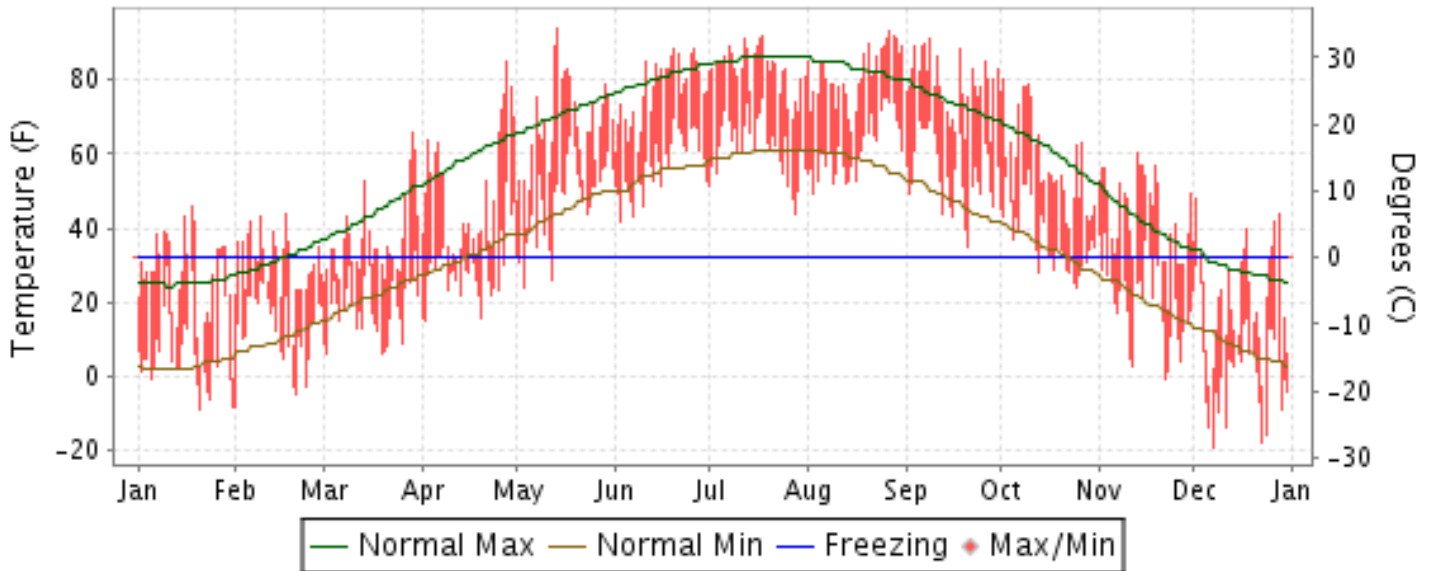


2013 LOCAL CLIMATOLOGICAL DATA ANNUAL SUMMARY WITH COMPARATIVE DATA

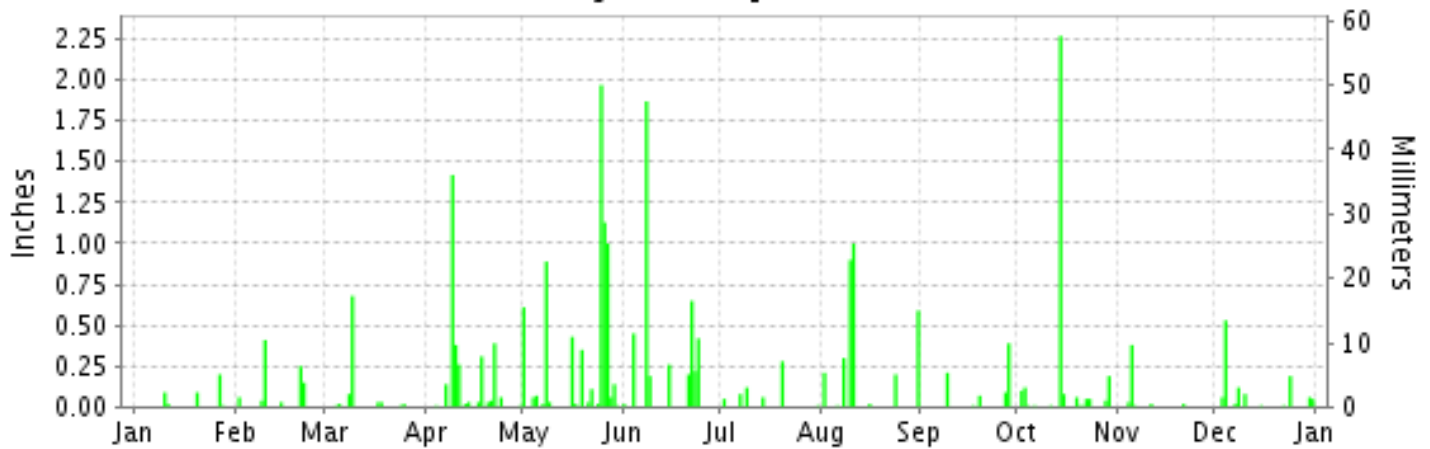
ISSN 0198-4748

SIOUX FALLS, SOUTH DAKOTA (KFSO)

