

IOWA NATURAL RESOURCES COUNCIL

Bulletin No. 14

FLOOD-VOLUME DATA

FOR

IOWA STREAMS

by

**OSCAR G. LARA
Hydrologist
U.S. Geological Survey**

**Prepared by the
U.S. Geological Survey
in cooperation with
The Iowa Natural Resources Council**

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CONTENTS

ABSTRACT	1
INTRODUCTION	2
EXPLANATION OF DATA.	3
Basic Data.	3
Annual Highest Mean Discharges.	3
Frequency Curves.	5
Presentation and arrangement of data.	6
FACTORS FOR CONVERTING ENGLISH UNITS TO INTERNATIONAL SYSTEM UNITS.	8
HIGH FLOW DURATION AND FREQUENCY DATA.	9
INDEX OF STATION NAMES	45

TABLES

- TABLE 1.--Annual highest mean discharge for Upper Iowa
River at Decorah, Iowa
- 2.--Highest mean discharge for indicated period
and recurrence interval, for Upper Iowa River
at Decorah, Iowa

FLOOD-VOLUME DATA FOR IOWA STREAMS

by Oscar G. Lara

ABSTRACT

This report presents statistical data of flood-volumes for 97 recording gaging stations in Iowa.

Data included in the tables are the magnitude and frequency of occurrence of maximum annual average flows, and the corresponding volumes, for selected periods ranging from 1 to 183 consecutive days. The tables also include the elevation of the water-surface corresponding to the listed discharges.

INTRODUCTION

In the planning and design stages of flood control structures, navigation, irrigation, recreation, domestic uses, etc., information is needed on the volume of run-off to be expected at specific locations during periods of time ranging from one day to several months.

The advantage of relating high volume flows to frequency of occurrence is apparent. Just as the bridge engineer may wish to design for a 100-year flood rather than for the maximum flood in record; so may the designer of a reservoir wish to design for a volume with a 50-year recurrence interval rather than for the maximum volume in record.

It is the primary purpose of this report to supply flood flow duration and frequency data to planners, designers and regulatory agencies in Iowa.

The scope of this report is limited to the compilation of high volume data at recording gaging stations in Iowa. The basic data has been collected by the U.S. Geological Survey in cooperation with state and federal agencies.

The report has been prepared in accordance with a cooperative agreement between the Iowa Natural Resources Council and the U.S. Geological Survey.

EXPLANATION OF DATA

Basic Data

Basic data for this report have been compiled from daily streamflow data collected at gaging stations in Iowa.

It should not be assumed that the data in this report include all the streamflow data that have been collected in Iowa. The stations listed are those that met the following criteria:

- a. Ten or more years of daily discharge record.
- b. Flood data not significantly affected by regulation.
- c. Acceptable definition of stage discharge relation.

Annual Highest Mean Discharges

The fundamental data required for high flow frequency analysis are the annual, maximum average flows in cubic feet per second for selected periods of consecutive days. The periods selected for this report are 1, 3, 7, 15, 30, 60, 120 and 183 days. The highest mean discharges are obtained by searching the record for the highest total discharge corresponding to a selected period and dividing the total by the number of consecutive days in the period. A sample of the results from these computations for Upper Iowa River at Decorah, Iowa, is shown in table 1.

Table 1.--Annual highest mean discharges, in cubic feet per second,
for Upper Iowa River at Decorah, Iowa

Year	Number of Consecutive Days							
	1	3	7	15	30	60	120	183
1952	7,900	6,240	3,630	2,220	1,610	1,080	680	508
1953	8,550	7,540	4,420	3,000	1,770	1,130	754	641
1954	9,600	6,800	3,630	1,890	1,070	707	496	386
1955	1,460	1,280	857	619	446	400	316	259
1956	4,350	3,340	2,500	1,600	898	565	380	291
1957	3,870	1,840	1,000	622	374	296	221	185
1958	1,100	967	637	385	249	212	147	134
1959	4,080	3,830	3,090	2,220	1,240	683	466	360
1960	2,660	2,230	1,330	880	758	640	542	443
1961	15,000	12,900	6,990	3,540	1,980	1,220	729	519
1962	9,500	7,910	4,310	2,970	1,960	1,160	764	717
1963	2,880	2,520	1,810	1,430	871	626	410	312
1964	1,960	1,430	817	471	303	264	195	153
1965	8,890	7,270	5,700	3,810	2,080	1,390	846	662
1966	8,550	5,240	2,610	1,330	983	830	548	488
1967	8,280	5,960	3,400	2,020	1,130	633	622	463
1968	2,380	1,640	1,100	691	445	403	305	237
1969	11,900	8,940	7,040	3,830	2,430	1,370	1,100	833
1970	1,040	720	609	480	432	391	330	278
1971	7,300	5,520	3,460	2,340	1,900	1,220	794	590

Frequency Curves

In compliance with the recommendations of the Water Resources Council Hydrology Committee, the log-Pearson type III distribution function was used to fit frequency curves to the discharge arrays for each period. From these frequency curves discharges corresponding to selected recurrence intervals were compiled to be tabulated in this report. A sample of the results of this phase of the computations, for Upper Iowa River at Decorah, Iowa, is shown in Table 2.

Table 2.--Highest mean discharge in cubic feet per second for indicated period and recurrence interval, for UPPER IOWA RIVER at DECORAH, IOWA.

Period in days	Recurrence interval in years				
	2	5	10	25	50
1	4,960	9,350	12,600	16,700	19,800
3	3,750	7,220	9,870	13,400	16,200
7	2,350	4,460	6,090	8,340	10,100
15	1,500	2,740	3,660	4,890	5,830
30	977	1,710	2,230	2,890	3,380
60	686	1,080	1,340	1,660	1,880
120	496	746	899	1,070	1,190
183	391	587	710	855	956

Presentation and Arrangement of Data

Data in this report are listed in the same downstream order used in Water Resources Data reports published by the U.S. Geological Survey. In this system records are listed in a downstream direction along the main stem, with all stations on a tributary entering above a main-stem station listed before that station.

The identification number of each station is indicated by the 8-digit number listed to the left of the stream name.

The tables include the following information for each gaging station:

1. Drainage area in square miles.
2. Datum of the gage, in feet above mean sea level.
3. Number of years of record.
4. Highest mean discharges of selected duration and recurrence interval. Discharges are given in cubic feet per second. Duration is measured in number of consecutive days, and the recurrence interval in years. Recurrence interval is an average interval of time within which a given event will be exceeded once.
5. Gage height or stage, in feet, is the average water-surface elevation referred to an arbitrary datum and which corresponds to the mean discharge explained above. Values for the gage height were determined from rating curves which relate discharge to stage. The gage height added to the datum of the gage gives the mean sea level elevation of the water surface at the gaging station.

6. Volume, in acre-feet. Volume is computed by multiplying the mean discharge times the number of days in the period times 1.983, which is a conversion constant.

To insure that all the discharge frequency data included in this report are of comparable reliability, the recurrence interval at each station was extended, taking into consideration the length of record.

Listed below are the recommended minimum number of years needed to define events of selected recurrence intervals.

Recurrence interval	10	20	50	100
Minimum years of record needed	10	15	20	25

These limits were established based on a study made by Hardison, C. H., 1969, Accuracy of Streamflow Characteristics. U.S. Geol. Survey Professional Paper 650-D, Pg. 210-212.

Factors for Converting English Units to
International System (SI) Units

The following factors may be used to convert the English units published in this report, to the International System of Units (SI).

<u>Multiply English units</u>	<u>By</u>	<u>To obtain SI units</u>
feet (ft)	0.3048	metres (m)
miles (mi)	1.609	kilometres (km)
acres	4,047	square metres (m ²)
square miles (mi ²)	2.590	square kilometres (km ²)
cubic feet (ft ³)	.02832	cubic metres (m ³)
acre-feet (acre-ft)	1,233	cubic metres (m ³)
cubic feet per second (ft ³ /s)	.02832	cubic metres per second (m ³ /sec)

**HIGH-FLOW DURATION AND FREQUENCY
DATA FOR
IOWA STREAMS**

HIGH FLOW DURATION AND FREQUENCY DATA FOR IOWA STREAMS: FLOOD VOLUME (IN ACRE-FEET) AND CORRESPONDING
MEAN DISCHARGE (IN CFS) AND GAGE HEIGHT (IN FEET) FOR INDICATED PERIOD IN DAYS AND RECURRENCE INTERVAL

RECURRENCE INTERVAL (YEARS)	PERIOD IN DAYS							
	1	3	7	15	30	60	120	183
05387500 UPPER IOWA RIVER AT DECORAH								
	DRAINAGE AREA.-- 511 SQ MI.		DATUM OF GAGE.-- 850.00 FT.		20 YEARS OF RECORD			
2	VOLUME	5,830	22,300	32,700	44,500	58,200	81,700	118,000
	DISCHARGE	4,960	3,750	2,350	1,500	977	686	496
	GAGE HEIGHT	8.6	7.8	6.8	6.0	5.5	5.1	4.8
5	VOLUME	18,500	43,000	61,900	81,500	102,000	129,000	178,000
	DISCHARGE	9,350	7,220	4,460	2,740	1,710	1,080	746
	GAGE HEIGHT	10.9 A	9.9	8.3	7.1	6.2	5.6	5.2
10	VOLUME	24,900	58,700	84,500	109,000	133,000	160,000	214,000
	DISCHARGE	12,600	9,870	6,090	3,660	2,230	1,340	899
	GAGE HEIGHT	12.1 A	11.1 A	9.3	7.8	6.7	5.9	5.4
25	VOLUME	33,200	79,900	116,000	146,000	172,000	197,000	255,000
	DISCHARGE	16,700	13,400	8,340	4,890	2,890	1,660	1,070
	GAGE HEIGHT	13.4 A	12.4 A	10.4 A	8.6	7.2	6.2	5.6
50	VOLUME	39,300	96,300	141,000	174,000	201,000	224,000	283,000
	DISCHARGE	19,800	16,200	10,100	5,830	3,380	1,880	1,190
	GAGE HEIGHT	14.5 A	13.2 A	11.2 A	9.2	7.6	6.4	5.7
05388000 UPPER IOWA RIVER NEAR DECORAH								
	DRAINAGE AREA.-- 568 SQ MI.		DATUM OF GAGE.-- 829.80 FT.		26 YEARS OF RECORD			
2	VOLUME	11,600	24,800	36,600	51,700	73,100	103,000	151,000
	DISCHARGE	5,860	4,170	2,630	1,740	1,230	862	635
	GAGE HEIGHT	8.3	6.8	5.2	4.1	3.4	2.8	2.4
5	VOLUME	17,000	35,900	51,900	74,400	105,000	141,000	209,000
	DISCHARGE	8,570	6,040	3,740	2,500	1,760	1,190	878
	GAGE HEIGHT	9.5	8.4	6.4	5.0	4.1	3.3	2.8
10	VOLUME	20,500	43,800	62,700	90,300	124,000	162,000	238,000
	DISCHARGE	10,400	7,350	4,520	3,030	2,080	1,360	1,000
	GAGE HEIGHT	10.2	9.1	7.2	5.6	4.5	3.6	3.1
25	VOLUME	25,000	54,100	76,900	111,000	147,000	182,000	267,000
	DISCHARGE	12,600	9,100	5,540	3,740	2,470	1,530	1,120
	GAGE HEIGHT	10.9	9.7	8.1	6.4	5.0	3.8	3.2
50	VOLUME	28,200	62,200	88,000	127,000	163,000	194,000	284,000
	DISCHARGE	14,200	10,500	6,340	4,280	2,740	1,630	1,190
	GAGE HEIGHT	11.4	10.2	8.5	7.0	5.3	4.0	3.3
100	VOLUME	31,400	70,600	99,400	144,000	178,000	204,000	297,000
	DISCHARGE	15,900	11,900	7,160	4,850	2,990	1,710	1,250
	GAGE HEIGHT	11.8	10.6	9.0	7.5	5.6	4.1	3.4
05388500 PAINT CREEK AT WATERVILLE								
	DRAINAGE AREA.-- 42.8 SQ MI.		DATUM OF GAGE.-- UNKNOWN FT.		19 YEARS OF RECORD			
2	VOLUME	1,140	1,840	2,310	2,810	3,500	4,680	6,460
	DISCHARGE	575	310	166	95	59	39	27
	GAGE HEIGHT	5.1	4.6	4.2	3.9	3.7	3.5	3.4
5	VOLUME	1,890	3,030	3,820	4,790	5,720	7,180	9,380
	DISCHARGE	952	509	275	161	96	60	39
	GAGE HEIGHT	5.9	5.0	4.5	4.2	3.9	3.7	3.5
10	VOLUME	2,420	3,900	4,990	6,370	7,360	8,900	11,100
	DISCHARGE	1,220	655	360	214	124	75	47
	GAGE HEIGHT	6.3	5.3	4.7	4.4	4.1	3.8	3.6
25	VOLUME	3,110	5,070	6,670	8,700	9,600	11,100	13,000
	DISCHARGE	1,570	852	480	292	161	93	55
	GAGE HEIGHT	6.9	5.7	4.9	4.6	4.2	3.9	3.6

A FROM RATING CURVE EXTENDED ABOVE 7400 CFS.

HIGH FLOW DURATION AND FREQUENCY DATA FOR IOWA STREAMS: FLOOD VOLUME (IN ACRE-FEET) AND CORRESPONDING MEAN DISCHARGE (IN CFS) AND GAGE HEIGHT (IN FEET) FOR INDICATED PERIOD IN DAYS AND RECURRENCE INTERVAL

RECURRENCE INTERVAL (YEARS)	PERIOD IN DAYS							
	1	3	7	15	30	60	120	183
05389000 YELLOW RIVER AT ION								
	DRAINAGE AREA.-- 221 SQ MI.		DATUM OF GAGE.-- 664.65 FT.			17 YEARS OF RECORD		
2	VOLUME	7,440	13,100	16,900	21,800	29,600	39,200	58,400
	DISCHARGE	3,750	2,200	1,220	732	498	330	245
	GAGE HEIGHT	6.9	5.6	4.6	4.0	3.5	3.1	2.8
5	VOLUME	11,000	17,900	22,700	30,600	42,100	53,500	82,300
	DISCHARGE	5,570	3,010	1,630	1,030	707	450	346
	GAGE HEIGHT	8.0	6.3	5.1	4.4	3.9	3.4	3.1
10	VOLUME	13,200	20,600	25,900	36,400	50,300	63,500	97,700
	DISCHARGE	6,630	3,470	1,870	1,220	846	533	410
	GAGE HEIGHT	8.5	6.6	5.3	4.7	4.1	3.6	3.3
25	VOLUME	15,500	23,600	29,500	43,600	60,700	76,600	116,000
	DISCHARGE	7,820	3,970	2,130	1,470	1,020	644	489
	GAGE HEIGHT	9.1	7.0	5.6	4.9	4.4	3.8	3.5
05411600 TURKEY RIVER AT SPILLVILLE								
	DRAINAGE AREA.-- 177 SQ MI.		DATUM OF GAGE.-- 1,034.77 FT.			15 YEARS OF RECORD		
2	VOLUME	3,630	7,060	10,400	14,200	19,000	27,500	38,600
	DISCHARGE	1,830	1,190	748	479	319	231	162
	GAGE HEIGHT	9.0	7.5	6.2	5.2	4.5	4.0	3.6
5	VOLUME	6,810	14,200	20,700	27,500	34,900	45,500	63,600
	DISCHARGE	3,430	2,380	1,490	923	587	382	267
	GAGE HEIGHT	11.8	10.1	8.3	6.8	5.6	4.8	4.2
10	VOLUME	9,320	20,400	29,900	38,100	47,000	57,400	80,200
	DISCHARGE	4,700	3,430	2,150	1,280	790	483	337
	GAGE HEIGHT	13.3	11.8	9.7	7.8	6.4	5.3	4.6
25	VOLUME	12,900	30,200	44,400	53,500	63,400	72,100	100,000
	DISCHARGE	6,490	5,070	3,200	1,800	1,070	606	422
	GAGE HEIGHT	15.1	13.7	11.4	9.0	7.2	5.7	5.0
05412000 TURKEY RIVER AT ELKADER								
	DRAINAGE AREA.-- 891 SQ MI.		DATUM OF GAGE.-- 701.61 FT.			10 YEARS OF RECORD		
2	VOLUME	14,100	33,800	55,100	90,100	126,000	180,000	244,000
	DISCHARGE	7,130	5,680	3,970	3,030	2,120	1,510	1,020
	GAGE HEIGHT	4.7	4.1	3.3	2.8	2.2	1.8	1.4
5	VOLUME	26,700	62,300	92,800	133,000	179,000	226,000	322,000
	DISCHARGE	13,500	10,500	6,690	4,460	3,010	1,900	1,350
	GAGE HEIGHT	6.8	6.0	4.6	3.6	2.8	2.1	1.7
10	VOLUME	37,200	84,800	119,000	152,000	199,000	235,000	346,000
	DISCHARGE	18,800	14,300	8,590	5,100	3,340	1,970	1,460
	GAGE HEIGHT	8.0	7.0	5.3	3.9	3.0	2.2	1.8

HIGH FLOW DURATION AND FREQUENCY DATA FOR IOWA STREAMS: FLOOD VOLUME (IN ACRE-FEET) AND CORRESPONDING MEAN DISCHARGE (IN CFS) AND GAGE HEIGHT (IN FEET) FOR INDICATED PERIOD IN DAYS AND RECURRENCE INTERVAL

RECURRENCE INTERVAL (YEARS)	PERIOD IN DAYS							
	1	3	7	15	30	60	120	183
05412500 TURKEY RIVER AT GARBER								
	DRAINAGE AREA.-- 1,545 SQ MI.			DATUM OF GAGE.-- 634.46 FT.			51 YEARS OF RECORD	
2	VOLUME	24,900	57,800	91,500	128,000	181,000	260,000	374,000
	DISCHARGE	12,600	9,710	6,590	4,300	3,040	2,180	1,570
	GAGE HEIGHT	19.2	17.2	14.6	12.3	10.8	9.6	8.5
5	VOLUME	35,600	85,300	134,000	190,000	263,000	367,000	537,000
	DISCHARGE	17,900	14,300	9,650	6,380	4,420	3,080	2,260
	GAGE HEIGHT	22.2 A	20.3	17.2	14.4	12.4	10.8	9.7
10	VOLUME	41,900	102,000	158,000	225,000	307,000	420,000	628,000
	DISCHARGE	21,100	17,100	11,400	7,550	5,150	3,530	2,640
	GAGE HEIGHT	23.5 A	21.8	18.4	15.5	13.2	11.4	10.2
25	VOLUME	49,100	120,000	184,000	262,000	350,000	472,000	725,000
	DISCHARGE	24,700	20,200	13,300	8,800	5,880	3,970	3,050
	GAGE HEIGHT	25.0 A	23.2 A	19.6	16.5	14.0	11.9	10.8
50	VOLUME	53,800	132,000	200,000	285,000	376,000	501,000	786,000
	DISCHARGE	27,100	22,200	14,400	9,590	6,320	4,210	3,300
	GAGE HEIGHT	25.9 A	24.0 A	20.3	17.1	14.4	12.2	11.1
100	VOLUME	58,100	143,000	214,000	305,000	397,000	525,000	838,000
	DISCHARGE	29,300	24,100	15,400	10,300	6,670	4,410	3,520
	GAGE HEIGHT	26.8 A	24.7 A	20.9	17.6	14.7	12.4	11.4
05414500 LITTLE MAQUOKETA RIVER NEAR DURANGO								
	DRAINAGE AREA.-- 130 SQ MI.			DATUM OF GAGE.-- 612.03 FT.			37 YEARS OF RECORD	
2	VOLUME	4,100	6,480	8,410	11,100	15,300	21,200	31,300
	DISCHARGE	2,070	1,090	606	374	258	178	131
	GAGE HEIGHT	9.2	7.2	5.8	5.0	4.5	4.1	3.9
5	VOLUME	7,110	11,000	14,100	19,100	26,200	35,300	49,300
	DISCHARGE	3,580	1,850	1,010	641	440	296	207
	GAGE HEIGHT	11.6	8.8	7.0	5.9	5.2	4.7	4.3
10	VOLUME	9,350	14,400	18,400	25,400	34,400	45,900	62,300
	DISCHARGE	4,710	2,410	1,320	853	578	386	262
	GAGE HEIGHT	12.9	9.8	7.7	6.5	5.7	5.0	4.5
25	VOLUME	12,400	18,800	24,500	34,500	46,000	60,800	79,900
	DISCHARGE	6,260	3,170	1,770	1,160	773	511	336
	GAGE HEIGHT	14.4	11.0	8.6	7.3	6.3	5.5	4.8
50	VOLUME	14,800	22,400	29,500	42,000	55,400	72,800	93,700
	DISCHARGE	7,480	3,760	2,130	1,410	932	612	394
	GAGE HEIGHT	15.4	11.8	9.3	7.9	6.8	5.8	5.1
100	VOLUME	17,400	26,000	35,000	50,300	65,500	85,700	108,000
	DISCHARGE	8,750	4,360	2,520	1,690	1,100	720	454
	GAGE HEIGHT	16.3	12.5	10.0	8.5	7.2	6.2	5.3
05417000 MAQUOKETA RIVER NEAR MANCHESTER								
	DRAINAGE AREA.-- 305 SQ MI.			DATUM OF GAGE.-- 895.06 FT.			38 YEARS OF RECORD	
2	VOLUME	7,550	14,300	19,900	26,600	38,100	54,400	79,100
	DISCHARGE	3,810	2,400	1,430	893	640	457	332
	GAGE HEIGHT	10.3	8.7	7.5	6.7	6.3	6.1	5.8
5	VOLUME	12,600	23,500	32,700	44,600	62,300	89,000	127,000
	DISCHARGE	6,380	3,560	2,360	1,500	1,050	748	533
	GAGE HEIGHT	12.7	10.5	8.7	7.6	7.0	6.5	6.2
10	VOLUME	15,800	29,400	40,700	56,300	77,100	111,000	156,000
	DISCHARGE	7,980	4,940	2,930	1,890	1,300	930	656
	GAGE HEIGHT	14.0	11.4	9.4	8.1	7.3	6.8	6.4
25	VOLUME	19,400	36,100	49,800	70,200	93,600	135,000	189,000
	DISCHARGE	9,800	6,060	3,590	2,360	1,570	1,140	795
	GAGE HEIGHT	15.3	12.4	10.1	8.7	7.7	7.1	6.6
50	VOLUME	21,800	40,500	55,800	79,800	104,000	152,000	211,000
	DISCHARGE	11,000	6,810	4,020	2,680	1,750	1,280	888
	GAGE HEIGHT	16.1	13.1	10.6	9.1	7.9	7.3	6.7
100	VOLUME	24,000	44,600	61,200	88,600	114,000	167,000	231,000
	DISCHARGE	12,100	7,490	4,410	2,980	1,910	1,400	971
	GAGE HEIGHT	16.9	13.6	11.0	9.4	8.1	7.5	6.9

A FROM RATING CURVE EXTENDED ABOVE 17500 CFS.

