

1999

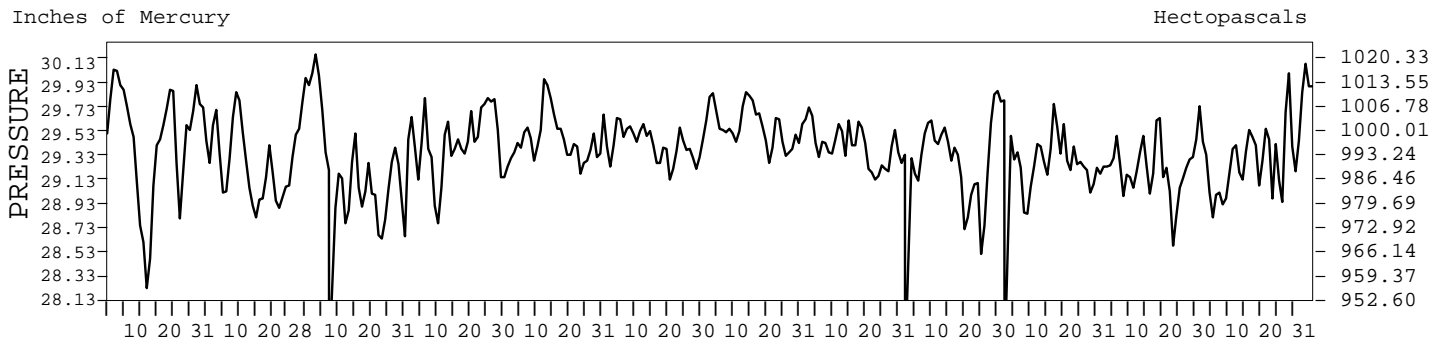
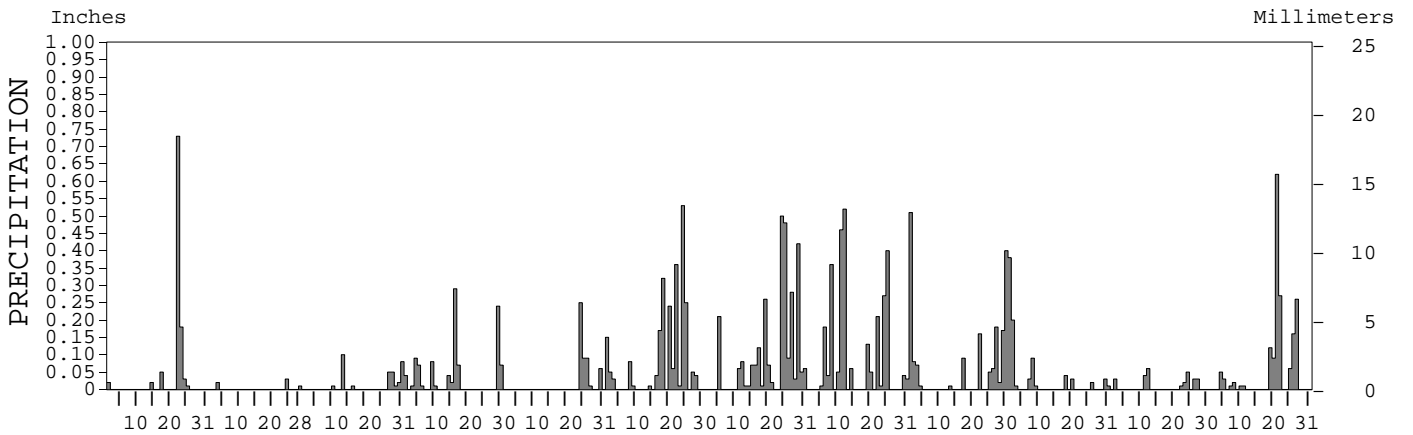
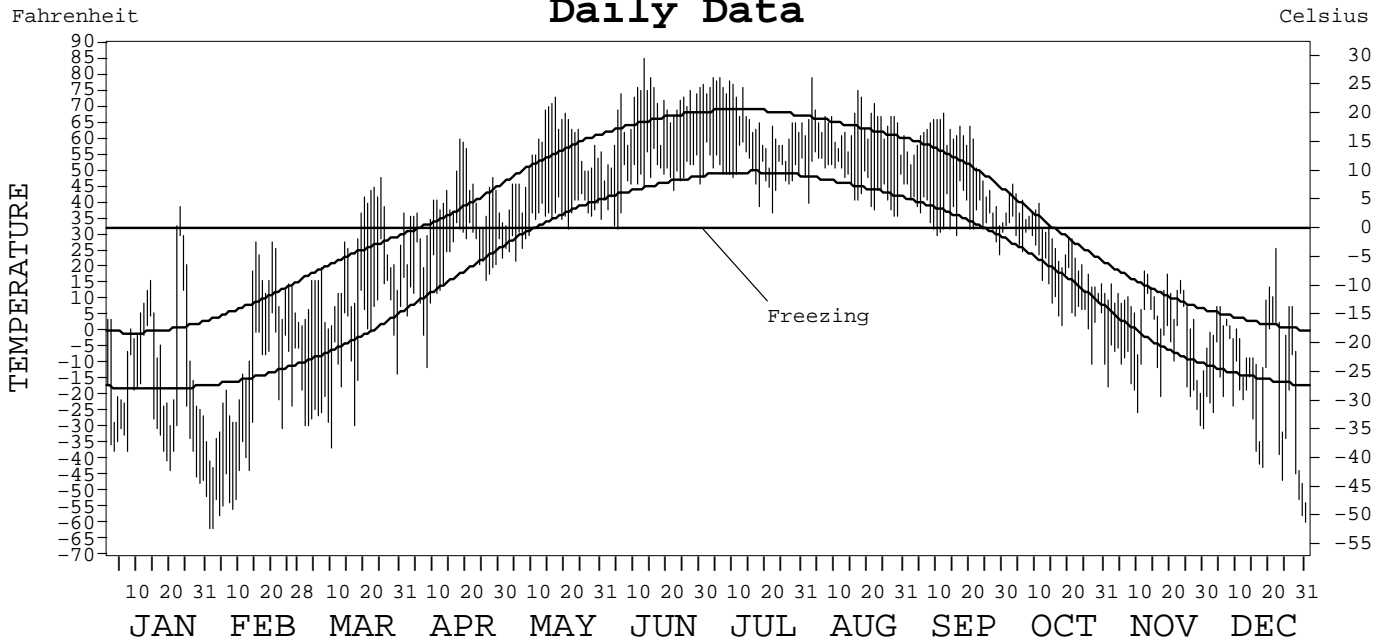
LOCAL CLIMATOLOGICAL DATA
ANNUAL SUMMARY WITH COMPARATIVE DATA



