

2003

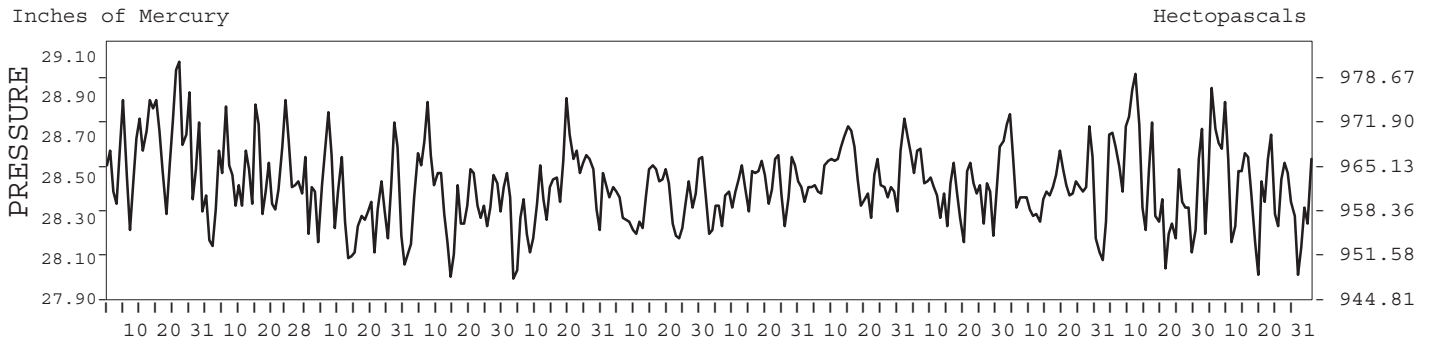
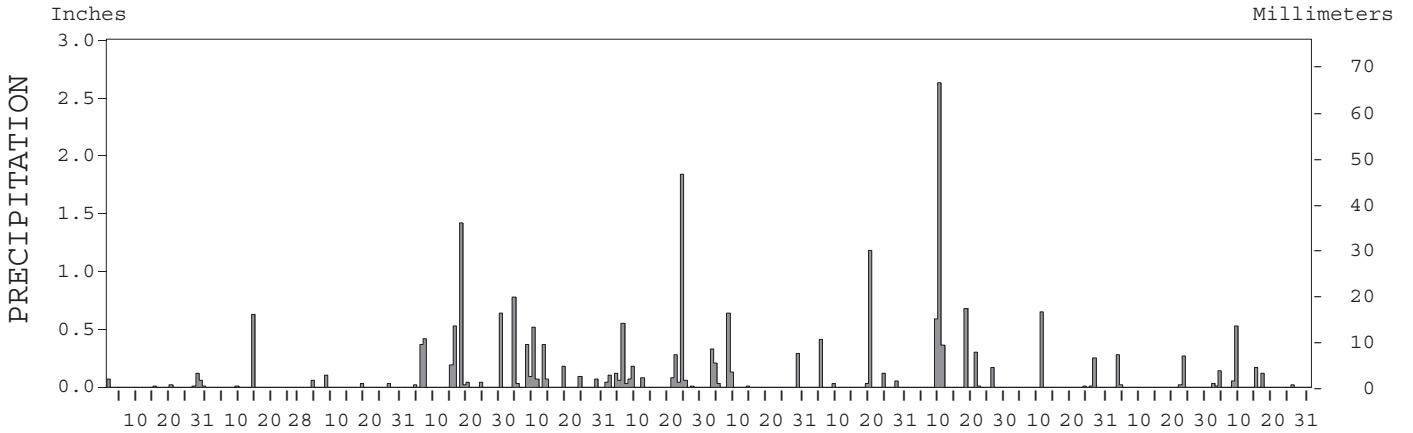