HIGH FLOW DURATION AND FREQUENCY DATA FOR IOWA STREAMS: FLOOD VOLUME (IN ACRE-FEET) AND CORRESPONDING MEAN DISCHARGE (IN CFS) AND GAGE HEIGHT (IN FEET) FOR INDICATED PERIOD IN DAYS AND RECURRENCE INTERVAL

RECURRENCE INTERVAL (YEARS)	PERIOD IN DAYS							
	1	3	7	15	30	60	120	183
05417700 BEAR CREEK NEAR MONMOUTH								
	DRAINAGE AREA.-- 61.3 SQ MI.		DATUM OF GAGE.-- 728.80 FT.			14 YEARS OF RECORD		
2	VOLUME	1,950	3,120	3,940	5,280	7,470	10,400	14,500
	DISCHARGE	981	524	284	178	126	87	61
	GAGE HEIGHT	8.2	7.1	6.4	6.1	5.9	5.7	5.6
5	VOLUME	3,630	5,860	7,340	9,530	13,500	17,500	23,400
	DISCHARGE	1,830	985	529	320	227	147	98
	GAGE HEIGHT	9.9	8.2	7.1	6.5	6.3	6.0	5.8
10	VOLUME	4,780	7,960	9,930	12,600	17,700	22,000	29,300
	DISCHARGE	2,410	1,340	715	424	297	185	123
	GAGE HEIGHT	10.7	9.0	7.5	6.8	6.5	6.1	5.9
05418500 MAQUOKETA RIVER NEAR MAQUOKETA								
	DRAINAGE AREA.-- 1,533 SQ MI.		DATUM OF GAGE.-- 636.52 FT.			58 YEARS OF RECORD		
2	VOLUME	25,600	56,500	83,000	115,000	158,000	229,000	355,000
	DISCHARGE	12,900	9,500	5,980	3,860	2,650	1,920	1,490
	GAGE HEIGHT	24.5	22.2	18.9	16.5	14.8	13.7	13.0
5	VOLUME	41,400	89,800	125,000	171,000	235,000	339,000	504,000
	DISCHARGE	20,900	15,100	8,990	5,760	3,940	2,850	2,120
	GAGE HEIGHT	28.0	25.6	21.7	18.7	16.6	15.1	14.0
10	VOLUME	52,400	113,000	152,000	209,000	284,000	409,000	591,000
	DISCHARGE	26,400	18,900	10,900	7,030	4,780	3,440	2,480
	GAGE HEIGHT	29.7	27.2	23.2	20.0	17.6	16.0	14.6
25	VOLUME	66,500	142,000	185,000	256,000	344,000	493,000	689,000
	DISCHARGE	33,500	23,800	13,300	8,600	5,790	4,140	2,890
	GAGE HEIGHT	31.5	28.9	24.7	21.4	18.7	16.9	15.2
50	VOLUME	76,900	163,000	209,000	290,000	387,000	552,000	753,000
	DISCHARGE	38,800	27,500	15,000	9,740	6,510	4,640	3,170
	GAGE HEIGHT	32.7	30.0	25.6	22.3	19.5	17.4	15.6
100	VOLUME	87,400	185,000	231,000	323,000	428,000	609,000	812,000
	DISCHARGE	44,100	31,100	16,700	10,900	7,190	5,120	3,410
	GAGE HEIGHT	33.9	30.9	26.3	23.2	20.2	18.0	15.9
05420560 WAPSIPINICON RIVER NEAR ELMA								
	DRAINAGE AREA.-- 95.2 SQ MI.		DATUM OF GAGE.-- 1130.36 FT.			13 YEARS OF RECORD		
2	VOLUME	2,810	5,800	8,570	10,900	13,800	17,800	23,400
	DISCHARGE	1,420	975	618	366	232	150	98
	GAGE HEIGHT	12.5	11.7	10.4	8.8	7.5	6.4	5.6
5	VOLUME	5,660	11,000	16,500	20,000	23,700	26,800	34,600
	DISCHARGE	2,860	1,840	1,190	673	398	225	145
	GAGE HEIGHT	13.4	12.8	12.1	10.7	9.0	7.4	6.4
10	VOLUME	8,040	14,700	22,300	26,400	30,000	32,200	41,300
	DISCHARGE	4,050	2,480	1,610	886	504	271	173
	GAGE HEIGHT	13.9	13.2	12.6	11.5	9.8	8.0	6.8

HIGH FLOW DURATION AND FREQUENCY DATA FOR IOWA STREAMS: FLOOD VOLUME (IN ACRE-Feet) AND CORRESPONDING MEAN DISCHARGE (IN CFS) AND GAGE HEIGHT (IN FEET) FOR INDICATED PERIOD IN DAYS AND RECURRENCE INTERVAL

RECURRENCE INTERVAL (YEARS)	PERIOD IN DAYS							
	1	3	7	15	30	60	120	183
05421000 WAPSIPINICON RIVER AT INDEPENDENCE								
	DRAINAGE AREA.-- 1,048 SQ MI.		DATUM OF GAGE.-- 882.85 FT.			38 YEARS OF RECORD		
2	VOLUME	11,900	30,300	55,000	84,000	122,000	176,000	252,000
	DISCHARGE	5,980	5,090	3,960	2,820	2,050	1,480	1,060
	GAGE HEIGHT	9.8	9.1	8.2	7.4	6.8	6.3	5.9
5	VOLUME	23,100	56,900	97,200	146,000	206,000	281,000	398,000
	DISCHARGE	11,600	9,560	7,000	4,900	3,460	2,360	1,670
	GAGE HEIGHT	13.8	12.4	10.6	9.0	7.9	7.0	6.4
10	VOLUME	31,400	75,600	125,000	186,000	257,000	340,000	478,000
	DISCHARGE	15,800	12,700	9,030	6,250	4,310	2,850	2,010
	GAGE HEIGHT	16.3	14.4	12.1	10.0	8.5	7.4	6.7
25	VOLUME	42,100	99,200	159,000	233,000	312,000	400,000	560,000
	DISCHARGE	21,200	16,700	11,500	7,840	5,240	3,360	2,350
	GAGE HEIGHT	19.1	16.8	13.7	11.2	9.3	7.8	7.0
50	VOLUME	50,100	116,000	183,000	265,000	347,000	437,000	609,000
	DISCHARGE	25,300	19,500	13,200	8,910	5,840	3,670	2,560
	GAGE HEIGHT	20.6	18.3	14.7	12.0	9.7	8.0	7.2
100	VOLUME	57,900	132,000	205,000	294,000	378,000	467,000	650,000
	DISCHARGE	29,200	22,200	14,800	9,900	6,350	3,920	2,730
	GAGE HEIGHT	21.9 A	19.5	15.7	12.7	10.1	8.2	7.3
05422000 WAPSIPINICON RIVER NEAR DE WITT								
	DRAINAGE AREA.-- 2,330 SQ MI.		DATUM OF GAGE.-- 598.81 FT.			37 YEARS OF RECORD		
2	VOLUME	16,700	45,100	89,500	154,000	242,000	375,000	575,000
	DISCHARGE	8,420	7,580	6,440	5,180	4,070	3,150	2,420
	GAGE HEIGHT	11.1	10.9	10.5	9.9	9.0	8.1	7.2
5	VOLUME	26,000	71,400	144,000	248,000	387,000	580,000	862,000
	DISCHARGE	13,100	12,000	10,300	8,330	6,510	4,880	3,620
	GAGE HEIGHT	11.9	11.7	11.4	11.1	10.5	9.7	8.6
10	VOLUME	32,400	89,500	179,000	307,000	481,000	710,000	1,030,000
	DISCHARGE	16,300	15,000	12,900	10,300	8,080	5,960	4,350
	GAGE HEIGHT	12.3	12.1	11.9	11.4	11.0	10.3	9.2
25	VOLUME	40,500	113,000	223,000	377,000	593,000	862,000	1,230,000
	DISCHARGE	20,400	18,900	16,000	12,700	9,960	7,240	5,160
	GAGE HEIGHT	12.8	12.6	12.3	11.8	11.4	10.8	9.9
50	VOLUME	46,400	130,000	253,000	425,000	670,000	966,000	1,360,000
	DISCHARGE	23,400	21,800	18,300	14,300	11,300	8,110	5,710
	GAGE HEIGHT	13.1 B	12.9	12.5	12.1	11.6	11.1	10.2
100	VOLUME	52,400	147,000	283,000	469,000	743,000	1,060,000	1,470,000
	DISCHARGE	26,400	24,700	20,400	15,800	12,500	8,920	6,200
	GAGE HEIGHT	13.3 B	13.2 B	12.8	12.2	11.8	11.2	10.4
05448500 WEST BRANCH IOWA RIVER NEAR KLEMME								
	DRAINAGE AREA.-- 112 SQ MI.		DATUM OF GAGE.-- 1,180.83 FT.			10 YEARS OF RECORD		
2	VOLUME	842	2,030	3,430	5,150	7,150	10,200	14,300
	DISCHARGE	424	342	247	173	120	85	60
	GAGE HEIGHT	6.5	5.8	5.0	4.2	3.5	3.1	2.6
5	VOLUME	1,780	4,470	8,160	12,500	17,000	22,000	31,400
	DISCHARGE	896	751	587	419	285	185	132
	GAGE HEIGHT	9.7	8.8	7.7	6.5	5.3	4.3	3.7
10	VOLUME	2,720	7,150	13,900	21,500	28,300	34,400	48,900
	DISCHARGE	1,370	1,200	999	724	476	289	206
	GAGE HEIGHT	12.4	11.5	10.3	8.6	6.9	5.4	4.5
A FROM RATING CURVE EXTENDED ABOVE 26500 CFS.								
B FROM RATING CURVE EXTENDED ABOVE 22400 CFS.								

HIGH FLOW DURATION AND FREQUENCY DATA FOR IOWA STREAMS: FLOOD VOLUME (IN ACRE-FEET) AND CORRESPONDING MEAN DISCHARGE (IN CFS) AND GAGE HEIGHT (IN FEET) FOR INDICATED PERIOD IN DAYS AND RECURRENCE INTERVAL

RECURRENCE INTERVAL (YEARS)	PERIOD IN DAYS								
	1	3	7	15	30	60	120	183	
05449000 EAST BRANCH IOWA RIVER NEAR KLEMME									
	DRAINAGE AREA.--	133 SQ MI.	DATUM OF GAGE.--1,179.33 FT.				23 YEARS OF RECORD		
2	VOLUME	1,470	3,710	5,940	8,650	11,600	15,200	21,700	25,500
	DISCHARGE	743	624	428	291	195	128	91	70
	GAGE HEIGHT	7.8	7.3	6.4	5.4	4.6	4.0	3.7	3.5
5	VOLUME	3,180	7,900	12,600	18,200	23,700	29,200	42,500	50,300
	DISCHARGE	1,600	1,330	905	612	398	245	178	139
	GAGE HEIGHT	9.1 A	8.8	8.2	7.3	6.2	5.0	4.5	4.1
10	VOLUME	4,750	11,700	18,700	26,700	33,800	40,300	59,500	71,500
	DISCHARGE	2,400	1,960	1,350	899	568	339	250	197
	GAGE HEIGHT	9.6 A	9.3 A	8.9	8.2	7.1	5.8	5.1	4.6
25	VOLUME	7,310	17,600	28,600	40,200	48,900	56,200	84,400	104,000
	DISCHARGE	3,690	2,950	2,060	1,350	822	472	354	286
	GAGE HEIGHT	10.2 A	9.9 A	9.4 A	8.9	8.0	6.7	5.9	5.4
50	VOLUME	9,660	22,900	37,700	52,300	61,600	69,200	105,000	132,000
	DISCHARGE	4,870	3,840	2,720	1,760	1,040	581	442	364
	GAGE HEIGHT	10.6 A	10.2 A	9.7 A	9.2 A	8.5	7.2	6.5	6.0
05449500 IOWA RIVER NEAR ROWAN									
	DRAINAGE AREA.--	429 SQ MI.	DATUM OF GAGE.--1,143.35 FT.				31 YEARS OF RECORD		
2	VOLUME	3,860	10,500	19,200	28,900	41,800	56,100	78,400	93,700
	DISCHARGE	1,950	1,760	1,390	970	703	471	329	258
	GAGE HEIGHT	10.1	9.9	9.3	8.4	7.5	6.5	5.7	5.2
5	VOLUME	7,060	19,300	35,800	53,500	74,100	95,400	138,000	165,000
	DISCHARGE	3,560	3,240	2,580	1,800	1,250	802	580	456
	GAGE HEIGHT	11.6	11.4	10.8	9.9	9.1	7.9	7.0	6.4
10	VOLUME	9,340	25,500	47,600	72,400	96,800	122,000	180,000	218,000
	DISCHARGE	4,710	4,280	3,430	2,430	1,630	1,020	756	599
	GAGE HEIGHT	12.3	12.1	11.5	10.7	9.7	8.6	7.7	7.1
25	VOLUME	12,200	33,300	62,600	98,200	126,000	154,000	233,000	286,000
	DISCHARGE	6,170	5,600	4,510	3,300	2,110	1,300	981	788
	GAGE HEIGHT	13.1	12.8	12.2	11.4	10.3	9.1	8.5	7.8
50	VOLUME	14,400	39,000	73,600	118,000	147,000	177,000	272,000	338,000
	DISCHARGE	7,250	6,550	5,300	3,980	2,460	1,490	1,140	931
	GAGE HEIGHT	13.5	13.2	12.7	11.9	10.7	9.5	8.8	8.3
100	VOLUME	16,400	44,500	84,300	139,000	167,000	199,000	310,000	390,000
	DISCHARGE	8,290	7,480	6,070	4,680	2,810	1,670	1,300	1,070
	GAGE HEIGHT	13.9	13.6	13.0	12.3	11.0	9.7	9.2	8.7
05451500 IOWA RIVER AT MARSHALLTOWN									
	DRAINAGE AREA.--	1,564 SQ MI.	DATUM OF GAGE.-- 853.10 FT.				53 YEARS OF RECORD		
2	VOLUME	13,800	34,600	65,800	105,000	162,000	231,000	334,000	408,000
	DISCHARGE	6,970	5,810	4,740	3,550	2,720	1,940	1,400	1,130
	GAGE HEIGHT	15.7	14.9	14.1	13.0	12.0	11.1	10.3	9.9
5	VOLUME	25,100	62,500	113,000	178,000	257,000	357,000	518,000	622,000
	DISCHARGE	12,700	10,500	8,160	5,980	4,320	3,000	2,180	1,710
	GAGE HEIGHT	18.0 B	17.4 B	16.4	15.1	13.7	12.4	11.4	10.7
10	VOLUME	33,600	82,300	143,000	220,000	304,000	417,000	608,000	727,000
	DISCHARGE	17,000	13,800	10,300	7,410	5,110	3,510	2,550	2,000
	GAGE HEIGHT	18.8 B	18.2 B	17.3 B	16.0	14.4	12.9	11.8	11.1
25	VOLUME	45,200	108,000	176,000	266,000	347,000	472,000	691,000	824,000
	DISCHARGE	22,800	18,100	12,700	8,950	5,840	3,960	2,900	2,270
	GAGE HEIGHT	19.6 B	19.0 B	18.0 B	16.8	15.0	13.4	12.3	11.5
50	VOLUME	54,300	126,000	198,000	295,000	371,000	501,000	736,000	877,000
	DISCHARGE	27,400	21,200	14,300	9,900	6,230	4,210	3,090	2,420
	GAGE HEIGHT	20.1 B	19.4 B	18.3 B	17.2 B	15.2	13.6	12.5	11.7
100	VOLUME	63,600	144,000	218,000	319,000	389,000	523,000	770,000	917,000
	DISCHARGE	32,100	24,300	15,700	10,700	6,530	4,390	3,240	2,530
	GAGE HEIGHT	20.4 B	19.7 B	18.6 B	17.4 B	15.4	13.8	12.6	11.8

A FROM RATING CURVE EXTENDED ABOVE 1450 CFS.
B FROM RATING CURVE EXTENDED ABOVE 9400 CFS.

HIGH FLOW DURATION AND FREQUENCY DATA FOR IOWA STREAMS: FLOOD VOLUME (IN ACRE-FEET) AND CORRESPONDING
MEAN DISCHARGE (IN CFS) AND GAGE HEIGHT, (IN FEET) FOR INDICATED PERIOD IN DAYS AND RECURRENCE INTERVAL

RECURRENCE INTERVAL (YEARS)	PERIOD IN DAYS							
	1	3	7	15	30	60	120	183
05451700 TIMBER CREEK NEAR MARSHALLTOWN								
	DRAINAGE AREA.-- 118 SQ MI.		DATUM OF GAGE.-- 849.44 FT.			22 YEARS OF RECORD		
2	VOLUME	3,200	5,990	8,350	11,100	14,800	19,300	27,200
	DISCHARGE	1,610	1,010	601	372	249	162	114
	GAGE HEIGHT	12.1	10.1	7.9	6.2	5.0	4.1	3.6
5	VOLUME	5,350	9,940	13,700	18,000	24,900	32,800	46,700
	DISCHARGE	2,700	1,670	984	606	419	276	196
	GAGE HEIGHT	13.8	12.2	10.0	7.9	6.5	5.3	4.5
10	VOLUME	6,290	11,600	15,700	20,600	29,100	38,700	55,700
	DISCHARGE	3,170	1,950	1,130	691	489	325	234
	GAGE HEIGHT	14.3	12.8	10.6	8.4	7.1	5.7	4.9
25	VOLUME	7,060	12,800	17,200	22,300	32,300	43,300	63,300
	DISCHARGE	3,560	2,160	1,240	749	543	364	266
	GAGE HEIGHT	14.8	13.1	11.0	8.8	7.5	6.1	5.2
50	VOLUME	7,410	13,400	17,700	22,900	33,700	45,400	67,100
	DISCHARGE	3,740	2,250	1,280	771	566	381	282
	GAGE HEIGHT	15.0	13.2	11.1	8.9	7.6	6.2	5.3
05451900 RICHLAND CREEK NEAR HAVEN								
	DRAINAGE AREA.-- 56.1 SQ MI.		DATUM OF GAGE.-- 798.69 FT.			22 YEARS OF RECORD		
2	VOLUME	1,510	2,750	3,530	4,700	6,100	8,270	12,400
	DISCHARGE	761	462	254	158	103	70	52
	GAGE HEIGHT	16.2	14.5	12.9	12.1	11.6	11.3	11.1
5	VOLUME	2,490	4,470	5,800	7,700	10,300	14,400	21,400
	DISCHARGE	1,260	751	418	259	173	121	90
	GAGE HEIGHT	18.3	16.2	14.1	13.0	12.2	11.8	11.5
10	VOLUME	3,100	5,540	7,230	9,510	13,000	18,600	27,000
	DISCHARGE	1,560	931	520	320	219	156	113
	GAGE HEIGHT	19.2	17.0	14.9	13.4	12.6	12.1	11.7
25	VOLUME	3,780	6,760	8,880	11,500	16,300	23,800	33,300
	DISCHARGE	1,900	1,140	639	387	275	200	140
	GAGE HEIGHT	20.0	17.9	15.8	13.9	13.1	12.5	11.9
50	VOLUME	4,220	7,570	9,990	12,800	18,600	27,500	37,300
	DISCHARGE	2,130	1,270	719	431	313	231	157
	GAGE HEIGHT	20.5	18.3	16.0	14.2	13.4	12.7	12.1
05452000 SALT CREEK NEAR ELBERON								
	DRAINAGE AREA.-- 201 SQ MI.		DATUM OF GAGE.-- 781.58 FT.			26 YEARS OF RECORD		
2	VOLUME	5,420	10,500	14,100	18,600	24,100	32,600	47,300
	DISCHARGE	2,730	1,770	1,010	624	405	274	199
	GAGE HEIGHT	14.4	13.3	11.5	9.8	8.6	7.7	7.1
5	VOLUME	9,800	18,000	23,500	32,900	43,100	57,500	80,800
	DISCHARGE	4,940	3,030	1,690	1,110	725	483	340
	GAGE HEIGHT	15.8	14.6	13.1	11.8	10.3	9.1	8.2
10	VOLUME	13,200	23,100	29,700	43,700	57,900	77,100	106,000
	DISCHARGE	6,660	3,890	2,140	1,470	972	648	446
	GAGE HEIGHT	16.3	15.2	13.8	12.7	11.3	9.9	8.8
25	VOLUME	18,000	29,400	37,000	58,500	78,500	105,000	141,000
	DISCHARGE	9,090	4,940	2,660	1,970	1,320	884	594
	GAGE HEIGHT	17.0	15.8	14.3	13.6	12.3	11.0	9.7
50	VOLUME	22,000	33,800	42,000	70,300	95,200	129,000	170,000
	DISCHARGE	11,100	5,680	3,030	2,360	1,600	1,080	713
	GAGE HEIGHT	17.4	16.1	14.6	14.0	13.0	11.7	10.2
100	VOLUME	26,100	38,000	46,700	82,500	113,000	154,000	199,000
	DISCHARGE	13,200	6,390	3,360	2,770	1,900	1,290	838
	GAGE HEIGHT	17.9	16.2	14.9	14.4	13.5	12.3	10.8

**HIGH FLOW DURATION AND FREQUENCY DATA FOR IOWA STREAMS: FLOOD VOLUME (IN ACRE-FEET) AND CORRESPONDING
MEAN DISCHARGE (IN CFS) AND GAGE HEIGHT (IN FEET) FOR INDICATED PERIOD IN DAYS AND RECURRENCE INTERVAL**

RECURRENCE INTERVAL (YEARS)	PERIOD IN DAYS							
	1	3	7	15	30	60	120	183
05452200 WALNUT CREEK NEAR HARTWICK								
	DRAINAGE AREA.-- 70.9 SQ MI.		DATUM OF GAGE.-- 786.59 FT.			22 YEARS OF RECORD		
2	VOLUME	1,820	3,540	4,720	6,410	8,200	11,000	16,200
	DISCHARGE	917	595	340	215	138	92	68
	GAGE HEIGHT	10.8	9.2	7.9	6.4	5.6	5.1	4.8
5	VOLUME	3,780	5,400	7,530	9,920	13,100	18,100	26,900
	DISCHARGE	1,900	907	542	333	220	152	113
	GAGE HEIGHT	13.6	10.7	8.9	7.4	6.4	5.8	5.3
10	VOLUME	5,910	6,450	9,290	12,000	16,300	23,000	33,400
	DISCHARGE	2,980	1,080	669	404	273	193	141
	GAGE HEIGHT	14.7	11.4	9.6	8.0	6.9	6.2	5.7
25	VOLUME	10,100	7,580	11,300	14,400	20,000	29,000	40,900
	DISCHARGE	5,070	1,270	817	483	336	244	172
	GAGE HEIGHT	15.7 A	12.1	10.3	8.5	7.4	6.7	6.0
50	VOLUME	14,600	8,280	12,700	15,900	22,600	33,300	45,800
	DISCHARGE	7,350	1,390	916	535	380	280	192
	GAGE HEIGHT	16.4 A	12.4	10.8	8.8	7.8	7.0	6.2
05452500 IOWA RIVER NEAR BELLE PLAINE								
	DRAINAGE AREA.-- 2,455 SQ MI.		DATUM OF GAGE.-- 749.82 FT.			20 YEARS OF RECORD		
2	VOLUME	17,600	47,300	88,800	137,000	212,000	318,000	510,000
	DISCHARGE	8,870	7,550	6,390	4,610	3,570	2,670	2,140
	GAGE HEIGHT	14.1	13.8	13.2	12.1	11.3	10.2	9.5
5	VOLUME	32,600	87,100	160,000	253,000	390,000	556,000	865,000
	DISCHARGE	16,400	14,600	11,500	8,500	6,550	4,670	3,640
	GAGE HEIGHT	15.3	15.1	14.9	14.0	13.3	12.2	11.3
10	VOLUME	44,000	116,000	206,000	331,000	510,000	710,000	1,080,000
	DISCHARGE	22,200	19,400	14,800	11,100	8,570	5,970	4,520
	GAGE HEIGHT	15.9	15.6	15.1	14.5	14.0	13.0	12.1
25	VOLUME	59,500	152,000	259,000	425,000	654,000	891,000	1,300,000
	DISCHARGE	30,000	25,500	18,700	14,300	11,000	7,490	5,470
	GAGE HEIGHT	16.7	16.2	15.5	15.0	14.5	13.6	12.7
50	VOLUME	71,600	178,000	295,000	490,000	754,000	1,010,000	1,440,000
	DISCHARGE	36,100	29,900	21,200	16,500	12,700	8,510	6,070
	GAGE HEIGHT	17.3 B	16.7	15.8	15.3	14.8	14.0	13.1
05453000 BIG BEAR CREEK AT LADORA								
	DRAINAGE AREA.-- 189 SQ MI.		DATUM OF GAGE.-- 754.94 FT.			26 YEARS OF RECORD		
2	VOLUME	5,200	9,060	12,700	17,100	22,500	30,600	46,300
	DISCHARGE	2,620	1,520	915	573	379	257	195
	GAGE HEIGHT	9.4	7.0	5.3	4.1	3.3	2.6	2.3
5	VOLUME	9,280	15,600	22,200	29,400	39,000	53,300	78,900
	DISCHARGE	4,680	2,630	1,600	990	655	447	331
	GAGE HEIGHT	12.7 C	9.4	7.2	5.5	4.4	3.6	3.0
10	VOLUME	12,200	20,000	28,300	37,600	50,000	68,000	97,700
	DISCHARGE	6,160	3,360	2,040	1,260	840	572	411
	GAGE HEIGHT	13.7 C	10.8	8.2	6.3	5.1	4.1	3.4
25	VOLUME	16,000	25,300	35,600	47,400	63,400	85,500	118,000
	DISCHARGE	8,070	4,250	2,560	1,590	1,070	718	494
	GAGE HEIGHT	14.5 C	12.2 C	9.3	7.2	5.8	4.6	3.8
50	VOLUME	18,800	29,000	40,500	54,100	72,900	97,300	130,000
	DISCHARGE	9,500	4,870	2,910	1,820	1,220	818	545
	GAGE HEIGHT	14.7 C	12.9 C	10.0	7.7	6.2	5.0	4.0
100	VOLUME	21,700	32,400	44,900	60,300	81,800	108,000	140,000
	DISCHARGE	10,900	5,450	3,240	2,030	1,370	910	589
	GAGE HEIGHT	14.9 C	12.3 C	10.6	8.2	6.6	5.3	4.1
A FROM RATING CURVE EXTENDED ABOVE 4500 CFS. B FROM RATING CURVE EXTENDED ABOVE 33200 CFS. C FROM RATING CURVE EXTENDED ABOVE 4090 CFS.								