ISSN 0197-9841

MCGRATH,
ALASKA (MCG)

Daily Data



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Thomas R. Karl

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
 NATIONAL ENVIRONMENTAL AND INFORMATION SERVICE
 NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE
 NATIONAL CLIMATIC DATA CENTER
 ASHEVILLE, NORTH CAROLINA
 DIRECTOR NATIONAL CLIMATIC DATA CENTER

METEOROLOGICAL DATA FOR 1999

MCGRATH, AK (MCG)

LATITUDE: 62° 57' 12" N LONGITUDE: 155° 36' 12" W ELEVATION (FT): GRND: 337 BARO: 337 TIME ZONE: ALASKA (UTC + 9) WBAN: 26510

	ELEMENT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
TEMPERATURE °F	MEAN DAILY MAXIMUM	-5.0	-3.4	21.3	39.7	55.2	68.4	67.2	64.8	55.5	28.0	7.1	-5.8	32.8
	HIGHEST DAILY MAXIMUM	39	28	48	60	73	85	79	79	68	46	19	26	85
	DATE OF OCCURRENCE	23	20+	25	18	17	13	06+	03	12	03	12	22	JUN 13
	MEAN DAILY MINIMUM	-25.4	-27.9	-7.5	19.7	34.5	47.3	50.1	46.4	36.1	15.5	-8.4	-23.0	13.1
	LOWEST DAILY MINIMUM	-51	-62	-36	-11	22	32	37	36	24	-10	-30	-59	-62
	DATE OF OCCURRENCE	31	02	10	08	05	05	22	29+	29	31+	30	31	FEB 02
	AVERAGE DRY BULB	-15.2	-15.6	6.9	29.7	44.9	57.9	58.7	55.6	45.8	21.8	-6	-14.4	23.0
	MEAN WET BULB				26.6	39.2	52.3				21.1			
	MEAN DEW POINT				20.0	29.9	46.8				18.4			
	NUMBER OF DAYS WITH:													
	MAXIMUM ≥ 70°	0	0	0	0	3	16	12	4	0	0	0	0	35
	MAXIMUM ≤ 32°	29	28	23	6	0	0	0	0	0	19	30	31	166
	MINIMUM ≤ 32°	31	28	31	28	10	1	0	0	13	28	30	31	231
MINIMUM ≤ 0°	27	27	19	2	0	0	0	0	0	2	22	27	126	
H/C	HEATING DEGREE DAYS	2481	2251	1793	1052	616	207	197	284	566	1334	1961	2453	15195
	COOLING DEGREE DAYS	0	0	0	0	0	3	9	1	0	0	0	0	13
RH	MEAN (PERCENT)	80	80	70	69	59	70	76	80	77	85	82	81	76
	HOUR 03 LST	79	85	81	81	79	90	92	92	88	90	82	82	85
	HOUR 09 LST	81	82	80	73	61	72	78	85	85	89	82	83	79
	HOUR 15 LST	79	72	54	55	43	54	62	62	58	75	76	82	64
	HOUR 21 LST	81	82	70	62	49	63	73	80	81	87	84	81	74
S	PERCENT POSSIBLE SUNSHINE													
W/O	NUMBER OF DAYS WITH:													
	HEAVY FOG (VISBY ≤ 1/4 MI)	2	3	0	2	0	2	1	1	1	2	2	2	18
	THUNDERSTORMS	0	0	0	0	1	7	2	1	0	0	0	0	11
CLOUDINESS	SUNRISE-SUNSET: (OKTAS)													
	CEILOMETER (≤ 12,000 FT.)													
	SATELLITE (> 12,000 FT.)													
	MIDNIGHT-MIDNIGHT: (OKTAS)													
	CEILOMETER (≤ 12,000 FT.)													
	SATELLITE (> 12,000 FT.)													
NUMBER OF DAYS WITH:														
CLEAR														
PARTLY CLOUDY														
CLOUDY														
PR	MEAN STATION PRESS. (IN.)	29.48	29.28		29.45	29.48	29.44	29.60			29.30	29.26	29.39	
	MEAN SEA-LEVEL PRESS. (IN.)	29.93	29.68		29.83	29.85	29.81				29.68	29.65	29.79	
WINDS	RESULTANT SPEED (MPH)	0.7	0.5	1.3	0.3	1.6	0.5				1.4	1.4	1.2	
	RES. DIR. (TENS OF DEGS.)	30	35	02	20	33	29				01	36	32	
	MEAN SPEED (MPH)	2.4	1.7	3.7	5.1	5.5	4.1	4.4	3.9	4.4	3.1	1.9	2.5	3.6
	PREVAIL. DIR. (TENS OF DEGS.)	01	28	36	29	28	28	28	36	01	01	01	32	28
	MAXIMUM 2-MINUTE WIND:													
	SPEED (MPH)	25	20	23	22	22	30	22	20	28	20	16	20	30
	DIR. (TENS OF DEGS.)	18	09	08	20	08	04	22	09	11	02	02	19	04
	DATE OF OCCURRENCE	23	15	24	29	20	27	20	04+	17	15	14+	20	JUN 27
	MAXIMUM 5-SECOND WIND:													
	SPEED (MPH)	39	24	29	32	26	30	33	26	34	24	21	28	39
DIR. (TENS OF DEGS.)	19	09	07	18	04	05	22	20	12	02	01	21	19	
DATE OF OCCURRENCE	23	15	24	29	20	27	20	19+	17	15	14	20	JAN 23	
PRECIPITATION	WATER EQUIVALENT:													
	TOTAL (IN.)	1.04	0.06	0.33	1.04	0.50	2.27	2.44	2.82	1.81	0.85	0.27	1.71	15.14
	GREATEST 24-HOUR (IN.)	0.75	0.03	0.10	0.31	0.31	0.53	0.44	0.52	0.57	0.38	0.06	0.62	0.75
	DATE OF OCCURRENCE	22-23	24	13	29-30+	24-25	24	25	12	29-30	01	12	21	JAN 22-23
	NUMBER OF DAYS WITH:													
	PRECIPITATION ≥ 0.01	7	3	8	13	5	17	20	16	13	11	8	13	134
PRECIPITATION ≥ 0.10	2	0	1	2	1	7	7	8	5	2	0	5	40	
PRECIPITATION ≥ 1.00	0	0	0	0	0	0	0	0	0	0	0	0	0	
SNOWFALL	SNOW, ICE PELLETS, HAIL:													
	TOTAL (IN.)	16.3	1.8	7.9	10.9	T	0.0	0.0	0.0	3.1	6.3	7.9	29.5	83.7
	GREATEST 24-HOUR (IN.)	6.4	0.9	2.7	2.3	T	0.0	0.0	0.0	1.8	2.3	1.6	9.1	9.1
	DATE OF OCCURRENCE	22	24	31	04	28+				29	26	01	21	DEC 21
	MAXIMUM SNOW DEPTH (IN.)	26	25	27	27	5	0	0	0	2	3	5	23	27
	DATE OF OCCURRENCE	23	28+	31+	10+	01				29	27	30+	30+	APR 10+
NUMBER OF DAYS WITH:														
SNOWFALL ≥ 1.0	4	0	2	4	0	0	0	0	2	2	4	7	25	

