Annual Peak-Flow Frequency Analysis

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

Streamgage number and name:
    05128300 Pike River near Gilbert, Minn.

Peak-flow information:

Number of systematic peak flows in record	16
Systematic period begins	1966
Systematic period ends	1981
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	0.07
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
1.3663	0.2586	0.580

Outlier criteria and number of peak flows exceeding:

Low	6.0	0
High	90.3	0

Bulletin 17B Final analysis results:

Moments of the common logarithms of the peak flows:

Mean	Standard deviation	Skewness
1.3663	0.2586	0.242

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	5.7	2.9	8.5	−−	−−	−−
0.9900	6.5	3.5	9.3	−−	−−	−−
0.9500	9.1	5.6	12.4	−−	−−	−−
0.9000	11.0	7.2	14.6	−−	−−	−−
0.8000	14.0	9.8	18.1	−−	−−	−−
0.6667	17.6	13.1	22.6	−−	−−	−−
0.5000	22.7	17.5	29.3	23.7	18.1	31.0
0.4292	25.2	19.7	33.0	−−	−−	−−
0.2000	38.0	29.5	54.1	40.8	29.5	56.3
0.1000	50.5	38.0	78.5	55.5	38.1	80.8
0.0400	69.1	49.5	120.0	78.3	49.9	123.0
0.0200	85.1	58.8	160.0	98.7	59.5	164.0
0.0100	103.0	68.6	208.0	122.0	69.1	214.0
0.0050	123.0	79.2	267.0	−−	−−	−−
0.0020	154.0	94.4	364.0	186.0	93.6	371.0

Peak-flow data used in the analysis:

Explanation of symbols and codes

−−   none

Water year	Peak flow	Peak-flow code
1966	13.0	−−
1967	14.0	−−
1968	34.0	−−
1969	24.0	−−
1970	16.0	−−
1971	33.0	−−
1972	37.0	−−
1973	21.0	−−
1974	50.0	−−
1975	16.0	−−
1976	11.0	−−
1977	20.0	−−
1978	89.0	−−
1979	36.0	−−
1980	9.6	−−
1981	22.0	−−