

2003

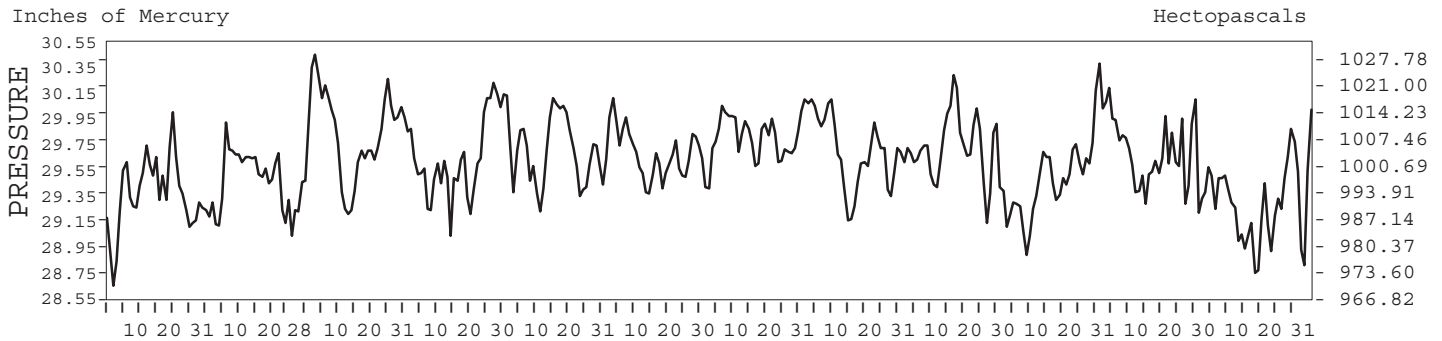
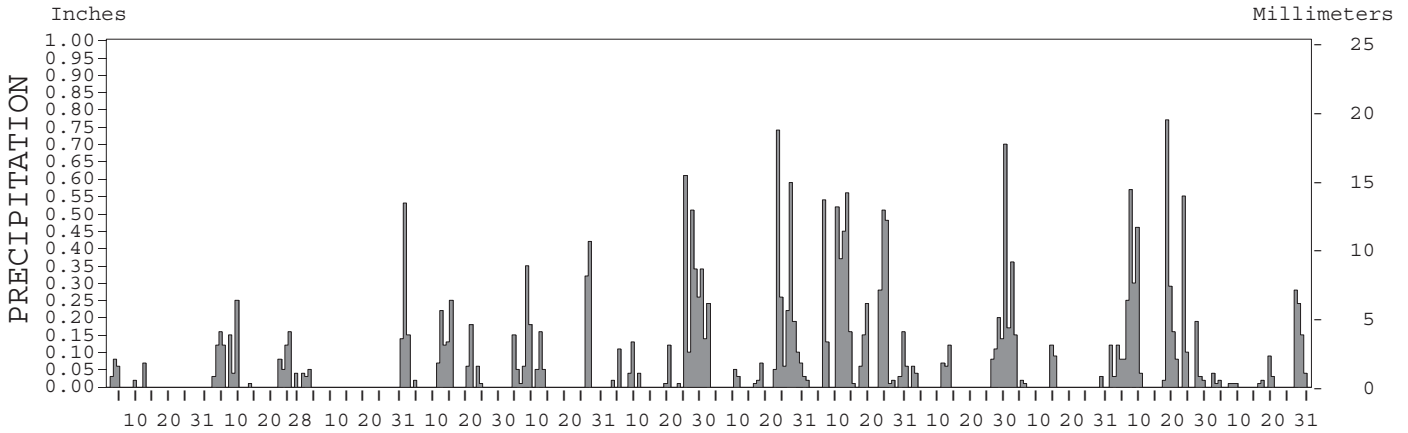
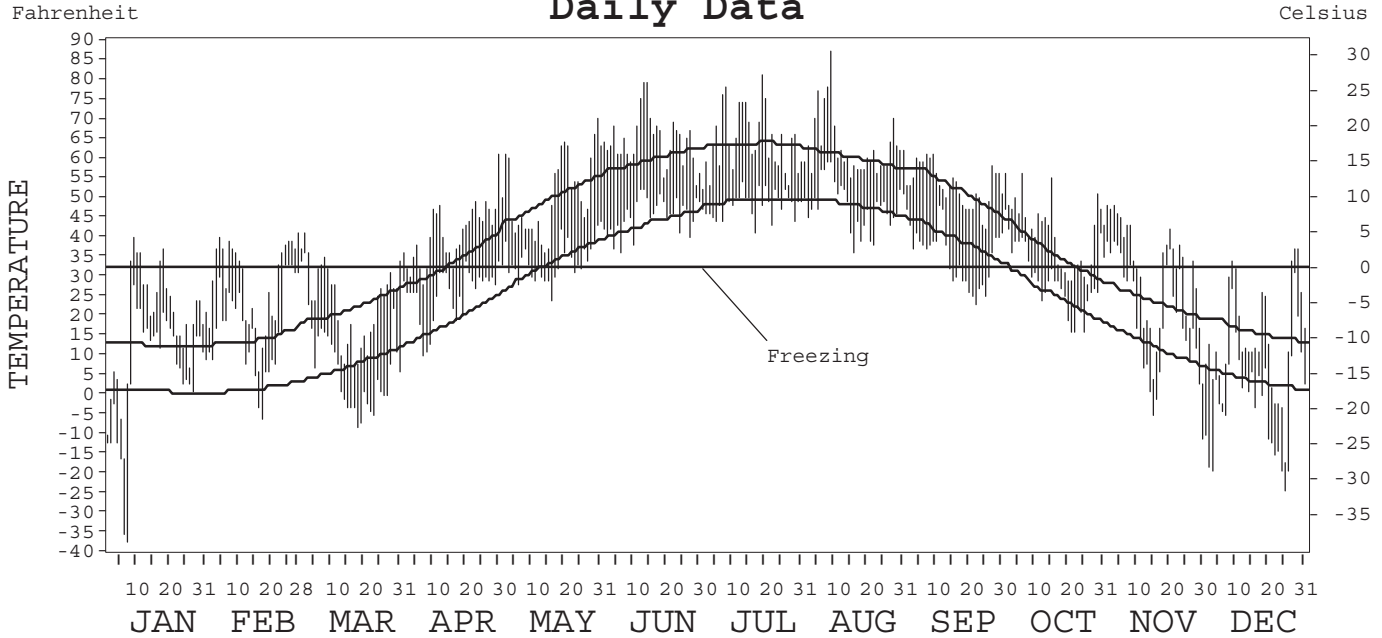
LOCAL CLIMATOLOGICAL DATA ANNUAL SUMMARY WITH COMPARATIVE DATA



