

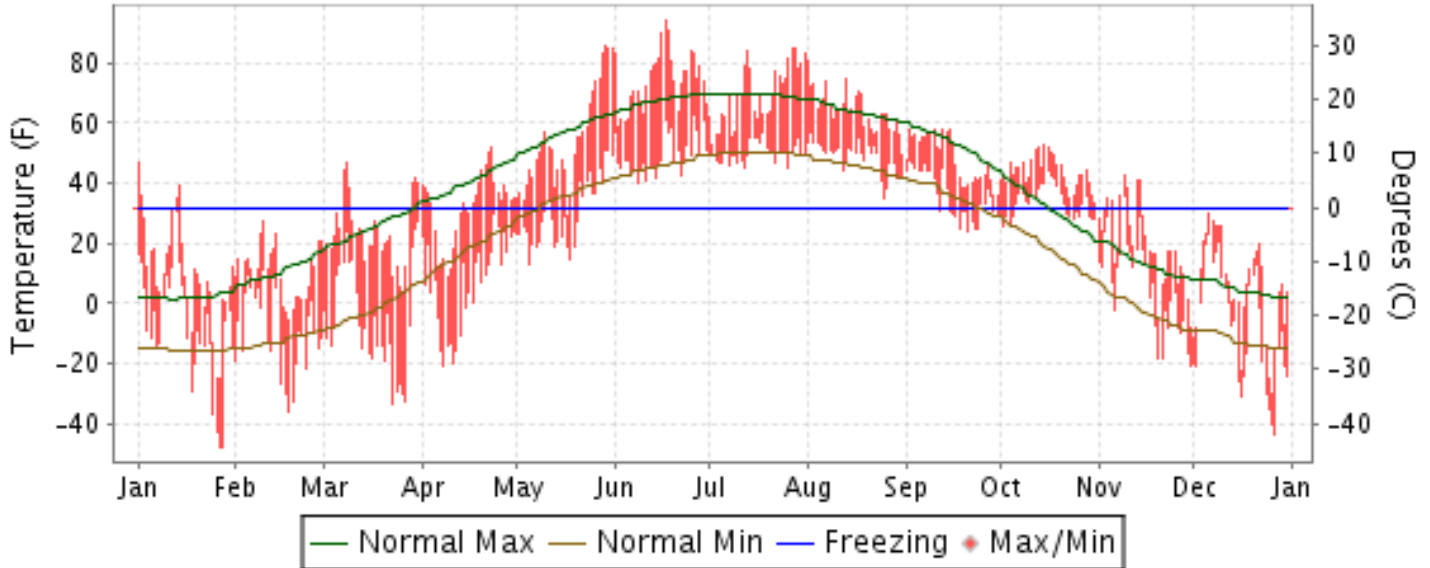


2013 LOCAL CLIMATOLOGICAL DATA ANNUAL SUMMARY WITH COMPARATIVE DATA

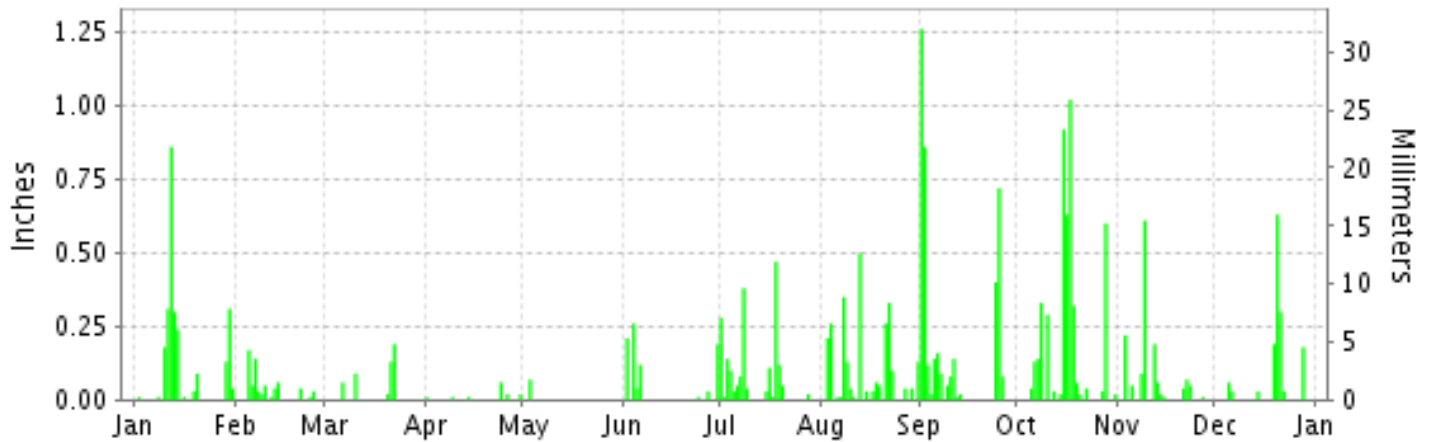
ISSN 0197-9841

**MC GRATH,
ALASKA (PAMC)**

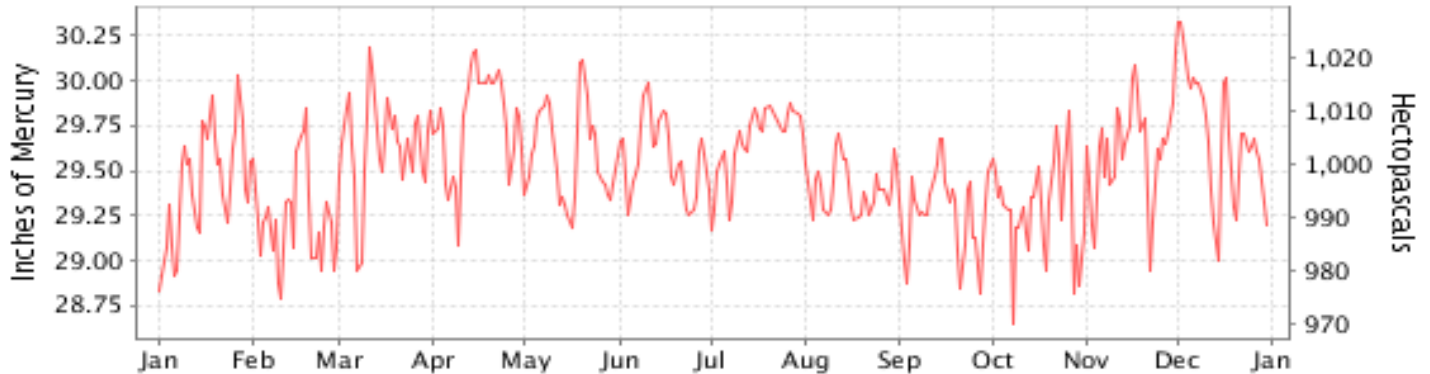
Daily Max/Min Temperature



Daily Precipitation



Daily Station Pressure



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NATIONAL
OCEANIC AND
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NATIONAL
ENVIRONMENTAL SATELLITE, DATA
AND INFORMATION SERVICE

NATIONAL
CLIMATIC DATA CENTER
ASHEVILLE, NORTH CAROLINA

Thomas R. Karl
DIRECTOR
NATIONAL CLIMATIC DATA CENTER

METEOROLOGICAL DATA FOR 2013

MC GRATH (PAMC)