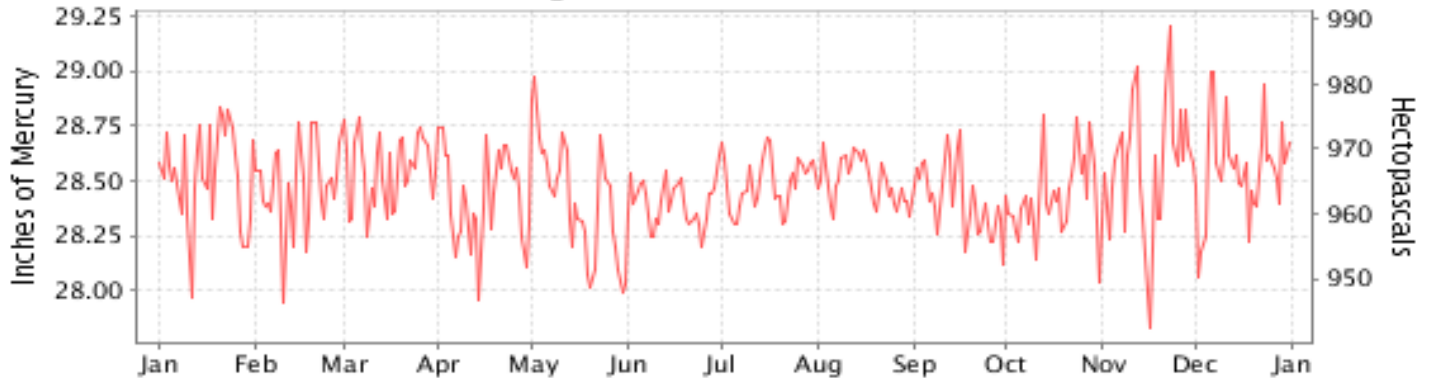
Daily Max/Min Temperature



Daily Precipitation



Daily Station Pressure



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CLIMATIC DATA CENTER
ASHEVILLE, NORTH CAROLINA

Thomas R. Karl
DIRECTOR
NATIONAL CLIMATIC DATA CENTER

METEOROLOGICAL DATA FOR 2013

SIOUX FALLS (KFSD)

LATITUDE: 43° 34'N LONGITUDE: 96° 45'W ELEVATION (FT): GRND: 1428 BARO: 1428 TIME ZONE: CENTRAL (UTC -6) WBAN: 14944

ELEMENT		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	
TEMPERATURE °F	MEAN DAILY MAXIMUM	26.9	30.3	36.7	49.5	67.3	77.0	82.7	81.7	78.6	57.9	43.7	21.1	54.5	
	HIGHEST DAILY MAXIMUM	46	44	66	85	94	88	92	93	91	80	60	48	94	
	DATE OF OCCURRENCE	18	17	29	28	14	26+	18	27	09	02	13	02	MAY 14	
	MEAN DAILY MINIMUM	8.0	12.7	18.4	29.1	47.0	56.9	61.6	61.6	55.3	37.4	20.0	2.2	34.2	
	LOWEST DAILY MINIMUM	-9	-8	6	15	24	42	44	49	35	24	-1	-19	-19	
	DATE OF OCCURRENCE	21	01	19+	02	03	03	28	03	21	25	22	07	DEC 07	
	AVERAGE DRY BULB	17.5	21.5	27.5	39.3	57.2	67.0	72.2	71.7	66.9	47.6	31.8	11.6	44.3	
	MEAN WET BULB	15.3	20.3	25.3	34.8	51.3	61.2	65.3	66.3	60.3	42.8	28.6	10.9	40.2	
	MEAN DEW POINT	10.6	16.7	20.7	28.9	46.0	57.0	60.9	63.2	55.5	37.7	22.9	6.5	35.6	
	NUMBER OF DAYS WITH:														
	MAXIMUM >= 90°	0	0	0	0	1	0	0	3	5	2	0	0	0	11
	MAXIMUM <= 32°	18	16	13	3	0	0	0	0	0	0	7	23	80	
MINIMUM <= 32°	31	28	30	23	4	0	0	0	0	11	27	31	185		
MINIMUM <= 0°	7	4	0	0	0	0	0	0	0	0	1	13	25		
H/C	HEATING DEGREE DAYS	1466	1213	1153	769	274	69	19	15	66	535	986	1647	8212	
	COOLING DEGREE DAYS	0	0	0	4	38	136	249	227	130	3	0	0	787	
RH	MEAN (PERCENT)	77	81	76	71	71	71	68	76	69	73	71	77	73	
	HOUR 00 LST	79	86	82	78	79	80	79	84	77	79	76	81	80	
	HOUR 06 LST	81	86	85	83	85	86	84	90	86	83	82	80	84	
	HOUR 12 LST	72	75	66	62	64	61	56	64	56	62	59	71	64	
	HOUR 18 LST	77	78	69	63	60	57	55	64	56	65	68	77	66	
W/O	NUMBER OF DAYS WITH:														
	HEAVY FOG(VISBY <= 1/4 MI)	1	5	1	4	1	2	0	1	1	1	1	3	21	
	THUNDERSTORMS	0	0	0	2	6	6	3	7	2	4	0	0	30	
PR	MEAN STATION PRESS. (IN.)	28.53	28.46	28.55	28.43	28.42	28.40	28.49	28.50	28.42	28.43	28.57	28.56	28.48	
	MEAN SEA-LEVEL PRESS. (IN.)	30.17	30.05	30.13	29.98	29.94	29.89	29.99	29.99	29.92	29.96	30.13	30.18	30.03	
WINDS	RESULTANT SPEED (MPH)	3.6	2.9	2.9	3.5	2.2	0.9	3.0	4.2	4.3	0.9	2.6	3.1	0.4	
	RES. DIR. (TENS OF DEGS.)	28	34	36	01	07	08	18	17	17	26	25	31	28	
	MEAN SPEED (MPH)	9.4	10.3	10.9	12.2	10.1	9.0	7.7	7.6	9.1	9.9	10.0	9.0	9.6	
	PREVAIL.DIR.(TENS OF DEGS.)	31	31	34	03	02	15	17	19	16	32	17	30	19	
	MAXIMUM 2-MINUTE WIND														
	SPEED (MPH)	39	36	37	37	35	31	29	37	30	35	36	35	39	
	DIR. (TENS OF DEGS.)	32	32	30	03	11	32	17	36	17	19	19	33	32	
	DATE OF OCCURRENCE	19	18	18	09	26	28	12	31	26	11	03	28	JAN 19	
	MAXIMUM 3-SECOND WIND:														
	SPEED (MPH)	51	48	46	51	47	43	38	45	43	46	46	44	51	
DIR. (TENS OF DEGS.)	32	32	32	04	20	18	18	35	17	20	19	32	04		
DATE OF OCCURRENCE	19	02	18	09	19	14	12	31	26	11	03	28	APR 09		
PRECIPITATION	WATER EQUIVALENT:														
	TOTAL (IN.)	0.41	0.94	0.88	3.13	6.95	4.28	0.60	3.23	0.77	3.01	0.46	1.13	25.79	
	GREATEST 24-HOUR (IN.)	0.20	0.45	0.76	1.42	2.99	2.01	0.28	1.90	0.40	2.29	0.39	0.57	2.99	
	DATE OF OCCURRENCE	27	09-10	08-09	09	25-26	08-09	20	10-11	27-28	14-15	05-06	03-04	MAY 25-26	
	NUMBER OF DAYS WITH:														
	PRECIPITATION 0.01	5	6	8	14	18	9	6	8	5	14	5	10	108	
PRECIPITATION 0.10	1	3	1	6	9	8	2	6	2	4	1	3	46		
PRECIPITATION 1.00	0	0	0	1	3	1	0	1	0	1	0	0	7		
SNOWFALL	SNOW,ICE PELLETS,HAIL														
	TOTAL (IN.)	2.1	9.6	1.5	14.8	1.5	0.0	0.0	0.0	0.0	0.4	7.5	12.6	50.0	
	GREATEST 24-HOUR (IN.)	1.9	3.2	0.5	4.6	1.5	0.0	0.0	0.0	0.0	0.4	5.7	5.4	5.7	
	DATE OF OCCURRENCE	20	21	05	22	01					22	05	04	NOV 05	
	MAXIMUM SNOW DEPTH (IN.)	4	5	2	5	1	0	0	0	0	T	5	6	6	
	DATE OF OCCURRENCE	02+	23+	01	12+	01					23	06	05	DEC 05	
	NUMBER OF DAYS WITH:														
SNOWFALL >= 1.0	1	3	0	5	1	0	0	0	0	0	1	4	15		