ISSN 0197-9620

BETHEL, ALASKA (BET)

Daily Data



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Thomas R. Karl

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION	NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE	NATIONAL CLIMATIC DATA CENTER ASHEVILLE, NORTH CAROLINA	DIRECTOR NATIONAL CLIMATIC DATA CENTER
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METEOROLOGICAL DATA FOR 2003

BETHEL, AK (BET)

LATITUDE: 60° 47' 09" N LONGITUDE: 161° 49' 35" W ELEVATION (FT): GRND: 142 BARO: 145 TIME ZONE: ALASKA (UTC + 9) WBAN: 26615

ELEMENT		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	
TEMPERATURE °F	MEAN DAILY MAXIMUM	18.2	28.6	23.5	40.8	50.8	64.4	64.4	63.0	53.0	41.0	30.6	14.0	41.0	
	HIGHEST DAILY MAXIMUM	40	41	41	61	70	79	81	87	61	56	48	37	87	
	DATE OF OCCURRENCE	09	28	02	30	30	14+	19	09	09+	06+	03+	29+	AUG 09	
	MEAN DAILY MINIMUM	6.0	17.0	7.4	25.5	33.8	45.4	48.2	47.9	35.1	29.5	19.4	- .3	26.2	
	LOWEST DAILY MINIMUM	-37	-6	-8	10	24	36	41	36	23	16	-11	-24	-37	
	DATE OF OCCURRENCE	07	17	18	07	16	06	17	16	22	25+	30	25	JAN 07	
	AVERAGE DRY BULB	12.1	22.8	15.5	33.2	42.3	54.9	56.3	55.5	44.1	35.3	25.0	6.9	33.7	
	MEAN WET BULB		22.5	13.4	30.5	38.4	50.3	52.5	52.5	40.5	33.6	24.8	6.7		
	MEAN DEW POINT		20.3	6.3	26.1	32.8	45.4	49.3	50.0	35.9	31.1	23.4	3.9		
	NUMBER OF DAYS WITH:														
	MAXIMUM ≥ 70°	0	0	0	0	1	4	7	6	0	0	0	0	0	18
	MAXIMUM ≤ 32°	25	14	25	6	0	0	0	0	0	6	14	27	117	
MINIMUM ≤ 32°	31	25	29	28	14	0	0	0	12	21	22	31	213		
MINIMUM ≤ 0°	7	2	11	0	0	0	0	0	0	0	3	15	38		
H/C	HEATING DEGREE DAYS	1634	1175	1525	946	693	296	262	301	622	913	1193	1795	11355	
	COOLING DEGREE DAYS	0	0	0	0	0	1	0	13	0	0	0	0	14	
RH	MEAN (PERCENT)	82	89	70	77	72	72	80	85	76	86	92	86	81	
	HOUR 03 LST	83	91	78	88	86	89	94	95	89	93	92	86	89	
	HOUR 09 LST	82	91	76	84	77	77	86	93	91	91	93	85	86	
	HOUR 15 LST	81	85	58	63	57	54	66	70	56	74	90	86	70	
	HOUR 21 LST	83	89	71	76	64	66	73	82	75	87	92	85	79	
S	PERCENT POSSIBLE SUNSHINE														
W/O	NUMBER OF DAYS WITH:														
	HEAVY FOG (VISBY ≤ 1/4 MI)	3	7	3	5	4	6	4	7	4	6	6	4	59	
	THUNDERSTORMS	0	0	0	0	0	1	0	0	0	0	0	0	1	
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.)	29.36	29.46	29.82	29.64	29.71	29.68	29.80	29.70	29.69	29.56	29.63	29.29	29.61	
	MEAN SEA-LEVEL PRESS. (IN.)	29.52	29.63	29.99	29.81	29.87	29.84	29.96	29.86	29.86	29.72	29.79	29.46	29.78	
WINDS	RESULTANT SPEED (MPH)	11.5	5.9	8.1	0.9	1.1	3.8	3.5	2.2	6.1	4.5	3.7	4.9	2.3	
	RES. DIR. (TENS OF DEGS.)	03	06	36	12	31	18	24	25	01	01	22	03	02	
	MEAN SPEED (MPH)	14.0	11.4	15.5	12.0	9.6	9.3	10.7	8.8	9.7	10.6	11.1	10.2	11.1	
	PREVAIL. DIR. (TENS OF DEGS.)	03	03	03	03	33	18	20	31	03	36	17	03	03	
	MAXIMUM 2-MINUTE WIND:														
	SPEED (MPH)	33	26	46	37	28	32	28	30	29	38	43	36	46	
	DIR. (TENS OF DEGS.)	03	02	01	18	22	19	19	19	03	19	18	03	01	
	DATE OF OCCURRENCE	22	12	13	12	26+	30	01	10	17	30	07	03	MAR 13	
	MAXIMUM 5-SECOND WIND:														
	SPEED (MPH)	39	32	53	49	36	38	35	37	36	46	49	45	53	
DIR. (TENS OF DEGS.)	03	03	01	17	20	19	19	20	02	20	19	01	01		
DATE OF OCCURRENCE	22	12	13+	12	04	30+	01	10	17	30	08+	03	MAR 13+		
PRECIPITATION	WATER EQUIVALENT:														
	TOTAL (IN.)	0.26	1.33	0.26	1.80	1.80	2.64	2.87	4.76	1.58	0.95	4.26	0.96	23.47	
	GREATEST 24-HOUR (IN.)	0.09	0.25	0.14	0.53	0.42	0.68	0.74	0.99	0.70	0.38	0.77	0.28	0.99	
	DATE OF OCCURRENCE	02-03	09	31	01	27	25-26	23	24-25	30	01-02	18	27	AUG 24-25	
	NUMBER OF DAYS WITH:														
	PRECIPITATION ≥ 0.01	5	13	4	12	11	14	17	20	10	8	20	14	148	
PRECIPITATION ≥ 0.10	0	7	1	7	6	9	8	13	5	4	12	3	75		
PRECIPITATION ≥ 1.00	0	0	0	0	0	0	0	0	0	0	0	0	0		
SNOWFALL	SNOW, ICE PELLETS, HAIL:														
	TOTAL (IN.)	6.5	7.5	1.8	10.9	0.9	0.0	0.0	0.0	0.0	0.3	15.8	14.6	58.3	
	GREATEST 24-HOUR (IN.)	3.5	2.7	1.3	3.6	0.4	0.0	0.0	0.0	0.0	0.3	4.1	4.2	4.2	
	DATE OF OCCURRENCE	03	02-03	31	01	12					25	18	27	DEC 27	
	MAXIMUM SNOW DEPTH (IN.)	6	4	T	7	T	0	0	0	0	T	4	10	10	
	DATE OF OCCURRENCE	04	03+	31+	03+	27					29+	30+	28	DEC 28	
	NUMBER OF DAYS WITH:														
SNOWFALL ≥ 1.0	2	3	1	3	0	0	0	0	0	0	5	4	18		

