



LOW - FLOW FREQUENCY  
AND FLOW DURATION  
OF TENNESSEE STREAMS

U. S. Geological Survey



OPEN-FILE REPORT 78-807

Prepared in cooperation with the  
Tennessee Department of Conservation  
Division of Water Resources

03487500 - SOUTH FORK HOLSTON RIVER AT KINGSPORT, TN

LOCATION.-- Lat 36°31'51", long 82°33'29", Sullivan County, on left bank on Long Island 1,000 ft downstream from bridge on State Highway 81, at Kingsport, 1.2 miles upstream from Reedy Creek, and 3.8 miles upstream from confluence with North Fork.

DRAINAGE AREA.-- 1,935 mi<sup>2</sup>.

PERIOD OF RECORD.--December 1948 to September 1975.

REMARKS: Flow regulated by South Holston Lake (since November 1950), by Watauga Lake (since December 1948), by Boone Lake (since December 1952), and by Fort Patrick Henry Lake (since October 1953). Some diversions upstream for water supplies.

### FLOW DURATION

FLOW IN CUBIC FEET PER SECOND, WHICH WAS EQUALED OR EXCEEDED FOR PERCENTAGE OF TIME INDICATED.

|      |      |      |      |      |      |
|------|------|------|------|------|------|
| 99.5 | 99.1 | 99   | 98   | 95   | 90   |
| 397  | 425  | 432  | 478  | 587  | 748  |
| 80   | 70   | 60   | 50   | 40   | 30   |
| 935  | 1390 | 1840 | 2290 | 2850 | 3390 |
| 20   | 10   | 5    | 2    | 1    | 0.5  |
| 4030 | 5050 | 6010 | 7710 | 8890 | 9640 |

### MAGNITUDE AND FREQUENCY

LOWEST AVERAGE FLOW IN CUBIC FEET PER SECOND, FOR INDICATED RECURRENCE INTERVAL IN YEARS.

| PERIOD<br>(CONSECUTIVE DAYS) | 2    | 5    | 10   | 20   | 50 |
|------------------------------|------|------|------|------|----|
| 1                            | 544  | 427  | 374  | 335  |    |
| 3                            | 605  | 474  | 415  | 371  |    |
| 7                            | 707  | 570  | 509  | 464  |    |
| 14                           | 853  | 658  | 570  | 503  |    |
| 30                           | 1150 | 877  | 754  | 663  |    |
| 60                           | 1500 | 1220 | 1110 | 1020 |    |
| 120                          | 1900 | 1600 | 1480 | 1390 |    |
| 183                          | 2090 | 1770 | 1640 | 1540 |    |

**LOCATION.--** Lat  $36^{\circ}33'42''$ , long  $82^{\circ}27'36''$ , Sullivan County, on upstream right bank at Anderson Bridge, 0.1 mile south of U. S. Highway 11W, 0.3 mile north of Orebank, 1.0 mile upstream from Gaines Branch, and 9.8 miles upstream from mouth.

**DRAINAGE AREA.--** 36.3 mi<sup>2</sup>.

**PERIOD OF RECORD.--** October 1963 to September 1975.

**REMARKS:** The Bloomingdale Utility District diverts an average of about 0.6 cfs for supply, 0.8 mile upstream from the gage.

### FLOW DURATION

FLOW IN CUBIC FEET PER SECOND, WHICH WAS EQUALED OR EXCEEDED FOR PERCENTAGE OF TIME INDICATED.

|      |      |      |      |      |      |
|------|------|------|------|------|------|
| 99.5 | 99.1 | 99   | 98   | 95   | 90   |
| 4.90 | 5.03 | 5.07 | 5.41 | 6.25 | 7.38 |
| 80   | 70   | 60   | 50   | 40   | 30   |
| 10.0 | 14.3 | 19.4 | 26.3 | 35.0 | 45.5 |
| 20   | 10   | 5    | 2    | 1    | 0.5  |
| 62.6 | 96.7 | 149  | 248  | 372  | 548  |

### MAGNITUDE AND FREQUENCY

LOWEST AVERAGE FLOW IN CUBIC FEET PER SECOND, FOR INDICATED RECURRENCE INTERVAL IN YEARS.

| PERIOD<br>(CONSECUTIVE DAYS) | 2    | 5    | 10   | 20   | 50 |
|------------------------------|------|------|------|------|----|
| 1                            | 6.45 | 5.17 | 4.56 | 4.08 |    |
| 3                            | 6.66 | 5.29 | 4.64 | 4.13 |    |
| 7                            | 6.97 | 5.43 | 4.70 | 4.14 |    |
| 14                           | 7.34 | 5.72 | 4.98 | 4.41 |    |
| 30                           | 8.43 | 6.41 | 5.59 | 5.02 |    |
| 60                           | 10.2 | 7.26 | 6.06 | 5.21 |    |
| 120                          | 12.4 | 8.46 | 6.92 | 5.88 |    |
| 183                          | 17.8 | 11.0 | 8.58 | 7.00 |    |

03490500 - HOLSTON RIVER AT SURGOINSVILLE, TN

LOCATION.-- Lat 36°28'19", long 82°50'50", Hawkins County, on right bank 1,500 ft. upstream from Surgoinsville Creek and county bridge at Surgoinsville, 9.8 miles upstream from Big Creek, and at mile 118.8.

DRAINAGE AREA.-- 2,874 mi<sup>2</sup>, includes that of Surgoinsville Creek.

PERIOD OF RECORD.-- December 1948 to September 1975.

REMARKS: Flow partly regulated by South Holston Lake (since November 1950), by Watauga Lake (since December 1948), by Boone Lake (since December 1952), and by Fort Patrick Henry Lake (since October 1953).

### FLOW DURATION

FLOW IN CUBIC FEET PER SECOND, WHICH WAS EQUALED OR EXCEEDED FOR PERCENTAGE OF TIME INDICATED.

|      |      |      |       |       |       |
|------|------|------|-------|-------|-------|
| 99.5 | 99.1 | 99   | 98    | 95    | 90    |
| 669  | 748  | 769  | 871   | 1030  | 1280  |
| 80   | 70   | 60   | 50    | 40    | 30    |
| 1730 | 2180 | 2670 | 3200  | 3760  | 4380  |
| 20   | 10   | 5    | 2     | 1     | 0.5   |
| 5270 | 6930 | 9280 | 13000 | 16500 | 20400 |

### MAGNITUDE AND FREQUENCY

LOWEST AVERAGE FLOW IN CUBIC FEET PER SECOND, FOR INDICATED RECURRENCE INTERVAL IN YEARS.

| PERIOD<br>(CONSECUTIVE DAYS) | 2    | 5    | 10   | 20   | 50 |
|------------------------------|------|------|------|------|----|
| 1                            | 809  | 675  | 610  | 560  |    |
| 3                            | 953  | 802  | 726  | 666  |    |
| 7                            | 1120 | 907  | 807  | 731  |    |
| 14                           | 1320 | 1030 | 896  | 788  |    |
| 30                           | 1750 | 1330 | 1120 | 952  |    |
| 60                           | 2030 | 1610 | 1420 | 1280 |    |
| 120                          | 2390 | 2020 | 1870 | 1760 |    |
| 183                          | 2710 | 2310 | 2130 | 2000 |    |

03491000 - BIG CREEK NEAR ROGERSVILLE, TN

LOCATION.-- Lat 36°25'34", long 82°57'07", Hawkins County, on left bank  
300 ft upstream from county bridge, 2.0 miles upstream from the mouth,  
and 3.0 miles northeast of Rogersville.

DRAINAGE AREA.-- 47.3 mi<sup>2</sup>.

PERIOD OF RECORD.-- May 1941 to September 1975.

REMARKS.

### FLOW DURATION

FLOW IN CUBIC FEET PER SECOND, WHICH WAS EQUALED OR EXCEEDED  
FOR PERCENTAGE OF TIME INDICATED.

|      |      |      |      |      |      |
|------|------|------|------|------|------|
| 99.5 | 99.1 | 99   | 98   | 95   | 90   |
| 2.86 | 3.15 | 3.22 | 3.62 | 4.46 | 5.51 |
| 80   | 70   | 60   | 50   | 40   | 30   |
| 7.75 | 10.9 | 16.2 | 24.6 | 36.4 | 52.2 |
| 20   | 10   | 5    | 2    | 1    | 0.5  |
| 77.1 | 131  | 215  | 398  | 591  | 906  |

### MAGNITUDE AND FREQUENCY

LOWEST AVERAGE FLOW IN CUBIC FEET PER SECOND, FOR INDICATED  
RECURRENCE INTERVAL IN YEARS.

| PERIOD<br>(CONSECUTIVE DAYS) | 2    | 5    | 10   | 20   | 50   |
|------------------------------|------|------|------|------|------|
| 1                            | 4.24 | 3.16 | 2.72 | 2.40 | 2.10 |
| 3                            | 4.35 | 3.23 | 2.77 | 2.44 | 2.12 |
| 7                            | 4.58 | 3.40 | 2.91 | 2.56 | 2.22 |
| 14                           | 4.96 | 3.66 | 3.12 | 2.74 | 2.37 |
| 30                           | 5.74 | 4.28 | 3.73 | 3.36 | 3.00 |
| 60                           | 6.90 | 5.06 | 4.42 | 4.00 | 3.63 |
| 120                          | 9.71 | 6.54 | 5.48 | 4.81 | 4.21 |
| 183                          | 15.2 | 10.3 | 8.48 | 7.31 | 6.25 |

03491300 - BEECH CREEK AT KEPLER, TN

LOCATION.-- Lat 36°24'06", long 82°53'09", Hawkins County, on upstream right wingwall of county road bridge, at Kepler, 5.9 miles east of intersection of U.S. Highway 11W and Burem Road, at mile 6.6

DRAINAGE AREA.-- 47.0 mi<sup>2</sup>.

PERIOD OF RECORD.-- October 1965 - September 1975.

REMARKS:

FLOW DURATION

FLOW IN CUBIC FEET PER SECOND, WHICH WAS EQUALED OR EXCEEDED FOR PERCENTAGE OF TIME INDICATED.

|      |      |      |      |      |      |
|------|------|------|------|------|------|
| 99.5 | 99.1 | 99   | 98   | 95   | 90   |
| 1.64 | 1.84 | 1.90 | 2.24 | 2.83 | 3.68 |
| 80   | 70   | 60   | 50   | 40   | 30   |
| 5.60 | 8.23 | 13.2 | 20.1 | 30.8 | 43.6 |
| 20   | 10   | 5    | 2    | 1    | 0.5  |
| 63.5 | 113  | 197  | 392  | 550  | 870  |

MAGNITUDE AND FREQUENCY

LOWEST AVERAGE FLOW IN CUBIC FEET PER SECOND, FOR INDICATED RECURRENCE INTERVAL IN YEARS.

| PERIOD<br>(CONSECUTIVE DAYS) | 2   | 5   | 10  | 20  | 50 |
|------------------------------|-----|-----|-----|-----|----|
| 1                            | 2.3 | 1.6 | 1.4 | 1.3 |    |
| 3                            | 2.4 | 1.7 | 1.4 | 1.3 |    |
| 7                            | 2.5 | 1.8 | 1.5 | 1.3 |    |
| 14                           |     |     |     |     |    |
| 30                           |     |     |     |     |    |
| 60                           |     |     |     |     |    |
| 120                          |     |     |     |     |    |
| 183                          |     |     |     |     |    |

**LOCATION**-- Lat 36°22'13", long 82°59'58", Hawkins County, 300 ft downstream from bridge on State Highways 66 and 70, 2,300 ft upstream from Southern Railway bridge, 0.5 mile downstream from Dodson Creek, 3 miles south of Rogersville, and at mile 104.2.

