

## BUFFALO CREEK BASIN

## 03049000 BUFFALO CREEK NEAR FREEPORT, PA

**LOCATION.**--Lat 40°42'57", long 79°41'59", Butler County, Hydrologic Unit 05010009, on right bank 0.6 mi upstream from Little Buffalo Creek, 1.6 mi downstream of bridge on SR 3023, and 3 mi north of Freeport.

**DRAINAGE AREA.**--137 mi<sup>2</sup>.

**PERIOD OF RECORD.**--October 1940 to current year. Monthly discharge only for October 1940, published in WSP 1305.

**GAGE.**--Water-stage recorder. Elevation of gage is 792 ft above sea level, by barometer. Prior to July 19, 1962, nonrecording gage at same site and datum.

**REMARKS.**--Records good except those for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year.

**PEAK DISCHARGES FOR CURRENT YEAR.**--Peak discharges greater than a base discharge of 2,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge ft <sup>3</sup> /s	Gage Height (ft)	Date	Time	Discharge ft <sup>3</sup> /s	Gage Height (ft)
Jan. 24	0215	*2,710	a5.57	No other peak greater than base discharge.			

a Maximum gage height, 7.04 ft, Jan. 18 (backwater from ice).

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	7.8	13	15	e37	209	455	95	140	96	20	16	9.4
2	7.8	12	15	e35	606	341	100	124	104	240	22	8.5
3	9.0	12	16	e38	512	430	89	111	99	97	14	7.8
4	22	13	15	e42	408	619	103	99	78	43	11	7.2
5	25	12	15	e42	346	447	274	91	63	31	9.9	7.2
6	16	12	16	e40	284	430	204	85	54	24	9.2	8.4
7	13	13	17	e39	267	395	179	78	48	20	8.3	9.4
8	89	12	17	e42	474	312	154	80	50	17	12	8.2
9	72	9.3	17	e50	354	277	705	85	41	16	29	9.1
10	30	11	18	e66	294	250	1160	67	36	26	16	8.1
11	22	20	17	e80	248	216	766	58	32	30	11	6.8
12	17	26	17	e105	240	198	619	53	29	19	9.4	5.1
13	15	18	17	e130	230	183	446	53	27	15	14	5.4
14	14	13	16	e110	186	184	362	54	26	14	24	5.6
15	13	11	15	e95	176	181	302	47	29	14	17	4.8
16	12	11	15	e88	178	206	304	42	27	14	13	5.3
17	12	10	19	e120	178	314	314	38	24	13	11	5.9
18	12	9.0	20	e170	170	553	272	93	25	13	9.1	5.4
19	15	8.7	24	e150	150	425	249	966	23	12	7.6	4.8
20	21	9.8	25	e120	134	328	272	354	22	12	7.2	5.3
21	17	12	30	e110	119	292	272	228	20	10	7.0	6.7
22	15	16	358	e330	105	277	430	179	19	13	7.0	7.7
23	15	13	158	e700	121	226	462	261	18	22	7.2	9.6
24	15	11	e94	2210	e100	197	450	331	19	16	8.6	7.7
25	14	11	e80	1030	e80	171	367	492	18	14	14	6.5
26	14	14	e62	602	e77	148	315	333	17	12	59	6.3
27	13	20	e54	441	e76	136	268	254	18	11	82	6.1
28	13	22	e50	521	e200	125	224	196	22	10	29	6.2
29	12	18	e48	447	---	114	188	154	28	27	19	20
30	13	16	e42	322	---	100	157	127	25	37	14	66
31	12	---	e40	245	---	91	---	105	---	17	11	---
TOTAL	597.6	408.8	1362	8557	6522	8621	10102	5378	1137	879	528.5	280.5
MEAN	19.3	13.6	43.9	276	233	278	337	173	37.9	28.4	17.0	9.35
MAX	89	26	358	2210	606	619	1160	966	104	240	82	66
MIN	7.8	8.7	15	35	76	91	89	38	17	10	7.0	4.8
CFSM	.14	.10	.32	2.01	1.70	2.03	2.46	1.27	.28	.21	.12	.07
IN.	.16	.11	.37	2.32	1.77	2.34	2.74	1.46	.31	.24	.14	.08

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1999, BY WATER YEAR (WY)

MEAN	70.8	138	243	261	317	403	315	222	134	82.3	64.4	55.2
MAX	571	720	625	821	861	964	704	525	732	522	511	287
(WY)	1955	1986	1991	1952	1956	1945	1957	1952	1972	1990	1984	1975
MIN	3.63	5.61	7.15	29.3	70.7	49.2	84.9	44.7	20.8	7.75	4.92	5.82
(WY)	1961	1961	1961	1977	1993	1969	1946	1941	1991	1966	1957	1946

