

1999

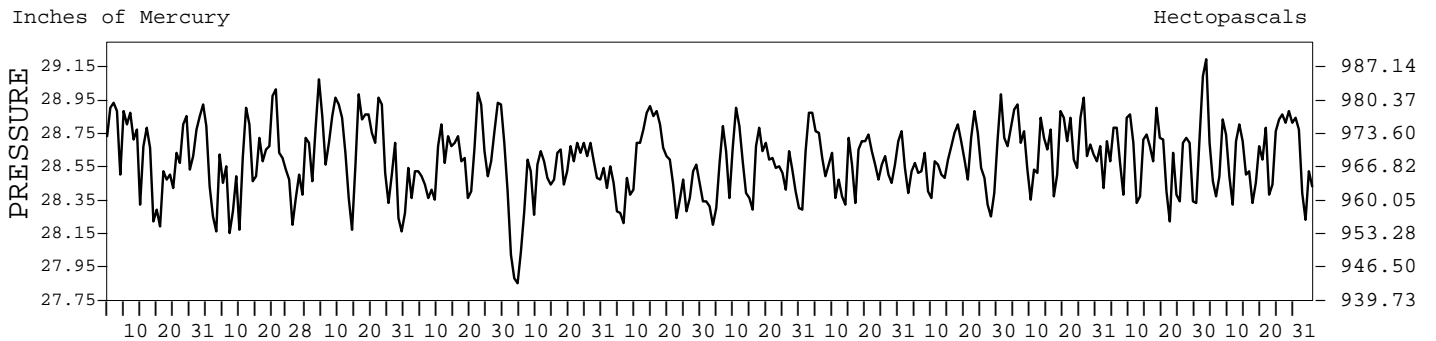
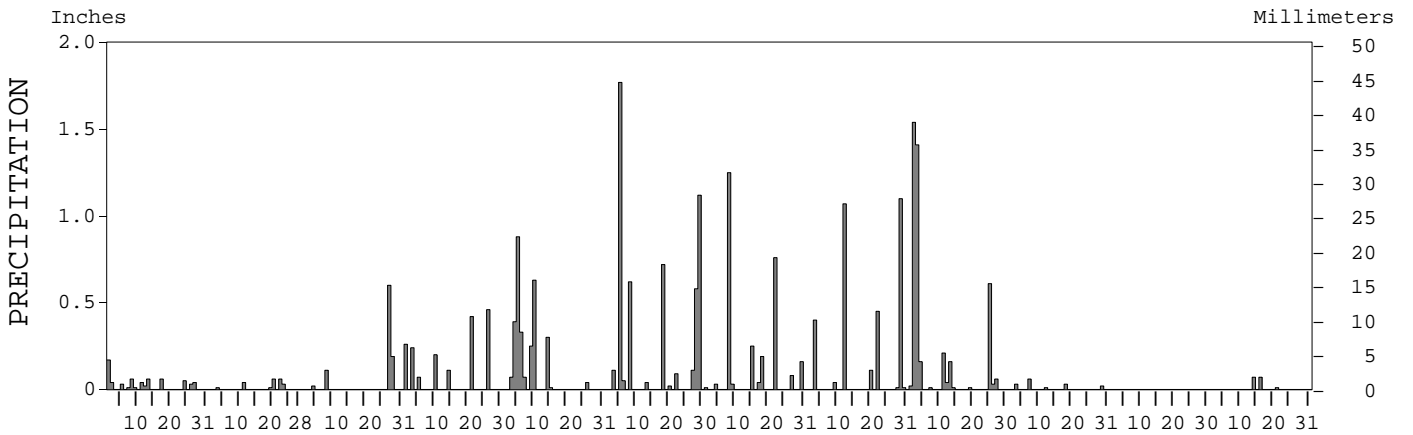
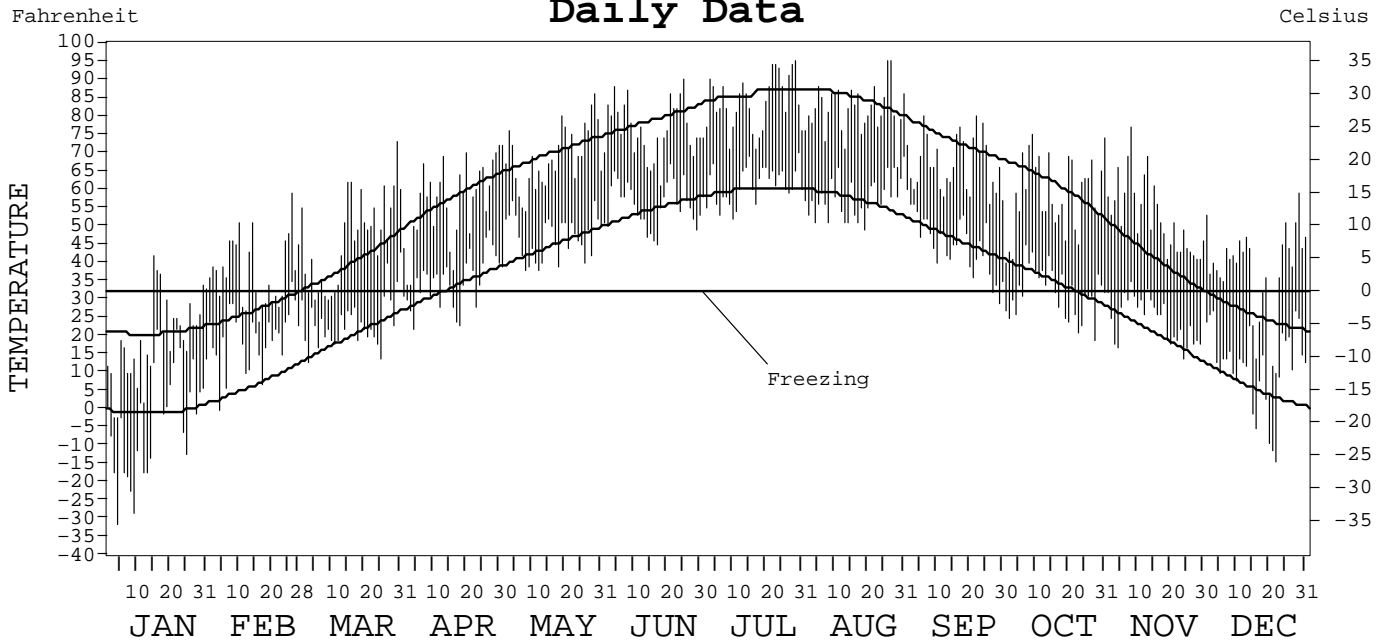
LOCAL CLIMATOLOGICAL DATA  
ANNUAL SUMMARY WITH COMPARATIVE DATA