**DRAINAGE AREA**-- 3,035 mi<sup>2</sup>.

**PERIOD OF RECORD**--April 1902 to May 1942.

**REMARKS**: Site inundated by Cherokee Lake.

### FLOW DURATION

FLOW IN CUBIC FEET PER SECOND, WHICH WAS EQUALED OR EXCEEDED FOR PERCENTAGE OF TIME INDICATED.

|             |             |           |           |           |            |
|-------------|-------------|-----------|-----------|-----------|------------|
| <b>99.5</b> | <b>99.1</b> | <b>99</b> | <b>98</b> | <b>95</b> | <b>90</b>  |
| 585         | 627         | 631       | 710       | 842       | 1020       |
| <b>80</b>   | <b>70</b>   | <b>60</b> | <b>50</b> | <b>40</b> | <b>30</b>  |
| 1370        | 1730        | 2110      | 2740      | 3370      | 4280       |
| <b>20</b>   | <b>10</b>   | <b>5</b>  | <b>2</b>  | <b>1</b>  | <b>0.5</b> |
| 5640        | 8220        | 11900     | 17700     | 22600     | 28600      |

### MAGNITUDE AND FREQUENCY

LOWEST AVERAGE FLOW IN CUBIC FEET PER SECOND, FOR INDICATED RECURRENCE INTERVAL IN YEARS.

| PERIOD<br>(CONSECUTIVE DAYS) | <b>2</b> | <b>5</b> | <b>10</b> | <b>20</b> | <b>50</b> |
|------------------------------|----------|----------|-----------|-----------|-----------|
| <b>1</b>                     | 820      | 631      | 555       | 501       | 448       |
| <b>3</b>                     | 858      | 669      | 591       | 535       | 481       |
| <b>7</b>                     | 893      | 694      | 614       | 556       | 500       |
| <b>14</b>                    | 939      | 728      | 641       | 580       | 519       |
| <b>30</b>                    | 1030     | 791      | 700       | 637       | 577       |
| <b>60</b>                    | 1210     | 903      | 779       | 692       | 607       |
| <b>120</b>                   | 1610     | 1170     | 985       | 858       | 734       |
| <b>183</b>                   | 2010     | 1440     | 1200      | 1030      | 866       |

03494000 - HOLSTON RIVER NEAR JEFFERSON CITY, TN

LOCATION.-- Lat 36°10'03", long 83°30'10", Jefferson County, on left bank 250 ft upstream from bridge on State Highway 92, 0.2 mile downstream from Cherokee Dam, 2.5 miles upstream from Mill Spring Creek, and 3 miles north of Jefferson City.

DRAINAGE AREA.-- 3,429 mi<sup>2</sup>.

PERIOD OF RECORD.--December 1941 to June 1974.

REMARKS: Flow regulated by South Holston Lake (since November 1950), by Watauga Lake (since December 1948), by Boone Lake (since December 1952), by Fort Patrick Lake (since October 1953), and by Cherokee Lake (since December 1941).

### FLOW DURATION

FLOW IN CUBIC FEET PER SECOND, WHICH WAS EQUALED OR EXCEEDED FOR PERCENTAGE OF TIME INDICATED.

|      |      |       |       |       |       |
|------|------|-------|-------|-------|-------|
| 99.5 | 99.1 | 99    | 98    | 95    | 90    |
| 42.0 | 43.8 | 44.3  | 49.3  | 60.0  | 72.9  |
| 80   | 70   | 60    | 50    | 40    | 30    |
| 599  | 2190 | 3250  | 4200  | 5110  | 6040  |
| 20   | 10   | 5     | 2     | 1     | 0.5   |
| 7190 | 8820 | 10500 | 13900 | 16900 | 19000 |

### MAGNITUDE AND FREQUENCY

LOWEST AVERAGE FLOW IN CUBIC FEET PER SECOND, FOR INDICATED RECURRENCE INTERVAL IN YEARS.

| PERIOD<br>(CONSECUTIVE DAYS) | 2    | 5    | 10   | 20   | 50 |
|------------------------------|------|------|------|------|----|
| 1                            | 50.0 | 36.9 | 29.2 | 23.0 |    |
| 3                            | 57.8 | 44.1 | 36.2 | 31.5 |    |
| 7                            | 79.0 | 49.1 | 40.0 | 32.1 |    |
| 14                           | 167  | 58.7 | 45.0 | 34.0 |    |
| 30                           | 716  | 231  | 107  | 51.8 |    |
| 60                           | 1810 | 895  | 520  | 301  |    |
| 120                          | 2950 | 2310 | 1830 | 1400 |    |
| 183                          | 3630 | 2970 | 2640 | 2390 |    |



03495500 - HOLSTON RIVER NEAR KNOXVILLE, TN

LOCATION.-- Lat 36°00'56", long 83°49'54", Knox County, on right bank at Knoxville city limits, 300 ft upstream from bridge on U.S. Highways 11E, 25W, and 70, and 5.5 miles upstream from confluence with French Broad River.

DRAINAGE AREA.-- 3,747 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1930 to November 1941.

REMARKS:

### FLOW DURATION

FLOW IN CUBIC FEET PER SECOND, WHICH WAS EQUALED OR EXCEEDED FOR PERCENTAGE OF TIME INDICATED.

|             |             |           |           |           |            |
|-------------|-------------|-----------|-----------|-----------|------------|
| <b>99.5</b> | <b>99.1</b> | <b>99</b> | <b>98</b> | <b>95</b> | <b>90</b>  |
| 96.0        | 130         | 140       | 230       | 400       | 622        |
| <b>80</b>   | <b>70</b>   | <b>60</b> | <b>50</b> | <b>40</b> | <b>30</b>  |
| 1450        | 2610        | 3610      | 4520      | 5390      | 6300       |
| <b>20</b>   | <b>10</b>   | <b>5</b>  | <b>2</b>  | <b>1</b>  | <b>0.5</b> |
| 7340        | 9090        | 10900     | 14800     | 18500     | 21200      |

### MAGNITUDE AND FREQUENCY

LOWEST AVERAGE FLOW IN CUBIC FEET PER SECOND, FOR INDICATED RECURRENCE INTERVAL IN YEARS.

| PERIOD<br>(CONSECUTIVE DAYS) | <b>2</b> | <b>5</b> | <b>10</b> | <b>20</b> | <b>50</b> |
|------------------------------|----------|----------|-----------|-----------|-----------|
| <b>1</b>                     | 264      | 178      | 140       | 114       |           |
| <b>3</b>                     | 322      | 201      | 155       | 123       |           |
| <b>7</b>                     | 505      | 274      | 193       | 141       |           |
| <b>14</b>                    | 837      | 418      | 269       | 179       |           |
| <b>30</b>                    | 1560     | 768      | 460       | 278       |           |
| <b>60</b>                    | 2410     | 1390     | 912       | 598       |           |
| <b>120</b>                   | 3400     | 2780     | 2270      | 1740      |           |
| <b>183</b>                   | 3950     | 3220     | 2860      | 2580      |           |

03496000 - FIRST CREEK AT MINERAL SPRINGS AVE. AT KNOXVILLE, TN

LOCATION.--Lat 36°00'53", long 83°55'18", Knox County, on right bank at Mineral Springs Avenue Bridge in Knoxville, 0.3 mile downstream from Whites Creek, and 5.9 miles upstream from mouth.

DRAINAGE AREA.--15.7 mi<sup>2</sup> (includes 3.8 mi<sup>2</sup> without surface drainage).

PERIOD OF RECORD.-- May 1945 - September 1963.

REMARKS:

### FLOW DURATION

FLOW IN CUBIC FEET PER SECOND, WHICH WAS EQUALED OR EXCEEDED FOR PERCENTAGE OF TIME INDICATED.

|      |      |      |      |      |      |
|------|------|------|------|------|------|
| 99.5 | 99.1 | 99   | 98   | 95   | 90   |
| 2.54 | 2.68 | 2.72 | 2.87 | 3.14 | 3.60 |
| 80   | 70   | 60   | 50   | 40   | 30   |
| 4.72 | 6.19 | 8.20 | 11.7 | 16.1 | 22.0 |
| 20   | 10   | 5    | 2    | 1    | 0.5  |
| 30.9 | 46.8 | 70.8 | 120  | 174  | 230  |

### MAGNITUDE AND FREQUENCY

LOWEST AVERAGE FLOW IN CUBIC FEET PER SECOND, FOR INDICATED RECURRENCE INTERVAL IN YEARS.

| PERIOD<br>(CONSECUTIVE DAYS) | 2    | 5    | 10   | 20   | 50 |
|------------------------------|------|------|------|------|----|
| 1                            | 2.89 | 2.46 | 2.28 | 2.16 |    |
| 3                            | 2.99 | 2.55 | 2.37 | 2.24 |    |
| 7                            | 3.11 | 2.66 | 2.47 | 2.34 |    |
| 14                           | 3.31 | 2.80 | 2.58 | 2.43 |    |
| 30                           | 3.61 | 3.01 | 2.77 | 2.60 |    |
| 60                           | 4.12 | 3.32 | 3.01 | 2.80 |    |
| 120                          | 5.48 | 4.13 | 3.62 | 3.26 |    |
| 183                          | 7.11 | 5.40 | 4.77 | 4.34 |    |

03496200 - FIRST CREEK ABOVE POWERS AVE. AT KNOXVILLE, TN

LOCATION.-- Lat 36°00'35", long 83°55'17", Knox County, on left bank, in Knoxville, 200 ft downstream from unnamed tributary, 0.25 miles upstream from Powers Avenue, 5.6 miles upstream from mouth.

DRAINAGE AREA.-- 17.2 mi<sup>2</sup> (includes 3.8 mi<sup>2</sup> without surface drainage).

PERIOD OF RECORD.-- October 1963 to September 1970.

REMARKS:

### FLOW DURATION

FLOW IN CUBIC FEET PER SECOND, WHICH WAS EQUALED OR EXCEEDED FOR PERCENTAGE OF TIME INDICATED.

|      |      |      |      |      |      |
|------|------|------|------|------|------|
| 99.5 | 99.1 | 99   | 98   | 95   | 90   |
| 2.41 | 2.49 | 2.52 | 2.75 | 3.66 | 4.42 |
| 80   | 70   | 60   | 50   | 40   | 30   |
| 5.65 | 7.27 | 9.57 | 12.8 | 15.6 | 19.6 |
| 20   | 10   | 5    | 2    | 1    | 0.5  |
| 25.1 | 37.5 | 57.0 | 109  | 153  | 220  |

### MAGNITUDE AND FREQUENCY

LOWEST AVERAGE FLOW IN CUBIC FEET PER SECOND, FOR INDICATED RECURRENCE INTERVAL IN YEARS.

| PERIOD<br>(CONSECUTIVE DAYS) | 2   | 5   | 10  | 20  | 50 |
|------------------------------|-----|-----|-----|-----|----|
| 1                            | 3.2 | 2.5 | 2.4 | 2.2 |    |
| 3                            | 3.4 | 2.6 | 2.5 | 2.3 |    |
| 7                            | 3.6 | 2.7 | 2.6 | 2.5 |    |
| 14                           |     |     |     |     |    |
| 30                           |     |     |     |     |    |
| 60                           |     |     |     |     |    |
| 120                          |     |     |     |     |    |
| 183                          |     |     |     |     |    |

03496500 - FIRST CREEK AT FIFTH AVE, AT KNOXVILLE, TN

LOCATION.--Lat 35°58'40", long 83°54'51", Knox County, on left bank at Fifth Avenue bridge in Knoxville, 1.8 miles upstream from mouth and 4.1 miles downstream from gage at Mineral Springs Avenue in Knoxville.

DRAINAGE AREA.-- 21.1 mi<sup>2</sup> (includes 4.5 mi<sup>2</sup> without surface drainage).

PERIOD OF RECORD.-- July 1932 to December 1958.

