

1999

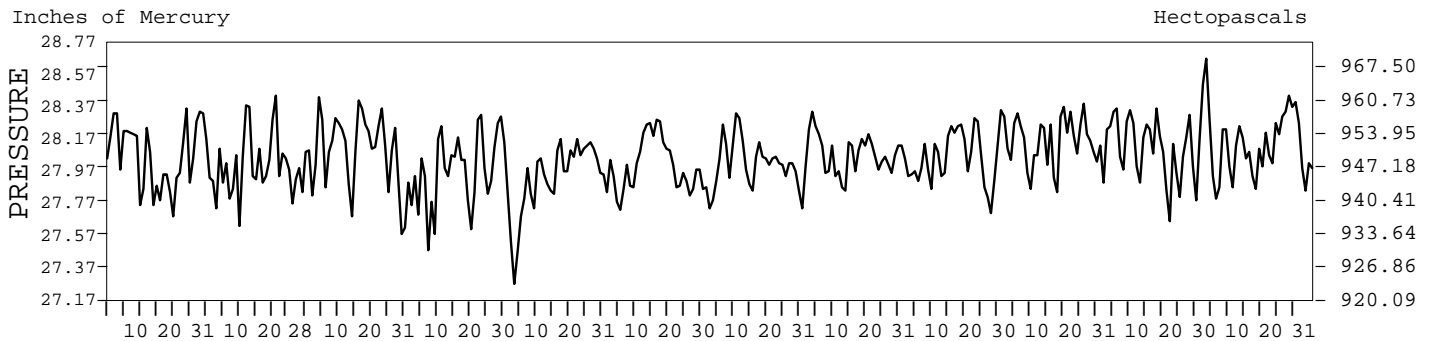
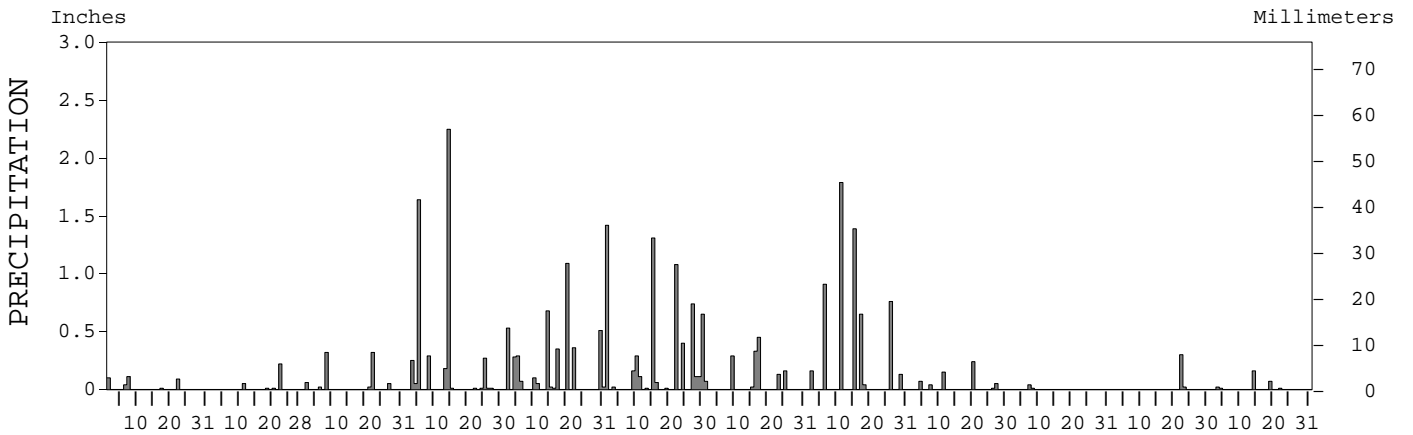
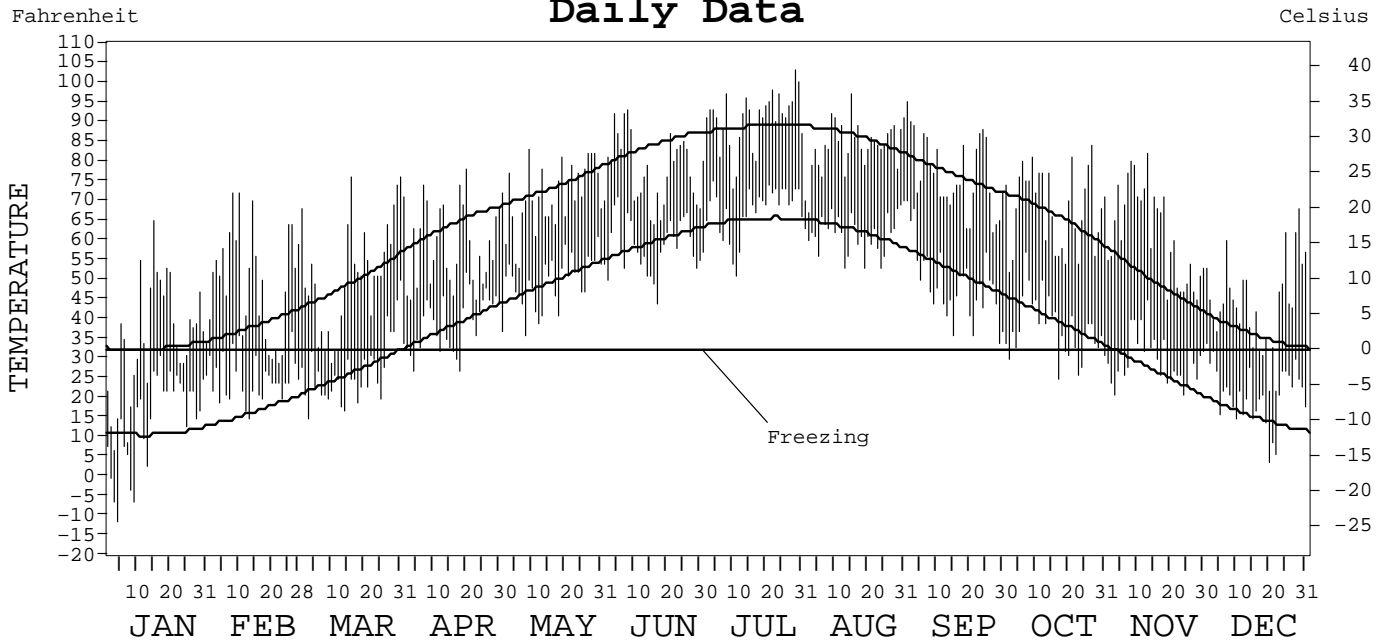
# LOCAL CLIMATOLOGICAL DATA ANNUAL SUMMARY WITH COMPARATIVE DATA