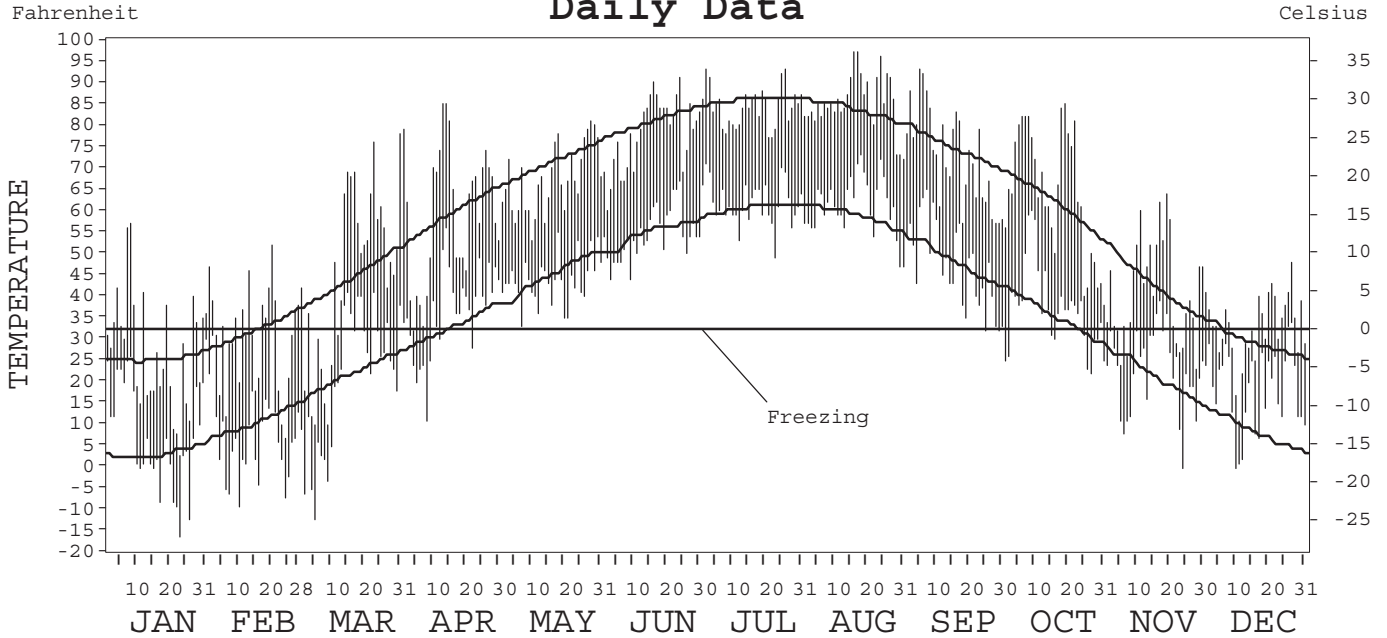
LOCAL CLIMATOLOGICAL DATA ANNUAL SUMMARY WITH COMPARATIVE DATA