NORMALS, MEANS, AND EXTREMES

MCGRATH, AK (MCG)

LATITUDE: 62° 57' 12" N LONGITUDE: 155° 36' 12" W ELEVATION (FT): GRND: 337 BARO: 337 TIME ZONE: ALASKA (UTC + 9) WBAN: 26510

ELEMENT		POR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
TEMPERATURE °F	NORMAL DAILY MAXIMUM	30	.4	8.9	23.4	37.0	54.5	65.5	68.4	63.5	52.9	31.3	12.4	2.7	35.1
	MEAN DAILY MAXIMUM	51	.5	9.1	23.7	38.5	55.4	66.1	68.7	63.2	52.6	31.4	13.0	1.4	35.3
	HIGHEST DAILY MAXIMUM	57	54	55	55	67	82	90	89	89	76	59	49	49	90
	YEAR OF OCCURRENCE		1945	1943	1998	1958	1993	1969	1977	1977	1957	1969	1997	1977	JUN 1969
	MEAN OF EXTREME MAXS.	51	30.7	34.3	43.2	53.8	70.9	80.1	83.2	76.5	66.0	49.1	35.3	31.1	54.5
	NORMAL DAILY MINIMUM	30	-17.8	-14.2	-2.9	16.0	34.5	45.1	49.0	45.0	35.4	18.0	-3.7	-14.6	15.8
	MEAN DAILY MINIMUM	51	-17.7	-13.9	-3.2	16.5	34.6	45.3	49.2	45.5	35.5	17.7	-2.7	-15.6	15.9
	LOWEST DAILY MINIMUM	57	-75	-64	-51	-40	-2	30	33	25	2	-28	-53	-67	-75
	YEAR OF OCCURRENCE		1989	1947	1966	1985	1945	1974	1981	1984	1992	1982	1990	1961	JAN 1989
	MEAN OF EXTREME MINS.	51	-47.4	-42.5	-31.4	-10.2	22.7	35.4	39.9	33.0	21.6	-5.3	-29.5	-43.5	-4.8
	NORMAL DRY BULB	30	-8.7	-2.6	10.2	26.5	44.5	55.3	58.7	54.3	44.2	24.7	4.4	-6.0	25.5
	MEAN DRY BULB	51	-8.7	-2.4	10.2	27.4	45.1	55.7	58.9	54.3	43.9	24.6	5.1	-7.1	25.6
	MEAN WET BULB	12	-1.9	-1.1	11.0	25.9	40.2	50.4	54.6	50.4	40.7	22.4	3.8	.5	24.8
	MEAN DEW POINT	12	-5.3	-5.6	3.2	17.4	31.8	43.4	49.9	46.8	36.5	18.7	.0	-3.1	19.5
	NORMAL NO. DAYS WITH:														
MAXIMUM ≥ 70°	30	0.0	0.0	0.0	0.0	1.6	10.3	13.9	6.0	0.4	0.0	0.0	0.0	32.2	
MAXIMUM ≤ 32°	30	29.3	25.4	21.9	8.5	0.4	0.0	0.0	0.0	0.1	16.0	27.0	28.6	157.2	
MINIMUM ≤ 32°	30	30.9	27.9	30.5	28.0	11.5	0.2	0.0	1.0	10.1	27.8	29.7	30.9	228.5	
MINIMUM ≤ 0°	30	23.8	21.2	18.2	4.8	0.0	0.0	0.0	0.0	0.0	3.5	18.1	22.9	112.5	
H/C	NORMAL HEATING DEG. DAYS	30	2285	1893	1699	1155	636	291	207	338	624	1249	1818	2201	14396
	NORMAL COOLING DEG. DAYS	30	0	0	0	0	0	0	12	6	0	0	0	0	18
RH	NORMAL (PERCENT)	30	72	69	64	62	60	63	70	75	74	78	77	74	70
	HOUR 03 LST	30	73	72	73	73	76	81	84	87	84	82	78	74	78
	HOUR 09 LST	30	73	72	72	67	64	67	74	82	82	82	77	75	74
	HOUR 15 LST	30	71	62	52	49	45	48	55	60	59	69	74	74	60
	HOUR 21 LST	30	72	70	63	58	52	55	64	72	73	78	77	74	67
S	PERCENT POSSIBLE SUNSHINE														
W/O	MEAN NO. DAYS WITH:														
	HEAVY FOG (VISBY ≤ 1/4 MI)	57	1.9	1.1	0.6	0.3	0.4	0.4	0.8	1.3	1.0	1.3	1.4	2.3	12.8
	THUNDERSTORMS	57	0.0	0.0	0.0	0.0	0.4	3.0	2.5	0.7	0.1	0.0	0.0	0.0	6.7
CLOUDINESS	MEAN:														
	SUNRISE-SUNSET (OKTAS)	55	5.0	4.9	4.9	5.2	5.8	6.2	6.3	6.5	6.3	6.5	5.8	5.4	5.7
	MIDNIGHT-MIDNIGHT (OKTAS)	26	4.5	4.2	4.4	5.0	5.6	5.9	6.3	6.2	5.9	5.9	5.6	5.0	5.4