LATITUDE: 62° 57'N LONGITUDE: 155° 36'W ELEVATION (FT): GRND: 333 BARO: 353 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	10.6	10.0	23.9	31.8	54.3	74.6	69.8	64.4	48.4	43.7	20.3	5.4	38.1	
	HIGHEST DAILY MAXIMUM	47	27	47	52	86	94	85	81	58	53	43	30	94	
	DATE OF OCCURRENCE	01	10	08	23	29	17	28+	01	15+	15	09	06	JUN 17	
	MEAN DAILY MINIMUM	-7.9	-9.3	-5.2	6.5	30.1	49.4	50.2	48.9	35.9	33.6	5.8	-7.8	-44	19.2
	LOWEST DAILY MINIMUM	-48	-36	-34	-21	13	40	45	35	24	26	-21	-44	-48	-48
	DATE OF OCCURRENCE	28+	18	23	08	05	08	26+	25	21	04+	30	27	JAN 28+	
	AVERAGE DRY BULB	1.4	0.4	9.3	19.1	42.2	62.0	60.0	56.6	42.2	38.7	13.1	-1.2	28.7	
	MEAN WET BULB			10.1	17.4	35.1	53.6	54.8	52.0	39.3	36.1	12.9			
	MEAN DEW POINT			2.4	7.2	23.9	45.7	50.7	48.3	35.0	32.8	8.9			
	NUMBER OF DAYS WITH:														
	MAXIMUM >= 70	0	0	0	0	7	21	17	7	0	0	0	0	0	52
	MAXIMUM <= 32°	27	28	25	11	0	0	0	0	0	0	23	31	31	145
MINIMUM <= 32°	31	28	31	30	19	0	0	0	13	13	29	31	31	225	
MINIMUM <= 0°	20	19	21	10	0	0	0	0	0	0	11	20	20	101	
H/C	HEATING DEGREE DAYS	1963	1803	1718	1368	710	135	165	253	674	809	1551	2042	13191	
	COOLING DEGREE DAYS	0	0	0	0	9	51	15	3	0	0	0	0	78	
RH	MEAN (PERCENT)	77	76	65	57	51	59	74	78	77	81	79	75	71	
	HOUR 03 LST	77	77	74	68	73	78	90	88	84	84	79	75	79	
	HOUR 09 LST	77	79	74	60	53	60	76	85	85	86	80	76	74	
	HOUR 15 LST	76	68	51	44	36	41	59	61	65	72	77	76	61	
	HOUR 21 LST	77	80	65	52	42	54	71	78	75	82	80	75	69	
W/O	NUMBER OF DAYS WITH:														
	HEAVY FOG(VISBY <= 1/4 MI)	1	1	1	0	0	1	0	2	1	0	0	1	8	
	THUNDERSTORMS	0	0	0	0	0	1	1	0	0	0	0	0	2	
PR	MEAN STATION PRESS. (IN.)	29.43	29.24	29.64	29.78	29.59	29.57	29.66	29.41	29.27	29.29	29.62	29.70	29.52	
	MEAN SEA-LEVEL PRESS. (IN.)	29.83	29.64	30.04	30.17	29.97	29.94	30.04	29.77	29.65	29.67	30.03	30.13	29.91	
WINDS	RESULTANT SPEED (MPH)	0.5	0.6	0.9	3.5	1.9	0.6	1.5	0.8	1.6	2.1	1.5	1.6	0.5	
	RES. DIR. (TENS OF DEGS.)	04	35	36	36	34	29	22	21	35	14	24	02	35	
	MEAN SPEED (MPH)	2.2	1.6	3.3	5.4	4.3	4.0	3.1	3.0	4.3	5.9	3.2	2.9	3.6	
	PREVAIL.DIR.(TENS OF DEGS.)	02	01	28	02	01	20	19	18	01	12	29	02	02	
	MAXIMUM 2-MINUTE WIND														
	SPEED (MPH)	21	17	28	21	21	20	16	25	21	32	32	25	32	
	DIR. (TENS OF DEGS.)	22	20	07	02	03	02	22	20	21	20	25	02	25	
	DATE OF OCCURRENCE	14	10	13	18	30	24	14	13	04	15	10	12	NOV 10	
	MAXIMUM 3-SECOND WIND:														
	SPEED (MPH)	30	29	36	29	26	28	26	36	31	46	48	38	48	
DIR. (TENS OF DEGS.)	22	21	07	02	03	09	23	21	20	19	20	02	20		
DATE OF OCCURRENCE	14	10	13	05	30	19	14	13	04	15	09	12	NOV 09		
PRECIPITATION	WATER EQUIVALENT:														
	TOTAL (IN.)	2.52	0.65	0.49	0.13	0.07	0.86	1.92	2.59	4.15	4.64	1.42	1.45	20.89	
	GREATEST 24-HOUR (IN.)	0.96	0.18	0.32	0.06	0.07	0.27	0.47	0.51	1.73	1.13	0.67	0.63	1.73	
	DATE OF OCCURRENCE	12-13	05-06	21-22	24	03	04-05	18	21-22	01-02	15-16	08-09	20	20	SEP 01-02
	NUMBER OF DAYS WITH:														
PRECIPITATION 0.01	13	12	5	6	1	7	16	19	15	17	12	8	131		
PRECIPITATION 0.10	7	2	2	0	0	4	7	9	8	9	3	4	55		
PRECIPITATION 1.00	0	0	0	0	0	0	0	0	1	1	0	0	2		
SNOWFALL	SNOW,ICE PELLETS,HAIL														
	TOTAL (IN.)	22.1	10.1	7.2	1.2	0.7	0.0	0.0	0.0	0.7	0.8	11.4	17.4	71.6	
	GREATEST 24-HOUR (IN.)	5.7	2.2	2.6	0.3	0.7	0.0	0.0	0.0	0.4	0.8	2.5	6.5	6.5	
	DATE OF OCCURRENCE	12	05	22	24	03				24	31	22	20	20	DEC 20
	MAXIMUM SNOW DEPTH (IN.)	39	43	41	27	15	0	0	0	0	0	5	16	43	
	DATE OF OCCURRENCE	31	16+	04+	01	04						25	31+	31+	FEB 16+
	NUMBER OF DAYS WITH:														
SNOWFALL >= 1.0	7	2	4	0	0	0	0	0	0	0	4	4	4	21	