REMARKS:

### FLOW DURATION

FLOW IN CUBIC FEET PER SECOND, WHICH WAS EQUALED OR EXCEEDED FOR PERCENTAGE OF TIME INDICATED.

|      |      |      |      |      |      |
|------|------|------|------|------|------|
| 99.5 | 99.1 | 99   | 98   | 95   | 90   |
| 2.94 | 3.01 | 3.03 | 3.22 | 3.61 | 4.25 |
| 80   | 70   | 60   | 50   | 40   | 30   |
| 6.00 | 7.96 | 11.0 | 15.1 | 20.2 | 27.2 |
| 20   | 10   | 5    | 2    | 1    | 0.5  |
| 38.4 | 59.6 | 93.5 | 154  | 223  | 329  |

### MAGNITUDE AND FREQUENCY

LOWEST AVERAGE FLOW IN CUBIC FEET PER SECOND, FOR INDICATED RECURRENCE INTERVAL IN YEARS.

| PERIOD<br>(CONSECUTIVE DAYS) | 2    | 5    | 10   | 20   | 50   |
|------------------------------|------|------|------|------|------|
| 1                            | 3.27 | 2.69 | 2.47 | 2.32 | 2.17 |
| 3                            | 3.40 | 2.81 | 2.58 | 2.43 | 2.28 |
| 7                            | 3.65 | 3.05 | 2.81 | 2.65 | 2.49 |
| 14                           | 3.90 | 3.25 | 2.98 | 2.80 | 2.62 |
| 30                           | 4.38 | 3.50 | 3.15 | 2.91 | 2.67 |
| 60                           | 5.25 | 4.18 | 3.75 | 3.46 | 3.17 |
| 120                          | 7.30 | 5.46 | 4.72 | 4.19 | 3.68 |
| 183                          | 9.32 | 6.97 | 6.11 | 5.54 | 5.02 |

**LOCATION.**-- Lat 35°57'17", long 83°51'42", Knox County, on left bank 0.7 mile downstream from confluence of French Broad and Holston Rivers, 3.5 miles upstream from First Creek, 3.6 miles upstream from Gay Street Bridge at Knoxville, and at mile 651.4.

**DRAINAGE AREA.**-- 8,934 mi<sup>2</sup>, includes that of First Creek.

**PERIOD OF RECORD.**--October 1918 to November 1941.

**REMARKS:** See next page for present characteristics.

### FLOW DURATION

FLOW IN CUBIC FEET PER SECOND, WHICH WAS EQUALED OR EXCEEDED FOR PERCENTAGE OF TIME INDICATED.

|             |             |           |           |           |            |
|-------------|-------------|-----------|-----------|-----------|------------|
| <b>99.5</b> | <b>99.1</b> | <b>99</b> | <b>98</b> | <b>95</b> | <b>90</b>  |
| 1840        | 2010        | 2050      | 2370      | 2870      | 3500       |
| <b>80</b>   | <b>70</b>   | <b>60</b> | <b>50</b> | <b>40</b> | <b>30</b>  |
| 4770        | 5930        | 7240      | 8790      | 10900     | 13200      |
| <b>20</b>   | <b>10</b>   | <b>5</b>  | <b>2</b>  | <b>1</b>  | <b>0.5</b> |
| 16800       | 23600       | 33900     | 50300     | 62000     | 76800      |

### MAGNITUDE AND FREQUENCY

LOWEST AVERAGE FLOW IN CUBIC FEET PER SECOND, FOR INDICATED RECURRENCE INTERVAL IN YEARS.

| PERIOD<br>(CONSECUTIVE DAYS) | <b>2</b> | <b>5</b> | <b>10</b> | <b>20</b> | <b>50</b> |
|------------------------------|----------|----------|-----------|-----------|-----------|
| <b>1</b>                     | 2730     | 2110     | 1860      | 1690      |           |
| <b>3</b>                     | 2820     | 2190     | 1940      | 1770      |           |
| <b>7</b>                     | 2980     | 2320     | 2060      | 1880      |           |
| <b>14</b>                    | 3180     | 2450     | 2150      | 1950      |           |
| <b>30</b>                    | 3530     | 2640     | 2280      | 2020      |           |
| <b>60</b>                    | 4160     | 3030     | 2550      | 2200      |           |
| <b>120</b>                   | 5390     | 3930     | 3330      | 2900      |           |
| <b>183</b>                   | 6590     | 4830     | 4080      | 3530      |           |

03497000 - TENNESSEE RIVER AT KNOXVILLE, TN

LOCATION.-- Lat 35°57'17", long 83°51'42", Knox County, on left bank 0.7 mile downstream from confluence of French Broad and Holston Rivers, 3.5 miles upstream from First Creek, 3.6 miles upstream from Gay Street Bridge at Knoxville, and at mile 651.4.

DRAINAGE AREA.-- 8,934 mi<sup>2</sup>, includes that of First Creek.

PERIOD OF RECORD.-- December 1941 to September 1975.

REMARKS: Flow regulated by Douglas, South Holston, Watauga, Boone, Fort Patrick Henry, and Cherokee Lakes.

### FLOW DURATION

FLOW IN CUBIC FEET PER SECOND, WHICH WAS EQUALED OR EXCEEDED FOR PERCENTAGE OF TIME INDICATED.

|       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|
| 99.5  | 99.1  | 99    | 98    | 95    | 90    |
| 1900  | 2100  | 2150  | 2540  | 3300  | 4500  |
| 80    | 70    | 60    | 50    | 40    | 30    |
| 6910  | 8890  | 10600 | 12200 | 13800 | 15800 |
| 20    | 10    | 5     | 2     | 1     | 0.5   |
| 18500 | 22100 | 26900 | 35600 | 42900 | 48500 |

### MAGNITUDE AND FREQUENCY

LOWEST AVERAGE FLOW IN CUBIC FEET PER SECOND, FOR INDICATED RECURRENCE INTERVAL IN YEARS.

| PERIOD<br>(CONSECUTIVE DAYS) | 2     | 5    | 10   | 20   | 50 |
|------------------------------|-------|------|------|------|----|
| 1                            | 1860  | 1410 | 1220 | 1090 |    |
| 3                            | 2500  | 2000 | 1820 | 1690 |    |
| 7                            | 3350  | 2690 | 2420 | 2230 |    |
| 14                           | 4350  | 3450 | 3070 | 2790 |    |
| 30                           | 6050  | 4650 | 4010 | 3520 |    |
| 60                           | 7580  | 5970 | 5200 | 4600 |    |
| 120                          | 9330  | 7830 | 7150 | 6620 |    |
| 183                          | 10600 | 9120 | 8450 | 7930 |    |

**LOCATION.**-- Lat 35°39'52", long 83°42'41", Blount County, on left bank along State Highway 73, in Great Smoky Mountains National Park, 0.3 mile above Rush Branch, 0.4 mile southeast of Park entrance, 2.2 miles south-east of Townsend, and at mile 35.3.

**DRAINAGE AREA.**--106 mi<sup>2</sup>.

**PERIOD OF RECORD.**-- October 1963 to September 1975.

**REMARKS:**

### FLOW DURATION

FLOW IN CUBIC FEET PER SECOND, WHICH WAS EQUALED OR EXCEEDED FOR PERCENTAGE OF TIME INDICATED.

|             |             |           |           |           |            |
|-------------|-------------|-----------|-----------|-----------|------------|
| <b>99.5</b> | <b>99.1</b> | <b>99</b> | <b>98</b> | <b>95</b> | <b>90</b>  |
| 37.2        | 39.9        | 40.4      | 45.5      | 55.2      | 70.2       |
| <b>80</b>   | <b>70</b>   | <b>60</b> | <b>50</b> | <b>40</b> | <b>30</b>  |
| 99.2        | 129         | 165       | 208       | 255       | 311        |
| <b>20</b>   | <b>10</b>   | <b>5</b>  | <b>2</b>  | <b>1</b>  | <b>0.5</b> |
| 402         | 577         | 805       | 1250      | 1690      | 2260       |

### MAGNITUDE AND FREQUENCY

LOWEST AVERAGE FLOW IN CUBIC FEET PER SECOND, FOR INDICATED RECURRENCE INTERVAL IN YEARS.

| PERIOD<br>(CONSECUTIVE DAYS) | <b>2</b> | <b>5</b> | <b>10</b> | <b>20</b> | <b>50</b> |
|------------------------------|----------|----------|-----------|-----------|-----------|
| <b>1</b>                     | 45.7     | 36.3     | 32.5      | 29.7      |           |
| <b>3</b>                     | 47.8     | 37.9     | 33.9      | 30.9      |           |
| <b>7</b>                     | 51.7     | 41.0     | 36.6      | 33.4      |           |
| <b>14</b>                    | 58.5     | 47.3     | 43.0      | 39.9      |           |
| <b>30</b>                    | 71.7     | 55.8     | 49.4      | 44.8      |           |
| <b>60</b>                    | 87.1     | 68.1     | 60.8      | 55.8      |           |
| <b>120</b>                   | 133      | 95.0     | 79.0      | 67.6      |           |
| <b>183</b>                   | 167      | 115      | 93.5      | 78.4      |           |

03497500 - LITTLE RIVER AT WALLAND, TN

LOCATION.-- Lat 35°43'25", long 83°49'05", Blount County, 0.5 mile above Walland, 0.75 mile above dam of England, Walton and Co.'s Tannery, and at mile 23.8.

DRAINAGE AREA.-- 175 mi<sup>2</sup>.

PERIOD OF RECORD.-- August 1925 to June 1931.

REMARKS:

FLOW DURATION

FLOW IN CUBIC FEET PER SECOND, WHICH WAS EQUALED OR EXCEEDED FOR PERCENTAGE OF TIME INDICATED.

|      |      |      |      |      |       |
|------|------|------|------|------|-------|
| 99.5 | 99.1 | 99   | 98   | 95   | 90    |
| 22.1 | 24.0 | 24.9 | 33.4 | 50.9 | 83.4  |
| 80   | 70   | 60   | 50   | 40   | 30    |
| 151  | 196  | 241  | 303  | 364  | 415   |
| 20   | 10   | 5    | 2    | 1    | 0.5   |
| 529  | 774  | 1190 | 2200 | 2840 | 13700 |

MAGNITUDE AND FREQUENCY

LOWEST AVERAGE FLOW IN CUBIC FEET PER SECOND, FOR INDICATED RECURRENCE INTERVAL IN YEARS.

| PERIOD<br>(CONSECUTIVE DAYS) | 2  | 5  | 10 | 20 | 50 |
|------------------------------|----|----|----|----|----|
| 1                            | 80 | 37 | 32 | 28 |    |
| 3                            | 85 | 40 | 33 | 29 |    |
| 7                            | 90 | 43 | 35 | 31 |    |
| 14                           |    |    |    |    |    |
| 30                           |    |    |    |    |    |
| 60                           |    |    |    |    |    |
| 120                          |    |    |    |    |    |
| 183                          |    |    |    |    |    |



03498000 - LITTLE RIVER NEAR WALLAND, TN

LOCATION.-- Lat 35°45'48", long 83°51'00", Blount County, on right bank  
0.4 mile upstream from former bridge on State Highway 73, 1.0 mile  
upstream from Ellejoy Creek, and 3 miles downstream from Walland.

DRAINAGE AREA.--192 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1931 to March 1952.

REMARKS:

FLOW DURATION

FLOW IN CUBIC FEET PER SECOND, WHICH WAS EQUALED OR EXCEEDED  
FOR PERCENTAGE OF TIME INDICATED.

|      |      |      |      |      |      |
|------|------|------|------|------|------|
| 99.5 | 99.1 | 99   | 98   | 95   | 90   |
| 34.7 | 37.6 | 38.2 | 44.1 | 56.4 | 72.7 |
| 80   | 70   | 60   | 50   | 40   | 30   |
| 102  | 133  | 171  | 222  | 290  | 380  |
| 20   | 10   | 5    | 2    | 1    | 0.5  |
| 507  | 773  | 1130 | 1730 | 2450 | 3290 |

MAGNITUDE AND FREQUENCY

LOWEST AVERAGE FLOW IN CUBIC FEET PER SECOND, FOR INDICATED  
RECURRENCE INTERVAL IN YEARS.

| PERIOD<br>(CONSECUTIVE DAYS) | 2    | 5    | 10   | 20   | 50 |
|------------------------------|------|------|------|------|----|
| 1                            | 50.5 | 36.4 | 30.4 | 26.2 |    |
| 3                            | 54.7 | 40.6 | 34.5 | 30.2 |    |
| 7                            | 56.9 | 42.4 | 36.3 | 32.0 |    |
| 14                           | 61.9 | 45.6 | 38.7 | 33.8 |    |
| 30                           | 69.2 | 50.0 | 42.4 | 37.2 |    |
| 60                           | 85.9 | 60.5 | 50.9 | 44.3 |    |
| 120                          | 123  | 86.3 | 72.3 | 62.8 |    |
| 183                          | 161  | 114  | 94.4 | 80.5 |    |

03498500 - LITTLE RIVER NEAR MARYVILLE, TN

LOCATION.-- Lat 35°47'10", long 83°53'04", Blount County, on right bank on downstream side of bridge on U.S. Highway 411, 0.8 mile downstream from Crooked Creek, 5.0 miles east of Maryville, and at mile 17.3.

