

# SOUTH-CENTRAL ALASKA

## 15238600 SPRUCE CREEK NEAR SEWARD

LOCATION.--Lat 60°04'10", long 149°27'08", in SW<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> 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 mi<sup>2</sup>.

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 ft<sup>3</sup>/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 ft<sup>3</sup>/s, by slope-area measurement.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,000 ft<sup>3</sup>/s, and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage Height (ft)
Oct. 3	2200	*1200	*6.37

### 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	83	23	71	15	9.6	5.2	3.4	95	164	176	119	48
2	208	20	52	15	e9.0	4.8	3.3	85	149	158	237	41
3	762	26	39	46	e8.5	4.5	2.8	74	156	166	180	54
4	665	22	32	102	e8.0	4.1	2.6	71	257	155	146	120
5	269	18	28	47	e8.0	4.6	2.6	74	304	170	116	147
6	154	17	27	31	7.8	4.8	4.1	113	237	200	101	285
7	96	17	26	25	6.5	4.7	5.0	90	205	174	95	137
8	73	18	24	21	6.4	9.1	4.9	87	224	166	96	94
9	89	39	21	19	6.7	15	5.1	105	226	175	93	138
10	84	377	19	17	6.4	21	5.4	122	228	152	91	196
11	83	171	18	15	6.0	36	5.5	128	212	143	91	104
12	114	94	18	13	5.6	33	5.7	165	184	159	87	105
13	189	72	21	13	5.4	42	5.8	196	178	170	80	83
14	185	55	22	13	13	27	6.1	212	187	157	73	71
15	105	44	19	13	14	19	6.7	166	218	143	63	102
16	84	37	29	12	9.4	15	7.1	138	252	224	58	210
17	66	33	47	12	8.6	14	7.5	125	314	180	71	166
18	54	33	60	11	7.9	12	8.3	140	311	136	71	113
19	54	43	46	11	7.4	11	9.8	160	267	149	69	88
20	47	45	31	10	6.9	10	52	165	236	120	62	75
21	41	39	27	11	7.6	9.2	62	164	218	126	64	62
22	36	39	36	15	7.2	8.5	193	169	188	95	54	75
23	36	38	43	21	7.4	7.8	159	182	151	80	153	107
24	35	41	29	18	7.3	7.2	74	175	172	80	102	171
25	32	37	24	15	7.2	6.6	65	157	180	229	74	94
26	38	29	22	14	6.9	6.1	70	171	189	180	68	74
27	39	73	21	13	6.3	5.5	75	291	201	136	64	131
28	44	219	19	12	5.7	5.1	108	285	215	101	55	199
29	36	77	17	11	---	4.6	130	263	224	76	50	119
30	31	55	16	10	---	4.3	113	196	192	64	47	86
31	28	---	16	10	---	3.9	---	159	---	66	49	---
TOTAL	3860	1851	920	611	216.7	365.6	1202.7	4723	6439	4506	2779	3495
MEAN	125	61.7	29.7	19.7	7.74	11.8	40.1	152	215	145	89.6	116
MAX	762	377	71	102	14	42	193	291	314	229	237	285
MIN	28	17	16	10	5.4	3.9	2.6	71	149	64	47	41
AC-FT	7660	3670	1820	1210	430	725	2390	9370	12770	8940	5510	6930
CFSM	13.4	6.66	3.20	2.13	0.84	1.27	4.33	16.5	23.2	15.7	9.68	12.6
IN.	15.51	7.44	3.70	2.45	0.87	1.47	4.83	18.97	25.87	18.10	11.16	14.04

### STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 2005, BY WATER YEAR (WY)#

	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	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	2005			
MEAN	96.3	44.9	19.2	11.4	11.1	4.35	13.7	79.6	203	186	143	161	372	1995	48.8	12.6	11.16	14.04	18.10	25.87	18.97	4.83	1.47	0.87	2.45	3.70	7.44	15.51	13.4	6.66	3.20	2.13	0.84	1.27	4.33	16.5	23.2	15.7	9.68	12.6	11.16	14.04
MAX	333	249	89.0	46.1	53.1	15.3	40.1	163	318	371	323	372	1995	48.8	12.6	11.16	14.04	18.10	25.87	18.97	4.83	1.47	0.87	2.45	3.70	7.44	15.51	13.4	6.66	3.20	2.13	0.84	1.27	4.33	16.5	23.2	15.7	9.68	12.6	11.16	14.04	
(WY)	1970	2003	2003	2001	2003	1970	2005	2004	2001	1977	1977	1995	1995	48.8	12.6	11.16	14.04	18.10	25.87	18.97	4.83	1.47	0.87	2.45	3.70	7.44	15.51	13.4	6.66	3.20	2.13	0.84	1.27	4.33	16.5	23.2	15.7	9.68	12.6	11.16	14.04	
MIN	17.0	9.40	3.52	0.65	0.00	0.00	0.12	30.6	116	104	56.9	48.8	12.6	11.16	14.04	18.10	25.87	18.97	4.83	1.47	0.87	2.45	3.70	7.44	15.51	13.4	6.66	3.20	2.13	0.84	1.27	4.33	16.5	23.2	15.7	9.68	12.6	11.16	14.04			
(WY)	1997	1974	1997	1974	1972	1971	1972	1971	1972	1997	1969	2000	1995	48.8	12.6	11.16	14.04	18.10	25.87	18.97	4.83	1.47	0.87	2.45	3.70	7.44	15.51	13.4	6.66	3.20	2.13	0.84	1.27	4.33	16.5	23.2	15.7	9.68	12.6	11.16	14.04	

# 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 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1967 - 2005#	
ANNUAL TOTAL	29790.47		30969.0			
ANNUAL MEAN	81.4		84.8		80.9	
HIGHEST ANNUAL MEAN					123 1977	
LOWEST ANNUAL MEAN					50.6 1996	
HIGHEST DAILY MEAN	814	Jun 17	762	Oct 3	1650	Oct 11 1969
LOWEST DAILY MEAN	0.02	Apr 1	a2.6	Apr 4	b0.00	Mar 1 1969
ANNUAL SEVEN-DAY MINIMUM	0.06	Mar 26	3.2	Mar 31	0.00	Mar 1 1969
MAXIMUM PEAK FLOW			1200	Oct 3	c13600	Oct 11 1986
MAXIMUM PEAK STAGE			6.37	Oct 3	d13.96	Oct 11 1986
INSTANTANEOUS LOW FLOW			f2.4	Apr 4	0.00	Mar 1 1969
ANNUAL RUNOFF (AC-FT)	59090		61430		58630	
ANNUAL RUNOFF (CFSM)	8.79		9.16		8.74	
ANNUAL RUNOFF (INCHES)	119.68		124.41		118.75	
10 PERCENT EXCEEDS	209		196		207	
50 PERCENT EXCEEDS	38		55		35	
90 PERCENT EXCEEDS	3.3		6.7		2.0	

- # See Period of Record; partial year used in monthly statistics
- a Apr. 4-5
- b No flow many days in water years 1969, 1971-76, 1992, 1996, 1999, and 2002
- c Slope-area measurement of the release of water temporarily stored behind a debris-avalanche dam. Inflow into the ponded area was 5,420 ft<sup>3</sup>/s, from a slope-area measurement made about 0.3 mi upstream at a site with a drainage area of 8.98 mi<sup>2</sup>
- d From floodmarks
- f Apr. 4-5