ISSN 0198-4748

SIOUX FALLS, SOUTH DAKOTA (FSD)

Daily Data



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METEOROLOGICAL DATA FOR 2003

SIOUX FALLS, SD (FSD)

LATITUDE: 43° 34' 37" N LONGITUDE: 96° 45' 13" W ELEVATION (FT): GRND: 1425 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	27.2	30.1	45.1	59.4	67.3	78.1	84.3	85.4	72.7	64.2	41.2	32.8	57.3	
	HIGHEST DAILY MAXIMUM	57	52	78	85	81	91	93	97	93	85	64	48	97	
	DATE OF OCCURRENCE	08	20	31	14+	28	24	26+	17+	05	19	19	27	AUG 17+	
	MEAN DAILY MINIMUM	8.0	7.5	20.8	36.3	43.7	54.4	61.7	61.2	47.2	37.4	22.6	18.3	34.9	
	LOWEST DAILY MINIMUM	-16	-9	-12	11	33	44	49	47	32	22	0	0	-16	
	DATE OF OCCURRENCE	23	10	05	08	07	09+	23	31+	29+	27	24	10	JAN 23	
	AVERAGE DRY BULB	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	
	MEAN WET BULB	16.2	17.2	28.9	42.5	50.7	60.0	66.7	66.3	53.1	44.7	28.9	24.5	41.6	
	MEAN DEW POINT	10.3	11.7	22.3	35.8	45.2	54.9	62.8	62.1	46.8	38.8	23.7	20.8	36.3	
	NUMBER OF DAYS WITH:														
	MAXIMUM ≥ 90°	0	0	0	0	0	2	4	9	2	0	0	0	0	17
	MAXIMUM ≤ 32°	19	15	9	1	0	0	0	0	0	0	7	14	65	
MINIMUM ≤ 32°	31	27	23	9	0	0	0	0	2	10	27	29	158		
MINIMUM ≤ 0°	7	6	4	0	0	0	0	0	0	0	1	1	19		
H/C	HEATING DEGREE DAYS	1462	1285	986	516	293	63	1	12	201	443	987	1216	7465	
	COOLING DEGREE DAYS	0	0	0	9	5	109	254	276	60	11	0	0	724	
RH	MEAN (PERCENT)	72	74	68	67	69	68	70	69	65	67	73	80	70	
	HOUR 00 LST	77	79	73	76	81	78	81	80	74	77	77	83	78	
	HOUR 06 LST	78	81	81	82	87	86	85	87	83	85	81	83	83	
	HOUR 12 LST	66	66	58	55	55	54	58	54	52	53	65	75	59	
	HOUR 18 LST	69	68	57	56	53	58	58	54	50	57	71	80	61	
S	PERCENT POSSIBLE SUNSHINE	52	67	50	44	38	52	71	72	67	62	56	38	56	
W/O	NUMBER OF DAYS WITH:														
	HEAVY FOG (VISBY ≤ 1/4 MI)	1	2	4	1	2	1	1	0	1	0	1	4	18	
	THUNDERSTORMS	0	0	0	2	4	12	9	10	4	0	0	0	41	
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.)	28.64	28.51	28.38	28.39	28.43	28.39	28.44	28.53	28.47	28.43	28.48	28.46	28.46	
	MEAN SEA-LEVEL PRESS. (IN.)	30.24	30.10	29.94	29.91	29.95	29.89	29.93	30.02	29.98	29.96	30.04	30.03	30.00	
WINDS	RESULTANT SPEED (MPH)	4.1	2.8	2.4	4.4	0.4	1.8	2.1	3.3	3.2	2.0	2.6	1.8	0.5	
	RES. DIR. (TENS OF DEGS.)	31	32	34	08	08	18	14	13	22	26	27	25	26	
	MEAN SPEED (MPH)	9.7	10.5	11.8	12.0	9.8	8.8	9.7	8.0	10.2	8.8	11.1	11.2	10.1	
	PREVAIL. DIR. (TENS OF DEGS.)	31	19	16	18	15	16	17	15	16	30	30	17	17	
	MAXIMUM 2-MINUTE WIND:														
	SPEED (MPH)	40	43	35	45	45	44	38	31	32	39	41	38	45	
	DIR. (TENS OF DEGS.)	31	33	30	18	32	17	30	17	33	31	32	32	32	
	DATE OF OCCURRENCE	09	11	28	15	30	24	04	09+	26	28	12	16	MAY 30	
	MAXIMUM 5-SECOND WIND:														
	SPEED (MPH)	51	51	47	53	53	52	51	38	41	46	55	45	55	
DIR. (TENS OF DEGS.)	32	33	32	17	31	21	19	03	14	30	30	32	30		
DATE OF OCCURRENCE	09	11	28	15	30	24	03	05	10	28	12	16	NOV 12		
PRECIPITATION	WATER EQUIVALENT:														
	TOTAL (IN.)	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	
	GREATEST 24-HOUR (IN.)	0.14	0.63	0.10	1.44	0.81	1.89	0.64	1.21	2.71	0.65	0.28	0.53	2.71	
	DATE OF OCCURRENCE	28-29	14	08	18-19	04-05	24-25	08	19-20	09-10	11	03	09	SEP 09-10	
	NUMBER OF DAYS WITH:														
	PRECIPITATION ≥ 0.01	7	2	4	10	11	15	7	6	7	4	4	8	85	
PRECIPITATION ≥ 0.10	1	1	1	6	5	6	5	3	6	2	2	4	42		
PRECIPITATION ≥ 1.00	0	0	0	1	0	1	0	1	1	0	0	0	4		
SNOWFALL	SNOW, ICE PELLETS, HAIL:														
	TOTAL (IN.)	4.1	6.3	4.6	9.0	0.0	0.0	0.0	0.0	0.0	0.1	7.6	13.4	45.1	
	GREATEST 24-HOUR (IN.)	1.4	5.7	2.9	5.1	0.0	0.0	0.0	0.0	0.0	0.1	4.8	8.0	8.0	
	DATE OF OCCURRENCE	29	14	08	07						26	23	09	DEC 09	
	MAXIMUM SNOW DEPTH (IN.)	1	6	3	7	0	0	0	0	0	0	4	9	9	
	DATE OF OCCURRENCE	31+	15	11+	07							24+	17+	DEC 17+	
NUMBER OF DAYS WITH:															
SNOWFALL ≥ 1.0	1	1	2	2	0	0	0	0	0	0	2	3	11		

