

ROANOKE RIVER BASIN

02060500 ROANOKE (STAUNTON) RIVER AT ALTAVISTA, VA

LOCATION.--Lat 37°06'16", long 79°17'44", Pittsylvania County, Hydrologic Unit 03010101, on right bank 12 ft upstream from bridge on alternate U.S. Highway 29, 0.3 mi south of Altavista, 0.3 mi downstream from Sycamore Creek, 3.5 mi upstream from Big Otter River, and at mile 286.5.

DRAINAGE AREA.--1,789 mi².

PERIOD OF RECORD.--August 1930 to current year.

REVISED RECORDS.--WSP 892: 1938(M). WSP 972: 1931-33. WSP 2104: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 503.10 ft above sea level. Prior to Feb. 21, 1951, on left bank 50 ft downstream at same datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since 1962 by Leesville Lake (station 02059400) 9.5 mi upstream and since 1963 by Smith Mountain Lake (station 02057400) 27.5 mi upstream. Statistics of monthly mean data and summary statistics for water years 1931 - 1962 (unregulated flow) are available in previous data books, water years 1991 - 1998. U.S. Army Corps of Engineers satellite gage-height telemeter at station. American Electric Power gage-height transmitter at station with recorder at Roanoke. Hadson Power Company gage-height telemeter at station. Maximum discharge, 105,000 ft³/s, from rating curve extended above 52,000 ft³/s on basis of unit hydrograph and flood-routing studies by U.S. Army Corps of Engineers and records for other stations in Roanoke River Basin. Minimum gage height, 1.53 ft, Jan. 2, 1977, result of freezeup. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,630 ft³/s, Sep 30, gage height, 10.60 ft; minimum daily, 479 ft³/s, Aug 17, 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	676	792	790	535	559	642	888	1240	726	503	545	510
2	681	743	794	528	747	800	1290	1280	732	552	486	495
3	719	766	762	632	776	801	1430	1310	732	622	487	552
4	719	781	734	749	665	828	1410	1430	742	614	489	603
5	735	774	792	591	612	834	1280	1340	741	550	488	670
6	743	785	788	543	593	850	837	1280	713	497	538	843
7	754	786	778	561	583	840	800	1360	712	502	589	779
8	811	762	779	571	584	807	769	1370	727	512	536	628
9	812	771	854	560	580	773	804	1390	724	589	483	566
10	775	795	823	556	567	783	814	1360	710	668	480	588
11	770	797	772	552	558	789	1350	1350	719	548	484	634
12	749	846	785	564	554	784	2860	1280	721	510	488	572
13	754	765	992	560	549	779	3190	1290	724	557	541	514
14	760	767	934	570	547	824	2720	1530	720	547	585	515
15	758	795	860	616	565	2290	1750	1530	713	530	535	529
16	757	819	777	642	541	3730	1310	1250	719	569	484	643
17	763	735	739	588	545	2890	1200	1310	687	610	479	597
18	765	776	622	619	708	2010	984	1270	540	566	482	600
19	760	754	621	691	759	1790	810	1230	636	509	479	576
20	763	754	624	608	649	1580	792	1220	625	503	541	518
21	758	760	618	579	606	1660	800	1230	518	514	601	534
22	776	765	626	561	578	2310	786	1270	522	563	542	555
23	759	758	615	591	585	2100	788	1270	520	621	484	535
24	760	756	654	1240	583	1690	780	1260	514	631	482	578
25	769	775	568	1120	581	1270	821	1100	629	568	525	619
26	753	761	544	734	574	1060	1550	748	698	504	563	571
27	757	765	543	641	577	904	1530	743	566	502	681	535
28	754	768	541	609	585	872	1410	720	512	501	675	722
29	768	769	546	588	---	808	1340	692	500	530	581	1040
30	753	773	542	578	---	825	1260	688	517	573	521	6510
31	778	---	539	551	---	814	---	706	---	604	522	---
TOTAL	23409	23213	21956	19628	16910	39737	38353	37047	19559	17169	16396	24131
MEAN	755	774	708	633	604	1282	1278	1195	652	554	529	804
MAX	812	846	992	1240	776	3730	3190	1530	742	668	681	6510
MIN	676	735	539	528	541	642	769	688	500	497	479	495
(†)	-12548	-9549	+2712	+24266	+17626	+1215	-2148	-13962	-11209	+2088	-4986	+29943
MEAN†	350	455	796	1416	1233	1321	1207	745	278	621	368	1802
CFSM†	.20	.25	.44	.79	.69	.74	.67	.42	.16	.35	.21	1.01
IN. ‡	.23	.28	.51	.91	.72	.85	.75	.48	.17	.40	.24	1.12

CAL YR 1998 TOTAL 809179 MEAN 2217 MAX 17300 MIN 539 MEAN† 2158 CFSM† 1.21 IN. ‡ 16.38
WTR YR 1999 TOTAL 297508 MEAN 815 MAX 6510 MIN 479 MEAN† 879 CFSM† .49 IN. ‡ 6.67

† Total change in contents, equivalent in cubic feet per second, per month, in Smith Mountain and Leesville Lakes; provided by American Electric Power.

‡ Adjusted for monthly change in contents.

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STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1999, BY WATER YEAR (WY) [REGULATED, UNADJUSTED]

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1156	1311	1398	2134	2307	2829	2513	1931	1520	1088	1024	1217
MAX	4811	6190	3622	4643	7119	7795	10930	4716	5684	3363	3108	5246
(WY)	1991	1986	1997	1978	1998	1993	1987	1978	1972	1972	1985	1987
MIN	189	396	351	620	581	338	604	484	220	504	311	439
(WY)	1964	1982	1964	1965	1981	1981	1964	1964	1964	1981	1963	1963

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1963 - 1999
ANNUAL TOTAL	809179	297508	
ANNUAL MEAN	2217	815	1698
HIGHEST ANNUAL MEAN			2903
LOWEST ANNUAL MEAN			645
HIGHEST DAILY MEAN	17300	Jan 28	46700
LOWEST DAILY MEAN	539	Dec 31	39
ANNUAL SEVEN-DAY MINIMUM	546	Dec 25	116
INSTANTANEOUS PEAK FLOW			8630
INSTANTANEOUS PEAK STAGE			10.60
INSTANTANEOUS LOW FLOW			b474
ANNUAL RUNOFF (CFSM)	1.24		.46
ANNUAL RUNOFF (INCHES)	16.83		6.19
10 PERCENT EXCEEDS	4900		1280
50 PERCENT EXCEEDS	872		720
90 PERCENT EXCEEDS	689		521

- a Also Aug 19, 1999.
- b Result of regulation.
- c Also Aug 16, 17, 18, 19, 1999.