ISSN 0198-4683

ABERDEEN,  
SOUTH DAKOTA (ABR)

Daily Data



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 NATIONAL ENVIRONMENTAL AND INFORMATION SERVICE  
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 ASHEVILLE, NORTH CAROLINA  
 DIRECTOR NATIONAL CLIMATIC DATA CENTER

# METEOROLOGICAL DATA FOR 1999

## ABERDEEN, SD (ABR)

LATITUDE: 45° 26' 59" N      LONGITUDE: 98° 25' 17" W      ELEVATION (FT): GRND: 1312      BARO: 1312      TIME ZONE: CENTRAL (UTC + 6)      WBAN: 14929

	ELEMENT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	
TEMPERATURE ° F	MEAN DAILY MAXIMUM	19.4	37.8	46.6	56.5	69.0	76.5	83.6	81.7	67.0	58.8	52.6	37.3	57.2	
	HIGHEST DAILY MAXIMUM	42	59	73	72	86	90	95	95	80	75	77	59	95	
	DATE OF OCCURRENCE	15	26	30	30	29	25	29	27+	22+	09	08	29	AUG 27+	
	MEAN DAILY MINIMUM	-1.8	19.7	24.0	35.0	46.6	55.7	61.1	57.5	45.1	32.0	24.8	11.9	34.3	
	LOWEST DAILY MINIMUM	-31	0	13	22	38	45	52	49	29	19	14	-14	-31	
	DATE OF OCCURRENCE	04	04	03	04	12+	17	10	19	29	28	24	22	JAN 04	
	AVERAGE DRY BULB	8.8	28.8	35.3	45.8	57.8	66.1	72.4	69.6	56.1	45.4	38.7	24.6	45.8	
	MEAN WET BULB	9.6	26.4	31.1	41.0	53.0	60.9	67.6	64.4	51.3	40.1	33.2	22.4	41.8	
	MEAN DEW POINT	6.2	22.5	24.9	35.3	48.7	57.0	64.7	61.0	47.3	34.3	27.1	17.3	37.2	
	NUMBER OF DAYS WITH:														
	MAXIMUM ≥ 90°	0	0	0	0	0	1	7	2	0	0	0	0	0	10
	MAXIMUM ≤ 32°	26	11	7	0	0	0	0	0	0	0	0	7	51	
	MINIMUM ≤ 32°	31	27	28	11	0	0	0	0	2	17	27	31	174	
	MINIMUM ≤ 0°	16	1	0	0	0	0	0	0	0	0	0	5	22	
H/C	HEATING DEGREE DAYS	1734	1008	914	569	222	55	2	8	264	600	781	1244	7401	
	COOLING DEGREE DAYS	0	0	0	0	9	98	238	160	2	0	0	0	507	
RH	MEAN (PERCENT)	82	78	70	71	74	73	78	76	76	70	69	75	74	
	HOUR 00 LST	84	83	80	81	87	86	90	87	88	81	78	80	84	
	HOUR 06 LST	84	86	84	88	91	90	93	93	91	87	82	82	88	
	HOUR 12 LST	80	71	57	59	60	61	65	61	60	53	55	66	62	
	HOUR 18 LST	82	75	56	55	59	58	62	60	65	56	62	70	63	
S	PERCENT POSSIBLE SUNSHINE	44	52	64	56	60				61	57	45	34		
W/O	NUMBER OF DAYS WITH:														
	HEAVY FOG (VISBY ≤ 1/4 MI)	3	1	1	1	1	1	4	1	0	1	1	2	17	
	THUNDERSTORMS	0	0	1	1	5	9	7	5	8	0	0	0	36	
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.)	28.66	28.52	28.67	28.60	28.47	28.53	28.52	28.59	28.59	28.67	28.64	28.60	28.59	
	MEAN SEA-LEVEL PRESS. (IN.)	30.12	29.95	30.09	30.00	29.85	29.89	29.88	29.95	29.97		30.07	30.05		
WINDS	RESULTANT SPEED (MPH)	1.2	1.5	2.4	4.3	0.9	3.6	0.7	2.0	2.7	1.6	1.3	2.9	0.1	
	RES. DIR. (TENS OF DEGS.)	34	24	15	05	10	16	08	14	32	29	26	29	22	
	MEAN SPEED (MPH)	10.7	13.0	11.8	11.7	12.6	10.7	8.2		10.1	9.5	9.0	10.6		
	PREVAIL. DIR. (TENS OF DEGS.)	18	18	17	36	18	17	17	17	17	18	17	32	17	
	MAXIMUM 2-MINUTE WIND:														
	SPEED (MPH)	39	40	48	33	36	39	57	32	32	38	44	37	57	
	DIR. (TENS OF DEGS.)	33	33	33	07	33	01	30	01	01	35	32	16	30	
	DATE OF OCCURRENCE	17	11	17	22	06+	05	22	12	07	27	01	18	JUL 22	
	MAXIMUM 5-SECOND WIND:														
	SPEED (MPH)	43	46	57	41	46	48	70	43	39	44	51	47	70	
DIR. (TENS OF DEGS.)	32	33	34	36	19	02	30	01	01	01	32	17	30		
DATE OF OCCURRENCE	17	11	17	16	04	05	22	12	07	27	01	18	JUL 22		
PRECIPITATION	WATER EQUIVALENT:														
	TOTAL (IN.)	0.62	0.21	0.92	1.76	2.97	5.23	2.80	3.19	4.27	0.15	T	0.15	22.27	
	GREATEST 24-HOUR (IN.)	0.19	0.06	0.79	0.46	1.09	1.77	1.25	1.10	2.81	0.06	T	0.07	2.81	
	DATE OF OCCURRENCE	01-02	22+	27-28	26	04-05	05	08	29	02-03	07	21	16+	SEP 02-03	
	NUMBER OF DAYS WITH:														
	PRECIPITATION ≥ 0.01	13	6	4	7	10	11	10	8	13	5	0	3	90	
PRECIPITATION ≥ 0.10	1	0	3	6	6	7	5	5	6	0	0	0	39		
PRECIPITATION ≥ 1.00	0	0	0	0	0	2	1	2	2	0	0	0	7		
SNOWFALL	SNOW, ICE PELLETS, HAIL:														
	TOTAL (IN.)	10.0	2.7	1.9	1.8	0.0	T	0.0	T	0.0	0.2	0.0	2.2	18.8	
	GREATEST 24-HOUR (IN.)	3.6	0.8	1.3	1.8	0.0	T	0.0	T	0.0	0.2	0.0	1.2	3.6	
	DATE OF OCCURRENCE	01-02	20	08	03		08		22		03		16	JAN 01-02	
	MAXIMUM SNOW DEPTH (IN.)	6	3	1	0	0	0	0	0	0	T	0	2	6	
	DATE OF OCCURRENCE	15+	02+	09							03		18+	JAN 15+	
NUMBER OF DAYS WITH:															
SNOWFALL ≥ 1.0	2	0	1	1	0	0	0	0	0	0	0	1	5		