NORMALS, MEANS, AND EXTREMES

SIOUX FALLS, SD (FSD)

LATITUDE: 43° 34' 37" N LONGITUDE: 96° 45' 13" W ELEVATION (FT): GRND: 1425 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	25.2	31.6	43.8	58.8	71.0	80.6	85.6	83.2	74.2	61.1	41.9	28.8	57.1
	MEAN DAILY MAXIMUM	72	24.9	30.4	41.7	58.3	70.8	80.1	85.7	83.5	73.7	61.6	42.9	29.6	56.9
	HIGHEST DAILY MAXIMUM	58	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.	72	45.7	51.3	67.3	82.0	88.4	94.8	98.3	96.7	90.6	81.8	65.2	49.9	76.0
	NORMAL DAILY MINIMUM	30	2.9	10.1	21.3	32.5	44.6	54.5	60.3	58.4	47.6	34.8	20.7	7.8	33.0
	MEAN DAILY MINIMUM	72	4.8	10.4	22.1	34.8	46.6	56.7	62.4	60.0	49.4	37.3	22.9	10.9	34.9
	LOWEST DAILY MINIMUM	58	-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.	72	-18.6	-14.7	-8	18.5	30.4	41.8	49.3	45.9	31.9	19.7	2.6	-12.3	16.1
	NORMAL DRY BULB	30	14.0	20.8	32.6	45.7	57.8	67.5	73.0	70.8	60.9	48.0	31.3	18.3	45.1
	MEAN DRY BULB	72	14.9	20.2	31.7	46.5	58.6	68.5	74.2	71.8	61.7	49.5	32.9	20.4	45.9
	MEAN WET BULB	20	16.2	20.7	29.4	41.0	52.4	61.4	66.2	65.0	55.1	42.8	29.1	19.4	41.6
	MEAN DEW POINT	20	11.6	15.9	24.1	34.0	46.3	56.2	62.2	61.2	50.1	36.7	24.1	15.1	36.5
	NORMAL NO. DAYS WITH:														
MAXIMUM ≥ 90°	30	0.0	0.0	0.0	0.2	0.5	3.9	9.0	6.2	1.8	0.0	0.0	0.0	21.6	
MAXIMUM ≤ 32°	30	21.2	14.8	6.5	0.7	0.0	0.0	0.0	0.0	0.0	0.2	7.6	18.5	69.5	
MINIMUM ≤ 32°	30	30.9	27.4	25.0	12.7	1.7	0.0	0.0	0.0	1.3	10.9	25.7	30.7	166.3	
MINIMUM ≤ 0°	30	12.3	6.5	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	8.0	29.6	
H/C	NORMAL HEATING DEG. DAYS	30	1566	1236	989	568	242	58	10	20	176	519	995	1433	7812
	NORMAL COOLING DEG. DAYS	30	0	0	0	5	35	149	274	216	64	4	0	0	747
RH	NORMAL (PERCENT)	30	76	76	73	66	65	66	68	72	70	68	76	78	71
	HOUR 00 LST	30	78	80	80	74	73	76	78	81	79	76	80	81	78
	HOUR 06 LST	30	79	81	83	81	82	82	85	88	86	82	83	82	83
	HOUR 12 LST	30	70	70	64	54	54	55	55	58	56	56	67	72	61
	HOUR 18 LST	30	74	72	64	52	51	52	53	57	56	58	71	77	61
S	PERCENT POSSIBLE SUNSHINE	7	56	52	54	51	47	64	70	70	70	64	58	51	59
W/O	MEAN NO. DAYS WITH:														
	HEAVY FOG (VISBY ≤ 1/4 MI)	58	2.5	3.0	2.6	1.1	0.7	0.5	0.7	1.2	1.4	1.5	2.6	3.7	21.5
	THUNDERSTORMS	58	0.0	0.1	0.9	2.9	6.0	8.8	9.3	7.7	5.2	2.0	0.4	0.1	43.4
CLOUDINESS	MEAN:														
	SUNRISE-SUNSET (OKTAS)														
	MIDNIGHT-MIDNIGHT (OKTAS)														
	MEAN NO. DAYS WITH:														
CLEAR	1					2.0	11.0								
PARTLY CLOUDY	1					3.0	3.0								