NORMALS, MEANS, AND EXTREMES

BETHEL, AK (BET)

LATITUDE: 60° 47' 09" N LONGITUDE: 161° 49' 35" W ELEVATION (FT): GRND: 142 BARO: 145 TIME ZONE: ALASKA (UTC + 9) WBAN: 26615

	ELEMENT	POR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
TEMPERATURE °F	NORMAL DAILY MAXIMUM	30	12.4	13.9	21.8	33.3	49.4	59.4	63.1	59.7	51.7	35.3	23.1	15.6	36.6
	MEAN DAILY MAXIMUM	55	12.7	14.7	21.7	32.8	48.9	59.6	62.4	59.3	51.7	35.4	23.7	13.6	36.4
	HIGHEST DAILY MAXIMUM	45	48	46	46	61	80	86	83	87	72	58	51	45	87
	YEAR OF OCCURRENCE		1963	1970	1998	2003	1993	1959	1993	2003	1979	2001	2002	1963	AUG 2003
	MEAN OF EXTREME MAXS.	55	37.0	36.5	40.1	48.7	65.2	74.6	77.7	72.1	62.9	49.9	40.2	36.7	53.5
	NORMAL DAILY MINIMUM	30	.7	1.3	7.2	18.4	33.1	43.3	48.8	47.5	39.1	24.7	11.7	3.2	23.3
	MEAN DAILY MINIMUM	55	-.3	.6	5.4	17.2	32.2	42.9	47.9	46.5	38.3	24.1	11.6	.5	22.2
	LOWEST DAILY MINIMUM	45	-48	-39	-39	-22	4	28	31	28	18	-6	-24	-37	-48
	YEAR OF OCCURRENCE		1989	1999	1964	1964	1965	1962	1959	1984	1970	2001	1990	1998	JAN 1989
	MEAN OF EXTREME MINS.	55	-27.4	-24.5	-18.6	-5.1	20.0	34.1	40.5	38.0	26.9	7.4	-10.3	-23.7	4.8
	NORMAL DRY BULB	30	6.6	7.6	14.5	25.9	41.3	51.4	56.0	53.6	45.4	30.0	17.4	9.4	29.9
	MEAN DRY BULB	55	6.2	7.6	13.5	25.0	40.5	51.3	55.2	52.9	45.1	29.8	17.7	7.0	29.3
	MEAN WET BULB	14	6.6	10.1	14.5	25.0	37.2	47.7	49.2	47.4	40.3	27.5	15.6	11.8	27.7
	MEAN DEW POINT	14	2.9	5.6	10.3	21.0	32.2	43.0	46.4	45.2	37.5	24.7	12.8	8.8	24.2
	NORMAL NO. DAYS WITH:														
	MAXIMUM ≥ 70°	30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MAXIMUM ≤ 32°	30	24.9	22.2	21.3	12.0	1.2	0.0	0.0	0.0	0.1	10.9	21.0	23.8	137.4	
MINIMUM ≤ 32°	30	30.5	27.8	30.5	28.1	15.2	0.6	0.0	0.1	5.8	25.5	28.3	30.3	222.7	
MINIMUM ≤ 0°	30	15.1	14.2	11.7	3.9	0.0	0.0	0.0	0.0	0.0	0.4	6.6	14.6	66.5	
H/C	NORMAL HEATING DEG. DAYS	30	1813	1608	1566	1175	738	410	280	355	587	1085	1428	1724	12769
	NORMAL COOLING DEG. DAYS	30	0	0	0	0	0	0	0	1	0	0	0	0	1
RH	NORMAL (PERCENT)	30	78	76	79	79	75	74	80	85	83	83	83	80	80
	HOUR 03 LST	30	79	78	82	85	89	89	93	93	91	87	84	82	86
	HOUR 09 LST	30	79	77	81	82	79	78	86	90	90	87	84	82	83
	HOUR 15 LST	30	78	75	76	69	61	58	66	73	70	73	81	81	72
	HOUR 21 LST	30	79	77	81	79	71	67	74	83	84	84	83	81	79
S	PERCENT POSSIBLE SUNSHINE														
W/O	MEAN NO. DAYS WITH:														
	HEAVY FOG (VISBY ≤ 1/4 MI)	34	3.4	3.4	3.8	4.1	4.5	3.2	3.8	5.8	4.4	4.2	4.1	4.2	48.9
	THUNDERSTORMS	34	0.0	0.0	0.0	0.0	0.2	0.6	0.7	0.4	0.1	0.0	0.0	0.0	2.0
CLOUDINESS	MEAN:														
	SUNRISE-SUNSET (OKTAS)	34	5.3	4.7	5.0	5.5	6.1	6.6	6.6	6.8	6.4	6.2	5.7	5.3	5.9
	MIDNIGHT-MIDNIGHT (OKTAS)	20	4.6	4.1	4.6	5.3	5.7	6.3	6.4	6.6	6.0	5.7	5.0	4.9	5.4
