

03453500 FRENCH BROAD RIVER AT MARSHALL, NC

LOCATION.--Lat 35°47'11", long 82°39'39", Madison County, Hydrologic Unit 06010105, on right bank 0.7 mi upstream from Hayes Creek, 1.0 mi downstream of Ivy River, 1.5 mi southeast of Marshall, and at mile 126.7.

DRAINAGE AREA.--1,332 mi².

PERIOD OF RECORD.--October 1942 to current year.

REVISED RECORDS.--WSP 1436: 1954(M).

GAGE.--Water-stage recorder. Datum of gage is 1,646.79 ft above NGVD of 1929 (levels by Tennessee Valley Authority). Satellite and telephone telemetry at station.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Small diversions from tributaries for water supply. Slight diurnal fluctuation and occasional slight regulation at low flow caused by small reservoirs upstream from station. Prior to July 1963, some regulation by Weaver plant of Carolina Power and Light Company 15 mi upstream, after November 1986 the same power plant was operated by the Metropolitan Sewage Treatment Plant. Minimum discharge for period of record also occurred Sept. 14, 1954.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage observed since at least 1791: 22.0 ft, July 16, 1916; discharge: 115,000 ft³/s. Flood of Aug. 30, 1940, reached a stage of 16.6 ft; discharge, 70,000 ft³/s, from high water marks, flood profiles, and studies by Tennessee Valley Authority.

EXTREMES FOR CURRENT YEAR.--Peak discharges associated with the remnants of Hurricanes Frances and Ivan:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Sep 8	1800	39,100	11.33	Sep 17	0530	48,000	12.72

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,700	1,530	2,640	2,270	1,590	2,120	2,530	1,870	2,220	2,220	3,070	2,400
2	1,630	1,480	2,430	2,190	1,570	2,120	2,130	2,080	1,730	2,370	2,970	4,610
3	1,560	1,430	2,290	2,150	2,650	2,190	1,940	2,610	1,490	2,670	2,670	4,920
4	1,530	1,430	2,270	2,120	3,100	2,140	1,850	2,290	1,750	2,390	2,400	2,940
5	1,500	1,520	2,640	2,260	2,500	2,100	1,780	1,970	1,800	2,300	1,980	2,170
6	e1,480	2,890	2,800	2,430	6,730	2,310	1,710	1,840	1,570	2,130	1,830	1,830
7	e1,490	3,800	2,510	2,240	11,300	2,410	1,670	1,740	1,430	2,000	1,630	4,480
8	e1,450	2,730	2,340	2,080	9,090	2,370	1,650	1,640	1,410	1,770	1,440	32,400
9	e1,690	2,230	2,210	2,060	7,120	2,160	1,640	1,700	1,440	1,600	1,370	30,800
10	1,930	1,990	2,810	2,030	4,390	2,060	1,570	1,840	1,440	1,700	1,320	23,000
11	1,890	1,850	6,390	1,940	3,590	2,040	1,550	1,700	1,530	1,590	1,320	15,000
12	1,910	1,800	6,080	1,880	3,500	1,960	1,770	1,570	1,430	2,150	2,100	10,100
13	1,780	1,740	4,550	1,860	3,920	1,880	4,430	1,630	2,630	1,840	1,970	6,940
14	1,630	1,620	4,000	1,820	3,440	1,820	5,820	2,170	2,090	1,790	1,640	4,390
15	1,590	1,550	4,050	1,810	3,230	1,840	4,490	2,720	3,220	1,540	1,390	4,380
16	1,500	1,540	3,510	1,760	3,310	2,100	3,190	2,060	4,990	1,370	1,330	3,820
17	1,450	1,530	3,620	1,720	3,070	2,030	2,740	2,030	3,430	1,330	1,270	32,400
18	1,410	1,520	3,640	1,800	2,840	2,320	2,470	2,170	2,790	1,840	1,610	23,400
19	1,390	8,920	3,310	1,930	2,680	2,370	2,280	2,100	2,080	1,570	1,280	18,600
20	1,370	9,580	3,030	1,810	2,600	2,140	2,140	1,970	1,770	1,430	1,270	13,600
21	1,340	8,200	2,780	1,700	2,560	2,130	2,050	1,960	1,660	1,320	1,280	9,600
22	1,330	7,050	2,680	1,670	2,460	2,020	1,940	1,870	2,310	1,260	1,280	7,370
23	1,300	4,240	2,650	1,630	2,340	1,900	1,850	2,320	4,030	1,310	1,200	5,540
24	1,280	3,230	3,240	1,620	2,290	1,830	1,780	2,050	2,710	1,250	1,510	4,750
25	1,270	3,160	3,090	1,660	2,280	1,770	1,730	1,820	2,400	1,490	1,570	4,310
26	1,370	2,930	2,760	1,770	2,190	1,730	2,430	1,630	3,350	1,590	1,410	3,970
27	2,760	2,650	2,570	1,820	2,250	1,700	2,920	1,660	3,290	2,400	1,290	3,760
28	2,810	2,660	2,450	1,840	2,300	1,670	2,400	1,530	2,480	3,060	1,380	11,500
29	2,030	3,220	2,370	1,720	2,200	1,630	2,030	1,470	2,470	2,200	1,710	10,700
30	1,740	2,970	2,410	1,680	---	1,630	1,890	1,620	2,080	1,930	2,030	9,340
31	1,600	---	2,430	1,640	---	2,150	---	2,530	---	3,040	1,870	---
TOTAL	50,710	92,990	96,550	58,910	103,090	62,640	70,370	60,160	69,020	58,450	52,390	313,020
MEAN	1,636	3,100	3,115	1,900	3,555	2,021	2,346	1,941	2,301	1,885	1,690	10,430
MAX	2,810	9,580	6,390	2,430	11,300	2,410	5,820	2,720	4,990	3,060	3,070	32,400
MIN	1,270	1,430	2,210	1,620	1,570	1,630	1,550	1,470	1,410	1,250	1,200	1,830
CFSM	1.23	2.33	2.34	1.43	2.67	1.52	1.76	1.46	1.73	1.42	1.27	7.83
IN.	1.42	2.60	2.70	1.65	2.88	1.75	1.97	1.68	1.93	1.63	1.46	8.74

