

Annual Peak-Flow Frequency Analysis

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

Streamgauge number and name:

04020480 North Branch Whiteface River near Fairbanks, Minn.

Peak-flow information:

Number of systematic peak flows in record	33
Systematic period begins	1979
Systematic period ends	2011
Length of systematic record	33
Years without information	0
Number of historical peak flows in record	0

Frequency analysis options:

Method	Bulletin 17B
Skew option	Weighted
Generalized skew	0.159
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
	2.1691	0.2603	0.002

Outlier criteria and number of peak flows exceeding:

Low	31.0	0
High	702.9	0

Bulletin 17B Final analysis results:

Moments of the common logarithms of the peak flows:

	Standard		
Mean	deviation	Skewness	
2.1691	0.2603	0.074	

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	32.9	21.3	44.4	--	--	--
0.9900	37.8	25.3	50.1	--	--	--
0.9500	55.8	40.7	70.2	--	--	--
0.9000	68.8	52.3	84.6	--	--	--
0.8000	88.9	70.8	107.0	--	--	--
0.6667	113.0	93.2	135.0	--	--	--
0.5000	146.0	123.0	175.0	155	126	189
0.4292	163.0	137.0	196.0	--	--	--
0.2000	244.0	203.0	306.0	259	205	326
0.1000	320.0	260.0	421.0	345	264	450
0.0400	428.0	336.0	598.0	472	340	657
0.0200	518.0	397.0	754.0	582	399	850
0.0100	615.0	460.0	932.0	703	457	1,080
0.0050	720.0	527.0	1,130.0	--	--	--
0.0020	874.0	621.0	1,440.0	1,030	597	1,790

Peak-flow data used in the analysis:

Explanation of symbols and codes

-- none

Water	Peak	Peak-flow
year	flow	code
1979	660	--
1980	52	--
1981	370	--
1982	205	--
1983	125	--
1984	100	--
1985	157	--
1986	113	--
1987	288	--
1988	100	--
1989	215	--
1990	228	--
1991	94	--
1992	230	--
1993	215	--
1994	295	--
1995	73	--
1996	210	--
1997	81	--
1998	105	--
1999	235	--
2000	130	--
2001	290	--
2002	102	--
2003	35	--
2004	144	--
2005	132	--
2006	175	--
2007	161	--
2008	208	--
2009	110	--
2010	68	--
2011	99	--