

Annual Peak-Flow Frequency Analysis

For more information on the contents of this documentation, see Kessler and others (2013).

Streamgauge number and name:

05476900 Fourmile Creek near Dunnell, Minn.

Peak-flow information:

Number of systematic peak flows in record	41
Systematic period begins	1960
Systematic period ends	2000
Length of systematic record	41
Years without information	0
Number of historical peak flows in record	0

Frequency analysis options:

Method	Bulletin 17B
Skew option	Weighted
Generalized skew	-0.155
Standard error of generalized skew	0.426
Low-outlier method	Bulletin 17B Grubbs-Beck test

Bulletin 17B systematic record analysis results:

Moments of the common logarithms of the peak flows:

	Mean	Standard deviation	Skewness
	2.3101	0.4409	0.118

Outlier criteria and number of peak flows exceeding:

Low	13.3	0
High	3141.7	0

Bulletin 17B Final analysis results:

Moments of the common logarithms of the peak flows:

	Standard	
Mean	deviation	Skewness
2.3101	0.4409	0.003

Annual frequency curve at selected exceedance probabilities:

[WIE, Weighted independent estimate; --, not computed]

Exceedance probability	Peak estimate	Lower-95 level	Upper 95 level	WIE estimate	Lower-95 WIE level	Upper 95 WIE level
0.9950	15.0	7.8	24.0	--	--	--
0.9900	19.3	10.5	29.9	--	--	--
0.9500	38.5	24.0	54.9	--	--	--
0.9000	55.6	37.0	76.4	--	--	--
0.8000	86.9	61.8	115.0	--	--	--
0.6667	132.0	98.3	172.0	--	--	--
0.5000	204.0	157.0	266.0	208	153	282
0.4292	245.0	188.0	322.0	--	--	--
0.2000	480.0	362.0	675.0	485	348	675
0.1000	750.0	546.0	1,130.0	749	515	1,090
0.0400	1,210.0	837.0	1,980.0	1,180	753	1,830
0.0200	1,650.0	1,100.0	2,860.0	1,560	939	2,590
0.0100	2,170.0	1,400.0	3,980.0	2,000	1,140	3,520
0.0050	2,800.0	1,740.0	5,400.0	--	--	--
0.0020	3,810.0	2,280.0	7,820.0	3,240	1,590	6,600

Peak-flow data used in the analysis:

Explanation of symbols and codes

-- none

Water	Peak	Peak-flow	Water	Peak	Peak-flow
year	flow	code	year	flow	code
1960	705	--	1981	325	--
1961	760	--	1982	160	--
1962	2,200	--	1983	850	--
1963	66	--	1984	350	--
1964	86	--	1985	195	--
1965	370	--	1986	250	--
1966	150	--	1987	48	--
1967	111	--	1988	37	--
1968	690	--	1989	52	--
1969	1,420	--	1990	285	--
1970	345	--	1991	400	--
1971	345	--	1992	320	--
1972	111	--	1993	980	--
1973	123	--	1994	145	--
1974	215	--	1995	81	--
1975	199	--	1996	48	--
1976	189	--	1997	117	--
1977	20	--	1998	124	--
1978	128	--	1999	284	--
1979	410	--	2000	122	--
1980	132	--			