# NORMALS, MEANS, AND EXTREMES

## ABERDEEN, SD (ABR)

LATITUDE: 45° 26' 59" N      LONGITUDE: 98° 25' 17" W      ELEVATION (FT): GRND: 1312      BARO: 1312      TIME ZONE: CENTRAL (UTC + 6)      WBAN: 14929

ELEMENT		POR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
TEMPERATURE °F	NORMAL DAILY MAXIMUM	30	20.9	26.9	39.8	57.3	69.7	78.8	85.9	84.4	72.9	60.4	40.5	25.4	55.2
	MEAN DAILY MAXIMUM	42	20.7	27.1	39.2	56.6	69.3	78.3	84.9	84.0	72.9	59.9	39.7	26.7	54.9
	HIGHEST DAILY MAXIMUM	38	60	62	82	98	96	108	110	112	103	96	78	62	112
	YEAR OF OCCURRENCE		1981	1987	1963	1992	1992	1988	1966	1965	1970	1963	1975	1969	AUG 1965
	MEAN OF EXTREME MAXS.	52	43.2	48.3	62.8	80.8	87.7	93.2	98.7	97.7	92.4	82.0	63.6	46.9	74.8
	NORMAL DAILY MINIMUM	30	-6	6.5	19.8	33.0	44.5	54.3	59.6	56.8	46.1	34.2	19.9	5.3	31.6
	MEAN DAILY MINIMUM	42	-5	6.6	19.6	32.7	44.5	54.4	59.2	57.0	46.0	34.1	19.5	6.6	31.6
	LOWEST DAILY MINIMUM	38	-35	-45	-32	-2	19	33	39	32	20	8	-27	-39	-45
	YEAR OF OCCURRENCE		1972	1994	1995	1975	1961	1964	1971	1987	1995	1991	1964	1967	FEB 1994
	MEAN OF EXTREME MINS.	52	-25.8	-18.8	-5.8	16.6	28.2	40.6	46.3	42.6	29.3	17.6	-1.1	-17.5	12.7
	NORMAL DRY BULB	30	10.1	16.7	29.8	45.2	57.1	66.6	72.8	70.6	59.6	47.3	30.3	15.3	43.4
	MEAN DRY BULB	52	9.7	17.5	28.8	44.8	56.9	66.3	72.1	70.1	59.5	47.0	29.9	16.1	43.2
	MEAN WET BULB	48	8.8	16.9	26.2	39.1	50.1	59.6	64.3	62.0	52.3	41.5	27.5	15.4	38.6
	MEAN DEW POINT	48	2.5	11.5	20.9	32.2	43.2	54.7	59.4	56.9	46.4	35.3	22.3	10.1	32.9
	NORMAL NO. DAYS WITH:														
	MAXIMUM ≥ 90°	30	0.0	0.0	0.0	0.1	0.4	3.4	10.2	8.2	2.2	0.1	0.0	0.0	24.6
MAXIMUM ≤ 32°	30	22.9	16.5	9.1	0.3	0.0	0.0	0.0	0.0	0.0	0.1	8.5	20.6	78.0	
MINIMUM ≤ 32°	30	30.9	27.5	26.9	14.8	3.1	0.0	0.0	*	1.8	13.5	27.3	30.9	176.7	
MINIMUM ≤ 0°	30	15.6	9.7	2.6	*	0.0	0.0	0.0	0.0	0.0	0.0	2.2	10.8	40.9	
H/C	NORMAL HEATING DEG. DAYS	30	1702	1352	1091	594	269	68	15	29	195	549	1041	1541	8446
	NORMAL COOLING DEG. DAYS	30	0	0	0	0	24	116	257	203	33	0	0	0	633
RH	NORMAL (PERCENT)	30	73	74	73	65	62	67	64	64	66	67	75	76	69
	HOUR 00 LST	30	74	78	80	74	72	78	76	75	76	75	80	79	76
	HOUR 06 LST	30	76	78	82	81	80	84	85	86	84	81	82	80	82
	HOUR 12 LST	30	70	70	67	54	51	56	51	51	53	54	67	72	60
	HOUR 18 LST	30	72	71	65	50	47	52	47	45	49	55	70	75	58
S	PERCENT POSSIBLE SUNSHINE	2	40	33	64	53	55	58	65	64	63	46	43	35	52
W/O	MEAN NO. DAYS WITH:														
	HEAVY FOG(VISBY≤1/4 MI)	19	2.5	2.5	2.6	1.3	0.6	1.0	1.1	0.9	1.2	1.1	2.3	3.4	20.5
	THUNDERSTORMS	19	0.0	0.2	0.4	1.8	4.3	8.2	8.4	5.9	3.3	1.3	0.1	0.0	33.9
CLOUDINESS	MEAN:														
	SUNRISE-SUNSET (OKTAS)	1			6.4			4.0							
