

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 April 2, 1981 at site 0.2 miles 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)
Oct. 1	0000	*3630	*5.65	Aug. 21	1700	2450	4.89
May 25	0045	2770	5.11	Sept. 10	0545	2920	5.21
June 11	1215	2420	4.87	Sept. 24	0845	3230	5.41
June 18	2245	2680	5.05				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e2500	e170	201	e128	e99	e84	63	1120	1760	1210	621	1250
2	e1600	e155	195	e126	e99	e83	63	1140	1660	1070	663	1070
3	e1100	e148	163	e125	e98	e83	65	1100	1580	1070	573	943
4	1040	e143	118	e123	e98	e82	63	1030	1510	948	532	969
5	878	e140	e105	e122	e97	e82	62	988	1590	897	537	976
6	774	e140	e101	e120	e97	e81	64	917	1650	930	572	1280
7	730	e141	e96	e119	e96	e81	66	1070	1660	1020	494	1620
8	670	e143	e93	e117	e96	e80	64	1220	1580	937	457	1220
9	610	e145	e90	e116	e95	e79	66	1370	1380	863	431	1220
10	564	e150	e89	e114	e94	e79	66	1470	1540	888	411	2450
11	521	e152	e90	e113	e94	e78	68	1570	2260	826	395	1690
12	481	e163	e90	e111	e93	e78	70	1690	2020	778	376	1520
13	488	e178	e93	e110	e93	e77	71	1670	1810	719	364	1400
14	824	e183	e97	e110	e92	e77	73	1690	1940	646	351	1140
15	674	e180	e100	e109	e92	e76	76	1710	1980	597	375	1020
16	542	e176	e105	e109	e91	e76	76	1610	2100	580	339	975
17	479	172	e110	e108	e91	e75	78	1510	2030	554	319	916
18	e461	177	e115	e108	e90	e74	78	1550	2160	621	327	822
19	436	174	e125	e107	e89	e74	78	1610	2110	581	369	741
20	410	170	e135	e107	e89	e73	111	1730	1520	551	325	702
21	394	168	e140	e106	e88	e72	139	2190	1290	502	1170	669
22	329	163	e140	e105	e88	e72	263	2120	1230	468	1090	817
23	373	159	e139	e104	e87	e71	430	2090	1150	461	1070	1050
24	345	e157	e138	e104	e87	e71	531	2320	1090	598	1140	2660
25	282	e154	e137	e103	e86	e70	554	2390	1080	485	1190	2190
26	343	152	e136	e103	e86	e70	632	2220	1150	447	1040	1860
27	343	162	e135	e102	e85	e69	740	2120	1190	418	943	1430
28	315	231	e134	e102	e84	e68	861	1940	1130	398	804	1220
29	298	194	e132	e101	---	e67	1050	1740	1130	423	941	1060
30	282	178	e130	e101	---	65	1110	1710	1210	482	860	973
31	207	---	e129	e100	---	66	---	1700	---	753	1100	---
TOTAL	19293	4918	3801	3433	2574	2333	7731	50305	47490	21721	20179	37853
MEAN	622	164	123	111	91.9	75.3	258	1623	1583	701	651	1262
MAX	2500	231	201	128	99	84	1110	2390	2260	1210	1190	2660
MIN	207	140	89	100	84	65	62	917	1080	398	319	669
AC-FT	38270	9750	7540	6810	5110	4630	15330	99780	94200	43080	40030	75080
CFSM	3.75	0.99	0.74	0.67	0.55	0.45	1.55	9.78	9.54	4.22	3.92	7.60
IN.	4.32	1.10	0.85	0.77	0.58	0.52	1.73	11.27	10.64	4.87	4.52	8.48

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 2005, BY WATER YEAR (WY)#

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	
MEAN	428	163	108	86.0	76.4	63.3	99.7	680	1044	667	597	660																	
MAX	1197	364	152	112	134	97.5	258	1623	1583	1287	1286	1262																	
(WY)	1987	1980	1980	1980	2003	1990	2005	2005	2005	1980	1981	2005																	
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 were used in monthly statistics and break in record
e Estimated

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SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1978 - 2005#	
ANNUAL TOTAL	104475		221631			
ANNUAL MEAN	285		607		397	
HIGHEST ANNUAL MEAN					607 2005	
LOWEST ANNUAL MEAN					268 2004	
HIGHEST DAILY MEAN	2500	Oct 1	2660	Sep 24	8670	Oct 11 1986
LOWEST DAILY MEAN	a46	Mar 30	62	Apr 5	30	Apr 6 2003
ANNUAL SEVEN-DAY MINIMUM	47	Mar 25	64	Mar 31	32	Apr 1 2003
MAXIMUM PEAK FLOW			3630	Oct 1	b12000	Oct 11 1986
MAXIMUM PEAK STAGE			5.65	Oct 1	9.01	Oct 11 1986
MAXIMUM PEAK STAGE					c9.40	Dec 18 1986
ANNUAL RUNOFF (AC-FT)	207200		439600		287800	
ANNUAL RUNOFF (CFSM)	1.72		3.66		2.39	
ANNUAL RUNOFF (INCHES)	23.41		49.67		32.51	
10 PERCENT EXCEEDS	769		1610		1000	
50 PERCENT EXCEEDS	158		339		198	
90 PERCENT EXCEEDS	55		78		62	

- # See Period of Record; partial years were used in monthly statistics and break in record
- a Mar.30, 31
- b From rating curve extended above 3,900 ft³/s on basis of slope-area measurement of peak flow
- c Backwater from ice