GILA RIVER BASIN

09503000 GRANITE CREEK NEAR PRESCOTT, AZ

LOCATION.--Lat 34°34', long 112°27', in SW$^1/_4$ sec.26, T.14 N., R.2 W., (unsurveyed), Yavapai County, Hydrologic Unit 15060202, at bridge on U.S. Highway 89, 2 mi north of Prescott and 4.5 mi upstream from Willow Creek.

DRAINAGE AREA.--36.3 mi^2.

PERIOD OF RECORD.--July 1932 to September 1947, October 1994 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 5,204.29 ft above sea level from surveyed bench-mark elevation and levels survey.

REMARKS.--No estimated daily discharges. Records fair. Flow is partly regulated by Goldwater Reservoirs on Bannon Creek.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,200 ft^3/s Mar. 6, 1995, gage-height 8.90 ft, from slope-conveyance survey. No flow for many days during the period of record.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 19, 1963, discharge of 6,660 ft^3/s, gage height 9.4 ft (original gage height of 12.4 ft with datum correction), from contracted opening survey.

Annual peak discharges

Water year	Date	Annual peak discharge (ft^3/s)	Discharge codes	Water year	Date	Annual peak discharge (ft^3/s)	Discharge codes
1933	09-07-33	230		1943	08-28-43	1,780	
1934	08-30-34	450		1944	03-14-44	297	
1935	08-30-35	600		1945	08-10-45	2,200	
1936	09-11-36	500		1946	07-20-46	899	
1937	02-07-37	2,900		1947	07-21-47	251	
1938	03-03-38	2,400		1963	08-19-63	[1]6,660	HP
1939	08-04-39	638		1966	12-00-65	1,500	HP
1940	09-29-40	83		1995	03-06-95	3,200	
1941	03-01-41	1,530		1996	07-09-96	795	
1942	08-17-42	1,110					

[1]Highest since 1932.

Discharge rating table developed September 1994

Gage height (ft)	Discharge (ft^3/s)	Gage height (ft)	Discharge (ft^3/s)
4.5	140	7.0	1,270
5.0	262	7.5	1,680
5.5	431	8.0	2,160
6.0	652	8.5	2,700
6.5	931	8.9	3,200

Basin characteristics

Main channel slope (ft/mi)	Stream length (mi)	Mean basin elevation (ft)	Forested area (percent)	Soil index	Mean annual precipitation (in)	Rainfall intensity, 24-hour	
						2-year (in)	50-year (in)
104	7.3	5,900	73.0	1.0	22.1	2.2	4.5

GILA RIVER BASIN

09503000 GRANITE CREEK NEAR PRESCOTT, AZ--Continued

MEAN MONTHLY AND ANNUAL DISCHARGES 1933-47, 1995-96

MONTH	MAXIMUM (FT3/S)	MINIMUM (FT3/S)	MEAN (FT3/S)	STANDARD DEVIATION (FT3/S)	COEFFICIENT OF VARIATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	7.3	0.00	0.73	1.8	2.4	1.0
NOVEMBER	2.8	0.00	0.46	0.86	1.8	0.6
DECEMBER	33	0.00	3.0	7.9	2.7	4.1
JANUARY	35	0.00	5.1	11	2.1	7.0
FEBRUARY	159	0.00	22	42	1.9	30.5
MARCH	79	0.00	27	32	1.2	36.9
APRIL	67	0.00	7.8	16	2.1	10.7
MAY	7.0	0.00	0.95	1.8	1.8	1.3
JUNE	1.2	0.00	0.19	0.32	1.6	0.3
JULY	7.8	0.00	1.2	1.8	1.6	1.6
AUGUST	8.3	0.00	2.5	2.6	1.0	3.5
SEPTEMBER	12	0.00	1.8	3.2	1.7	2.5
ANNUAL	24	0.37	6.0	7.2	1.2	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW BASED ON PERIOD OF RECORD 1934-47, 1996

PERIOD (CONSECUTIVE DAYS)	DISCHARGE, IN FT3/S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND NON-EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10# 10%	20# 5%	50# 2%	100# 1%
1						
3						
7						
14						
30						
60	0.00	0.00	0.00	0.00	0.00	0.00
90	0.02	0.00	0.00	0.00	0.00	0.00
120	0.09	0.00	0.00	0.00	0.00	0.00
183	0.58	0.18	0.06	0.00	0.00	0.00

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW BASED ON PERIOD OF RECORD 1933-47, 1963, 1966, 1995-96

DISCHARGE, IN FT3/S, FOR INDICATED RECURRENCE INTERVAL IN YEARS, AND EXCEEDANCE PROBABILITY, IN PERCENT					
2 50%	5 20%	10 10%	25 4%	50 2%	100 1%
916	2,000	2,990	4,580	6,030	7,710

WEIGHTED SKEW (LOGS)= -0.04
MEAN (LOGS)= 2.96
STANDARD DEV. (LOGS)= 0.40

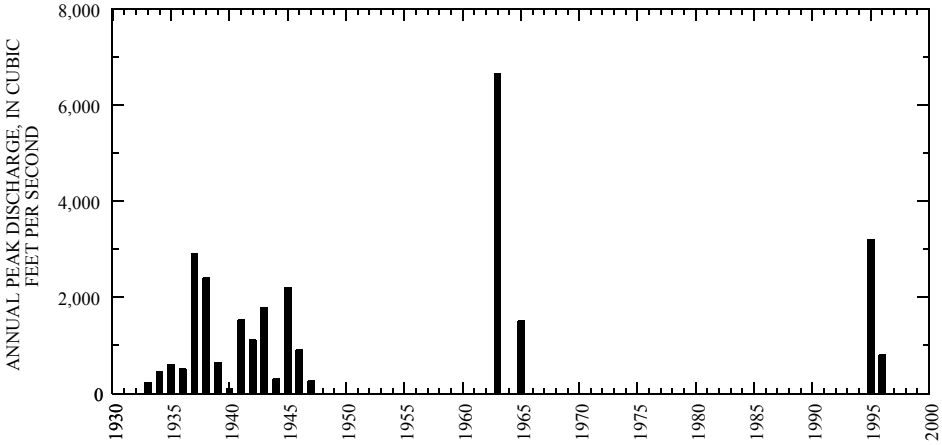
MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW BASED ON PERIOD OF RECORD 1933-47, 1995-96