	MEAN NO. DAYS WITH:														
	CLEAR	55	9.3	8.8	9.4	7.2	4.0	1.9	2.2	2.3	3.4	3.8	6.2	7.4	65.9
PARTLY CLOUDY	55	4.8	4.5	6.3	7.3	8.3	8.9	7.8	5.2	4.9	4.8	4.3	4.5	71.6	
CLOUDY	55	16.8	14.8	15.4	15.5	18.7	19.3	20.7	23.0	21.2	21.8	19.0	18.6	224.8	
PR	MEAN STATION PRESSURE (IN)	26	29.40	29.43	29.42	29.43	29.45	29.50	29.56	29.53	29.40	29.35	29.36	29.37	29.43
	MEAN SEA-LEVEL PRES. (IN)	16	29.79	29.88	29.87	29.80	29.84	29.87	29.94	29.89	29.78	29.77	29.78	29.74	29.83
WINDS	MEAN SPEED (MPH)	32	3.3	4.3	5.3	6.3	6.6	6.3	6.0	5.8	5.8	5.1	3.6	3.1	5.1
	PREVAIL. DIR (TENS OF DEGS)	18	30	01	36	36	36	30	18	18	36	01	01	29	36
	MAXIMUM 2-MINUTE:														
	SPEED (MPH)	1	25	20	23	22	22	30	22	20	28	20	16	20	30
	DIR. (TENS OF DEGS)		18	09	08	20	08	04	22	09	11	02	02	19	04
	YEAR OF OCCURRENCE		1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	JUN 1999
	MAXIMUM 5-SECOND:														
SPEED (MPH)	1	39	24	29	32	26	30	33	26	34	24	21	28	39	
DIR. (TENS OF DEGS)		19	09	07	18	04	05	22	20	12	02	01	21	19	
YEAR OF OCCURRENCE		1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	JAN 1999	
PRECIPITATION	NORMAL (IN)	30	0.75	0.66	0.80	0.82	0.87	1.47	2.05	2.47	1.98	1.40	1.29	1.40	15.96
	MAXIMUM MONTHLY (IN)	57	3.74	3.05	2.82	2.78	3.07	4.36	5.36	6.26	6.18	4.59	4.34	5.02	6.26
	YEAR OF OCCURRENCE		1993	1944	1991	1964	1988	1950	1975	1945	1993	1946	1979	1990	AUG 1945
	MINIMUM MONTHLY (IN)	57	0.10	0.00	T	0.01	0.18	0.42	0.38	0.80	0.19	0.14	0.02	0.11	0.00
	YEAR OF OCCURRENCE		1961	1979	1986	1943	1979	1957	1993	1968	1969	1965	1963	1966	FEB 1979
	MAXIMUM IN 24 HOURS (IN)	57	1.03	1.15	1.17	1.10	1.11	2.39	2.56	2.10	1.64	1.54	1.51	1.90	2.56
	YEAR OF OCCURRENCE		1957	1956	1982	1960	1960	1950	1975	1955	1945	1945	1985	1990	JUL 1975
	NORMAL NO. DAYS WITH:														
PRECIPITATION ≥ 0.01	30	8.8	7.5	8.5	8.3	10.0	13.3	14.8	16.0	12.9	12.5	11.1	11.7	135.4	
PRECIPITATION ≥ 1.00	30	0.0	0.0	0.0	*	0.0	0.0	0.1	0.2	0.2	0.0	0.1	0.1	0.7	
SNOWFALL	NORMAL (IN)	30	12.4	11.2	12.1	8.8	0.9	T	0.0	0.0	0.8	12.1	18.6	20.4	97.3
	MAXIMUM MONTHLY (IN)	57	42.2	38.0	35.8	32.8	10.7	0.1	T	0.9	13.7	32.1	53.6	54.2	54.2
	YEAR OF OCCURRENCE		1993	1944	1990	1964	1992	1975	1990	1998	1992	1971	1994	1990	DEC 1990
	MAXIMUM IN 24 HOURS (IN)	56	11.7	13.5	14.3	13.2	7.0	0.1	T	0.9	7.0	10.5	15.2	15.5	15.5
	YEAR OF OCCURRENCE		1957	1976	1982	1964	1971	1975	1990	1998	1992	1971	1946	1978	DEC 1978
	MAXIMUM SNOW DEPTH (IN)	50	53	51	68	47	30	0	0	0	7	11	90	54	90
	YEAR OF OCCURRENCE		1949	1990	1990	1972	1985				1992	1989	1948	1994	NOV 1948
NORMAL NO. DAYS WITH:															
SNOWFALL ≥ 1.0	30	4.1	3.8	3.8	2.6	0.2	0.0	0.0	0.0	0.2	4.3	5.6	6.2	30.8	