HIGH FLOW DURATION AND FREQUENCY DATA FOR IOWA STREAMS: FLOOD VOLUME (IN ACRE-FEET) AND CORRESPONDING MEAN DISCHARGE (IN CFS) AND GAGE HEIGHT (IN FEET) FOR INDICATED PERIOD IN DAYS AND RECURRENCE INTERVAL

RECURRENCE INTERVAL (YEARS)	PERIOD IN DAYS							
	1	3	7	15	30	60	120	183
05453100 IOWA RIVER AT MARENGO								
	DRAINAGE AREA.-- 2,794 SQ MI.		DATUM OF GAGE.-- 720.52 FT.			15 YEARS OF RECORD		
2	VOLUME	21,400	58,900	115,000	194,000	293,000	428,000	749,000
	DISCHARGE	10,800	9,890	8,260	6,520	4,930	3,590	2,060
	GAGE HEIGHT	16.2	16.0	15.4	14.5	13.2	11.7	9.4
5	VOLUME	34,600	94,400	190,000	334,000	495,000	712,000	1,220,000
	DISCHARGE	17,500	15,900	13,700	11,200	8,320	5,980	3,360
	GAGE HEIGHT	17.9	17.5	17.0	16.3	15.4	14.1	11.4
10	VOLUME	44,100	119,000	243,000	432,000	639,000	915,000	1,560,000
	DISCHARGE	22,200	19,900	17,500	14,500	10,700	7,690	4,290
	GAGE HEIGHT	18.8	18.4	17.9	17.2	16.2	15.1	12.6
25	VOLUME	56,500	149,000	311,000	558,000	826,000	1,180,000	2,000,000
	DISCHARGE	28,500	25,000	22,400	18,700	13,900	9,930	5,520
	GAGE HEIGHT	19.8	19.3	18.8	18.1	17.1	16.0	13.8
05454000 RAPID CREEK NEAR IOWA CITY								
	DRAINAGE AREA.-- 25.3 SQ MI.		DATUM OF GAGE.-- 673.72 FT.			34 YEARS OF RECORD		
2	VOLUME	876	1,470	2,080	2,890	3,730	4,930	8,180
	DISCHARGE	442	247	150	97	63	41	23
	GAGE HEIGHT	7.7	6.0	5.4	5.0	4.6	4.3	3.9
5	VOLUME	1,730	2,510	3,260	4,120	5,410	7,270	12,900
	DISCHARGE	874	422	235	138	91	61	35
	GAGE HEIGHT	10.0	7.5	6.0	5.3	4.9	4.6	4.2
10	VOLUME	2,380	3,100	3,790	4,500	5,970	8,150	15,000
	DISCHARGE	1,200	522	273	151	100	68	41
	GAGE HEIGHT	10.8	8.3	6.2	5.4	5.0	4.6	4.3
25	VOLUME	3,250	3,710	4,240	4,730	6,330	8,770	16,900
	DISCHARGE	1,640	624	305	159	106	74	47
	GAGE HEIGHT	11.6	9.0	6.5	5.5	5.0	4.7	4.4
50	VOLUME	3,910	4,080	4,460	4,810	6,460	9,030	17,900
	DISCHARGE	1,970	686	321	162	109	76	49
	GAGE HEIGHT	12.0	9.3	6.6	5.5	5.1	4.7	4.4
100	VOLUME	4,570	4,380	4,620	4,850	6,530	9,190	18,600
	DISCHARGE	2,310	736	332	162	110	77	51
	GAGE HEIGHT	12.4	9.5	6.7	5.5	5.1	4.7	4.4
05454300 CLEAR CREEK NEAR CORALVILLE								
	DRAINAGE AREA.-- 98.1 SQ MI.		DATUM OF GAGE.-- 648.43 FT.			19 YEARS OF RECORD		
2	VOLUME	2,000	3,930	5,270	7,640	9,670	13,700	24,100
	DISCHARGE	1,010	661	379	257	163	115	67
	GAGE HEIGHT	9.0	7.5	5.8	4.9	4.1	3.7	3.3
5	VOLUME	4,250	8,090	10,600	15,300	19,400	26,500	48,700
	DISCHARGE	2,140	1,360	763	514	325	222	134
	GAGE HEIGHT	11.9	10.2	8.0	6.7	5.4	4.6	3.9
10	VOLUME	6,180	11,300	14,600	20,800	26,700	35,900	67,500
	DISCHARGE	3,120	1,900	1,050	701	449	302	186
	GAGE HEIGHT	12.8	11.5	9.1	7.6	6.3	5.3	4.3
25	VOLUME	9,090	15,700	19,900	27,900	36,500	48,200	92,900
	DISCHARGE	4,590	2,640	1,430	937	613	405	256
	GAGE HEIGHT	13.4	12.5	10.3	8.7	7.2	6.0	4.9

HIGH FLOW DURATION AND FREQUENCY DATA FOR IOWA STREAMS: FLOOD VOLUME (IN ACRE-FEET) AND CORRESPONDING MEAN DISCHARGE (IN CFS) AND GAGE HEIGHT (IN FEET) FOR INDICATED PERIOD IN DAYS AND RECURRENCE INTERVAL

RECURRENCE INTERVAL (YEARS)		PERIOD IN DAYS							
		1	3	7	15	30	60	120	183
05455000 RALSTON CREEK AT IOWA CITY									
DRAINAGE AREA.--		3.01 SQ MI.		DATUM OF GAGE.--		663.27 FT.		47 YEARS OF RECORD	
2	VOLUME	125	178	235	312	393	530	724	914
	DISCHARGE	63	30	17	11	7	4	3	3
	GAGE HEIGHT	3.3	3.1	2.8	2.7	2.6	2.5	2.4	2.3
5	VOLUME	214	291	369	476	600	780	1,110	1,380
	DISCHARGE	108	49	27	16	10	7	5	4
	GAGE HEIGHT	3.6	3.2	3.0	2.8	2.7	2.6	2.5	2.4
10	VOLUME	267	352	434	541	689	869	1,270	1,550
	DISCHARGE	135	59	31	18	12	7	5	4
	GAGE HEIGHT	3.8	3.3	3.1	2.9	2.7	2.6	2.6	2.5
25	VOLUME	324	413	492	590	763	929	1,400	1,670
	DISCHARGE	163	69	35	20	13	8	6	5
	GAGE HEIGHT	3.9	3.4	3.1	2.9	2.8	2.7	2.6	2.5
50	VOLUME	360	449	523	612	798	953	1,460	1,720
	DISCHARGE	181	75	38	21	13	8	6	5
	GAGE HEIGHT	3.9	3.4	3.1	2.9	2.8	2.7	2.6	2.5
100	VOLUME	390	478	546	626	822	966	1,500	1,740
	DISCHARGE	197	80	39	21	14	8	6	5
	GAGE HEIGHT	4.0	3.4	3.2	2.9	2.8	2.7	2.6	2.5
05455100 OLD MANS CREEK NEAR IOWA CITY									
DRAINAGE AREA.--		201 SQ MI.		DATUM OF GAGE.--		(645) FT.		14 YEARS OF RECORD	
2	VOLUME	2,880	6,780	9,810	14,200	18,400	25,500	36,500	41,900
	DISCHARGE	1,450	1,140	707	479	309	214	153	116
	GAGE HEIGHT	10.3	8.9	6.5	5.1	4.0	3.2	2.7	2.3
5	VOLUME	6,620	15,200	21,600	31,000	39,100	51,700	79,100	93,800
	DISCHARGE	3,340	2,550	1,560	1,040	657	435	332	259
	GAGE HEIGHT	12.5	12.1	10.6	8.4	6.2	4.8	4.1	3.6
10	VOLUME	10,100	22,300	31,600	44,100	55,000	71,700	113,000	138,000
	DISCHARGE	5,100	3,750	2,280	1,480	924	603	476	379
	GAGE HEIGHT	13.1	12.7	11.9	10.4	7.7	5.9	5.1	4.4
05455500 ENGLISH RIVER AT KALONA									
DRAINAGE AREA.--		573 SQ MI.		DATUM OF GAGE.--		633.45 FT.		32 YEARS OF RECORD	
2	VOLUME	9,700	23,300	35,700	51,200	67,300	92,500	137,000	173,000
	DISCHARGE	4,890	3,920	2,570	1,720	1,130	777	578	477
	GAGE HEIGHT	13.9	12.6	10.2	8.3	6.7	5.6	4.9	4.5
5	VOLUME	17,500	43,000	66,200	91,800	122,000	164,000	248,000	312,000
	DISCHARGE	8,800	7,220	4,770	3,080	2,050	1,370	1,040	860
	GAGE HEIGHT	17.2	16.1	13.8	11.2	9.1	7.4	6.4	5.9
10	VOLUME	23,400	57,500	87,100	117,000	157,000	211,000	323,000	403,000
	DISCHARGE	11,800	9,650	6,280	3,920	2,640	1,780	1,360	1,110
	GAGE HEIGHT	18.4	17.6	15.3	12.6	10.4	8.4	7.3	6.6
25	VOLUME	31,700	76,500	113,000	144,000	198,000	269,000	413,000	510,000
	DISCHARGE	16,000	12,500	8,130	4,840	3,330	2,260	1,740	1,400
	GAGE HEIGHT	19.4	18.7	16.8	13.8	11.7	9.6	8.3	7.4
50	VOLUME	38,400	90,500	131,000	161,000	225,000	309,000	476,000	582,000
	DISCHARGE	19,400	15,300	9,430	5,420	3,790	2,600	2,000	1,600
	GAGE HEIGHT	20.0 A	19.3	17.5	14.5	12.4	10.3	9.0	8.0
100	VOLUME	45,400	105,000	148,000	176,000	250,000	347,000	535,000	647,000
	DISCHARGE	22,900	17,700	10,600	5,910	4,200	2,920	2,250	1,780
	GAGE HEIGHT	20.5 A	19.7	18.0	15.0	13.0	10.9	9.5	8.4

A FROM RATING CURVE EXTENDED ABOVE 19000 CFS.

HIGH FLOW DURATION AND FREQUENCY DATA FOR IOWA STREAMS: FLOOD VOLUME (IN ACRE-FEET) AND CORRESPONDING
MEAN DISCHARGE (IN CFS) AND GAGE HEIGHT (IN FEET) FOR INDICATED PERIOD IN DAYS AND RECURRENCE INTERVAL

RECURRENCE INTERVAL (YEARS)	PERIOD IN DAYS							
	1	3	7	15	30	60	120	183
05458000 LITTLE CEDAR RIVER NEAR IONIA								
	DRAINAGE AREA.-- 306 SQ MI.		DATUM OF GAGE.-- 973.35 FT.			17 YEARS OF RECORD		
2	VOLUME	3,790	8,940	14,100	19,500	26,400	39,200	55,100
	DISCHARGE	1,910	1,500	1,020	656	443	329	232
	GAGE HEIGHT	7.8	7.2	6.3	5.5	5.0	4.7	4.4
5	VOLUME	9,080	20,800	32,500	43,300	54,700	71,600	96,700
	DISCHARGE	4,580	3,490	2,340	1,450	918	601	406
	GAGE HEIGHT	11.0	9.9	8.4	7.1	6.1	5.4	5.0
10	VOLUME	14,100	31,600	49,200	64,100	78,000	95,400	125,000
	DISCHARGE	7,100	5,310	3,550	2,150	1,310	801	526
	GAGE HEIGHT	13.2	11.7	9.9	8.2	6.8	5.8	5.2
25	VOLUME	22,100	48,600	75,600	95,700	112,000	127,000	160,000
	DISCHARGE	11,200	8,170	5,440	3,220	1,880	1,060	673
	GAGE HEIGHT	16.1 A	14.0	11.9	9.5	7.8	6.4	5.6
05458500 CEDAR RIVER AT JANESVILLE								
	DRAINAGE AREA.-- 1,661 SQ MI.		DATUM OF GAGE.-- 868.26 FT.			51 YEARS OF RECORD		
2	VOLUME	18,100	44,200	72,600	108,000	151,000	217,000	320,000
	DISCHARGE	9,130	7,420	5,230	3,640	2,540	1,820	1,340
	GAGE HEIGHT	8.5	7.4	5.7	4.4	3.5	3.0	2.6
5	VOLUME	32,800	79,200	126,000	179,000	241,000	332,000	481,000
	DISCHARGE	16,500	13,300	9,080	6,000	4,060	2,790	2,020
	GAGE HEIGHT	11.7	10.5	8.4	6.3	4.7	3.7	3.1
10	VOLUME	42,900	104,000	164,000	224,000	299,000	402,000	573,000
	DISCHARGE	21,600	17,400	11,800	7,540	5,030	3,380	2,410
	GAGE HEIGHT	13.2	12.0	9.8	7.5	5.5	4.2	3.4
25	VOLUME	55,100	135,000	211,000	279,000	368,000	483,000	673,000
	DISCHARGE	27,800	22,600	15,200	9,360	6,190	4,050	2,830
	GAGE HEIGHT	14.7	13.5	11.2	8.6	6.4	4.7	3.7
50	VOLUME	63,700	157,000	246,000	316,000	415,000	536,000	736,000
	DISCHARGE	32,100	26,300	17,700	10,600	6,980	4,510	3,090
	GAGE HEIGHT	15.5	14.4	12.1	9.3	7.1	5.1	3.9
100	VOLUME	71,700	178,000	280,000	351,000	459,000	585,000	791,000
	DISCHARGE	36,200	29,900	20,200	11,800	7,720	4,910	3,320
	GAGE HEIGHT	16.2 B	15.1	12.8	9.8	7.6	5.4	4.1
05458900 WEST FORK CEDAR RIVER AT FINCHFORD								
	DRAINAGE AREA.-- 846 SQ MI.		DATUM OF GAGE.-- 867.15 FT.			26 YEARS OF RECORD		
2	VOLUME	10,700	26,500	44,700	65,800	96,600	129,000	179,000
	DISCHARGE	5,410	4,450	3,220	2,210	1,620	1,080	752
	GAGE HEIGHT	12.4	11.8	10.9	9.8	8.7	7.4	6.5
5	VOLUME	23,500	54,500	88,600	128,000	177,000	226,000	319,000
	DISCHARGE	11,800	9,160	6,380	4,290	2,980	1,900	1,340
	GAGE HEIGHT	14.5	13.7	12.8	11.7	10.7	9.2	8.1
10	VOLUME	33,200	74,500	119,000	171,000	228,000	287,000	413,000
	DISCHARGE	16,700	12,500	8,570	5,750	3,840	2,410	1,730
	GAGE HEIGHT	15.3	14.6	13.5	12.5	11.4	10.1	8.9
25	VOLUME	45,800	99,300	156,000	224,000	287,000	356,000	525,000
	DISCHARGE	23,100	16,700	11,200	7,530	4,820	2,990	2,210
	GAGE HEIGHT	16.2 C	15.3	14.3	13.2	12.1	10.7	9.8
50	VOLUME	55,100	117,000	181,000	261,000	324,000	401,000	603,000
	DISCHARGE	27,800	19,600	13,000	8,780	5,450	3,370	2,530
	GAGE HEIGHT	16.7 C	15.7	14.7	13.6	12.4	11.1	10.2
100	VOLUME	64,100	133,000	204,000	296,000	358,000	441,000	675,000
	DISCHARGE	32,300	22,300	14,700	9,940	6,010	3,710	2,830
	GAGE HEIGHT	17.1 C	16.1 C	15.0	14.0	12.6	11.3	10.6

A FROM RATING CURVE EXTENDED ABOVE 9500 CFS.
B FROM RATING CURVE EXTENDED ABOVE 35000 CFS.
C FROM RATING CURVE EXTENDED ABOVE 21500 CFS.

HIGH FLOW DURATION AND FREQUENCY DATA FOR IOWA STREAMS: FLOOD VOLUME (IN ACRE-FEET) AND CORRESPONDING MEAN DISCHARGE (IN CFS) AND GAGE HEIGHT (IN FEET) FOR INDICATED PERIOD IN DAYS AND RECURRENCE INTERVAL

RECURRENCE INTERVAL (YEARS)	PERIOD IN DAYS							
	1	3	7	15	30	60	120	183
05459000 SHELL ROCK RIVER NEAR NORTHWOOD								
	DRAINAGE AREA.-- 300 SQ MI.		DATUM OF GAGE.--1,176.48 FT.			26 YEARS OF RECORD		
2	VOLUME	2,070	5,820	12,100	21,200	31,200	44,400	73,200
	DISCHARGE	1,050	578	874	712	524	373	266
	GAGE HEIGHT	7.3	7.2	6.9	6.5	6.0	5.4	5.0
5	VOLUME	3,370	9,570	20,500	36,100	53,600	70,500	111,000
	DISCHARGE	1,700	1,610	1,480	1,210	900	592	410
	GAGE HEIGHT	8.7	8.5	8.2	7.7	7.0	6.2	5.6
10	VOLUME	4,280	12,200	26,500	47,000	70,400	88,700	120,000
	DISCHARGE	2,160	2,060	1,910	1,580	1,180	745	502
	GAGE HEIGHT	9.4	9.3	9.0	8.4	7.6	6.6	5.9
25	VOLUME	5,460	15,700	34,500	61,700	93,500	112,000	146,000
	DISCHARGE	2,750	2,640	2,480	2,070	1,570	943	614
	GAGE HEIGHT	10.3	10.2	9.9	9.3	8.4	7.1	6.2
50	VOLUME	6,360	18,400	40,500	73,000	112,000	130,000	165,000
	DISCHARGE	3,210	3,090	2,920	2,450	1,880	1,090	693
	GAGE HEIGHT	10.9	10.8	10.5	9.9	9.0	7.4	6.4
100	VOLUME	7,260	21,100	46,700	84,600	131,000	148,000	183,000
	DISCHARGE	3,660	3,540	3,360	2,840	2,200	1,240	767
	GAGE HEIGHT	11.5 A	11.4 A	11.1 A	10.4	9.5	7.8	6.6
05459500 WINNEBAGO RIVER AT MASON CITY								
	DRAINAGE AREA.-- 526 SQ MI.		DATUM OF GAGE.--1,069.59 FT.			39 YEARS OF RECORD		
2	VOLUME	5,000	12,600	22,800	35,600	51,900	73,400	103,000
	DISCHARGE	2,520	2,170	1,640	1,200	871	617	434
	GAGE HEIGHT	7.5	7.0	6.3	5.7	5.2	4.8	4.5
5	VOLUME	8,870	22,400	40,100	61,800	87,800	117,000	165,000
	DISCHARGE	4,470	3,770	2,890	2,080	1,480	986	695
	GAGE HEIGHT	9.7	9.0	7.9	6.9	6.1	5.4	4.9
10	VOLUME	12,100	30,700	54,000	81,300	112,000	144,000	203,000
	DISCHARGE	6,080	5,160	3,890	2,730	1,890	1,210	852
	GAGE HEIGHT	11.4 B	10.5	9.1	7.7	6.7	5.7	5.2
25	VOLUME	16,800	43,300	74,200	108,000	143,000	174,000	244,000
	DISCHARGE	8,490	7,270	5,340	3,620	2,400	1,460	1,020
	GAGE HEIGHT	13.3 B	12.4 B	10.7	8.8	7.3	6.1	5.4
50	VOLUME	21,000	54,300	91,200	128,000	165,000	194,000	271,000
	DISCHARGE	10,600	9,120	6,560	4,310	2,770	1,630	1,140
	GAGE HEIGHT	14.6 B	13.7 B	11.9 B	9.6	7.8	6.3	5.6
100	VOLUME	25,600	66,800	110,000	150,000	186,000	212,000	294,000
	DISCHARGE	12,900	11,200	7,910	5,030	3,130	1,780	1,240
	GAGE HEIGHT	15.9 B	15.0 B	12.9 B	10.4	8.2	6.5	5.8
05460500 SHELL ROCK RIVER AT MARBLE ROCK								
	DRAINAGE AREA.-- 1,318 SQ MI.		DATUM OF GAGE.-- 961.17 FT.			20 YEARS OF RECORD		
2	VOLUME	14,200	33,000	57,000	89,800	135,000	194,000	283,000
	DISCHARGE	7,150	5,550	4,110	3,020	2,270	1,630	1,190
	GAGE HEIGHT	5.0	4.3	3.6	3.0	2.5	2.1	1.7
5	VOLUME	20,500	48,200	84,400	134,000	204,000	293,000	436,000
	DISCHARGE	10,400	8,100	6,080	4,490	3,430	2,460	1,830
	GAGE HEIGHT	6.4	5.4	4.5	3.8	3.2	2.6	2.2
10	VOLUME	24,800	59,100	104,000	163,000	247,000	350,000	520,000
	DISCHARGE	12,500	9,930	7,520	5,480	4,150	2,940	2,180
	GAGE HEIGHT	7.1	6.2	5.2	4.3	3.6	2.9	2.4
25	VOLUME	30,100	73,600	132,000	200,000	298,000	410,000	607,000
	DISCHARGE	15,200	12,400	9,500	6,720	5,000	3,450	2,550
	GAGE HEIGHT	8.0	7.1	6.0	4.8	4.0	3.2	2.7
50	VOLUME	34,000	85,000	154,000	227,000	332,000	449,000	659,000
	DISCHARGE	17,200	14,300	11,100	7,640	5,590	3,770	2,770
	GAGE HEIGHT	8.7 C	7.7	6.6	5.2	4.3	3.4	2.8

A FROM RATING CURVE EXTENDED ABOVE 3250 CFS.
B FROM RATING CURVE EXTENDED ABOVE 5600 CFS.
C FROM RATING CURVE EXTENDED ABOVE 16000 CFS.