	MEAN NO. DAYS WITH:														
CLEAR	35	8.0	9.9	9.3	6.4	3.6	1.7	1.7	1.5	2.2	3.5	5.5	7.6	60.9	
PARTLY CLOUDY	35	4.7	4.1	5.3	6.3	7.7	6.9	5.2	3.9	4.8	5.1	4.9	4.8	63.7	
CLOUDY	35	18.3	14.2	16.5	17.3	19.6	21.4	23.0	24.8	22.1	21.5	18.7	17.8	235.2	
PR	MEAN STATION PRESSURE (IN)	26	29.49	29.56	29.60	29.62	29.64	29.71	29.80	29.71	29.60	29.51	29.49	29.39	29.59
	MEAN SEA-LEVEL PRES. (IN)	16	29.66	29.78	29.80	29.82	29.87	29.98	29.97	29.88	29.76	29.70	29.70	29.52	29.79
WINDS	MEAN SPEED (MPH)	38	13.6	13.8	13.2	12.0	11.1	10.4	10.2	10.8	11.1	11.7	12.2	12.5	11.9
	PREVAIL. DIR (TENS OF DEGS)	23	04	04	03	03	31	20	20	19	19	04	03	03	03
	MAXIMUM 2-MINUTE:														
	SPEED (MPH)	5	56	44	46	45	31	32	40	41	37	41	43	39	56
	DIR. (TENS OF DEGS)		17	19	01	18	22	19	17	17	18	03	18	04	17
	YEAR OF OCCURRENCE		2000	2000	2003	2002	2002	2003	1999	2000	2000	2002	2003	2000	JAN 2000
MAXIMUM 5-SECOND:															
SPEED (MPH)	5	67	49	53	54	39	38	52	52	47	49	49	46	67	
DIR. (TENS OF DEGS)		17	19	01	18	22	19	17	18	18	03	19	18	17	
YEAR OF OCCURRENCE		2000	2000	2003	2002	2002	2003	1999	2000	2000	2002	2003	2000	JAN 2000	
PRECIPITATION	NORMAL (IN)	30	0.62	0.51	0.67	0.65	0.85	1.60	2.03	3.02	2.31	1.43	1.37	1.12	16.18
	MAXIMUM MONTHLY (IN)	45	2.53	3.03	3.44	3.89	3.63	4.30	4.19	6.81	4.79	2.51	4.26	3.49	6.81
	YEAR OF OCCURRENCE		1993	1996	1991	1979	2002	1999	2001	2001	1993	1972	2003	1992	AUG 2001
	MINIMUM MONTHLY (IN)	45	0.06	T	T	0.02	0.10	0.25	0.56	0.99	0.42	0.11	0.04	0.11	T
	YEAR OF OCCURRENCE		1966	1984	1986	1985	1967	1974	1988	1976	1968	1965	1969	1973	MAR 1986
	MAXIMUM IN 24 HOURS (IN)	45	0.85	1.05	0.64	0.94	1.35	1.37	1.22	1.90	2.02	1.55	1.63	1.34	2.02
	YEAR OF OCCURRENCE		1982	1996	1991	1979	2002	1981	1966	1994	1971	1974	1990	1970	SEP 1971
	NORMAL NO. DAYS WITH:														
PRECIPITATION ≥ 0.01	30	8.7	5.9	8.6	8.9	11.0	13.2	15.1	18.3	17.2	12.7	11.8	11.0	142.4	
PRECIPITATION ≥ 1.00	30	0.0	*	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.5	
SNOWFALL	NORMAL (IN)	30	7.0	5.3	7.9	4.6	1.8	0.1	0.0	0.0	0.4	3.8	10.3	10.8	52.0
	MAXIMUM MONTHLY (IN)	45	22.2	28.8	30.6	22.2	7.7	2.2	T	0.0	4.0	12.8	34.7	36.0	36.0
	YEAR OF OCCURRENCE		2002	1996	1991	2001	1998	1963	1974		1992	1978	1994	1992	DEC 1992
	MAXIMUM IN 24 HOURS (IN)	45	7.8	7.3	8.2	4.7	6.2	1.2	T	0.0	3.6	6.3	10.0	8.0	10.0
	YEAR OF OCCURRENCE		1987	1996	1974	1975	2002	1963	1974		1992	1996	1990	1992	NOV 1990
	MAXIMUM SNOW DEPTH (IN)	54	45	32	45	33	20	0	0	0	3	7	19	24	45
	YEAR OF OCCURRENCE		1952	1956	1951	1951	1977				1992	1996	1999	1994	MAR 1951
NORMAL NO. DAYS WITH:															
SNOWFALL ≥ 1.0	30	2.1	2.0	3.0	1.3	0.5	0.0	0.0	0.0	0.2	1.2	3.2	3.1	16.6	