NORMALS, MEANS, AND EXTREMES MC GRATH (PAMC)

LATITUDE:
62° 57'N

LONGITUDE:
155° 36'W

ELEVATION (FT):
GRND: 333 BARO: 353

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	2.3	12.4	24.8	40.8	57.3	68.1	69.3	63.4	53.1	31.9	13.2	5.4	36.8
	MEAN DAILY MAXIMUM	72	1.5	11.4	22.9	38.8	55.9	66.3	68.5	63.2	52.6	32.5	13.0	2.5	35.8
	HIGHEST DAILY MAXIMUM	71	54	55	55	68	86	94	89	89	90	67	49	49	94
	YEAR OF OCCURRENCE		1945	1943	1998	2009	2013	2013	2009	1977	2005	2009	1997	1977	JUN 2013
	MEAN OF EXTREME MAXS.	74	31.1	35.6	42.8	54.5	71.8	80.2	82.8	76.8	65.9	50.0	35.0	31.4	54.8
	NORMAL DAILY MINIMUM	30	-15.3	-9.5	-1.6	18.6	36.1	46.7	50.7	45.8	36.1	18.3	-2.1	-11.8	17.7
	MEAN DAILY MINIMUM	72	-15.9	-10.0	-3.2	16.6	34.8	45.4	49.5	45.4	35.6	19.0	-2.0	-13.5	16.8
	LOWEST DAILY MINIMUM	71	-75	-64	-51	-40	-2	27	31	25	2	-28	-53	-67	-75
	YEAR OF OCCURRENCE		1989	1947	1966	1985	2001	2006	2003	1984	1992	1982	1990	1961	JAN 1989
	MEAN OF EXTREME MINS.	74	-43.9	-38.7	-29.5	-10.1	22.4	35.4	40.2	33.3	22.0	-3.4	-26.7	-40.6	-3.2
	NORMAL DRY BULB	30	-6.5	1.4	11.6	29.7	46.7	57.4	60.0	54.6	44.6	25.1	5.5	-3.2	27.2
	MEAN DRY BULB	72	-7.1	0.7	9.9	27.7	45.4	56.1	59.0	54.3	44.1	25.8	5.5	-5.4	26.3
	MEAN WET BULB	22	-0.0	3.0	7.6	24.0	37.9	49.2	53.1	49.7	40.0	23.7	4.8	-0.2	24.4
	MEAN DEW POINT	22	-4.0	-1.8	4.5	20.2	34.5	45.9	51.0	48.1	38.2	22.2	2.9	-3.3	21.5
	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	28.9	24.7	21.2	5.6	0.2	0.0	0.0	0.0	0.2	15.0	26.8	29.2	151.8
MINIMUM <= 32	30	30.7	27.9	30.4	26.7	7.5	0.1	0.0	0.7	9.0	27.6	29.6	30.9	221.1	
MINIMUM <= 0	30	23.3	18.4	17.2	3.6	0.0	0.0	0.0	0.0	0.0	3.0	16.8	22.6	104.9	
H/C	NORMAL HEATING DEG. DAYS	30	2216	1779	1655	1059	567	234	167	324	612	1237	1783	2114	13747
	NORMAL COOLING DEG. DAYS	30	0	0	0	0	0	6	12	2	0	0	0	0	20
RH	NORMAL (PERCENT)	30		74	67	62	60	63	72	78	77	81	81	80	
	HOURLY 03 LST	30		78	77	76	79	83	88	90	87	86	82	80	
	HOURLY 09 LST	30		77	76	67	64	65	76	84	85	86	82	80	
	HOURLY 15 LST	30	75	67	53	46	45	46	56	64	62	70	79	80	62
	HOURLY 21 LST	30		76	66	56	53	55	67	78	78	82	82	80	
S	PERCENT POSSIBLE SUNSHINE														
W/O	MEAN NO. DAYS WITH: HEAVY FOG(VISBY <= 1/4 MI)	50	1.6	1.3	0.6	0.4	0.4	0.5	0.7	1.5	1.2	1.2	1.6	2.0	13.0
	THUNDERSTORMS	65	0.0	0.0	0.0	0.0	0.6	2.7	2.4	0.7	0.2	0.0	0.0	0.0	6.6