NORMALS, MEANS, AND EXTREMES

SIOUX FALLS (KFSD)

LATITUDE: 43° 34'N LONGITUDE: 96° 45'W ELEVATION (FT): GRND: 1428 BARO: 1428 TIME ZONE: CENTRAL (UTC -6) WBAN: 14944

ELEMENT		POR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
TEMPERATURE °F	NORMAL DAILY MAXIMUM	30	26.4	31.3	43.1	58.5	69.8	79.2	84.1	81.7	73.2	59.6	42.5	28.5	56.5
	MEAN DAILY MAXIMUM	82	25.1	30.2	42.0	58.4	70.7	79.9	85.8	83.2	73.9	61.5	43.3	29.6	57.0
	HIGHEST DAILY MAXIMUM	68	66	70	87	94	100	110	108	108	104	94	81	63	110
	YEAR OF OCCURRENCE		1981	1982	1968	1962	1967	1988	1989	1973	1976	1963	1999	1998	JUN 1988
	MEAN OF EXTREME MAXS.	82	46.1	51.2	67.7	82.3	88.6	94.4	98.1	96.3	90.5	81.8	65.8	49.9	76.1
	NORMAL DAILY MINIMUM	30	6.9	11.7	22.7	34.4	46.2	56.4	61.9	59.6	49.3	36.1	22.7	9.8	34.8
	MEAN DAILY MINIMUM	82	5.5	10.5	22.3	34.9	46.6	56.6	62.4	60.0	49.6	37.4	23.1	11.1	35.0
	LOWEST DAILY MINIMUM	68	-36	-31	-23	5	17	33	38	34	22	9	-17	-28	-36
	YEAR OF OCCURRENCE		1970	1962	1948	1982	1967	1969	1971	1950	1974	1972	1964	1990	JAN 1970
	MEAN OF EXTREME MINS.	82	-17.7	-13.7	-0.1	18.8	30.3	42.0	49.4	46.0	32.1	20.1	3.1	-11.1	16.6
	NORMAL DRY BULB	30	16.6	21.5	32.9	46.4	58.0	67.8	73.0	70.6	61.3	47.9	32.6	19.2	45.7
	MEAN DRY BULB	82	15.3	20.4	32.2	46.7	58.7	68.4	74.2	71.6	61.8	49.4	33.2	20.4	46.0
	MEAN WET BULB	29	15.1	19.0	28.9	39.3	50.4	60.1	65.3	63.8	54.1	41.4	28.2	17.9	40.3
	MEAN DEW POINT	29	12.9	16.7	25.9	35.9	47.7	57.8	63.6	62.2	51.9	38.7	26.3	16.0	38.0
	NORMAL NO. DAYS WITH: MAXIMUM >= 90	30	0.0	0.0	0.0	0.2	0.4	2.4	6.1	3.6	1.1	0.0	0.0	0.0	13.8
	MAXIMUM <= 32	30	19.5	14.2	6.0	0.6	0.0	0.0	0.0	0.0	0.0	0.3	6.7	17.7	65.0
MINIMUM <= 32	30	30.8	27.0	25.6	12.4	1.4	0.0	0.0	0.0	0.9	10.8	24.8	30.5	164.2	
MINIMUM <= 0	30	10.3	6.1	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	7.3	26.1	
H/C	NORMAL HEATING DEG. DAYS	30	1499	1218	995	562	248	51	8	23	173	536	972	1421	7706
	NORMAL COOLING DEG. DAYS	30	0	0	0	5	31	135	256	198	60	5	0	0	690
RH	NORMAL (PERCENT)	30	76	76	73	66	65	66	68	72	70	68	76	78	71
	HOURLY 00 LST	30	78	80	80	74	73	76	78	81	79	76	80	81	78
	HOURLY 06 LST	30	79	81	83	81	82	82	85	88	86	82	83	82	83
	HOURLY 12 LST	30	70	70	64	54	54	55	55	58	56	56	67	72	61
	HOURLY 18 LST	30	74	72	64	52	51	52	53	57	56	58	71	77	61
S	PERCENT POSSIBLE SUNSHINE	12	54	52	51	55	51	60	71	67	66	67	54	51	58
W/O	MEAN NO. DAYS WITH: HEAVY FOG(VISBY <= 1/4 MI)	50	2.0	2.6	2.5	1.1	0.8	0.4	0.8	1.2	1.3	1.3	2.3	3.5	19.8
	THUNDERSTORMS	82	0.0	0.1	0.9	2.7	5.6	7.9	7.9	7.0	4.4	1.7	0.4	0.1	38.7
CLOUDINESS	MEAN: SUNRISE-SUNSET (OKTAS)														
	MIDNIGHT-MIDNIGHT (OKTAS)														
	MEAN NO. DAYS WITH: CLEAR														
	PARTLY CLOUDY CLOUDY														
PR	MEAN STATION PRESSURE(IN)	30	28.52	28.53	28.48	28.41	28.41	28.40	28.43	28.48	28.48	28.48	28.49	28.52	28.47
	MEAN SEA-LEVEL PRES. (IN)	30	30.12	30.12	30.05	29.94	29.92	29.89	29.94	29.97	29.99	30.01	30.05	30.11	30.01
WINDS	MEAN SPEED (MPH)	30	10.3	10.4	11.4	12.0	11.2	9.9	9.2	8.8	9.5	10.0	10.2	10.0	10.2
	PREVAIL.DIR(TENS OF DEGS)	39	32	32	35	36	19	19	19	19	19	31	32	31	32
	MAXIMUM 2-MINUTE: SPEED (MPH)	17	44	45	46	51	46	52	51	58	43	44	43	43	58
	DIR. (TENS OF DEGS)		33	31	30	32	08	08	32	31	34	31	30	34	31
	YEAR OF OCCURRENCE		2005	2002	2005	2000	2008	2001	1998	2002	1997	2008	1998	2010	AUG 2002
	MAXIMUM 3-SECOND SPEED (MPH)	17	54	55	60	62	60	63	64	77	56	59	55	53	77
	DIR. (TENS OF DEGS)		33	30	30	32	09	11	32	31	36	33	30	35	31
	YEAR OF OCCURRENCE		2012	2002	2005	2000	2008	2011	1998	2002	2010	2008	2003	2010	AUG 2002
PRECIPITATION	NORMAL (IN)	30	0.56	0.60	1.76	3.01	3.40	3.92	3.09	3.05	2.77	2.17	1.36	0.69	26.38
	MAXIMUM MONTHLY (IN)	68	1.71	4.05	4.97	6.97	8.26	8.43	8.55	9.09	9.26	6.28	4.76	2.62	9.26
	YEAR OF OCCURRENCE		1969	1962	2007	2001	1993	1984	2010	1975	1986	1998	2001	1968	SEP 1986
	MINIMUM MONTHLY (IN)	68	0.05	0.05	0.14	0.17	0.61	0.74	0.24	0.53	0.20	T	0.02	T	0.02
	YEAR OF OCCURRENCE		1958	1986	1967	1969	1981	2012	2012	1970	2011	1952	1980	1986	NOV 1980
	MAXIMUM IN 24 HOURS (IN)	68	1.61	2.00	3.27	3.72	4.22	4.32	3.39	4.59	4.02	4.54	2.68	1.44	4.59
	YEAR OF OCCURRENCE		1960	1962	2007	2001	2004	1957	1992	1975	1966	1973	2001	1955	AUG 1975
	NORMAL NO. DAYS WITH: PRECIPITATION >= 0.01	30	6.6	6.6	8.7	10.5	11.8	11.5	9.8	9.1	8.7	7.9	7.2	6.9	105.3
	PRECIPITATION >= 1.00	30	0.0	0.0	0.3	0.6	0.7	1.0	0.6	0.9	0.7	0.5	0.3	0.0	5.6
SNOWFALL	NORMAL (IN)	30	7.7	6.9	8.4	4.6	0.0	0.0	0.0	0.0	0.0	1.3	7.4	8.2	44.5
	MAXIMUM MONTHLY (IN)	68	19.6	48.4	31.5	18.4	1.5	T	T	T	0.9	10.0	21.9	41.1	48.4
	YEAR OF OCCURRENCE		1969	1962	1951	1983	2013	2011	1995	2009	1985	1991	1985	1968	FEB 1962
	MAXIMUM IN 24 HOURS (IN)	68	11.8	26.0	18.9	10.5	1.5	T	T	T	0.9	8.8	12.6	16.6	26.0
	YEAR OF OCCURRENCE		1960	1962	1956	1994	2013	2011	1995	2009	1985	1991	1998	1968	FEB 1962
	MAXIMUM SNOW DEPTH (IN)	70	33	34	33	10	1	0	0	0	0	3	13	34	34
	YEAR OF OCCURRENCE		1969	1969	1969	1969	2013					1982	1983	1968	FEB 1969
	NORMAL NO. DAYS WITH: SNOWFALL >= 1.0	30	2.1	1.8	2.2	1.3	0.0	0.0	0.0	0.0	0.0	0.5	2.0	2.4	12.3

PRECIPITATION (inches) 2013 SIOUX FALLS (KFSD)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1984	0.37	1.10	1.83	5.79	2.95	8.43	1.63	0.76	1.62	4.11	0.03	1.02	29.64
1985	0.45	0.05	2.37	5.18	3.29	2.52	2.70	4.07	3.34	0.75	1.97	0.47	27.16
1986	0.72	0.05	1.50	5.15	2.42	3.93	2.59	2.77	9.26	1.22	0.89	T	30.50
1987	0.19	0.26	3.27	0.28	2.94	1.78	3.16	1.36	2.05	0.31	1.66	1.40	18.66
1988	1.54	0.25	0.63	3.00	1.54	0.91	0.49	4.02	4.39	0.02	1.98	0.37	19.14
1989	0.23	0.51	1.07	1.59	1.42	2.50	1.37	2.46	3.38	0.10	0.91	0.25	15.79
1990	0.08	0.31	1.57	1.86	4.07	4.86	1.77	1.17	0.47	1.82	0.61	0.61	19.20
1991	0.22	0.34	0.86	2.21	6.20	6.36	2.26	1.41	3.95	1.65	1.78	0.20	27.44
1992	0.75	1.76	2.36	2.01	1.80	2.44	8.41	5.29	3.06	2.72	1.04	0.83	32.47
1993	0.70	0.81	2.04	2.61	8.26	6.43	7.86	3.10	1.88	0.62	1.50	0.30	36.11
1994	0.97	0.63	0.20	3.34	1.26	6.03	1.70	2.66	2.36	2.36	1.03	0.33	22.87
1995	0.18	0.13	4.06	5.83	4.76	2.70	2.55	5.11	1.86	2.76	0.38	0.10	30.42
1996	0.99	0.16	0.82	0.55	5.27	1.14	0.98	1.79	2.82	1.63	2.91	.78	19.84
1997	0.41	1.39	0.23	2.43	3.58	3.77	2.94	1.58	1.59	1.75	0.35	0.24	20.26
1998	0.50	0.67	4.08	3.57	1.92	4.52	2.66	3.29	1.19	6.28	2.20	0.24	31.12
1999	0.35	0.28	1.15	4.32	6.20	2.57	4.81	0.80	0.84	0.37	0.05	0.17	21.91
2000	0.68	1.04	0.91	2.27	5.56	3.26	3.22	3.17	1.34	1.79	2.52	0.35	26.11
2001	1.50	0.65	0.78	6.97	1.92	3.13	5.88	1.37	2.25	0.86	4.76	0.11	30.18
2002	0.17	0.27	1.41	2.29	1.82	2.57	1.80	8.26	1.39	3.85	0.09	0.15	24.07
2003	0.30	0.64	0.22	3.69	2.64	3.54	1.64	1.82	4.74	0.92	0.59	1.07	21.81
2004	0.52	1.11	2.03	1.28	8.10	6.00	1.40	3.58	5.12	0.86	0.81	0.11	30.92
2005	0.44	1.12	1.53	3.33	5.22	3.72	4.59	1.36	4.76	1.66	2.95	1.03	31.71
2006	0.76	0.14	2.67	6.17	1.02	3.81	0.68	4.33	3.88	0.33	1.00	1.95	26.74
2007	0.45	1.29	4.97	1.93	2.63	3.98	0.32	6.18	2.27	5.98	0.04	1.30	31.34
2008	0.23	0.57	1.34	2.68	3.34	3.95	2.52	1.91	1.78	5.44	1.01	0.70	25.47
2009	0.32	0.41	1.31	1.95	1.43	3.07	3.71	1.93	1.21	5.52	0.17	2.03	23.06
2010	1.25	1.29	1.02	2.65	2.03	7.83	8.55	6.26	4.46	0.91	0.47	1.54	38.26
2011	1.17	0.95	0.74	3.09	5.42	4.26	5.76	1.40	0.20	0.63	0.04	0.62	24.28
2012	0.75	2.43	0.77	2.40	4.60	0.74	0.24	1.75	1.14	0.86	0.35	1.31	17.34
2013	0.41	0.94	0.88	3.13	6.95	4.28	0.60	3.23	0.77	3.01	0.46	1.13	25.79
POR= 82 YRS	0.58	0.81	1.59	2.62	3.46	3.90	2.93	3.20	2.67	1.74	1.06	0.70	25.26

WBAN : 14944

AVERAGE TEMPERATURE (°F) 2013 SIOUX FALLS (KFSD)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1984	17.4	27.8	24.6	45.8	55.9	68.1	73.6	74.2	57.2	50.4	36.2	20.4	46.0
1985	13.4	19.9	37.8	52.8	62.7	64.2	71.5	66.3	58.2	46.6	20.7	9.5	43.6
1986	20.7	16.9	36.9	48.2	58.8	69.6	75.0	66.5	59.6	48.6	28.7	25.2	46.2
1987	24.0	32.8	37.8	52.6	64.9	71.4	77.0	68.8	62.8	43.9	38.1	24.4	49.9
1988	9.6	15.0	36.4	46.4	65.1	76.3	77.4	74.8	62.6	44.6	34.2	22.1	47.0
1989	25.5	9.2	29.8	47.8	58.0	66.9	77.3	72.0	60.2	49.5	29.5	11.5	44.8
1990	28.2	24.9	36.7	46.4	56.4	70.1	71.2	72.9	66.5	48.0	35.6	15.3	47.7
1991	13.7	29.8	37.0	50.0	62.5	73.5	73.1	72.8	62.0	46.1	25.7	26.0	47.7
1992	26.5	30.0	36.7	43.7	60.5	67.0	65.5	66.1	60.3	48.7	30.4	19.2	46.2
1993	14.0	15.0	29.0	44.1	57.1	65.1	71.4	71.4	56.8	47.1	29.9	21.9	43.6
1994	6.2	13.3	36.6	46.5	63.9	71.6	70.8	69.5	65.2	52.4	36.5	21.8	46.2
1995	17.7	23.5	34.8	41.8	55.7	70.0	75.1	76.9	60.4	48.3	29.2	23.7	46.4
1996	10.9	22.6	27.4	42.4	54.9	68.8	69.1	70.0	59.4	47.7	23.5	10.3	42.3
1997	8.6	17.9	30.6	40.6	51.5	68.8	72.4	68.9	62.4	49.4	27.9	26.1	43.8
1998	19.6	31.8	28.0	46.5	61.7	63.1	71.9	71.0	66.3	50.6	35.5	24.0	47.5
1999	14.0	29.9	33.8	45.7	58.5	66.9	75.1	70.6	59.7	48.5	42.1	25.1	47.5
2000	17.3	30.4	39.4	46.0	59.2	65.7	71.7	71.6	61.4	51.1	25.0	7.7	45.5
2001	18.8	11.1	26.7	48.1	59.1	68.7	75.7	72.2	61.3	48.2	43.6	25.0	46.5
2002	24.8	29.6	23.4	47.3	54.1	72.2	77.7	70.6	63.3	40.9	33.0	26.6	47.0
2003	17.6	18.8	33.0	47.9	55.5	66.3	73.0	73.3	60.0	50.8	31.9	25.6	46.1
2004	14.9	20.3	38.5	49.0	57.8	64.8	70.5	65.5	65.8	49.8	37.5	25.7	46.7
2005	16.0	28.6	33.4	52.1	56.3	70.4	75.0	70.0	67.4	50.5	36.8	17.9	47.9
2006	31.1	23.3	33.3	51.8	59.6	69.0	76.0	71.3	58.2	46.4	34.4	28.2	48.6
2007	18.5	13.6	39.0	45.5	62.4	69.9	75.0	72.6	63.5	53.5	35.1	17.5	47.2
2008	13.7	14.9	29.2	43.3	56.4	68.2	74.6	71.6	62.9	49.5	34.6	15.3	44.5
2009	14.3	23.7	33.4	45.3	58.7	65.9	68.6	68.0	63.5	42.5	41.3	15.1	45.0
2010	10.6	14.7	37.5	52.2	56.8	67.6	73.5	74.3	60.0	51.3	33.9	16.4	45.7
2011	10.3	16.8	29.9	43.9	56.5	67.1	77.4	71.1	59.6	53.2	36.3	26.9	45.8
2012	24.0	26.6	49.8	51.7	61.7	72.1	81.4	72.4	62.7	46.3	35.9	21.6	50.5
2013	17.5	21.5	27.5	39.3	57.2	67.0	72.2	71.7	66.9	47.6	31.8	11.6	44.3
POR= 82 YRS	15.3	20.4	32.2	46.7	58.7	68.4	74.2	71.6	61.8	49.4	33.2	20.4	46.0

HEATING DEGREE DAYS (base 65°F) 2013 SIOUX FALLS (KFSD)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1984-85	2	12	265	451	857	1376	1594	1260	836	378	124	101	7256
1985-86	5	44	269	562	1327	1721	1363	1341	865	498	204	17	8216
1986-87	0	54	180	504	1082	1227	1265	896	835	387	96	23	6549
1987-88	5	54	110	649	801	1252	1715	1448	878	554	83	1	7550
1988-89	0	22	126	628	916	1321	1219	1559	1083	514	235	61	7684
1989-90	0	5	192	481	1056	1655	1131	1117	871	586	268	39	7401
1990-91	11	7	109	527	875	1538	1587	977	859	455	192	7	7144
1991-92	6	3	180	583	1171	1200	1186	1009	871	636	187	35	7067
1992-93	35	63	159	500	1030	1414	1576	1397	1109	621	244	74	8222
1993-94	2	19	257	557	1046	1331	1821	1443	872	563	140	8	8059
1994-95	5	15	100	386	849	1332	1461	1157	931	689	281	55	7261
1995-96	3	0	198	523	1068	1275	1674	1224	1159	672	334	44	8174
1996-97	8	4	228	535	1237	1691	1738	1313	1060	727	413	7	8961
1997-98	20	26	130	497	1105	1202	1402	922	1138	549	147	117	7255
1998-99	4	2	79	440	881	1262	1574	976	961	572	208	72	7031
1999-00	0	4	199	505	686	1229	1471	997	789	565	205	80	6730
2000-01	23	8	167	425	1195	1771	1424	1501	1185	516	203	43	8461
2001-02	7	7	161	522	637	1234	1239	986	1283	540	368	27	7011
2002-03	2	18	148	739	953	1184	1462	1285	986	516	293	63	7649
2003-04	1	12	201	443	987	1216	1546	1291	813	483	250	71	7314
2004-05	18	67	85	464	820	1211	1511	1015	971	386	283	2	6833
2005-06	7	15	65	462	838	1453	1047	1164	978	396	217	26	6668
2006-07	1	4	222	594	912	1134	1433	1431	796	597	132	23	7279
2007-08	0	1	135	377	892	1467	1582	1448	1102	643	273	5	7925
2008-09	2	1	122	475	906	1535	1565	1150	970	593	225	85	7629
2009-10	11	35	89	691	704	1541	1679	1404	844	380	300	16	7694
2010-11	0	1	151	415	925	1499	1688	1343	1083	625	278	45	8053
2011-12	0	0	199	397	854	1176	1265	1109	478	407	152	21	6058
2012-13	0	18	145	572	868	1337	1466	1213	1153	769	274	69	7884
2013-	19	15	66	535	986	1647							

WBAN : 14944

COOLING DEGREE DAYS (base 65°F) 2013 SIOUX FALLS (KFSD)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1984	0	0	0	0	10	120	276	305	36	4	0	0	751
1985	0	0	0	19	59	85	212	93	72	0	0	0	540
1986	0	0	0	0	20	163	318	108	25	0	0	0	634
1987	0	0	0	20	100	219	381	178	53	0	0	0	951
1988	0	0	0	1	94	349	393	330	61	0	0	0	1228
1989	0	0	0	6	25	125	387	228	56	7	0	0	834
1990	0	0	0	31	11	198	209	258	160	7	0	0	874
1991	0	0	0	11	119	265	264	249	100	5	0	0	1013
1992	0	0	0	4	53	103	58	103	25	5	0	0	351
1993	0	0	0	0	5	85	208	223	16	9	0	0	546
1994	0	0	0	13	113	212	191	160	113	2	0	0	804
1995	0	0	0	0	0	214	324	375	68	11	0	0	992
1996	0	0	0	0	27	163	140	167	63	4	0	0	564
1997	0	0	0	0	1	128	255	152	62	20	0	0	618
1998	0	0	0	0	54	69	225	196	123	0	0	0	667
1999	0	0	0	0	14	136	319	185	48	3	0	0	705
2000	0	0	0	0	31	106	240	219	64	4	0	0	664
2001	0	0	0	14	29	163	345	237	58	8	0	0	854
2002	0	0	0	16	36	247	403	197	105	0	0	0	1004
2003	0	0	0	9	5	109	254	276	60	11	0	0	724
2004	0	0	0	10	33	72	196	90	114	0	0	0	515
2005	0	0	0	5	21	171	323	178	145	19	0	0	862
2006	0	0	0	6	57	154	350	207	23	22	0	0	819
2007	0	0	0	22	58	177	318	244	100	23	0	0	942
2008	0	0	0	0	15	107	306	214	67	0	0	0	709
2009	0	0	0	9	35	120	134	133	50	0	0	0	481
2010	0	0	1	2	52	100	270	297	5	2	0	0	729
2011	0	0	0	0	23	117	388	196	46	37	0	0	807
2012	0	0	14	14	58	241	514	257	84	0	0	0	1182
2013	0	0	0	4	38	136	249	227	130	3	0	0	787

SNOWFALL (inches) 2013 SIOUX FALLS (KFSD)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1984-85	0.0	0.0	T	T	T	4.7	7.4	0.7	16.1	2.5	0.0	0.0	31.4
1985-86	0.0	0.0	0.9	0.2	21.9	9.1	9.1	0.9	8.2	0.3	0.0	0.0	50.6
1986-87	0.0	0.0	0.0	T	5.4	T	2.4	0.3	T	T	0.0	0.0	8.1
1987-88	0.0	0.0	0.0	0.1	7.5	13.3	17.9	7.3	2.5	11.3	0.0	0.0	59.9
1988-89	0.0	0.0	0.0	T	10.9	2.2	2.0	10.0	16.0	0.7	T	0.0	41.8
1989-90	0.0	0.0	0.0	0.0	2.4	4.0	0.2	5.8	0.7	T	0.0	T	13.1
1990-91	0.0	0.0	0.0	1.2	8.4	8.8	5.4	5.4	3.2	T	T	T	32.4
1991-92	0.0	0.0	0.0	10.0	10.8	0.2	3.8	11.2	8.4	3.5	T	T	47.9
1992-93	0.0	0.0	0.0	T	4.7	8.4	8.6	13.1	14.9	2.2	T	T	51.9
1993-94	T	0.0	T	T	8.8	4.6	16.8	13.0	1.1	14.9	0.0	T	59.2
1994-95	0.0	0.0	0.0	0.0	9.7	7.0	0.5	2.4	8.8	12.5	0.0	0.0	40.9
1995-96	T	0.0	0.0	7.4	5.1	1.9	15.4	1.7	6.9				
1996-97			0.0	T	11.3	19.8	8.8	16.5	1.3	6.0	T	0.0	
1997-98	0.0	0.0	0.0	0.4	5.0	3.3	11.7	6.9	21.4	0.3	0.0	T	49.0
1998-99	0.0	0.0	0.0	0.0	14.8	9.0	9.9	7.9	11.2	2.4	T	0.0	55.2
1999-00	T	0.0	T	2.7	T	3.2	6.0	1.2	4.5	5.6	T	0.0	23.2
2000-01	T	0.0	0.0	0.0	19.6	11.4	13.9	8.4	3.2	1.4	0.0	T	57.9
2001-02	0.0	T	0.0	T	13.8	2.9	3.2	2.8	17.1	4.9	T	0.0	44.7
2002-03	0.0	T	0.0	6.3	1.0	0.8	4.1	6.3	4.6	9.0	0.0	0.0	32.1
2003-04	0.0	0.0	0.0	0.1	7.6	13.4	12.3	15.8	7.4	T	T	0.0	56.6
2004-05	0.0	0.0	0.0	0.0	T	0.5	9.5	4.0	13.4	T	T	0.0	27.4
2005-06	T	T	0.0	T	14.3	8.5	0.7	2.3	9.3	T	0.0	T	35.1
2006-07	0.0	0.0	0.0	1.6	0.8	1.7	8.1	15.9	8.0	8.2	0.0	0.0	44.3
2007-08	0.0	0.0	0.0	0.0	0.6	11.4	4.1	7.5	14.5	7.6	0.0	0.0	45.7
2008-09	0.0	0.0	0.0	T	3.4	12.5	6.5	2.6	3.2	6.6	0.0	0.0	34.8
2009-10	0.0	T	0.0	3.5	T	27.8	8.4	16.9	0.5	0.0	0.0	0.0	57.1
2010-11	0.0	0.0	T	T	1.1	17.9	14.8	7.4	3.0	0.9	0.0	T	45.1
2011-12	0.0	0.0	0.0	0.0	0.1	0.4	8.2	6.9	0.3	0.0	0.0	0.0	15.9
2012-13	0.0	0.0	0.0	1.1	T	12.7	2.1	9.6	1.5	14.8	1.5	0.0	43.3
2013-	0.0	0.0	0.0	0.4	7.5	12.6							
POR= 81 YRS	T	T	T	0.7	5.0	7.3	6.8	8.2	8.5	2.9	0.1	T	39.5

WBAN : 14944

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). 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</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:</p> <p>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 SIOUX FALLS SOUTH DAKOTA (KFSD)

Sioux Falls is located in the Big Sioux River Valley in southeast South Dakota. The surrounding terrain is gently rolling. The land slopes upward for about 100 miles north and northwest to an elevation about 400 feet higher than the city. To the southeast, the land slopes downward 200 to 300 feet over the same distance. Little change in elevation occurs in the remaining directions.

The climate is of the continental type. There are frequent weather changes from day to day or week to week as the locality is visited by differing air masses. Cold air masses arrive from the interior of Canada, cool, dry air from the northern Pacific, warm, moist air from the Gulf of Mexico, or hot, dry air from the southwest.

Temperatures fluctuate frequently as cold air masses move in very rapidly. During the late fall and winter, cold fronts accompanied by strong, gusty winds drop temperatures by 20 to 30 degrees in a 24-hour period. Severe cold spells usually last only a few days. The winter months of December through February have experienced cold spells with average temperatures under 8 degrees and more than 60 consecutive days below 32 degrees.

Temperatures of 100 degrees and above occur about one in every three years, and will most likely happen in July. Summer nights are usually comfortable with temperatures below 70 degrees.

Rainfall is heavier during the spring and summer with lighter amounts in winter. Nearly 64 percent of the normal yearly precipitation falls during the growing season of April through August.

One or two very heavy snows usually fall each winter. Eight to 12 inches of snow may fall in 24 hours. There have been a few snows in excess of 15 inches and almost 30 inches have fallen during a severe winter storm. Strong winds often cause drifting snow, and blizzard conditions may block highways for a day or so.

Southerly winds prevail from late spring to early fall with northwest winds the remainder of the year. Strong winds of 70 mph with gusts to 90 mph have occurred.

Thunderstorms are frequent during the late spring and summer with June and July the most active months. The thunderstorms usually occur during the late afternoon and evening with a secondary peak of activity between 2 and 5 in the morning. Some of the most severe thunderstorms with damaging winds, hail and an occasional tornado, occur most frequently June.

There is occasional flooding in the lower areas of Sioux Falls along the Big Sioux River and Skunk Creek. Runoff from the melting snow in the spring often causes substantial rises in the rivers. A diversion canal around Sioux Falls has reduced the threat of damaging floods.

Based on the 1951-1980 period, the average first occurrence of 32 degrees Fahrenheit in the fall is October 1 and the average last occurrence in the spring is May 10.

Station History

SIOUX FALLS, SD

NAME	Begin Date	End Date	Latitude	Longitude	Elevation Feet	Relocation	Platform
FOSS FIELD	1939-01-01	1942-08-31	43° 34'	-96° 43'			AIRWAYS
SIOUX FALLS FOSS FIELD	1998-10-08	2011-01-01	43° 34'	-96° 45'	1428		ASOS, COOP, WXSVC
SIOUX FALLS MUNICIPAL AP	1946-01-01	1947-09-24	43° 34'	-96° 43'			AIRWAYS
SIOUX FALLS FOSS FIELD	1947-09-24	1948-01-01	43° 34'	-96° 43'			AIRWAYS
SIOUX FALLS FOSS FIELD	1996-04-01	1998-10-08	43° 34'	-96° 45'	1422	1 MI SW	ASOS, COOP, WXSVC
SIOUX FALLS FOSS FIELD	1971-01-01	1973-01-01	43° 34'	-96° 43'	1430		AIRWAYS, COOP
SIOUX FALLS FOSS FIELD	1977-01-01	1996-04-01	43° 34'	-96° 43'	1418		COOP, WXSVC
SIOUX FALLS FOSS FIELD	1948-01-01	1971-01-01	43° 34'	-96° 43'	1424		AIRWAYS, COOP
SIOUX FALLS FOSS FIELD	1973-01-01	1977-01-01	43° 34'	-96° 43'	1430		COOP, WXSVC
SIOUX FALLS FOSS FIELD	2011-01-01	Present	43° 34'	-96° 45'	1428		ASOS, COOP, WXSVC
FOSS FIELD	1932-01-01	1939-01-01	43° 31'	-96° 46'			AIRWAYS

Element History

Element	Begin Date	End Date	Frequency	Time Of Observation	Equipment *	Equipment * Modifications	Equipment Exposure
TEMP	1932-01-01	1982-01-01	DAILY	2400			
EVAP	1992-05-12	1995-07-01	DAILY	2400			
PRECIP	1996-04-01	2002-02-05	DAILY	2400	UNIV	RCRD	
EVAP	1996-04-01	2002-02-05	DAILY	2400	EVAP-C		
TEMP	1982-01-01	1992-05-12	DAILY	2400			
PRECIP	1982-01-01	1992-05-12	DAILY	2400	UNIV	RCRD	
PRECIP	1992-05-12	1995-07-01	DAILY	2400	UNIV	RCRD	
TEMPATOBS	2002-02-05	2003-08-01	TWICE DAILY - AM/PM	0600	FRONTIER		
PRECIP	2002-02-05	2003-08-01	HOURLY	2400	AHTB	RCRD;HTD	
EVAP	2002-02-05	2003-08-01	DAILY	0830	EVAP-C		
PRECIP	2003-08-01	2011-01-01	HOURLY	2400	AHTB	RCRD;HTD	
PRECIP	2011-01-01	2011-10-14	DAILY	2400	PCPNX		
TEMP	1992-05-12	1995-07-01	DAILY	2400	MXMN		
PRECIP	1995-07-01	1996-04-01	HOURLY	2400	UNIV	RCRD	
TEMP	1995-07-01	1996-04-01	DAILY	2400	MXMN		
PRECIP	1996-04-01	2002-02-05	HOURLY	2400	UNIV	RCRD	
TEMP	1996-04-01	2002-02-05	DAILY	2400	HYGR		
TEMP	2003-08-01	2011-01-01	DAILY	2400	ATEMP		
PRECIP	2011-01-01	2011-10-14	HOURLY	2400	AWPAG	RCRD;HTD	
EVAP	1982-01-01	1992-05-12	DAILY	2400			
PRECIP	2003-08-01	2011-01-01	DAILY	2400	PCPNX		
PRECIP	1982-01-01	1992-05-12	HOURLY	2400			
EVAP	1995-07-01	1996-04-01	DAILY	2400			
TEMP	2011-01-01	2011-10-14	DAILY	2400	ATEMP		
PRECIP	2011-10-14	Present	DAILY	2400	PCPNX		
TEMP	2011-10-14	Present	DAILY	2400	ATEMP		
PRECIP	1932-01-01	1982-01-01	DAILY	2400	UNIV	RCRD	
PRECIP	1992-05-12	1995-07-01	HOURLY	2400			
PRECIP	2002-02-05	2003-08-01	DAILY	2400	TB	RCRD	
PRECIP	2011-10-14	Present	HOURLY	2400	AWPAG	RCRD;HTD	
TEMPATOBS	2002-02-05	2003-08-01	TWICE DAILY - AM/PM	1800	FRONTIER		
WIND	2011-10-14	Present	DAILY	2400	WINDX		
DEWPNTTEMP	2011-10-14	Present	DAILY	2400	TEMPX		
EVAP	1932-01-01	1982-01-01	DAILY	2400			
PRECIP	1995-07-01	1996-04-01	DAILY	2400	UNIV	RCRD	
TEMP	2002-02-05	2003-08-01	DAILY	2400			

* 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