HIGH FLOW DURATION AND FREQUENCY DATA FOR IOWA STREAMS: FLOOD VOLUME (IN ACRE-Feet) AND CORRESPONDING MEAN DISCHARGE (IN CFS) AND GAGE HEIGHT (IN FEET) FOR INDICATED PERIOD IN DAYS AND RECURRENCE INTERVAL

RECURRENCE INTERVAL (YEARS)	PERIOD IN DAYS							
	1	3	7	15	30	60	120	183
05462000 SHELL ROCK RIVER AT SHELL ROCK								
	DRAINAGE AREA.-- 1,746 SQ MI.		DATUM OF GAGE.-- 885.34 FT.			18 YEARS OF RECORD		
2	VOLUME	13,800	34,200	61,600	93,700	136,000	206,000	314,000
	DISCHARGE	6,930	5,750	4,440	3,150	2,290	1,730	1,320
	GAGE HEIGHT	11.5	11.1	10.5	10.0	9.4	9.0	8.7
5	VOLUME	30,300	73,000	130,000	194,000	269,000	364,000	536,000
	DISCHARGE	15,300	12,300	9,360	6,520	4,530	3,060	2,250
	GAGE HEIGHT	13.8	13.1	12.3	11.4	10.6	9.9	9.4
10	VOLUME	45,700	108,000	192,000	285,000	385,000	484,000	694,000
	DISCHARGE	23,000	18,200	13,800	9,580	6,480	4,060	2,910
	GAGE HEIGHT	15.3 A	14.4	13.5	12.4	11.4	10.4	9.8
25	VOLUME	70,800	165,000	290,000	431,000	565,000	648,000	898,000
	DISCHARGE	35,700	27,700	20,900	14,500	9,500	5,450	3,770
	GAGE HEIGHT	16.6 A	15.8 A	15.0	13.6	12.4	11.0	10.2
05463000 BEAVER CREEK AT NEW HARTFORD								
	DRAINAGE AREA.-- 347 SQ MI.		DATUM OF GAGE.-- 882.44 FT.			26 YEARS OF RECORD		
2	VOLUME	6,040	12,600	19,000	26,000	36,900	50,900	71,000
	DISCHARGE	3,040	2,120	1,370	875	620	427	298
	GAGE HEIGHT	9.5	8.8	8.0	6.9	5.9	4.9	4.1
5	VOLUME	13,800	27,600	39,100	52,400	71,400	94,300	130,000
	DISCHARGE	6,970	4,630	2,810	1,760	1,200	792	548
	GAGE HEIGHT	11.4	10.4	9.4	8.5	7.7	6.6	5.5
10	VOLUME	20,200	39,500	54,800	73,300	96,900	125,000	173,000
	DISCHARGE	10,200	6,640	3,940	2,460	1,630	1,050	726
	GAGE HEIGHT	12.4	11.3	10.1	9.1	8.3	7.4	6.3
25	VOLUME	29,200	56,000	76,200	102,000	130,000	165,000	227,000
	DISCHARGE	14,700	9,420	5,480	3,440	2,190	1,390	953
	GAGE HEIGHT	13.4 B	12.2	10.8	9.8	8.9	8.0	7.1
50	VOLUME	36,200	68,800	92,600	125,000	155,000	195,000	266,000
	DISCHARGE	18,200	11,600	6,670	4,210	2,610	1,640	1,120
	GAGE HEIGHT	14.1 B	12.8	11.3	10.2	9.2	8.3	7.6
100	VOLUME	43,300	81,800	109,000	149,000	180,000	223,000	304,000
	DISCHARGE	21,800	13,700	7,870	5,000	3,020	1,870	1,280
	GAGE HEIGHT	14.7 B	13.2 B	11.7	10.6	9.5	8.6	7.9
05463500 BLACK HAWK CREEK AT HUDSON								
	DRAINAGE AREA.-- 303 SQ MI.		DATUM OF GAGE.-- 865.03 FT.			19 YEARS OF RECORD		
2	VOLUME	4,650	10,200	15,500	22,100	31,400	42,700	60,600
	DISCHARGE	2,350	1,710	1,120	744	528	359	255
	GAGE HEIGHT	14.1	13.0	11.1	9.6	8.5	7.5	6.9
5	VOLUME	9,500	20,000	31,100	42,400	58,300	78,300	106,000
	DISCHARGE	4,790	3,360	2,240	1,420	979	658	446
	GAGE HEIGHT	15.7	15.1	14.0	12.2	10.6	9.2	8.0
10	VOLUME	13,600	27,600	43,500	57,800	76,800	103,000	135,000
	DISCHARGE	6,840	4,630	3,130	1,940	1,290	864	565
	GAGE HEIGHT	16.2	15.6	15.0	13.4	11.8	10.2	8.7
25	VOLUME	19,600	37,900	60,600	79,000	99,700	133,000	166,000
	DISCHARGE	9,870	6,370	4,370	2,650	1,680	1,120	698
	GAGE HEIGHT	16.7	16.1	15.6	14.6	12.9	11.1	9.4

A FROM RATING CURVE EXTENDED ABOVE 21000 CFS.

B FROM RATING CURVE EXTENDED ABOVE 12500 CFS.

HIGH FLOW DURATION AND FREQUENCY DATA FOR IOWA STREAMS: FLOOD VOLUME (IN ACRE-FEET) AND CORRESPONDING MEAN DISCHARGE (IN CFS) AND GAGE HEIGHT (IN FEET) FOR INDICATED PERIOD IN DAYS AND RECURRENCE INTERVAL

RECURRENCE INTERVAL (YEARS)	PERIOD IN DAYS							
	1	3	7	15	30	60	120	183
05464000 CEDAR RIVER AT WATERLOO								
DRAINAGE AREA.-- 5,146 SQ MI.			DATUM OF GAGE.-- 824.14 FT.			31 YEARS OF RECORD		
2	VOLUME DISCHARGE GAGE HEIGHT	47,300 23,900 12.8	123,000 20,700 11.7	219,000 15,800 10.1	338,000 11,400 8.7	517,000 8,690 7.9	745,000 6,260 7.2	1,110,000 4,680 6.7
								1,360,000 3,750 6.4
5	VOLUME DISCHARGE GAGE HEIGHT	88,600 44,700 17.7	229,000 38,400 16.4	394,000 28,400 14.1	592,000 19,900 11.5	859,000 14,400 9.7	1,180,000 9,890 8.3	1,720,000 7,230 7.5
								2,070,000 5,700 7.0
10	VOLUME DISCHARGE GAGE HEIGHT	118,000 59,300 20.0	302,000 50,700 18.8	514,000 37,000 16.1	764,000 25,700 13.3	1,080,000 18,100 10.9	1,440,000 12,100 8.9	2,090,000 8,770 7.9
								2,500,000 6,890 7.4
25	VOLUME DISCHARGE GAGE HEIGHT	154,000 77,400 22.1 A	393,000 66,000 20.9	663,000 47,800 18.3	977,000 32,800 15.2	1,330,000 22,300 12.3	1,740,000 14,600 9.7	2,500,000 10,500 8.4
								3,000,000 8,260 7.8
50	VOLUME DISCHARGE GAGE HEIGHT	179,000 90,300 23.2 A	457,000 76,800 22.1 A	769,000 55,400 19.5	1,130,000 37,900 16.3	1,490,000 25,100 13.2	1,940,000 16,300 10.3	2,770,000 11,600 8.8
								3,330,000 9,180 8.1
100	VOLUME DISCHARGE GAGE HEIGHT	203,000 103,000 24.2 A	518,000 87,100 22.9 A	870,000 62,600 20.5	1,270,000 42,700 17.3	1,650,000 27,700 13.9	2,110,000 17,700 10.7	3,010,000 12,600 9.1
								3,630,000 10,000 8.3
05464500 CEDAR RIVER AT CEDAR RAPIDS								
DRAINAGE AREA.-- 6,510 SQ MI.			DATUM OF GAGE.-- 700.47 FT.			69 YEARS OF RECORD		
2	VOLUME DISCHARGE GAGE HEIGHT	43,600 22,000 8.8	119,000 20,100 8.4	224,000 16,200 7.4	372,000 12,500 6.6	565,000 9,500 5.8	855,000 7,190 5.2	1,290,000 5,410 4.8
								1,620,000 4,480 4.5
5	VOLUME DISCHARGE GAGE HEIGHT	77,500 39,100 12.8	207,000 34,700 11.8	375,000 27,000 10.0	599,000 20,100 8.4	887,000 14,900 7.1	1,300,000 10,900 6.2	1,930,000 8,120 5.5
								2,390,000 6,600 5.1
10	VOLUME DISCHARGE GAGE HEIGHT	99,500 50,200 15.2	266,000 44,700 14.0	473,000 34,100 11.6	737,000 24,800 9.5	1,070,000 18,000 7.9	1,550,000 13,000 6.7	2,290,000 9,640 5.9
								2,820,000 7,770 5.4
25	VOLUME DISCHARGE GAGE HEIGHT	125,000 63,100 17.8	339,000 56,900 16.7	590,000 42,500 13.5	893,000 30,000 10.7	1,270,000 21,400 8.7	1,810,000 15,200 7.2	2,680,000 11,200 6.3
								3,270,000 9,000 5.7
50	VOLUME DISCHARGE GAGE HEIGHT	142,000 71,800 19.4	390,000 65,600 18.3	669,000 48,200 14.8	996,000 33,500 11.5	1,400,000 23,500 9.2	1,970,000 16,500 7.5	2,910,000 12,200 6.5
								3,540,000 9,750 5.9
100	VOLUME DISCHARGE GAGE HEIGHT	158,000 79,700 20.8 B	439,000 73,900 19.8	743,000 53,500 16.0	1,090,000 36,600 12.2	1,510,000 25,300 9.6	2,100,000 17,700 7.8	3,120,000 13,100 6.7
								3,770,000 10,400 6.0
05465000 CEDAR RIVER NEAR CONESVILLE								
DRAINAGE AREA.-- 7,785 SQ MI.			DATUM OF GAGE.-- 581.95 FT.			32 YEARS OF RECORD		
2	VOLUME DISCHARGE GAGE HEIGHT	50,700 25,500 13.6	137,000 23,100 13.2	251,000 18,100 12.4	447,000 15,000 11.7	718,000 12,100 10.7	1,090,000 9,180 9.6	1,700,000 7,150 8.7
								2,120,000 5,840 8.0
5	VOLUME DISCHARGE GAGE HEIGHT	88,300 44,500 15.3	241,000 40,500 15.0	447,000 32,200 14.2	760,000 25,500 13.6	1,180,000 19,800 12.8	1,720,000 14,500 11.5	2,600,000 10,900 10.3
								3,180,000 8,760 9.4
10	VOLUME DISCHARGE GAGE HEIGHT	113,000 57,200 16.2	311,000 52,200 15.8	578,000 41,700 15.0	966,000 32,500 14.2	1,460,000 24,600 13.4	2,110,000 17,800 12.4	3,130,000 13,200 11.1
								3,810,000 10,500 10.1
25	VOLUME DISCHARGE GAGE HEIGHT	144,000 72,500 17.1 C	395,000 66,300 16.7	738,000 53,200 15.9	1,210,000 40,700 15.0	1,790,000 30,200 14.0	2,560,000 21,500 13.0	3,710,000 15,600 11.8
								4,500,000 12,400 10.9
50	VOLUME DISCHARGE GAGE HEIGHT	165,000 83,100 17.4 C	453,000 76,200 17.2 C	850,000 61,200 16.4	1,380,000 46,400 15.4	2,010,000 33,800 14.4	2,870,000 24,100 13.4	4,080,000 17,200 12.2
								4,950,000 13,600 11.2
100	VOLUME DISCHARGE GAGE HEIGHT	185,000 93,100 17.8 C	508,000 85,400 17.5 C	954,000 68,700 16.9	1,540,000 51,800 15.8	2,210,000 37,200 14.7	3,140,000 26,400 13.6	4,410,000 18,500 12.5
								5,350,000 14,700 11.6

A FROM RATING CURVE EXTENDED ABOVE 76000 CFS.
B FROM RATING CURVE EXTENDED ABOVE 75000 CFS.
C FROM RATING CURVE EXTENDED ABOVE 70800 CFS.

HIGH FLOW DURATION AND FREQUENCY DATA FOR IOWA STREAMS: FLOOD VOLUME (IN ACRE-FEET) AND CORRESPONDING MEAN DISCHARGE (IN CFS) AND GAGE HEIGHT (IN FEET) FOR INDICATED PERIOD IN DAYS AND RECURRENCE INTERVAL

RECURRENCE INTERVAL (YEARS)	PERIOD IN DAYS							
	1	3	7	15	30	60	120	183
05470000 SOUTH SKUNK RIVER NEAR AMES								
	DRAINAGE AREA.-- 315 SQ MI.		DATUM OF GAGE.-- 893.61 FT.			46 YEARS OF RECORD		
2	VOLUME	4,450	10,500	16,600	24,200	34,500	47,800	65,300
	DISCHARGE	2,250	1,760	1,190	815	580	401	274
	GAGE HEIGHT	6.0	5.5	4.9	4.4	4.0	3.6	3.3
5	VOLUME	7,290	16,700	27,100	40,100	55,500	74,800	104,000
	DISCHARGE	3,680	2,810	1,950	1,350	932	628	439
	GAGE HEIGHT	7.7	6.7	5.7	5.1	4.6	4.1	3.7
10	VOLUME	8,920	20,000	32,800	48,600	65,400	86,200	122,000
	DISCHARGE	4,500	3,370	2,360	1,640	1,100	724	512
	GAGE HEIGHT	8.6	7.3	6.1	5.4	4.8	4.2	3.9
25	VOLUME	10,600	23,300	38,700	57,100	74,000	95,200	136,000
	DISCHARGE	5,360	3,910	2,790	1,920	1,240	800	572
	GAGE HEIGHT	9.5 A	8.0	6.6	5.6	4.9	4.4	4.0
50	VOLUME	11,700	25,100	42,200	61,900	78,500	99,400	143,000
	DISCHARGE	5,890	4,220	3,040	2,080	1,320	835	601
	GAGE HEIGHT	10.0 A	8.3	6.9	5.8	5.0	4.4	4.0
100	VOLUME	12,600	26,600	45,000	65,800	81,700	102,000	148,000
	DISCHARGE	6,330	4,470	3,240	2,210	1,370	859	621
	GAGE HEIGHT	10.4 A	8.6	7.2	5.9	5.1	4.5	4.1
05470500 SQUAW CREEK AT AMES								
	DRAINAGE AREA.-- 204 SQ MI.		DATUM OF GAGE.-- 881.00 FT.			14 YEARS OF RECORD		
2	VOLUME	4,000	8,970	13,600	18,200	24,000	30,300	39,500
	DISCHARGE	2,020	1,510	978	611	403	254	166
	GAGE HEIGHT	6.9	5.4	4.0	3.2	2.8	2.5	2.2
5	VOLUME	5,680	11,900	18,200	25,200	34,000	43,600	62,200
	DISCHARGE	2,860	2,000	1,310	847	572	367	262
	GAGE HEIGHT	8.9	6.9	4.8	3.7	3.1	2.7	2.5
10	VOLUME	6,480	12,800	19,600	27,600	37,800	49,700	76,100
	DISCHARGE	3,270	2,160	1,410	927	636	417	320
	GAGE HEIGHT	9.5	7.3	5.1	3.8	3.2	2.8	2.6
05471000 SOUTH SKUNK RIVER BELOW SQUAW CREEK NEAR AMES								
	DRAINAGE AREA.-- 556 SQ MI.		DATUM OF GAGE.-- 867.10 FT.			19 YEARS OF RECORD		
2	VOLUME	9,980	23,300	36,900	54,100	77,700	105,000	142,000
	DISCHARGE	5,030	3,910	2,650	1,820	1,300	882	598
	GAGE HEIGHT	10.0	8.8	7.1	5.7	4.6	3.5	2.7
5	VOLUME	14,300	33,400	55,900	81,100	109,000	144,000	203,000
	DISCHARGE	7,210	5,610	4,020	2,730	1,830	1,210	851
	GAGE HEIGHT	11.8	10.6	8.9	7.2	5.7	4.4	3.5
10	VOLUME	15,700	36,200	61,800	88,500	116,000	150,000	215,000
	DISCHARGE	7,900	6,090	4,450	2,970	1,940	1,260	905
	GAGE HEIGHT	12.2	11.0	9.4	7.5	5.9	4.5	3.6
25	VOLUME	16,500	37,700	65,200	92,000	118,000	152,000	220,000
	DISCHARGE	8,320	6,340	4,690	3,090	1,980	1,280	924
	GAGE HEIGHT	12.5	11.2	9.7	7.7	6.0	4.5	3.7

A FROM RATING CURVE EXTENDED ABOVE 5330 CFS.

HIGH FLOW DURATION AND FREQUENCY DATA FOR IOWA STREAMS: FLOOD VOLUME (IN ACRE-FEET) AND CORRESPONDING MEAN DISCHARGE (IN CFS) AND GAGE HEIGHT (IN FEET) FOR INDICATED PERIOD IN DAYS AND RECURRENCE INTERVAL

RECURRENCE INTERVAL (YEARS)	PERIOD IN DAYS							
	1	3	7	15	30	60	120	183
05471200 INDIAN CREEK NEAR MINO								
	DRAINAGE AREA.-- 276 SQ MI.		DATUM OF GAGE.-- 810.47 FT.			13 YEARS OF RECORD		
2	VOLUME	7,010	15,000	22,600	31,900	44,500	60,300	86,200
	DISCHARGE	3,530	2,520	1,630	1,070	747	507	362
	GAGE HEIGHT	13.6	12.5	10.9	9.1	8.0	7.0	6.4
5	VOLUME	9,500	20,900	31,600	42,800	58,800	85,300	119,000
	DISCHARGE	4,790	3,510	2,280	1,440	988	717	502
	GAGE HEIGHT	14.4	13.5	12.1	10.3	8.9	7.9	7.0
10	VOLUME	11,000	24,200	37,200	48,800	66,000	98,900	136,000
	DISCHARGE	5,520	4,070	2,680	1,640	1,110	831	570
	GAGE HEIGHT	14.9	14.0	12.7	10.9	9.3	8.3	7.3
05471500 SOUTH SKUNK RIVER NEAR OSKALOOSA								
	DRAINAGE AREA.-- 1,635 SQ MI.		DATUM OF GAGE.-- 685.50 FT.			25 YEARS OF RECORD		
2	VOLUME	15,000	41,900	78,600	126,000	182,000	251,000	372,000
	DISCHARGE	7,550	7,040	5,660	4,240	3,060	2,110	1,560
	GAGE HEIGHT	18.0	17.6	16.3	14.6	12.9	11.2	10.1
5	VOLUME	20,900	58,400	113,000	186,000	272,000	383,000	563,000
	DISCHARGE	10,500	9,820	8,160	6,260	4,560	3,220	2,360
	GAGE HEIGHT	20.0	19.6	18.5	16.9	15.0	13.2	11.7
10	VOLUME	24,900	69,100	137,000	226,000	333,000	474,000	686,000
	DISCHARGE	12,600	11,600	9,860	7,610	5,600	3,980	2,880
	GAGE HEIGHT	21.0 A	20.6	19.6	18.1	16.2	14.2	12.6
25	VOLUME	30,200	82,000	167,000	276,000	413,000	591,000	837,000
	DISCHARGE	15,200	13,800	12,000	9,290	6,940	4,970	3,520
	GAGE HEIGHT	21.9 A	21.4 A	20.8	19.3	17.5	15.5	13.6
50	VOLUME	34,200	91,400	190,000	313,000	473,000	680,000	945,000
	DISCHARGE	17,300	15,400	13,700	10,500	7,950	5,710	3,970
	GAGE HEIGHT	22.3 A	21.9 A	21.4 A	20.0	18.3	16.3	14.2
100	VOLUME	38,400	100,000	214,000	349,000	534,000	769,000	1,050,000
	DISCHARGE	19,300	16,900	15,400	11,700	8,980	6,460	4,400
	GAGE HEIGHT	22.8 A	22.3 A	21.9 A	20.7	19.1	17.1	14.8
05472500 NORTH SKUNK RIVER NEAR SIGOURNEY								
	DRAINAGE AREA.-- 730 SQ MI.		DATUM OF GAGE.-- 651.53 FT.			26 YEARS OF RECORD		
2	VOLUME	10,300	24,200	44,000	64,000	87,400	120,000	169,000
	DISCHARGE	5,210	4,070	3,170	2,150	1,470	1,010	711
	GAGE HEIGHT	18.5	18.9	15.2	12.6	10.3	8.6	7.4
5	VOLUME	19,200	46,100	77,100	110,000	151,000	208,000	296,000
	DISCHARGE	9,680	7,750	5,550	3,710	2,540	1,750	1,250
	GAGE HEIGHT	21.4	20.5	18.8	16.3	13.7	11.3	9.5
10	VOLUME	25,300	60,900	96,300	136,000	185,000	255,000	367,000
	DISCHARGE	12,700	10,200	6,940	4,560	3,110	2,140	1,540
	GAGE HEIGHT	22.5	21.6	20.0	17.7	15.1	12.5	10.6
25	VOLUME	32,600	78,400	116,000	160,000	218,000	300,000	436,000
	DISCHARGE	16,400	13,200	8,390	5,380	3,660	2,520	1,830
	GAGE HEIGHT	23.3	22.6	20.8	18.6	16.2	13.7	11.5
50	VOLUME	37,700	90,300	129,000	174,000	236,000	325,000	477,000
	DISCHARGE	19,000	15,200	9,260	5,860	3,970	2,730	2,000
	GAGE HEIGHT	23.8	23.1	21.2	19.1	16.8	14.2	12.1
100	VOLUME	42,500	101,000	139,000	185,000	250,000	345,000	509,000
	DISCHARGE	21,400	17,000	10,000	6,230	4,210	2,900	2,140
	GAGE HEIGHT	24.2 B	23.4	21.5	19.4	17.2	14.6	12.5

A FROM RATING CURVE EXTENDED ABOVE 12400 CFS.
B FROM RATING CURVE EXTENDED ABOVE 19900 CFS.

HIGH FLOW DURATION AND FREQUENCY DATA FOR IOWA STREAMS: FLOOD VOLUME (IN ACRE-FEET) AND CORRESPONDING MEAN DISCHARGE (IN CFS) AND GAGE HEIGHT (IN FEET) FOR INDICATED PERIOD IN DAYS AND RECURRENCE INTERVAL

RECURRENCE INTERVAL (YEARS)	PERIOD IN DAYS								
	1	3	7	15	30	60	120	183	
05473000 SKUNK RIVER AT COPPOCK									
	DRAINAGE AREA.-- 2,916 SQ MI.		DATUM OF GAGE.-- (583) FT.		31 YEARS OF RECORD				
2	VOLUME	22,400	62,900	123,000	203,000	296,000	419,000	596,000	760,000
	DISCHARGE	11,300	10,600	8,870	6,810	4,970	3,520	2,510	2,090
	GAGE HEIGHT	15.2	14.8	14.0	12.5	10.7	8.9	7.4	6.8
5	VOLUME	40,100	108,000	201,000	320,000	454,000	649,000	919,000	1,120,000
	DISCHARGE	20,200	18,100	14,500	10,800	7,640	5,450	3,860	3,080
	GAGE HEIGHT	18.0	17.4	16.4	14.9	13.2	11.3	9.3	8.2
10	VOLUME	52,800	135,000	242,000	373,000	521,000	746,000	1,060,000	1,260,000
	DISCHARGE	26,600	22,700	17,500	12,500	8,760	6,270	4,440	3,470
	GAGE HEIGHT	19.4	18.6	17.3	15.7	13.9	12.1	10.1	8.8
25	VOLUME	69,300	165,000	282,000	418,000	574,000	824,000	1,170,000	1,370,000
	DISCHARGE	34,900	27,800	20,300	14,000	9,640	6,920	4,910	3,760
	GAGE HEIGHT	21.1	19.7	18.0	16.2	14.4	12.6	10.7	9.2
50	VOLUME	81,600	185,000	305,000	440,000	599,000	860,000	1,220,000	1,410,000
	DISCHARGE	41,100	31,100	22,000	14,800	10,100	7,230	5,130	3,890
	GAGE HEIGHT	22.2 A	20.4	18.4	16.4	14.6	12.9	10.9	9.4
100	VOLUME	93,800	202,000	323,000	456,000	615,000	885,000	1,260,000	1,440,000
	DISCHARGE	47,300	34,000	23,200	15,300	10,300	7,430	5,280	3,980
	GAGE HEIGHT	23.2 A	20.9	18.7	16.6	14.7	13.0	11.1	9.5
05472500 BIG CREEK NEAR MOUNT PLEASANT									
	DRAINAGE AREA.-- 106 SQ MI.		DATUM OF GAGE.-- 630.53 FT.		17 YEARS OF RECORD				
2	VOLUME	2,490	5,100	7,150	10,000	12,800	17,900	24,900	30,700
	DISCHARGE	1,250	857	515	337	214	151	105	85
	GAGE HEIGHT	8.0	6.6	5.2	4.3	3.7	3.3	3.0	2.9
5	VOLUME	4,950	10,300	14,000	19,500	25,700	34,400	45,600	56,900
	DISCHARGE	2,500	1,730	1,010	655	432	289	192	157
	GAGE HEIGHT	11.4	9.5	7.2	5.8	4.8	4.1	3.5	3.3
10	VOLUME	6,820	14,100	18,700	26,000	35,300	44,800	56,700	71,800
	DISCHARGE	3,440	2,380	1,350	875	593	376	238	198
	GAGE HEIGHT	13.6	11.1	8.4	6.7	5.6	4.5	3.8	3.6
25	VOLUME	9,300	19,000	24,300	34,000	47,700	56,300	67,100	86,900
	DISCHARGE	4,690	3,200	1,750	1,140	802	473	282	240
	GAGE HEIGHT	16.1	13.1	9.5	7.7	6.4	5.0	4.0	3.8
05474000 SKUNK RIVER AT AUGUSTA									
	DRAINAGE AREA.-- 4,303 SQ MI.		DATUM OF GAGE.-- 521.24 FT.		57 YEARS OF RECORD				
2	VOLUME	38,800	107,000	206,000	342,000	502,000	723,000	1,040,000	1,300,000
	DISCHARGE	19,600	18,000	14,900	11,500	8,440	6,070	4,350	3,570
	GAGE HEIGHT	15.8	15.1	13.3	11.0	8.8	7.0	5.5	4.9
5	VOLUME	57,000	159,000	307,000	495,000	724,000	1,060,000	1,530,000	1,900,000
	DISCHARGE	28,700	26,700	22,100	16,600	12,200	8,870	6,420	5,240
	GAGE HEIGHT	19.3	18.7	17.0	14.3	11.5	9.1	7.2	6.3
10	VOLUME	65,700	182,000	348,000	548,000	798,000	1,170,000	1,710,000	2,140,000
	DISCHARGE	33,100	30,600	25,100	18,400	13,400	9,860	7,200	5,890
	GAGE HEIGHT	20.5	19.8	18.1	15.3	12.3	9.8	7.9	6.8
25	VOLUME	73,700	202,000	381,000	582,000	846,000	1,250,000	1,850,000	2,320,000
	DISCHARGE	37,200	33,900	27,400	19,600	14,200	10,500	7,780	6,380
	GAGE HEIGHT	21.5	20.7	18.9	15.9	12.9	10.3	8.3	7.2
50	VOLUME	78,100	211,000	396,000	596,000	864,000	1,280,000	1,910,000	2,390,000
	DISCHARGE	39,400	35,500	28,500	20,000	14,500	10,800	8,020	6,600
	GAGE HEIGHT	22.0	21.1	19.3	16.1	13.1	10.5	8.5	7.4
100	VOLUME	81,400	219,000	406,000	603,000	874,000	1,300,000	1,950,000	2,450,000
	DISCHARGE	41,000	36,700	29,300	20,300	14,700	10,900	8,170	6,740
	GAGE HEIGHT	22.4	21.4	19.5	16.2	13.2	10.6	8.6	7.5

A FROM RATING CURVE EXTENDED ABOVE 39900 CFS.