DRAINAGE AREA.--269 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1951 to September 1975.

REMARKS: Diurnal fluctuations at low flow caused by small mills above station. Some flow diverted for municipal water supply of Maryville.

### FLOW DURATION

FLOW IN CUBIC FEET PER SECOND, WHICH WAS EQUALED OR EXCEEDED FOR PERCENTAGE OF TIME INDICATED.

|      |      |      |      |      |      |
|------|------|------|------|------|------|
| 99.5 | 99.1 | 99   | 98   | 95   | 90   |
| 48.3 | 52.0 | 53.0 | 62.0 | 80.6 | 104  |
| 80   | 70   | 60   | 50   | 40   | 30   |
| 148  | 193  | 244  | 312  | 402  | 516  |
| 20   | 10   | 5    | 2    | 1    | 0.5  |
| 701  | 1090 | 1690 | 2890 | 4000 | 5180 |

### MAGNITUDE AND FREQUENCY

LOWEST AVERAGE FLOW IN CUBIC FEET PER SECOND, FOR INDICATED RECURRENCE INTERVAL IN YEARS.

| PERIOD<br>(CONSECUTIVE DAYS) | 2    | 5    | 10   | 20   | 50 |
|------------------------------|------|------|------|------|----|
| 1                            | 75.4 | 56.3 | 48.4 | 42.7 |    |
| 3                            | 78.9 | 59.3 | 51.0 | 45.0 |    |
| 7                            | 83.2 | 62.0 | 53.1 | 46.8 |    |
| 14                           | 91.5 | 66.7 | 56.5 | 49.1 |    |
| 30                           | 108  | 75.7 | 62.6 | 53.4 |    |
| 60                           | 133  | 90.9 | 73.0 | 60.2 |    |
| 120                          | 149  | 99.8 | 79.8 | 66.0 |    |
| 183                          | 177  | 116  | 92.2 | 76.1 |    |

03518000 - LITTLE TENNESSEE RIVER AT CALDERWOOD, TN

LOCATION.--Lat 35°30'24", long 84°00'14", Blount County, on right bank  
250 ft downstream from Scona Lodge Ferry, 0.7 mile west of Calderwood,  
2.5 miles downstream from Calderwood Dam, and at mile 41.1.

DRAINAGE AREA.--1,862 mi<sup>2</sup>.

PERIOD OF RECORD.-- January 1912 to November 1927.

REMARKS:

### FLOW DURATION

FLOW IN CUBIC FEET PER SECOND, WHICH WAS EQUALED OR EXCEEDED  
FOR PERCENTAGE OF TIME INDICATED.

|      |      |       |       |       |       |
|------|------|-------|-------|-------|-------|
| 99.5 | 99.1 | 99    | 98    | 95    | 90    |
| 500  | 552  | 566   | 926   | 1340  | 1680  |
| 80   | 70   | 60    | 50    | 40    | 30    |
| 2080 | 2440 | 2920  | 3490  | 4110  | 4840  |
| 20   | 10   | 5     | 2     | 1     | 0.5   |
| 5870 | 7830 | 10200 | 14300 | 17700 | 22000 |

### MAGNITUDE AND FREQUENCY

LOWEST AVERAGE FLOW IN CUBIC FEET PER SECOND, FOR INDICATED  
RECURRENCE INTERVAL IN YEARS.

| PERIOD<br>(CONSECUTIVE DAYS) | 2    | 5    | 10   | 20   | 50   |
|------------------------------|------|------|------|------|------|
| 1                            | 1040 | 660  | 508  | 405  | 309  |
| 3                            | 1200 | 806  | 628  | 501  | 379  |
| 7                            | 1340 | 905  | 670  | 549  | 404  |
| 14                           | 1460 | 991  | 756  | 583  | 417  |
| 30                           | 1660 | 1120 | 850  | 646  | 452  |
| 60                           | 1830 | 1280 | 980  | 747  | 522  |
| 120                          | 2190 | 1690 | 1400 | 1170 | 919  |
| 183                          | 2580 | 2050 | 1800 | 1600 | 1390 |

03518000 - LITTLE TENNESSEE RIVER AT CALDERWOOD, TN

LOCATION.--Lat 35°30'24", long 84°00'14", Blount County, on right bank  
250 ft downstream from Scona Lodge Ferry, 0.7 mile west of Calderwood,  
2.5 miles downstream from Calderwood Dam, and at mile 41.1.

DRAINAGE AREA.--1,862 mi<sup>2</sup>.

PERIOD OF RECORD.-- December 1927 to July 1957.

REMARKS: Flow regulated by several reservoirs above station. Site  
inundated by Chilhowee Lake.

### FLOW DURATION

FLOW IN CUBIC FEET PER SECOND, WHICH WAS EQUALED OR EXCEEDED  
FOR PERCENTAGE OF TIME INDICATED.

|      |      |      |      |       |       |
|------|------|------|------|-------|-------|
| 99.5 | 99.1 | 99   | 98   | 95    | 90    |
| 916  | 1020 | 1030 | 1170 | 1420  | 1780  |
| 80   | 70   | 60   | 50   | 40    | 30    |
| 2240 | 2690 | 3210 | 3750 | 4270  | 4830  |
| 20   | 10   | 5    | 2    | 1     | 0.5   |
| 5510 | 6670 | 8780 | 1270 | 15600 | 19000 |

### MAGNITUDE AND FREQUENCY

LOWEST AVERAGE FLOW IN CUBIC FEET PER SECOND, FOR INDICATED  
RECURRENCE INTERVAL IN YEARS.

| PERIOD<br>(CONSECUTIVE DAYS) | 2    | 5    | 10   | 20   | 50   |
|------------------------------|------|------|------|------|------|
| 1                            | 936  | 438  | 267  | 168  | 94.0 |
| 3                            | 1550 | 990  | 696  | 487  | 302  |
| 7                            | 1670 | 1270 | 1110 | 992  | 874  |
| 14                           | 1840 | 1400 | 1220 | 1080 | 949  |
| 30                           | 2030 | 1550 | 1340 | 1180 | 1020 |
| 60                           | 2380 | 1770 | 1500 | 1290 | 1090 |
| 120                          | 2770 | 2040 | 1720 | 1480 | 1240 |
| 183                          | 3100 | 2330 | 1990 | 1740 | 1480 |

**LOCATION.**-- Lat 35°32'48", long 84°03'50", Blount County, on right bank on U.S. Highway 129, at Tallahassee, 100 ft upstream from Cochran Creek, 0.8 mile downstream from Chilhowee Dam, 20 miles south of Maryville, and at mile 32.8. Records include flow of Cochran Creek.

**DRAINAGE AREA.**--1,987 mi<sup>2</sup>, including Cochran Creek.

**PERIOD OF RECORD.**--July 1958 to September 1975.

**REMARKS:** Flow regulated by seven reservoirs above station.

### FLOW DURATION

FLOW IN CUBIC FEET PER SECOND, WHICH WAS EQUALED OR EXCEEDED FOR PERCENTAGE OF TIME INDICATED.

|      |      |      |       |       |       |
|------|------|------|-------|-------|-------|
| 99.5 | 99.1 | 99   | 98    | 95    | 90    |
| 1230 | 1250 | 1250 | 1310  | 1480  | 2060  |
| 80   | 70   | 60   | 50    | 40    | 30    |
| 3090 | 3750 | 4300 | 4890  | 5420  | 6010  |
| 20   | 10   | 5    | 2     | 1     | 0.5   |
| 6750 | 7750 | 9070 | 10800 | 11800 | 13000 |

### MAGNITUDE AND FREQUENCY

LOWEST AVERAGE FLOW IN CUBIC FEET PER SECOND, FOR INDICATED RECURRENCE INTERVAL IN YEARS.

| PERIOD<br>(CONSECUTIVE DAYS) | 2    | 5    | 10   | 20   | 50 |
|------------------------------|------|------|------|------|----|
| 1                            | 1310 | 1220 | 1170 | 1090 |    |
| 3                            | 1450 | 1300 | 1200 | 1100 |    |
| 7                            | 1930 | 1500 | 1310 | 1170 |    |
| 14                           | 2240 | 1710 | 1480 | 1300 |    |
| 30                           | 2540 | 1940 | 1680 | 1490 |    |
| 60                           | 3020 | 2340 | 2020 | 1770 |    |
| 120                          | 3770 | 3250 | 2970 | 2740 |    |
| 183                          | 4360 | 3880 | 3630 | 3430 |    |

03518500 - TELLICO RIVER AT TELLICO PLAINS, TN

LOCATION.--Lat 35°21'42", long 84°16'44", Monroe County, on right bank 200 ft upstream from bridge on Tellico Plains - Rafter road, 0.4 mile downstream from Laurel Creek, 0.8 mile east of Tellico Plains, and at mile 28.2.

DRAINAGE AREA.--118 mi<sup>2</sup>.

PERIOD OF RECORD.-- August 1925 to September 1975.

REMARKS:

### FLOW DURATION

FLOW IN CUBIC FEET PER SECOND, WHICH WAS EQUALED OR EXCEEDED FOR PERCENTAGE OF TIME INDICATED.

|      |      |      |      |      |      |
|------|------|------|------|------|------|
| 99.5 | 99.1 | 99   | 98   | 95   | 90   |
| 27.4 | 30.5 | 31.0 | 36.0 | 45.8 | 59.6 |
| 80   | 70   | 60   | 50   | 40   | 30   |
| 84.2 | 111  | 145  | 188  | 238  | 300  |
| 20   | 10   | 5    | 2    | 1    | 0.5  |
| 389  | 571  | 811  | 1300 | 1800 | 2360 |

### MAGNITUDE AND FREQUENCY

LOWEST AVERAGE FLOW IN CUBIC FEET PER SECOND, FOR INDICATED RECURRENCE INTERVAL IN YEARS.

| PERIOD<br>(CONSECUTIVE DAYS) | 2    | 5    | 10   | 20   | 50   |
|------------------------------|------|------|------|------|------|
| 1                            | 45.9 | 33.7 | 28.7 | 25.2 | 21.7 |
| 3                            | 47.0 | 34.7 | 29.7 | 26.2 | 22.8 |
| 7                            | 49.2 | 36.2 | 31.0 | 27.3 | 23.7 |
| 14                           | 52.9 | 38.8 | 33.2 | 29.4 | 25.7 |
| 30                           | 60.7 | 43.5 | 36.7 | 32.0 | 27.5 |
| 60                           | 74.3 | 52.0 | 43.3 | 37.2 | 31.4 |
| 120                          | 97.0 | 67.6 | 56.6 | 49.1 | 42.1 |
| 183                          | 125  | 88.7 | 75.2 | 66.1 | 57.7 |

03519500 - LITTLE TENNESSEE RIVER AT MCGHEE, TN

**LOCATION.**-- Lat 35°36'16", long 84°12'43", Monroe County, on right bank at mouth of Tellico River, 100 ft upstream from bridge on U.S. Highway 411, 0.3 mile upstream from Louisville & Nashville Railroad bridge, and 0.5 mile south of McGhee. Records include flow of Tellico River.