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 2004, BY WATER YEAR (WY)

MEAN	1,742	2,009	2,412	2,872	3,313	3,703	3,378	2,673	2,171	1,763	1,753	1,677
MAX	8,172	5,640	5,465	6,279	7,373	7,170	6,149	5,585	4,191	5,071	4,905	10,430
(WY)	(1965)	(1980)	(1962)	(1998)	(1998)	(1975)	(1983)	(2003)	(1989)	(1949)	(1994)	(2004)
MIN	450	651	778	715	1,547	1,235	1,191	1,066	700	708	577	384
(WY)	(1955)	(1955)	(1956)	(1956)	(2002)	(1988)	(1986)	(1988)	(1988)	(1986)	(2002)	(1954)

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SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1943 - 2004	
ANNUAL TOTAL	1,173,730		1,088,300			
ANNUAL MEAN	3,216		2,973		2,451	
HIGHEST ANNUAL MEAN					3,573 1949	
LOWEST ANNUAL MEAN					1,229 1988	
HIGHEST DAILY MEAN	17,500	May 6	32,400	Sep 8	32,400	Sep 8, 2004
LOWEST DAILY MEAN	1,270	Oct 25	1,200	Aug 23	292	Sep 27, 1954
ANNUAL SEVEN-DAY MINIMUM	1,320	Oct 20	1,310	Aug 17	313	Sep 24, 1954
MAXIMUM PEAK FLOW			48,000	Sep 17	54,000	Nov 6, 1977
MAXIMUM PEAK STAGE			12.72	Sep 17	13.64	Nov 6, 1977
INSTANTANEOUS LOW FLOW			845	Aug 15	193*	Sep 13, 1954
ANNUAL RUNOFF (CFSM)	2.41		2.23		1.84	
ANNUAL RUNOFF (INCHES)	32.78		30.39		25.00	
10 PERCENT EXCEEDS	5,390		4,390		4,370	
50 PERCENT EXCEEDS	2,760		2,070		1,950	
90 PERCENT EXCEEDS	1,560		1,440		893	

* See REMARKS.

e Estimated.

