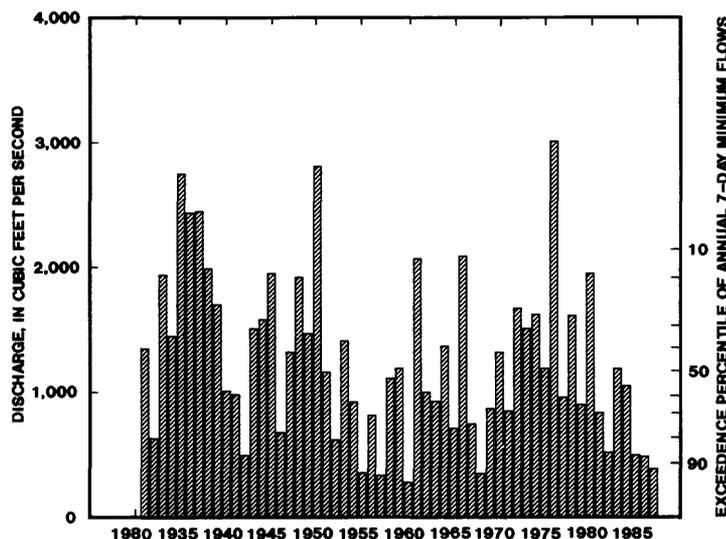
LOCATION.--Lat 34°14'40", long 80°39'15", Kershaw County, at bridge on U.S. Highway 1, 1,500 ft downstream from Five and Twenty Creek, 4,000 ft upstream from Seaboard Coast Line Railroad, 2.2 mi west of Camden, 7.4 mi downstream from Wateree Dam, and at mile 68.8.

DRAINAGE AREA.--5,070 mi², approximately.

PERIOD OF RECORD.--October 1904 to September 1910, October 1929 to March 1987.

REMARKS.--Flow regulated since 1919 by Wateree Reservoir with a usable capacity of 2,794,000,000 ft³. A time-series plot of annual seven-day minimum flow is presented in lieu of frequency analysis results.

ANNUAL 7-DAY MINIMUM FLOWS AND PERCENTILES



EXCEEDENCE PERCENTILES OF ANNUAL 7-DAY MINIMUM FLOWS

Annual 7-day minimum flow exceeded for indicated percentage of years (cubic feet per second)

10	20	30	40	50	60	70	80	90
2,200	1,900	1,600	1,400	1,200	980	860	660	470

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)

5	10	25	50	75	90	95
16,000	13,000	8,200	5,000	2,600	990	570

STATION NUMBER AND NAME.--02148300: Colonels Creek near Leesburg, S.C.

LOCATION.--Lat 34°00'25'', long 80°43'58'', Richland County, at bridge on State Highway 262, 0.2 mi upstream from Jumping Run Creek, 1.9 mi southwest of Leesburg, and at mile 8.0.

DRAINAGE AREA.--38.1 mi².

PERIOD OF RECORD.--September 1966 to March 1980.

REMARKS.--No significant regulation or diversion upstream.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	18	18	19	21	25	28	31
5	14	14	15	16	19	21	23
10	12	12	13	14	16	17	20
20	11	11	11	12	14	15	17

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)						
5	10	25	50	75	90	95
100	82	56	40	29	22	19

STATION NUMBER AND NAME.-- 02148315: Wateree River below Eastover, S.C.

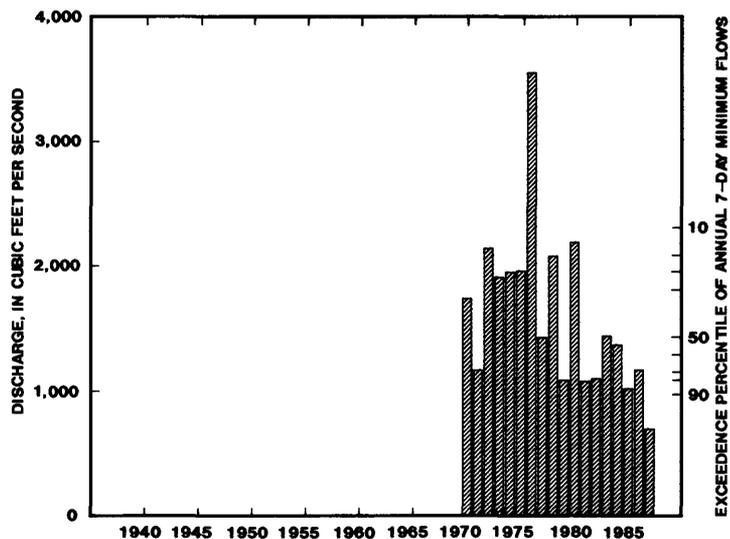
LOCATION.--Lat 33°49'42'', long 80°37'14'', Richland County, 1.3 mi upstream from Southern Railway, 1.8 mi northeast of Wateree, 4.5 mi southeast of Eastover, and at mile 10.8.

DRAINAGE AREA.--5,590 mi², approximately.

PERIOD OF RECORD.--July 1968 to March 1987.

REMARKS.--Flow regulated by Wateree Reservoir with a usable capacity of 2,794,000,000 ft³. A time-series plot of annual seven-day minimum flow is presented in lieu of frequency analysis results. Flow duration analysis was not made because of incomplete daily discharge record. An excessive number of days with no record (flow greater than the upper limit of the stage-discharge relation of 10,000 cubic feet per second) was encountered in the duration analysis.

ANNUAL 7-DAY MINIMUM FLOWS AND PERCENTILES



EXCEEDENCE PERCENTILES OF ANNUAL 7-DAY MINIMUM FLOWS

Annual 7-day minimum flow exceeded for indicated percentage of years (cubic feet per second)

10	20	30	40	50	60	70	80	90
2,300	2,100	2,000	1,800	1,400	1,300	1,100	1,100	990

STATION NUMBER AND NAME.--02153500: Broad River near Gaffney, S.C.

LOCATION.--Lat 35°05'20'', long 81°34'20'', Cherokee County, at bridge on U.S. Highway 29, 0.3 mi upstream from Cherokee Creek, 4.4 mi downstream from Gaston Shoals Dam, 4.5 mi east of Gaffney, and at mile 270.

DRAINAGE AREA.--1,490 mi².

PERIOD OF RECORD.--October 1938 to March 1971, June 1986 to March 1987.

REMARKS.--Some regulation of low to medium flow by powerplants upstream. Frequency analysis results are from Bloxham (1979).

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	--	--	930	1,000	1,100	1,300	1,400
5	--	--	680	730	810	940	1,000
10	--	--	540	580	650	730	800
20	--	--	420	460	520	560	670
30	--	--	360	400	440	490	600
50	--	--	300	330	360	390	540

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)						
5	10	25	50	75	90	95
5,500	4,100	2,700	1,800	1,300	880	670

STATION NUMBER AND NAME.--02153780: Clarks Fork near Smyrna, S.C.

LOCATION.--Lat 35°04'45'', long 81°23'17'', York County, at downstream side of bridge on State Highway 55, 3.0 mi northeast of Smyrna, and 10.1 mi northwest of York.

DRAINAGE AREA.--24.1 mi².

PERIOD OF RECORD.--October 1980 to March 1987.

REMARKS.--No significant regulation or diversion upstream.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	4.0	4.2	4.3	5.0	6.0	7.4	9.0
5	1.5	1.7	1.9	2.8	3.3	4.9	6.2
10	.75	.83	1.1	1.7	2.3	3.6	4.8

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)						
5	10	25	50	75	90	95
62	39	23	14	7.1	3.7	2.8

STATION NUMBER AND NAME.-- 02154500; North Pacolet River at Fingerville, S.C.

LOCATION.--Lat 35°07'15", long 81°59'10", Spartanburg County, 400 ft downstream from Obed Creek, 1.4 mi south of Fingerville, and at mile 48.5.

DRAINAGE AREA.--116 mi².

PERIOD OF RECORD.--October 1929 to March 1987.