**DRAINAGE AREA.**-- 2,443 mi<sup>2</sup>, includes that of Tellico River.

**PERIOD OF RECORD.**-- December 1904 to November 1927.

**REMARKS:**

### FLOW DURATION

FLOW IN CUBIC FEET PER SECOND, WHICH WAS EQUALED OR EXCEEDED FOR PERCENTAGE OF TIME INDICATED.

|             |             |           |           |           |            |
|-------------|-------------|-----------|-----------|-----------|------------|
| <b>99.5</b> | <b>99.1</b> | <b>99</b> | <b>98</b> | <b>95</b> | <b>90</b>  |
| 733         | 1040        | 1100      | 1420      | 1740      | 2070       |
| <b>80</b>   | <b>70</b>   | <b>60</b> | <b>50</b> | <b>40</b> | <b>30</b>  |
| 2680        | 3250        | 4050      | 4850      | 5770      | 6800       |
| <b>20</b>   | <b>10</b>   | <b>5</b>  | <b>2</b>  | <b>1</b>  | <b>0.5</b> |
| 8290        | 11300       | 15200     | 22500     | 29100     | 37900      |

### MAGNITUDE AND FREQUENCY

LOWEST AVERAGE FLOW IN CUBIC FEET PER SECOND, FOR INDICATED RECURRENCE INTERVAL IN YEARS.

| PERIOD<br>(CONSECUTIVE DAYS) | <b>2</b> | <b>5</b> | <b>10</b> | <b>20</b> | <b>50</b> |
|------------------------------|----------|----------|-----------|-----------|-----------|
| <b>1</b>                     | 1520     | 1040     | 821       | 665       |           |
| <b>3</b>                     | 1650     | 1130     | 897       | 725       |           |
| <b>7</b>                     | 1780     | 1260     | 1010      | 830       |           |
| <b>14</b>                    | 1930     | 1360     | 1090      | 882       |           |
| <b>30</b>                    | 2110     | 1480     | 1180      | 951       |           |
| <b>60</b>                    | 2330     | 1650     | 1330      | 1100      |           |
| <b>120</b>                   | 2820     | 2170     | 1910      | 1730      |           |
| <b>183</b>                   | 3450     | 2750     | 2470      | 2280      |           |

03519500 - LITTLE TENNESSEE RIVER AT McGHEE, TN

LOCATION.-- Lat 35°36'16", long 84°12'43", Monroe County, on right bank at mouth of Tellico River, 100 ft upstream from bridge on U.S. Highway 411, 0.3 mile upstream from Louisville & Nashville Railroad bridge, and 0.5 mile south of McGhee. Records include flow of Tellico River.

DRAINAGE AREA.-- 2,443 mi<sup>2</sup>, includes that of Tellico River.

PERIOD OF RECORD.-- December 1927 to September 1969.

REMARKS: Flow regulated by seven reservoirs above station.

### FLOW DURATION

FLOW IN CUBIC FEET PER SECOND, WHICH WAS EQUALED OR EXCEEDED FOR PERCENTAGE OF TIME INDICATED.

|      |      |       |       |       |       |
|------|------|-------|-------|-------|-------|
| 99.5 | 99.1 | 99    | 98    | 95    | 90    |
| 1240 | 1390 | 1410  | 1550  | 1880  | 2240  |
| 80   | 70   | 60    | 50    | 40    | 30    |
| 2850 | 3510 | 4130  | 4730  | 5300  | 5980  |
| 20   | 10   | 5     | 2     | 1     | 0.5   |
| 6950 | 8730 | 11400 | 15800 | 20100 | 24000 |

### MAGNITUDE AND FREQUENCY

LOWEST AVERAGE FLOW IN CUBIC FEET PER SECOND, FOR INDICATED RECURRENCE INTERVAL IN YEARS.

| PERIOD<br>(CONSECUTIVE DAYS) | 2    | 5    | 10   | 20   | 50 |
|------------------------------|------|------|------|------|----|
| 1                            | 1460 | 997  | 769  | 599  |    |
| 3                            | 1840 | 1430 | 1230 | 1070 |    |
| 7                            | 2140 | 1640 | 1420 | 1250 |    |
| 14                           | 2420 | 1800 | 1530 | 1330 |    |
| 30                           | 2660 | 1970 | 1660 | 1430 |    |
| 60                           | 3020 | 2220 | 1850 | 1580 |    |
| 120                          | 3550 | 2640 | 2200 | 1880 |    |
| 183                          | 3990 | 3010 | 2530 | 2180 |    |



03519640 - BAKER CREEK NEAR GREENBACK, TN

LOCATION.--Lat 35°40'21", long 84°06'28", Blount County, on right bank at downstream side of county road bridge, 1.0 mile upstream from Little Baker Creek, 3.4 miles east of Greenback, and at mile 15.0.

DRAINAGE AREA.--16.0 mi<sup>2</sup>.

PERIOD OF RECORD.-- October 1965 to September 1975.

REMARKS:

### FLOW DURATION

FLOW IN CUBIC FEET PER SECOND, WHICH WAS EQUALED OR EXCEEDED FOR PERCENTAGE OF TIME INDICATED.

|      |      |      |      |      |      |
|------|------|------|------|------|------|
| 99.5 | 99.1 | 99   | 98   | 95   | 90   |
| 5.97 | 6.27 | 6.35 | 7.05 | 7.90 | 9.22 |
| 80   | 70   | 60   | 50   | 40   | 30   |
| 12.2 | 14.9 | 18.6 | 23.0 | 28.8 | 35.8 |
| 20   | 10   | 5    | 2    | 1    | 0.5  |
| 46.3 | 69.0 | 99.7 | 150  | 202  | 290  |

### MAGNITUDE AND FREQUENCY

LOWEST AVERAGE FLOW IN CUBIC FEET PER SECOND, FOR INDICATED RECURRENCE INTERVAL IN YEARS.

| PERIOD<br>(CONSECUTIVE DAYS) | 2   | 5   | 10  | 20  | 50 |
|------------------------------|-----|-----|-----|-----|----|
| 1                            | 3.6 | 2.2 | 1.7 | 1.3 |    |
| 3                            | 3.7 | 2.3 | 1.8 | 1.4 |    |
| 7                            | 4.2 | 2.5 | 1.9 | 1.6 |    |
| 14                           |     |     |     |     |    |
| 30                           |     |     |     |     |    |
| 60                           |     |     |     |     |    |
| 120                          |     |     |     |     |    |
| 183                          |     |     |     |     |    |

03520000 - TENNESSEE RIVER AT LOUDON, TN

LOCATION.-- Lat 35°44'33", long 84°19'56", Loudon County, on second pier from left bank at bridge on U. S. Highway 11, at Loudon, 9.75 miles downstream from Little Tennessee River, 10.75 miles downstream from Fort Loudon Dam, 61 miles upstream from Watts Bar Dam, and at River Mile 591.6.

DRAINAGE AREA.-- 12,220 mi<sup>2</sup> (approximately).

PERIOD OF RECORD.--October 1922 to November 1941.

REMARKS: See next page for present characteristics

### FLOW DURATION

FLOW IN CUBIC FEET PER SECOND, WHICH WAS EQUALED OR EXCEEDED FOR PERCENTAGE OF TIME INDICATED.

|       |       |       |       |       |        |
|-------|-------|-------|-------|-------|--------|
| 99.5  | 99.1  | 99    | 98    | 95    | 90     |
| 3000  | 3350  | 3410  | 3930  | 4800  | 5820   |
| 80    | 70    | 60    | 50    | 40    | 30     |
| 7620  | 9420  | 11300 | 13600 | 16600 | 20100  |
| 20    | 10    | 5     | 2     | 1     | 0.5    |
| 25000 | 35800 | 48700 | 70000 | 86900 | 103000 |

### MAGNITUDE AND FREQUENCY

LOWEST AVERAGE FLOW IN CUBIC FEET PER SECOND, FOR INDICATED RECURRENCE INTERVAL IN YEARS.

| PERIOD<br>(CONSECUTIVE DAYS) | 2    | 5    | 10   | 20   | 50 |
|------------------------------|------|------|------|------|----|
| 1                            | 4700 | 3480 | 2970 | 2590 |    |
| 3                            | 4860 | 3660 | 3150 | 2790 |    |
| 7                            | 5050 | 3810 | 3280 | 2910 |    |
| 14                           | 5340 | 4000 | 3430 | 3030 |    |
| 30                           | 5790 | 4320 | 3710 | 3270 |    |
| 60                           | 6630 | 4830 | 4070 | 3520 |    |
| 120                          | 8370 | 6240 | 5320 | 4640 |    |
| 183                          | 9920 | 7530 | 6560 | 5860 |    |

03520000 - TENNESSEE RIVER AT LOUDON, TN

LOCATION.-- Lat 35°44'33", long 84°19'56", Loudon County, on second pier from left bank at bridge on U. S. Highway 11, at Loudon, 9.75 miles downstream from Little Tennessee River, 10.75 miles downstream from Fort Loudon Dam, 61 miles upstream from Watts Bar Dam, and at River Mile 591.6.

DRAINAGE AREA.-- 12,220 mi<sup>2</sup> (approximately).

PERIOD OF RECORD.-- December 1941 to June 1955.

REMARKS: Flow regulated by many lakes above station.

### FLOW DURATION

FLOW IN CUBIC FEET PER SECOND, WHICH WAS EQUALED OR EXCEEDED FOR PERCENTAGE OF TIME INDICATED.

|       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|
| 99.5  | 99.1  | 99    | 98    | 95    | 90    |
| 3900  | 4500  | 4590  | 5800  | 7930  | 9990  |
| 80    | 70    | 60    | 50    | 40    | 30    |
| 12500 | 14300 | 15600 | 16900 | 18300 | 19900 |
| 20    | 10    | 5     | 2     | 1     | 0.5   |
| 22400 | 28700 | 36900 | 53200 | 61900 | 68900 |

### MAGNITUDE AND FREQUENCY

LOWEST AVERAGE FLOW IN CUBIC FEET PER SECOND, FOR INDICATED RECURRENCE INTERVAL IN YEARS.

| PERIOD<br>(CONSECUTIVE DAYS) | 2     | 5     | 10    | 20    | 50 |
|------------------------------|-------|-------|-------|-------|----|
| 1                            | 4480  | 2960  | 2350  | 1930  |    |
| 3                            | 7510  | 5890  | 5170  | 4620  |    |
| 7                            | 9250  | 7610  | 6790  | 6150  |    |
| 14                           | 10500 | 8920  | 8100  | 7440  |    |
| 30                           | 11900 | 10100 | 9160  | 8410  |    |
| 60                           | 13000 | 11400 | 10600 | 9940  |    |
| 120                          | 13900 | 12500 | 11900 | 11400 |    |
| 183                          | 14700 | 13300 | 12700 | 12400 |    |

03528000 - CLINCH RIVER ABOVE TAZEWELL, TN

LOCATION.--Lat 36°25'30", long 83°23'54", Claiborne County, on right bank 0.4 mile upstream from Grissom Island, 4.6 miles downstream from Big War Creek, 10 miles east of Tazewell, and at mile 159.8.

DRAINAGE AREA.-- 1,474 mi<sup>2</sup>.

PERIOD OF RECORD.-- April 1919 to September 1975.

REMARKS:

FLOW DURATION

FLOW IN CUBIC FEET PER SECOND, WHICH WAS EQUALED OR EXCEEDED FOR PERCENTAGE OF TIME INDICATED.

|      |      |      |       |       |       |
|------|------|------|-------|-------|-------|
| 99.5 | 99.1 | 99   | 98    | 95    | 90    |
| 136  | 143  | 145  | 164   | 202   | 266   |
| 80   | 70   | 60   | 50    | 40    | 30    |
| 389  | 550  | 788  | 1120  | 1510  | 2050  |
| 20   | 10   | 5    | 2     | 1     | 0.5   |
| 2880 | 4800 | 7370 | 11700 | 15500 | 19000 |

MAGNITUDE AND FREQUENCY

LOWEST AVERAGE FLOW IN CUBIC FEET PER SECOND, FOR INDICATED RECURRENCE INTERVAL IN YEARS.

| PERIOD<br>(CONSECUTIVE DAYS) | 2   | 5   | 10  | 20  | 50  |
|------------------------------|-----|-----|-----|-----|-----|
| 1                            | 199 | 150 | 130 | 116 | 103 |
| 3                            | 203 | 153 | 133 | 119 | 105 |
| 7                            | 210 | 158 | 137 | 122 | 108 |
| 14                           | 223 | 165 | 143 | 127 | 113 |
| 30                           | 264 | 190 | 162 | 143 | 124 |
| 60                           | 326 | 222 | 185 | 160 | 137 |
| 120                          | 476 | 308 | 248 | 209 | 174 |
| 183                          | 700 | 453 | 359 | 295 | 236 |

03528300 - BIG BARREN CREEK NEAR TAZEWELL, TN

LOCATION.--Lat 36°22'56", long 83°42'40", Claiborne County, on right bank 8.6 miles southwest of New Tazewell.