PRECIPITATION (inches) 1999 MCGRATH, AK (MCG)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1970	0.19	0.80	1.03	0.87	1.02	1.97	1.62	2.35	0.92	2.21	2.05	3.02	18.05
1971	0.46	0.71	0.12	0.32	1.31	1.03	1.31	2.07	1.61	2.75	1.22	4.37	17.28
1972	1.21	0.05	0.32	1.19	0.40	1.80	1.64	2.61	2.53	2.02	0.50	1.27	15.54
1973	1.27	0.41	1.13	0.35	0.97	1.60	0.99	3.47	1.61	1.67	2.01	0.36	15.84
1974	0.37	0.36	0.94	0.37	0.30	0.59	1.34	2.02	1.06	2.27	1.86	0.35	11.83
1975	1.41	0.51	0.48	0.62	0.49	1.31	5.36	2.33	3.14	1.96	0.26	1.16	19.03
1976	1.03	1.33	1.41	0.09	1.63	0.96	1.82	0.91	0.50	1.36	1.76	0.30	13.10
1977	0.31	0.44	1.20	1.58	1.35	0.61	0.91	1.46	4.72	0.71	0.67	1.62	15.58
1978	0.17	0.23	0.15	0.13	0.99	2.96	1.41	2.25	1.19	1.17	1.97	3.43	16.05
1979	1.10	0.00	1.22	2.64	0.18	1.12	1.99	1.87	1.82	0.92	4.34	1.14	18.34
1980	1.65	0.33	0.29	0.08	1.25	3.47	2.96	2.46	1.32	0.66	0.73	0.18	15.38
1981	0.39	1.65	0.13	0.56	0.74	1.99	2.99	2.65	0.71	2.08	1.49	0.70	16.08
1982	0.51	0.50	2.38	0.93	1.17	1.36	3.21	2.73	5.00	2.71	1.23	1.02	22.75
1983	0.18	0.11	0.01	2.55	1.34	1.18	1.34	3.79	2.05	1.92	0.51	0.99	15.97
1984	1.43	0.78	1.08	0.20	1.43	1.24	2.11	2.28	0.57	0.40	0.32	3.54	15.38
1985	1.36	1.21	2.43	0.23	1.07	1.96	1.08	3.06	5.56	2.05	2.83	1.19	24.03
1986	0.23	0.08	T	0.36	0.67	1.80	3.45	2.66	3.29	1.75	1.79	0.95	17.03
1987	1.51	0.59	0.12	0.09	1.43	0.51	4.41	1.66	3.34	1.06	2.08	1.76	18.56
1988	0.62	0.87	0.52	0.38	3.07	2.10	0.88	2.71	0.84	1.31	0.35	1.51	15.16
1989	1.78	2.48	0.24	1.01	1.18	1.18	2.65	3.92	3.32	2.31	1.68	1.02	22.77
1990	1.24	1.99	2.76	0.66	1.01	0.61	2.16	3.37	3.19	1.99	1.68	5.02	25.68
1991	0.74	0.32	2.82	0.59	0.26	0.57	2.73	2.96	1.25	1.58	0.62	1.09	15.53
1992	0.19	0.69	0.70	0.30	1.50	0.96	3.04	1.93	2.45	0.67	2.87	2.19	17.49
1993	3.74	0.79	0.54	0.04	1.14	2.51	0.38	3.96	6.18	2.71	1.84	0.53	24.36
1994	1.96	0.47	1.33	0.54	0.26	2.47	1.82	3.48	1.04	0.94	4.20	2.99	21.50
1995	0.50	0.54	0.14	0.86	2.10	1.24	2.89	1.57	1.21	1.35	0.11	0.18	12.69
1996	1.31	2.83	0.63	0.49	0.69	1.72	2.59	4.25	1.26	0.28	1.05	1.00	18.10
1997	0.47	0.89	0.13	0.15	1.01	0.87	0.40	2.49	1.40	0.51	1.26	0.62	10.20
1998	0.51	0.04	0.20	1.30	1.25	1.18	5.24	5.41	3.48	0.52	0.80	0.75	20.68
1999	1.04	0.06	0.33	1.04	0.50	2.27	2.44	2.82	1.81	0.85	0.27	1.71	15.14
POR= 60 YRS	0.95	0.82	0.83	0.67	0.92	1.57	2.23	2.95	2.18	1.35	1.17	1.19	16.83

WBAN : 26510

AVERAGE TEMPERATURE (°F) 1999 MCGRATH, AK (MCG)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1970	-22.9	6.4	15.8	25.5	47.1	53.9	56.9	52.6	39.6	21.0	13.3	-10.0	24.9
1971	-27.5	-5.3	-3.2	22.5	41.7	58.7	56.8	55.9	44.8	27.8	0.6	0.4	22.8
1972	-15.6	-7.2	-4.1	17.7	42.8	55.2	61.4	57.6	43.0	31.3	7.9	-2.9	23.9
1973	-18.3	-3.0	8.5	30.6	46.5	56.3	57.7	51.7	45.6	24.6	-2.5	-6.3	24.3
1974	-11.3	-12.5	7.0	29.5	47.4	54.4	59.2	57.6	49.4	20.6	0.5	-13.6	24.0
1975	-14.7	-6.4	6.9	22.5	44.3	54.1	59.8	54.0	42.5	23.6	-8.3	-16.8	21.8
1976	-14.2	-16.8	8.2	28.0	43.4	55.4	58.7	56.1	44.2	22.9	11.1	-6.0	24.3
1977	10.5	6.6	0.5	18.1	41.3	57.0	61.7	61.0	46.3	27.9	-5.4	-8.2	26.4
1978	4.8	6.6	13.2	33.1	48.8	51.5	59.1	57.6	45.3	23.1	14.2	9.3	30.6
1979	-7	-19.9	14.1	30.1	48.5	52.5	57.6	56.9	46.3	33.9	21.4	-14.7	27.2
1980	-13.5	11.8	16.5	34.0	47.6	51.8	57.2	52.0	42.3	29.6	8.0	-25.5	26.0
1981	14.4	6.0	26.9	30.2	51.1	54.1	55.6	52.9	41.3	28.1	8.7	-6.9	30.2
1982	-11.6	0.2	13.3	23.9	41.2	55.2	57.8	54.7	45.2	16.9	5.8	-3.9	24.9
1983	-15.2	-5	9.1	30.2	47.2	56.7	59.6	50.5	39.7	22.2	14.0	0.4	26.2
1984	-8.0	-16.0	18.7	21.0	40.3	57.2	57.7	51.7	44.4	24.8	1.8	1.4	24.6
1985	12.2	-7.9	13.6	10.9	40.6	53.0	60.3	52.0	42.9	20.4	-1.8	10.2	25.5
1986	-5.9	4.5	3.5	21.0	43.6	58.1	59.6	52.2	45.2	24.9	3.9	8.4	26.6
1987	-2	0.6	12.7	27.5	45.7	56.2	59.8	56.6	42.4	32.7	6.4	-7.1	27.8
1988	-3.6	2.0	13.6	27.9	49.5	58.0	63.3	54.5	43.7	17.4	-3.8	6.9	27.5
1989	-27.6			33.5	43.2	56.8	60.4	56.8	46.9	25.6	-4.3	1.2	
1990	-11.2	-21.9	16.8	36.5	48.9	58.5	62.4	57.6	42.6	25.4	2.4	-6.7	25.9
1991	-2.9	-8	13.4	31.6	47.0	59.4	57.9	53.6	48.9	28.0	2.8	-7.4	27.6
1992	-3.3	-4.4	12.1	27.0	39.8	57.7	61.1	55.3	33.6	18.7	11.8	-4.2	25.4
1993	-1.1	4.7	18.4	36.9	50.5	58.0	63.2	55.1	42.8	30.9	12.2	5.3	31.4
1994	-1.1	3.5	7.0	31.6	49.5	56.4	60.1	55.2	44.1	21.5	3.3	-6.4	27.1
1995	-5.2	5.6	4.2	37.4	50.8	56.1	59.3	54.3	49.7	26.0	2.0	-6.6	27.8
1996	-11.9	-2.4	19.3	28.0	47.7	56.6	60.9	52.2	40.9	17.5	0.6	-16.7	24.4
1997	-12.6	12.9	5.7	34.3	49.0	61.4	63.6	57.7	49.4	18.1	13.9	-7.6	28.8
1998	-12.0	1.2	20.2	37.6	46.4	57.4	59.1	50.6	46.3	28.3	6.2	-8.1	27.8
1999	-15.2	-15.6	6.9	29.7	44.9	57.9	58.7	55.6	45.8	21.8	-6	-14.4	23.0
POR= 58 YRS	-8.4	-1.7	9.7	27.1	44.8	55.8	58.8	54.1	43.8	25.0	4.8	-7.0	25.6