PRECIPITATION (inches) 2003 BETHEL, AK (BET)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1974	0.24	0.10	1.11	0.29	0.23	0.25	3.55	3.10	2.81	1.95	0.93	0.28	14.84
1975	0.29	0.25	0.22	0.88	0.48	1.52	1.35	2.39	3.33	2.08	0.24	0.37	13.40
1976	0.32	0.43	0.36	0.31	0.50	0.57	1.15	0.99	1.37	0.53	0.47	0.29	7.29
1977	0.20	0.32	0.96	0.50	0.75	1.98	1.90	2.01	3.11	1.47	0.60	1.55	15.35
1978	0.17	0.10	0.08	1.32	0.74	2.78	1.65	3.63	1.40	1.43	2.21	1.96	17.47
1979	0.78	0.10	0.58	3.89	0.33	2.63	2.14	2.34	1.25	0.96	3.31	1.22	19.53
1980	0.86	0.74	1.15	0.39	0.84	3.33	4.00	2.72	0.95	0.90	0.20	0.24	16.32
1981	0.61	1.00	0.41	0.59	0.16	1.79	1.51	1.84	0.95	1.62	2.12	0.40	13.00
1982	1.71	0.63	1.59	0.89	0.88	1.24	3.82	3.53	4.66	2.21	1.61	0.50	23.27
1983	0.11	0.07	0.06	2.62	0.41	0.79	2.26	1.52	1.40	2.18	0.62	1.03	13.07
1984	0.17	T	0.10	0.46	0.39	1.57	1.02	2.85	1.10	0.44	0.66	3.33	12.09
1985	0.93	0.24	1.76	0.02	1.73	1.84	1.24	4.17	4.47	2.14	1.33	0.86	20.73
1986	0.65	0.57	T	0.39	0.78	1.25	1.97	4.40	3.10	1.28	1.90	0.45	16.74
1987	0.72	0.30	0.23	0.05	1.20	1.45	1.89	2.43	1.41	1.43	0.53	1.48	13.12
1988	0.42	0.35	0.45	0.45	1.51	1.59	0.56	3.75	0.73	0.61	0.43	1.68	12.53
1989	1.14	1.76	0.38	0.65	1.46	2.57	1.71	3.61	2.85	1.75	0.92	1.04	19.84
1990	0.92	0.96	0.79	0.25	1.08	0.83	2.72	2.84	3.21	2.05	3.01	2.28	20.94
1991	0.23	0.15	3.44	0.30	0.79	1.20	1.51	1.94	1.72	1.55	0.72	0.91	14.46
1992	0.16	0.50	0.53	0.04	0.79	1.89	1.42	3.52	2.19	1.07	2.22	3.49	17.82
1993	2.53	0.50	0.75	0.31	0.80	1.28	0.67	3.44	4.79	2.11	2.60	0.78	20.56
1994	0.50	0.46	1.05	0.95	0.49	2.26	2.78	5.49	1.44	1.32	4.19	1.53	22.46
1995	0.42	0.72	0.07	0.53	1.59	1.49	1.61	3.59	1.94	0.94	0.10	0.46	13.46
1996	0.21	3.03	0.95	0.06	0.62	1.09	3.83	2.80	1.08	0.99	2.25	0.86	17.77
1997	0.33	0.40	0.18	0.30	1.14	1.60	1.11	2.50	1.47	0.15	1.53	0.87	11.58
1998	0.57	0.08	0.88	0.96	2.61	0.93	2.74	3.20	3.01	1.62	1.30	0.54	18.44
1999	0.45	0.10	0.13	1.06	0.48	4.30	3.15	2.16	2.91	0.42	0.95	0.34	16.45
2000	1.24	0.72	0.75	0.20	0.25	1.67	4.15	4.60	3.37	0.87	2.49	1.39	21.70
2001	0.76	1.13	0.71	2.28	0.47	1.08	4.19	6.81	1.66	2.35	0.07	0.46	21.97
2002	1.63	0.70	0.48	1.44	3.63	2.00	2.13	1.16	3.97	1.61	0.91	0.29	19.95
2003	0.26	1.33	0.26	1.80	1.80	2.64	2.87	4.76	1.58	0.95	4.26	0.96	23.47
POR= 80 YRS	0.83	0.74	0.82	0.68	0.92	1.39	2.20	3.60	2.50	1.48	1.18	0.99	17.33