REMARKS.--Slight diurnal fluctuations of low flow caused by mill upstream.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	75	78	82	86	94	100	120
5	50	53	57	60	66	75	84
10	40	41	45	48	52	60	68
20	32	33	36	38	42	49	55
30	28	29	31	34	37	43	49
50	25	25	27	29	32	37	43

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)						
5	10	25	50	75	90	95
490	350	230	160	110	83	69

STATION NUMBER AND NAME.-- 02155500: Pacolet River Near Fingerville, S.C.

LOCATION.--Lat 35°06'35'', long 81°57'35'', Spartanburg County, 100 ft upstream from bridge on State Road 55, 0.2 mi downstream from confluence of North Pacolet and South Pacolet Rivers, and at mile 46.5.

DRAINAGE AREA.--212 mi².

PERIOD OF RECORD.--October 1929 to March 1987.

REMARKS.--Some regulation by South Pacolet River Reservoir and Lake William C. Bowen. City of Spartanburg diverts municipal water supply upstream. Low-flow data was adjusted for effects of diversion prior to frequency analysis. Low-flow data was not adjusted prior to duration analysis.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	120	130	140	150	160	180	200
5	87	94	100	110	120	130	140
10	66	74	80	86	90	100	120
20	50	59	65	68	72	83	93
30	43	52	57	60	65	73	83
50	35	44	48	51	57	62	72

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)						
5	10	25	50	75	90	95
800	580	380	260	170	120	98

STATION NUMBER AND NAME.-- 02156050: Lawsons Fork Creek at Dewey Plant near Irman, S.C.

LOCATION.--Lat 35°01'31", long 82°04'27", Spartanburg County, at Milliken and Co., Dewey Plant, 1.8 mi southeast of Irman, and 3.8 mi upstream from the confluence with Meadow Creek.

DRAINAGE AREA.--6.46 mi².

PERIOD OF RECORD.--October 1979 to March 1987.

REMARKS.--No significant regulation or diversion upstream.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	3.2	3.2	3.4	3.4	3.8	3.9	4.8
5	1.6	1.6	1.7	1.8	2.1	2.5	3.3
10	.80	.81	.95	1.1	1.3	1.9	2.7

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)						
5	10	25	50	75	90	95
21	15	10	6.9	4.6	3.4	2.8

STATION NUMBER AND NAME.--02156450: Neals Creek near Carlisle, S.C.

LOCATION.--Lat. 34°39'53'', Long 81°27'28'', Union County, at bridge on County Road 86, 5.1 mi north of Carlisle, and 10.3 mi southeast of Union.

DRAINAGE AREA.-- 12.3 mi².

PERIOD OF RECORD.--October 1980 to March 1987.

REMARKS.--No significant regulation or diversion upstream.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	1.8	1.9	1.9	2.1	2.3	2.6	2.9
5	1.1	1.2	1.2	1.5	1.7	2.1	2.4
10	.72	.77	.89	1.1	1.3	1.7	2.0

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)						
5	10	25	50	75	90	95
37	21	9.7	5.0	2.7	1.6	1.2

STATION NUMBER AND NAME.--02156500: Broad River near Carlisle, S.C.

LOCATION.--Lat 34°35'46'', long 81°25'20'', Union County, at bridge on State Highway 72, 1.3 mi upstream from Sandy River, 2.0 mi downstream from Seaboard Coastline Railroad, 2.5 mi east of Carlisle, 5.0 mi downstream from Neal Shoals Dam, and at mile 226.0.

DRAINAGE AREA.--2,790 mi², approximately.

PERIOD OF RECORD.--October 1938 to March 1987.

REMARKS.--Some regulation of low to medium flow by powerplants upstream.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	740	1,200	1,400	1,500	1,600	1,900	2,100
5	260	740	960	1,100	1,200	1,300	1,500
10	110	520	730	840	920	1,100	1,200
20	39	360	580	660	740	900	980
30	18	290	520	580	650	800	880
50	4.5	220	450	490	560	700	770

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)							
	5	10	25	50	75	90	95
	10,000	6,900	4,400	3,000	2,000	1,400	1,100

STATION NUMBER AND NAME.--02157000: North Tyger River near Fairmont, S.C.

LOCATION.--Lat 34°55'45'', long 82°02'40'', Spartanburg County, 80 ft downstream from Frey Creek, 2.2 mi north of Fairmont, and at mile 57.9.

DRAINAGE AREA.--44.4 mi².

PERIOD OF RECORD.--October 1950 to March 1987.

REMARKS.--No significant regulation or diversion upstream.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	20	20	21	22	24	28	31
5	12	12	13	15	16	19	22
10	8.8	9.2	9.8	11	13	15	17
20	6.7	7.0	7.7	9.0	11	12	14
30	5.7	6.0	6.7	8.0	9.6	10	12
50	4.8	5.0	5.9	6.9	8.5	8.9	10

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)						
5	10	25	50	75	90	95
150	100	68	48	33	23	18

STATION NUMBER AND NAME.--02160105: Tyger River near Delta, S.C.

LOCATION.--Lat 34°32'07'', Long 81°32'54'', Union County, at bridge on State Highway 72 and 121, 0.9 mi downstream from Seaboard Coast Line Railroad, and 0.8 mi southeast of Delta.

DRAINAGE AREA.--759 mi².

PERIOD OF RECORD.--October 1973 to March 1987.

REMARKS.--No significant regulation or diversion upstream. Due to detection of trends in the low-flow discharge data of this station, a level of uncertainty exists in the frequency and duration analysis values shown.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	280	290	310	320	350	380	450
5	180	180	200	210	230	260	310
10	130	140	160	160	170	210	250
20	100	100	120	120	130	170	220

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)						
5	10	25	50	75	90	95
2,900	1,900	1,200	780	490	330	260

STATION NUMBER AND NAME.--02160700: Enoree River at Whitmire, S.C.

LOCATION.--Lat 34°30'33'', long 81°35'54'', Union County, on left bank, at upstream side of bridge on U.S Highway 176, 0.4 mi downstream from Seaboard Coast Line Railroad, 0.5 mi northeast of Whitmire, and at mile 19.2.

DRAINAGE AREA.--444 mi².

PERIOD OF RECORD.--October 1973 to March 1987.

REMARKS.--No significant regulation or diversion upstream.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	140	150	160	170	180	220	250
5	86	89	100	110	120	140	170
10	62	64	80	80	89	110	140
20	46	49	66	58	70	94	120

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)							
	5	10	25	50	75	90	95
	1,700	1,100	630	420	270	180	140

STATION NUMBER AND NAME.--02160775: Hellers Creek near Pomaria, S.C.

LOCATION.--Lat 34°21'38'', Long 81°29'32'', Newberry County, at bridge on State Road 55, 7.8 mi northwest of Pomaria, and 9.2 mi northeast of Newberry.

DRAINAGE AREA.--8.16 mi².

PERIOD OF RECORD.--October 1980 to March 1987.

REMARKS.--No significant regulation or diversion upstream.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	0.93	1.0	1.1	1.2	1.4	1.7	1.9
5	.42	.53	.60	.77	.91	1.2	1.4
10	.23	.36	.39	.56	.71	.98	1.2

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)						
5	10	25	50	75	90	95
22	14	7.3	3.5	2.1	1.4	1.1

STATION NUMBER AND NAME.--02161000: Broad River at Alston, S.C.

LOCATION.--Lat 34°14'35'', Long 81°19'11'', Fairfield County, on left bank at Southern Railway Alston - Peak trestle, 1.2 mi downstream from Parr Shoals Dam, and at mile 200.2.

DRAINAGE AREA.--4,790 mi.

PERIOD OF RECORD.--October 1980 to March 1987.

REMARKS.--Some regulation of low to medium flow by powerplants upstream.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	660	1,100	1,400	1,600	1,700	1,900	2,100
5	330	890	980	1,100	1,300	1,600	1,900
10	180	780	790	900	1,100	1,500	1,900

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)							
5	10	25	50	75	90	95	
18,000	12,000	6,000	3,900	2,400	1,500	1,300	

STATION NUMBER AND NAME.--02161500: Broad River at Richtex, S.C.