	MIDNIGHT-MIDNIGHT (OKTAS)	1			6.4										
	MEAN NO. DAYS WITH:														
	CLEAR	1	2.0	3.0	9.0		2.0	9.0	3.0	4.0	5.0	2.0		2.0	
PARTLY CLOUDY	1	1.0	1.0	4.0			8.0	1.0	3.0		3.0	1.0	1.0		
CLOUDY	1	2.5	3.0	11.0		13.0	3.0		3.0	2.0	9.0	4.0	12.0		
PR	MEAN STATION PRESSURE(IN)	11	28.65	28.64	28.61	28.57	28.53	28.51	28.56	28.58	28.59	28.59	28.63	28.65	28.59
	MEAN SEA-LEVEL PRES. (IN)	49	30.15	30.11	30.03	29.97	29.92	29.88	29.93	29.94	29.98	30.02	30.05	30.08	30.00
WINDS	MEAN SPEED (MPH)	18	12.5	12.2	13.3	14.0	13.1	11.4	10.1	10.4	11.1	11.8	12.0	11.5	11.9
	PREVAIL.DIR.(TENS OF DEGS)	12	18	18	36	36	18	18	18	16	18	18	18	18	18
	MAXIMUM 2-MINUTE:														
	SPEED (MPH)	5	45	47	48	44	38	47	57	39	37	49	46	43	57
	DIR. (TENS OF DEGS)		35	33	33	02	16	01	30	01	33	33	34	33	30
	YEAR OF OCCURRENCE		1996	1996	1999	1995	1996	1998	1999	1997	1997	1996	1997	1995	JUL 1999
	MAXIMUM 5-SECOND:														
	SPEED (MPH)	5	61	66	57	56	56	59	70	47	45	60	56	55	70
DIR. (TENS OF DEGS)		35	33	34	31	27	01	30	01	33	33	34	34	30	
YEAR OF OCCURRENCE		1996	1996	1999	1997	1996	1998	1999	1997	1997	1996	1997	1995	JUL 1999	
PRECIPITATION	NORMAL (IN)	30	0.37	0.47	1.34	1.95	2.41	3.15	2.75	2.13	1.86	1.12	0.59	0.41	18.55
	MAXIMUM MONTHLY (IN)	68	2.23	2.06	3.45	7.88	7.36	8.88	7.71	6.62	5.32	7.29	2.36	1.86	8.88
	YEAR OF OCCURRENCE		1937	1952	1977	1986	1991	1939	1972	1942	1996	1998	1977	1935	JUN 1939
	MINIMUM MONTHLY (IN)	68	0.01	0.00	0.04	0.13	0.28	0.37	0.30	0.06	0.05	0.00	T	T	0.00
	YEAR OF OCCURRENCE		1961	1932	1971	1988	1948	1974	1975	1947	1979	1952	1980	1986	OCT 1952
	MAXIMUM IN 24 HOURS (IN)	68	1.12	1.02	3.00	2.28	3.81	5.20	3.46	3.50	3.49	2.98	1.30	0.91	5.20
	YEAR OF OCCURRENCE		1939	1958	1937	1938	1949	1978	1983	1990	1988	1998	1977	1988	JUN 1978
	NORMAL NO. DAYS WITH:														
	PRECIPITATION ≥ 0.01	30	5.7	6.1	7.0	9.0	9.7	10.6	9.1	8.6	6.5	5.3	6.1	6.3	90.0
PRECIPITATION ≥ 1.00	30	0.0	0.0	0.2	0.3	0.3	0.5	0.7	0.4	0.5	0.1	*	0.0	3.0	
SNOWFALL	NORMAL (IN)	30	5.5	6.2	7.6	3.8	0.1	0.0	0.0	0.0	0.*	0.9	5.0	6.1	35.2
	MAXIMUM MONTHLY (IN)	68	26.2	25.1	27.9	24.4	2.0	T	T	T	0.2	5.5	30.1	18.5	30.1
	YEAR OF OCCURRENCE		1937	1969	1975	1970	1943	1993	1994	1993	1995	1970	1993	1935	NOV 1993
	MAXIMUM IN 24 HOURS (IN)	68	10.8	14.3	13.0	15.0	2.0	T	T	T	0.2	5.0	12.6	9.1	15.0
	YEAR OF OCCURRENCE		1997	1951	1937	1970	1943	1993	1994	1993	1995	1932	1993	1988	APR 1970
	MAXIMUM SNOW DEPTH (IN)	50	30	25	24	15	2	0	0	0	T	1	17	21	30
	YEAR OF OCCURRENCE		1997	1969	1969	1975	1954				1965	1992	1996	1996	JAN 1997
	NORMAL NO. DAYS WITH:														
SNOWFALL ≥ 1.0	30	1.9	1.9	2.0	1.1	0.0	0.0	0.0	0.0	0.0	0.4	1.7	1.7	10.7	