CLOUDY	1					11.0	7.0								
PR	MEAN STATION PRESSURE (IN)	31	28.54	28.54	28.45	28.43	28.42	28.42	28.46	28.49	28.50	28.50	28.49	28.54	28.48
	MEAN SEA-LEVEL PRES. (IN)	20	30.12	30.12	30.04	29.95	29.92	29.91	29.95	29.99	29.99	30.02	30.05	30.11	30.01
WINDS	MEAN SPEED (MPH)	44	10.9	11.0	12.1	12.7	11.6	10.4	9.6	9.5	10.1	10.6	11.4	10.7	10.9
	PREVAIL. DIR (TENS OF DEGS)	29	31	31	34	36	18	18	18	18	18	18	31	30	18
	MAXIMUM 2-MINUTE:														
	SPEED (MPH)	7	44	45	44	51	45	52	51	58	43	41	43	43	58
	DIR. (TENS OF DEGS)		31	31	30	32	32	08	32	31	34	19	30	32	31
	YEAR OF OCCURRENCE		2000	2002	1999	2000	2003	2001	1998	2002	1997	1997	1998	2000	AUG 2002
	MAXIMUM 5-SECOND:														
SPEED (MPH)	7	52	55	55	62	53	56	64	77	49	52	55	52	77	
DIR. (TENS OF DEGS)		30	30	30	32	31	08	32	31	34	29	30	32	31	
YEAR OF OCCURRENCE		2000	2002	1999	2000	2003	2001	1998	2002	1997	1997	2003	2000	AUG 2002	
PRECIPITATION	NORMAL (IN)	30	0.51	0.51	1.81	2.65	3.39	3.49	2.93	3.01	2.58	1.93	1.36	0.52	24.69
	MAXIMUM MONTHLY (IN)	58	1.71	4.05	4.08	6.97	8.26	8.43	8.41	9.09	9.26	6.28	4.76	2.62	9.26
	YEAR OF OCCURRENCE		1969	1962	1998	2001	1993	1984	1992	1975	1986	1998	2001	1968	SEP 1986
	MINIMUM MONTHLY (IN)	58	0.05	0.05	0.14	0.17	0.61	0.91	0.25	0.53	0.29	T	0.02	T	T
	YEAR OF OCCURRENCE		1958	1986	1967	1969	1981	1988	1947	1970	1956	1952	1980	1986	DEC 1986
	MAXIMUM IN 24 HOURS (IN)	58	1.61	2.00	2.53	3.72	3.92	4.32	3.39	4.59	4.02	4.54	2.68	1.44	4.59
	YEAR OF OCCURRENCE		1960	1962	1995	2001	1972	1957	1992	1975	1966	1973	2001	1955	AUG 1975
	NORMAL NO. DAYS WITH:														
PRECIPITATION ≥ 0.01	30	7.0	6.9	9.0	10.6	11.2	10.3	10.1	9.4	8.0	6.8	7.9	6.1	103.3	
PRECIPITATION ≥ 1.00	30	*	0.0	0.3	0.5	0.8	0.7	0.6	0.7	0.8	0.4	0.2	0.0	5.0	
SNOWFALL	NORMAL (IN)	30	7.4	5.9	8.1	3.5	0.*	0.*	0.0	0.0	0.*	1.1	7.6	7.0	40.6
	MAXIMUM MONTHLY (IN)	58	19.6	48.4	31.5	18.4	0.2	T	T	T	0.9	10.0	21.9	41.1	48.4
	YEAR OF OCCURRENCE		1969	1962	1951	1983	1954	1994	1995	2001	1985	1991	1985	1968	FEB 1962
	MAXIMUM IN 24 HOURS (IN)	58	11.8	26.0	18.9	10.5	0.2	T	T	T	0.9	8.8	12.6	16.6	26.0
	YEAR OF OCCURRENCE		1960	1962	1956	1994	1954	1994	1995	2001	1985	1991	1998	1968	FEB 1962
	MAXIMUM SNOW DEPTH (IN)	60	33	34	33	10	1	0	0	0	0	3	13	34	34
	YEAR OF OCCURRENCE		1969	1969	1969	1969	1947					1982	1983	1968	DEC 1968
	NORMAL NO. DAYS WITH:														
SNOWFALL ≥ 1.0	30	2.0	1.7	2.2	1.0	0.0	0.0	0.0	0.0	0.0	0.3	2.1	1.8	11.1	