DRAINAGE AREA.-- 19.0 mi<sup>2</sup>.

PERIOD OF RECORD.-- October 1934 to April 1945.

REMARKS:

### FLOW DURATION

FLOW IN CUBIC FEET PER SECOND, WHICH WAS EQUALED OR EXCEEDED FOR PERCENTAGE OF TIME INDICATED.

|      |      |      |      |      |      |
|------|------|------|------|------|------|
| 99.5 | 99.1 | 99   | 98   | 95   | 90   |
| 2.11 | 2.20 | 2.22 | 2.35 | 2.60 | 2.95 |
| 80   | 70   | 60   | 50   | 40   | 30   |
| 3.52 | 4.23 | 5.35 | 6.84 | 8.65 | 12.0 |
| 20   | 10   | 5    | 2    | 1    | 0.5  |
| 17.4 | 30.1 | 46.1 | 74.1 | 101  | 130  |

### MAGNITUDE AND FREQUENCY

LOWEST AVERAGE FLOW IN CUBIC FEET PER SECOND, FOR INDICATED RECURRENCE INTERVAL IN YEARS.

| PERIOD<br>(CONSECUTIVE DAYS) | 2    | 5    | 10   | 20   | 50 |
|------------------------------|------|------|------|------|----|
| 1                            | 2.55 | 2.06 | 1.88 | 1.77 |    |
| 3                            | 2.58 | 2.10 | 1.94 | 1.84 |    |
| 7                            | 2.74 | 2.24 | 2.07 | 1.96 |    |
| 14                           | 2.90 | 2.32 | 2.12 | 2.00 |    |
| 30                           | 3.16 | 2.57 | 2.37 | 2.25 |    |
| 60                           | 3.58 | 2.83 | 2.56 | 2.38 |    |
| 120                          | 4.23 | 3.25 | 2.91 | 2.68 |    |
| 183                          | 5.00 | 3.73 | 3.26 | 2.95 |    |

03528400 - WHITE CREEK NEAR SHARPS CHAPEL, TN

LOCATION.-- Lat 36°20'42", long 83°53'40", Union County, on right bank in the White Hollow Experimental Watershed Area.

DRAINAGE AREA.-- 2.68 mi<sup>2</sup>.

PERIOD OF RECORD.-- December 1934 to September 1970.

REMARKS:

### FLOW DURATION

FLOW IN CUBIC FEET PER SECOND, WHICH WAS EQUALED OR EXCEEDED FOR PERCENTAGE OF TIME INDICATED.

|      |      |      |      |      |      |
|------|------|------|------|------|------|
| 99.5 | 99.1 | 99   | 98   | 95   | 90   |
| 0.62 | 0.64 | 0.65 | 0.70 | 0.77 | 0.84 |
| 80   | 70   | 60   | 50   | 40   | 30   |
| 0.96 | 1.13 | 1.36 | 1.70 | 2.24 | 2.95 |
| 20   | 10   | 5    | 2    | 1    | 0.5  |
| 4.35 | 7.22 | 12.2 | 21.7 | 31.9 | 43.0 |

### MAGNITUDE AND FREQUENCY

LOWEST AVERAGE FLOW IN CUBIC FEET PER SECOND, FOR INDICATED RECURRENCE INTERVAL IN YEARS.

| PERIOD<br>(CONSECUTIVE DAYS) | 2    | 5    | 10   | 20   | 50 |
|------------------------------|------|------|------|------|----|
| 1                            | 0.74 | 0.61 | 0.55 | 0.50 |    |
| 3                            | 0.75 | 0.62 | 0.56 | 0.52 |    |
| 7                            | 0.76 | 0.64 | 0.59 | 0.55 |    |
| 14                           | 0.80 | 0.68 | 0.63 | 0.60 |    |
| 30                           | 0.84 | 0.72 | 0.68 | 0.65 |    |
| 60                           | 0.90 | 0.77 | 0.72 | 0.68 |    |
| 120                          | 0.96 | 0.82 | 0.78 | 0.75 |    |
| 183                          | 1.06 | 0.92 | 0.90 | 0.89 |    |

03532000 - POWELL RIVER NEAR ARTHUR, TN

LOCATION.-- Lat 36°32'30", long 83°37'49", Claiborne County, on left bank 500 ft upstream from bridge on U. S. Highway 25E, 2.3 miles east of Arthur, 2.4 miles downstream from Indian Creek, and at mile 65.4.

DRAINAGE AREA.-- 685 mi<sup>2</sup>.

PERIOD OF RECORD.-- October 1919 to September 1975.

REMARKS:

FLOW DURATION

FLOW IN CUBIC FEET PER SECOND, WHICH WAS EQUALED OR EXCEEDED FOR PERCENTAGE OF TIME INDICATED.

|      |      |      |      |      |       |
|------|------|------|------|------|-------|
| 99.5 | 99.1 | 99   | 98   | 95   | 90    |
| 78.3 | 85.2 | 87.0 | 94.0 | 108  | 135   |
| 80   | 70   | 60   | 50   | 40   | 30    |
| 200  | 286  | 408  | 580  | 804  | 1100  |
| 20   | 10   | 5    | 2    | 1    | 0.5   |
| 1570 | 2620 | 4130 | 6700 | 8880 | 12000 |

MAGNITUDE AND FREQUENCY

LOWEST AVERAGE FLOW IN CUBIC FEET PER SECOND, FOR INDICATED RECURRENCE INTERVAL IN YEARS.

| PERIOD<br>(CONSECUTIVE DAYS) | 2   | 5    | 10   | 20   | 50   |
|------------------------------|-----|------|------|------|------|
| 1                            | 109 | 85.5 | 76.8 | 70.9 | 65.5 |
| 3                            | 111 | 87.1 | 78.5 | 72.7 | 67.5 |
| 7                            | 114 | 89.3 | 80.6 | 75.0 | 69.9 |
| 14                           | 120 | 92.9 | 83.4 | 77.3 | 71.9 |
| 30                           | 138 | 102  | 90.0 | 82.0 | 74.7 |
| 60                           | 168 | 118  | 99.6 | 87.1 | 75.4 |
| 120                          | 246 | 160  | 129  | 109  | 90.2 |
| 183                          | 366 | 234  | 184  | 150  | 119  |

03533000 - CLINCH RIVER BELOW NORRIS DAM, TN

LOCATION.--Lat 36°12'56", long 84°04'56", Anderson County, 0.5 mile upstream from Clear Creek, 1.5 miles north of Norris, and at mile 78.8.

DRAINAGE AREA.-- 2,913 mi<sup>2</sup>.

PERIOD OF RECORD.-- October 1903 to February 1936.

REMARKS: Unregulated. See next page for present characteristics.

### FLOW DURATION

FLOW IN CUBIC FEET PER SECOND, WHICH WAS EQUALED OR EXCEEDED FOR PERCENTAGE OF TIME INDICATED.

|      |       |       |       |       |       |
|------|-------|-------|-------|-------|-------|
| 99.5 | 99.1  | 99    | 98    | 95    | 90    |
| 299  | 339   | 350   | 407   | 508   | 712   |
| 80   | 70    | 60    | 50    | 40    | 30    |
| 1020 | 1460  | 2000  | 2610  | 3430  | 4590  |
| 20   | 10    | 5     | 2     | 1     | 0.5   |
| 6390 | 10500 | 15600 | 25100 | 32200 | 38400 |

### MAGNITUDE AND FREQUENCY

LOWEST AVERAGE FLOW IN CUBIC FEET PER SECOND, FOR INDICATED RECURRENCE INTERVAL IN YEARS.

| PERIOD<br>(CONSECUTIVE DAYS) | 2    | 5    | 10   | 20  | 50  |
|------------------------------|------|------|------|-----|-----|
| 1                            | 464  | 319  | 263  | 224 | 187 |
| 3                            | 485  | 330  | 268  | 226 | 189 |
| 7                            | 514  | 353  | 290  | 246 | 204 |
| 14                           | 555  | 384  | 318  | 273 | 230 |
| 30                           | 657  | 454  | 377  | 325 | 276 |
| 60                           | 821  | 550  | 451  | 386 | 326 |
| 120                          | 1260 | 868  | 721  | 623 | 531 |
| 183                          | 1810 | 1280 | 1060 | 913 | 766 |



03533000 - CLINCH RIVER BELOW NORRIS DAM, TN

LOCATION.-- Lat 36°12'56", long 84°04'56", Anderson County, 0.5 mile upstream from Clear Creek, 1.0 mile downstream from Norris Dam, 1.5 miles north of Norris, and at mile 78.8.

DRAINAGE AREA.-- 2,913 mi<sup>2</sup>.

PERIOD OF RECORD.-- March 1936 to June 1974.

REMARKS: Flow completely regulated by Norris Lake.

### FLOW DURATION

FLOW IN CUBIC FEET PER SECOND, WHICH WAS EQUALED OR EXCEEDED FOR PERCENTAGE OF TIME INDICATED.

|      |      |      |       |       |       |
|------|------|------|-------|-------|-------|
| 99.5 | 99.1 | 99   | 98    | 95    | 90    |
| 16.0 | 22.4 | 23.8 | 33.2  | 49.6  | 73.7  |
| 80   | 70   | 60   | 50    | 40    | 30    |
| 468  | 1890 | 2860 | 3730  | 4590  | 5460  |
| 20   | 10   | 5    | 2     | 1     | 0.5   |
| 6520 | 8000 | 9470 | 15700 | 19600 | 22000 |

### MAGNITUDE AND FREQUENCY

LOWEST AVERAGE FLOW IN CUBIC FEET PER SECOND, FOR INDICATED RECURRENCE INTERVAL IN YEARS.

| PERIOD<br>(CONSECUTIVE DAYS) | 2    | 5    | 10   | 20   | 50 |
|------------------------------|------|------|------|------|----|
| 1                            | 48.6 | 28.6 | 20.0 | 14.2 |    |
| 3                            | 56.7 | 27.8 | 19.9 | 15.4 |    |
| 7                            | 87.6 | 34.1 | 21.9 | 15.5 |    |
| 14                           | 168  | 49.9 | 30.0 | 22.5 |    |
| 30                           | 461  | 111  | 47.9 | 31.8 |    |
| 60                           | 1260 | 357  | 149  | 64.5 |    |
| 120                          | 2360 | 990  | 509  | 260  |    |
| 183                          | 3120 | 2230 | 1760 | 1390 |    |

03535000 - BULLRUN CREEK NEAR HALLS CROSSROADS, TN

LOCATION.-- Lat 36°06'52", long 83°59'16", Knox County, on left bank on downstream side of bridge on U.S. Highway 441, 2.1 miles downstream from Smith Branch and 4.0 miles northwest of Halls Crossroads.

DRAINAGE AREA.-- 68.5 mi<sup>2</sup>.

PERIOD OF RECORD.-- October 1957 to September 1975.

REMARKS:

### FLOW DURATION

FLOW IN CUBIC FEET PER SECOND, WHICH WAS EQUALED OR EXCEEDED FOR PERCENTAGE OF TIME INDICATED.

|      |      |      |      |      |      |
|------|------|------|------|------|------|
| 99.5 | 99.1 | 99   | 98   | 95   | 90   |
| 5.10 | 5.70 | 5.86 | 6.65 | 8.03 | 9.90 |
| 80   | 70   | 60   | 50   | 40   | 30   |
| 14.2 | 20.0 | 28.6 | 42.5 | 62.6 | 88.4 |
| 20   | 10   | 5    | 2    | 1    | 0.5  |
| 127  | 213  | 358  | 720  | 1010 | 1400 |

### MAGNITUDE AND FREQUENCY

LOWEST AVERAGE FLOW IN CUBIC FEET PER SECOND, FOR INDICATED RECURRENCE INTERVAL IN YEARS.

| PERIOD<br>(CONSECUTIVE DAYS) | 2    | 5    | 10   | 20   | 50 |
|------------------------------|------|------|------|------|----|
| 1                            | 6.52 | 4.88 | 4.33 | 3.97 |    |
| 3                            | 6.64 | 5.02 | 4.48 | 4.14 |    |
| 7                            | 7.07 | 5.40 | 4.86 | 4.54 |    |
| 14                           | 8.12 | 6.55 | 6.08 | 5.81 |    |
| 30                           | 9.58 | 7.40 | 6.72 | 6.32 |    |
| 60                           | 12.3 | 9.26 | 8.24 | 7.59 |    |
| 120                          | 18.5 | 12.8 | 10.8 | 9.55 |    |
| 183                          | 26.3 | 18.0 | 15.5 | 14.0 |    |

03537000 - WHITEOAK CREEK BELOW OAK RIDGE NATIONAL LABORATORY, NEAR OAK RIDGE, TN

LOCATION.--Lat 35°54'44", long 84°18'59", Roane County, on right bank  
0.1 mile upstream from Melton Branch, 1 mile south of Oak Ridge  
National Laboratory, and 7 miles south of Oak Ridge.