LOCATION.--Lat 34°11'05'', long 81°11'48'', Richland County, 0.8 mi west of Richtex, 1.2 mi upstream from Little River, 10.2 mi downstream from Parr Shoals Dam, and at mile 191.2.

DRAINAGE AREA.--4,850 mi², approximately.

PERIOD OF RECORD.--October 1925 to March 1983.

REMARKS.--Regulation of low to medium flow by powerplants upstream.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	1,000	1,400	1,800	1,900	2,100	2,500	2,800
5	380	900	1,200	1,400	1,500	1,800	2,000
10	260	680	1,000	1,100	1,200	1,500	1,700
20	200	520	800	900	1,000	1,200	1,400
30	180	440	730	810	920	1,100	1,300
50	150	380	660	710	800	1,000	1,100

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)						
5	10	25	50	75	90	95
18,000	12,000	6,600	4,300	2,800	1,900	1,500

STATION NUMBER AND NAME.--02162010: Cedar Creek near Blythewood, S.C.

LOCATION.--Lat 34°11'44'', long 81°06'13'', Richland County, at bridge on State Road 59, 0.2 mi upstream from Williams Branch, 8.0 mi southwest of Blythewood, and at mile 6.9.

DRAINAGE AREA.--48.9 mi².

PERIOD OF RECORD.--November 1966 to September 1983, February 1985 to March 1987.

REMARKS.--No significant regulation or diversion upstream.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	2.6	2.8	3.0	3.6	4.7	6.3	8.2
5	.66	.80	.95	1.6	2.1	3.4	4.8
10	.25	.29	.53	.79	1.2	2.3	3.4
20	.10	.11	.19	.34	.68	1.5	2.4

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)						
5	10	25	50	75	90	95
180	83	35	15	7.4	3.8	2.5

STATION NUMBER AND NAME.--02162093: Smith Branch at North Main Street at Columbia, S.C.

LOCATION.--Lat 34°01'38'', long 81°02'31'', Richland County, on left bank, 15 ft upstream from culvert opening at North Main Street in Columbia.

DRAINAGE AREA.--5.67 mi².

PERIOD OF RECORD.--October 1976 to March 1987.

REMARKS.--No significant regulation or diversion upstream.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	1.4	1.4	1.5	1.6	2.1	3.0	3.7
5	.87	.93	1.0	1.2	1.4	2.3	2.6
10	.66	.76	.91	.95	1.2	1.9	2.2

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)							
5	10	25	50	75	90	95	
39	19	6.7	3.9	2.5	1.8	1.5	

STATION NUMBER AND NAME.--02162350: Middle Saluda River near Cleveland, S.C.

LOCATION.--Lat 35°07'12'', long 82°32'16'', Greenville County, downstream side of bridge at State Road 41, 3.9 mi north of Cleveland, and 5.0 mi east of Caesars Head.

DRAINAGE AREA.--21.0 mi².

PERIOD OF RECORD.--October 1980 to March 1987.

REMARKS.--No significant regulation or diversion upstream.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	22	22	23	24	26	30	33
5	14	14	14	17	18	20	23
10	10	11	11	13	15	16	19

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)							
5	10	25	50	75	90	95	
120	93	64	39	26	19	17	

STATION NUMBER AND NAME.--02162500: Saluda River near Greenville, S.C.

LOCATION.--Lat 34°50'32'', Long 82°28'51'', Pickens County, 700 ft upstream from State Road 124, 1.6 mi downstream from Saluda Lake Dam, 2.4 mi upstream from Georges Creek, and at mile 132.0.

DRAINAGE AREA.--295 mi³.

PERIOD OF RECORD.--October 1941 to March 1978.

REMARKS.--Some regulation of low to medium flow by powerplants upstream. City of Greenville diverts municipal water supply upstream. Low-flow data was adjusted for effects of diversion prior to frequency analysis. Flow data was not adjusted prior to duration analysis.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	250	260	280	300	310	350	380
5	170	180	200	210	230	250	270
10	140	140	160	170	180	210	220
20	110	120	120	140	150	170	180
30	96	110	110	120	140	150	160
50	82	94	97	100	120	130	140

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)						
5	10	25	50	75	90	95
1,500	1,200	790	530	350	260	200

STATION NUMBER AND NAME.--02162525: Hamilton Creek near Easley, S.C.

LOCATION.--Lat 34°50'10'' long 82°33'09'', Pickens County, on Route 135, 4.6 mi northeast of Easley, and 0.6 mi upstream of Georges Creek.

DRAINAGE AREA.--1.60 mi².

PERIOD OF RECORD.--February 1981 to March 1986.

REMARKS.--No significant regulation or diversion upstream.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	0.81	0.82	0.85	0.95	1.1	1.2	1.3
5	.35	.39	.53	.57	.76	.88	1.0
10	.20	.21	.40	.44	.64	.75	.94

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)						
5	10	25	50	75	90	95
7.2	4.9	3.1	2.1	1.4	0.80	0.58

STATION NUMBER AND NAME.--02163500: Saluda River near Ware Shoals, S.C.

LOCATION.--Lat 34°23'01'' long 82°13'12'', Greenwood County, 2.0 mi southeast of Ware Shoals, 2.5 mi downstream from Ware Shoals Dam, 5.0 mi upstream from Turkey Creek, and at mile 83.7.

DRAINAGE AREA.--581 mi².

PERIOD OF RECORD.--October 1938 to March 1987.

REMARKS.--Some regulation of low to medium flow by powerplants upstream. City of Greenville diverts municipal water supply upstream. Low-flow data was adjusted for effects of diversion prior to frequency analysis. Flow data was not adjusted prior to duration analysis.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	260	330	380	410	440	490	540
5	140	210	260	290	300	350	380
10	90	160	190	220	240	280	310
20	58	130	140	170	190	220	260
30	45	110	120	140	170	200	240
50	34	92	100	120	140	170	210

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)						
5	10	25	50	75	90	95
2,500	1,900	1,200	770	500	340	270

STATION NUMBER AND NAME.--02164000: Reedy River near Greenville, S.C.

LOCATION.--Lat 34°48'00'' long, 82°21'55'', Greenville County, 375 ft downstream from bridge on Interstate Highway 85, 0.5 mi from Brushy Creek, 2.5 mi upstream from dam at Conestee, and at mile 48.5.

DRAINAGE AREA.-- 48.6 mi².

PERIOD OF RECORD.--October 1941 to March 1971.

REMARKS.--No significant regulation or diversion upstream. Frequency analysis results are from Bloxham (1979).

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	---	---	25	28	32	36	42
5	---	---	19	21	24	26	30
10	---	---	16	18	19	21	24
20	---	---	14	15	16	17	19
30	---	---	12	13	14	15	17
50	---	---	10	11	12	13	14

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)						
5	10	25	50	75	90	95
220	140	85	56	38	28	23

STATION NUMBER AND NAME.--02165000: Reedy River near Ware Shoals, S.C.

LOCATION.--Lat 34°26'40'', long 82°10'35'', Laurens County, 1.9 mi downstream from dam at Boyd's Mill, 4.5 mi upstream from Walnut Creek, 5.0 mi northwest of Ware Shoals, and at mile 12.8.

DRAINAGE AREA.--226 mi².

PERIOD OF RECORDS.--March 1939 to March 1987.

REMARKS.--Some regulation of low to medium flow by powerplants upstream.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS							
Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	16	32	90	110	130	150	160
5	12	17	51	70	87	100	120
10	9.4	14	36	51	65	81	97
20	7.8	12	26	38	51	67	81
30	6.9	12	22	32	44	60	73
50	6.0	11	18	26	36	53	65

DURATION OF DAILY FLOW						
Flow equalled or exceeded for indicated percentage of time (cubic feet per second)						
5	10	25	50	75	90	95
940	630	400	260	170	87	33

STATION NUMBER AND NAME.--02165200: South Rabon Creek near Gray Court, S.C.

LOCATION.--Lat 34°31'12'', long 82°09'26'', Laurens County, 125 ft upstream from U.S. Highway 76, 2.5 mi upstream from North Rabon Creek, and 7.0 mi southwest of Gray Court.