PRECIPITATION (inches) 2003 SIOUX FALLS, SD (FSD)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1974	0.13	0.30	1.65	1.33	3.11	2.79	1.27	5.16	0.58	0.34	0.27	0.10	17.03
1975	1.35	0.22	1.95	2.45	1.66	4.48	0.62	9.09	1.35	0.49	2.25	0.19	26.10
1976	0.41	0.48	1.60	2.15	1.02	1.02	1.53	1.31	0.76	0.71	0.07	0.36	11.42
1977	0.19	0.83	3.60	2.17	3.17	1.73	3.64	5.63	5.63	2.36	1.80	0.87	31.62
1978	0.47	0.33	0.56	3.98	3.47	2.91	4.79	3.08	2.45	0.14	0.48	0.51	23.17
1979	1.14	0.41	3.47	2.75	4.90	3.01	3.13	4.35	4.03	3.30	1.72	0.04	32.25
1980	0.18	0.47	0.70	0.77	2.52	2.17	1.63	2.92	0.79	1.36	0.02	0.29	13.82
1981	0.12	0.33	1.86	0.58	0.61	3.90	3.89	2.28	0.50	2.45	1.21	0.38	18.11
1982	0.76	0.13	1.17	1.87	4.72	1.18	4.60	5.23	3.49	5.18	2.94	1.99	33.26
1983	0.52	0.22	3.35	2.88	2.92	6.75	1.82	2.00	1.92	0.71	2.95	0.73	26.77
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	0.78	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
POR= 113 YRS	0.62	0.77	1.46	2.59	3.54	4.09	3.01	3.10	2.66	1.57	1.07	0.71	25.19

WBAN : 14944

AVERAGE TEMPERATURE (°F) 2003 SIOUX FALLS, SD (FSD)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1974	12.8	24.3	34.5	48.9	55.7	65.9	79.2	67.6	57.7	51.4	33.9	23.6	46.3
1975	17.1	16.5	25.5	41.4	61.1	67.6	78.5	72.7	57.0	52.1	33.5	20.4	45.3
1976	15.6	29.5	34.8	51.0	57.1	71.5	76.7	75.2	62.9	44.3	27.6	16.6	46.9
1977	4.7	25.6	36.0	53.8	66.8	71.1	77.0	68.1	61.9	47.7	31.3	16.3	46.7
1978	1.9	8.6	30.5	44.3	57.7	66.6	70.9	71.1	66.7	47.8	31.3	14.6	42.7
1979	1.8	7.5	28.2	44.1	55.2	67.8	74.0	69.9	64.3	48.2	30.2	27.1	43.2
1980	18.1	18.1	31.7	50.1	58.4	68.8	74.2	71.1	62.0	45.5	36.7	21.2	46.3
1981	22.3	26.0	38.4	53.5	58.3	70.4	75.5	71.1	63.0	48.7	39.5	18.0	48.7
1982	3.8	20.2	32.8	43.9	59.6	62.6	74.4	71.3	60.0	48.8	30.3	24.5	44.4
1983	20.1	26.2	33.1	41.5	55.1	66.7	77.1	78.3	63.5	49.6	34.9	2.1	45.7
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
POR= 83 YRS	15.3	20.8	32.1	46.9	58.8	68.5	73.3	71.7	61.8	49.7	33.0	20.6	46.0

HEATING DEGREE DAYS (base 65°F) 2003 SIOUX FALLS, SD (FSD)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1974-75	2	39	240	419	927	1279	1476	1351	1217	701	157	51	7859
1975-76	3	5	271	407	937	1377	1528	1023	929	418	261	23	7182
1976-77	1	0	142	643	1114	1495	1867	1097	891	341	38	4	7633
1977-78	0	22	125	530	1000	1503	1957	1576	1063	613	252	78	8719
1978-79	11	18	104	525	1004	1554	1960	1607	1134	622	321	40	8900
1979-80	0	28	103	512	1038	1168	1448	1349	1027	464	243	32	7412
1980-81	1	14	157	602	841	1354	1318	1087	816	353	230	5	6778
1981-82	5	5	114	497	758	1452	1899	1247	991	632	174	105	7879
1982-83	0	28	188	494	1035	1249	1385	1082	982	699	317	67	7526
1983-84	1	0	160	476	894	1947	1468	1072	1247	569	285	23	8142
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-	1	12	201	443	987	1216							