PRECIPITATION (inches) 1999 ABERDEEN, SD (ABR)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1970	0.21	0.17	1.33	3.42	1.49	2.11	2.04	0.33	1.67	1.24	1.39	0.19	15.59
1971	0.35	0.41	0.04	1.86	1.70	4.29	3.75	1.39	2.30	2.80	1.39	0.47	20.75
1972	0.39	0.39	1.02	1.05	4.86	1.80	7.71	0.52	0.25	1.26	0.26	0.88	20.39
1973	0.21	0.15	1.29	1.02	1.00	1.37	1.77	1.17	3.51	1.28	0.66	0.44	13.87
1974	0.05	0.26	0.74	2.10	3.77	0.37	1.72	0.94	0.15	0.54	0.12	0.05	10.81
1975	0.82	0.29	2.71	2.60	2.26	5.28	0.30	1.50	1.73	1.23	0.29	0.30	19.31
1976	0.81	0.52	0.70	1.27	0.52	1.41	0.50	0.66	0.86	0.32	0.01	0.30	7.88
1977	0.34	0.91	3.45	0.90	2.82	1.99	2.16	2.48	4.36	1.24	2.36	0.83	23.84
1978	0.15	0.23	0.46	2.25	4.23	7.30	2.17	4.04	0.60	0.08	0.77	0.11	22.39
1979	1.01	0.73	1.60	2.93	1.93	4.99	2.56	1.24	0.05	1.18	0.02	0.14	18.38
1980	0.51	0.44	0.88	1.15	1.64	2.53	0.80	5.93	0.92	1.44	T	0.14	16.38
1981	0.12	0.20	2.00	0.12	1.60	2.10	3.97	2.91					
1982										5.14	0.59	0.09	
1983	0.16	0.26	2.65	0.69	1.66	3.47	6.46	2.21	1.55	0.81	0.60	0.55	21.07
1984	0.47	0.70	1.94	2.39	1.13	5.65	2.64	2.23	0.84	2.93	0.06	0.61	21.59
1985	0.23	0.08	1.82	0.63	3.41	1.76	2.38	2.71	2.71	0.87	1.60	0.57	18.77
1986	0.43	0.71	0.58	7.88	3.32	2.48	3.78	2.85	2.82	0.19	0.77	T	25.81
1987	0.09	1.12	1.91	0.41	2.01	0.77	2.13	1.87	1.33	0.20	0.79	0.09	12.72
1988	0.35	0.31	0.37	0.13	3.43	0.93	3.14	2.80	5.31	0.11	0.73	1.37	18.98
1989	0.52	0.37	1.46	3.42	1.20	2.05	2.00	3.83	2.23	0.58	0.74	0.15	18.55
1990	0.13	0.39	0.81	1.87	1.41	7.72	1.98	4.85	3.01	0.44	0.11	0.37	23.09
1991	0.11	0.70	0.77	3.70	7.36	4.76	1.32	2.28	0.57	1.06	0.32	0.13	23.08
1992	0.66	0.47	0.54	0.40	0.78	5.61	2.97	1.55	1.63	0.83	1.19	0.20	16.83
1993	0.61	0.49	0.42	1.51	3.11	6.20	7.37	4.42	1.21	0.35	1.88	0.56	28.13
1994	0.80	0.42	0.43	2.28	0.30	1.10	5.37	3.87	1.63	3.36	0.77	0.38	20.71
1995	0.62	0.50	2.34	2.26	5.98	1.34	3.51	2.36	1.50	3.16	0.20	0.47	24.24
1996	1.32	0.78	0.87	0.15	4.46	4.12	1.91	0.24	5.32	3.55	1.40	0.87	24.99
1997	1.34	0.88	0.79	2.01	1.72	2.65	1.41	3.75	0.82	3.37	0.46	0.18	19.38
1998	0.63	0.75	1.54	1.81	4.29	6.47	1.12	2.95	0.06	7.29	1.41	0.18	28.50
1999	0.62	0.21	0.92	1.76	2.97	5.23	2.80	3.19	4.27	0.15	T	0.15	22.27
POR= 68 YRS	0.55	0.56	1.13	2.01	2.56	3.55	2.66	2.27	1.69	1.29	0.70	0.49	19.46

WBAN : 14929

AVERAGE TEMPERATURE (°F) 1999 ABERDEEN, SD (ABR)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1970	2.0	15.6	23.1	41.2	56.7	68.2	72.5	72.1	62.8	48.3	30.5	13.8	42.2
1971	5.4	15.2	31.4	47.9	55.6	70.3	68.2	73.0	59.7	48.5	32.2	12.6	43.3
1972	6.3	9.6	29.2	44.8	60.7	67.2	69.5	71.6	60.3	44.2	30.3	10.5	42.0
1973	17.0	24.3	39.5	45.6	57.5	68.2	72.9	75.6	57.9	50.6	27.0	12.2	45.7
1974	6.3	18.2	30.6	46.0	53.9	65.7	77.4	68.1	57.2	50.2	32.5	22.9	44.1
1975	17.1	14.7	24.9	40.6	59.8	68.1	78.3	72.3	58.9	51.9	34.0	17.6	44.9
1976	12.0	26.8	30.5	49.7	57.0	69.9	75.0	75.9	62.1	43.0	26.5	14.6	45.3
1977	1.4	24.2	33.6	51.9	64.9	67.7	74.1	65.7	59.6	46.5	27.2	11.1	44.0
1978	-1.7	6.0	25.3	42.9	58.2	65.6	70.1	70.7	65.1	47.4	24.2	10.8	40.4
1979	-1.2	2.5	24.6	40.7	52.6	65.3	70.5	68.3	63.2	45.9	29.2	25.6	40.6
1980	13.0	14.7	25.6	49.9	59.5	67.0	72.9	68.9	59.5	45.3	36.2	20.0	44.4
1981	19.4	23.9	35.6	49.9	56.3	65.3	74.4	72.1					
1982										46.6	27.7	25.0	
1983	23.1	28.0	33.3	41.5	53.6	65.2	75.2	76.5	60.8	47.3	32.2	- .6	44.7
1984	15.7	30.3	27.9	47.0	54.4	65.6	71.3	72.7	55.4	48.6	32.5	13.0	44.5
1985	8.5	16.3	36.0	50.3	61.2	61.3	72.6	67.3	56.5	45.3	16.4	7.8	41.6
1986	17.3	12.1	35.8	44.1	57.6	68.0	72.5	66.2	56.7	47.3	26.3	24.2	44.0
1987	22.7	30.5	33.3	51.5	62.3	69.3	75.7	67.8	61.1	43.3	35.1	24.5	48.1
1988	9.9	14.6	33.0	45.4	63.5	75.0	76.4	72.9	59.2	44.4	29.1	18.8	45.2
1989	15.6	5.0	22.9	45.1	57.4	64.7	75.3	72.0	59.8	46.8	28.6	9.3	41.9
1990	25.3	21.3	35.8	44.0	54.9	66.2	69.7	70.9	63.6	45.8	34.7	12.2	45.4
1991	11.3	27.8	33.8	48.3	60.8	70.8	72.2	72.7	60.3	44.8	24.9	24.1	46.0
1992	21.6	28.8	36.2	44.1	59.5	63.7	64.3	64.3	58.5	46.2	29.6	14.7	44.3
1993	9.7	12.0	31.1	44.7	57.6	63.0	68.6	70.2	56.1	45.6	27.9	18.3	42.1
1994	0.4	7.5	33.5	46.4	63.5	70.3	69.3	65.7	61.5	49.5	32.8	16.5	43.1
1995	11.7	15.4	26.6	38.9	53.8	68.1	70.7	71.6	57.6	44.8	26.2	16.7	41.8
1996	4.1	17.5	21.3	40.7	53.5	66.9	67.8	70.1	58.6	45.2	17.3	6.0	39.1
1997	3.5	14.5	23.9	39.0	53.2	68.1	71.1	68.5	61.8	48.0	25.0	25.7	41.9
1998	13.8	28.2	25.1	48.0	60.0	62.9	72.9	71.3	64.3	48.3	33.3	22.8	45.9
1999	8.8	28.8	35.3	45.8	57.8	66.1	72.4	69.6	56.1	45.4	38.7	24.6	45.8
POR= 68 YRS	10.3	16.6	29.0	44.8	57.0	66.6	72.8	70.9	60.0	47.6	29.9	16.9	43.5