DRAINAGE AREA.--29.5 mi².

PERIOD OF RECORD.--January 1967 to March 1981.

REMARKS.--No significant regulation or diversion upstream.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	12	12	13	13	15	16	18
5	9.0	9.4	9.4	9.8	11	12	13
10	7.4	7.8	7.8	8.1	9.0	10	11
20	6.2	6.6	6.6	6.9	7.6	9.0	9.7

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)							
5	10	25	50	75	90	95	
91	60	41	28	19	14	11	

STATION NUMBER AND NAME.--02166970: Ninety-Six Creek near Ninety-Six, S.C.

LOCATION.--Lat 34°07'57'', long 81°59'48'', Greenwood County, at downstream side of bridge on State Road 288, 3.3 mi southeast of Ninety-Six, and 10.1 mi southeast of Greenwood.

DRAINAGE AREA.--17.4 mi².

PERIOD OF RECORD.--October 1980 to March 1987.

REMARKS.--No significant regulation or diversion upstream.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	0.76	0.76	0.82	0.90	1.0	1.3	1.5
5	.34	.36	.38	.48	.55	.68	.85
10	.20	.22	.25	.31	.38	.46	.60

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)							
5	10	25	50	75	90	95	
74	29	10	3.7	1.2	0.52	0.29	

STATION NUMBER AND NAME.--02167000: Saluda River at Chappells, S.C.

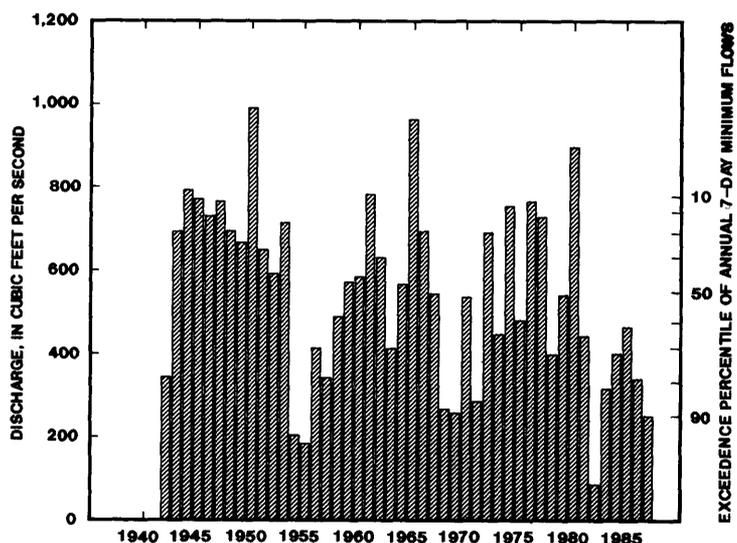
LOCATION.-- lat 34°10'40'', long 81°51'40'', Newberry County, at bridge on State Highway 39 at Chappells, 6.7 mi downstream from dam at Lake Greenwood, 9.8 mi upstream from Little River, and at mile 52.3.

DRAINAGE AREA.--1,360 mi².

PERIOD OF RECORD.--October 1926 to March 1987.

REMARKS.--Flow regulated since 1940 by Lake Greenwood with a usable capacity of 7,640,000,000 ft³. A time-series plot of annual seven-day minimum flow is presented in lieu of frequency analysis results. Duration of daily flow based on records since 1942.

ANNUAL 7-DAY MINIMUM FLOWS AND PERCENTILES



EXCEEDENCE PERCENTILES OF ANNUAL 7-DAY MINIMUM FLOWS

Annual 7-day minimum flow exceeded for indicated percentage of years (cubic feet per second)

10	20	30	40	50	60	70	80	90
780	740	690	630	560	480	410	340	260

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)

5	10	25	50	75	90	95
4,700	3,900	2,500	1,500	890	510	380

STATION NUMBER AND NAME.--02169000: Saluda River near Columbia, S.C.

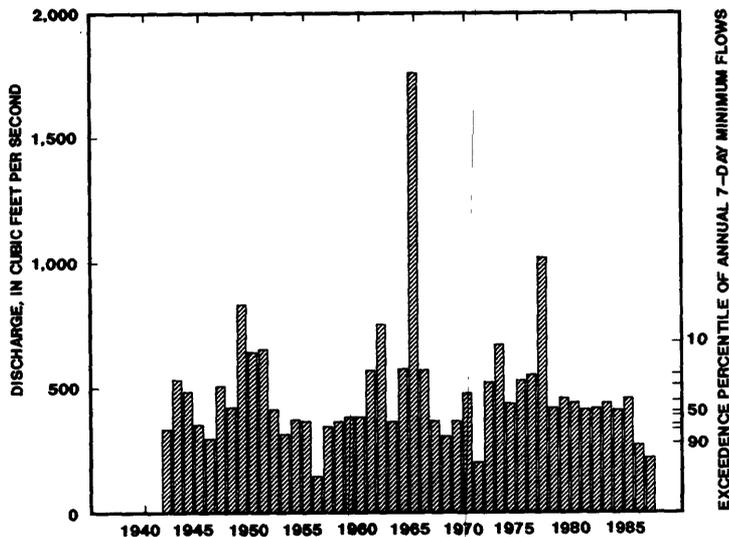
LOCATION.--Lat 34°00'50'', long 81°05'17'', Richland County, 0.4 mi upstream from site of Old Saluda Mill, 1.6 mi upstream from confluence with Broad River, 3.3 mi west of State Capitol in Columbia, and at mile 1.67.

DRAINAGE AREA.--2,520 mi².

PERIOD OF RECORD.--August 1925 to March 1987.

REMARKS.--Flow regulated since 1929 by Lake Murray, usable capacity 70,300,000,000 ft³, and since 1940 by Lake Greenwood, usable capacity 7,640,000,000 ft³. Duration of daily flow based on records since 1942. A time-series plot of seven-day minimum flow is presented in lieu of frequency analysis results.

ANNUAL 7-DAY MINIMUM FLOWS AND PERCENTILES



EXCEEDENCE PERCENTILES OF ANNUAL 7-DAY MINIMUM FLOWS

Annual 7-day minimum flow exceeded for indicated percentage of years (cubic feet per second)								
10	20	30	40	50	60	70	80	90
700	570	520	460	420	400	370	350	290

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)						
5	10	25	50	75	90	95
7,920	6,230	4,160	2,070	751	437	334

STATION NUMBER AND NAME.--02169500: Congaree River at Columbia, S.C.

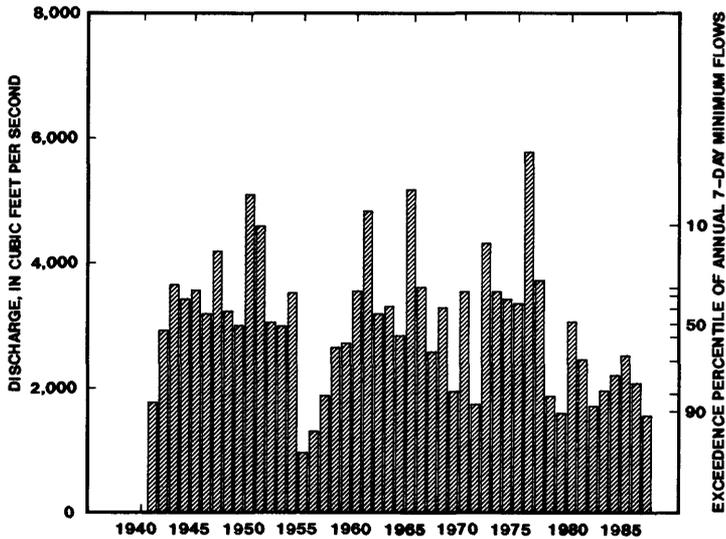
LOCATION.--Lat 33°59'35'', long 81°03'00'', Lexington County, at Columbia, 1,000 ft downstream from Gervais Street Bridge, 1.4 mi downstream from confluence of Broad and Saluda Rivers, and at mile 174.8.

DRAINAGE AREA.--7,850 mi², approximately.