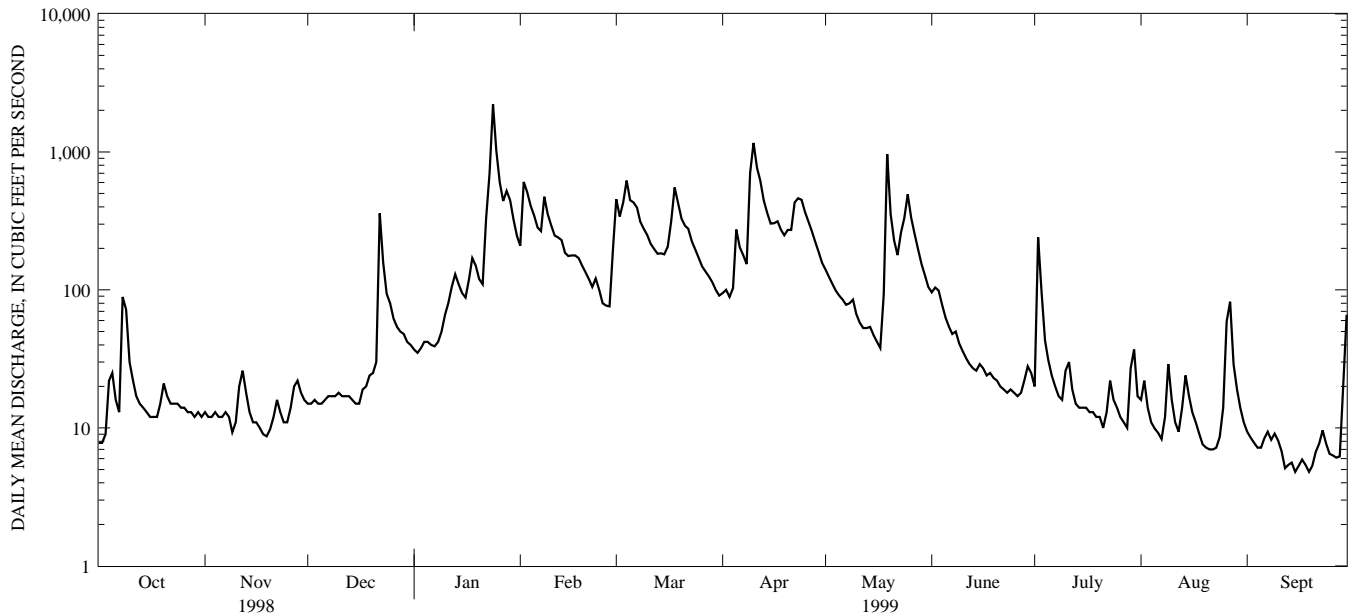
e Estimated.

BUFFALO CREEK BASIN

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SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1941 - 1999	
ANNUAL TOTAL	47941.3		44373.4		191	
ANNUAL MEAN	131		122		312	
HIGHEST ANNUAL MEAN					1956	
LOWEST ANNUAL MEAN					1999	
HIGHEST DAILY MEAN	2190	Jan 8	2210	Jan 24	7710	Jun 23 1972
LOWEST DAILY MEAN	6.1	Aug 23	4.8	Sep 15,19	1.3	Oct 16 1960
ANNUAL SEVEN-DAY MINIMUM	7.7	Aug 17	5.3	Sep 14	1.7	Oct 13 1960
INSTANTANEOUS PEAK FLOW			2710	Jan 24	b14000	Oct 15 1954
INSTANTANEOUS PEAK STAGE			a5.57	Jan 24	c13.60	Oct 15 1954
INSTANTANEOUS LOW FLOW			4.8	Sep 12d	f1.3	Oct 16 1960
ANNUAL RUNOFF (CFSM)	.96		.89		1.40	
ANNUAL RUNOFF (INCHES)	13.02		12.05		18.99	
10 PERCENT EXCEEDS	309		336		460	
50 PERCENT EXCEEDS	45		30		94	
90 PERCENT EXCEEDS	9.8		9.1		12	

- a Maximum gage height, 7.04 ft, Jan. 18 (backwater from ice).
- b From rating curve extended above 4,300 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow.
- c From floodmarks.
- d Also Sept. 15, 16, 19, 20.
- f Minimum observed.



1-YEAR HYDROGRAPH  
OCTOBER 1, 1998 TO SEPTEMBER 30, 1999