WBAN : 26615

AVERAGE TEMPERATURE (°F) 2003 BETHEL, AK (BET)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1974	6.2	-7.1	15.0	28.9	45.3	51.4	54.7	56.4	49.4	26.2	10.9	-3.9	27.8
1975	-1.5	0.8	10.3	20.4	39.7	49.5	56.6	54.3	42.8	30.0	7.0	3.1	26.1
1976	0.6	-7.4	6.3	17.2	37.6	49.5	54.8	54.2	44.9	30.1	17.6	6.7	26.0
1977	21.7	18.7	4.7	13.8	35.5	52.6	56.1	58.6	47.5	28.9	10.9	11.0	30.0
1978	19.0	12.7	13.9	30.5	44.0	45.1	54.0	55.3	44.6	27.6	24.0	21.5	32.7
1979	21.3	-5.0	18.1	31.5	44.3	47.8	53.6	53.1	44.8	34.0	25.3	-1.8	30.6
1980	0.2	12.0	20.3	30.5	42.7	46.3	54.8	50.7	44.9	31.9	18.7	- .8	29.4
1981	20.9	12.4	29.5	32.3	48.1	52.4	54.2	54.1	44.5	31.8	17.9	7.9	33.8
1982	12.0	12.1	19.2	17.3	38.6	51.9	53.3	55.1	46.7	28.9	20.7	13.2	30.8
1983	4.9	12.0	18.7	27.5	43.0	51.3	53.7	49.5	42.2	26.5	21.1	20.8	30.9
1984	5.7	-13.2	24.8	22.0	38.1	54.0	55.1	49.7	46.7	30.2	16.4	19.4	29.1
1985	25.7	4.9	13.8	8.3	36.5	47.7	58.8	53.6	45.5	27.0	24.4	25.4	31.0
1986	1.7	15.7	13.1	22.8	39.1	52.5	55.1	51.4	45.0	29.0	20.4	21.6	30.6
1987	9.2	11.1	19.8	23.5	39.3	50.4	55.9	56.3	42.2	34.4	12.8	1.8	29.7
1988	15.1	9.2	6.6	25.3	43.8	52.3	60.0	52.3	45.1	27.2	7.0	11.8	29.6
1989	-13.0	26.1	16.6	29.0	38.1	52.2	54.6	54.2	48.3	31.7	8.8	11.8	29.9
1990	2.7	-12.3	13.8	33.7	43.6	52.2	57.5	55.4	43.7	30.3	16.9	9.4	28.9
1991	9.2	5.9	18.1	30.1	43.9	53.5	57.4	53.7	49.6	35.8	13.5	2.0	31.1
1992	5.2	- .3	10.2	26.0	36.4	52.6	57.4	53.3	37.7	26.7	16.9	9.1	27.6
1993	3.9	19.3	21.6	34.9	45.8	53.6	57.7	54.2	44.6	34.5	24.9	16.3	34.3
1994	7.2	10.8	7.7	29.3	44.2	52.4	55.6	52.3	45.6	27.4	16.8	7.6	29.7
1995	9.7	12.9	9.4	31.6	46.3	52.2	56.7	53.6	50.2	31.2	12.6	10.9	31.4
1996	6.9	8.2	26.7	28.9	44.9	51.2	56.0	51.6	42.0	25.5	23.0	5.1	30.8
1997	4.1	17.6	8.3	33.9	45.4	55.1	59.0	56.0	48.9	24.3	21.5	- .3	31.2
1998	0.9	9.9	27.6	31.4	39.9	50.9	57.3	49.1	45.4	31.3	19.8	3.3	30.6
1999	-1.3	0.2	9.5	25.3	36.8	51.7	53.1	51.7	46.4	24.4	9.9	-10.7	24.8
2000	0.9	26.1	20.5	26.8	37.7	53.3	53.6	51.0	42.5	31.5	25.8	25.2	32.9
2001	18.8	21.5	13.5	29.1	35.1	52.0	52.9	53.0	45.2	24.3	10.4	-4.6	29.3
2002	11.7	13.0	21.9	27.5	45.3	55.9	55.7	55.0	46.5	36.3	26.3	16.4	34.3
2003	12.1	22.8	15.5	33.2	42.3	54.9	56.3	55.5	44.1	35.3	25.0	6.9	33.7
POR= 80 YRS	6.5	8.1	12.7	25.7	40.6	51.9	55.0	52.8	45.2	30.3	17.3	7.2	29.4