PERIOD OF RECORD.--October 1939 to March 1987.

REMARKS.--Flow from Saluda River regulated by Lake Greenwood and Lake Murray. See stations 02167000 and 02169000. Some regulation of low to medium flow by powerplants on Broad River. Municipal supply for city of Columbia diverted above station. A time-series plot of annual seven-day flow is presented in lieu of frequency analysis results.

ANNUAL 7-DAY MINIMUM FLOWS AND PERCENTILES



EXCEEDENCE PERCENTILES OF ANNUAL 7-DAY MINIMUM FLOWS

Annual 7-day minimum flow exceeded for indicated percentage of years (cubic feet per second)

10	20	30	40	50	60	70	80	90
4,600	3,600	3,500	3,300	3,100	2,900	2,500	1,900	1,700

DURATION OF DAILY FLOW

Flow equalled or exceeded for the indicated percentage of time (cubic feet per second)

5	10	25	50	75	90	95
25,000	17,000	11,000	7,000	4,700	3,200	2,500

STATION NUMBER AND NAME.--02169550: Congaree Creek at Cayce, S.C.

LOCATION.--Lat 33°56'15'', long 81°04'40'', Lexington County, 20 ft downstream from U.S. Highway 21 at Cayce, 2.1 mi upstream from Sixmile Creek, and at mile 5.4.

DRAINAGE AREA.--122 mi².

PERIOD OF RECORD.--October 1959 to March 1980.

REMARKS.--No significant regulation of flow. City of Cayce diverts municipal supply upstream. Average diversions were approximately 1.0 ft³/s.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	140	140	140	140	150	160	170
5	120	120	130	130	140	150	160
10	120	120	120	120	130	140	150
20	110	110	120	120	130	140	150

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)						
5	10	25	50	75	90	95
370	320	250	190	160	140	140

STATION NUMBER AND NAME.--02169570: Gills Creek at Columbia, S.C.

LOCATION.--Lat 33°59'22'', long 80°58'28'', Richland County, at bridge on U.S. Highways 378 and 76 (Devine Street) at Columbia, 0.75 mi downstream from Lake Katherine, and at mile 7.7.

DRAINAGE AREA.--59.6 mi².

PERIOD OF RECORD.--September 1966 to March 1987.

REMARKS.--Natural flow subject to temporary influence of private lakes upstream. Due to detection of trends in the low-flow discharge data of this station, a level of uncertainty exists in the frequency and duration analysis values shown.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	11	12	13	15	18	24	30
5	7.2	7.6	7.8	8.7	10	13	16
10	5.1	5.5	5.6	6.3	7.1	8.8	12
20	3.8	3.9	4.1	4.7	5.1	6.4	8.3
30	3.2	3.3	3.5	4.0	4.4	5.3	7.8

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)						
5	10	25	50	75	90	95
230	160	91	50	28	16	13

STATION NUMBER AND NAME.--02169630: Big Beaver Creek near St. Matthews, S.C.

LOCATION.--Lat 33°44'12'', long 80°57'30'', Calhoun County, at bridge on U.S. Highway 21, 0.1 mi downstream from Rock Branch, 11.6 mi northwest of St. Matthews, and at mile 8.2.

DRAINAGE AREA.--10.0 mi².

PERIOD OF RECORD.--July 1966 to March 1987.

REMARKS.--No significant regulation or diversion upstream.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	6.6	6.8	6.9	7.4	8.2	9.0	9.4
5	5.2	5.3	5.5	5.7	6.2	7.0	7.4
10	4.6	4.6	5.0	5.0	5.5	6.0	6.4
20	4.1	4.1	4.2	4.4	4.8	5.4	5.8
30	3.9	3.9	4.0	4.2	4.6	5.0	5.4

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)

5	10	25	50	75	90	95
28	22	16	12	8.9	7.3	6.5

STATION NUMBER AND NAME.--02170500: Lake Marion-Moultrie Diversion Canal near Pineville, S.C.

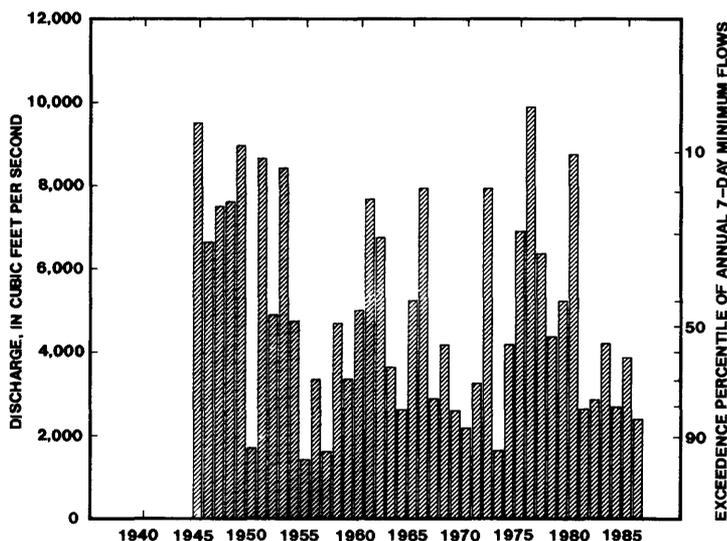
LOCATION.--Lat 33°23'14'', long 80°08'25'', Berkeley County, 0.6 mi upstream from State Highway 45, and 7.0 mi southwest of Pineville.

DRAINAGE AREA.--Not determined; see remarks.

PERIOD OF RECORD.--October 1943 to March 1986.

REMARKS.--Canal diverts water from Lake Marion to Lake Moultrie for generation of power and for navigation. Water is discharged from powerplants and navigation lock into West Branch Cooper River.

ANNUAL 7-DAY MINIMUM FLOWS AND PERCENTILES



EXCEEDENCE PERCENTILES OF ANNUAL 7-DAY MINIMUM FLOWS

Annual 7-day minimum flow exceeded for indicated percentage of years (cubic feet per second)

10	20	30	40	50	60	70	80	90
8,700	7,800	6,800	5,200	4,500	3,900	3,200	2,600	1,800

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)

5	10	25	50	75	90	95
29,000	26,000	20,000	13,000	9,400	6,200	4,600

STATION NUMBER AND NAME.--02171500: Santee River near Pineville, S.C.

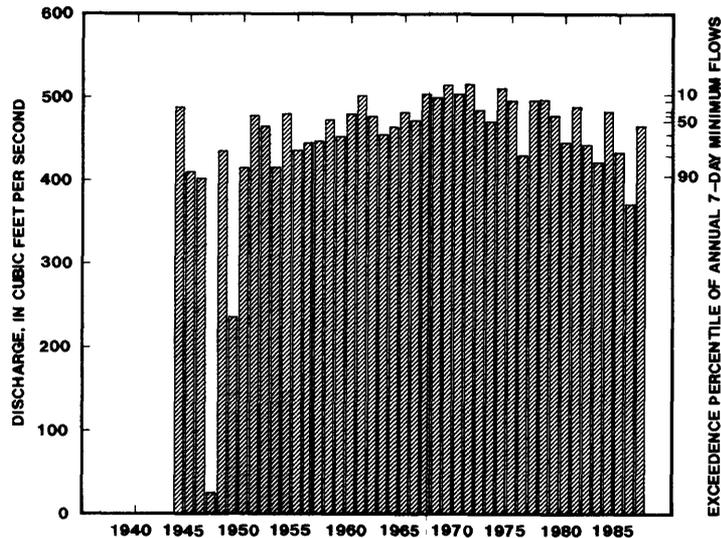
LOCATION.--Lat 33°27'15'', long 80°09'25'', Berkeley County, 2.4 mi downstream from Lake Marion Dam, 3.0 mi upstream from Dead River, 6.7 mi west of Pineville, and at mile 85.0.

DRAINAGE AREA.--14,700 mi², approximately.

PERIOD OF RECORD.--April 1942 to March 1987.

REMARKS.--Flow regulated by Lake Marion with a usable capacity of 47,930,000,000 ft³. A plot of annual seven-day flow and time is presented in lieu of frequency analysis results.