DRAINAGE AREA.-- 3.62 mi<sup>2</sup>.

PERIOD OF RECORD.-- August 1955 to June 1964.

REMARKS Natural flow of stream affected by operation of Oak Ridge  
National Laboratory.

### FLOW DURATION

FLOW IN CUBIC FEET PER SECOND, WHICH WAS EQUALED OR EXCEEDED  
FOR PERCENTAGE OF TIME INDICATED.

|      |      |      |      |      |      |
|------|------|------|------|------|------|
| 99.5 | 99.1 | 99   | 98   | 95   | 90   |
| 2.78 | 2.89 | 2.92 | 3.14 | 3.55 | 3.87 |
| 80   | 70   | 60   | 50   | 40   | 30   |
| 4.44 | 4.91 | 5.38 | 5.94 | 6.68 | 7.93 |
| 20   | 10   | 5    | 2    | 1    | 0.5  |
| 10.8 | 17.2 | 26.7 | 46.0 | 69.0 | 100  |

### MAGNITUDE AND FREQUENCY

LOWEST AVERAGE FLOW IN CUBIC FEET PER SECOND, FOR INDICATED  
RECURRENCE INTERVAL IN YEARS.

| PERIOD<br>(CONSECUTIVE DAYS) | 2    | 5    | 10   | 20   | 50 |
|------------------------------|------|------|------|------|----|
| 1                            | 3.28 | 2.89 | 2.71 | 2.57 |    |
| 3                            | 3.44 | 3.02 | 2.81 | 2.64 |    |
| 7                            | 3.73 | 3.30 | 3.07 | 2.89 |    |
| 14                           | 3.89 | 3.43 | 3.18 | 2.98 |    |
| 30                           | 4.26 | 3.65 | 3.33 | 3.06 |    |
| 60                           | 4.63 | 3.93 | 3.56 | 3.27 |    |
| 120                          | 5.24 | 4.45 | 4.04 | 3.70 |    |
| 183                          | 5.97 | 5.02 | 4.54 | 4.15 |    |

03537500 - MELTON BRANCH NEAR OAK RIDGE, TN

LOCATION.-- Lat 35°54'38", long 84°18'54", Roane County, on right bank 0.1 mile upstream from Melton Branch, 1 mile south of Oak Ridge National Laboratory, and 7 miles south of Oak Ridge.

DRAINAGE AREA.--1.48 mi<sup>2</sup>.

PERIOD OF RECORD.-- September 1955 to June 1964.

REMARKS: Natural flow of stream may be affected by operations of Oak Ridge National Laboratory.

### FLOW DURATION

FLOW IN CUBIC FEET PER SECOND, WHICH WAS EQUALED OR EXCEEDED FOR PERCENTAGE OF TIME INDICATED.

|      |      |      |      |      |      |
|------|------|------|------|------|------|
| 99.5 | 99.1 | 99   | 98   | 95   | 90   |
| 0.0  | 0.0  | 0.0  | 0.0  | 0.14 | 0.21 |
| 80   | 70   | 60   | 50   | 40   | 30   |
| 0.35 | 0.52 | 0.70 | 0.88 | 1.29 | 1.81 |
| 20   | 10   | 5    | 2    | 1    | 0.5  |
| 2.75 | 5.10 | 9.48 | 20.0 | 30.0 | 45.0 |

### MAGNITUDE AND FREQUENCY

LOWEST AVERAGE FLOW IN CUBIC FEET PER SECOND, FOR INDICATED RECURRENCE INTERVAL IN YEARS.

| PERIOD<br>(CONSECUTIVE DAYS) | 2   | 5   | 10 | 20 | 50 |
|------------------------------|-----|-----|----|----|----|
| 1                            | 0.1 | 0.1 | *  | *  |    |
| 3                            | 0.2 | 0.1 | *  | *  |    |
| 7                            | 0.2 | 0.1 | *  | *  |    |
| 14                           |     |     |    |    |    |
| 30                           |     |     |    |    |    |
| 60                           |     |     |    |    |    |
| 120                          |     |     |    |    |    |
| 183                          |     |     |    |    |    |

\* Figures cannot be determined from available data.

03538150 - CLINCH RIVER NEAR OAK RIDGE, TN

LOCATION.-- Lat 35° 54' 25", long 84° 23' 32", Anderson County, on right bank, 0.4 mile upstream from bridge on State Highway 58, 2.5 miles above Poplar Creek, 9.9 miles southwest of intersection of State Highways 95 and 62 in Oak Ridge, and at mile 14.5.

DRAINAGE AREA.-- 3,385 mi<sup>2</sup>.

PERIOD OF RECORD.-- October 1936 to September 1968.

REMARKS: Flow regulated by Norris and Melton Hill Lakes.

### FLOW DURATION

FLOW IN CUBIC FEET PER SECOND, WHICH WAS EQUALED OR EXCEEDED FOR PERCENTAGE OF TIME INDICATED.

|      |      |       |       |       |       |
|------|------|-------|-------|-------|-------|
| 99.5 | 99.1 | 99    | 98    | 95    | 90    |
| 0.0  | 0.0  | 0.0   | 174   | 322   | 545   |
| 80   | 70   | 60    | 50    | 40    | 30    |
| 1350 | 2370 | 3220  | 4030  | 4870  | 5740  |
| 20   | 10   | 5     | 2     | 1     | 0.5   |
| 6710 | 8360 | 10500 | 16000 | 20600 | 24200 |

### MAGNITUDE AND FREQUENCY

LOWEST AVERAGE FLOW IN CUBIC FEET PER SECOND, FOR INDICATED RECURRENCE INTERVAL IN YEARS.

| PERIOD<br>(CONSECUTIVE DAYS) | 2    | 5    | 10   | 20   | 50 |
|------------------------------|------|------|------|------|----|
| 1                            | 236  | 166  | 135  | 104  |    |
| 3                            | 336  | 201  | 149  | 108  |    |
| 7                            | 483  | 243  | 165  | 119  |    |
| 14                           | 749  | 362  | 238  | 166  |    |
| 30                           | 1330 | 647  | 417  | 280  |    |
| 60                           | 1970 | 992  | 627  | 406  |    |
| 120                          | 2700 | 1420 | 891  | 562  |    |
| 183                          | 3430 | 2530 | 2030 | 1640 |    |

03538225 - POPLAR CREEK NEAR OAK RIDGE, TN

LOCATION.-- Lat 35°59'55", long 84°20'23", Anderson County, on right bank 1,000 ft upstream from county road bridge, 0.4 mile downstream from Indian Creek, 8.2 miles southwest of intersection of State Highways 95 and 62 in Oak Ridge.

DRAINAGE AREA.-- 82.5 mi<sup>2</sup>.

PERIOD OF RECORD.-- September 1960 to September 1975.

REMARKS:

### FLOW DURATION

FLOW IN CUBIC FEET PER SECOND, WHICH WAS EQUALED OR EXCEEDED FOR PERCENTAGE OF TIME INDICATED.

|      |      |      |      |      |      |
|------|------|------|------|------|------|
| 99.5 | 99.1 | 99   | 98   | 95   | 90   |
| 5.84 | 6.32 | 6.44 | 7.40 | 9.21 | 12.1 |
| 80   | 70   | 60   | 50   | 40   | 30   |
| 18.8 | 28.7 | 43.2 | 68.0 | 104  | 150  |
| 20   | 10   | 5    | 2    | 1    | 0.5  |
| 218  | 371  | 628  | 1260 | 1930 | 2700 |

### MAGNITUDE AND FREQUENCY

LOWEST AVERAGE FLOW IN CUBIC FEET PER SECOND, FOR INDICATED RECURRENCE INTERVAL IN YEARS.

| PERIOD<br>(CONSECUTIVE DAYS) | 2    | 5    | 10   | 20   | 50 |
|------------------------------|------|------|------|------|----|
| 1                            | 8.56 | 6.23 | 5.38 | 4.82 |    |
| 3                            | 8.68 | 6.33 | 5.48 | 4.92 |    |
| 7                            | 9.07 | 6.69 | 5.80 | 5.22 |    |
| 14                           | 10.1 | 7.20 | 6.13 | 5.40 |    |
| 30                           | 11.6 | 8.03 | 6.79 | 5.98 |    |
| 60                           | 15.5 | 10.4 | 8.61 | 7.46 |    |
| 120                          | 24.5 | 15.2 | 12.3 | 10.5 |    |
| 183                          | 44.3 | 24.2 | 18.3 | 14.7 |    |

LOCATION.-- Lat 35°57'58", long 84°21'30", Anderson County, near left bank on upstream side of county road bridge, 0.3 mile north of State Highway 95, 1.7 miles upstream from Bear Creek, and 5.8 miles southwest of intersection of State Highways 95 and 62 in Oak Ridge.

DRAINAGE AREA.-- 19.5 mi<sup>2</sup>.

PERIOD OF RECORD.--September 1960 to September 1975.

REMARKS: Natural flow of stream affected by operations of the Atomic Energy Commission's Y-12 Plant and the Sewage Treatment Plant of the City of Oak Ridge.

### FLOW DURATION

FLOW IN CUBIC FEET PER SECOND, WHICH WAS EQUALED OR EXCEEDED FOR PERCENTAGE OF TIME INDICATED.

|      |      |      |      |      |      |
|------|------|------|------|------|------|
| 99.5 | 99.1 | 99   | 98   | 95   | 90   |
| 17.3 | 17.5 | 17.6 | 18.3 | 20.0 | 21.3 |
| 80   | 70   | 60   | 50   | 40   | 30   |
| 23.6 | 25.6 | 28.2 | 32.2 | 38.2 | 46.4 |
| 20   | 10   | 5    | 2    | 1    | 0.5  |
| 58.5 | 87.3 | 136  | 237  | 419  | 579  |

### MAGNITUDE AND FREQUENCY

LOWEST AVERAGE FLOW IN CUBIC FEET PER SECOND, FOR INDICATED RECURRENCE INTERVAL IN YEARS.

| PERIOD<br>(CONSECUTIVE DAYS) | 2    | 5    | 10   | 20   | 50 |
|------------------------------|------|------|------|------|----|
| 1                            | 18.8 | 17.1 | 16.2 | 15.5 |    |
| 3                            | 19.2 | 17.8 | 17.1 | 16.6 |    |
| 7                            | 19.8 | 18.4 | 17.7 | 17.1 |    |
| 14                           | 20.6 | 18.9 | 18.0 | 17.3 |    |
| 30                           | 21.7 | 20.0 | 19.1 | 18.4 |    |
| 60                           | 23.7 | 21.4 | 20.3 | 19.4 |    |
| 120                          | 27.3 | 23.9 | 22.2 | 20.9 |    |
| 183                          | 30.4 | 25.7 | 24.0 | 22.9 |    |

03538500 - EMORY RIVER NEAR WARTBURG, TN

LOCATION.-- Lat 36°06'46", long 84°36'54", Morgan County, on right bank 50 ft downstream from highway bridge on Wartburg-Lancing Road, 1.1 miles downstream from Rock Creek, 1.25 miles northwest of Wartburg, 6.1 miles upstream from Obed River, and at mile 34.5.

DRAINAGE AREA.--83.2 mi<sup>2</sup>.

PERIOD OF RECORD.--June 1934 to September 1968.