HEATING DEGREE DAYS (base 65°F) 1999 MCGRATH, AK (MCG)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1970-71	243	378	757	1360	1546	2326	2873	1968	2116	1269	713	210	15759
1971-72	251	274	597	1146	1929	2002	2500	2097	2144	1415	680	290	15325
1972-73	129	219	657	1040	1705	2107	2585	1902	1749	1024	566	259	13942
1973-74	218	409	574	1244	2022	2214	2365	2174	1799	1062	537	313	14931
1974-75	173	230	461	1368	1936	2442	2470	2002	1798	1270	633	321	15104
1975-76	173	334	668	1280	2203	2538	2458	2377	1758	1102	660	280	15831
1976-77	193	269	617	1301	1612	2204	1683	1633	2002	1403	729	234	13880
1977-78	111	134	551	1142	2115	2273	1862	1632	1597	949	497	398	13261
1978-79	176	224	585	1291	1520	1720	2038	2383	1574	1040	507	367	13425
1979-80	221	242	555	958	1299	2473	2434	1539	1499	923	533	391	13067
1980-81	242	393	672	1092	1704	2807	1562	1653	1173	1036	426	323	13083
1981-82	287	368	704	1140	1688	2232	2376	1816	1599	1228	733	292	14463
1982-83	222	314	588	1486	1778	2133	2491	1831	1728	1037	545	242	14395
1983-84	166	447	752	1318	1523	2003	2262	2357	1432	1316	761	226	14563
1984-85	221	407	609	1239	1895	1973	1636	2046	1591	1621	751	354	14343
1985-86	157	398	656	1381	2004	1697	2203	1692	1908	1317	660	206	14279
1986-87	191	391	586	1236	1837	1754	2020	1805	1616	1122	593	256	13407
1987-88	162	255	674	994	1755	2236	2128	1830	1588	1105	472	207	13406
1988-89	70	320	630	1470	2067	1798	2869	1830	1588	937	666	238	13406
1989-90	159	248	534	1214	2076	1975	2364	2436	1489	849	492	200	14036
1990-91	103	232	665	1223	1876	2226	2105	1842	1595	995	550	198	13610
1991-92	225	344	478	1140	1866	2246	2117	2015	1637	1132	773	213	14186
1992-93	128	291	932	1429	1592	2147	2045	1686	1438	837	443	203	13171
1993-94	89	299	659	1051	1583	1848	2049	1721	1797	995	472	259	12822
1994-95	155	305	616	1341	1849	2213	2174	1663	1886	821	432	262	13717
1995-96	173	327	453	1204	1889	2220	2385	1955	1412	1104	528	248	13898
1996-97	136	387	714	1468	1932	2526	2400	1456	1831	914	488	126	14378
1997-98	75	232	462	1450	1528	2243	2379	1778	1384	816	568	237	13152
1998-99	177	439	551	1127	1756	2258	2481	2251	1793	1052	616	207	14708
1999-	197	284	566	1334	1961	2453							

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COOLING DEGREE DAYS (base 65°F) 1999 MCGRATH, AK (MCG)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1970	0	0	0	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	27	2	0	0	0	0	0	29
1972	0	0	0	0	0	0	24	0	0	0	0	0	24
1973	0	0	0	0	0	2	0	2	0	0	0	0	4
1974	0	0	0	0	0	3	4	4	0	0	0	0	11
1975	0	0	0	0	0	0	18	0	0	0	0	0	18
1976	0	0	0	0	0	0	2	0	0	0	0	0	2
1977	0	0	0	0	0	0	17	19	0	0	0	0	36
1978	0	0	0	0	0	0	0	2	0	0	0	0	2
1979	0	0	0	0	0	0	1	1	0	0	0	0	2
1980	0	0	0	0	0	0	9	0	0	0	0	0	9
1981	0	0	0	0	1	2	0	0	0	0	0	0	3
1982	0	0	0	0	0	4	7	0	0	0	0	0	11
1983	0	0	0	0	0	0	4	0	0	0	0	0	4
1984	0	0	0	0	0	0	1	1	0	0	0	0	2
1985	0	0	0	0	0	0	18	0	0	0	0	0	18
1986	0	0	0	0	0	7	32	0	0	0	0	0	39
1987	0	0	0	0	0	1	6	0	0	0	0	0	7
1988	0	0	0	0	0	3	23	0	0	0	0	0	26
1989	0	0	0	0	0	1	24	1	0	0	0	0	26
1990	0	0	0	0	0	12	28	9	0	0	0	0	49
1991	0	0	0	0	0	33	12	0	0	0	0	0	45
1992	0	0	0	0	0	0	11	0	0	0	0	0	11
1993	0	0	0	0	0	0	41	0	0	0	0	0	41
1994	0	0	0	0	0	4	11	8	0	0	0	0	23
1995	0	0	0	0	0	0	3	0	0	0	0	0	3
1996	0	0	0	0	0	4	16	0	0	0	0	0	20
1997	0	0	0	0	0	24	37	16	0	0	0	0	77
1998	0	0	0	0	0	15	0	0	0	0	0	0	15
1999	0	0	0	0	0	3	9	1	0	0	0	0	13