HEATING DEGREE DAYS (base 65°F) 1999 ABERDEEN, SD (ABR)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1970-71	11	9	187	513	1029	1583	1846	1388	1035	515	287	20	8423
1971-72	32	15	220	504	977	1621	1821	1603	1100	597	201	39	8730
1972-73	19	35	176	638	1033	1688	1484	1135	783	580	238	27	7836
1973-74	2	0	239	442	1132	1630	1819	1305	1058	563	350	73	8613
1974-75	0	43	250	455	967	1302	1477	1401	1234	725	184	44	8082
1975-76	2	6	208	411	921	1465	1639	1101	1063	454	245	39	7554
1976-77	3	2	165	676	1149	1557	1973	1135	968	395	83	23	8129
1977-78	2	39	172	569	1128	1669	2070	1650	1228	659	226	74	9486
1978-79	13	23	142	540	1221	1678	2051	1750	1245	727	389	68	9847
1979-80	6	41	124	585	1068	1215	1608	1452	1213	463	221	31	8027
1980-81	1	24	192	601	860	1388	1408	1146	907	447	273	43	7290
1981-82	13	1	0	0	0	0	0	0	0	0	0	0	0
1982-83				562	1111	1232	1291	1032	976	697	351	89	89
1983-84	4	0	198	540	975	2030	1522	1001	1147	533	332	44	8326
1984-85	12	15	312	514	967	1608	1747	1361	891	444	158	145	8174
1985-86	2	42	292	608	1453	1770	1473	1477	897	622	245	32	8913
1986-87	0	59	246	540	1152	1258	1303	961	978	409	134	31	7071
1987-88	4	60	140	666	892	1247	1707	1461	983	584	120	0	7864
1988-89	3	30	193	631	1069	1426	1527	1682	1298	597	244	81	8781
1989-90	0	5	203	561	1085	1724	1222	1221	900	639	308	68	7936
1990-91	7	12	155	586	901	1633	1661	1035	961	491	205	6	7653
1991-92	5	2	206	619	1195	1264	1338	1041	884	631	224	97	7506
1992-93	61	97	206	582	1054	1556	1713	1481	1043	602	240	110	8745
1993-94	17	18	277	599	1109	1441	2002	1609	967	560	147	15	8761
1994-95	15	65	165	475	958	1496	1645	1385	1184	773	341	57	8559
1995-96	11	3	260	620	1154	1493	1890	1372	1348	723	369	59	9302
1996-97	12	5	241	606	1423	1827	1899	1408	1267	772	360	10	9830
1997-98	26	37	135	531	1196	1213	1585	1025	1228	503	182	114	7775
1998-99	1	0	107	511	947	1299	1734	1008	914	569	222	55	7367
1999-	2	8	264	600	781	1244							

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COOLING DEGREE DAYS (base 65°F) 1999 ABERDEEN, SD (ABR)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1970	0	0	0	0	14	141	253	235	127	3	0	0	773
1971	0	0	0	7	1	186	138	269	67	0	0	0	668
1972	0	0	0	0	73	112	166	245	43	0	0	0	639
1973	0	0	0	2	10	129	252	335	33	0	0	0	761
1974	0	0	0	0	13	99	393	145	20	3	0	0	673
1975	0	0	0	0	27	142	420	241	34	13	0	0	877
1976	0	0	0	0	5	193	322	345	85	1	0	0	951
1977	0	0	0	9	85	109	291	67	19	0	0	0	580
1978	0	0	0	0	21	100	179	206	152	0	0	0	658
1979	0	0	0	0	11	83	183	150	75	0	0	0	502
1980	0	0	0	16	55	98	251	150	33	0	0	0	603
1981	0	0	0	2	11	57	314	230					
1982										0	0	0	
1983	0	0	0	0	3	100	329	363	79	0	0	0	874
1984	0	0	0	0	12	70	210	259	31	15	0	0	597
1985	0	0	0	9	48	41	244	121	46	0	0	0	509
1986	0	0	0	1	22	126	240	105	6	0	0	0	500
1987	0	0	0	11	57	166	341	153	30	0	0	0	758
1988	0	0	0	3	81	308	362	279	28	0	0	0	1061
1989	0	0	0	5	14	77	326	228	54	2	0	0	706
1990	0	0	0	16	3	108	159	204	120	0	0	0	610
1991	0	0	0	0	82	187	238	244	72	3	0	0	826
1992	0	0	0	11	59	65	47	85	17	5	0	0	289
1993	0	0	0	0	19	54	137	187	16	2	0	0	415
1994	0	0	0	6	108	180	153	96	69	0	0	0	612
1995	0	0	0	0	0	161	197	212	49	3	0	0	622
1996	0	0	0	0	18	122	106	173	55	1	0	0	475
1997	0	0	0	0	1	108	224	149	46	12	0	0	540
1998	0	0	0	0	30	58	258	203	96	0	0	0	645
1999	0	0	0	0	9	98	238	160	2	0	0	0	507