HEATING DEGREE DAYS (base 65°F) 2003 BETHEL, AK (BET)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1974-75	318	258	460	1197	1619	2139	2060	1796	1695	1332	778	456	14108
1975-76	255	324	658	1078	1741	1917	1996	2102	1821	1427	843	459	14621
1976-77	309	328	598	1075	1414	1808	1335	1291	1869	1533	906	363	12829
1977-78	269	199	520	1112	1619	1673	1421	1463	1577	1026	645	590	12114
1978-79	334	293	605	1151	1223	1338	1347	1962	1447	998	634	508	11840
1979-80	345	361	600	952	1186	2073	2007	1532	1382	1029	682	552	12701
1980-81	315	438	594	1017	1383	2044	1362	1472	1094	977	517	371	11584
1981-82	330	335	609	1023	1407	1768	1641	1482	1410	1427	808	387	12627
1982-83	355	302	544	1112	1324	1601	1861	1477	1430	1119	676	402	12203
1983-84	343	474	679	1187	1307	1360	1839	2275	1242	1282	830	326	13144
1984-85	300	464	544	1070	1450	1414	1211	1680	1583	1697	876	511	12800
1985-86	189	352	578	1169	1214	1223	1962	1379	1602	1261	794	368	12091
1986-87	303	417	594	1106	1333	1341	1732	1506	1397	1239	791	430	12189
1987-88	279	261	676	944	1565	1961	1544	1614	1804	1185	652	374	12859
1988-89	152	387	590	1164	1739	1645	2419	1084	1495	1075	826	379	12955
1989-90	319	327	495	1024	1682	1648	1934	2164	1586	935	658	378	13150
1990-91	228	290	631	1069	1438	1722	1729	1656	1448	1039	648	340	12238
1991-92	231	342	454	899	1539	1952	1854	1894	1696	1164	882	369	13276
1992-93	230	357	812	1182	1434	1732	1893	1277	1339	896	591	338	12081
1993-94	228	326	606	939	1197	1507	1791	1512	1776	1066	640	371	11959
1994-95	284	385	578	1157	1440	1776	1709	1456	1723	996	573	379	12456
1995-96	250	347	437	1040	1569	1675	1797	1647	1181	1075	616	408	12042
1996-97	273	408	683	1219	1252	1850	1882	1321	1752	927	600	291	12458
1997-98	186	271	478	1256	1298	2016	1980	1538	1152	1003	774	417	12369
1998-99	232	487	584	1039	1352	1905	2049	1807	1712	1184	865	389	13605
1999-00	361	405	551	1255	1646	2339	1980	1122	1374	1138	836	344	13351
2000-01	350	429	669	1033	1169	1225	1423	1210	1586	1068	918	382	11462
2001-02	370	363	587	1256	1631	2151	1644	1451	1327	1120	605	273	12778
2002-03	281	310	549	881	1153	1501	1634	1175	1525	946	693	296	10944
2003-	262	301	622	913	1193	1795							

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COOLING DEGREE DAYS (base 65°F) 2003 BETHEL, AK (BET)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1974	0	0	0	0	0	0	3	0	0	0	0	0	3
1975	0	0	0	0	0	0	1	0	0	0	0	0	1
1976	0	0	0	0	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	8	0	0	0	0	8
1978	0	0	0	0	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	6	0	0	0	0	0	6
1981	0	0	0	0	0	0	0	2	0	0	0	0	2
1982	0	0	0	0	0	0	0	0	0	0	0	0	0
1983	0	0	0	0	0	0	0	0	0	0	0	0	0
1984	0	0	0	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	1	5	0	0	0	0	6
1986	0	0	0	0	0	2	3	0	0	0	0	0	5
1987	0	0	0	0	0	0	2	0	0	0	0	0	2
1988	0	0	0	0	0	0	4	0	0	0	0	0	4
1989	0	0	0	0	0	0	3	0	0	0	0	0	3
1990	0	0	0	0	0	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	2	0	0	0	0	0	0	2
1992	0	0	0	0	0	0	0	0	0	0	0	0	0
1993	0	0	0	0	2	0	7	0	0	0	0	0	9
1994	0	0	0	0	0	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	8	1	0	0	0	0	9
1998	0	0	0	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	1	0	0	0	0	0	0	1
2001	0	0	0	0	0	0	0	0	0	0	0	0	0
2002	0	0	0	0	0	8	0	6	0	0	0	0	14
2003	0	0	0	0	0	1	0	13	0	0	0	0	14

SNOWFALL (inches) 2003 BETHEL, AK (BET)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1974-75	T	0.0	0.0	1.2	7.1	7.2	6.7	5.7	4.4	14.3	3.5	0.0	50.1
1975-76	0.0	0.0	0.0	1.4	3.4	6.5	6.2	5.6	6.7	5.8	0.9	T	36.5
1976-77	0.0	0.0	0.0	1.8	6.1	6.5	2.1	6.6	16.4	10.1	2.5	0.0	52.1
1977-78	0.0	0.0	T	4.8	7.6	13.8	2.1	1.2	0.8	10.7	T	0.0	41.0
1978-79	0.0	0.0	0.0	12.8	2.7	19.1	6.3	1.0	1.8	5.2	T	0.0	48.9
1979-80	0.0	0.0	0.0	1.7	10.3	12.7	6.0	7.1	12.6	2.1	0.4	0.0	52.9
1980-81	0.0	0.0	0.0	4.0	2.0	2.6	3.7	8.8	2.9	2.8	1.0	0.0	27.8
1981-82	0.0	0.0	T	0.9	21.6	4.3	10.2	T	14.7	6.0	T	0.0	57.7
1982-83	0.0	0.0	0.0	9.0	5.6	4.7	1.0	1.5	0.6	9.5	T	0.0	31.9
1983-84	0.0	0.0	T	T	6.4	3.5	2.9	T	1.1	2.6	T	0.0	16.5
1984-85	0.0	0.0	T	3.4	6.8	19.6	2.5	0.7	16.3	0.4	5.1	0.8	55.6
1985-86	0.0	0.0	T	5.3	8.7	2.3	8.7	1.7	T	2.6	4.2	0.0	33.5
1986-87	0.0	0.0	T	0.3	1.8	2.1	13.5	4.0	1.7	0.6	0.2	T	24.2
1987-88	0.0	0.0	0.0	4.7	7.3	14.3	1.7	5.1	5.3	3.1	T	0.0	41.5
1988-89	0.0	0.0	T	5.2	7.9	15.1	13.1	9.2	4.7	2.7	3.4	0.0	61.3
1989-90	0.0	0.0	0.0	4.3	11.0	8.8	10.4	12.8	8.7	2.5	T	0.0	58.5
1990-91	0.0	0.0	3.1	1.7	21.7	6.6	2.6	4.6	30.6	1.5	0.3	T	72.7
1991-92	0.0	0.0	0.0	2.2	9.1	19.2	3.6	10.3	8.3	0.7	6.2	0.0	59.6
1992-93	0.0	0.0	4.0	2.0	19.3	36.0	15.3	6.2	11.6	0.9	T	T	95.3
1993-94	0.0	0.0	T	1.4	13.0	13.2	10.8	4.3	17.3	3.4	T	0.0	63.4
1994-95	0.0	0.0	0.0	1.5	34.7	17.4	8.1	2.1	1.9	0.5	0.0	0.0	66.2
1995-96	0.0	0.0	0.0	2.2	3.1	8.2	4.2	28.8	8.3	1.3	0.2	0.2	56.5
1996-97	0.0	0.0	3.9	8.7	14.4	16.3	9.5	5.1	2.4	0.7	0.3	0.2	61.5
1997-98	0.0	0.0	0.0	1.1	15.1	15.3	12.0	1.1	10.5	10.4	7.7	0.0	73.2
1998-99	0.0	0.0	0.0	9.9	10.0	5.9	3.2	2.2	2.7	11.6	3.6	T	49.1
1999-00	0.0	0.0	0.0	4.0	19.9	6.8	19.1	7.5	11.4	2.9	0.3	0.0	71.9
2000-01	0.0	0.0	0.0	3.5	4.8	13.2	14.8	17.9	15.4	22.2	5.1	0.0	96.9
2001-02	0.0	0.0	T	10.8	1.1	9.6	22.2	16.2	11.0	9.2	7.6	T	87.7
2002-03	0.0	0.0	0.0	3.3	8.8	2.5	6.5	7.5	1.8	10.9	0.9	0.0	42.2
2003-	0.0	0.0	0.0	0.3	15.8	14.6							
POR= 44 YRS	T	0.0	0.3	4.2	9.5	9.8	6.9	6.1	7.8	5.8	2.4	0.1	52.9

