

Annual Peak-Flow Frequency Analysis

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

Streamgauge number and name:

05107000 Pine Creek near Pine Creek, Minn.

Peak-flow information:

Number of systematic peak flows in record	25
Systematic period begins	1929
Systematic period ends	1953
Length of systematic record	25
Years without information	0
Number of historical peak flows in record	0

Frequency analysis options:

Method	Bulletin 17B
Skew option	Weighted
Generalized skew	-0.505
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
	2.4308	0.3453	-0.838

Outlier criteria and number of peak flows exceeding:

Low	37.4	0
High	1946.1	0

Bulletin 17B Final analysis results:

Moments of the common logarithms of the peak flows:

	Standard		
Mean	deviation	Skewness	
2.4308	0.3453	-0.635	

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	21.8	9.4	37.3	--	--	--
0.9900	29.6	14.0	48.1	--	--	--
0.9500	64.2	37.6	92.5	--	--	--
0.9000	93.6	60.2	128.0	--	--	--
0.8000	143.0	101.0	188.0	--	--	--
0.6667	206.0	154.0	268.0	--	--	--
0.5000	293.0	225.0	386.0	285	213	383
0.4292	336.0	259.0	448.0	--	--	--
0.2000	533.0	404.0	764.0	541	409	716
0.1000	697.0	515.0	1,060.0	724	535	979
0.0400	899.0	644.0	1,450.0	964	677	1,370
0.0200	1,040.0	732.0	1,740.0	1,150	767	1,720
0.0100	1,180.0	813.0	2,030.0	1,340	849	2,120
0.0050	1,310.0	888.0	2,320.0	--	--	--
0.0020	1,460.0	979.0	2,680.0	1,810	1,010	3,250

Peak-flow data used in the analysis:

Explanation of symbols and codes

-- none

Water	Peak	Peak-flow
year	flow	code
1929	115	--
1930	449	--
1931	229	--
1932	256	--
1933	500	--
1934	70	--
1935	144	--
1936	516	--
1937	488	--
1938	362	--
1939	49	--
1940	59	--
1941	706	--
1942	464	--
1943	398	--
1944	273	--
1945	534	--
1946	265	--
1947	590	--
1948	590	--
1949	384	--
1950	632	--
1951	272	--
1952	98	--
1953	129	--