

Annual Peak-Flow Frequency Analysis

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

**Streamgauge number and name:**

04015475 Partridge River above Colby Lake at Hoyt Lakes, Minn.

**Peak-flow information:**

Number of systematic peak flows in record	10
Systematic period begins	1979
Systematic period ends	1988
Length of systematic record	10
Years without information	0
Number of historical peak flows in record	0

**Frequency analysis options:**

Method	Bulletin 17B
Skew option	Weighted
Generalized skew	0.124
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:**

	Standard	
Mean	deviation	Skewness
2.8311	0.2058	1.086

**Outlier criteria and number of peak flows exceeding:**

Low	258.3	0
High	1778.8	1

**Bulletin 17B Final analysis results:**

**Moments of the common logarithms of the peak flows:**

	Standard	
Mean	deviation	Skewness
2.8311	0.2058	0.337

**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	232	110	336	--	--	--
0.9900	253	126	359	--	--	--
0.9500	326	187	440	--	--	--
0.9000	377	232	496	--	--	--
0.8000	452	304	583	--	--	--
0.6667	541	391	693	--	--	--
0.5000	660	503	859	665	505	876
0.4292	719	555	950	--	--	--
0.2000	1,000	777	1,480	1,010	720	1,420
0.1000	1,260	954	2,080	1,280	858	1,920
0.0400	1,640	1,180	3,100	1,660	1,020	2,700
0.0200	1,950	1,350	4,080	1,950	1,120	3,400
0.0100	2,290	1,530	5,270	2,280	1,230	4,230
0.0050	2,670	1,720	6,710	--	--	--
0.0020	3,220	1,980	9,070	3,090	1,440	6,610

**Peak-flow data used in the analysis:**

Explanation of symbols and codes

-- none

Water year	Peak flow	Peak-flow code
1979	2,020	--
1980	314	--
1981	613	--
1982	609	--
1983	779	--
1984	617	--
1985	644	--
1986	639	--
1987	892	--
1988	490	--