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COOLING DEGREE DAYS (base 65°F) 2003 SIOUX FALLS, SD (FSD)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1974	0	0	0	2	23	118	450	126	26	6	0	0	751
1975	0	0	0	0	44	134	428	252	36	16	0	0	910
1976	0	0	0	2	24	226	370	324	85	9	0	0	1040
1977	0	0	0	11	101	197	382	123	40	0	0	0	854
1978	0	0	0	0	32	133	202	213	163	0	0	0	743
1979	0	0	0	3	25	131	289	189	87	0	0	0	724
1980	0	0	0	23	46	153	290	207	74	6	0	0	799
1981	0	0	0	14	27	175	342	203	61	0	0	0	822
1982	0	0	0	4	12	42	298	230	45	0	0	0	631
1983	0	0	0	0	15	122	381	420	120	2	0	0	1060
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

SNOWFALL (inches) 2003 SIOUX FALLS, SD (FSD)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1974-75	0.0	0.0	0.0	0.0	2.5	1.1	18.3	3.1	17.9	T	0.0	0.0	42.9
1975-76	0.0	0.0	0.0	T	13.2	2.5	6.5	6.6	7.9	T	0.1	0.0	36.8
1976-77	0.0	0.0	0.0	3.4	0.7	6.7	2.7	1.9	13.5	T	0.0	0.0	28.9
1977-78	0.0	0.0	0.0	0.9	8.6	8.0	7.6	6.5	5.5	0.6	0.0	0.0	37.7
1978-79	0.0	0.0	0.0	0.0	2.9	9.5	19.0	7.3	13.2	1.5	0.0	0.0	53.4
1979-80	0.0	0.0	0.0	T	15.2	0.3	2.9	5.5	5.8	T	0.0	0.0	29.7
1980-81	0.0	0.0	0.0	0.8	0.4	4.6	1.4	3.1	T	0.5	0.0	0.0	10.8
1981-82	0.0	0.0	0.0	0.8	8.9	5.5	16.9	1.0	1.8	7.5	0.0	0.0	42.4
1982-83	0.0	0.0	0.0	3.3	4.1	17.6	4.7	3.6	18.8	18.4	0.0	0.0	70.5
1983-84	0.0	0.0	0.0	T	19.0	13.7	5.0	11.9	19.4	6.0	0.0	0.0	75.0
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-	0.0	0.0	0.0	0.1	7.6	13.4							
POR= 57 YRS	T	0.0	0.0	0.9	5.9	6.9	6.8	7.7	9.1	3.0	0.2	T	40.5

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).</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
SIOUX FALLS,
SOUTH DAKOTA (FSD)

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 LOCATION

SIOUX FALLS, SOUTH DAKOTA

LOCATION	Occupied From	Occupied To	Airline Distances and Directions from previous Location	LATITUDE NORTH	LONGITUDE WEST	ELEVATION ABOVE										AUTOMATIC OBSERVING EQUIPMENT *	* TYPE M = AMOS T = AUTOB S = ASOS W = AWOS REMARKS
						SEA LEVEL		GROUND									
						GROUND	TEMPERATURE	WIND INSTRUMENT	EXTREME THERMOMETERS	PSYCHROMETER	SUNSHINE SWITCH	TIPPING BUCKET	RAIN GAUGE	WEIGHING RAIN GAUGE	8 INCH RAIN GAUGE		
*NOTE:																	
<u>AIRPORT</u>																	
Weather Service Bldg Foss Field	1/12/71	9/14/93	1 mi. N	43°35'	96°44'	1418	j30	s5	s5		f3	5g5	5	e4 h4	e. Same site as prior to 1/12/71. s. Standby equipment. f. Commissioned 2/1/71. Removed 10/1/76.		
NWS Forecast Office NOAA 1 Weather Lane Foss Field	9/14/93	04/01/96	1350' E	43°35'	96°44'	1418	k20	k5	k5		k5	k5	k5	k5	g. Type change 2/28/83. h. Type change 7/23/85. j. Moved 7/18/84. k. Moved 9/14/93.		
Foss Field	04/01/96	Present	NA	43°35'	96°45'	11425								S	ASOS Commissioned 04/01/96 l. Ground elevation.		

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* NOTES: For earlier station history see previous editions.