

Annual Peak-Flow Frequency Analysis

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

Streamgauge number and name:

05284600 Robinson Brook near Onamia, Minn.

Peak-flow information:

Number of systematic peak flows in record	26
Systematic period begins	1960
Systematic period ends	1985
Length of systematic record	26
Years without information	0
Number of historical peak flows in record	0

Frequency analysis options:

Method	Expected moments algorithm (EMA)
Skew option	Weighted
Generalized skew	-0.27
Standard error of generalized skew	0.4266
Low-outlier method	Single Grubbs-Beck test

EMA systematic record analysis results:

Moments of the common logarithms of the peak flows:

	Standard	
Mean	deviation	Skewness
1.9155	0.3840	-0.905

Low-outlier information:

Number of low outliers	0
Low-outlier threshold	10

Final analysis results:

Moments of the common logarithms of the peak flows:

	Standard	
Mean	deviation	Skewness
1.9155	0.3840	-0.553

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	5.36	0.38	12.1	--	--	--
0.9900	7.41	0.73	15.3	--	--	--
0.9500	17.00	3.70	28.7	--	--	--
0.9000	25.50	9.00	40.2	--	--	--
0.8000	40.40	20.70	60.0	--	--	--
0.6667	60.40	37.10	86.5	--	--	--
0.5000	89.30	60.10	126.0	86.9	64.1	118
0.4292	104.00	71.50	147.0	--	--	--
0.2000	176.00	125.00	258.0	172.0	127.0	234
0.1000	240.00	171.00	382.0	237.0	171.0	329
0.0400	323.00	225.00	599.0	325.0	222.0	475
0.0200	386.00	260.00	808.0	394.0	256.0	604
0.0100	448.00	289.00	1,060.0	467.0	288.0	755
0.0050	509.00	312.00	1,370.0	--	--	--
0.0020	588.00	336.00	1,890.0	653.0	359.0	1,190

Peak-flow data used in the analysis:

Explanation of symbols and codes

-- none

Water	Peak	Peak-flow
year	flow	code
1960	36	--
1961	10	--
1962	140	--
1963	232	--
1964	96	--
1965	130	--
1966	123	--
1967	162	--
1968	62	--
1969	138	--
1970	119	--
1971	116	--
1972	458	--
1973	42	--
1974	38	--
1975	186	--
1976	76	--
1977	10	--
1978	72	--
1979	95	--
1980	22	--
1981	74	--
1982	73	--
1983	113	--
1984	122	--
1985	160	--