REMARKS:

FLOW DURATION

FLOW IN CUBIC FEET PER SECOND, WHICH WAS EQUALED OR EXCEEDED FOR PERCENTAGE OF TIME INDICATED.

|      |      |      |      |      |      |
|------|------|------|------|------|------|
| 99.5 | 99.1 | 99   | 98   | 95   | 90   |
| 0.0  | 0.0  | 0.0  | 0.0  | 0.16 | 0.69 |
| 80   | 70   | 60   | 50   | 40   | 30   |
| 3.21 | 9.09 | 20.8 | 41.0 | 72.0 | 113  |
| 20   | 10   | 5    | 2    | 1    | 0.5  |
| 180  | 343  | 588  | 1090 | 1750 | 2590 |

MAGNITUDE AND FREQUENCY

LOWEST AVERAGE FLOW IN CUBIC FEET PER SECOND, FOR INDICATED RECURRENCE INTERVAL IN YEARS.

| PERIOD<br>(CONSECUTIVE DAYS) | 2    | 5    | 10   | 20   | 50   |
|------------------------------|------|------|------|------|------|
| 1                            | 0.17 | 0.01 | 0.0  | 0.0  | 0.0  |
| 3                            | 0.19 | 0.01 | 0.0  | 0.0  | 0.0  |
| 7                            | 0.23 | 0.01 | 0.0  | 0.0  | 0.0  |
| 14                           | 0.31 | 0.01 | 0.01 | 0.0  | 0.0  |
| 30                           | 0.62 | 0.01 | 0.01 | 0.0  | 0.0  |
| 60                           | 1.57 | 0.16 | 0.03 | 0.0  | 0.0  |
| 120                          | 7.64 | 1.75 | 0.74 | 0.34 | 0.14 |
| 183                          | 20.1 | 7.13 | 3.90 | 2.30 | 1.23 |



03539000 - DADDYS CREEK NEAR GRASSY COVE, TN

LOCATION.-- Lat 35°53'26", long 84°56'16", Cumberland County,  
at bridge on State Highway 68, 3.6 miles northwest of Grassy  
Cove, 5.6 miles above Bird Creek, and at mile 27.0.

DRAINAGE AREA.--51.2 mi<sup>2</sup>.

PERIOD OF RECORD.--September 1925 to September 1930.

REMARKS:

### FLOW DURATION

FLOW IN CUBIC FEET PER SECOND, WHICH WAS EQUALED OR EXCEEDED  
FOR PERCENTAGE OF TIME INDICATED.

|      |      |      |      |      |      |
|------|------|------|------|------|------|
| 99.5 | 99.1 | 99   | 98   | 95   | 90   |
| 0.0  | 0.0  | 0.0  | 0.0  | 0.24 | 1.80 |
| 80   | 70   | 60   | 50   | 40   | 30   |
| 7.70 | 21.0 | 40.4 | 61.2 | 86.1 | 125  |
| 20   | 10   | 5    | 2    | 1    | 0.5  |
| 182  | 302  | 494  | 886  | 1390 | 1930 |

### MAGNITUDE AND FREQUENCY

LOWEST AVERAGE FLOW IN CUBIC FEET PER SECOND, FOR INDICATED  
RECURRENCE INTERVAL IN YEARS.

| PERIOD<br>(CONSECUTIVE DAYS) | 2    | 5    | 10   | 20   | 50 |
|------------------------------|------|------|------|------|----|
| 1                            | 0.50 | 0.11 | 0.03 | 0.0  |    |
| 3                            | 0.52 | 0.13 | 0.03 | 0.0  |    |
| 7                            | 0.58 | 0.14 | 0.05 | 0.01 |    |
| 14                           |      |      |      |      |    |
| 30                           |      |      |      |      |    |
| 60                           |      |      |      |      |    |
| 120                          |      |      |      |      |    |
| 183                          |      |      |      |      |    |

03539500 - DADDYS CREEK NEAR CRAB ORCHARD, TN

LOCATION.-- Lat 35°55'53", long 84°54'47", Cumberland County, on left bank 0.6 mile upstream from North Creek, 1.5 miles downstream from bridge on U.S. Highway 70, 1.5 miles downstream from Bird Creek, and 2 miles northwest of Crab Orchard.

DRAINAGE AREA.--93.5 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1930 to September 1958.

REMARKS:

### FLOW DURATION

FLOW IN CUBIC FEET PER SECOND, WHICH WAS EQUALED OR EXCEEDED FOR PERCENTAGE OF TIME INDICATED.

|      |      |      |      |      |      |
|------|------|------|------|------|------|
| 99.5 | 99.1 | 99   | 98   | 95   | 90   |
| 0.04 | 0.06 | 0.07 | 0.17 | 0.44 | 0.95 |
| 80   | 70   | 60   | 50   | 40   | 30   |
| 3.19 | 9.40 | 25.8 | 54.1 | 96.6 | 154  |
| 20   | 10   | 5    | 2    | 1    | 0.5  |
| 250  | 436  | 706  | 1200 | 1760 | 2400 |

### MAGNITUDE AND FREQUENCY

LOWEST AVERAGE FLOW IN CUBIC FEET PER SECOND, FOR INDICATED RECURRENCE INTERVAL IN YEARS.

| PERIOD<br>(CONSECUTIVE DAYS) | 2    | 5    | 10   | 20   | 50   |
|------------------------------|------|------|------|------|------|
| 1                            | 0.27 | 0.05 | 0.01 | 0.0  | 0.0  |
| 3                            | 0.29 | 0.05 | 0.02 | 0.0  | 0.0  |
| 7                            | 0.35 | 0.08 | 0.03 | 0.01 | 0.0  |
| 14                           | 0.50 | 0.11 | 0.04 | 0.01 | 0.0  |
| 30                           | 0.86 | 0.25 | 0.12 | 0.07 | 0.03 |
| 60                           | 2.08 | 0.66 | 0.36 | 0.21 | 0.12 |
| 120                          | 8.24 | 2.07 | 0.94 | 0.48 | 0.22 |
| 183                          | 20.6 | 7.89 | 4.61 | 2.91 | 1.70 |

03539600 - DADDYS CREEK NEAR HEBBERTSBURG, TN

LOCATION.--Lat 35°59'53", long 84°49'24", Cumberland County, on up-stream end of left abutment of Antioch Bridge, 2.1 miles southwest of Hebbertsburg, 6.9 miles northeast of Crab Orchard, and at mile 9.1.

DRAINAGE AREA.--139 mi<sup>2</sup>.

PERIOD OF RECORD.--May 1957 to September 1968.

REMARKS:

### FLOW DURATION

FLOW IN CUBIC FEET PER SECOND, WHICH WAS EQUALED OR EXCEEDED FOR PERCENTAGE OF TIME INDICATED.

|      |      |      |      |      |      |
|------|------|------|------|------|------|
| 99.5 | 99.1 | 99   | 98   | 95   | 90   |
| 0.35 | 0.46 | 0.48 | 0.84 | 2.03 | 4.65 |
| 80   | 70   | 60   | 50   | 40   | 30   |
| 12.8 | 28.7 | 60.4 | 105  | 159  | 236  |
| 20   | 10   | 5    | 2    | 1    | 0.5  |
| 351  | 620  | 993  | 1820 | 2630 | 3510 |

### MAGNITUDE AND FREQUENCY

LOWEST AVERAGE FLOW IN CUBIC FEET PER SECOND, FOR INDICATED RECURRENCE INTERVAL IN YEARS.

| PERIOD<br>(CONSECUTIVE DAYS) | 2    | 5    | 10   | 20   | 50 |
|------------------------------|------|------|------|------|----|
| 1                            | 1.50 | 0.65 | 0.42 | 0.29 |    |
| 3                            | 1.58 | 0.67 | 0.42 | 0.29 |    |
| 7                            | 1.80 | 0.78 | 0.49 | 0.33 |    |
| 14                           | 2.40 | 0.96 | 0.56 | 0.35 |    |
| 30                           | 4.84 | 1.94 | 1.08 | 0.63 |    |
| 60                           | 12.3 | 4.60 | 2.34 | 1.23 |    |
| 120                          | 33.3 | 14.4 | 8.31 | 4.96 |    |
| 183                          | 61.8 | 30.7 | 20.4 | 14.2 |    |

03539800 - OBED RIVER NEAR LANCING, TN

LOCATION.-- Lat 36°04'53", long 84°40'15", Morgan County, on left bank at Alley Ford, 2.9 miles southwest of Lancing, 3.0 miles downstream from Clear Creek, and at mile 1.5.

DRAINAGE AREA.-- 518 mi<sup>2</sup>.

PERIOD OF RECORD.--May 1957 to September 1968, March 1973 - September 1975.

REMARKS:

FLOW DURATION

FLOW IN CUBIC FEET PER SECOND, WHICH WAS EQUALED OR EXCEEDED FOR PERCENTAGE OF TIME INDICATED.

|      |      |      |      |       |       |
|------|------|------|------|-------|-------|
| 99.5 | 99.1 | 99   | 98   | 95    | 90    |
| 1.18 | 1.55 | 1.63 | 2.50 | 10.2  | 21.7  |
| 80   | 70   | 60   | 50   | 40    | 30    |
| 54.3 | 111  | 225  | 404  | 642   | 964   |
| 20   | 10   | 5    | 2    | 1     | 0.5   |
| 1470 | 2550 | 4100 | 7020 | 10000 | 14000 |

MAGNITUDE AND FREQUENCY

LOWEST AVERAGE FLOW IN CUBIC FEET PER SECOND, FOR INDICATED RECURRENCE INTERVAL IN YEARS.

| PERIOD<br>(CONSECUTIVE DAYS) | 2    | 5    | 10   | 20   | 50 |
|------------------------------|------|------|------|------|----|
| 1                            | 6.60 | 2.40 | 1.28 | 0.73 |    |
| 3                            | 7.18 | 2.54 | 1.34 | 0.75 |    |
| 7                            | 8.25 | 2.92 | 1.54 | 0.86 |    |
| 14                           | 11.3 | 3.89 | 1.97 | 1.05 |    |
| 30                           | 20.7 | 7.18 | 3.56 | 1.84 |    |
| 60                           | 42.2 | 14.9 | 7.65 | 4.12 |    |
| 120                          | 106  | 53.3 | 36.2 | 25.9 |    |
| 183                          | 228  | 114  | 78.5 | 57.0 |    |

03540000 - EMORY RIVER AT DEERMONT, TN

LOCATION.--Lat 36°01'39", long 84°34'47", Morgan County, on county highway bridge at Deermont siding on Southern Railway, 0.4 mile upstream from Crab Orchard Creek, 2.0 miles downstream from Crooked Fork, 3.2 miles northwest of Oakdale, and at mile 21.8.

DRAINAGE AREA.--704 mi<sup>2</sup>.

PERIOD OF RECORD.-- August 1920 to September 1927.

REMARKS:

### FLOW DURATION

FLOW IN CUBIC FEET PER SECOND, WHICH WAS EQUALED OR EXCEEDED FOR PERCENTAGE OF TIME INDICATED.

|      |      |      |      |       |       |
|------|------|------|------|-------|-------|
| 99.5 | 99.1 | 99   | 98   | 95    | 90    |
| 3.99 | 4.24 | 4.30 | 5.00 | 8.36  | 18.4  |
| 80   | 70   | 60   | 50   | 40    | 30    |
| 68.8 | 164  | 373  | 654  | 981   | 1340  |
| 20   | 10   | 5    | 2    | 1     | 0.5   |
| 1980 | 3420 | 5300 | 9200 | 12600 | 16000 |

### MAGNITUDE AND FREQUENCY

LOWEST AVERAGE FLOW IN CUBIC FEET PER SECOND, FOR INDICATED RECURRENCE INTERVAL IN YEARS.

| PERIOD<br>(CONSECUTIVE DAYS) | 2   | 5   | 10  | 20 | 50 |
|------------------------------|-----|-----|-----|----|----|
| 1                            | 4.5 | 3.8 | 3.6 | *  |    |
| 3                            | 4.9 | 4.2 | 4.0 | *  |    |
| 7                            | 5.8 | 4.5 | 4.0 | *  |    |
| 14                           |     |     |     |    |    |
| 30                           |     |     |     |    |    |
| 60                           |     |     |     |    |    |
| 120                          |     |     |     |    |    |
| 183                          |     |     |     |    |    |

\* Figures cannot be determined from available data.