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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 (1971 - 2000). 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 EIGHTS(OKTAS) FOR REPORTING THE AMOUNT OF SKY COVER.</p>
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2003
BETHEL,
ALASKA (BET)

The two main topographical features affecting the climate of Bethel are the Bering Sea, which is about 100 miles to the west and southwest, and the Kilbuck Range of mountains located about 40 miles to the east and southeast of the station. This range, averaging about 4,000 feet in height, extends, roughly, in a north-south direction in that portion nearest to Bethel. Some 160 miles southeast of the Kilbuck Range the Aleutians, extending in a northeast-southwest direction, provide an additional natural barrier to many of the storms originating on the outward end of the Aleutian Chain and moving out through the Gulf of Alaska. Both ranges tend to direct some of the storms northeastward into the Bering Sea, and thus directly affect the Bethel area. During invasions of such storms, it is not uncommon for wind velocities to exceed 50 mph. Maximum speeds usually accompany northeast winds in the winter and southeast winds in the summer. During the winter season, strong southerly winds tend to be considerably affected by the mountains to the south, producing, at times, a pronounced foehn (chinook) effect. Temperatures have risen almost 50 degrees in less than 24 hours under these conditions.

The climate is somewhat more maritime than continental in character, which tends to modify daily temperature extremes during most of the

year. However, there are usually two periods during the year when the area becomes affected by continental climatic influences. In June and July, temperatures in the area rise noticeably under the influence of warmer continental air. Around the latter part of December and early January, cold, clear continental air becomes quite dominant, and the climate of Bethel becomes quite similar to other areas located farther inland. Average temperatures through the entire winter season, however, are considerably higher than those experienced in the Alaskan interior, and temperatures for the entire summer season average considerably cooler than in the Alaskan interior. The last date of freezing temperature in spring averages late May, and the average of the first freezing temperature in autumn falls in early September, resulting in a growing season slightly over 100 days. Cabbages, potatoes, cauliflower, beets, turnips, lettuce, and carrots are successfully grown. August is usually the wettest month of the year.

Thunderstorms are rare. The few thunderstorms that do occur are generally short in duration, but rather severe. They usually develop and move out of the northeast during the months of June and July.

STATION LOCATION

BETHEL, ALASKA

LOCATION	Occupied From	Occupied To	Airline Distances and Directions from previous Location	LATITUDE		ELEVATION ABOVE											AUTOMATIC OBSERVING * EQUIPMENT	* TYPE M = AMOS T = AUTOB S = ASOS W = AWOS REMARKS	
				NORTH	WEST	SEA LEVEL	GROUND												
							GROUND	WIND	EXTREME	PSYCHROMETER	SUNSHINE	TIPPING GAUGE	WEIGHING	8 INCH	HYGROMETER				
*NOTES: <u>Airport</u> Control building Bethel Municipal AP+ +NWS/FAA Building Bethel State AP++ (Effective 1971) ++Bethel Airport (Effective 10/75)	11/7/58	11/01/98	3.5 mi. W	60°47'	161°48'	125	64 a20 b30	6 e	6 d23	NA	NA	NA	5 f25	NA c3 g3	NA	a. Effective 10/2/62. b. Raised 8/18/77. c. Commissioned 8/18/77. d. Moved to roof 5/1/80. e. Removed 5/1/80. f. Moved to roof 6/1/80. g. Type change 10/10/85.			
Bethel Airport	11/01/98	Present	NA	60°47'	161°50'	h142									S	ASOS Commissioned 11/01/98 h. Ground elevation			

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* NOTES: For earlier station history see previous edition: