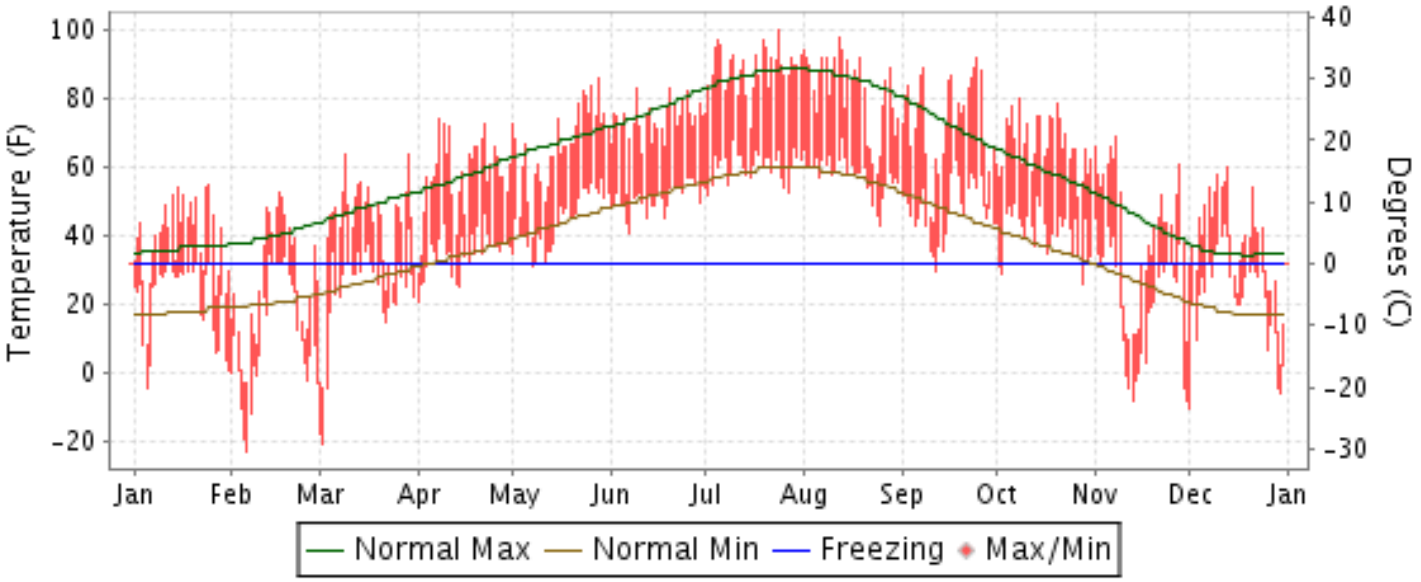
2014
LOCAL CLIMATOLOGICAL DATA
ANNUAL SUMMARY WITH COMPARATIVE DATA

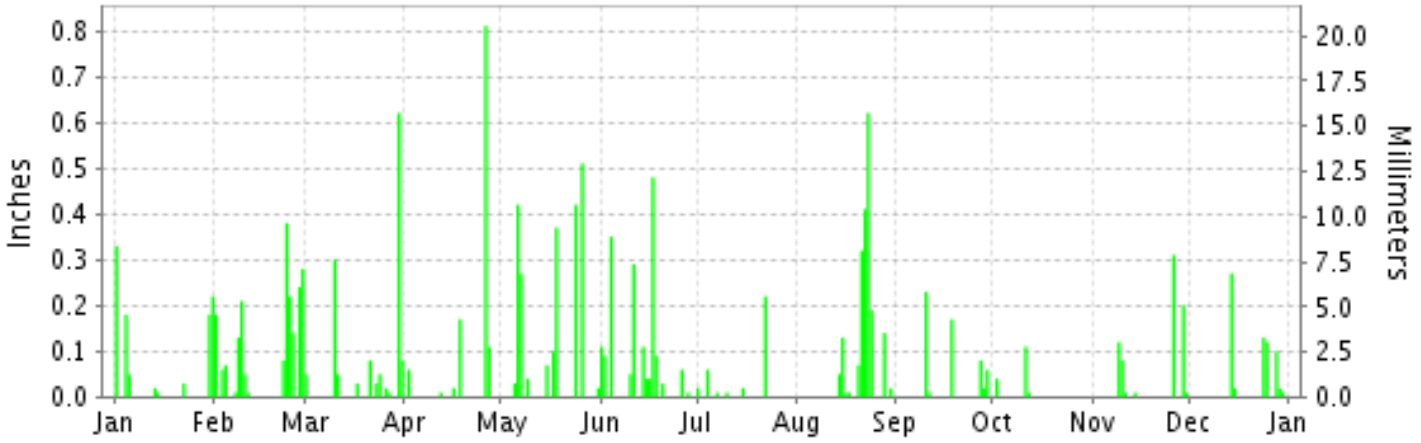
ISSN 0198-294X

BILLINGS,
MONTANA (KBIL)

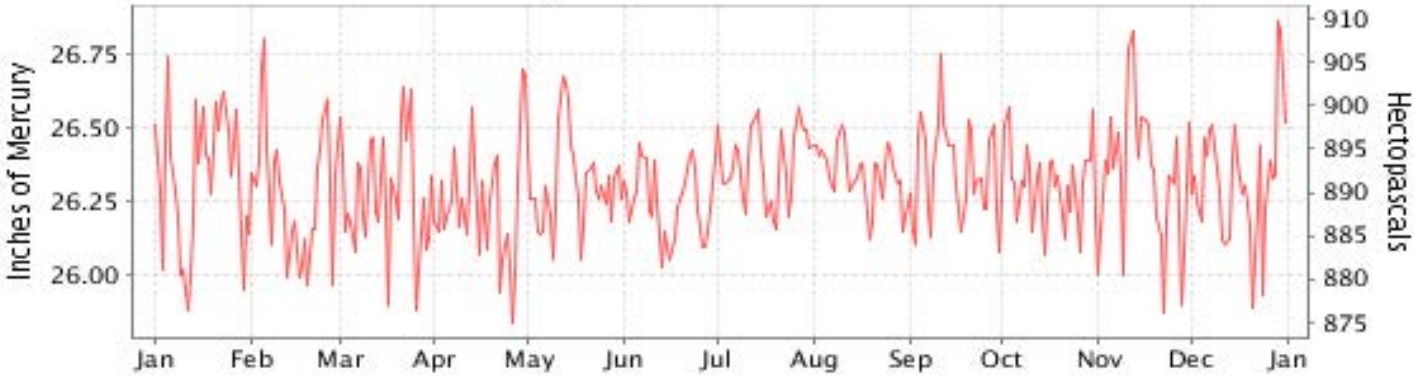
Daily Max/Min Temperature



Daily Precipitation



Daily Station Pressure



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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

METEOROLOGICAL DATA FOR 2014
BILLINGS (KBIL)

LATITUDE: 45° 48'N **LONGITUDE:** 108° 32'W **ELEVATION (FT):** GRND: 3581 BARO: 3582 **TIME ZONE:** MOUNTAIN (UTC -7) **WBAN:** 24033

	ELEMENT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
TEMPERATURE °F	MEAN DAILY MAXIMUM	39.2	26.5	42.8	58.2	66.6	73.5	88.6	82.2	73.1	66.9	40.6	37.6	58.0
	HIGHEST DAILY MAXIMUM	55	53	64	74	86	83	100	98	92	80	69	60	100
	DATE OF OCCURRENCE	25	16	29+	08	28	20+	24	12	25	08	08	13	JUL 24
	MEAN DAILY MINIMUM	21.7	10.9	24.3	35.2	44.8	51.2	60.4	58.1	48.0	41.1	20.5	22.3	36.5
	LOWEST DAILY MINIMUM	-4	-23	-21	21	31	41	52	43	30	26	-8	-10	-23
	DATE OF OCCURRENCE	05	06	02	01	07	07	02	25	12	28	30+	01	FEB 06
	AVERAGE DRY BULB	30.5	18.7	33.6	46.7	55.7	62.3	74.5	70.1	60.6	54.0	30.5	29.9	47.3
	MEAN WET BULB	25.4	15.7	28.8	38.0	48.0	52.5	58.5	57.9	49.8	43.3	24.9	25.8	39.1
	MEAN DEW POINT	16.8	8.2	21.5	26.8	41.0	45.0	46.8	49.3	40.9	31.9	16.0	18.7	30.2
	NUMBER OF DAYS WITH:													
	MAXIMUM >= 90°	0	0	0	0	0	0	17	10	1	0	0	0	28
	MAXIMUM <= 32°	8	16	6	1	0	0	0	0	0	0	10	11	52
	MINIMUM <= 32°	30	24	23	8	1	0	0	0	1	3	22	25	137
	MINIMUM <= 0°	1	8	3	0	0	0	0	0	0	0	7	3	22
H/C	HEATING DEGREE DAYS	1062	1286	967	542	295	89	1	47	193	334	1026	1082	6924
	COOLING DEGREE DAYS	0	0	0	0	16	19	304	213	66	0	0	0	618
RH	MEAN (PERCENT)	60	65	65	51	61	58	41	53	55	47	59	65	57
	HOUR 05 LST	64	69	71	64	75	75	59	69	71	61	68	72	68
	HOUR 11 LST	56	60	60	40	48	45	31	44	43	36	53	61	48
	HOUR 17 LST	56	61	59	41	51	46	27	40	43	40	55	62	48
	HOUR 23 LST	63	69	68	57	70	69	45	59	61	54	62	67	62
W/O	NUMBER OF DAYS WITH:													
	HEAVY FOG(VISBY <= 1/4 MI)	1	1	4	1	1	1	0	1	3	0	2	1	16
	THUNDERSTORMS	0	0	0	1	10	15	7	6	1	2	1	0	43
PR	MEAN STATION PRESS. (IN.)	26.33	26.28	26.28	26.24	26.31	26.25	26.38	26.35	26.35	26.31	26.34	26.33	26.31
	MEAN SEA-LEVEL PRESS. (IN.)	30.10	30.09	30.02	29.92	29.96	29.86	29.96	29.94	29.99	29.96	30.10	30.10	30.00
WINDS	RESULTANT SPEED (MPH)	11.4	6.6	4.6	5.7	2.6	3.4	1.1	2.3	1.6	6.9	7.3	8.9	4.7
	RES. DIR. (TENS OF DEGS.)	26	26	28	29	01	29	01	27	28	27	26	25	28
	MEAN SPEED (MPH)	16.6	13.7	12.3	12.1	8.8	9.6	8.4	8.6	9.3	11.2	12.4	12.7	11.3
	PREVAIL.DIR.(TENS OF DEGS.)	24	23	24	24	04	24	22	23	22	23	23	23	24
	MAXIMUM 2-MINUTE WIND													
	SPEED (MPH)	55	47	38	38	56	43	43	36	30	41	38	44	56
	DIR. (TENS OF DEGS.)	28	26	31	27	31	29	25	27	32	27	32	24	31
	DATE OF OCCURRENCE	13	12	20	23	26	28	22	28	03	21	16	30	MAY 26
	MAXIMUM 3-SECOND WIND:													
	SPEED (MPH)	67	57	58	47	76	52	56	43	38	55	46	58	76
	DIR. (TENS OF DEGS.)	28	28	31	35	30	28	24	27	36	29	32	30	30
	DATE OF OCCURRENCE	13	12	20	28	26	28	22	28	03	15	16	21	MAY 26
PRECIPITATION	WATER EQUIVALENT:													
	TOTAL (IN.)	1.02	2.06	1.32	1.18	2.25	1.75	0.34	1.97	0.57	0.16	0.74	0.67	14.03
	GREATEST 24-HOUR (IN.)	0.33	0.53	0.70	0.91	0.63	0.55	0.22	0.80	0.23	0.12	0.31	0.29	0.91
	DATE OF OCCURRENCE	01	23-24	30-31	26-27	06-07	17-18	22	22-23	10	11-12	26	14-15	APR 26-27
	NUMBER OF DAYS WITH:													
	PRECIPITATION 0.01	8	14	11	6	10	13	6	11	6	3	7	7	102
	PRECIPITATION 0.10	4	8	2	3	6	5	1	6	2	1	3	4	45
	PRECIPITATION 1.00	0	0	0	0	0	0	0	0	0	0	0	0	0
SNOWFALL	SNOW,ICE PELLETS,HAIL	18.2	37.0	10.6	0.6	2.1	T	0.0	0.0	T	T	13.2	8.4	90.1
	TOTAL (IN.)	5.2	8.8	2.7	0.5	2.1	T	0.0	0.0	T	T	6.2	2.7	8.8
	GREATEST 24-HOUR (IN.)	30	23	10	02	07	14+			11	12	26	14	FEB 23
	DATE OF OCCURRENCE	6	14	15	T	T	0	0	0	0	0	6	5	15
	MAXIMUM SNOW DEPTH (IN.)	06+	25	02	13+	07						27	30	MAR 02
	DATE OF OCCURRENCE													
	NUMBER OF DAYS WITH:													
	SNOWFALL >= 1.0	4	12	6	0	1	0	0	0	0	0	3	4	30

NORMALS, MEANS, AND EXTREMES
BILLINGS (KBIL)

LATITUDE: 45° 48'N **LONGITUDE:** 108° 32'W **ELEVATION (FT):** GRND: 3581 BARO: 3582 **TIME ZONE:** MOUNTAIN (UTC -7) **WBAN:** 24033

	ELEMENT	POR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
TEMPERATURE °F	NORMAL DAILY MAXIMUM	30	36.4	40.2	48.6	57.6	67.5	77.2	86.8	85.7	73.1	59.4	45.3	35.2	59.4
	MEAN DAILY MAXIMUM	67	33.2	38.7	46.3	56.9	67.0	76.7	86.8	85.2	73.0	60.2	45.1	35.8	58.7
	HIGHEST DAILY MAXIMUM	80	68	72	80	92	96	105	108	105	103	91	77	69	108
	YEAR OF OCCURRENCE		1953	1961	2012	1939	1936	1984	2002	1961	1983	2011	1999	1980	JUL 2002
	MEAN OF EXTREME MAXS.	67	55.1	59.5	68.3	78.2	86.3	94.3	99.6	98.1	91.9	81.3	66.6	56.5	78.0
	NORMAL DAILY MINIMUM	30	17.8	20.6	26.9	34.7	43.6	52.1	58.8	57.3	47.5	37.1	26.3	17.8	36.7
	MEAN DAILY MINIMUM	67	14.8	19.4	25.1	34.0	43.4	51.7	58.5	56.9	47.3	37.4	26.1	18.3	36.1
	LOWEST DAILY MINIMUM	81	-30	-38	-21	-5	14	32	41	35	22	-7	-22	-32	-38
	YEAR OF OCCURRENCE		1997	1936	2014	1936	1954	1969	1972	1992	1984	1991	1959	1983	FEB 1936
	MEAN OF EXTREME MINS.	67	-10.0	-4.2	3.3	20.1	30.6	41.0	49.3	46.8	33.7	21.1	4.4	-6.2	19.2
	NORMAL DRY BULB	30	27.1	30.4	37.7	46.2	55.6	64.7	72.8	71.5	60.3	48.2	35.8	26.5	48.1
	MEAN DRY BULB	67	24.0	29.0	35.7	45.5	55.2	64.3	72.7	71.1	60.1	48.8	35.6	27.1	47.4
	MEAN WET BULB	31	19.8	21.8	28.3	35.3	43.9	51.1	55.0	53.0	45.8	37.4	26.9	20.5	36.6
	MEAN DEW POINT	31	16.9	17.9	24.7	31.3	39.9	47.5	50.8	48.5	41.6	32.9	23.1	16.5	32.6
	NORMAL NO. DAYS WITH:														
	MAXIMUM >= 90	30	0.0	0.0	0.0	0.0	0.3	3.2	12.3	10.5	2.0	0.0	0.0	0.0	28.3
	MAXIMUM <= 32	30	9.8	6.6	3.5	0.7	0.0	0.0	0.0	0.0	0.1	0.9	4.7	10.6	36.9
	MINIMUM <= 32	30	26.8	22.5	20.8	10.6	1.6	0.0	0.0	0.0	0.9	7.4	20.2	27.2	138.0
	MINIMUM <= 0	30	4.8	3.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	3.5	13.3
H/C	NORMAL HEATING DEG. DAYS	30	1175	969	845	567	309	96	15	22	192	523	876	1193	6782
	NORMAL COOLING DEG. DAYS	30	0	0	0	1	16	85	256	224	51	3	0	0	636
RH	NORMAL (PERCENT)	30	62	59	60	56	56	54	48	45	51	55	60	61	56
	HOUR 05 LST	30	65	67	69	69	71	71	65	63	65	66	66	65	67
	HOUR 11 LST	30	61	57	55	48	47	44	39	40	46	51	57	60	50
	HOUR 17 LST	30	57	51	46	41	42	38	32	30	36	43	54	57	44
	HOUR 23 LST	30	64	63	63	59	61	59	51	48	53	58	62	63	59
S	PERCENT POSSIBLE SUNSHINE	56	47	53	61	60	61	64	76	75	68	61	46	45	60
W/O	MEAN NO. DAYS WITH:														
	HEAVY FOG(VISBY <= 1/4 MI)	51	1.3	2.1	2.3	2.4	1.3	0.5	0.3	0.3	0.8	1.9	2.1	1.9	17.2
	THUNDERSTORMS	67	0.0	0.0	0.1	1.3	4.1	7.6	7.6	5.7	2.0	0.3	0.0	0.0	28.7
CLOUDINESS	MEAN:														
	SUNRISE-SUNSET (OKTAS)														
	MIDNIGHT-MIDNIGHT (OKTAS)														
	MEAN NO. DAYS WITH:														
	CLEAR														
	PARTLY CLOUDY														
	CLOUDY														
PR	MEAN STATION PRESSURE(IN)	31	26.31	26.30	26.25	26.26	26.26	26.28	26.33	26.34	26.34	26.34	26.30	26.30	26.30
	MEAN SEA-LEVEL PRES. (IN)	31	30.08	30.07	29.99	29.94	29.90	29.88	29.91	29.93	29.97	30.02	30.04	30.08	29.98
WINDS	MEAN SPEED (MPH)	31	13.4	11.9	10.8	10.7	9.9	9.4	8.8	8.8	9.3	10.5	11.8	12.8	10.7
	PREVAIL.DIR(TENS OF DEGS)	35	24	24	24	23	23	23	23	23	23	24	24	24	24
	MAXIMUM 2-MINUTE:														
	SPEED (MPH)	19	55	49	53	60	56	47	61	59	58	56	47	51	61
	DIR. (TENS OF DEGS)		28	31	30	32	31	29	23	32	28	31	33	29	23
	YEAR OF OCCURRENCE		2014	2012	1999	2001	2014	2010	2002	2002	2013	1999	2010	2011	JUL 2002
	MAXIMUM 3-SECOND														
	SPEED (MPH)	19	67	67	63	69	76	62	85	70	73	70	59	62	85
	DIR. (TENS OF DEGS)		28	32	31	31	30	33	25	32	28	32	33	28	25
	YEAR OF OCCURRENCE		2014	2012	1999	2001	2014	2001	2007	2002	2013	1999	2010	2011	JUL 2007
PRECIPITATION	NORMAL (IN)	30	0.48	0.48	1.06	1.66	2.18	2.12	1.32	0.75	1.30	1.18	0.63	0.50	13.66
	MAXIMUM MONTHLY (IN)	80	2.35	2.06	2.70	4.42	9.54	7.64	5.08	3.50	4.99	3.80	2.34	2.00	9.54
	YEAR OF OCCURRENCE		1972	2014	1954	1955	2011	1944	1993	1965	1941	1971	1978	1973	MAY 2011
	MINIMUM MONTHLY (IN)	80	0.04	0.02	0.11	0.06	0.22	0.24	0.04	0.01	T	0.01	T	0.05	0.01
	YEAR OF OCCURRENCE		1941	1997	2004	1962	2001	2012	2003	2001	2012	1987	1954	1957	AUG 2001
	MAXIMUM IN 24 HOURS (IN)	80	1.41	0.65	1.88	3.19	3.35	2.78	2.32	2.47	2.19	1.98	1.37	1.05	3.35
	YEAR OF OCCURRENCE		1972	1986	2006	1978	2011	1997	1993	1965	1966	1974	1959	2013	MAY 2011
	NORMAL NO. DAYS WITH:														
	PRECIPITATION >= 0.01	30	6.2	6.2	9.2	10.2	12.0	11.5	7.9	6.0	7.1	7.3	6.3	6.6	96.5
	PRECIPITATION >= 1.00	30	0.0	0.0	0.0	0.0	0.2	0.3	0.2	0.0	0.1	0.1	0.0	0.0	0.9
SNOWFALL	NORMAL (IN)	30	8.4	6.2	10.2	8.3	2.0	0.0	0.0	0.0	1.1	4.1	6.5	8.2	55.0
	MAXIMUM MONTHLY (IN)	80	27.7	37.0	27.6	42.3	15.6	2.0	0.4	T	9.3	23.1	25.2	28.8	42.3
	YEAR OF OCCURRENCE		1963	2014	1935	1955	1981	1950	1993	2013	1984	1949	1978	1955	APR 1955
	MAXIMUM IN 24 HOURS (IN)	76	16.6	9.0	10.5	23.7	15.3	2.0	0.4	T	7.5	11.2	15.3	13.7	23.7
	YEAR OF OCCURRENCE'		1972	1944	1964	1955	1981	1950	1993	2013	1983	1980	1959	1978	APR 1955
	MAXIMUM SNOW DEPTH (IN)	66	18	22	22	33	10	0	0	0	7	14	17	24	33
	YEAR OF OCCURRENCE		1972	1978	1978	1955	1983				1984	1949	1978	1978	APR 1955
	NORMAL NO. DAYS WITH:														
	SNOWFALL >= 1.0	30	2.6	2.3	3.0	2.4	0.5	0.0	0.0	0.0	0.3	1.2	2.2	2.9	17.4

PRECIPITATION (inches) 2014 BILLINGS (KBIL)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1985	0.31	0.39	2.05	0.31	1.27	1.07	1.40	1.66	1.89	0.69	1.43	0.20	12.67
1986	0.37	1.72	1.04	2.72	1.92	2.15	1.01	0.43	1.24	0.33	1.21	0.12	14.26
1987	0.07	0.49	1.36	0.42	3.84	1.03	2.23	1.73	0.68	0.01	0.29	0.31	12.46
1988	0.45	0.71	0.66	1.82	1.84	0.43	0.04	0.12	2.12	1.01	0.60	0.56	10.36
1989	1.27	0.56	2.04	2.36	2.06	1.18	0.55	0.76	0.70	2.05	0.52	1.36	15.41
1990	0.29	0.50	1.70	2.06	2.81	0.66	0.37	0.93	0.08	1.05	0.33	0.49	11.27
1991	0.82	0.49	0.62	3.87	2.25	5.62	1.04	0.35	3.11	1.29	0.96	0.31	20.73
1992	0.09	0.12	0.65	2.35	1.70	2.69	1.67	0.34	0.62	0.42	0.30	0.51	11.46
1993	0.47	0.32	0.50	1.86	0.40	2.05	5.08	0.69	1.76	2.11	0.26	0.20	15.70
1994	0.34	0.36	0.62	1.89	1.53	1.97	2.02	0.11	1.33	2.06	1.17	0.25	13.65
1995	0.53	0.28	1.87	1.84	3.69	3.10	1.62	1.00	1.01	0.94	0.51	0.34	16.73
1996	0.82	0.62	1.02	1.06	3.85	0.85	.57	.07	1.80	.58	.86	.23	12.33
1997	0.95	0.02	0.80	1.13	1.49	4.14	2.76	0.94	0.28	1.16	0.49	0.41	14.57
1998	1.03	0.23	1.32	1.29	1.26	3.63	2.29	1.94	1.50	1.36	0.76	0.41	17.02
1999	0.48	0.26	0.54	2.41	1.76	2.17	0.36	1.61	1.49	0.12	0.25	0.20	11.65
2000	0.55	1.30	0.78	1.32	1.64	1.30	0.51	0.06	1.85	0.54	0.49	0.34	10.68
2001	0.30	0.60	0.79	1.51	0.22	4.11	1.05	0.01	1.06	0.76	0.37	0.17	10.95
2002	0.37	0.23	0.25	2.09	1.09	1.41	0.55	0.67	1.23	1.12	0.04	0.25	9.30
2003	0.40	0.81	0.83	1.40	1.89	1.79	T	0.03	0.15	1.38	0.30	0.76	9.74
2004	0.25	0.78	0.11	1.51	0.81	1.95	2.27	0.23	1.19	1.67	0.06	0.25	11.08
2005	0.21	0.25	0.67	3.31	1.78	2.35	1.77	0.30	0.83	1.97	1.39	0.44	15.27
2006	0.05	0.11	2.67	1.50	1.14	0.49	0.40	0.42	2.73	2.22	0.86	0.38	12.97
2007	0.34	0.56	1.37	2.51	3.93	1.12	1.63	0.07	1.73	2.48	0.43	0.28	16.45
2008	0.35	0.07	0.42	0.20	4.83	0.31	0.77	1.18	2.44	1.82	0.27	1.23	13.89
2009	0.43	0.37	1.36	1.83	0.64	1.55	0.61	1.20	0.65	1.45	0.17	0.65	10.91
2010	1.09	0.39	0.43	1.24	1.92	5.10	1.70	2.78	0.63	0.63	1.89	0.95	18.75
2011	0.24	0.71	0.68	1.82	9.54	1.46	0.93	1.71	0.12	1.66	0.46	0.21	19.54
2012	0.61	0.24	0.70	0.64	1.96	0.24	0.39	0.30	T	1.14	0.64	0.27	7.13
2013	0.59	0.29	0.26	1.02	4.28	0.88	0.67	0.19	3.63	2.57	0.34	1.98	16.70
2014	1.02	2.06	1.32	1.18	2.25	1.75	0.34	1.97	0.57	0.16	0.74	0.67	14.03
POR= 67 YRS	0.72	0.60	1.03	1.71	2.39	2.02	1.07	0.89	1.27	1.18	0.71	0.66	14.25

WBAN : 24033

AVERAGE TEMPERATURE (°F) 2014 BILLINGS (KBIL)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1985	20.3	24.1	34.1	50.5	60.3	64.0	74.8	65.6	53.0	49.6	15.2	25.9	44.8
1986	37.2	24.2	46.2	44.5	54.4	69.7	69.3	70.5	53.7	50.0	32.0	32.3	48.7
1987	30.3	35.0	37.6	54.1	60.2	67.9	70.4	66.2	61.2	49.6	40.3	29.8	50.2
1988	23.6	28.7	39.8	48.3	59.7	75.9	76.2	72.2	58.7	52.0	37.0	29.3	50.1
1989	27.2	13.4	29.9	45.0	55.0	63.6	75.3	69.3	60.5	47.2	39.7	25.0	45.9
1990	31.2	29.0	38.1	46.1	53.6	65.1	72.1	72.6	66.5	48.7	40.6	19.2	48.6
1991	20.8	41.0	38.5	43.7	54.8	64.3	72.6	75.5	60.6	45.6	32.7	34.1	48.7
1992	35.2	39.4	44.0	48.9	58.4	65.9	65.8	67.2	60.7	49.8	36.9	19.7	49.3
1993	17.9	21.7	40.6	47.0	59.8	62.2	62.7	65.6	57.0	47.5	31.4	33.7	45.6
1994	28.2	22.5	42.0	47.1	59.9	66.4	72.1	73.4	64.5	48.4	34.6	31.0	49.2
1995	31.9	34.9	34.6	42.7	51.2	61.9	69.3	70.7	58.5	47.2	38.4	28.3	47.5
1996	16.5	29.3	28.1	47.3	50.4	67.0	72.5	73.7	57.9	46.2	24.6	19.4	44.4
1997	18.8	32.3	37.6	38.8	56.0	65.5	68.8	69.4	64.1	49.3	35.4	30.0	47.2
1998	24.5	35.9	32.8	47.8	57.4	58.2	75.3	72.7	66.6	48.8	38.1	26.2	48.7
1999	30.1	38.3	39.6	43.4	53.3	62.9	71.3	72.4	56.3	50.1	45.3	35.3	49.9
2000	27.6	31.3	40.9	47.2	56.3	64.4	75.7	73.6	59.8	47.4	26.8	20.1	47.6
2001	30.3	20.6	38.6	46.3	58.9	63.5	74.2	75.2	63.6	47.8	41.2	27.8	49.0
2002	28.0	32.8	24.7	40.8	52.2	65.4	76.8	66.7	61.4	41.2	39.3	31.6	46.7
2003	31.1	25.2	34.0	49.5	55.2	63.7	78.4	77.1	60.3	53.5	30.6	31.6	49.2
2004	23.6	32.3	44.4	49.4	53.5	61.6	72.2	68.9	59.8	48.8	39.4	32.9	48.9
2005	22.5	34.4	40.6	46.3	52.8	63.3	74.2	69.7	61.8	49.7	39.3	26.3	48.4
2006	38.0	30.0	34.7	49.8	58.2	68.6	78.0	71.4	59.6	44.5	35.7	31.6	50.0
2007	25.4	26.1	44.6	44.5	56.5	66.0	79.1	72.0	61.3	50.2	36.5	27.9	49.2
2008	25.0	32.3	37.7	43.8	54.8	63.6	73.9	72.6	58.5	48.4	42.3	19.2	47.7
2009	29.7	33.7	33.8	45.4	57.3	61.7	71.2	70.2	66.8	41.3	41.8	16.4	47.4
2010	25.4	26.4	44.1	46.5	51.8	63.9	71.5	70.5	59.7	53.7	30.3	24.7	47.4
2011	25.7	20.2	35.6	42.7	50.0	62.4	74.8	73.6	64.5	52.0	35.3	30.8	47.3
2012	30.5	30.1	47.0	50.4	54.9	68.7	78.3	73.8	64.9	46.1	40.2	27.3	51.0
2013	28.0	33.2	37.6	41.8	57.4	65.6	74.4	74.9	64.4	44.7	36.0	22.1	48.3
2014	30.5	18.7	33.6	46.7	55.7	62.3	74.5	70.1	60.6	54.0	30.5	29.9	47.3
POR= 67 YRS	24.0	29.0	35.7	45.5	55.2	64.3	72.7	71.1	60.1	48.8	35.6	27.1	47.4

HEATING DEGREE DAYS (base 65°F) 2014 BILLINGS (KBIL)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1985-86	13	65	358	471	1492	1207	853	1136	579	610	347	18	7149
1986-87	8	2	331	457	982	1005	1070	829	841	337	183	44	6089
1987-88	39	56	134	473	734	1083	1276	1047	775	492	200	14	6323
1988-89	0	6	221	395	833	1099	1168	1441	1084	595	308	97	7247
1989-90	0	25	172	546	752	1235	1042	1002	829	560	346	108	6617
1990-91	9	0	73	500	725	1413	1365	665	814	630	311	50	6555
1991-92	3	0	171	612	963	951	918	737	641	481	232	73	5782
1992-93	53	95	166	475	837	1398	1456	1210	751	531	177	134	7283
1993-94	98	60	250	534	1004	963	1135	1186	707	534	161	77	6709
1994-95	13	20	67	505	908	1045	1020	838	936	661	425	141	6579
1995-96	9	12	227	551	790	1131	1500	1032	1139	525	446	44	7406
1996-97	0	3	224	578	1205	1406	1425	910	840	780	285	38	7694
1997-98	44	39	90	493	882	1077	1249	806	992	508	235	211	6626
1998-99	0	0	98	493	803	1195	1077	741	780	642	369	100	6298
1999-00	26	4	271	454	585	916	1152	968	742	524	272	86	6000
2000-01	0	14	212	540	1141	1386	1072	1235	812	555	209	126	7302
2001-02	0	0	119	531	705	1143	1140	895	1237	718	400	99	6987
2002-03	0	24	169	732	764	1030	1046	1107	954	458	336	108	6728
2003-04	0	10	191	372	1026	1029	1276	940	627	464	351	135	6421
2004-05	7	15	175	501	763	989	1313	850	750	557	377	122	6419
2005-06	10	45	150	470	764	1193	828	970	931	450	245	11	6067
2006-07	0	11	192	632	873	1029	1223	1082	622	611	264	60	6599
2007-08	0	9	174	452	847	1145	1236	943	838	630	328	114	6716
2008-09	1	9	208	513	677	1411	1086	867	957	586	265	158	6738
2009-10	4	10	72	731	693	1499	1220	1075	641	548	407	85	6985
2010-11	10	28	182	352	1033	1244	1211	1249	905	662	458	119	7453
2011-12	0	0	88	419	882	1050	1064	1005	550	447	326	35	5866
2012-13	0	7	58	580	737	1159	1138	882	842	689	255	73	6420
2013-14	0	0	114	623	864	1324	1062	1286	967	542	295	89	7166
2014-	1	47	193	334	1026	1082							

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COOLING DEGREE DAYS (base 65°F) 2014 BILLINGS (KBIL)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1985	0	0	0	0	42	83	325	92	6	0	0	0	548
1986	0	0	1	2	25	163	152	177	1	0	0	0	521
1987	0	0	0	17	41	134	215	100	30	4	0	0	541
1988	0	0	0	0	41	351	355	234	37	0	0	0	1018
1989	0	0	0	2	2	64	327	164	45	0	0	0	604
1990	0	0	0	0	0	117	239	245	123	0	0	0	724
1991	0	0	0	1	3	35	244	332	45	16	0	0	676
1992	0	0	0	4	36	106	84	166	42	10	0	0	448
1993	0	0	0	0	18	57	34	85	19	2	0	0	215
1994	0	0	0	3	9	126	241	289	58	0	0	0	726
1995	0	0	0	0	3	55	151	195	39	5	0	0	448
1996	0	0	0	0	0	108	241	280	15	1	0	0	645
1997	0	0	0	0	14	61	170	182	71	13	0	0	511
1998	0	0	0	0	6	12	326	243	152	0	0	0	739
1999	0	0	0	0	10	44	228	241	17	0	1	0	541
2000	0	0	0	0	11	73	337	287	63	0	0	0	771
2001	0	0	0	0	32	87	293	326	84	4	0	0	826
2002	0	0	0	0	12	120	373	84	69	0	0	0	658
2003	0	0	0	0	40	76	424	393	55	26	0	0	1014
2004	0	0	0	2	0	39	238	144	26	4	0	0	453
2005	0	0	0	0	3	76	302	198	61	6	0	0	646
2006	0	0	0	0	38	125	408	217	39	1	0	0	828
2007	0	0	0	2	9	98	445	231	69	0	0	0	854
2008	0	0	0	1	20	79	284	255	19	2	0	0	660
2009	0	0	0	4	35	68	202	182	132	0	0	0	623
2010	0	0	0	0	2	59	219	204	34	7	0	0	525
2011	0	0	0	0	0	52	308	273	79	22	0	0	734
2012	0	0	0	14	20	153	419	287	62	3	0	0	958
2013	0	0	0	0	27	96	298	316	103	0	0	0	840
2014	0	0	0	0	16	19	304	213	66	0	0	0	618

SNOWFALL (inches) 2014 BILLINGS (KBIL)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1985-86	0.0	0.0	3.6	6.0	17.1	2.0	3.3	13.8	6.4	12.9	8.3	0.0	73.4
1986-87	0.0	0.0	0.0	0.0	12.3	1.9	0.6	6.0	13.3	0.3	0.4	0.0	34.8
1987-88	0.0	0.0	0.0	0.3	2.6	3.6	7.4	8.8	1.9	10.7	2.0	0.0	37.3
1988-89	0.0	0.0	T	2.0	5.6	6.2	18.5	6.8	25.1	11.8	T	0.0	76.0
1989-90	0.0	0.0	T	7.2	5.8	17.1	3.3	8.9	13.0	11.2	T	0.0	66.5
1990-91	T	T	0.0	3.5	1.5	6.2	11.4	1.0	3.7	30.0	3.6	T	60.9
1991-92	T	0.0	0.0	15.6	7.6	3.5	0.9	1.1	3.1	3.4	0.0	0.0	35.2
1992-93	0.0	T	0.0	4.0	1.7	10.6	11.4	5.8	2.7	6.9	0.0	T	43.1
1993-94	0.4	0.0	T	7.8	5.6	3.0	8.7	6.8	7.9	10.1	T	T	50.3
1994-95	T	0.0	0.0	T	13.9	4.6	2.4	6.3	6.8	8.8	3.9	T	46.7
1995-96		0.0	1.6	4.9	3.3	3.2	13.4	10.2	18.8	7.1	0.9	T	
1996-97	T	0.0	T	9.7	15.7	20.6	18.5	0.8	10.3	23.1	T	T	98.7
1997-98	T	0.0	0.0	0.9	5.3	6.4	18.6	1.7	20.5	T	T	T	53.4
1998-99	T	0.0	0.0	0.0	5.1	6.5	18.2	2.4	8.5	8.7	T	0.0	49.4
1999-00	0.0	0.0	T	0.9	0.0	3.7	10.6	13.7	3.1	3.1	1.6	T	36.7
2000-01	0.0	0.0	5.5	T	9.6	9.1	5.4	14.8	8.1	7.2	T	T	59.7
2001-02	T	0.0	0.0	1.0	5.5	3.5	9.4	6.9	12.5	17.3	3.2	0.0	59.3
2002-03	T	0.0	T	5.9	0.1	4.9	13.5	11.4	15.8	0.2	T	T	51.8
2003-04	0.0	0.0	0.0	3.6	5.6	11.2	7.5	4.1	1.1	3.6	1.1	0.0	37.8
2004-05	T	0.0	0.0	T	2.1	3.6	9.0	6.0	10.7	20.9	3.1	T	55.4
2005-06	0.0	0.0	0.0	10.8	4.6	7.7	0.1	1.4	8.5	2.0	T	T	35.1
2006-07	0.0	0.0	0.0	6.1	8.8	5.2	8.2	15.0	14.0	7.9	T	0.0	65.2
2007-08	0.0	0.0	T	T	6.8	4.3	9.7	2.4	6.3	1.8	1.8	T	33.1
2008-09	T	0.0	T	12.9	0.1	21.0	9.1	10.1	16.9	5.5	T	T	75.6
2009-10	0.0	0.0	0.0	6.6	1.4	15.3	18.2	7.4	0.3	2.2	0.7	T	52.1
2010-11	T	T	0.0	T	23.3	15.8	3.3	13.8	5.9	9.8	0.3	T	72.2
2011-12	T	T	0.0	0.0	6.5	2.8	15.6	3.9	5.9	0.4	3.5	T	38.6
2012-13	0.0	0.0	0.0	4.1	7.5	4.7	11.4	4.4	2.7	5.6	T	T	40.4
2013-14	0.0	T	T	5.1	6.0	23.9	18.2	37.0	10.6	0.6	2.1	T	103.5
2014-	0.0	0.0	T	T	13.2	8.4							
POR= 66 YRS	T	T	1.0	4.0	6.8	9.0	10.3	7.7	10.0	8.2	1.6	T	58.6

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REFERENCE NOTES :

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).
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).
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.
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 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 EIGHTS(OKTAS) FOR REPORTING THE AMOUNT OF SKY COVER.
STATION HISTORY STOPPED WITH THE 2009 ANNUAL. IF YOU NEED SATION 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.

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.

2014
BILLINGS
MONTANA (KBIL)

Billings, Montana, at an elevation of 3,100 to 3,600 feet above sea level, is situated in the borderline area between the Great Plains and the Rocky Mountains, and has a climate which takes on some of the characteristics of both regions. Its climate may be classified as semi-arid, but with irrigation and the favorable distribution of the precipitation, it is possible to raise a variety of crops in the area.

About a third of the annual precipitation falls during May and June, with June being the wettest month. The period of least precipitation is from November through February. These four months normally produce less than 20 percent of the annual precipitation. The heaviest snows occur during the spring and fall months when the temperature and moisture conditions are most favorable. Heavy snows of 6 inches or more also occur during November and December. The occurrence of thawing periods normally prevents the snow from accumulating to great depths on the ground. Thunderstorms are most frequent during the summer months. These storms are frequently accompanied by strong, gusty winds and occasionally by hail. Destructive hailstorms, however, are rather infrequent.

Winter is usually cold, though not extremely so, and generally affords several mild periods of a week to several weeks in length. The winter cold periods are ushered in by moderately strong north to northeast winds and snow. The coldest temperatures occur after the snow ends and the sky clears. True blizzard conditions are not observed very often in town, but in the surrounding rural areas, blizzard conditions may develop several times during the winter. Cold weather improves with the onset of moderate to strong southwest winds. This wind is sometimes a foehn condition (chinook), but is more often a drainage wind moving down the Yellowstone Valley which transports warmer air of Pacific origin to the area. Occasionally an open winter occurs when cold Arctic outbreaks pass far to the east and temperatures stay above zero degrees.

Spring brings a period of frequent and rapid fluctuations in the weather. It is usually cloudy and cool with frequent periods of rain and/or snow. As the season progresses, snows become less frequent until late May and June when rain is the rule. The last freezing temperatures in spring usually occur before mid-May though they have occurred as late as late June.

The summer season is characterized by warm days with abundant sunshine and low humidities. The nights are cool because of the altitude and the cool air drainage into the valley from the higher terrain. Seldom is there a protracted rainy spell during this season. Frequent thunderstorms bring threatening afternoon cloudiness but usually only small amounts of rain.

The first freezing temperatures of the fall season occur in late September, but they have been noted as early as late August. Over the years, the fall months have been about evenly distributed between cold, wet ones, and mild, dry, pleasant ones. The change to severe winter weather usually arrives after the middle of November. There have been years when the more severe type of winter weather have been delayed until late in December.

Station History

BILLINGS, MT

NAME	Begin Date	End Date	Latitude	Longitude	Elevation Feet	Relocation	Platform
BILLINGS LOGAN FIELD	1958-06-26	1970-01-01	45° 48'	-108° 31'	3567		AIRWAYS,COOP
LOGAN	1933-10-01	1934-07-01	45° 48'	-108° 31'			AIRWAYS
BILLINGS MUNICIPAL AP	1934-07-01	1939-10-31	45° 48'	-108° 31'			AIRWAYS
BILLINGS LOGAN INTL AP	2007-10-09	2014-07-27	45° 48'	-108° 32'	3581		ASOS,COOP
BILLINGS MUNICIPAL AP	1948-01-01	1958-06-26	45° 48'	-108° 31'	3567		AIRWAYS,COOP
BILLINGS LOGAN INTL AP	1972-06-01	1981-12-31	45° 48'	-108° 31'	3567		COOP,WXSVC
BILLINGS LOGAN INTL AP	1996-04-01	2007-10-09	45° 48'	-108° 32'	3581		ASOS,COOP
BILLINGS INTL AP	2014-07-27	Present	45° 48'	-108° 32'	3581		ASOS,COOP
BILLINGS MUNICIPAL AP	1940-01-01	1948-01-01	45° 48'	-108° 31'	3567		AIRWAYS
BILLINGS LOGAN FIELD	1970-01-01	1972-06-01	45° 48'	-108° 31'	3567		COOP,WXSVC
BILLINGS LOGAN INTL AP	1981-12-31	1995-05-01	45° 48'	-108° 31'	3567		COOP
BILLINGS LOGAN INTL AP	1995-05-01	1996-04-01	45° 48'	-108° 32'	3581	.3 MI NW	ASOS,COOP

Element History

Element	Begin Date	End Date	Frequency	Time Of Observation	Equipment *	Equipment * Modifications	Equipment Exposure
TEMP	1992-05-11	1995-05-01	DAILY	2400	HYGR		
PRECIP	1995-05-01	2001-02-23	HOURLY	2400	TB	RCRD	
TEMP	2006-09-05	2007-10-09	DAILY	2400	HYGR		
PRECIP	2007-10-09	2012-01-18	DAILY	2400	PCPNX		
TEMP	1982-01-01	1992-05-11	DAILY	2400			
PRECIP	2007-10-09	2012-01-18	HOURLY	2400	TB	RCRD	
WIND	2012-01-18	Present	HOURLY	UNKN	ANEMSONIC		
PRECIP	2012-01-18	Present	DAILY	2400	PCPNX		
PRECIP	1940-01-01	1982-01-01	DAILY	2400	UNIV	RCRD	
PRECIP	1982-01-01	1992-05-11	DAILY	2400	UNIV	RCRD	
PRECIP	2001-02-23	2006-09-05	DAILY	2400			
PRECIP	1982-01-01	1992-05-11	HOURLY	2400			
PRECIP	2006-09-05	2007-10-09	HOURLY	2400	TB	RCRD	
WIND	2006-09-05	2007-10-09	HOURLY	UNKN	ANEMSONIC		
PRECIP	1933-10-01	1939-10-31	DAILY	2400	UNIV	RCRD	
PRECIP	1992-05-11	1995-05-01	HOURLY	2400			
PRECIP	1995-05-01	2001-02-23	DAILY	2400	TB	RCRD	
TEMP	2007-10-09	2012-01-18	DAILY	2400	HYGR		
TEMP	2012-01-18	Present	DAILY	2400	ATEMP		
PRECIP	1992-05-11	1995-05-01	DAILY	2400	UNIV	RCRD	
WIND	2001-02-23	2006-09-05	HOURLY	UNKN	ANEMCUP		
PRECIP	2006-09-05	2007-10-09	DAILY	2400			
PRECIP	2012-01-18	Present	HOURLY	2400	AHTB	RCRD;HTD	
TEMP	1933-10-01	1939-10-31	DAILY	2400			
TEMP	1940-01-01	1982-01-01	DAILY	2400			
TEMP	1995-05-01	2001-02-23	DAILY	2400			
WIND	1995-05-01	2001-02-23	HOURLY	UNKN	ANEMCUP		
TEMP	2001-02-23	2006-09-05	DAILY	2400	HYGR		
PRECIP	2001-02-23	2006-09-05	HOURLY	2400	TB	RCRD	
WIND	2007-10-09	2012-01-18	HOURLY	UNKN	ANEMSONIC		

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

Other Station Information can be found at:
ASOS Implementation by NWS: http://www.nws.noaa.gov/ops2/Surface/asos2implementation.htm
Station Metadata website: http://www.ncdc.noaa.gov/homr

INQUIRES/COMMENTS CALL: (828) 271-4800, option 2
Fax Number : (828) 271-4876
TDD : (828) 271-4010
Email : ncdc.orders@noaa.gov

NOAA/National Climatic Data Center
Attn: User Engagement & Services Branch
151 Patton Avenue
Asheville, NC 28801-5001