SNOWFALL (inches) 1999 ABERDEEN, SD (ABR)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1970-71	0.0	0.0	0.0	5.5	8.9	3.9	10.2	6.2	1.3	3.5	0.0	0.0	39.5
1971-72	0.0	0.0	T	2.9	9.1	9.9	8.2	7.0	6.0	0.4	0.0	0.0	43.5
1972-73	0.0	0.0	T	1.3	4.2	15.0	4.3	2.0	T	2.7	0.0	0.0	29.5
1973-74	0.0	0.0	0.0	T	4.2	10.7	1.6	6.6	4.2	T	0.0	0.0	27.3
1974-75	0.0	0.0	0.0	0.0	1.1	1.1	14.6	4.7	27.9	0.5	0.0	0.0	49.9
1975-76	0.0	0.0	0.0	1.9	1.5	5.1	13.6	8.5	6.8	0.4	0.3	0.0	38.1
1976-77	0.0	0.0	0.0	2.4	0.2	6.3	5.3	11.0	9.0	1.0	0.0	0.0	35.2
1977-78	0.0	0.0	0.0	0.2	20.2	12.5	2.9	5.0	5.8	1.5	0.0	0.0	48.1
1978-79	0.0	0.0	0.0	0.0	8.8	2.1	15.1	10.5	7.2	7.0	0.9	0.0	51.6
1979-80	0.0	0.0	0.0	3.2	0.7	1.0	5.3	6.4	10.7	1.5	0.0	0.0	28.8
1980-81	0.0	0.0	0.0	0.4	0.0	2.3	1.8	2.2	1.6	T	0.0	0.0	8.3
1981-82	0.0	0.0	0.0	0.0	0.0	0.0							
1982-83				0.0	0.0	0.0	0.9	2.2	7.9	2.3	0.0	0.0	
1983-84	0.0	0.0	0.0	T	5.5	5.2	2.0	3.8	17.3	0.1	0.0	0.0	33.9
1984-85	0.0	0.0	T	1.0	0.2	5.6	3.7	1.0	18.4	0.1	0.0	0.0	30.0
1985-86	0.0	0.0	0.0	T	22.4	9.6	4.0	10.5	1.9	9.2	0.0	0.0	57.6
1986-87	0.0	0.0	0.0	0.0	3.4	0.1	1.1	10.5	5.7	T	0.0	0.0	20.8
1987-88	0.0	0.0	0.0	T	5.6	0.9	4.4	4.2	2.5	1.0	0.0	0.0	18.6
1988-89					5.0	16.4	5.1	5.8	13.1	1.6	T	0.0	
1989-90	T	T	0.0	0.1	6.4	1.5	0.8	9.2	4.8	4.7	T	T	27.5
1990-91	0.0	0.0	0.0	1.0	T	7.0	2.2	13.0	5.1	5.5	0.0	0.0	33.8
1991-92	0.0	0.0	0.0	0.4	4.0	0.3	7.9	2.4	0.8	1.1	0.0	0.0	16.9
1992-93	T	0.0	T	3.6	9.3	2.7	10.5	7.1	2.5	3.2	0.0	T	38.9
1993-94	0.0	T	0.0	T	30.1	9.7	16.0	9.1	5.8	6.1	0.0	0.0	76.8
1994-95	T	0.0	0.0	0.0	7.6	6.6	5.8	8.0	22.3	0.0	0.0	0.0	50.3
1995-96	0.0	0.0	0.2	3.5	2.4	5.3	17.7	6.0	9.0	0.4	T	0.0	44.5
1996-97	0.0	0.0	0.0	0.0	20.3	13.9	19.2	9.2	8.5	4.6	0.0	T	75.7
1997-98	0.0	0.0	0.0	0.2	7.7	3.9	11.0	6.4	4.5	0.0	0.0	0.0	33.7
1998-99	0.0	0.0	0.0	0.0	7.6	2.7	10.0	2.7	1.9	1.8	0.0	T	26.7
1999-	0.0	T	0.0	0.2	0.0	2.2							
POR= 67 YRS	T	T	T	0.7	5.3	6.0	7.3	6.7	6.9	3.5	T	T	36.4

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REFERENCE NOTES:

<p>PAGE 1: THE TEMPERATURE GRAPH SHOWS NORMAL MAXIMUM AND NORMAL MINIMUM DAILY TEMPERATURES (SOLID CURVES) AND THE ACTUAL DAILY HIGH AND LOW TEMPERATURES (VERTICAL BARS).</p> <p>PAGE 2 AND 3: H/C INDICATES HEATING AND COOLING DEGREE DAYS. RH INDICATES RELATIVE HUMIDITY W/O INDICATES WEATHER AND OBSTRUCTIONS S INDICATES SUNSHINE. PR INDICATES PRESSURE. CLOUDINESS ON PAGE 3 IS THE SUM OF THE CEILOMETER AND SATELLITE DATA NOT TO EXCEED EIGHT EIGHTHS(OKTAS).</p> <p>GENERAL: T INDICATES TRACE PRECIPITATION, AN AMOUNT GREATER THAN ZERO BUT LESS THAN THE LOWEST REPORTABLE VALUE. + INDICATES THE VALUE ALSO OCCURS ON EARLIER DATES. BLANK ENTRIES DENOTE MISSING OR UNREPORTED DATA. NORMALS ARE 30-YEAR AVERAGES (1961 - 1990). 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 EIGHTHS(OKTAS) FOR REPORTING THE AMOUNT OF SKY COVER.</p>
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1999  
ABERDEEN,  
SOUTH DAKOTA (ABR)

