

SOUTH-CENTRAL ALASKA

15294005 WILLOW CREEK NEAR WILLOW

LOCATION.--Lat 61°46'51", long 149°53'04", in NW¹/₄ SE¹/₄ sec. 31, T.20 N., R.3 W. (Anchorage D-8 quad), Matanuska-Susitna Borough, Hydrologic Unit 19020505, on the right bank, 0.9 mi downstream from unnamed tributary, 5.5 mi northeast of Willow, and 6.7 mi upstream from Deception Creek.

DRAINAGE AREA.--166 mi².

PERIOD OF RECORD.--June 1978 to September 1993, and May 2001 to current year.

REVISED RECORDS.--WRD-AK-80-1: 1979 (M).

GAGE.--Water-stage recorder. Elevation of gage is 350 ft above sea level from topographic map. Prior to Apr. 2, 1981 at site 0.2 mi upstream at different datum.

REMARKS.--Records good, except for estimated daily discharges, which are poor. Rain gage at station. GOES satellite telemetry at station.

EXTREMES FOR CURRENT YEAR.--Peak discharge greater than base discharge 2,300 ft³/s and maximums (*).

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Jun 17	0915	*a1890	*b4.47	No peaks greater than base discharge			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	690	253	e70	e80	e60	e55	e48	483	779	319	210	307
2	540	297	e70	e80	e60	e55	e50	482	783	300	185	358
3	828	267	e70	e75	e60	e55	e50	383	708	389	160	346
4	1190	248	e70	e75	e60	e55	e50	472	659	409	159	349
5	806	240	e70	e75	e60	e55	e55	534	717	405	158	302
6	685	251	e75	e75	e60	e50	53	574	777	332	152	275
7	616	272	e75	e75	e60	e50	52	674	860	290	145	256
8	560	331	e80	e75	e60	e50	53	770	769	266	138	241
9	552	315	e85	e75	e60	e50	53	749	678	250	134	230
10	511	271	e90	e75	e60	e50	54	620	619	236	132	221
11	460	189	e95	e70	e60	e50	54	732	595	218	130	214
12	424	241	e95	e70	e60	e50	57	742	542	206	136	208
13	398	209	e95	e70	e60	e50	59	798	578	196	129	243
14	383	169	e95	e70	e60	e50	60	847	618	189	123	235
15	366	140	e90	e70	e60	e50	65	859	587	182	120	212
16	342	e130	e90	e70	e55	e50	71	848	539	177	119	201
17	318	e120	e90	e70	e55	e50	71	836	1310	174	114	194
18	309	e110	e90	e70	e55	e50	70	864	928	176	108	187
19	306	e100	e90	e70	e55	e50	69	950	769	168	108	187
20	294	e100	e85	e70	e55	e50	73	977	699	162	159	221
21	276	e95	e85	e65	e55	e50	76	989	632	187	159	305
22	270	e90	e85	e65	e55	e48	83	1030	568	171	134	326
23	260	e85	e85	e65	e55	e48	95	1150	512	158	122	417
24	273	e85	e85	e65	e55	e48	104	1280	475	157	115	301
25	362	e80	e85	e65	e55	e48	116	1370	440	160	110	279
26	475	e80	e85	e65	e55	e48	137	1150	416	150	257	497
27	353	e80	e80	e65	e55	e48	150	996	393	151	728	513
28	294	e75	e80	e65	e55	e48	139	1010	370	172	836	393
29	222	e75	e80	e65	e55	e48	189	858	353	234	524	384
30	298	e75	e80	e65	---	e46	301	815	336	250	392	1810
31	269	---	e80	e65	---	e46	---	846	---	244	327	---
TOTAL	13930	5073	2580	2175	1670	1551	2557	25688	19009	7078	6523	10212
MEAN	449	169	83.2	70.2	57.6	50.0	85.2	829	634	228	210	340
MAX	1190	331	95	80	60	55	301	1370	1310	409	836	1810
MIN	222	75	70	65	55	46	48	383	336	150	108	187
AC-FT	27630	10060	5120	4310	3310	3080	5070	50950	37700	14040	12940	20260
CFSM	2.71	1.02	0.50	0.42	0.35	0.30	0.51	4.99	3.82	1.38	1.27	2.05
IN.	3.12	1.14	0.58	0.49	0.37	0.35	0.57	5.76	4.26	1.59	1.46	2.29

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 2004, BY WATER YEAR (WY)#

MEAN	417	163	107	84.6	75.5	62.6	90.9	630	1018	665	594	629
MAX	1197	364	152	112	134	97.5	205	1578	1500	1287	1286	1177
(WY)	1987	1980	1980	1980	2003	1990	1990	1990	1990	1980	1981	1993
MIN	177	81.5	57.3	57.1	52.9	33.7	45.8	328	484	228	210	259
(WY)	1985	1985	1981	1981	1981	1982	2002	2003	1981	2004	2004	1978

See Period of Record; partial years used in monthly statistics

a Maximum discharge, 3,590 ft³/s, Sep. 30, stage rising, peak occurred Oct. 1, 2004

b Maximum stage, 5.63 ft., Sep. 30, stage rising, peak occurred Oct. 1, 2004

e Estimated

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15294005 WILLOW CREEK NEAR WILLOW—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1978 - 2004#	
ANNUAL TOTAL	108849		98046			
ANNUAL MEAN	298		268		386	
HIGHEST ANNUAL MEAN					536	
LOWEST ANNUAL MEAN					268	
HIGHEST DAILY MEAN	1290	Jun 13	1810	Sep 30	8670	Oct 11 1986
LOWEST DAILY MEAN	30	Apr 6	c46	Mar 30	30	Apr 6 2003
ANNUAL SEVEN-DAY MINIMUM	32	Apr 1	47	Mar 25	32	Apr 1 2003
MAXIMUM PEAK FLOW			d1890	Jun 17	f12000	Oct 11 1986
MAXIMUM PEAK STAGE			d4.47	Jun 17	9.01	Oct 11 1986
MAXIMUM PEAK STAGE			d5.63	Sep 30	g9.40	Dec 18 1986
ANNUAL RUNOFF (AC-FT)	215900		194500		279300	
ANNUAL RUNOFF (CFSM)	1.80		1.61		2.32	
ANNUAL RUNOFF (INCHES)	24.39		21.97		31.56	
10 PERCENT EXCEEDS	683		729		966	
50 PERCENT EXCEEDS	241		150		195	
90 PERCENT EXCEEDS	70		55		60	

See Period of Record; partial years used in monthly statistics

c Mar. 30, 31

d Maximum discharge, 3,590 ft³/s, Sep. 30, gage-height 5.63 ft., stage rising, peak occurred Oct. 1, 2004; maximum peak discharge, 1,890 ft³/s, Jun. 17, gage-height 4.47 ft.

f From rating curve extended above 3,900 ft³/s on basis of slope-area measurement of peak flow

g Backwater from ice