CLOUDINESS	MEAN: SUNRISE-SUNSET (OKTAS)	56	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)	28	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	56	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	56	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	56	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)	30	29.41	29.45	29.46	29.45	29.49	29.50	29.55	29.50	29.38	29.36	29.38	29.34	29.44
	MEAN SEA-LEVEL PRES. (IN)	30	29.81	29.84	29.87	29.84	29.87	29.87	29.92	29.88	29.76	29.74	29.77	29.74	29.83
WINDS	MEAN SPEED (MPH)	30	2.9	3.7	5.0	5.8	6.1	5.5	5.0	4.9	5.0	4.6	3.4	2.5	4.5
	PREVAIL.DIR(TENS OF DEGS)	32	01	01	01	01	36	20	20	19	01	01	02	29	01
	MAXIMUM 2-MINUTE: SPEED (MPH)	15	38	39	36	39	30	30	30	25	29	32	32	35	39
	DIR. (TENS OF DEGS)		19	18	02	17	21	04	07	20	18	20	25	07	17
	YEAR OF OCCURRENCE		2009	2000	2003	2005	2008	1999	2007	2013	2012	2013	2013	2007	APR 2005
	MAXIMUM 3-SECOND SPEED (MPH)	15	61	63	45	52	40	37	43	36	46	46	48	46	63
	DIR. (TENS OF DEGS)		19	19	24	20	22	20	09	21	17	19	20	06	19
YEAR OF OCCURRENCE		2009	2000	2009	2005	2008	2012	2009	2013	2012	2013	2013	2007	FEB 2000	
PRECIPITATION	NORMAL (IN)	30	1.09	0.94	0.81	0.74	1.09	1.52	2.38	2.80	2.49	1.44	1.41	1.29	18.00
	MAXIMUM MONTHLY (IN)	71	3.74	3.72	2.82	2.78	3.07	4.36	5.36	6.26	6.18	4.64	4.34	5.02	6.26
	YEAR OF OCCURRENCE		1993	2003	1991	1964	1988	1950	1975	1945	1993	2013	1979	1990	AUG 1945
	MINIMUM MONTHLY (IN)	71	0.10	0.00	T	0.01	0.07	0.15	0.38	0.80	0.19	0.14	0.02	0.11	0.00
	YEAR OF OCCURRENCE		1961	1979	1986	1943	2013	2000	1993	1968	1969	1965	1963	1966	FEB 1979
	MAXIMUM IN 24 HOURS (IN)	71	1.16	1.15	1.17	1.10	1.11	2.39	2.56	2.10	1.73	1.54	1.51	1.90	2.56
	YEAR OF OCCURRENCE		2005	1956	1982	1960	1960	1950	1975	1955	2013	1945	1985	1990	JUL 1975
	NORMAL NO. DAYS WITH: PRECIPITATION >= 0.01	30	10.7	8.8	8.7	7.4	10.7	12.3	15.0	16.4	14.3	12.7	12.5	12.9	142.4
	PRECIPITATION >= 1.00	30	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.3	0.0	0.1	0.1	0.9
SNOWFALL	NORMAL (IN)	30	15.7	13.1	11.3	5.1	0.9	0.0	0.0	0.0	1.5	10.2	19.3	20.2	97.3
	MAXIMUM MONTHLY (IN)	71	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	2007	1998	1992	1971	1994	1990	DEC 1990
	MAXIMUM IN 24 HOURS (IN)	70	16.2	14.7	14.3	13.2	7.0	0.1	T	0.9	7.0	10.5	15.2	15.5	16.2
	YEAR OF OCCURRENCE'		2005	2000	1982	1964	1971	1975	1990	1998	1992	1971	1946	1978	JAN 2005
	MAXIMUM SNOW DEPTH (IN)	64	53	51	68	47	30	0	0	0	7	15	90	54	90
	YEAR OF OCCURRENCE		1949	1990	1990	1972	1985				1992	2011	1948	1994	NOV 1948
	NORMAL NO. DAYS WITH: SNOWFALL >= 1.0	30	4.9	4.0	3.6	1.5	0.3	0.0	0.0	0.0	0.5	3.3	5.7	6.4	30.2

