KANAB CREEK BASIN

09403780 KANAB CREEK NEAR FREDONIA, AZ

LOCATION.--Lat 36°51'50", long 112°34'45", in SE$^1/_4$ sec.14, T.40 N., R.3 W. (unsurveyed), Coconino County, Hydrologic Unit 15010003, in Kaibab Indian Reservation, at Nagles Crossing, on left bank 0.2 mi downstream from Johnson Wash and 6.5 mi southwest of Fredonia.

DRAINAGE AREA.--1,085 mi^2.

PERIOD OF RECORD.--October 1963 to September 1980 (discontinued).

REVISED RECORDS.--WRD Ariz. 1974:

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 4,500 ft, from topographic map.

REMARKS.--Records fair except those for periods of no gage-height record, which are poor. Diversions upstream for irrigation of about l,400 acres in Utah and 800 acres in Arizona in l967.

AVERAGE DISCHARGE.--l7 years, 6.78 ft^3/s, 4,9l0 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,630 ft^3/s Aug. l8, l970, gage height, 9.ll ft, inside, 9.7 ft, from profile past gage, from rating curve extended above 850 ft^3/s on basis of slope-area measurement of peak flow; no flow for most of time.

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
1550	00-00-50	[1]15,000	ES,PF	1972	09-19-72	1,680	
1964	08-13-65	([2])		1973	04-14-73	660	
1965	04-18-65	250		1974	07-23-74	84	
1966	03-08-66	668		1975	07-13-75	603	
1967	12-07-67	2,960		1976	09-25-76	410	
1968	07-31-68	1,130		1977	07-23-77	435	
1969	07-23-69	1,330		1978	04-11-78	460	
1970	08-18-70	4,630		1979	02-14-79	2,020	
1971	08-18-71	1,340		1980	02-20-80	957	

[1]Highest since 1488, Smith.

[2]Discharge not determined.

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)
56.4	49.6	6,100	60.0	3.0	12.0	1.5	3.0

KANAB CREEK BASIN

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MEAN MONTHLY AND ANNUAL DISCHARGES 1964-80

MONTH	MAXIMUM (FT3/S)	MINIMUM (FT3/S)	MEAN (FT3/S)	STANDARD DEVIATION (FT3/S)	COEFFICIENT OF VARIATION	PERCENT OF ANNUAL RUNOFF
OCTOBER	19	0.00	1.8	4.6	2.6	2.2
NOVEMBER	16	0.00	2.2	5.1	2.3	2.7
DECEMBER	58	0.00	7.3	15	2.0	8.9
JANUARY	30	0.00	5.9	8.2	1.4	7.2
FEBRUARY	49	0.00	9.9	14	1.5	12.2
MARCH	90	0.00	17	24	1.5	20.5
APRIL	80	0.00	21	30	1.4	25.8
MAY	6.5	0.00	0.71	1.6	2.3	0.9
JUNE	0.77	0.00	0.05	0.19	3.5	0.1
JULY	20	0.00	3.5	6.4	1.8	4.3
AUGUST	48	0.00	7.6	14	1.9	9.4
SEPTEMBER	29	0.00	4.8	8.6	1.8	5.9
ANNUAL	18	0.78	6.8	5.2	0.77	100

MAGNITUDE AND PROBABILITY OF ANNUAL LOW FLOW
BASED ON PERIOD OF RECORD 1965-80

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	0.21	0.09	0.00	0.00	0.00	0.00
183	0.92	0.21	0.09	0.04	0.02	0.01

MAGNITUDE AND PROBABILITY OF INSTANTANEOUS PEAK FLOW
BASED ON PERIOD OF RECORD 1550, 1965-80

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%
875	1,760	2,610	4,050	5,440	7,140

WEIGHTED SKEW (LOGS)= 0.34
MEAN (LOGS)= 2.96
STANDARD DEV. (LOGS)= 0.35

MAGNITUDE AND PROBABILITY OF ANNUAL HIGH FLOW
BASED ON PERIOD OF RECORD 1964-80

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	223	482	679	936	1,130	1,310
3	139	290	397	529	620	704
7	85	179	244	319	369	414
15	50	116	166	232	280	327
30	32	74	108	154	188	221
60	19	46	67	97	119	142
90	14	35	53	78	99	121

DURATION TABLE OF DAILY MEAN FLOW FOR PERIOD OF RECORD 1964-80

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%
146	28	11	5.6	2.9	0.69	0.10	0.00	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.