HIGH FLOW DURATION AND FREQUENCY DATA FOR IOWA STREAMS: FLOOD VOLUME (IN ACRE-FEET) AND CORRESPONDING
MEAN DISCHARGE (IN CFS) AND GAGE HEIGHT (IN FEET) FOR INDICATED PERIOD IN DAYS AND RECURRENCE INTERVAL

RECURRENCE INTERVAL (YEARS)	PERIOD IN DAYS								
	1	3	7	15	30	60	120	183	
05476500 DES MOINES RIVER AT ESTHERVILLE									
	DRAINAGE AREA.-- 1,372 SQ MI.			DATUM OF GAGE.--1,247.55 FT.			20 YEARS OF RECORD		
2	VOLUME	4,010	10,800	20,600	35,600	57,300	83,400	118,000	135,000
	DISCHARGE	2,020	1,810	1,490	1,200	964	700	494	372
	GAGE HEIGHT	7.3	6.8	6.1	5.4	4.8	4.1	3.6	3.3
5	VOLUME	9,960	27,300	53,300	91,400	144,000	199,000	280,000	309,000
	DISCHARGE	5,020	4,580	3,840	3,070	2,420	1,670	1,180	852
	GAGE HEIGHT	12.1	11.6	10.6	9.4	8.2	6.5	5.3	4.5
10	VOLUME	16,100	44,600	88,300	151,000	230,000	305,000	425,000	459,000
	DISCHARGE	8,120	7,490	6,360	5,090	3,870	2,570	1,780	1,260
	GAGE HEIGHT	14.5	14.1	13.3	12.2	10.7	8.5	6.8	5.6
25	VOLUME	27,000	75,600	153,000	262,000	378,000	472,000	645,000	679,000
	DISCHARGE	13,600	12,700	11,000	8,810	6,360	3,960	2,710	1,870
	GAGE HEIGHT	17.0	16.7	16.0	15.0	13.3	10.8	8.8	7.0
50	VOLUME	37,700	106,000	218,000	375,000	520,000	617,000	832,000	860,000
	DISCHARGE	19,000	17,900	15,700	12,600	8,740	5,190	3,490	2,370
	GAGE HEIGHT	18.4 A	18.1 A	17.6	16.6	14.9	12.3	10.1	8.1
05478000 EAST FORK DES MOINES RIVER NEAR BURT									
	DRAINAGE AREA.-- 462 SQ MI.			DATUM OF GAGE.--1,114.42 FT.			20 YEARS OF RECORD		
2	VOLUME	2,320	6,500	12,800	21,400	31,700	42,200	58,600	68,100
	DISCHARGE	1,170	1,090	919	720	532	355	246	188
	GAGE HEIGHT	10.9	10.7	10.4	9.8	9.0	7.8	6.9	6.3
5	VOLUME	4,660	12,900	26,000	44,900	66,700	86,500	120,000	136,000
	DISCHARGE	2,350	2,170	1,870	1,510	1,120	727	504	375
	GAGE HEIGHT	11.8	11.7	11.5	11.2	10.8	9.8	8.8	8.0
10	VOLUME	6,650	18,100	37,000	64,100	94,700	122,000	170,000	190,000
	DISCHARGE	3,350	3,040	2,660	2,160	1,590	1,020	715	523
	GAGE HEIGHT	12.3	12.2	12.0	11.7	11.3	10.6	9.8	8.9
25	VOLUME	9,620	25,600	53,200	91,500	134,000	171,000	243,000	266,000
	DISCHARGE	4,850	4,290	3,830	3,080	2,250	1,440	1,020	732
	GAGE HEIGHT	12.9	12.7	12.3	12.2	11.8	11.2	10.6	9.8
50	VOLUME	12,200	31,700	66,700	114,000	165,000	211,000	302,000	326,000
	DISCHARGE	6,130	5,320	4,800	3,820	2,770	1,770	1,270	898
	GAGE HEIGHT	13.2	13.0	12.9	12.5	12.0	11.5	11.0	10.3
05479000 EAST FORK DES MOINES RIVER AT DAKOTA CITY									
	DRAINAGE AREA.-- 1,308 SQ MI.			DATUM OF GAGE.--1,038.71 FT.			31 YEARS OF RECORD		
2	VOLUME	7,880	21,800	43,200	70,800	108,000	151,000	220,000	262,000
	DISCHARGE	3,970	3,660	3,110	2,380	1,820	1,270	924	722
	GAGE HEIGHT	14.1	13.7	13.1	12.0	11.2	10.3	9.7	9.3
5	VOLUME	15,300	41,400	79,600	130,000	194,000	260,000	376,000	446,000
	DISCHARGE	7,700	6,960	5,740	4,360	3,260	2,180	1,580	1,230
	GAGE HEIGHT	17.7	17.1	16.0	14.6	13.2	11.7	10.8	10.2
10	VOLUME	21,200	56,700	107,000	172,000	251,000	329,000	475,000	563,000
	DISCHARGE	10,700	9,530	7,690	5,770	4,210	2,760	2,000	1,550
	GAGE HEIGHT	20.0	19.2	17.7	16.0	14.4	12.6	11.4	10.8
25	VOLUME	29,700	77,900	143,000	226,000	318,000	409,000	590,000	698,000
	DISCHARGE	15,000	13,100	10,300	7,590	5,340	3,440	2,480	1,920
	GAGE HEIGHT	22.7	21.6	19.7	17.6	15.6	13.5	12.2	11.3
50	VOLUME	36,600	94,700	171,000	265,000	363,000	463,000	667,000	788,000
	DISCHARGE	18,500	15,900	12,300	8,920	6,110	3,890	2,800	2,170
	GAGE HEIGHT	24.5 B	23.2	21.1	18.7	16.3	14.0	12.6	11.7
100	VOLUME	44,000	112,000	199,000	304,000	405,000	511,000	737,000	869,000
	DISCHARGE	22,200	18,900	14,300	10,200	6,810	4,300	3,100	2,390
	GAGE HEIGHT	26.3 B	24.7 B	22.3	19.7	17.0	14.5	13.0	12.0

A FROM RATING CURVE EXTENDED ABOVE 17300 CFS.
B FROM RATING CURVE EXTENDED ABOVE 17400 CFS.

HIGH FLOW DURATION AND FREQUENCY DATA FOR IOWA STREAMS: FLOOD VOLUME (IN ACRE-FEET) AND CORRESPONDING MEAN DISCHARGE (IN CFS) AND GAGE HEIGHT (IN FEET) FOR INDICATED PERIOD IN DAYS AND RECURRENCE INTERVAL

RECURRENCE INTERVAL (YEARS)	PERIOD IN DAYS								
	1	3	7	15	30	60	120	183	
05480000 LIZARD CREEK NEAR CLARE									
	DRAINAGE AREA.--	257 SQ MI.	DATUM OF GAGE.--1,079.30 FT.			31 YEARS OF RECORD			
2	VOLUME	2,780	7,100	12,300	17,400	23,900	33,200	46,500	54,800
	DISCHARGE	1,400	1,190	883	583	402	279	195	151
	GAGE HEIGHT	6.8	6.4	5.9	5.2	4.7	4.3	4.1	3.9
5	VOLUME	5,840	14,200	23,000	31,500	42,000	55,200	78,500	93,400
	DISCHARGE	2,950	2,390	1,650	1,060	706	464	330	257
	GAGE HEIGHT	9.1	8.3	7.2	6.2	5.5	4.9	4.5	4.3
10	VOLUME	7,980	18,500	28,500	38,800	50,800	64,600	92,900	111,000
	DISCHARGE	4,020	3,120	2,060	1,300	853	542	390	306
	GAGE HEIGHT	10.4	9.3	7.9	6.6	5.8	5.1	4.7	4.4
25	VOLUME	10,500	23,100	33,700	45,600	58,500	71,800	105,000	125,000
	DISCHARGE	5,320	3,880	2,430	1,530	983	603	440	346
	GAGE HEIGHT	11.8	10.2	8.4	7.0	6.1	5.2	4.8	4.5
50	VOLUME	12,300	25,900	36,400	49,200	62,400	75,100	110,000	132,000
	DISCHARGE	6,200	4,350	2,620	1,650	1,050	631	464	365
	GAGE HEIGHT	12.7 A	10.7	8.8	7.2	6.2	5.3	4.9	4.6
100	VOLUME	13,900	28,100	38,400	51,900	65,300	77,200	114,000	137,000
	DISCHARGE	6,990	4,730	2,770	1,740	1,100	649	480	378
	GAGE HEIGHT	13.4 A	11.2	8.8	7.4	6.3	5.3	4.9	4.6
05480500 DES MOINES RIVER AT FORT DODGE									
	DRAINAGE AREA.--	4,190 SQ MI.	DATUM OF GAGE.-- 969.38 FT.			27 YEARS OF RECORD			
2	VOLUME	21,400	58,200	112,000	186,000	274,000	402,000	573,000	673,000
	DISCHARGE	10,800	9,780	8,070	6,260	4,600	3,370	2,410	1,860
	GAGE HEIGHT	8.5	8.1	7.4	6.6	5.9	5.3	4.8	4.5
5	VOLUME	39,200	108,000	209,000	355,000	529,000	736,000	1,050,000	1,230,000
	DISCHARGE	19,800	18,100	15,100	11,900	8,880	6,190	4,430	3,390
	GAGE HEIGHT	11.8	11.2	10.1	8.9	7.7	6.6	5.8	5.3
10	VOLUME	50,700	140,000	277,000	475,000	714,000	968,000	1,390,000	1,630,000
	DISCHARGE	25,500	23,600	20,000	16,000	12,000	8,140	5,850	4,490
	GAGE HEIGHT	13.8	13.2	11.9	10.5	9.0	7.4	6.5	5.9
25	VOLUME	63,900	180,000	360,000	627,000	951,000	1,260,000	1,820,000	2,130,000
	DISCHARGE	32,200	30,200	26,000	21,100	16,000	10,500	7,650	5,880
	GAGE HEIGHT	16.1	15.4	14.0	12.3	10.5	8.4	7.2	6.5
50	VOLUME	72,600	206,000	419,000	735,000	1,120,000	1,460,000	2,130,000	2,500,000
	DISCHARGE	36,600	34,700	30,200	24,700	18,900	12,300	8,950	6,900
	GAGE HEIGHT	17.6	17.0	15.4	13.6	11.5	9.1	7.7	6.9
100	VOLUME	80,400	231,000	475,000	839,000	1,290,000	1,650,000	2,430,000	2,860,000
	DISCHARGE	40,500	38,800	34,200	28,200	21,700	13,900	10,200	7,880
	GAGE HEIGHT	18.9	18.3	16.8	14.8	12.5	9.7	8.2	7.3
05481000 BOONE RIVER NEAR WEBSTER CITY									
	DRAINAGE AREA.--	844 SQ MI.	DATUM OF GAGE.-- 989.57 FT.			31 YEARS OF RECORD			
2	VOLUME	9,300	23,100	40,000	59,400	85,500	121,000	169,000	198,000
	DISCHARGE	4,690	3,880	2,880	2,000	1,440	1,020	709	544
	GAGE HEIGHT	8.7	7.8	6.7	5.6	4.9	4.2	3.7	3.4
5	VOLUME	16,300	41,600	72,300	107,000	147,000	197,000	285,000	338,000
	DISCHARGE	8,230	6,990	5,210	3,580	2,480	1,660	1,200	932
	GAGE HEIGHT	11.6	10.7	9.2	7.5	6.3	5.2	4.5	4.1
10	VOLUME	21,400	55,300	94,800	139,000	186,000	240,000	358,000	427,000
	DISCHARGE	10,800	9,290	6,830	4,660	3,120	2,020	1,500	1,180
	GAGE HEIGHT	13.3 B	12.3	10.5	8.6	7.0	5.7	5.0	4.5
25	VOLUME	28,100	73,700	123,000	178,000	228,000	284,000	439,000	527,000
	DISCHARGE	14,200	12,400	8,860	5,980	3,840	2,380	1,850	1,450
	GAGE HEIGHT	15.4 B	14.3 B	12.0	9.9	7.8	6.1	5.4	4.9
50	VOLUME	33,100	87,900	143,000	206,000	256,000	310,000	493,000	594,000
	DISCHARGE	16,700	14,800	10,300	6,910	4,310	2,610	2,070	1,640
	GAGE HEIGHT	16.7 B	15.7 B	13.0 B	10.6	8.3	6.4	5.7	5.2
100	VOLUME	38,200	102,000	163,000	231,000	281,000	332,000	541,000	653,000
	DISCHARGE	19,300	17,200	11,700	7,780	4,720	2,790	2,270	1,800
	GAGE HEIGHT	18.1 B	17.0 B	13.9 B	11.3	8.7	6.6	6.0	5.4

A FROM RATING CURVE EXTENDED ABOVE 5500 CFS.
B FROM RATING CURVE EXTENDED ABOVE 10300 CFS.

HIGH FLOW DURATION AND FREQUENCY DATA FOR IOWA STREAMS: FLOOD VOLUME (IN ACRE-FEET) AND CORRESPONDING MEAN DISCHARGE (IN CFS) AND GAGE HEIGHT (IN FEET) FOR INDICATED PERIOD IN DAYS AND RECURRENCE INTERVAL

RECURRENCE INTERVAL (YEARS)	PERIOD IN DAYS							
	1	3	7	15	30	60	120	183
05481300 DES MOINES RIVER NEAR STRATFORD								
	DRAINAGE AREA.-- 5,452 SQ MI.			DATUM OF GAGE.-- 894.00 FT.			51 YEARS OF RECORD	
2	VOLUME	24,100	67,000	132,000	218,000	330,000	495,000	878,000
	DISCHARGE	12,100	11,300	9,500	7,330	5,540	4,160	2,420
	GAGE HEIGHT	14.4	13.9	12.7	11.1	9.7	8.5	6.8
5	VOLUME	44,200	125,000	244,000	401,000	608,000	877,000	1,550,000
	DISCHARGE	22,300	21,000	17,600	13,500	10,200	7,370	4,270
	GAGE HEIGHT	19.5 A	19.0 A	17.5 A	15.2	13.2	11.2	8.6
10	VOLUME	59,200	168,000	327,000	533,000	803,000	1,110,000	1,990,000
	DISCHARGE	29,900	28,300	23,500	17,900	13,500	9,360	5,470
	GAGE HEIGHT	22.5 A	21.9 A	20.0 A	17.6 A	15.2	12.6	9.7
25	VOLUME	79,300	226,000	435,000	702,000	1,050,000	1,380,000	2,500,000
	DISCHARGE	40,000	38,000	31,300	23,600	17,600	11,600	6,890
	GAGE HEIGHT	25.8 A	25.1 A	23.0 A	20.0 A	17.4 A	14.1	10.8
50	VOLUME	94,600	270,000	516,000	827,000	1,220,000	1,550,000	2,850,000
	DISCHARGE	47,700	45,400	37,200	27,800	20,500	13,100	7,850
	GAGE HEIGHT	28.0 A	27.4 A	24.9 A	21.7 A	18.8 A	15.0	11.5
100	VOLUME	110,000	314,000	596,000	950,000	1,390,000	1,700,000	3,160,000
	DISCHARGE	55,500	52,800	42,900	31,900	23,300	14,300	8,720
	GAGE HEIGHT	30.2 A	29.5 A	26.7 A	23.2 A	19.9 A	15.7	12.2
05481950 BEAVER CREEK NEAR GRIMES								
	DRAINAGE AREA.-- 358 SQ MI.			DATUM OF GAGE.-- 806.98 FT.			11 YEARS OF RECORD	
2	VOLUME	5,080	12,900	22,000	32,600	45,900	62,900	98,800
	DISCHARGE	2,560	2,170	1,590	1,100	772	528	272
	GAGE HEIGHT	11.2	10.5	9.4	8.2	7.3	6.5	5.5
5	VOLUME	7,360	18,900	33,300	48,700	68,400	93,800	143,000
	DISCHARGE	3,710	3,180	2,400	1,640	1,150	788	395
	GAGE HEIGHT	12.5	12.1	10.9	9.5	8.3	7.3	6.0
10	VOLUME	8,950	23,100	41,400	60,100	84,500	114,000	168,000
	DISCHARGE	4,510	3,890	2,980	2,020	1,420	955	461
	GAGE HEIGHT	13.2	12.7	11.8	10.3	9.0	7.8	6.3
05482170 BIG CEDAR CREEK NEAR VARINA								
	DRAINAGE AREA.-- 80.0 SQ MI.			DATUM OF GAGE.-- 1,225.12 FT.			12 YEARS OF RECORD	
2	VOLUME	1,170	2,850	4,920	6,740	8,840	11,800	18,100
	DISCHARGE	588	480	355	227	149	99	50
	GAGE HEIGHT	7.8	7.2	6.4	5.4	4.6	4.1	3.4
5	VOLUME	2,260	5,620	9,540	13,400	16,700	20,900	34,000
	DISCHARGE	1,140	945	687	452	281	176	94
	GAGE HEIGHT	10.4 B	9.6	8.3	7.0	5.8	4.9	4.0
10	VOLUME	2,870	7,110	11,800	17,000	20,500	24,900	42,500
	DISCHARGE	1,450	1,200	851	571	344	209	117
	GAGE HEIGHT	11.5 B	10.6 B	9.1	7.7	6.3	5.2	4.3
A FROM RATING CURVE EXTENDED ABOVE 16600 CFS.								
B FROM RATING CURVE EXTENDED ABOVE 1040 CFS.								

HIGH FLOW DURATION AND FREQUENCY DATA FOR IOWA STREAMS: FLOOD VOLUME (IN ACRE-Feet) AND CORRESPONDING MEAN DISCHARGE (IN CFS) AND GAGE HEIGHT (IN FEET) FOR INDICATED PERIOD IN DAYS AND RECURRENCE INTERVAL

RECURRENCE INTERVAL (YEARS)	PERIOD IN DAYS							
	1	3	7	15	30	60	120	183
05482300 NORTH RACCOON RIVER NEAR SAC CITY								
	DRAINAGE AREA.-- 713 SQ MI.		DATUM OF GAGE.--1,144.60 FT.			13 YEARS OF RECORD		
2	VOLUME	7,970	20,300	35,500	50,100	67,700	91,700	123,000
	DISCHARGE	4,020	3,410	2,560	1,680	1,140	771	518
	GAGE HEIGHT	13.3	12.4	10.9	8.9	7.4	6.2	5.2
5	VOLUME	14,700	38,200	67,200	95,500	121,000	152,000	213,000
	DISCHARGE	7,390	6,430	4,840	3,210	2,030	1,280	895
	GAGE HEIGHT	16.2 A	15.6 A	14.2 A	12.0	9.7	7.8	6.6
10	VOLUME	18,100	48,000	84,700	121,000	148,000	179,000	261,000
	DISCHARGE	9,110	8,070	6,100	4,080	2,480	1,500	1,100
	GAGE HEIGHT	17.3 A	16.7 A	15.3 A	13.4	10.7	8.4	7.3
05482500 NORTH RACCOON RIVER NEAR JEFFERSON								
	DRAINAGE AREA.-- 1,619 SQ MI.		DATUM OF GAGE.-- 967.09 FT.			31 YEARS OF RECORD		
2	VOLUME	15,100	41,600	76,900	109,000	152,000	220,000	308,000
	DISCHARGE	7,590	6,990	5,540	3,660	2,560	1,850	1,290
	GAGE HEIGHT	14.0	13.5	12.2	10.3	8.9	7.7	6.7
5	VOLUME	24,800	66,000	119,000	175,000	247,000	342,000	498,000
	DISCHARGE	12,500	11,100	8,590	5,890	4,160	2,880	2,090
	GAGE HEIGHT	17.1	16.4	14.8	12.6	10.8	9.3	8.1
10	VOLUME	29,700	76,100	135,000	203,000	290,000	390,000	586,000
	DISCHARGE	15,000	12,800	9,710	6,810	4,880	3,280	2,460
	GAGE HEIGHT	18.2	17.3	15.5	13.4	11.6	9.8	8.7
25	VOLUME	34,200	83,900	145,000	224,000	326,000	425,000	660,000
	DISCHARGE	17,200	14,100	10,500	7,520	5,470	3,570	2,770
	GAGE HEIGHT	19.1	17.8	16.0	14.0	12.2	10.2	9.2
50	VOLUME	36,700	87,400	150,000	233,000	343,000	440,000	698,000
	DISCHARGE	18,500	14,700	10,800	7,840	5,760	3,700	2,930
	GAGE HEIGHT	19.5	18.1	16.2	14.2	12.4	10.3	9.4
100	VOLUME	38,500	89,700	152,000	239,000	355,000	450,000	724,000
	DISCHARGE	19,400	15,100	10,900	8,040	5,970	3,780	3,040
	GAGE HEIGHT	19.8	18.2	16.3	14.4	12.6	10.4	9.5
05483000 EAST FORK HARDIN CREEK NEAR CHURDAN								
	DRAINAGE AREA.-- 24.0 SQ MI.		DATUM OF GAGE.--1,050.90 FT.			19 YEARS OF RECORD		
2	VOLUME	325	739	1,190	1,720	2,420	3,390	4,470
	DISCHARGE	164	124	85	58	41	28	19
	GAGE HEIGHT	5.3	4.8	4.2	3.6	3.2	2.9	2.6
5	VOLUME	481	1,190	2,090	3,010	4,040	5,340	7,030
	DISCHARGE	242	199	151	101	68	45	30
	GAGE HEIGHT	6.3	5.8	5.1	4.4	3.8	3.3	2.9
10	VOLUME	566	1,440	2,670	3,770	4,930	6,220	8,150
	DISCHARGE	285	243	192	127	83	52	34
	GAGE HEIGHT	6.7	6.3	5.7	4.8	4.1	3.5	3.0
25	VOLUME	655	1,720	3,340	4,570	5,840	6,980	9,080
	DISCHARGE	330	288	241	154	98	59	38
	GAGE HEIGHT	7.2 B	6.7	6.2	5.2	4.4	3.6	3.1
A	FROM RATING CURVE EXTENDED ABOVE		4600 CFS.					
B	FROM RATING CURVE EXTENDED ABOVE		314 CFS.					