PRECIPITATION (inches) 2013 MC GRATH (PAMC)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
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	.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
2000	2.45	0.93	0.50	0.12	0.87	0.15	3.62	3.23	3.28	1.25	1.45	0.36	18.21
2001	0.19	1.94	0.52	2.04	0.45	0.30	3.14	2.18	0.90	1.91	0.11	0.21	13.89
2002	2.18	0.28	0.07	1.75	1.02	0.76	1.38	2.18	2.96	1.51	0.52	0.75	15.36
2003	0.15	3.72	1.35	0.36	1.37	2.21	4.74	2.27	1.43	1.13	3.09	0.46	22.28
2004	0.32	0.57	0.39	1.11	2.01	1.84	1.30	1.13	2.79	1.64	1.98	1.56	16.64
2005	2.13	0.88	1.03	0.20	1.80	1.30	1.31	2.12	5.28	1.15	1.24	1.29	19.73
2006	0.13	0.98	0.63	0.66	0.28	2.60	1.66	4.19	0.67	2.78	0.51	0.91	16.00
2007	1.29	0.05	0.03	0.10	1.41	1.10	3.57	3.73	3.84	0.91	1.49	1.07	18.59
2008	1.16	0.15	1.17	1.13	0.52	2.79	1.31	1.56	1.49	1.20	0.77	1.32	14.57
2009	2.50	1.60	1.86	0.91	0.55	1.62	1.15	0.87	2.21	1.95	1.31	0.55	17.08
2010	0.44	0.09	0.20	1.45	0.52	2.96	1.98	2.61	1.72	0.77	2.82	1.35	16.91
2011	0.53	1.13	0.01	1.01	0.60	1.18	2.26	3.82	0.97	1.69	2.50	3.38	19.08
2012	1.01	0.80	0.42	0.43	0.75	3.07	3.96	3.12	5.14	1.80	0.95	1.54	22.99
2013	2.52	0.65	0.49	0.13	0.07	0.86	1.92	2.59	4.15	4.64	1.42	1.45	20.89
POR= 74 YRS	1.00	0.85	0.79	0.70	0.91	1.59	2.26	2.91	2.33	1.42	1.27	1.22	17.25