ANNUAL 7-DAY MINIMUM FLOWS AND PERCENTILES



EXCEEDENCE PERCENTILES OF ANNUAL 7-DAY MINIMUM FLOWS

Annual 7-day minimum flow exceeded for indicated percentage of years (cubic feet per second)									
10	20	30	40	50	60	70	80	90	
500	500	480	480	470	460	440	430	410	

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)						
5	10	25	50	75	90	95
14,000	2,300	660	580	510	430	400

STATION NUMBER AND NAME.--02171680: Wedboo Creek near Jamestown, S.C.

LOCATION.--Lat 33°19'50'', long 79°48'10'', Berkeley County, at culvert on State Highway 45, 1.4 mi southeast of Alvin, 3.3 mi upstream from Santee River, and 7.5 mi northeast of Jamestown.

DRAINAGE AREA.--17.4 mi².

PERIOD OF RECORD.--September 1966 to February 1972, February 1973 to March 1987.

REMARKS.--No known regulation or diversion upstream.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	0.09	0.10	0.15	0.20	0.35	0.56	0.88
5	.0	.0	.0	.0	.07	.17	.32
10	.0	.0	.0	.0	.01	.08	.18
20	.0	.0	.0	.0	.0	.04	.11

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)							
5	10	25	50	75	90	95	
56	34	11	2.3	0.81	0.34	0.08	

STATION NUMBER AND NAME.--02172640: Dean Swamp Creek near Salley, S.C.

LOCATION.--Lat 33°35'21'', long 81°21'57'', Aiken County, on county dirt road, 1.4 mi downstream from Johnsons Pond, 4.0 mi southwest of Wagener, and 4.0 mi northwest of Salley.

DRAINAGE AREA.--31.2 mi².

PERIOD OF RECORD.--October 1980 to March 1987.

REMARKS.--No significant regulation or diversion upstream.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	18	18	19	19	20	20	20
5	17	17	17	17	18	18	19
10	16	16	16	16	17	18	18

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)							
5	10	25	50	75	90	95	
34	31	27	25	22	19	18	

STATION NUMBER AND NAME.--02173000: South Fork Edisto River near Denmark, S.C.

LOCATION.--Lat 33°23'35'', long 81°08'00'', Orangeburg County, at bridge on U.S. Highway 321, 360 ft downstream from Seaboard Coastline Railroad, 1.8 mi downstream from Little River, 4.8 mi north of Denmark, and at mile 136.6

DRAINAGE AREA.--720 mi².

PERIOD OF RECORD.--August 1931 to September 1971, October 1980 to March 1987.

REMARKS.--No significant regulation or diversion upstream.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	290	290	300	320	360	400	430
5	210	210	230	240	270	310	330
10	180	180	200	200	240	270	290
20	160	160	170	180	210	240	250
30	150	150	160	170	200	230	240
50	140	140	150	160	190	210	220

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)						
5	10	25	50	75	90	95
1,800	1,400	940	630	460	340	300

STATION NUMBER AND NAME.--02173500: North Fork Edisto River at Orangeburg, S.C.

LOCATION.--Lat 33°29'00'', Long 80°52'25'', Orangeburg County, at bridge on U.S. Highway 301 at Orangeburg, 0.5 mi upstream from Seaboard Coast Line Railroad, 1.5 mi downstream from Caw Caw Swamp, and at mile 22.1.

DRAINAGE AREA.--683 mi².

PERIOD OF RECORD.--October 1938 to March 1987.

REMARKS.--No significant regulation upstream. City of Orangeburg diverts municipal water supply upstream.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	360	360	370	390	420	470	510
5	270	270	280	290	320	350	390
10	230	240	230	240	270	300	320
20	200	200	200	200	230	260	280
30	190	190	190	190	210	230	250
50	170	170	170	170	190	210	220

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)						
5	10	25	50	75	90	95
1,700	1,300	940	680	500	380	330

STATION NUMBER AND NAME.--02174000: Edisto River near Branchville, S.C.

LOCATION.--Lat 33°10'35'', long 80°45'05'', Bamberg County, 400 ft downstream from U.S. Highway 21, 4.7 mi downstream from Brier Branch, 5.2 mi south of Branchville, and at mile 100.0.

DRAINAGE AREA.--1,720 mi², approximately.

PERIOD OF RECORD.--October 1945 to March 1987.

REMARKS.--No significant regulation or diversion upstream.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	760	780	790	830	900	1,000	1,100
5	550	560	580	610	660	720	800
10	460	470	480	510	550	600	670
20	390	410	420	440	480	510	580
30	360	380	390	410	440	470	530
50	320	340	350	380	400	430	470

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)						
5	10	25	50	75	90	95
4,800	3,700	2,500	1,600	1,100	820	690

STATION NUMBER AND NAME.--02174250: Cow Castle Creek near Bowman, S.C.

LOCATION.--Lat 33°22'43'', long 80°42'00'', Orangeburg County at bridge on county road, 1.1 mi upstream from Buck Branch, and 3.2 mi northwest of Bowman.

DRAINAGE AREA.--23.4 mi².

PERIOD OF RECORD.--October 1970 to March 1981.

REMARKS.--No significant regulation or diversion upstream.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	1.3	1.6	1.8	1.8	2.1	2.8	3.2
5	.48	.85	.97	1.0	1.1	1.4	1.8
10	.0	.58	.70	.80	.81	.97	1.3
20	.0	.43	.52	.64	.64	.74	1.0

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)							
5	10	25	50	75	90	95	
80	52	25	8.8	3.2	2.0	1.6	

STATION NUMBER AND NAME.--02175000: Edisto River near Givhans, S.C.

LOCATION.--Lat 33°01'40'', long 80°23'30'', Dorchester County, at bridge on State Highway 61, 2.3 mi downstream from Four Hole Swamp, 2.8 mi west of Givhans, and at mile 59.9.

DRAINAGE AREA.--2,730 mi², approximately.

PERIOD OF RECORD.--January 1939 to March 1987.

REMARKS.--No significant regulation upstream. City of Charleston diverts municipal water supply upstream. Low-flow data was adjusted for effects of diversion prior to frequency analysis. Flow data was not adjusted prior to duration analysis.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	780	780	800	830	920	1,100	1,100
5	580	580	590	620	700	740	780
10	480	490	500	530	590	610	650
20	410	420	430	460	510	520	550
30	370	380	400	430	460	470	500
50	330	340	360	390	420	430	450

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)							
	5	10	25	50	75	90	95
	7,700	5,500	3,300	1,800	1,100	740	640

STATION NUMBER AND NAME.--02175500: Salkehatchie River near Miley, S.C.

LOCATION.--Lat 32°59'20'', long 81°03'10'', Hampton County, 90 ft downstream from U.S. Highway 601, 2.4 mi downstream from Savannah Creek, 3.1 mi upstream from Hampton and Branchville Railroad, 3.1 mi northwest of Miley, and at mile 68.0.

DRAINAGE AREA.--341 mi².

PERIOD OF RECORD.--February 1951 to March 1987.

REMARKS.--No significant regulation or diversion upstream.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	68	70	76	86	104	130	150
5	41	44	48	56	70	88	101
10	31	34	37	44	56	70	82
20	25	27	30	36	47	59	68
30	22	25	27	32	43	54	62
50	20	21	24	28	38	47	54

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)							
5	10	25	50	75	90	95	
900	670	440	260	160	100	76	

STATION NUMBER AND NAME.--02176500: Coosawhatchie River near Hampton, S.C.

LOCATION.--Lat 32°50'10'', long 81°07'55'', Hampton County, at bridge on U.S. Highway 601, 1.6 mi downstream from Black Creek, 2.5 mi southwest of Hampton, and at mile 33.6.

DRAINAGE AREA.--203 mi².

PERIOD OF RECORD.--February 1951 to March 1987.

