

SOUTH-CENTRAL ALASKA

15238600 SPRUCE CREEK NEAR SEWARD

LOCATION.--Lat 60°04'10", long 149°27'08", in SW¹/₄ SE¹/₄ sec. 21, T. 1 S., R. 1 W. (Seward A-7 quad), Kenai Peninsula Borough, Hydrologic Unit 19020202, on left bank 0.7 mi upstream from mouth at Resurrection Bay and 2.4 mi south of Seward.

DRAINAGE AREA.--9.26 mi².

PERIOD OF RECORD.--September 1967 to September 1979, annual maximum, water years 1980-90. October 1990 to current year.

REVISED RECORDS.--WDR AK-76-1: 1966-67(M), 1970(M), 1972(M). WDR AK-77-1: 1969(M).

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 75 ft above sea level, from topographic map.

REMARKS.--Records good, except estimated daily discharges and discharges below 7.0 ft³/s, which are poor. Precipitation gage at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of August 21, 1966, reached a stage of 10.1 ft, from floodmarks; discharge, 3,090 ft³/s, by slope-area measurement.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,000 ft³/s, and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Oct. 1	0030	*2170	*7.02	July 26	unknown	1510	6.60
Jun. 16	2245	1150	6.33	Sep. 26	0930	1590	6.65

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	750	45	12	11	2.5	8.1	0.02	49	169	195	e130	55
2	469	42	11	9.6	2.3	8.0	0.43	54	163	164	e120	115
3	521	40	11	8.8	1.9	8.0	2.5	53	153	152	e120	72
4	265	38	12	8.0	1.7	7.4	2.3	83	176	166	e110	48
5	231	37	11	7.3	1.4	6.7	9.1	133	209	156	e110	38
6	464	51	11	6.7	1.1	6.0	19	154	241	215	e105	34
7	560	75	10	6.1	0.89	5.4	34	138	264	264	e96	31
8	319	71	11	e5.5	2.7	5.1	33	114	239	281	e92	28
9	182	58	38	e5.0	2.7	e4.6	29	100	211	294	e90	26
10	144	47	44	e4.5	14	4.3	25	97	166	236	e86	26
11	110	41	23	e4.5	20	3.9	19	109	151	182	e78	24
12	90	38	19	e4.0	17	4.4	16	116	147	165	e72	23
13	76	33	16	e4.0	14	4.0	15	120	159	139	e70	22
14	92	28	14	e3.5	15	3.9	14	118	202	113	e68	19
15	99	25	13	e3.0	14	3.4	14	112	209	101	e66	17
16	74	23	12	e3.0	13	2.8	15	173	504	103	e64	16
17	62	20	11	e2.5	11	2.5	16	198	814	132	e62	14
18	55	19	10	e2.5	9.8	e2.4	15	188	474	165	e60	13
19	56	20	9.8	e2.5	9.0	e2.2	15	179	397	122	e58	14
20	50	19	9.3	2.4	8.3	2.1	14	281	356	98	e56	19
21	45	20	8.8	4.1	15	0.98	14	320	325	e100	e54	33
22	40	19	8.5	7.8	33	0.44	14	276	318	e110	e52	38
23	37	17	8.0	6.9	23	0.26	14	263	277	e94	e52	50
24	50	16	7.6	6.8	17	0.19	14	260	238	e110	e50	33
25	109	16	7.3	6.4	14	0.14	15	259	257	e150	60	47
26	185	14	7.0	5.9	12	0.11	16	209	313	e200	73	464
27	148	13	6.5	5.2	11	0.08	44	196	266	e180	67	114
28	94	13	6.5	4.6	9.8	0.07	43	193	227	e160	56	67
29	69	13	16	4.0	8.9	0.04	31	167	209	e140	48	59
30	57	12	14	e3.5	---	0.07	32	164	216	e135	50	123
31	50	---	12	2.9	---	e0.05	---	172	---	e130	42	---
TOTAL	5553	923	410.3	162.5	305.99	97.63	544.35	5048	8050	4952	2317	1682
MEAN	179	30.8	13.2	5.24	10.6	3.15	18.1	163	268	160	74.7	56.1
MAX	750	75	44	11	33	8.1	44	320	814	294	130	464
MIN	37	12	6.5	2.4	0.89	0.04	0.02	49	147	94	42	13
AC-FT	11010	1830	814	322	607	194	1080	10010	15970	9820	4600	3340
CFSM	19.3	3.32	1.43	0.57	1.14	0.34	1.96	17.6	29.0	17.3	8.07	6.05
IN.	22.31	3.71	1.65	0.65	1.23	0.39	2.19	20.28	32.34	19.89	9.31	6.76

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 2004, BY WATER YEAR (WY)#

	1967	1974	1977	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		
MEAN	95.3	44.2	18.8	11.1	11.2	4.06	12.7	76.8	203	188	145	163																				
MAX	333	249	89.0	46.1	53.1	15.3	35.6	163	318	371	323	372																				
(WY)	1970	2003	2003	2001	2003	1970	1969	2004	2001	1977	1977	1995																				
MIN	17.0	9.40	3.52	0.65	0.00	0.00	0.12	30.6	116	104	56.9	48.8																				
(WY)	1997	1974	1997	1974	1972	1971	1972	1971	1972	1997	1969	2000																				

See Period of Record, partial year used in monthly statistics
e Estimated

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15238600 SPRUCE CREEK NEAR SEWARD—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1967 - 2004#	
ANNUAL TOTAL	28355.7		30045.77			
ANNUAL MEAN	77.7		82.1		80.8	
HIGHEST ANNUAL MEAN					123	
LOWEST ANNUAL MEAN					50.6	
HIGHEST DAILY MEAN	750		814		1650	
LOWEST DAILY MEAN	1.4	Oct 1	0.02	Jun 17	a0.00	Oct 11 1969
ANNUAL SEVEN-DAY MINIMUM	1.6	Apr 7	0.06	Apr 1	0.00	Mar 1 1969
MAXIMUM PEAK FLOW			2170	Mar 26	b13600	
MAXIMUM PEAK STAGE			c7.02	Oct 1	d13.96	
INSTANTANEOUS LOW FLOW			f0.00	Oct 1	0.00	
ANNUAL RUNOFF (AC-FT)	56240		59600		58520	
ANNUAL RUNOFF (CFSM)	8.39		8.87		8.72	
ANNUAL RUNOFF (INCHES)	113.91		120.70		118.53	
10 PERCENT EXCEEDS	185		215		208	
50 PERCENT EXCEEDS	46		36		34	
90 PERCENT EXCEEDS	7.0		3.3		1.7	

- # See Period of Record, partial year used in monthly statistics
- a No flow many days in water years 1969, 1971-76, 1992, 1996, 1999, and 2002
- b Slope-area measurement of the release of water temporarily stored behind a debris-avalanche dam. Inflow into the ponded area was 5,420 ft³/s, from a slope-area measurement made about 0.3 mi upstream at a site with a drainage area of 8.98 mi²
- c From crest-stage gage
- d From floodmarks
- f Mar. 29 to Apr. 2, 2004