WBAN : 26510

AVERAGE TEMPERATURE (°F) 2013 MC GRATH (PAMC)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
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	-0.2	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	-0.8	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	.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
2000	-7.7	11.2	14.9	30.0	42.7	58.7	57.4	51.4	41.6	23.3	12.6	4.0	28.3
2001	10.1	11.8	11.1	31.2	40.0	59.1	57.8	55.6	47.0	21.8	-4.0	-12.9	27.4
2002	4.5	5.8	14.1	25.5	49.4	57.8	60.4	53.7	46.8	32.1	20.0	5.0	31.3
2003	-5.1	15.8	12.2	32.3	44.8	58.2	60.1	55.8	41.8	32.7	13.9	-9.5	29.4
2004	-14.0	6.4	8.2	35.7	52.4	62.2	63.0	60.5	39.9	33.0	15.0	-1.2	30.1
2005	-7.6	-3	16.0	26.2	53.1	59.6	62.4	57.1	47.8	28.6	-6.2	5.2	28.5
2006	-22.1	10.9	6.5	26.1	47.9	56.0	60.4	53.4	48.6	35.0	1.2	-5.0	26.6
2007	-5.6	-1.2	-3.6	38.8	49.8	57.0	61.3	58.7	48.3	25.3	14.9	-0.7	28.6
2008	-4.6	-4.5	14.0	25.5	46.6	55.7	57.1	54.0	46.5	14.9	1.7	-2.0	25.4
2009	-11.2	3.2	5.5	30.0	47.5	56.7	62.9	53.1	46.9	34.0	-0.0	-1.1	27.3
2010	-9.6	5.3	6.2	32.7	50.6	57.3	58.1	56.3	46.8	28.2	12.0	-15.1	27.4
2011	-4.7	2.8	11.2	29.4	48.4	56.6	56.7	53.5	47.6	30.5	-5.4	3.7	27.5
2012	-28.6	6.3	2.0	32.9	46.2	58.5	56.7	54.4	43.2	26.3	-1.2	-11.9	23.7
2013	1.4	0.4	9.3	19.1	42.2	62.0	60.0	56.6	42.2	38.7	13.1	-1.2	28.7
POR= 72 YRS	-7.1	0.7	9.9	27.7	45.4	56.1	59.0	54.3	44.1	25.8	5.5	-5.4	26.3

HEATING DEGREE DAYS (base 65°F) 2013 MC GRATH (PAMC)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
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			937	666	238	
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
1999-00	197	284	566	1334	1961	2453	2248	1552	1546	1041	684	188	14054
2000-01	236	416	696	1283	1567	1889	1695	1482	1666	1006	769	182	12887
2001-02	217	285	536	1336	2064	2404	1870	1652	1575	1179	481	213	13812
2002-03	144	352	539	1013	1341	1851	2169	1371	1634	972	620	200	12206
2003-04	162	281	689	991	1525	2302	2445	1689	1754	871	383	110	13202
2004-05	69	157	744	987	1494	2045	2245	1824	1513	1159	362	167	12766
2005-06	84	242	511	1122	2131	1847	2695	1507	1807	1158	522	265	13891
2006-07	142	354	486	923	1906	2168	2184	1852	2121	777	462	236	13611
2007-08	120	197	493	1225	1495	2030	2155	2010	1575	1177	562	271	13310
2008-09	247	337	548	1546	1893	2071	2357	1723	1840	1042	537	238	14379
2009-10	93	363	537	953	1948	2046	2308	1666	1816	962	439	224	13355
2010-11	212	264	543	1134	1583	2477	2153	1734	1662	1059	507	244	13572
2011-12	256	351	514	1061	2108	1894	2893	1696	1946	954	576	193	14442
2012-13	250	323	648	1191	1979	2375	1963	1803	1718	1368	710	135	14463
2013-	165	253	674	809	1551	2042							