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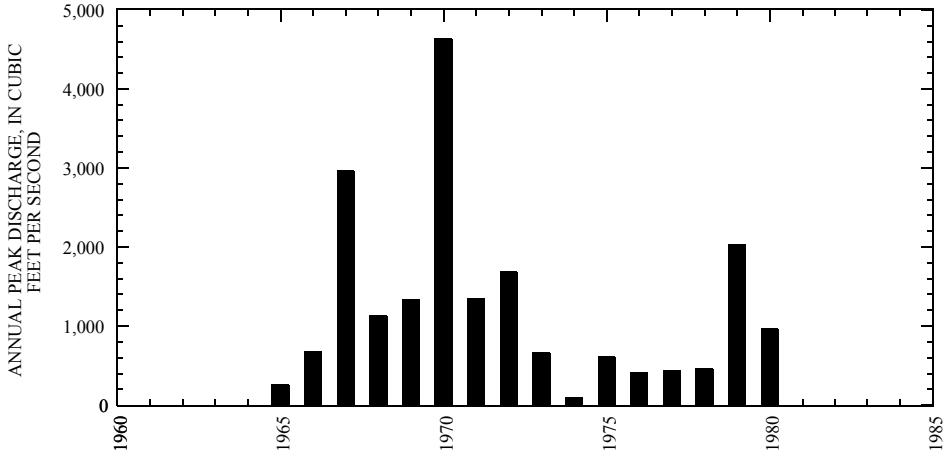
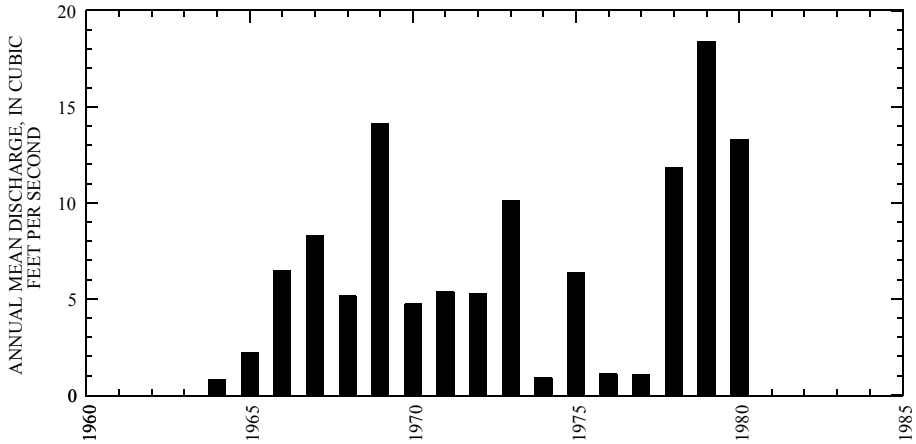
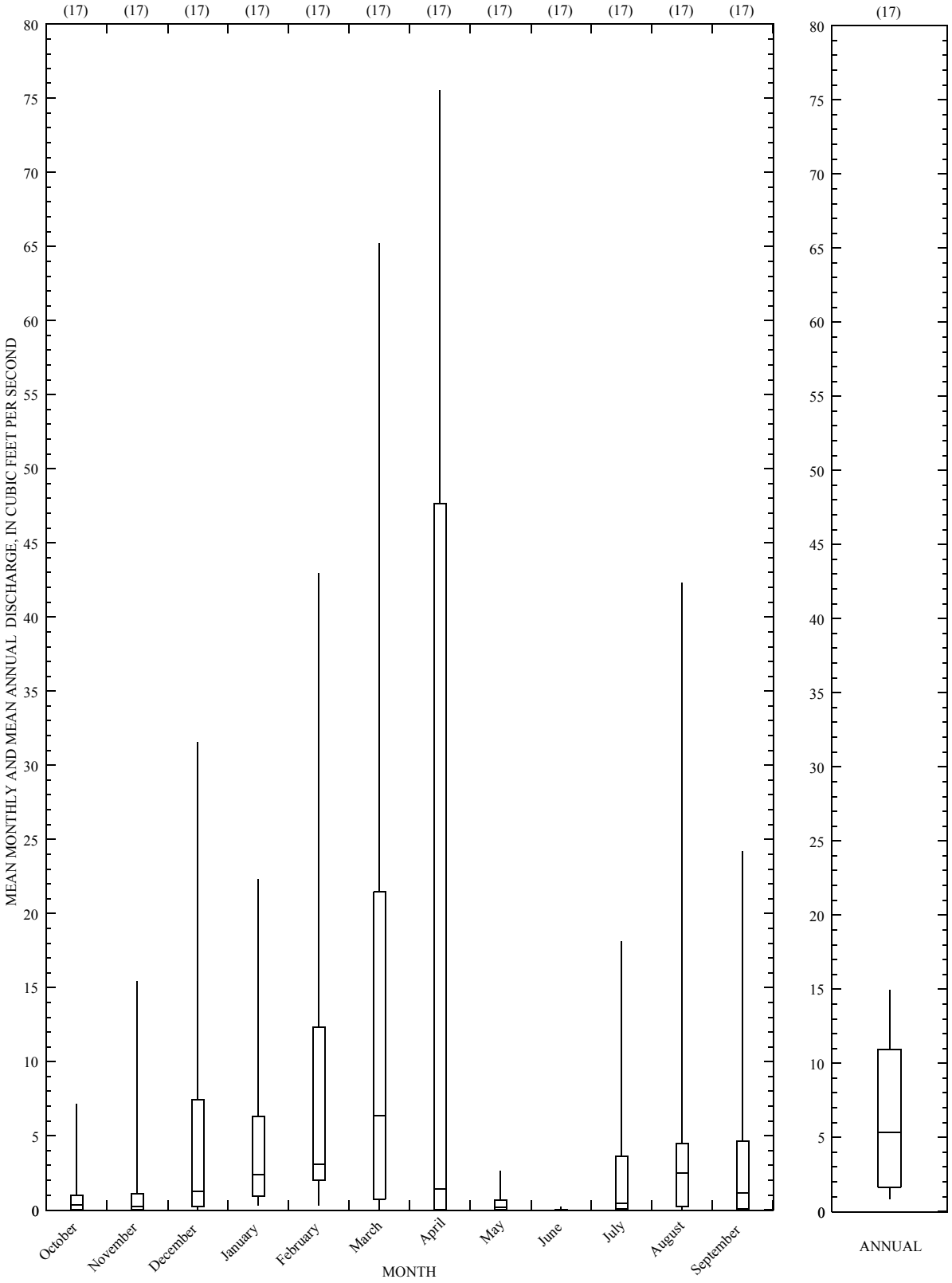




KANAB CREEK BASIN

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