

Annual Peak-Flow Frequency Analysis

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

Streamgauge number and name:

05301200 Minnesota River tributary near Montevideo, Minn.

Peak-flow information:

Number of systematic peak flows in record	16
Systematic period begins	1960
Systematic period ends	1975
Length of systematic record	16
Years without information	0
Number of historical peak flows in record	0

Frequency analysis options:

Method	Bulletin 17B
Skew option	Weighted
Generalized skew	-0.232
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
	0.8201	0.6879	-0.088

Outlier criteria and number of peak flows exceeding:

Low	0.2	0
High	244.3	0

Bulletin 17B Final analysis results:

Moments of the common logarithms of the peak flows:

	Standard		
Mean	deviation	Skewness	
0.8201	0.6879	-0.178	

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	0.1	0.0	0.3	--	--	--
0.9900	0.1	0.0	0.4	--	--	--
0.9500	0.5	0.1	1.1	--	--	--
0.9000	0.8	0.3	1.8	--	--	--
0.8000	1.8	0.7	3.5	--	--	--
0.6667	3.5	1.6	6.7	--	--	--
0.5000	6.9	3.5	13.8	6.58	3.51	12.3
0.4292	9.2	4.7	18.9	--	--	--
0.2000	25.4	12.8	65.5	19.10	10.20	35.8
0.1000	48.7	23.0	153.0	31.30	15.90	61.8
0.0400	95.7	40.9	381.0	51.00	23.70	110.0
0.0200	147.0	58.3	682.0	69.10	29.70	161.0
0.0100	214.0	79.3	1,150.0	89.80	35.60	226.0
0.0050	300.0	104.0	1,830.0	--	--	--
0.0020	448.0	144.0	3,210.0	148.00	48.50	450.0

Peak-flow data used in the analysis:

Explanation of symbols and codes

-- none

Water	Peak	Peak-flow
year	flow	code
1960	21.0	--
1961	0.8	--
1962	31.0	--
1963	4.1	--
1964	1.6	--
1965	50.0	--
1966	1.2	--
1967	2.0	--
1968	1.0	--
1969	30.0	--
1970	58.0	--
1971	18.0	--
1972	16.0	--
1973	23.0	--
1974	0.8	--
1975	3.5	--