WBAN : 26510

COOLING DEGREE DAYS (base 65°F) 2013 MC GRATH (PAMC)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
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	1	24	1	0	0	0	0	
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
2000	0	0	0	0	0	5	7	0	0	0	0	0	12
2001	0	0	0	0	0	10	0	0	0	0	0	0	10
2002	0	0	0	0	1	2	8	5	0	0	0	0	16
2003	0	0	0	0	0	0	15	5	0	0	0	0	20
2004	0	0	0	0	0	30	18	27	0	0	0	0	75
2005	0	0	0	0	0	10	7	7	0	0	0	0	24
2006	0	0	0	0	0	0	7	0	0	0	0	0	7
2007	0	0	0	0	0	2	12	7	0	0	0	0	21
2008	0	0	0	0	0	0	7	0	0	0	0	0	7
2009	0	0	0	0	0	0	36	0	0	0	0	0	36
2010	0	0	0	0	0	0	5	0	0	0	0	0	5
2011	0	0	0	0	0	1	5	0	0	0	0	0	6
2012	0	0	0	0	0	4	0	0	0	0	0	0	4
2013	0	0	0	0	9	51	15	3	0	0	0	0	78

SNOWFALL (inches) 2013 MC GRATH (PAMC)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
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
1999-00	0.0	0.0	3.1	6.3	7.9	29.5	32.8	23.3	6.9	2.7	T	0.0	112.5
2000-01	0.0	0.0	T	13.5	14.3	7.3	2.6	35.2	9.1	21.3	2.1	0.0	105.4
2001-02	0.0	0.0	0.2	19.7	1.1	5.9	35.8	8.2	1.9	11.9	0.8	0.0	85.5
2002-03	0.0	0.0	T	14.5	8.3	14.1	2.5	26.3	14.0	0.1	T	T	79.8
2003-04	0.0	0.0	T	4.0	18.3	10.4	6.8	10.5	7.6	1.8	T	0.0	59.4
2004-05	0.0	0.0	6.1	8.4	31.0	22.8	30.6	15.2	15.8	4.1	0.0	0.0	134.0
2005-06	0.0	0.0	1.0	11.4	20.0	21.1	5.2	12.7	15.1	9.1	0.9	T	96.5
2006-07	0.0	0.0	T	2.1	8.5	17.8	25.4	1.6	0.6	T	0.5	0.0	56.5
2007-08	T	T	0.0	11.3	23.1	17.5	22.6	5.5	14.2	5.5	T	0.0	99.7
2008-09	0.0	0.0	0.0	13.6	16.6	22.6	21.1	29.4	28.3	6.3	T	0.0	137.9
2009-10	0.0	0.0	4.5	0.8	12.9	7.9	5.7	2.1	3.9	4.3	0.0	T	42.1
2010-11	0.0	0.0	1.4	9.6	10.0	20.6	5.7	14.4	T	10.1	T	0.0	71.8
2011-12	0.0	0.0	0.0	15.5	30.5	28.6	13.5	10.1	9.2	2.5	0.2	0.0	110.1
2012-13	0.0	0.0	1.6	0.7	10.4	21.0	22.1	10.1	7.2	1.2	0.7	0.0	75.0
2013-	0.0	0.0	0.7	0.8	11.4	17.4							
POR= 75 YRS	T	T	1.1	9.4	16.2	18.0	14.5	12.3	10.9	6.2	0.7	T	89.3