REMARKS.--No significant regulation or diversion upstream.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	0.96	1.2	1.5	2.6	4.9	10	16
5	.0	.03	.06	.46	1.2	3.4	5.3
10	.0	.0	.0	.0	.42	1.4	2.3
20	.0	.0	.0	.0	.07	.46	.64
30	.0	.0	.0	.0	.01	.17	.27
50	.0	.0	.0	.0	.0	.0	.0

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)

5	10	25	50	75	90	95
710	500	250	79	17	3.7	1.6

STATION NUMBER AND NAME.--02177000: Chattooga River near Clayton, Ga.

LOCATION.--Lat 34°48'50'', long 83°18'22'', Oconee County, 150 ft downstream from U.S. Highway 76, 2.8 mi upstream from Stekoa Creek, 7.0 mi southeast of Clayton, 9.0 mi downstream from War Woman Creek, and 9.0 mi upstream from Tallulah River.

DRAINAGE AREA.--202 mi².

PERIOD OF RECORD.--May 1907 to June 1908, October 1939 to March 1987.

REMARKS.--No significant regulation or diversion upstream.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	210	210	220	230	260	290	320
5	150	150	160	170	180	200	220
10	120	120	130	140	150	170	180
20	100	100	110	120	120	140	150
30	95	96	100	110	110	130	140
50	85	86	92	98	100	120	130

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage if time (cubic feet per second)							
5	10	25	50	75	90	95	
1,500	1,200	810	530	350	240	190	

STATION NUMBER AND NAME.--02185200: Little River near Walhalla, S.C.

LOCATION.--Lat 34°50'11'', long 82°58'48'', Oconee County, at bridge on State Highway 11, 0.5 mi downstream from Oconee Creek, 3.5 mi south of Salem, and 6.5 mi northeast of Walhalla.

DRAINAGE AREA.--72.0 mi².

PERIOD OF RECORD.--March 1967 to March 1987.

REMARKS.--No significant regulation or diversion upstream.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	59	62	65	68	74	84	95
5	36	36	39	42	45	53	58
10	21	22	23	27	28	36	39
20	11	12	14	15	16	21	27
30	7.0	8.0	9.6	12	12	16	21

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)						
5	10	25	50	75	90	95
400	300	220	140	95	65	49

STATION NUMBER AND NAME.--02187500: Savannah River near Iva, S.C.

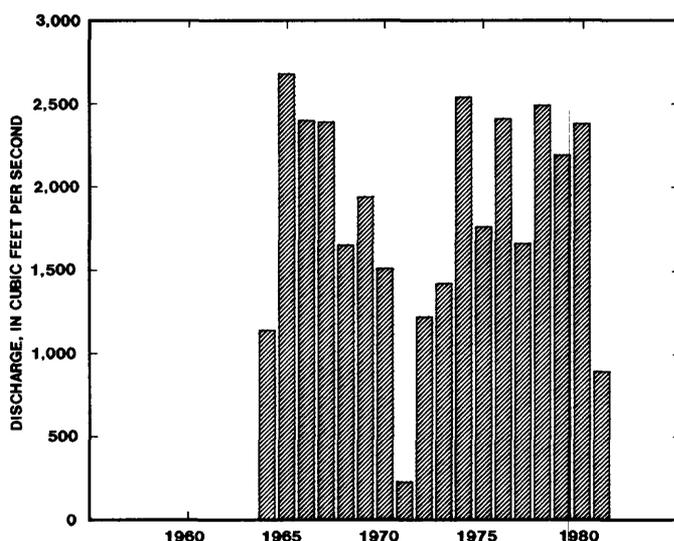
LOCATION.--Lat. 34°15'20'', Long 82°44'42'', Anderson County, 0.5 mi upstream from Little Generostee Creek, 5.8 mi southwest of Iva, and at mile 296.5.

DRAINAGE AREA.-- 2,231 mi².

PERIOD OF RECORD.--October 1949 to March 1981.

REMARKS.--Flow regulated since 1914 by Burton and Mathis Reservoirs, with a combined usable capacity of 5,500,000 ft³ and by Hartwell Lake since 1961 with a usable capacity of 74,430,000,000 ft³. A time-series plot of annual 7-day flow and time is presented in lieu of frequency analysis results. Exceedence percentiles of annual seven-day minimum flow and durations of daily flows are not presented because operational procedures were changed in 1988 for dams on the Savannah River.

ANNUAL 7-DAY MINIMUM FLOWS



STATION NUMBER AND NAME.--02189000: Savannah River near Calhoun Falls, S.C.

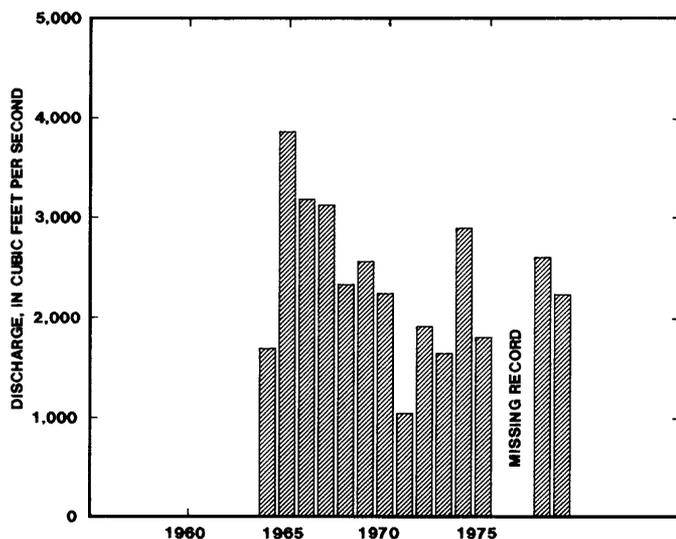
LOCATION.--Lat 34°04'15", long 82°38'30", Abbeville County, 150 ft upstream from State Highway 72, 1.0 mi downstream from Seaboard Coast Line Railroad, 1.5 mi downstream from Rocky River, and at mile 279.7.

DRAINAGE AREA.--2,876 mi².

PERIOD OF RECORD.--August 1896 to August 1898, March 1899 to December 1900, January to December 1903, March 1930 to July 1932, April 1938 to March 1979.

REMARKS.--Flow regulated since 1914 by Burton and Mathis Reservoirs, by Hartwell Lake since 1961, and by partial regulation of Rocky River. See station 02187500. A time-series plot of annual 7-day flow is presented in lieu of frequency analysis results. Exceedence percentiles of annual seven-day minimum flow and durations of daily flows are not presented because operational procedures were changed in 1988 for dams on the Savannah River.

ANNUAL 7-DAY MINIMUM FLOWS



STATION NUMBER AND NAME.--02196000: Stevens Creek near Modoc, S.C.

LOCATION.--Lat 33°43'45'', long 82°10'55'', Edgefield County, at bridge on State Highway 23, 1.4 mi east of Modoc, and 3.2 mi downstream from Turkey Creek.

DRAINAGE AREA.--545 mi².

PERIOD OF RECORD.--November 1929 to September 1931, February 1940 to September 1978, November 1983 to March 1987.

REMARKS.--Some fluctuation at low flow caused by mill ponds upstream.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	5.9	7.6	9.6	12	18	29	40
5	2.2	2.9	4.3	5.5	8.2	15	21
10	1.0	1.2	2.1	2.8	4.6	9.8	14
20	.33	.35	.49	.78	2.4	6.8	10
30	.07	.12	.15	.19	1.5	5.7	8.5
50	.0	.0	.0	.0	.82	4.5	6.9

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)							
5	10	25	50	75	90	95	
1,700	820	290	100	35	16	9.8	

STATION NUMBER AND NAME.--02196250: Horn Creek near Colliers, S.C.

LOCATION.--Lat 33°42'55'', long 81°56'23'', Edgefield County, upstream side of bridge on County Road 76, 3.5 mi northeast of Ropers Crossroads, and 5.1 mi south of Edgefield.

DRAINAGE AREA.--13.9 mi².

PERIOD OF RECORD.--October 1980 to March 1987.

REMARKS.--No significant regulation or diversion upstream.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	2.7	2.7	2.8	3.0	3.3	3.8	4.2
5	1.6	1.7	1.7	2.0	2.2	2.5	2.9
10	1.2	1.2	1.3	1.5	1.7	2.0	2.3

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)						
5	10	25	50	75	90	95
41	27	16	7.9	5.1	3.6	2.1

STATION NUMBER AND NAME.--02197000: Savannah River at Augusta, Ga.