Aberdeen is located in the northeast quarter of South Dakota, approximately 200 miles south of the geographical center of the North American continent. The surrounding area, extensively cultivated, is the bed of glacial Lake Dakota, which is by far the largest flat area in South Dakota. The lake bed slopes gently to the south. The elevation of Aberdeen at the northern end of the lake bed is 1,300 feet. The elevation at the southern end, some 30 miles distant is 1,280 feet. Low hills rim the area on the east and west. These hills effect ceilings, visibility, and precipitation, which are a hazard to private aircraft operating in the area during periods of marginal weather. Principal drainage for the area is through the southward flowing, meandering James River with its associated meandering rivers and creeks.

Located near the center of the North American land mass, the climate is continental with distinct seasons. Frequent and rapid weather changes occur during all seasons of the year as migratory storms sweep through the area. The winters are cold and dry. Sub-zero minimum temperatures may set in as early as late November, although temperatures of zero and below are generally not recorded until mid-December. Lowest temperatures of the winter generally occur in the period from mid-January to mid-February. During the coldest periods the days are generally sunny with light winds, and these conditions partially moderate the discomfort experienced at such low temperatures. Some days of the winter will be extremely unpleasant with temperatures near or below zero and brisk winds. Heavy snowfalls rarely occur during the first two-thirds of the winter season, with heaviest snowfalls developing during late February and early March as temperatures moderate.

Blizzards are infrequent, many winters will pass without a single occurrence of this type of weather phenomenon. However, difficult driving conditions occur several times during most winters during periods of weather termed ground blizzards.

Spring is a very short and transitional period, but marked by very rapid weather changes. Cool to quite cold nights prevail into mid-May, although afternoon temperatures may be quite warm, as high as the mid-80s. Frost is rarely experienced after the end of May. Precipitation increases markedly during the spring, with 42 percent of the total annual precipitation normally being recorded in the three month period from April through June.

Summers are pleasant with a maximum of sunshine, warm days, and generally cool and comfortable nights. Temperatures of 100 degrees or above may occur several times during the summer season, but low humidities, brisk winds during the heat of the day, and rapid cooling during the evening hours, which generally occur during the periods of elevated temperatures, markedly moderate the physical discomfort normally experienced at these high temperatures. In June and August, thunderstorms are more likely to occur during the early evening and nighttime hours. During July, thunderstorms are approximately equally distributed throughout the 24 hours of the day. Hail is most likely in late May and early June.

Autumn is most pleasant with mild days, cool nights, ample sunshine, and declining occurrences and amounts of precipitation. The first frost may be expected by late September, although it may occur as early as late August. By mid-October, the temperatures during the night will be near or below freezing. The growing season is about 132 days.

# STATION LOCATION

ABERDEEN, SOUTH DAKOTA

LOCATION	OCCUPIED FROM	OCCUPIED TO	AIRLINE DISTANCES AND DIRECTIONS FROM PREVIOUS LOCATION	LATITUDE NORTH	LONGITUDE WEST	ELEVATION ABOVE												* Type M = AMOS T = AUTOB S = ASOS W = AWOS	REMARKS
						SEA LEVEL	GROUND												
							GROUND	WIND	EXPOSED	OPEN	ROCKS	SWITCH	RAIN	WETTING	RAIN	RAIN	RAIN		
Observer W.P. Butler	3/1/90	3/31/90	NA														Records destroyed by fire in 1896.		
Observer A.H. Oliver	4/1/90	2/2/92	NA														Records destroyed by fire in 1896.		
Observer D.G. Gallett 619 Jay Street	3/1/92	12/31/37	NA	45°27'	98°29'	1300		5									Some forms show location as 719 Jay Street.		
Municipal Airport	1/1/38	9/30/42	3 mi. E	45°27'	98°26'	1296	42	4									Observations by C.C. Bailey through 3/31/40 and CAA thereafter.		
Observer D.G. Gallett 619 Jay Street	10/1/42	12/30/42	3 mi. W	45°27'	98°29'	1300		5											
Observer D.J. Bosma 8 blocks west of P.O.	1/1/43	12/31/47	1 mi. W	45°27'	98°30'	1296		4											
Municipal Airport	1/1/48	6/26/50	4 mi. E	45°27'	98°26'	1296	58	5				4	3				FAA operation.		
Municipal Airport	6/27/50	6/28/64	1475 ft. ESE	45°27'	98°26'	1296	58 D20	18	17	NA	NA	16	16	NA a5	NA		FAA operation. a - Commissioned on field site 8/1/60 b - Effective 6/8/62.		
Administration Building Municipal Airport	6/29/64	9/1/81	None	45°27'	98°26'	1296	20	Unk d5	Unk d5	NA	NA	16 c5	NA e3	5	NA		Weather Bureau Operation. c - Effective 11/6/64. d - Effective 1/13/81. e - Installed Spring 1981.		
Administration Building Regional Airport	10/1/82	11/01/94	None	45°27'	98°26'	1296	20	5	5	NA	NA	6	3	3	NA		WSO reopened at same location.		
Regional Airport	11/01/94	Present	NA	45°27'	98°25'	1312									S		ASOS commissioned 11/1/94.		

SUBSCRIPTION: Price and ordering information available through: National Climatic Data Center, Federal Building, Asheville, North Carolina 28801.  
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