HIGH FLOW DURATION AND FREQUENCY DATA FOR IOWA STREAMS: FLOOD VOLUME (IN ACRE-FEET) AND CORRESPONDING MEAN DISCHARGE (IN CFS) AND GAGE HEIGHT (IN FEET) FOR INDICATED PERIOD IN DAYS AND RECURRENCE INTERVAL

RECURRENCE INTERVAL (YEARS)	PERIOD IN DAYS							
	1	3	7	15	30	60	120	183
05484000 SOUTH RACCOON RIVER AT REDFIELD								
	DRAINAGE AREA.-- 988 SQ MI.		DATUM OF GAGE.-- 896.43 FT.			31 YEARS OF RECORD		
2	VOLUME	16,100	34,500	50,200	69,500	96,400	133,000	194,000
	DISCHARGE	8,140	5,790	3,620	2,340	1,620	1,120	814
	GAGE HEIGHT	13.7	11.3	8.8	7.1	6.0	5.1	4.6
5	VOLUME	25,000	53,800	78,700	111,000	153,000	209,000	300,000
	DISCHARGE	12,600	9,040	5,670	3,730	2,570	1,750	1,260
	GAGE HEIGHT	17.4	14.5	11.2	8.9	7.4	6.2	5.4
10	VOLUME	29,600	64,100	95,100	135,000	186,000	251,000	360,000
	DISCHARGE	14,900	10,800	6,850	4,520	3,120	2,110	1,510
	GAGE HEIGHT	18.9	16.0	12.4	9.9	8.1	6.7	5.8
25	VOLUME	34,100	74,300	113,000	160,000	221,000	295,000	424,000
	DISCHARGE	17,200	12,500	8,110	5,370	3,710	2,480	1,780
	GAGE HEIGHT	20.5	17.3	13.6	10.9	8.9	7.3	6.2
50	VOLUME	36,700	80,300	124,000	175,000	243,000	322,000	463,000
	DISCHARGE	18,500	13,500	8,900	5,900	4,090	2,700	1,950
	GAGE HEIGHT	21.3	18.0	14.4	11.4	9.4	7.6	6.5
100	VOLUME	38,800	85,100	133,000	189,000	262,000	344,000	497,000
	DISCHARGE	19,500	14,300	9,580	6,350	4,410	2,890	2,090
	GAGE HEIGHT	22.0	18.5	15.0	11.9	9.8	7.8	6.7
05484500 RACCOON RIVER AT VAN METER								
	DRAINAGE AREA.-- 3,441 SQ MI.		DATUM OF GAGE.-- 841.16 FT.			56 YEARS OF RECORD		
2	VOLUME	25,300	65,700	126,000	192,000	272,000	384,000	557,000
	DISCHARGE	12,800	11,000	9,090	6,440	4,570	3,230	2,340
	GAGE HEIGHT	13.1	12.1	10.9	9.0	7.5	6.3	5.4
5	VOLUME	40,100	103,000	196,000	301,000	431,000	606,000	890,000
	DISCHARGE	20,200	17,300	14,100	10,100	7,240	5,090	3,740
	GAGE HEIGHT	16.6	15.4	13.9	11.6	9.6	7.9	6.8
10	VOLUME	49,100	125,000	233,000	358,000	516,000	724,000	1,080,000
	DISCHARGE	24,700	20,900	16,800	12,000	8,670	6,080	4,530
	GAGE HEIGHT	18.3 A	16.9	15.2	12.7	10.6	8.7	7.5
25	VOLUME	59,300	148,000	270,000	413,000	600,000	841,000	1,280,000
	DISCHARGE	29,900	24,900	19,500	13,900	10,100	7,060	5,360
	GAGE HEIGHT	19.8 A	18.3 A	16.3	13.8	11.6	9.5	8.2
50	VOLUME	66,100	163,000	292,000	445,000	649,000	908,000	1,400,000
	DISCHARGE	33,300	27,500	21,000	15,000	10,900	7,630	5,860
	GAGE HEIGHT	20.6 A	19.1 A	16.9	14.3	12.1	9.9	8.5
100	VOLUME	72,200	177,000	310,000	470,000	689,000	962,000	1,500,000
	DISCHARGE	36,400	29,700	22,300	15,800	11,600	8,090	6,290
	GAGE HEIGHT	21.3 A	19.8 A	17.4	14.7	12.5	10.2	8.9
05486000 NORTH RIVER NEAR NORWALK								
	DRAINAGE AREA.-- 349 SQ MI.		DATUM OF GAGE.-- 788.45 FT.			31 YEARS OF RECORD		
2	VOLUME	5,360	12,900	19,900	27,700	37,600	51,800	74,200
	DISCHARGE	2,700	2,170	1,430	932	632	435	312
	GAGE HEIGHT	21.0	20.5	19.3	17.1	15.2	13.4	12.0
5	VOLUME	10,400	23,200	34,000	47,700	66,600	92,200	132,000
	DISCHARGE	5,250	3,910	2,450	1,600	1,120	775	556
	GAGE HEIGHT	22.0	21.5	20.8	19.7	18.1	16.1	14.5
10	VOLUME	14,900	30,600	42,500	59,500	83,800	116,000	165,000
	DISCHARGE	7,530	5,140	3,060	2,000	1,410	971	693
	GAGE HEIGHT	22.6	22.0	21.1	20.3	19.2	17.3	15.6
25	VOLUME	22,300	40,000	51,800	72,200	102,000	140,000	198,000
	DISCHARGE	11,200	6,720	3,730	2,430	1,720	1,180	832
	GAGE HEIGHT	23.2 B	22.4	21.4	20.7	19.9	18.4	16.5
50	VOLUME	29,000	46,900	57,700	80,100	113,000	154,000	217,000
	DISCHARGE	14,600	7,880	4,150	2,690	1,900	1,300	913
	GAGE HEIGHT	23.7 B	22.7	21.6	20.9	20.2	18.9	17.0
100	VOLUME	36,900	53,600	62,800	86,900	123,000	167,000	233,000
	DISCHARGE	18,600	9,010	4,520	2,920	2,060	1,400	978
	GAGE HEIGHT	24.2 B	22.9	21.8	21.1	20.4	19.2	17.3

A FROM RATING CURVE EXTENDED ABOVE 23800 CFS.
B FROM RATING CURVE EXTENDED ABOVE 9700 CFS.

HIGH FLOW DURATION AND FREQUENCY DATA FOR IOWA STREAMS: FLOOD VOLUME (IN ACRE-FEET) AND CORRESPONDING
MEAN DISCHARGE (IN CFS) AND GAGE HEIGHT (IN FEET) FOR INDICATED PERIOD IN DAYS AND RECURRENCE INTERVAL

RECURRENCE INTERVAL (YEARS)	PERIOD IN DAYS							
	1	3	7	15	30	60	120	183
05486490 MIDDLE RIVER NEAR INDIANOLA								
	DRAINAGE AREA.-- 503 SQ MI.		DATUM OF GAGE.-- 776.15 FT.			31 YEARS OF RECORD		
2	VOLUME	10,100	20,600	28,900	39,500	54,000	74,900	108,000
	DISCHARGE	5,110	3,460	2,080	1,330	907	629	455
	GAGE HEIGHT	17.7	15.2	12.4	10.5	9.4	8.5	7.9
5	VOLUME	16,300	33,600	45,700	64,400	90,800	125,000	182,000
	DISCHARGE	8,230	5,640	3,290	2,160	1,530	1,050	764
	GAGE HEIGHT	20.7	18.3	14.9	12.6	11.1	9.8	8.9
10	VOLUME	20,100	41,400	55,200	79,300	113,000	154,000	223,000
	DISCHARGE	10,100	6,960	3,970	2,660	1,900	1,300	938
	GAGE HEIGHT	22.2	19.6	16.1	13.7	12.0	10.5	9.5
25	VOLUME	24,400	50,200	65,100	95,600	138,000	186,000	266,000
	DISCHARGE	12,300	8,430	4,690	3,210	2,310	1,570	1,120
	GAGE HEIGHT	23.4 A	20.9	17.2	14.8	13.0	11.2	10.0
50	VOLUME	27,200	55,800	71,100	106,000	154,000	206,000	292,000
	DISCHARGE	13,700	9,380	5,120	3,570	2,580	1,730	1,230
	GAGE HEIGHT	24.2 A	21.7	17.7	15.4	13.5	11.6	10.3
100	VOLUME	29,700	60,800	76,200	115,000	167,000	223,000	313,000
	DISCHARGE	15,000	10,200	5,490	3,870	2,810	1,880	1,310
	GAGE HEIGHT	25.0 A	22.2	18.2	15.9	14.0	11.9	10.5
05487470 SOUTH RIVER NEAR ACKWORTH								
	DRAINAGE AREA.-- 460 SQ MI.		DATUM OF GAGE.-- 769.97 FT.			31 YEARS OF RECORD		
2	VOLUME	14,600	25,000	32,300	42,700	53,800	74,000	101,000
	DISCHARGE	7,360	4,200	2,330	1,430	904	622	426
	GAGE HEIGHT	19.7	15.3	12.0	10.1	8.7	7.9	7.2
5	VOLUME	24,000	41,700	52,900	74,000	96,500	133,000	187,000
	DISCHARGE	12,100	7,010	3,810	2,490	1,620	1,110	786
	GAGE HEIGHT	25.1	19.3	14.7	12.4	10.5	9.3	8.4
10	VOLUME	30,100	53,200	65,900	95,200	126,000	171,000	244,000
	DISCHARGE	15,200	8,940	4,750	3,200	2,120	1,440	1,020
	GAGE HEIGHT	28.2	21.7	16.2	13.7	11.6	10.1	9.1
25	VOLUME	37,400	67,700	81,000	121,000	163,000	217,000	311,000
	DISCHARGE	18,900	11,400	5,840	4,080	2,750	1,830	1,310
	GAGE HEIGHT	31.6	24.4	17.8	15.1	12.9	11.0	9.8
50	VOLUME	42,400	78,200	91,200	140,000	190,000	249,000	356,000
	DISCHARGE	21,400	13,100	6,570	4,710	3,200	2,090	1,500
	GAGE HEIGHT	33.9	26.1	18.7	16.2	13.7	11.5	10.2
100	VOLUME	47,000	88,500	101,000	158,000	216,000	278,000	398,000
	DISCHARGE	23,700	14,900	7,240	5,310	3,630	2,330	1,670
	GAGE HEIGHT	35.9	27.9	19.6	17.0	14.4	12.0	10.6
05489000 CEDAR CREEK NEAR BUSSEY								
	DRAINAGE AREA.-- 374 SQ MI.		DATUM OF GAGE.-- 682.15 FT.			24 YEARS OF RECORD		
2	VOLUME	10,800	21,200	27,700	39,300	50,100	65,700	87,800
	DISCHARGE	5,450	3,560	2,000	1,320	842	552	369
	GAGE HEIGHT	19.8	16.6	12.2	10.0	8.3	7.3	6.6
5	VOLUME	18,200	36,900	46,100	59,800	75,200	105,000	142,000
	DISCHARGE	9,180	6,200	3,320	2,010	1,260	883	595
	GAGE HEIGHT	23.0	20.7	16.1	12.3	9.8	8.5	7.5
10	VOLUME	24,400	49,000	58,800	71,100	88,400	129,000	174,000
	DISCHARGE	12,300	8,230	4,240	2,390	1,490	1,090	731
	GAGE HEIGHT	24.5 B	22.4	18.1	13.5	10.5	9.2	8.0
25	VOLUME	33,700	65,900	75,000	83,100	102,000	156,000	210,000
	DISCHARGE	17,000	11,100	5,400	2,790	1,710	1,310	883
	GAGE HEIGHT	26.3 B	24.0 B	19.7	14.7	11.3	9.9	8.5
50	VOLUME	42,000	79,600	86,800	90,400	109,000	174,000	233,000
	DISCHARGE	21,200	13,400	6,250	3,040	1,840	1,470	980
	GAGE HEIGHT	27.6 B	24.9 B	20.7	15.3	11.7	10.5	8.8

A FROM RATING CURVE EXTENDED ABOVE 11600 CFS.
B FROM RATING CURVE EXTENDED ABOVE 11000 CFS.

HIGH FLOW DURATION AND FREQUENCY DATA FOR IOWA STREAMS: FLOOD VOLUME (IN ACRE-FEET) AND CORRESPONDING MEAN DISCHARGE (IN CFS) AND GAGE HEIGHT (IN FEET) FOR INDICATED PERIOD IN DAYS AND RECURRENCE INTERVAL

RECURRENCE INTERVAL (YEARS)	PERIOD IN DAYS								
	1	3	7	15	30	60	120	183	
05491000 SUGAR CREEK NEAR KEOKUK									
	DRAINAGE AREA.--	105 SQ MI.	DATUM OF GAGE.-- 510.20 FT.			23 YEARS OF RECORD			
2	VOLUME	4,050	7,050	9,210	11,900	15,800	20,600	28,100	35,400
	DISCHARGE	2,040	1,190	664	402	265	173	118	97
	GAGE HEIGHT	11.7	9.6	8.0	6.9	6.2	5.7	5.3	5.1
5	VOLUME	6,310	11,400	15,100	19,600	24,200	32,800	45,300	56,500
	DISCHARGE	3,180	1,520	1,090	659	408	276	190	156
	GAGE HEIGHT	13.2	11.4	9.3	7.9	6.9	6.3	5.8	5.6
10	VOLUME	7,540	14,300	19,100	24,800	29,300	40,400	55,600	68,300
	DISCHARGE	3,800	2,400	1,380	835	493	339	234	188
	GAGE HEIGHT	13.8	12.3	10.1	8.5	7.3	6.6	6.1	5.8
25	VOLUME	8,780	17,600	24,200	31,400	35,000	49,000	67,100	80,800
	DISCHARGE	4,430	2,560	1,740	1,060	589	412	282	223
	GAGE HEIGHT	14.3	13.0	11.1	9.2	7.7	7.0	6.3	6.0
50	VOLUME	9,520	19,900	27,900	36,200	38,700	54,800	74,500	88,400
	DISCHARGE	4,800	3,350	2,010	1,220	651	460	313	243
	GAGE HEIGHT	14.6	13.3	11.6	9.7	7.9	7.2	6.5	6.1
05494300 FOX RIVER AT BLOOMFIELD									
	DRAINAGE AREA.--	87.7 SQ MI.	DATUM OF GAGE.-- 755.57 FT.			14 YEARS OF RECORD			
2	VOLUME	4,040	6,010	7,040	9,560	12,200	15,100	20,300	26,600
	DISCHARGE	2,040	1,010	507	321	205	127	85	73
	GAGE HEIGHT	14.8	10.4	7.6	6.4	5.6	5.0	4.6	4.5
5	VOLUME	6,940	10,800	12,300	15,800	19,400	26,700	33,800	43,800
	DISCHARGE	3,500	1,810	883	531	325	225	142	121
	GAGE HEIGHT	19.4	13.9	9.8	7.8	6.5	5.8	5.1	4.9
10	VOLUME	8,630	13,900	15,700	19,400	23,500	35,000	42,600	54,300
	DISCHARGE	4,350	2,340	1,130	652	395	294	179	150
	GAGE HEIGHT	21.3	16.0	11.0	8.5	6.9	6.3	5.4	5.2
06482270 ROCK RIVER AT ROCK RAPIDS									
	DRAINAGE AREA.--	788 SQ MI.	DATUM OF GAGE.-- 1331.55 FT.			12 YEARS OF RECORD			
2	VOLUME	6,600	13,900	19,300	25,200	33,500	47,700	66,800	76,100
	DISCHARGE	3,320	2,330	1,390	847	562	401	281	210
	GAGE HEIGHT	4.0	3.5	3.0	2.6	2.4	2.2	2.1	2.0
5	VOLUME	18,300	41,600	58,800	75,200	92,200	116,000	156,000	167,000
	DISCHARGE	9,250	7,000	4,230	2,530	1,550	977	657	460
	GAGE HEIGHT	6.5	5.6	4.4	3.6	3.1	2.7	2.4	2.3
10	VOLUME	29,200	70,800	104,000	131,000	150,000	177,000	236,000	245,000
	DISCHARGE	14,700	11,900	7,460	4,390	2,520	1,480	991	676
	GAGE HEIGHT	8.5	7.5	5.8	4.5	3.6	3.0	2.7	2.5

HIGH FLOW DURATION AND FREQUENCY DATA FOR IOWA STREAMS: FLOOD VOLUME (IN ACRE-FEET) AND CORRESPONDING MEAN DISCHARGE (IN CFS) AND GAGE HEIGHT (IN FEET) FOR INDICATED PERIOD IN DAYS AND RECURRENCE INTERVAL

RECURRENCE INTERVAL (YEARS)	PERIOD IN DAYS								
	1	3	7	15	30	60	120	183	
064835.0 ROCK RIVER AT ROCK VALLEY									
	DRAINAGE AREA.-- 16000 SQ MI.			DATUM OF GAGE.-- 1231.81 FT.			24 YEARS OF RECORD		
2	VOLUME	12,000	27,800	43,100	56,400	71,400	95,300	132,000	153,000
	DISCHARGE	6,070	4,670	3,110	1,900	1,200	801	555	421
	GAGE HEIGHT	12.4	11.3	9.9	8.4	7.4	6.5	5.9	5.4
5	VOLUME	31,000	73,600	116,000	148,000	175,000	216,000	288,000	318,000
	DISCHARGE	15,600	12,400	8,380	4,990	2,950	1,810	1,210	875
	GAGE HEIGHT	14.0	14.0	13.5	11.6	9.7	8.3	7.4	6.7
10	VOLUME	45,600	111,000	181,000	231,000	264,000	313,000	414,000	446,000
	DISCHARGE	23,000	18,700	13,000	7,750	4,440	2,630	1,740	1,230
	GAGE HEIGHT	14.0	14.0	14.0	13.3	11.2	9.4	8.2	7.4
25	VOLUME	63,800	161,000	273,000	351,000	392,000	448,000	589,000	620,000
	DISCHARGE	32,200	27,100	19,700	11,800	6,590	3,770	2,470	1,710
	GAGE HEIGHT	14.0 A	14.0	14.0	14.0	12.7	10.5	9.2	8.2
50	VOLUME	76,400	198,000	346,000	448,000	493,000	553,000	726,000	754,000
	DISCHARGE	38,500	33,300	24,900	15,100	8,290	4,650	3,050	2,080
	GAGE HEIGHT	14.0 A	14.0 A	14.0	14.0	13.5	11.3	9.8	8.7
064840 DRY CREEK AT HAWARDEN									
	DRAINAGE AREA.-- 48.4 SQ MI.			DATUM OF GAGE.-- 1170.42 FT.			21 YEARS OF RECORD		
2	VOLUME	769	1,200	1,590	1,950	2,250	2,510	2,990	3,250
	DISCHARGE	388	202	114	65	38	21	13	9
	GAGE HEIGHT	8.0	7.4	6.9	6.5	6.2	6.0	5.8	5.7
5	VOLUME	2,160	3,630	4,930	5,740	6,490	6,960	8,380	9,040
	DISCHARGE	1,090	609	355	193	109	59	35	25
	GAGE HEIGHT	9.1	8.5	7.9	7.3	6.9	6.5	6.2	6.0
10	VOLUME	3,410	6,090	8,360	9,390	10,500	11,200	13,600	14,600
	DISCHARGE	1,720	1,020	602	316	176	94	57	40
	GAGE HEIGHT	9.7	9.1	8.5	7.8	7.2	6.8	6.5	6.3
25	VOLUME	5,200	10,100	14,000	15,100	16,500	17,800	21,800	23,400
	DISCHARGE	2,620	1,700	1,010	507	278	150	92	65
	GAGE HEIGHT	10.2 B	9.7	9.1	8.3	7.7	7.1	6.7	6.5
50	VOLUME	6,620	13,700	19,000	19,900	21,500	23,400	29,000	31,000
	DISCHARGE	3,340	2,200	1,370	668	362	197	122	85
	GAGE HEIGHT	0.0 B	10.0 B	9.4	8.6	8.0	7.3	7.0	6.7
066C0000 PERRY CREEK AT 38TH STREET SIOUX CITY									
	DRAINAGE AREA.-- 65.1 SQ MI.			DATUM OF GAGE.-- 1117.04 FT.			24 YEARS OF RECORD		
2	VOLUME	1,280	1,930	2,430	2,940	3,710	4,640	6,100	7,360
	DISCHARGE	647	324	175	99	62	39	26	20
	GAGE HEIGHT	4.5	3.1	2.3	1.9	1.6	1.4	1.2	1.2
5	VOLUME	2,370	3,580	5,190	6,140	7,560	8,900	11,700	14,400
	DISCHARGE	1,190	669	374	206	127	75	49	40
	GAGE HEIGHT	6.6	4.6	3.3	2.5	2.1	1.7	1.5	1.5
10	VOLUME	3,100	5,540	7,320	8,580	10,500	12,000	16,000	20,000
	DISCHARGE	1,560	931	527	289	176	101	67	55
	GAGE HEIGHT	7.8	5.6	4.0	2.9	2.3	1.9	1.7	1.6
25	VOLUME	3,970	7,600	10,100	11,800	14,400	16,000	21,700	28,100
	DISCHARGE	2,000	1,280	730	397	243	135	91	77
	GAGE HEIGHT	9.1	6.9	4.9	3.4	2.7	2.1	1.9	1.8
50	VOLUME	4,570	9,140	12,200	14,300	17,400	19,000	26,100	34,600
	DISCHARGE	2,310	1,540	881	479	292	159	110	95
	GAGE HEIGHT	10.0	7.7	5.5	3.8	2.9	2.2	2.0	1.9

A FROM RATING CURVE EXTENDED ABOVE 29400 CFS.
B FROM RATING CURVE EXTENDED ABOVE 2210 CFS.

HIGH FLOW DURATION AND FREQUENCY DATA FOR IOWA STREAMS: FLOOD VOLUME (IN ACRE-FEET) AND CORRESPONDING MEAN DISCHARGE (IN CFS) AND GAGE HEIGHT (IN FEET) FOR INDICATED PERIOD IN DAYS AND RECURRENCE INTERVAL

RECURRENCE INTERVAL (YEARS)	PERIOD IN DAYS							
	1	3	7	15	30	60	120	183
06600100 FLOYD RIVER AT ALTON								
	DRAINAGE AREA.-- 265 SQ MI.		DATUM OF GAGE.-- 1269.55 FT.			17 YEARS OF RECORD		
2	VOLUME	2,140	4,150	5,640	7,100	8,590	11,000	15,100
	DISCHARGE	1,080	697	406	239	144	92	63
	GAGE HEIGHT	12.9	11.5	10.0	8.8	8.0	7.4	7.1
5	VOLUME	7,030	13,600	19,700	23,300	27,200	32,400	41,700
	DISCHARGE	3,540	2,290	1,420	782	457	273	175
	GAGE HEIGHT	16.6	15.4	13.8	11.8	10.3	9.1	8.2
10	VOLUME	12,100	23,900	36,600	41,700	47,500	53,700	66,700
	DISCHARGE	6,100	4,020	2,640	1,400	798	451	280
	GAGE HEIGHT	17.5	16.9	15.8	13.8	11.9	10.3	9.1
25	VOLUME	20,300	41,600	68,900	75,700	83,100	87,500	105,000
	DISCHARGE	10,300	7,000	4,960	2,540	1,400	735	442
	GAGE HEIGHT	0.0	17.7	17.2	15.7	13.7	11.6	10.2
06600300 WEST BRANCH FLOYD RIVER NEAR STRUBLE								
	DRAINAGE AREA.-- 181 SQ MI.		DATUM OF GAGE.-- 1,239.40 FT.			16 YEARS OF RECORD		
2	VOLUME	1,780	2,870	3,900	4,570	5,500	6,460	8,720
	DISCHARGE	897	483	281	154	92	54	37
	GAGE HEIGHT	9.3	7.6	6.5	5.6	5.1	4.7	4.4
5	VOLUME	5,330	9,630	14,000	15,700	17,800	19,500	25,500
	DISCHARGE	2,690	1,620	1,010	529	299	164	107
	GAGE HEIGHT	13.8	11.6	9.7	7.8	6.6	5.7	5.2
10	VOLUME	9,290	18,100	27,200	30,100	33,000	35,300	45,000
	DISCHARGE	4,680	3,040	1,960	1,010	554	297	189
	GAGE HEIGHT	15.0	14.1	12.5	9.7	7.9	6.6	5.9
25	VOLUME	16,500	35,400	55,200	60,100	63,900	67,300	82,800
	DISCHARGE	8,340	5,940	3,980	2,020	1,070	566	348
	GAGE HEIGHT	15.6 A	15.2	14.6	12.7	9.9	8.0	6.9
06600500 FLOYD RIVER AT JAMES								
	DRAINAGE AREA.-- 882 SQ MI.		DATUM OF GAGE.-- 1,092.59 FT.			36 YEARS OF RECORD		
2	VOLUME	5,720	13,800	22,300	31,300	40,600	52,800	71,600
	DISCHARGE	2,890	2,310	1,600	1,050	683	444	301
	GAGE HEIGHT	17.8	16.9	15.5	14.3	13.3	12.5	12.0
5	VOLUME	14,800	35,000	55,100	72,600	89,800	112,000	150,000
	DISCHARGE	7,480	5,890	3,970	2,440	1,510	940	631
	GAGE HEIGHT	22.9	21.4	19.2	17.1	15.4	14.1	13.2
10	VOLUME	24,200	54,700	83,200	105,000	126,000	154,000	209,000
	DISCHARGE	12,200	9,200	5,990	3,530	2,110	1,300	880
	GAGE HEIGHT	26.5	24.4	21.5	18.6	16.5	14.9	13.9
25	VOLUME	40,600	85,300	123,000	148,000	171,000	206,000	287,000
	DISCHARGE	20,500	14,300	8,890	4,970	2,870	1,730	1,210
	GAGE HEIGHT	30.9 B	27.8	24.1	20.4	17.7	15.8	14.7
50	VOLUME	56,600	112,000	155,000	180,000	202,000	242,000	344,000
	DISCHARGE	28,500	18,800	11,200	6,040	3,400	2,030	1,450
	GAGE HEIGHT	34.4 B	30.0 B	25.8	21.5	18.5	16.4	15.2
100	VOLUME	76,100	140,000	188,000	210,000	231,000	275,000	399,000
	DISCHARGE	38,400	23,600	13,500	7,060	3,890	2,310	1,680
	GAGE HEIGHT	38.0 B	32.4 B	27.3	22.5	19.1	16.9	15.7

A FROM RATING CURVE EXTENDED ABOVE 8060 CFS.