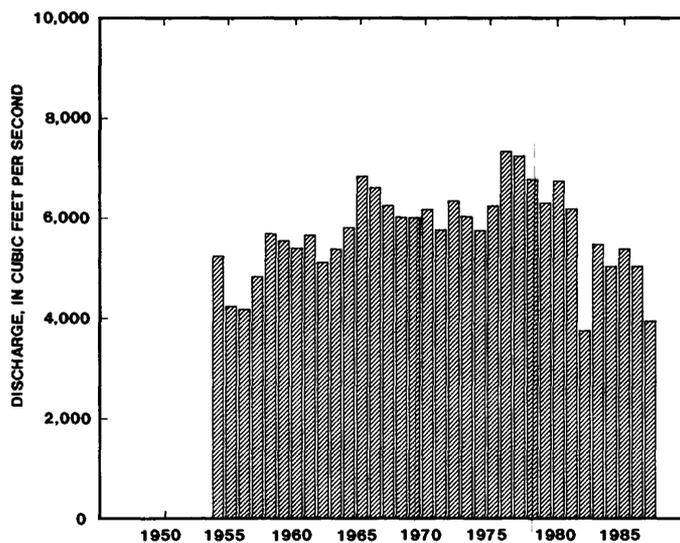
LOCATION.--Lat 33°22'25'', long 81°56'35'', Richmond County, at New Savannah Bluff lock and dam 0.2 mi upstream from Butler Creek, 12.0 mi downstream from Augusta, and at mile 187.4.

DRAINAGE AREA.--7,508 mi², including that of Butler Creek.

PERIOD OF RECORD.--October 1883 to December 1891, January 1896 to December 1906, January 1925 to March 1987.

REMARKS.--Flow regulated by Thurmond Lake, Hartwell Lake, Richard B. Russell Lake, and by various powerplants upstream. A time-series plot of annual seven-day minimum flow is presented in lieu of frequency analysis results. Exceedence percentiles of annual 7-day minimum flow and durations of daily flows are not presented because operational procedures were changed in 1988 for dams on the Savannah River.

ANNUAL 7-DAY MINIMUM FLOWS



STATION NUMBER AND NAME.--02197300: Upper Three Runs near New Ellenton, S.C.

LOCATION.--Lat 33°23'05'', long 81°37'00'', Aiken County, at bridge on U.S. Highway 278, 0.4 mi upstream from Johnson Fork Creek, and 4.6 mi southeast of New Ellenton.

DRAINAGE AREA.--87.0 mi².

PERIOD OF RECORD.--June 1966 to March 1987.

REMARKS.--No significant regulation or diversion upstream. Due to detection of trends in the low-flow discharge data of this station, a level of uncertainty exists in the frequency and duration analysis results.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	82	82	82	86	90	94	96
5	62	62	64	67	71	74	79
10	51	51	56	56	61	64	70
20	42	44	45	48	53	54	64
30	37	40	41	44	49	50	60

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)						
5	10	25	50	75	90	95
160	140	120	100	90	77	70

STATION NUMBER AND NAME.--02197310: Upper Three Runs Above Road C at Savannah River Plant, S.C.

LOCATION.--Lat 33°17'08'', long 81°41'40'', Aiken County, on right bank, 100 ft upstream of SRP Road C, 2.0 mi east of SRP Road 2, at Savannah River Plant.

DRAINAGE AREA.--176 mi².

PERIOD OF RECORD.--June 1974 to March 1987.

REMARKS.--No significant regulation or diversion upstream. Due to detection of trends in the low-flow discharge data of this station, a level of uncertainty exists in the frequency and duration analysis values shown.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	130	130	130	140	140	150	160
5	110	110	110	120	120	130	140
10	96	100	100	100	110	120	130
20	88	90	94	97	100	110	120

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)						
5	10	25	50	75	90	95
360	290	220	190	160	140	130

STATION NUMBER AND NAME.--02197400: Lower Three Runs near Snelling, S.C.

LOCATION.--Lat 33°10'35'', long 81°28'50'', Barnwell County, at bridge on State Road 20, 1.0 mi upstream from Patterson Branch, and 4.7 mi south of Snelling.

DRAINAGE AREA.--59.3 mi².

PERIOD OF RECORD.--March 1974 to March 1987.

REMARKS.--No significant regulation or diversion upstream.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence intervals (years)	Lowest average flow for indicated number of consecutive days (cubic feet per second)						
	1	3	7	14	30	60	90
2	24	24	24	25	28	32	37
5	16	17	18	19	22	25	27
10	14	15	16	17	20	23	24
20	12	13	14	16	18	21	23

DURATION OF DAILY FLOW

Flow equalled or exceeded for indicated percentage of time (cubic feet per second)							
5	10	25	50	75	90	95	
190	160	110	75	43	27	22	

STATION NUMBER AND NAME.--02197500: Savannah River at Burtons Ferry Bridge, near Millhaven, Ga.

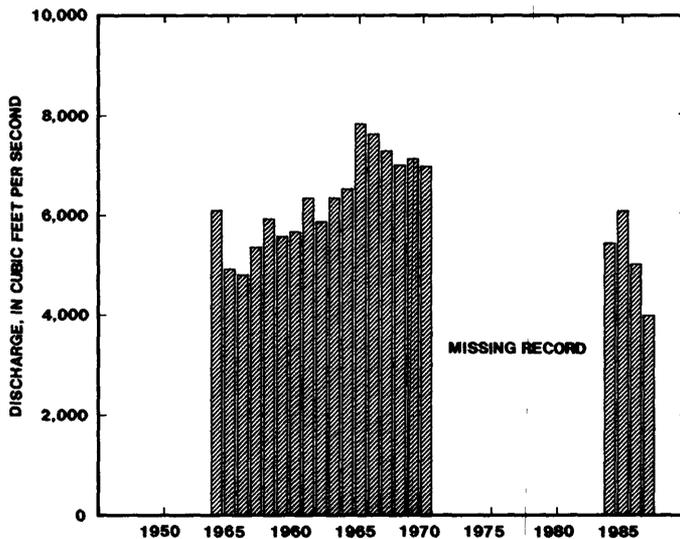
LOCATION.--Lat 32°56'20'', long 81°30'10'', Screven County (Ga.)-Allendale County (S.C.), Ga.-S.C. State line, at bridge on U.S. Highway 301, 2.0 mi downstream from Rocky Creek, 9.0 mi east of Millhaven, and at mile 129.2.

DRAINAGE AREA.--8,650 mi², approximately.

PERIOD OF RECORD.--October 1939 to September 1970, October 1982 to March 1987.

REMARKS.-- Flow regulated since 1951 by reservoirs and powerplants upstream. See station 02197000. A time-series plot of annual seven-day minimum flow is presented in lieu of frequency analysis results. Exceedence percentiles of annual 7-day minimum flow and durations of daily flows are not presented because operational procedures were changed in 1988 for dams on the Savannah River.

ANNUAL 7-DAY MINIMUM FLOWS



STATION NUMBER AND NAME.--02198500: Savannah River near Clyo, Ga.

LOCATION.--Lat 32°31'30'', long 81°15'45'', Effingham County (Ga.)-Jasper County (S.C.), Ga.-S.C. State line, at bridge on Seaboard Coast Line Railroad, 3.0 mi north of Clyo, and at mile 60.9.

DRAINAGE AREA.--9,850 mi², approximately.

PERIOD OF RECORD.--October 1929 to September 1933, October 1937 to March 1987.

REMARKS.--Flow regulated since 1951 by reservoirs and powerplants upstream. See station 02197000. A time-series plot of annual seven-day flow is presented in lieu of frequency analysis results. Exceedence percentiles of annual 7-day minimum flow and durations of daily flows are not presented because operational procedures were changed in 1988 for dams on the Savannah River.

ANNUAL 7-DAY MINIMUM FLOWS