SNOWFALL (inches) 1999 MCGRATH, AK (MCG)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1970-71	0.0	0.0	0.6	12.7	30.6	23.2	11.4	15.1	2.3	5.6	7.6	0.0	109.1
1971-72	0.0	0.0	0.0	32.1	21.6	50.9	14.0	1.1	6.8	30.0	0.3	T	156.8
1972-73	0.0	0.0	4.1	7.5	9.0	12.4	13.4	8.0	22.5	2.2	T	0.0	79.1
1973-74	0.0	0.0	0.3	14.9	33.5	6.8	5.8	6.3	13.7	3.8	0.0	0.0	85.1
1974-75	0.0	0.0	T	16.4	26.6	9.3	18.5	10.4	6.9	8.5	1.3	0.1	98.0
1975-76	0.0	0.0	0.0	16.5	5.3	19.1	16.5	15.9	19.6	1.4	T	0.0	94.3
1976-77	0.0	0.0	0.0	13.3	17.1	6.2	3.5	8.3	17.9	20.3	0.4	0.0	87.0
1977-78	0.0	0.0	0.6	4.4	12.0	22.0	2.4	3.8	2.1	1.3	0.0	0.0	48.6
1978-79	0.0	0.0	T	13.7	20.6	54.0	17.3	0.0	12.6	10.4	T	0.0	128.6
1979-80	0.0	0.0	T	4.1	24.3	19.9	22.2	2.2	4.7	T	T	0.0	77.4
1980-81	0.0	0.0	0.5	7.2	16.8	3.1	9.1	21.5	1.7	5.1	T	0.0	65.0
1981-82	0.0	0.0	4.1	15.7	21.7	16.2	12.8	2.1	30.9	5.6	T	0.0	109.1
1982-83	0.0	0.0	0.0	24.0	21.6	10.4	4.8	2.4	0.3	12.6	T	0.0	76.1
1983-84	0.0	0.0	0.7	7.1	8.9	17.6	18.5	12.9	15.1	2.9	1.1	0.0	84.8
1984-85	0.0	0.0	0.0	6.5	7.5	49.6	20.2	20.6	35.0	3.1	4.2	0.0	146.7
1985-86	0.0	0.0	0.5	9.3	33.9	15.9	6.3	2.0	T	8.1	1.2	0.0	77.2
1986-87	0.0	0.0	T	11.8	22.6	17.4	29.3	9.7	2.2	2.3	2.0	0.0	97.3
1987-88	0.0	0.0	0.1	4.2	35.5	27.4	10.6	15.1	9.6	1.3	0.0	0.0	103.8
1988-89	0.0	0.0	0.8	17.3	7.7			17.3	4.5	2.5	0.6	0.0	
1989-90	0.0	0.0	0.0	21.0	26.8	16.6	21.4	33.4	35.8	5.4	1.8	0.0	162.2
1990-91	T	0.0	3.5	13.1	28.0	54.2	9.6	6.8	31.2	2.3	T	T	148.7
1991-92	0.0	0.0	0.0	6.6	11.5	22.1	7.4	15.4	12.5	2.2	10.7	0.0	88.4
1992-93	0.0	0.0	13.7	8.5	31.4	27.6	42.2	11.4	8.8	0.4	0.1	0.0	144.1
1993-94	0.0	0.0	2.2	9.3	19.3	11.4	28.7	7.0	15.4	7.1	T	0.0	100.4
1994-95	0.0	0.0	0.4	6.9	53.6	49.9	8.9	6.7	2.8	1.3	T	0.0	130.5
1995-96	0.0	0.0	0.0	13.1	1.5	3.0	13.9	31.7	4.5	7.5	T	T	75.2
1996-97	0.0	0.0	3.0	2.8	14.1	20.3	9.9	13.4	2.7	1.5	T	0.0	67.7
1997-98	0.0	0.0	0.0	5.0	21.2	12.0	12.3	0.5	2.4	1.2	1.2	0.0	55.8
1998-99	0.0	0.0	0.0	6.5	14.0	15.9	16.3	1.8	7.9	10.9	T	0.0	73.3
1999-	0.0	0.0	3.1	6.3	7.9	29.5							
POR= 56 YRS	T	T	1.1	9.9	17.3	19.0	14.2	11.6	11.4	6.6	1.1	0.0	92.2

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REFERENCE NOTES:

