

ROANOKE RIVER BASIN

02055000 ROANOKE RIVER AT ROANOKE, VA

LOCATION.--Lat 37°15'30", long 79°56'20", Roanoke City, Hydrologic Unit 03010101, on left bank 50 ft downstream from Walnut Avenue bridge, 3.2 mi upstream from Tinker Creek, and at mile 360.6.

DRAINAGE AREA.--395 mi².

PERIOD OF RECORD.--February 1899 to current year. Monthly discharge only for some periods, published in WSP 1303. Records for July 1896 to January 1899 published in WSP 11, 15, 27, and 20th Annual Report, Part 4, are unreliable, due to doubtful gage-height record, and should not be used.

REVISED RECORDS.--WSP 972: 1928, 1930, 1933. WSP 1433: 1899-1904, 1914-17(M), 1918-24, 1925-27(M), 1929-34(M), 1935, 1936-39(M). WSP 2104: Drainage area. WDR VA-72-1: 1928(M), 1940(M). See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Datum of gage is 906.84 ft above sea level (levels by U.S. Army Corps of Engineers). Prior to June 7, 1937, nonrecording gage on downstream side of highway bridge 50 ft upstream at same datum.

REMARKS.--Records good except those for period of no gage-height record Oct. 1-13, and period with ice effect Jan. 3-5, which are fair. Prior to 1949, diurnal fluctuation at low flow caused by powerplants upstream from station. Since March 1994, water withdrawn upstream for municipal use by the city of Roanoke, amount unknown. American Electric Power and Virginia Department of Emergency Services gage-height radio transmitters at station. Maximum discharge, 32,300 ft³/s, from rating curve extended above 26,000 ft³/s. Practically no flow Dec. 23, 1909, Dec. 19, 1963, when flow was retarded by freezing, gage height, 0.0 ft. 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.--Peak discharges greater than base discharge of 2,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Sep 6	0030	*3,600	*5.97	No other peak greater than base discharge.			

Minimum discharge, 29 ft³/s, Aug 13, gage height, 0.21 ft.

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	e62	71	72	81	179	153	205	219	98	71	95	58
2	e60	70	72	80	198	122	251	205	123	71	94	55
3	e52	98	73	e78	247	149	200	193	107	60	75	50
4	e62	78	73	e75	215	267	186	182	100	61	67	48
5	e64	77	74	e70	175	235	175	173	93	57	59	805
6	e74	74	75	99	145	222	166	166	88	48	54	2830
7	e70	74	75	112	189	272	157	162	84	50	51	1100
8	e350	71	111	109	181	235	147	200	81	44	49	477
9	e320	73	139	109	129	206	164	174	76	43	50	335
10	e110	72	123	136	132	199	184	152	72	43	46	279
11	e95	77	94	144	122	177	417	139	68	43	43	210
12	e88	73	84	126	119	158	899	131	69	175	41	157
13	e84	76	179	123	140	148	563	128	68	193	37	136
14	75	75	190	145	137	193	423	257	65	131	48	124
15	73	74	112	358	126	565	364	310	62	102	53	145
16	72	75	103	373	123	826	369	259	64	88	47	149
17	72	72	94	243	126	648	337	215	85	81	40	120
18	72	72	85	219	368	629	305	162	77	125	37	110
19	71	72	80	174	532	527	283	229	73	86	35	107
20	70	73	78	152	371	402	272	238	67	66	90	102
21	67	72	76	131	291	497	255	179	71	161	61	220
22	67	73	74	119	239	764	235	156	74	185	61	172
23	67	74	76	241	186	568	229	144	74	94	77	132
24	65	73	100	999	163	449	220	149	66	76	203	118
25	69	72	90	813	144	372	206	140	63	67	221	107
26	69	89	86	401	130	313	195	134	64	60	141	97
27	69	78	80	280	122	270	203	126	65	55	107	146
28	68	77	79	203	149	239	250	117	66	91	99	286
29	67	75	84	148	---	214	245	111	61	209	82	242
30	66	73	87	169	---	191	231	107	60	130	70	370
31	68	---	89	158	---	172	---	102	---	101	63	---
TOTAL	2738	2253	2907	6668	5378	10382	8336	5359	2284	2867	2296	9287
MEAN	88.3	75.1	93.8	215	192	335	278	173	76.1	92.5	74.1	310
MAX	350	98	190	999	532	826	899	310	123	209	221	2830
MIN	52	70	72	70	119	122	147	102	60	43	35	48
CFSM	.22	.19	.24	.54	.49	.85	.70	.44	.19	.23	.19	.78
IN.	.26	.21	.27	.63	.51	.98	.79	.50	.22	.27	.22	.87

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STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1899 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	231	246	348	478	570	692	585	420	305	219	225	202
MAX	1080	1626	1425	1353	1912	2521	2558	1466	1206	1190	2140	1569
(WY)	1907	1986	1902	1937	1998	1899	1987	1901	1972	1905	1940	1928
MIN	47.9	43.8	55.2	65.5	52.5	119	108	112	75.3	45.6	43.5	42.6
(WY)	1992	1932	1918	1981	1934	1981	1942	1941	1926	1930	1981	1930

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR
ANNUAL TOTAL	191846	60755				
ANNUAL MEAN	526	166				
HIGHEST ANNUAL MEAN			374		836	1901
LOWEST ANNUAL MEAN					113	1981
HIGHEST DAILY MEAN	8810	Mar 21	2830	Sep 6	18200	Aug 15 1940
LOWEST DAILY MEAN	52	Oct 3	35	Aug 19	19	Aug 29 1981
ANNUAL SEVEN-DAY MINIMUM	58	Sep 11	42	Aug 13	22	Aug 24 1981
INSTANTANEOUS PEAK FLOW			3600	Sep 6	32300	Nov 4 1985
INSTANTANEOUS PEAK STAGE			5.97	Sep 6	a23.35	Nov 4 1985
INSTANTANEOUS LOW FLOW			29	Aug 13	(b)	cDec 23 1909
ANNUAL RUNOFF (CFSM)	1.33		.42		.95	
ANNUAL RUNOFF (INCHES)	18.07		5.72		12.86	
10 PERCENT EXCEEDS	1150		307		755	
50 PERCENT EXCEEDS	171		110		210	
90 PERCENT EXCEEDS	67		62		75	

- a From floodmark.
- b Practically no flow; retarded by freezing.
- c Also Dec. 19, 1963.
- e Estimated.