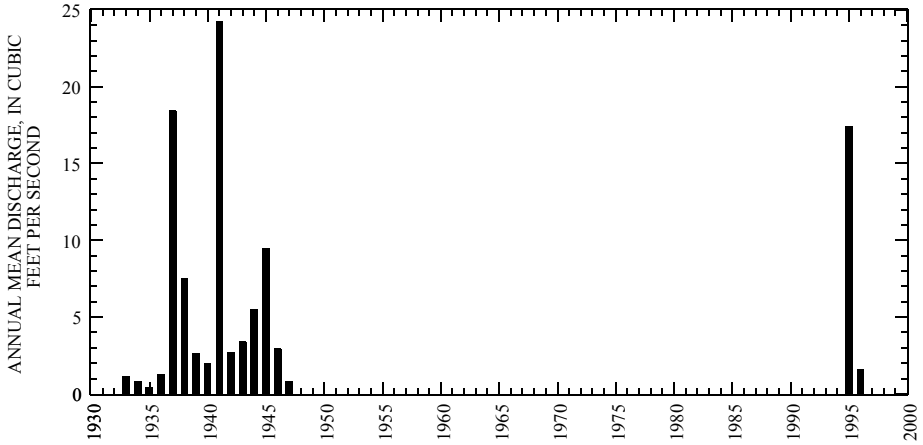
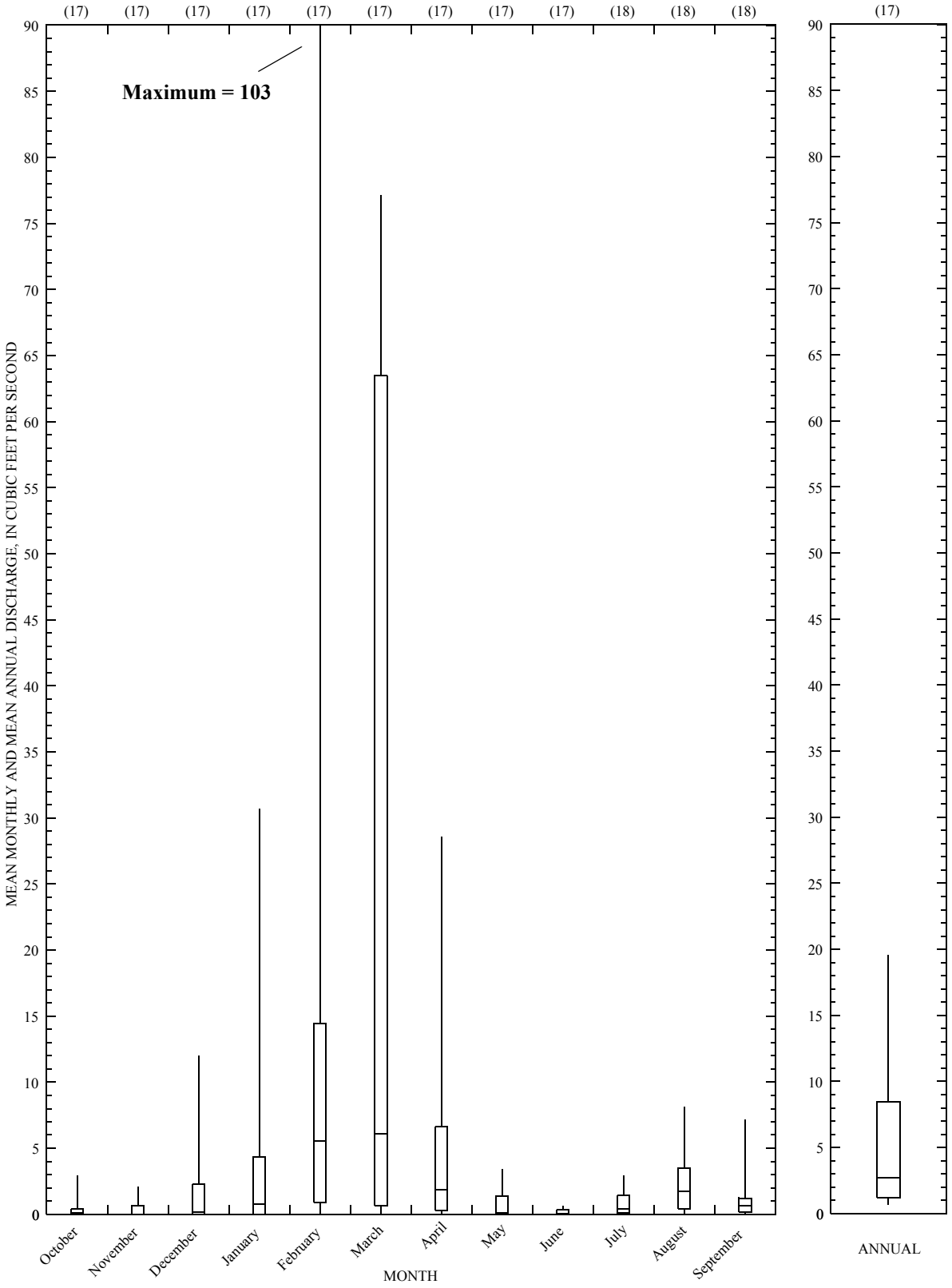
PERIOD (CONSECUTIVE DAYS)	DISCHARGE, IN FT3/S, FOR INDICATED RECURRENCE INTERVAL, IN YEARS, AND EXCEEDANCE PROBABILITY, IN PERCENT					
	2 50%	5 20%	10# 10%	25# 4%	50# 2%	100# 1%
1	117	375	748	1,660	2,880	4,850
3	69	221	426	898	1,490	2,380
7	45	130	235	459	721	1,090
15	29	84	155	309	492	759
30	19	58	109	222	359	563
60	12	37	69	141	229	362
90	9.1	27	51	104	167	262

DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1933-47, 1995-96

DISCHARGE, IN FT3/S, WHICH WAS EQUALED OR EXCEEDED FOR INDICATED PERCENT OF TIME																	
1%	5%	10%	15%	20%	30%	40%	50%	60%	70%	80%	90%	95%	98%	99%	99.5%	99.9%
99	26	10	4.8	2.6	0.80	0.31	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Reliability of values in column is uncertain, and potential errors are large.


ANNUAL PEAK DISCHARGE, IN CUBIC FEET PER SECOND
8,000
6,000
4,000
2,000
0
1930
1935
1940
1945
1950
1955
1960
1965
1970
1975
1980
1985
1990
1995
2000


ANNUAL MEAN DISCHARGE, IN CUBIC FEET PER SECOND
25
20
15
10
5
0
1930
1935
1940
1945
1950
1955
1960
1965
1970
1975
1980
1985
1990
1995
2000

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