

Annual Peak-Flow Frequency Analysis

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

Streamgauge number and name:

06603520 Judicial Ditch Number 28 tributary near Spafford, Minn.

Peak-flow information:

Number of systematic peak flows in record	14
Systematic period begins	1959
Systematic period ends	1972
Length of systematic record	14
Years without information	0
Number of historical peak flows in record	0

Frequency analysis options:

Method	Bulletin 17B
Skew option	Weighted
Generalized skew	-0.177
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
	1.6661	0.4470	0.480

Outlier criteria and number of peak flows exceeding:

Low	4.8	0
High	452.1	0

Bulletin 17B Final analysis results:

Moments of the common logarithms of the peak flows:

	Standard		
Mean	deviation	Skewness	
1.6661	0.4470	0.032	

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	3.4	0.9	7.2	--	--	--
0.9900	4.3	1.2	8.8	--	--	--
0.9500	8.6	3.3	15.3	--	--	--
0.9000	12.4	5.4	20.9	--	--	--
0.8000	19.5	9.9	31.2	--	--	--
0.6667	29.6	17.0	46.6	--	--	--
0.5000	46.1	28.6	74.3	49.2	30.6	79
0.4292	55.4	34.9	91.6	--	--	--
0.2000	110.0	68.8	215.0	116.0	70.4	191
0.1000	174.0	103.0	398.0	179.0	104.0	308
0.0400	284.0	156.0	788.0	280.0	153.0	512
0.0200	391.0	203.0	1,240.0	370.0	191.0	720
0.0100	521.0	255.0	1,860.0	475.0	232.0	969
0.0050	678.0	315.0	2,720.0	--	--	--
0.0020	934.0	406.0	4,320.0	767.0	327.0	1,800

Peak-flow data used in the analysis:

Explanation of symbols and codes

-- none

Water	Peak	Peak-flow
year	flow	code
1959	149	--
1960	90	--
1961	39	--
1962	50	--
1963	14	--
1964	10	--
1965	128	--
1966	25	--
1967	42	--
1968	16	--
1969	400	--
1970	21	--
1971	80	--
1972	40	--