B FROM RATING CURVE EXTENDED ABOVE 14700 CFS.

HIGH FLOW DURATION AND FREQUENCY DATA FOR IOWA STREAMS: FLOOD VOLUME (IN ACRE-FEET) AND CORRESPONDING MEAN DISCHARGE (IN CFS) AND GAGE HEIGHT (IN FEET) FOR INDICATED PERIOD IN DAYS AND RECURRENCE INTERVAL

RECURRENCE INTERVAL (YEARS)	PERIOD IN DAYS							
	1	3	7	15	30	60	120	183
06602000 WEST FORK DITCH AT HOLLY SPRINGS								
	DRAINAGE AREA.-- 399 SQ MI.		DATUM OF GAGE.--1,052.82 FT.			30 YEARS OF RECORD		
2	VOLUME	4,770	10,400	15,100	19,600	25,700	33,700	44,000
	DISCHARGE	2,400	1,740	1,090	660	433	283	185
	GAGE HEIGHT	12.5	10.7	8.5	6.8	5.7	4.8	4.1
5	VOLUME	9,210	18,800	27,700	34,500	42,500	54,200	72,500
	DISCHARGE	4,640	3,160	2,000	1,160	714	455	305
	GAGE HEIGHT	16.5	14.1	11.5	8.8	7.1	5.8	5.0
10	VOLUME	12,200	23,700	34,900	42,100	50,200	63,700	88,100
	DISCHARGE	6,150	3,980	2,510	1,420	844	536	370
	GAGE HEIGHT	18.3	15.5	12.7	9.7	7.6	6.2	5.3
25	VOLUME	15,700	28,700	42,200	49,200	56,800	72,000	104,000
	DISCHARGE	7,930	4,820	3,040	1,650	954	605	436
	GAGE HEIGHT	20.1	16.8	13.9	10.5	8.1	6.5	5.7
50	VOLUME	18,100	31,700	46,400	53,000	60,000	76,200	113,000
	DISCHARGE	9,130	5,330	3,340	1,780	1,010	640	474
	GAGE HEIGHT	20.8	17.4	14.4	10.8	8.3	6.7	5.9
100	VOLUME	20,300	34,200	49,700	55,800	62,400	79,200	120,000
	DISCHARGE	10,200	5,740	3,580	1,880	1,050	665	505
	GAGE HEIGHT	21.5	17.9	14.9	11.1	8.4	6.8	6.1
06602400 MONONA-HARRISON DITCH NEAR TURIN								
	DRAINAGE AREA.-- 900 SQ MI.		DATUM OF GAGE.-- 1020.00 FT.			33 YEARS OF RECORD		
2	VOLUME	13,100	31,700	55,100	79,300	112,000	151,000	204,000
	DISCHARGE	6,600	5,320	3,970	2,660	1,880	1,270	856
	GAGE HEIGHT	15.0	4.9	4.8	4.7	4.6	4.5	4.4
5	VOLUME	22,300	57,200	108,000	166,000	236,000	326,000	459,000
	DISCHARGE	11,200	9,610	7,800	5,560	3,970	2,740	1,930
	GAGE HEIGHT	18.9	17.7	16.1	5.0	4.8	4.7	4.6
10	VOLUME	27,900	73,200	144,000	231,000	332,000	472,000	694,000
	DISCHARGE	14,100	12,300	10,400	7,750	5,580	3,960	2,920
	GAGE HEIGHT	20.6	19.6	18.3	16.0	5.0	4.8	4.7
25	VOLUME	34,200	91,100	188,000	315,000	461,000	683,000	1,070,000
	DISCHARGE	17,300	15,300	13,000	10,600	7,740	5,740	4,500
	GAGE HEIGHT	22.1	21.2	20.3	18.4	16.0	5.0	4.9
50	VOLUME	38,300	103,000	217,000	378,000	558,000	856,000	1,410,000
	DISCHARGE	19,300	17,200	15,600	12,700	9,380	7,190	5,930
	GAGE HEIGHT	22.8	22.1	21.4	19.8	17.5	15.5	5.0
100	VOLUME	41,900	113,000	244,000	439,000	655,000	1,040,000	1,800,000
	DISCHARGE	21,100	18,900	17,500	14,700	11,000	8,730	7,580
	GAGE HEIGHT	23.4 A	22.7	22.2	21.0	18.7	16.9	15.9
06605600 LITTLE SIOUX RIVER AT GILLET GROVE								
	DRAINAGE AREA.-- 1,334 SQ MI.		DATUM OF GAGE.--1,266.84 FT.			13 YEARS OF RECORD		
2	VOLUME	6,920	22,800	41,700	62,400	91,900	129,000	174,000
	DISCHARGE	3,490	3,840	3,000	2,100	1,540	1,090	732
	GAGE HEIGHT	12.3	12.6	11.9	10.7	9.5	8.2	6.9
5	VOLUME	16,100	51,000	93,700	137,000	187,000	249,000	353,000
	DISCHARGE	8,130	8,570	6,750	4,600	3,140	2,100	1,480
	GAGE HEIGHT	15.1	15.2	14.4	13.1	12.0	10.7	9.3
10	VOLUME	25,500	76,300	139,000	197,000	250,000	318,000	469,000
	DISCHARGE	12,900	12,800	10,000	6,630	4,200	2,670	1,970
	GAGE HEIGHT	16.8	16.8	15.8	14.3	12.8	11.5	10.4

A FROM RATING CURVE EXTENDED ABOVE 19800 CFS.

HIGH FLOW DURATION AND FREQUENCY DATA FOR IOWA STREAMS: FLOOD VOLUME (IN ACRE-FEET) AND CORRESPONDING MEAN DISCHARGE (IN CFS) AND GAGE HEIGHT (IN FEET) FOR INDICATED PERIOD IN DAYS AND RECURRENCE INTERVAL

RECURRENCE INTERVAL (YEARS)	PERIOD IN DAYS							
	1	3	7	15	30	60	120	183
06606600 LITTLE SIOUX RIVER AT CORRECTIONVILLE								
	DRAINAGE AREA.-- 2,500 SQ MI.		DATUM OF GAGE.--1,096.49 FT.			44 YEARS OF RECORD		
2	VOLUME	11,700	27,900	51,600	85,800	129,000	198,000	289,000
	DISCHARGE	5,890	4,690	3,720	2,880	2,170	1,670	1,210
	GAGE HEIGHT	17.2	15.4	13.8	12.2	10.8	9.8	8.7
5	VOLUME	23,000	57,100	109,000	179,000	258,000	368,000	542,000
	DISCHARGE	11,600	9,600	7,840	6,030	4,340	3,090	2,280
	GAGE HEIGHT	20.9	20.1	19.0	17.3	14.8	12.6	11.1
10	VOLUME	31,700	81,500	159,000	255,000	353,000	476,000	707,000
	DISCHARGE	16,000	13,700	11,400	8,580	5,940	4,000	2,970
	GAGE HEIGHT	22.2	21.6	20.8	19.5	17.2	14.2	12.4
25	VOLUME	43,600	117,000	234,000	362,000	475,000	596,000	899,000
	DISCHARGE	22,000	19,700	16,900	12,200	7,980	5,010	3,780
	GAGE HEIGHT	23.9	23.3	22.5	21.1	19.1	15.9	13.9
50	VOLUME	52,900	148,000	299,000	447,000	564,000	674,000	1,030,000
	DISCHARGE	26,700	24,800	21,600	15,000	9,480	5,660	4,320
	GAGE HEIGHT	25.1	24.6	23.8	21.9	20.0	16.9	14.8
100	VOLUME	62,400	180,000	372,000	535,000	650,000	742,000	1,140,000
	DISCHARGE	31,400	30,300	26,800	18,000	10,900	6,230	4,800
	GAGE HEIGHT	26.3 A	26.0	25.1	22.8	20.6	17.5	15.6
06606700 LITTLE SIOUX RIVER NEAR KENNEBEC								
	DRAINAGE AREA.-- 2,738 SQ MI.		DATUM OF GAGE.--1,027.02 FT.			30 YEARS OF RECORD		
2	VOLUME	13,600	33,600	62,100	100,000	150,000	222,000	322,000
	DISCHARGE	6,880	5,640	4,470	3,360	2,510	1,870	1,350
	GAGE HEIGHT	17.5	16.3	14.9	13.3	11.9	10.7	9.7
5	VOLUME	25,200	66,500	130,000	211,000	303,000	422,000	612,000
	DISCHARGE	12,700	11,200	9,350	7,110	5,100	3,540	2,570
	GAGE HEIGHT	21.4	20.5	19.4	17.7	15.8	13.6	12.0
10	VOLUME	32,300	89,800	183,000	299,000	414,000	554,000	814,000
	DISCHARGE	16,300	15,100	13,200	10,000	6,960	4,660	3,420
	GAGE HEIGHT	23.2	22.7	21.7	19.8	17.5	15.2	13.4
25	VOLUME	40,100	119,000	256,000	417,000	555,000	710,000	1,060,000
	DISCHARGE	20,200	20,000	18,400	14,000	9,320	5,970	4,470
	GAGE HEIGHT	24.7	24.7	24.1	22.2	19.4	16.6	14.9
50	VOLUME	45,000	140,000	312,000	508,000	655,000	814,000	1,240,000
	DISCHARGE	22,700	23,500	22,500	17,100	11,000	6,840	5,220
	GAGE HEIGHT	25.5	25.7	25.4	23.6	20.4	17.4	15.9
100	VOLUME	49,200	159,000	369,000	599,000	751,000	908,000	1,410,000
	DISCHARGE	24,800	26,700	26,600	20,100	12,600	7,630	5,920
	GAGE HEIGHT	26.1	26.5	26.5	24.7	21.4	18.1	16.6
06607000 ODEBOLT CREEK NEAR ARTHUR								
	DRAINAGE AREA.-- 39.3 SQ MI.		DATUM OF GAGE.--1,258.57 FT.			14 YEARS OF RECORD		
2	VOLUME	750	1,620	2,420	2,960	3,920	5,200	6,890
	DISCHARGE	398	273	174	100	66	44	29
	GAGE HEIGHT	5.6	4.9	4.2	3.6	3.2	3.0	2.8
5	VOLUME	1,730	3,390	4,820	5,960	7,370	9,100	11,300
	DISCHARGE	874	569	347	200	124	76	47
	GAGE HEIGHT	7.9	6.5	5.3	4.4	3.8	3.3	3.0
10	VOLUME	2,640	4,740	6,430	8,060	9,470	11,100	13,500
	DISCHARGE	1,330	756	463	271	159	94	57
	GAGE HEIGHT	9.6	7.6	6.0	4.9	4.1	3.5	3.1

A FROM RATING CURVE EXTENDED ABOVE 30400 CFS.

HIGH FLOW DURATION AND FREQUENCY DATA FOR IOWA STREAMS: FLOOD VOLUME (IN ACRE-FEET) AND CORRESPONDING MEAN DISCHARGE (IN CFS) AND GAGE HEIGHT (IN FEET) FOR INDICATED PERIOD IN DAYS AND RECURRENCE INTERVAL

RECURRENCE INTERVAL (YEARS)	PERIOD IN DAYS							
	1	3	7	15	30	60	120	183
06607200 MAPLE RIVER AT MAPLETON								
	DRAINAGE AREA.-- 669 SQ MI.		DATUM OF GAGE.--1,085.86 FT.			30 YEARS OF RECORD		
2	VOLUME	9,010	19,600	27,500	37,100	51,400	70,800	99,400
	DISCHARGE	4,540	3,290	1,980	1,250	864	595	418
	GAGE HEIGHT	8.8	7.5	5.7	4.4	3.6	3.0	2.5
5	VOLUME	16,700	37,400	54,200	70,200	92,400	119,000	166,000
	DISCHARGE	8,400	6,290	3,910	2,360	1,550	1,000	696
	GAGE HEIGHT	11.6	10.3	8.2	6.3	5.0	3.9	3.2
10	VOLUME	21,700	48,600	72,100	90,600	116,000	144,000	202,000
	DISCHARGE	10,900	8,160	5,190	3,050	1,940	1,210	848
	GAGE HEIGHT	13.1	11.5	9.4	7.2	5.7	4.3	3.6
25	VOLUME	27,500	60,700	93,000	113,000	139,000	167,000	238,000
	DISCHARGE	13,900	10,200	6,700	3,790	2,340	1,400	999
	GAGE HEIGHT	14.4	12.7	10.6	8.1	6.3	4.7	3.9
50	VOLUME	31,400	68,400	107,000	127,000	153,000	180,000	259,000
	DISCHARGE	15,800	11,500	7,700	4,250	2,570	1,510	1,090
	GAGE HEIGHT	15.2	13.4	11.2	8.5	6.6	4.9	4.1
100	VOLUME	34,900	74,900	119,000	138,000	164,000	189,000	276,000
	DISCHARGE	17,600	12,600	8,600	4,650	2,760	1,590	1,160
	GAGE HEIGHT	15.9	13.9	11.8	8.9	6.9	5.1	4.2
06607500 LITTLE SIOUX RIVER NEAR TURIN								
	DRAINAGE AREA.-- 3,526 SQ MI.		DATUM OF GAGE.--1,019.85 FT.			13 YEARS OF RECORD		
2	VOLUME	26,800	65,200	109,000	169,000	239,000	338,000	488,000
	DISCHARGE	13,500	11,000	7,830	5,690	4,020	2,840	2,050
	GAGE HEIGHT	21.6	20.2	18.0	15.9	13.7	11.8	10.4
5	VOLUME	45,400	119,000	216,000	345,000	474,000	620,000	869,000
	DISCHARGE	22,900	19,900	15,500	11,600	7,960	5,210	3,650
	GAGE HEIGHT	25.0	24.1	22.5	20.6	18.1	15.3	13.1
10	VOLUME	55,100	150,000	291,000	470,000	628,000	785,000	1,100,000
	DISCHARGE	27,800	25,300	20,900	15,800	10,500	6,600	4,610
	GAGE HEIGHT	26.2	25.6	24.4	22.6	20.0	16.8	14.5
06608500 SOLDIER RIVER AT PISGAH								
	DRAINAGE AREA.-- 407 SQ MI.		DATUM OF GAGE.--1,036.53 FT.			31 YEARS OF RECORD		
2	VOLUME	6,430	11,200	15,900	19,800	26,500	35,200	50,000
	DISCHARGE	3,240	1,880	1,150	665	445	296	210
	GAGE HEIGHT	10.3	8.7	7.9	7.0	6.5	6.0	5.7
5	VOLUME	10,500	19,000	26,600	32,600	43,700	56,100	81,000
	DISCHARGE	5,320	3,190	1,920	1,100	735	471	340
	GAGE HEIGHT	12.4	10.2	8.8	7.8	7.2	6.5	6.1
10	VOLUME	13,200	24,300	33,600	41,100	55,000	69,300	102,000
	DISCHARGE	6,670	4,090	2,420	1,380	924	582	431
	GAGE HEIGHT	13.8	11.2	9.4	8.2	7.5	6.8	6.4
25	VOLUME	16,400	31,000	42,000	51,300	68,500	84,800	130,000
	DISCHARGE	8,290	5,210	3,030	1,730	1,150	713	545
	GAGE HEIGHT	15.4	12.3	10.0	8.6	7.9	7.1	6.7
50	VOLUME	18,700	35,900	47,800	58,500	77,900	95,500	150,000
	DISCHARGE	9,420	6,030	3,440	1,970	1,310	802	630
	GAGE HEIGHT	16.5	13.1	10.5	8.8	8.1	7.3	6.9
100	VOLUME	20,800	40,600	53,200	65,300	86,700	105,000	170,000
	DISCHARGE	10,500	6,820	3,830	2,190	1,460	885	714
	GAGE HEIGHT	17.6	13.9	10.9	9.1	8.3	7.4	7.1

HIGH FLOW DURATION AND FREQUENCY DATA FOR IOWA STREAMS: FLOOD VOLUME (IN ACRE-Feet) AND CORRESPONDING MEAN DISCHARGE (IN CFS) AND GAGE HEIGHT (IN FEET) FOR INDICATED PERIOD IN DAYS AND RECURRENCE INTERVAL

RECURRENCE INTERVAL (YEARS)	PERIOD IN DAYS							
	1	3	7	15	30	60	120	183
06605500 BOYER RIVER AT LOGAN								
	DRAINAGE AREA.-- 871 SQ MI.		DATUM OF GAGE.--1,009.38 FT.			39 YEARS OF RECORD		
2	VOLUME	11,000	20,400	30,600	42,100	58,600	81,200	119,000
	DISCHARGE	5,570	3,420	2,200	1,420	985	682	501
	GAGE HEIGHT	10.5	8.6	7.2	6.1	5.3	4.7	4.3
5	VOLUME	18,100	34,100	50,800	69,400	94,900	130,000	190,000
	DISCHARGE	9,120	5,720	3,660	2,330	1,600	1,090	797
	GAGE HEIGHT	13.1	10.6	8.8	7.3	6.3	5.5	5.0
10	VOLUME	23,300	44,300	65,400	88,200	120,000	162,000	240,000
	DISCHARGE	11,700	7,440	4,710	2,970	2,010	1,360	1,010
	GAGE HEIGHT	14.8	12.0	9.8	8.1	6.9	6.0	5.4
25	VOLUME	30,300	58,300	84,700	112,000	151,000	203,000	306,000
	DISCHARGE	15,300	9,790	6,100	3,770	2,540	1,700	1,290
	GAGE HEIGHT	16.9	13.6	11.0	8.9	7.6	6.5	5.9
50	VOLUME	35,800	69,400	99,600	130,000	174,000	232,000	358,000
	DISCHARGE	18,000	11,700	7,170	4,370	2,930	1,950	1,500
	GAGE HEIGHT	18.6	14.8	11.8	9.5	8.0	6.8	6.2
100	VOLUME	41,500	81,100	115,000	148,000	197,000	260,000	410,000
	DISCHARGE	20,900	13,600	8,260	4,960	3,310	2,190	1,720
	GAGE HEIGHT	20.3	16.0	12.6	10.0	8.4	7.2	6.5
06610500 INDIAN CREEK AT COUNCIL BLUFFS								
	DRAINAGE AREA.-- 7.99 SQ MI.		DATUM OF GAGE.--1,038.86 FT.			17 YEARS OF RECORD		
2	VOLUME	103	157	202	288	369	479	656
	DISCHARGE	52	26	19	10	6	4	3
	GAGE HEIGHT	3.4	3.1	2.9	2.7	2.6	2.5	2.4
5	VOLUME	192	278	338	470	579	697	947
	DISCHARGE	57	47	24	16	10	6	4
	GAGE HEIGHT	3.9	3.3	3.0	2.9	2.7	2.6	2.5
10	VOLUME	266	371	426	573	695	815	1,100
	DISCHARGE	134	62	31	19	12	7	5
	GAGE HEIGHT	4.3	3.5	3.1	2.9	2.8	2.6	2.5
25	VOLUME	377	502	529	680	816	935	1,270
	DISCHARGE	190	84	38	23	14	8	5
	GAGE HEIGHT	4.8	3.8	3.2	3.0	2.8	2.7	2.6
06806000 WAUBONSIE CREEK NEAR BARTLETT								
	DRAINAGE AREA.-- 30.4 SQ MI.		DATUM OF GAGE.-- 936.96 FT.			23 YEARS OF RECORD		
2	VOLUME	874	1,190	1,430	1,900	2,510	3,210	4,420
	DISCHARGE	440	199	103	64	42	27	19
	GAGE HEIGHT	14.5	12.1	12.3	11.9	11.6	11.4	11.3
5	VOLUME	1,710	2,260	2,780	3,590	4,590	5,660	7,220
	DISCHARGE	861	381	200	121	77	48	30
	GAGE HEIGHT	16.3	14.2	13.1	12.5	12.0	11.7	11.5
10	VOLUME	2,350	3,080	3,850	4,820	6,060	7,540	9,280
	DISCHARGE	1,190	517	277	162	102	63	39
	GAGE HEIGHT	17.4	14.9	13.6	12.8	12.3	11.9	11.6
25	VOLUME	3,230	4,170	5,330	6,410	7,930	10,200	12,100
	DISCHARGE	1,630	700	384	215	133	85	51
	GAGE HEIGHT	18.7	15.7	14.2	13.2	12.6	12.1	11.7
50	VOLUME	3,920	5,000	6,520	7,570	9,280	12,300	14,300
	DISCHARGE	1,970	840	469	254	156	103	60
	GAGE HEIGHT	19.7	16.2	14.6	13.5	12.8	12.3	11.8

HIGH FLOW DURATION AND FREQUENCY DATA FOR IOWA STREAMS: FLOOD VOLUME (IN ACRE-FEET) AND CORRESPONDING MEAN DISCHARGE (IN CFS) AND GAGE HEIGHT (IN FEET) FOR INDICATED PERIOD IN DAYS AND RECURRENCE INTERVAL