<p>PAGE 1: THE TEMPERATURE GRAPH SHOWS NORMAL MAXIMUM AND NORMAL MINIMUM DAILY TEMPERATURES (SOLID CURVES) AND THE ACTUAL DAILY HIGH AND LOW TEMPERATURES (VERTICAL BARS).</p> <p>PAGE 2 AND 3: H/C INDICATES HEATING AND COOLING DEGREE DAYS. RH INDICATES RELATIVE HUMIDITY W/O INDICATES WEATHER AND OBSTRUCTIONS S INDICATES SUNSHINE. PR INDICATES PRESSURE. CLOUDINESS ON PAGE 3 IS THE SUM OF THE CEILOMETER AND SATELLITE DATA NOT TO EXCEED EIGHT EIGHTHS(OKTAS).</p> <p>GENERAL: T INDICATES TRACE PRECIPITATION, AN AMOUNT GREATER THAN ZERO BUT LESS THAN THE LOWEST REPORTABLE VALUE. + INDICATES THE VALUE ALSO OCCURS ON EARLIER DATES. BLANK ENTRIES DENOTE MISSING OR UNREPORTED DATA. NORMALS ARE 30-YEAR AVERAGES (1961 - 1990). ASOS INDICATES AUTOMATED SURFACE OBSERVING SYSTEM. PM INDICATES THE LAST DAY OF THE PREVIOUS MONTH. POR (PERIOD OF RECORD) BEGINS WITH THE JANUARY DATA MONTH AND IS THE NUMBER OF YEARS USED TO COMPUTE THE MEAN. INDIVIDUAL MONTHS WITHIN THE POR MAY BE MISSING. WHEN THE POR FOR A NORMAL IS LESS THAN 30 YEARS, THE NORMAL IS PROVISIONAL AND IS BASED ON THE NUMBER OF YEARS INDICATED. 0.* OR * INDICATES THE VALUE OR MEAN-DAYS-WITH IS BETWEEN 0.00 AND 0.05. CLOUDINESS FOR ASOS STATIONS DIFFERS FROM THE NON-ASOS OBSERVATION TAKEN BY A HUMAN OBSERVER. ASOS STATION CLOUDINESS IS BASED ON TIME-AVERAGED CEILOMETER DATA FOR CLOUDS AT OR BELOW 12,000 FEET AND ON SATELLITE DATA FOR CLOUDS ABOVE 12,000 FEET. THE NUMBER OF DAYS WITH CLEAR, PARTLY CLOUDY, AND CLOUDY CONDITIONS FOR ASOS STATIONS IS THE SUM OF THE CEILOMETER AND SATELLITE DATA FOR THE SUNRISE TO SUNSET PERIOD.</p>	<p>GENERAL CONTINUED: CLEAR INDICATES 0 - 2 OKTAS, PARTLY CLOUDY INDICATES 3 - 6 OKTAS, AND CLOUDY INDICATES 7 OR 8 OKTAS. WHEN AT LEAST ONE OF THE ELEMENTS (CEILOMETER OR SATELLITE) IS MISSING, THE DAILY CLOUDINESS IS NOT COMPUTED. WIND DIRECTION IS RECORDED IN TENS OF DEGREES (2 DIGITS) CLOCKWISE FROM TRUE NORTH. "00" INDICATES CALM. "36" INDICATES TRUE NORTH. RESULTANT WIND IS THE VECTOR AVERAGE OF THE SPEED AND DIRECTION. AVERAGE TEMPERATURE IS THE SUM OF THE MEAN DAILY MAXIMUM AND MINIMUM TEMPERATURE DIVIDED BY 2. SNOWFALL DATA COMPRISE ALL FORMS OF FROZEN PRECIPITATION, INCLUDING HAIL. A HEATING (COOLING) DEGREE DAY IS THE DIFFERENCE BETWEEN THE AVERAGE DAILY TEMPERATURE AND 65° F. DRY BULB IS THE TEMPERATURE OF THE AMBIENT AIR. DEW POINT IS THE TEMPERATURE TO WHICH THE AIR MUST BE COOLED TO ACHIEVE 100 PERCENT RELATIVE HUMIDITY. WET BULB IS THE TEMPERATURE THE AIR WOULD HAVE IF THE MOISTURE CONTENT WAS INCREASED TO 100 PERCENT RELATIVE HUMIDITY.</p> <p>ON JULY 1, 1996, THE NATIONAL WEATHER SERVICE BEGAN USING THE "METAR" OBSERVATION CODE THAT WAS ALREADY EMPLOYED BY MOST OTHER NATIONS OF THE WORLD. THE MOST NOTICEABLE DIFFERENCE IN THIS ANNUAL PUBLICATION WILL BE THE CHANGE IN UNITS FROM TENTHS TO EIGHTHS(OKTAS) FOR REPORTING THE AMOUNT OF SKY COVER.</p>
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1999
MCGRATH,
ALASKA (MCG)

McGrath is located in western interior Alaska near the western end of a relatively flat drainage basin in the upper portion of the Kuskokwim River valley. The Kuskokwim Mountains extend in a northeast-southwest direction through the McGrath area, but the most pronounced ridges of this range lie to the west of the station. Consequently, the area is, for practical purposes, a portion of the sheltered continental interior. The characteristic continental climate is more pronounced during the winter season when temperatures become quite cold and precipitation relatively light, with pronounced north or northwesterly winds prevailing. During the summer months, when prevailing winds become southerly, the climate is at least partly affected by maritime influences, and the transition periods between the seasons are relatively short. Average summertime precipitation is more abundant than that received by most stations farther inland, but this may be due as much to topographic influences as to maritime influences. High temperatures in the summer reflect the continental influences of the interior, and high temperatures in the fall are just a little below the values reached in other areas farther inland like Fairbanks.

Over 40 percent of the normal precipitation falls during July, August, and September. The winter months have relatively little precipitation in comparison. However, due to the general nature of the dry snow, the accumulated snowfall is usually quite large. Spring is the driest season of the year with considerable clear and mild weather, and this period usually lasts well into June. Most thunderstorms occur during the months of June and July. Small hail occurs several times a year.

Break-up of the Kuskokwim River usually occurs in the middle of May and the ground is normally thawed enough for cultivation by the first of June. The normal growing season is approximately 120 days and the average occurrence of the last temperature of 32 degrees in the spring is late May. The first temperature of 32 degrees in the autumn normally occurs in the middle of September.

The summer months are relatively warm for Alaska. On approximately 15 days during the summer the daily maximum rises to the 80s. Relatively high temperatures have been observed during the winter months resulting from influxes of warm maritime air from the ocean. These thaws, usually of one or two days duration, occur several times during the winter season.

During the winter months the minimum temperatures fall to well below zero, at times reaching at least -50 degrees. Long periods of five to ten or more days of extremely low temperatures occur during the winter months. Skies remain clear and atmospheric pressures quite high. In the coldest of these periods high inversion ice-fog and ice crystals are a common occurrence. Months with the least cloudiness are January, February, March, and April.

STATION LOCATION

McGRATH, ALASKA

LOCATION	OCCUPIED FROM	OCCUPIED TO	AIRLINE DISTANCES AND DIRECTIONS FROM PREVIOUS LOCATION	LATITUDE NORTH	LONGITUDE WEST	ELEVATION ABOVE										* Type	REMARKS	
						SEA LEVEL	GROUND											
							WIND	WIND	WIND	WIND	WIND	WIND	WIND	WIND	WIND			WIND
McGrath Airport FSS/Weather Service Office Building McGrath Airport	4/12/42 7/06/65	7/06/65 07/01/98	900 ft. NE	62°58' 62°58'	155°37' 155°37'	334 c344	28 24	7 7	6 6	NA NA	NA NA	a4 6	4 4	b8 d8	NA	a - Installed 11/1/60. b - Commissioned 1310 feet NW of previously used temperature sensor. c - Indicated as 349 feet until resurvey of 10/6/66. d - Type change 09/08/86.		
McGrath Airport	07/01/98	Present	NA	62°57'	155°36'	337									S	ASOS Commissioned 07/01/98		

SUBSCRIPTION: Price and ordering information available through: National Climatic Data Center, Federal Building, Asheville, North Carolina 28801.
INQUIRIES/COMMENTS CALL: (828) 271-4800

National Climatic Data Center
151 Patton Avenue, Rm 120
Asheville NC 28801-5001

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