WBAN : 26510

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. 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 CLEAR INDICATES 0 - 2 OKTAS, PARTLY CLOUDY INDICATES 3 - 6 OKTAS, AND CLOUDY INDICATES 7 OR 8 OKTAS.</p> <p>GENERAL CONTINUED: 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</p>	<p>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. 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. STATION HISTORY STOPPED WITH THE 2009 ANNUAL. IF YOU NEED STATION HISTORY INFORMATION GO TO "Historical Observing Metadata Repository", URL IS: http://www.ncdc.noaa.gov/homr/ SNOWFALL STOPPED MONTH & YEAR INDICATED ABOVE. NO FURTHER YEARS INCLUDED UNLESS RESTARTED.</p> <p>NOTE: The "Period of Record:(POR)" for all "averages" is based on "Summary of the Day First Order Station" and "Cooperative Summary of the Day" archives.</p>
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2013 MCGRATH ALASKA (PAMC)

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 History

MC GRATH, AK

NAME	Begin Date	End Date	Latitude	Longitude	Elevation Feet	Relocation	Platform
MCGRATH AP	1969-01-01	1981-12-31	62° 58'	-155° 37'	341		COOP, WXSVC
MCGRATH AP	1946-09-01	1969-01-01	62° 58'	-155° 37'	341		AIRWAYS, COOP
MCGRATH AP	1931-02-01	1946-09-01	62° 58'	-155° 37'			AIRWAYS
MCGRATH AP	2006-01-10	2010-11-25	62° 57'	-155° 36'	333		AIRWAYS, ASOS, COOP
MCGRATH AP	1981-12-31	1982-01-01	62° 58'	-155° 37'	341		COOP
MCGRATH AP	1982-01-01	1998-07-01	62° 58'	-155° 37'	344		COOP
MCGRATH AP	2010-11-25	Present	62° 57'	-155° 36'	333		AIRWAYS, ASOS, COOP
MCGRATH AP	1998-07-01	2002-01-11	62° 57'	-155° 36'	344		ASOS, COOP
MCGRATH AP	2002-01-11	2006-01-10	62° 57'	-155° 36'	333	.3 MI N	ASOS, COOP

Element History

Element	Begin Date	End Date	Frequency	Time Of Observation	Equipment *	Equipment * Modifications	Equipment Exposure
EVAP	1995-07-01	1997-01-01	DAILY	1800			
TEMP	1997-01-01	1999-08-01	DAILY	1800			
PRECIP	1946-09-01	1995-07-01	DAILY	1800	UNIV	RCRD	
TEMP	1995-07-01	1997-01-01	DAILY	1800			
PRECIP	1999-08-01	2002-01-11	HOURLY	2400	UNIV	RCRD	
PRECIP	1999-08-01	2002-01-11	DAILY	2400	UNIV	RCRD	
PRECIP	2006-01-10	Present	DAILY	2400	PCPNX		
EVAP	1946-09-01	1995-07-01	DAILY	1800			
EVAP	1997-01-01	1999-08-01	DAILY	1800			
PRECIP	2006-01-10	Present	HOURLY	2400	AWPAG	RCRD;HTD	
TEMP	2006-01-10	Present	DAILY	2400	ATEMP		
TEMP	1931-02-01	1946-09-01	DAILY	1800			
PRECIP	1997-01-01	1999-08-01	DAILY	2400	UNIV	RCRD	
PRECIP	1997-01-01	1999-08-01	HOURLY	2400	UNIV	RCRD	
PRECIP	2002-01-11	2006-01-10	HOURLY	2400	TB	RCRD	
EVAP	2006-01-10	Present	DAILY	1800	EVAP-C		
PRECIP	1931-02-01	1946-09-01	DAILY		UNIV	RCRD	
EVAP	1931-02-01	1946-09-01	DAILY	1800			
EVAP	1999-08-01	2002-01-11	DAILY	1800			
EVAP	2002-01-11	2006-01-10	DAILY	1800	GALVAN(F)		
TEMP	1946-09-01	1995-07-01	DAILY	1800			
PRECIP	1995-07-01	1997-01-01	DAILY	2400	UNIV	RCRD	
TEMP	1999-08-01	2002-01-11	DAILY	2400			
TEMP	2002-01-11	2006-01-10	DAILY	2400	ATEMP		
PRECIP	2002-01-11	2006-01-10	DAILY	2400	TB	RCRD	

* For explanation of codes and abbreviations see Station Metadata link below.

Other Station Information can be found at:

ASOS Implementation by NWS: <http://www.nws.noaa.gov/ops2/Surface/asosimplementation.htm>

Station Metadata website: <http://www.ncdc.noaa.gov/homr>

INQUIRES/COMMENTS CALL: (828) 271-4800, option 2

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Email : ncdc.orders@noaa.gov

NOAA/National Climatic Data Center

Attn: User Engagement & Services Branch

151 Patton Avenue

Asheville, NC 28801-5001

Visit our Web Site for other weather data: www.ncdc.noaa.gov