RECURRENCE INTERVAL (YEARS)	PERIOD IN DAYS							
	1	3	7	15	30	60	120	183
06807410 WEST NISHNABOTNA RIVER AT HANCOCK								
	DRAINAGE AREA.-- 609 SQ MI.		DATUM OF GAGE.-- 1,085.83 FT.			12 YEARS OF RECORD		
2	VOLUME	7,820	16,500	26,700	38,300	54,500	73,700	103,000
	DISCHARGE	3,940	2,770	1,920	1,290	916	620	433
	GAGE HEIGHT	8.3	7.0	5.8	4.7	4.0	3.3	2.9
5	VOLUME	15,500	29,900	44,900	61,400	88,000	116,000	157,000
	DISCHARGE	7,840	5,030	3,230	2,060	1,480	977	658
	GAGE HEIGHT	11.9	9.4	7.5	6.0	5.1	4.2	3.4
10	VOLUME	22,400	39,600	55,800	73,100	104,000	135,000	179,000
	DISCHARGE	11,300	6,660	4,020	2,460	1,750	1,140	754
	GAGE HEIGHT	14.6	10.9	8.4	6.5	5.5	4.5	3.7
06808000 MULE CREEK NEAR MALVERN								
	DRAINAGE AREA.-- 10.6 SQ MI.		DATUM OF GAGE.-- 974.20 FT.			15 YEARS OF RECORD		
2	VOLUME	265	367	479	688	928	1,270	1,730
	DISCHARGE	133	62	35	23	16	11	7
	GAGE HEIGHT	6.8	6.0	5.5	5.2	5.0	4.8	4.6
5	VOLUME	550	690	828	1,100	1,450	1,860	2,490
	DISCHARGE	277	116	60	37	24	16	10
	GAGE HEIGHT	8.2	6.6	6.0	5.6	5.2	5.0	4.8
10	VOLUME	711	859	1,000	1,290	1,700	2,140	2,890
	DISCHARGE	359	144	72	43	29	18	12
	GAGE HEIGHT	8.8	7.0	6.1	5.7	5.4	5.1	4.8
25	VOLUME	869	1,020	1,160	1,450	1,930	2,390	3,280
	DISCHARGE	438	171	84	49	32	20	14
	GAGE HEIGHT	9.4	7.2	6.3	5.8	5.5	5.1	4.9
06808500 WEST NISHNABOTNA RIVER AT RANDOLPH								
	DRAINAGE AREA.-- 1,326 SQ MI.		DATUM OF GAGE.-- 932.99 FT.			23 YEARS OF RECORD		
2	VOLUME	23,000	41,400	54,900	75,500	104,000	143,000	205,000
	DISCHARGE	11,600	6,560	3,950	2,540	1,750	1,200	861
	GAGE HEIGHT	16.2	14.1	12.3	11.1	10.2	9.5	9.0
5	VOLUME	34,800	62,400	85,000	122,000	169,000	231,000	328,000
	DISCHARGE	17,600	10,500	6,120	4,100	2,850	1,940	1,380
	GAGE HEIGHT	18.2	15.7	13.6	12.4	11.3	10.4	9.7
10	VOLUME	38,900	69,900	98,200	145,000	203,000	279,000	399,000
	DISCHARGE	19,600	11,700	7,070	4,860	3,420	2,350	1,680
	GAGE HEIGHT	18.9	16.2	14.1	12.9	11.8	10.9	10.1
25	VOLUME	41,600	75,000	109,000	165,000	236,000	330,000	477,000
	DISCHARGE	21,000	12,600	7,860	5,540	3,970	2,770	2,000
	GAGE HEIGHT	19.3	16.5	14.5	13.3	12.3	11.3	10.5
50	VOLUME	42,600	77,000	114,000	176,000	254,000	361,000	526,000
	DISCHARGE	21,500	12,900	8,240	5,900	4,280	3,030	2,210
	GAGE HEIGHT	19.4	16.6	14.7	13.5	12.5	11.5	10.7

HIGH FLOW DURATION AND FREQUENCY DATA FOR IOWA STREAMS: FLOOD VOLUME (IN ACRE-Feet) AND CORRESPONDING MEAN DISCHARGE (IN CFS) AND GAGE HEIGHT (IN FEET) FOR INDICATED PERIOD IN DAYS AND RECURRENCE INTERVAL

RECURRENCE INTERVAL (YEARS)	PERIOD IN DAYS							
	1	3	7	15	30	60	120	183
06809000 DAVIDS CREEK NEAR HAMLIN								
	DRAINAGE AREA.-- 26 SQ MI.		DATUM OF GAGE.-- 1266.54 FT.			20 YEARS OF RECORD		
2	VOLUME	622	1,150	1,690	2,120	2,780	3,570	4,930
	DISCHARGE	314	194	122	71	47	30	21
	GAGE HEIGHT	9.3	8.3	7.7	7.2	6.6	6.0	6.0
5	VOLUME	1,180	2,050	2,810	3,540	4,590	5,860	8,120
	DISCHARGE	593	345	203	119	77	49	34
	GAGE HEIGHT	11.1	9.5	8.4	7.7	7.2	6.7	6.1
10	VOLUME	1,490	2,480	3,280	4,160	5,350	6,800	9,580
	DISCHARGE	750	417	236	140	90	57	40
	GAGE HEIGHT	12.0	10.0	8.7	7.9	7.4	7.0	6.4
25	VOLUME	1,800	2,850	3,640	4,650	5,920	7,500	10,800
	DISCHARGE	909	479	262	156	100	63	45
	GAGE HEIGHT	12.6	10.4	8.9	8.0	7.5	7.1	6.6
50	VOLUME	1,980	3,030	3,790	4,880	6,180	7,810	11,400
	DISCHARGE	999	510	273	164	104	66	48
	GAGE HEIGHT	13.0	10.6	9.0	8.1	7.5	7.1	6.6
06809210 EAST NISHNABOTNA RIVER NEAR ATLANTIC								
	DRAINAGE AREA.-- 432 SQ MI.		DATUM OF GAGE.-- 1110.83 FT.			12 YEARS OF RECORD		
2	VOLUME	10,400	19,800	31,300	42,000	57,800	70,900	96,800
	DISCHARGE	5,230	3,330	2,260	1,410	971	596	407
	GAGE HEIGHT	11.2	9.4	8.1	6.8	6.0	5.2	4.8
5	VOLUME	22,000	40,700	52,300	64,600	86,800	105,000	142,000
	DISCHARGE	11,100	6,840	3,770	2,170	1,460	886	599
	GAGE HEIGHT	15.2	12.5	9.8	8.0	6.9	5.9	5.2
10	VOLUME	29,700	52,600	60,000	71,400	95,000	116,000	157,000
	DISCHARGE	15,000	8,840	4,320	2,400	1,600	972	659
	GAGE HEIGHT	17.2	13.8	10.4	8.3	7.1	6.0	5.4
06809500 EAST NISHNABOTNA RIVER AT RED OAK								
	DRAINAGE AREA.-- 894 SQ MI.		DATUM OF GAGE.-- 1,005.45 FT.			34 YEARS OF RECORD		
2	VOLUME	14,800	30,200	42,500	57,200	80,300	110,000	153,000
	DISCHARGE	7,470	5,080	3,060	1,920	1,350	924	644
	GAGE HEIGHT	14.5	12.3	10.1	8.6	7.7	6.9	6.3
5	VOLUME	24,400	49,500	67,200	90,100	127,000	171,000	243,000
	DISCHARGE	12,300	8,320	4,840	3,030	2,140	1,440	1,020
	GAGE HEIGHT	18.0	15.2	12.0	10.1	8.9	7.9	7.1
10	VOLUME	31,300	63,700	84,700	114,000	161,000	213,000	308,000
	DISCHARGE	15,800	10,700	6,100	3,840	2,710	1,790	1,290
	GAGE HEIGHT	20.1	16.9	13.2	11.0	9.7	8.4	7.6
25	VOLUME	40,400	83,000	107,000	148,000	207,000	267,000	395,000
	DISCHARGE	20,400	13,900	7,740	4,960	3,490	2,240	1,660
	GAGE HEIGHT	22.4	19.0	14.7	12.2	10.6	9.1	8.2
50	VOLUME	47,600	98,100	125,000	174,000	244,000	306,000	462,000
	DISCHARGE	24,000	16,500	8,990	5,850	4,100	2,570	1,940
	GAGE HEIGHT	23.8	20.5	15.7	13.0	11.3	9.5	8.6
100	VOLUME	54,900	114,000	142,000	202,000	282,000	346,000	532,000
	DISCHARGE	27,700	19,100	10,300	6,790	4,740	2,910	2,240
	GAGE HEIGHT	25.0	21.8	16.6	13.9	11.9	9.9	9.0

HIGH FLOW DURATION AND FREQUENCY DATA FOR IOWA STREAMS: FLOOD VOLUME (IN ACRE-FEET) AND CORRESPONDING MEAN DISCHARGE (IN CFS) AND GAGE HEIGHT (IN FEET) FOR INDICATED PERIOD IN DAYS AND RECURRENCE INTERVAL

RECURRENCE INTERVAL (YEARS)	PERIOD IN DAYS							
	1	3	7	15	30	60	120	183
06810000 NISHNABOTNA RIVER ABOVE HAMBURG								
	DRAINAGE AREA.-- 2,806 SQ MI.		DATUM OF GAGE.-- 894.17 FT.			44 YEARS OF RECORD		
2	VOLUME	26,000	61,800	57,700	138,000	193,000	259,000	375,000
	DISCHARGE	13,100	10,400	7,030	4,640	3,240	2,180	1,570
	GAGE HEIGHT	21.5	20.0	17.4	15.0	13.2	11.4	10.2
5	VOLUME	40,600	98,900	162,000	236,000	335,000	450,000	639,000
	DISCHARGE	20,500	16,600	11,700	7,930	5,630	3,780	2,680
	GAGE HEIGHT	24.8 A	23.2	20.7	18.1	16.1	13.9	12.3
10	VOLUME	47,300	117,000	197,000	295,000	423,000	574,000	812,000
	DISCHARGE	23,800	19,700	14,200	9,920	7,120	4,820	3,410
	GAGE HEIGHT	25.9 A	24.5 A	22.1	19.7	17.5	15.2	13.4
25	VOLUME	53,000	134,000	232,000	360,000	523,000	721,000	1,020,000
	DISCHARGE	26,700	22,500	16,700	12,100	8,780	6,060	4,280
	GAGE HEIGHT	26.8 A	25.5 A	23.3	21.0	18.8	16.6	14.5
50	VOLUME	55,900	143,000	252,000	401,000	587,000	821,000	1,160,000
	DISCHARGE	28,200	24,000	18,200	13,500	9,870	6,900	4,880
	GAGE HEIGHT	27.2 A	26.0 A	23.9	21.7	19.6	17.3	15.3
100	VOLUME	58,000	150,000	269,000	436,000	644,000	913,000	1,290,000
	DISCHARGE	29,300	25,100	19,400	14,700	10,800	7,670	5,430
	GAGE HEIGHT	27.4 A	26.3 A	24.4 A	22.3	20.2	17.9	15.9
06811840 TARKIO RIVER AT STANTON								
	DRAINAGE AREA.-- 49.3 SQ MI.		DATUM OF GAGE.-- 1,104.67 FT.			14 YEARS OF RECORD		
2	VOLUME	1,460	2,210	2,940	4,020	5,620	7,630	11,300
	DISCHARGE	737	371	212	135	95	64	47
	GAGE HEIGHT	11.2	10.4	10.0	9.7	9.6	9.4	9.3
5	VOLUME	2,830	4,880	6,540	8,850	11,600	14,800	19,700
	DISCHARGE	1,430	820	471	297	194	124	83
	GAGE HEIGHT	12.5	11.4	10.7	10.2	9.9	9.7	9.5
10	VOLUME	3,500	6,680	8,940	12,000	15,200	18,800	23,400
	DISCHARGE	1,770	1,120	644	404	255	158	98
	GAGE HEIGHT	13.1	12.0	11.1	10.5	10.1	9.8	9.6
06817000 NODAWAY RIVER AT CLARINDA								
	DRAINAGE AREA.-- 762 SQ MI.		DATUM OF GAGE.-- 960.36 FT.			37 YEARS OF RECORD		
2	VOLUME	15,800	29,500	37,800	52,200	70,900	95,900	133,000
	DISCHARGE	7,950	4,960	2,720	1,750	1,190	806	558
	GAGE HEIGHT	11.0	8.8	6.6	5.4	4.4	3.7	3.1
5	VOLUME	23,900	46,200	62,400	87,700	121,000	161,000	222,000
	DISCHARGE	12,100	7,770	4,490	2,950	2,030	1,350	933
	GAGE HEIGHT	13.5	10.9	8.4	6.9	5.7	4.7	4.0
10	VOLUME	26,900	53,200	74,900	107,000	149,000	196,000	274,000
	DISCHARGE	13,600	8,950	5,400	3,600	2,510	1,650	1,150
	GAGE HEIGHT	14.3	11.7	9.2	7.6	6.3	5.2	4.4
25	VOLUME	29,000	58,800	86,700	126,000	178,000	232,000	329,000
	DISCHARGE	14,600	9,880	6,240	4,240	2,990	1,950	1,380
	GAGE HEIGHT	14.8	12.2	9.8	8.2	6.9	5.6	4.8
50	VOLUME	29,900	61,400	93,100	137,000	195,000	253,000	363,000
	DISCHARGE	15,100	10,300	6,710	4,610	3,270	2,130	1,530
	GAGE HEIGHT	15.0	12.5	10.2	8.5	7.2	5.9	5.0
100	VOLUME	30,400	63,100	98,100	146,000	209,000	270,000	392,000
	DISCHARGE	15,300	10,600	7,070	4,900	3,510	2,270	1,650
	GAGE HEIGHT	15.2	12.7	10.4	8.8	7.5	6.1	5.2

A FROM RATING CURVE EXTENDED ABOVE 18300 CFS.

HIGH FLOW DURATION AND FREQUENCY DATA FOR IOWA STREAMS: FLOOD VOLUME (IN ACRE-FEET) AND CORRESPONDING MEAN DISCHARGE (IN CFS) AND GAGE HEIGHT (IN FEET) FOR INDICATED PERIOD IN DAYS AND RECURRENCE INTERVAL

RECURRENCE INTERVAL (YEARS)	PERIOD IN DAYS							
	1	3	7	15	30	60	120	183
06819190 EAST FORK ONE HUNDRED AND TWO RIVER NEAR BEDFORD								
	DRAINAGE AREA.-- 92.1 SQ MI.		DATUM OF GAGE.-- 1,057.51 FT.			12 YEARS OF RECORD		
2	VOLUME	3,850	6,470	7,920	10,200	13,100	16,500	21,200
	DISCHARGE	1,540	1,090	570	342	220	138	89
	GAGE HEIGHT	8.7	6.9	5.6	4.9	4.5	4.1	3.8
5	VOLUME	6,400	10,500	12,600	15,300	19,600	24,800	33,800
	DISCHARGE	3,230	1,760	907	514	329	208	142
	GAGE HEIGHT	10.9	8.3	6.5	5.5	4.9	4.4	4.1
10	VOLUME	7,920	12,500	15,000	17,700	22,400	28,500	40,400
	DISCHARGE	3,990	2,110	1,080	594	377	239	170
	GAGE HEIGHT	12.2	9.0	6.9	5.7	5.0	4.6	4.3
06858000 THOMPSON RIVER AT DAVIS CITY								
	DRAINAGE AREA.-- 701 SQ MI.		DATUM OF GAGE.-- 874.04 FT.			35 YEARS OF RECORD		
2	VOLUME	12,500	30,500	44,000	61,700	82,200	113,000	157,000
	DISCHARGE	6,320	5,120	3,170	2,070	1,380	945	659
	GAGE HEIGHT	9.1	8.1	6.4	5.3	4.5	3.9	3.4
5	VOLUME	19,700	49,500	69,700	97,900	133,000	181,000	262,000
	DISCHARGE	9,920	8,320	5,020	3,290	2,230	1,520	1,100
	GAGE HEIGHT	11.6	10.5	8.1	6.5	5.5	4.7	4.1
10	VOLUME	24,800	63,000	87,900	123,000	169,000	229,000	334,000
	DISCHARGE	12,500	10,600	6,330	4,140	2,840	1,920	1,400
	GAGE HEIGHT	13.2 A	12.1 A	9.1	7.3	6.1	5.1	4.5
25	VOLUME	31,600	80,700	112,000	156,000	218,000	289,000	424,000
	DISCHARGE	15,900	13,600	8,050	5,240	3,670	2,430	1,780
	GAGE HEIGHT	15.2 A	13.9 A	10.3	8.2	6.9	5.7	5.0
50	VOLUME	36,900	94,300	130,000	180,000	257,000	334,000	488,000
	DISCHARGE	18,600	15,800	9,380	6,070	4,320	2,810	2,050
	GAGE HEIGHT	16.5 A	15.2 A	11.3	8.9	7.4	6.1	5.3
100	VOLUME	42,400	108,000	149,000	205,000	297,000	378,000	550,000
	DISCHARGE	21,400	18,200	10,700	6,900	4,990	3,180	2,310
	GAGE HEIGHT	17.8 A	16.3 A	12.1 A	9.5	8.0	6.4	5.5
06858400 WELDON RIVER NEAR LEON								
	DRAINAGE AREA.-- 104 SQ MI.		DATUM OF GAGE.-- 906.26 FT.			13 YEARS OF RECORD		
2	VOLUME	5,710	9,530	11,000	13,400	17,800	21,700	27,400
	DISCHARGE	2,880	1,600	792	451	299	182	115
	GAGE HEIGHT	12.9	10.7	8.8	7.6	6.8	6.2	5.8
5	VOLUME	10,900	16,400	18,000	20,000	26,300	33,800	44,800
	DISCHARGE	5,500	2,750	1,290	673	441	284	188
	GAGE HEIGHT	16.7	12.7	10.1	8.4	7.5	6.8	6.3
10	VOLUME	16,000	21,400	22,800	24,200	31,000	42,300	58,400
	DISCHARGE	8,070	3,600	1,640	814	521	355	245
	GAGE HEIGHT	19.9	14.0	10.8	8.9	7.9	7.1	6.6

I N D E X

S T A T I O N N A M E	S T A . N O .
- B -	
BEAR CREEK NEAR MONMOUTH	5-4177.00
BEAVER CREEK NEAR GRIMES	5-4819.50
BEAVER CREEK AT NEW HARTFORD	5-4630.00
BIG BEAR CREEK AT LADORA	5-4530.00
BIG CEDAR CREEK NEAR VARIVA	5-4821.70
BIG CREEK NEAR MOUNT PLEASANT	5-4735.00
BLACK HAWK CREEK AT HUDSON	5-4635.00
BOONE RIVER NEAR WEBSTER CITY	5-4810.00
BOYER RIVER AT LOGAN	6-6095.00
- C -	
CEDAR CREEK NEAR BUSSEY	5-4890.00
CEDAR RIVER AT CEDAR RAPIDS	5-4645.00
CEDAR RIVER NEAR CONESVILLE	5-4650.00
CEDAR RIVER AT JANESVILLE	5-4585.00
CEDAR RIVER AT WATERLOO	5-4640.00
CLEAR CREEK NEAR CORALVILLE	5-4543.00
- D -	
DAVIDS CREEK NEAR HAMLIN	6-8090.00
DES MOINES RIVER AT ESTHERVILLE	5-4765.00
DES MOINES RIVER AT FORT DODGE	5-4805.00
DES MOINES RIVER NEAR STRATFORD	5-4813.00
DRY CREEK AT HAWARDEN	0- 648.40
- E -	
EAST BRANCH IOWA RIVER NEAR KLEMME	5-4490.00
EAST FORK DES MOINES RIVER NEAR BURT	5-4780.00
EAST FORK DES MOINES RIVER AT DAKOTA CITY	5-4790.00
EAST FORK HARDIN CREEK NEAR CHURDAN	5-4830.00
EAST FORK ONE HUNDRED AND TWO RIVER NEAR BED	6-8191.90
EAST NISHNABOTNA RIVER NEAR ATLANTIC	6-8092.10
EAST NISHNABOTNA RIVER AT RED OAK	6-8095.00
ENGLISH RIVER AT KALONA	5-4555.00
- F -	
FLOYD RIVER AT ALTON	6-6001.00

I N D E X

S T A T I O N N A M E	S T A . N O .
FLOYD RIVER AT JAMES	6-6005.00
FOX RIVER AT BLOOMFIELD	5-4943.00
- I -	
INDIAN CREEK AT COUNCIL BLUFFS	6-6105.00
INDIAN CREEK NEAR MINGO	5-4712.00
IOWA RIVER AT MARENGO	5-4531.00
IOWA RIVER NEAR BELLE PLAINE	5-4525.00
IOWA RIVER AT MARSHALLTOWN	5-4515.00
IOWA RIVER NEAR ROWAN	5-4495.00
- L -	
LITTLE CEDAR RIVER NEAR IONIA	5-4580.00
LITTLE MAQUOKETA RIVER NEAR DURANGO	5-4145.00
LITTLE SIOUX RIVER AT CORRECTIONVILLE	6-6066.00
LITTLE SIOUX RIVER AT GILLETT GROVE	6-6056.00
LITTLE SIOUX RIVER NEAR KENNEBEC	6-6067.00
LITTLE SIOUX RIVER NEAR TURIN	6-6075.00
LIZARD CREEK NEAR CLARE	5-4800.00
- M -	
MAPLE RIVER AT MAPLETON	6-6072.00
MAQUOKETA RIVER NEAR MANCHESTER	5-4170.00
MAQUOKETA RIVER NEAR MAQUOKETA	5-4185.00
MIDDLE RIVER NEAR INDIANOLA	5-4864.90
MONONA-HARRISON DITCH NEAR TURIN	6-6024.00
MULE CREEK NEAR MALVERN	6-8080.00
- N -	
NISHNABOTNA RIVER ABOVE HAMBURG	6-8100.00
NODAWAY RIVER AT CLARINDA	6-8170.00
NORTH RACCOON RIVER NEAR JEFFERSON	5-4825.00
NORTH RACCOON RIVER NEAR SAC CITY	5-4823.00
NORTH RIVER NEAR NORWALK	5-4860.00
NORTH SKUNK RIVER NEAR SIGOURNEY	5-4725.00
- O -	
ODEBOLT CREEK NEAR ARTHUR	6-6070.00

I N D E X

S T A T I O N N A M E	S T A . N O .
OLD MANS CREEK NEAR IOWA CITY	5-4551.00
- P -	
PAINT CREEK AT WATERVILLE	5-3885.00
PERRY CREEK AT 38TH STREET SIOUX CITY	6-6000.00
- R -	
RACCOON RIVER AT VAN METER	5-4845.00
RALSTON CREEK AT IOWA CITY	5-4550.00
RAPID CREEK NEAR IOWA CITY	5-4540.00
RICHLAND CREEK NEAR HAVEN	5-4519.00
ROCK RIVER AT ROCK RAPIDS	6-4832.70
ROCK RIVER AT ROCK VALLEY	6-4835.00
- S -	
SALT CREEK NEAR ELBERON	5-4520.00
SHELL ROCK RIVER AT MARBLE ROCK	5-4605.00
SHELL ROCK RIVER NEAR NORTHWOOD	5-4590.00
SHELL ROCK RIVER AT SHELL ROCK	5-4620.00
SKUNK RIVER AT AUGUSTA	5-4740.00
SKUNK RIVER AT COPPOCK	5-4730.00
SOLDIER RIVER AT PISGAH	6-6085.00
SOUTH RACCOON RIVER AT REDFIELD	5-4840.00
SOUTH RIVER NEAR ACKWORTH	5-4874.70
SOUTH SKUNK RIVER NEAR AMES	5-4700.00
SOUTH SKUNK RIVER NEAR OSKALOOSA	5-4715.00
SOUTH SKUNK RIVER BELOW SQUAW CREEK NEAR AME	5-4710.00
SQUAW CREEK AT AMES	5-4705.00
SUGAR CREEK NEAR KECKUK	5-4910.00
- T -	
TARKIO RIVER AT STANTON	6-8118.40
THOMPSON RIVER AT DAVIS CITY	6-8980.00
TIMBER CREEK NEAR MARSHALLTOWN	5-4517.00
TURKEY RIVER AT ELKADER	5-4120.00
TURKEY RIVER AT GARBER	5-4125.00
TURKEY RIVER AT SPILLVILLE	5-4116.00
- U -	
UPPER IOWA RIVER AT DECORAH	5-3875.00

I N D E X

S T A T I O N N A M E	S T A . N O .
UPPER IOWA RIVER NEAR DECORAH	5-3880.00
- W -	
WALNUT CREEK NEAR HARTWICK	5-4522.00
WAPSIPINICON RIVER NEAR DE WITT	5-4220.00
WAPSIPINICON RIVER AT INDEPENDENCE	5-4210.00
WAPSIPINICON RIVER NEAR ELMA	5-4205.60
WAUBONSIE CREEK NEAR BARTLETT	6-8060.00
WELDON RIVER NEAR LEON	6-8984.00
WEST BRANCH FLOYD RIVER NEAR STRUBLE	6-6003.00
WEST BRANCH IOWA RIVER NEAR KLEMME	5-4485.00
WEST FORK CEDAR RIVER AT FINCHFORD	5-4589.00
WEST FORK DITCH AT HOLLY SPRINGS	6-6020.00
WEST NISHNABOTNA RIVER AT HANCOCK	6-8074.10
WEST NISHNABOTNA RIVER AT RANDOLPH	6-8085.00
WINNEBAGO RIVER AT MASON CITY	5-4595.00
- Y -	
YELLOW RIVER AT ION	5-3890.00