ISSN 0198-3105

## GRAND ISLAND, NEBRASKA (GRI)

### Daily Data



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# METEOROLOGICAL DATA FOR 1999

## GRAND ISLAND, NE (GRI)

LATITUDE: 40° 57' 30" N      LONGITUDE: 98° 18' 45" W      ELEVATION (FT): GRND: 1842      BARO: 1842      TIME ZONE: CENTRAL (UTC + 6)      WBAN: 14935

	ELEMENT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	
TEMPERATURE °F	MEAN DAILY MAXIMUM	35.1	49.6	51.4	58.9	71.3	77.7	90.2	83.7	76.5	68.2	61.6	44.2	64.0	
	HIGHEST DAILY MAXIMUM	65	72	76	78	83	93	103	97	95	84	82	68	103	
	DATE OF OCCURRENCE	15	10+	31+	20	09	08	29	15	01	27	13	29	JUL 29	
	MEAN DAILY MINIMUM	15.0	25.1	26.9	38.9	49.4	58.5	67.3	61.8	48.9	37.7	30.0	20.9	40.0	
	LOWEST DAILY MINIMUM	-11	15	15	27	36	44	51	53	34	26	21	4	-11	
	DATE OF OCCURRENCE	4	13	03	18+	08	17	11	24+	29	23	24+	20	JAN 4	
	AVERAGE DRY BULB	25.1	37.4	39.2	48.9	60.4	68.1	78.8	72.8	62.7	53.0	45.8	32.6	52.1	
	MEAN WET BULB	22.4	32.2	33.8	44.1	54.4	62.8	70.6	66.7	55.1		38.3	28.4		
	MEAN DEW POINT	17.5	25.0	26.2	38.9	49.2	59.4	66.5	63.8	49.1		29.1	22.6		
	NUMBER OF DAYS WITH:														
	MAXIMUM ≥ 90°	0	0	0	0	0	3	21	4	2	0	0	0	0	30
	MAXIMUM ≤ 32°	12	5	4	0	0	0	0	0	0	0	0	4	25	
MINIMUM ≤ 32°	31	25	26	6	0	0	0	0	0	7	21	30	146		
MINIMUM ≤ 0°	5	0	0	0	0	0	0	0	0	0	0	0	5		
H/C	HEATING DEGREE DAYS	1230	769	793	476	161	41	2	133	366	569	1000	5541		
	COOLING DEGREE DAYS	0	0	0	0	24	140	437	247	72	1	0	921		
RH	MEAN (PERCENT)	75	66	65	72	69	76	69	77	66	57	59	72	69	
	HOUR 00 LST	79	70	73	79	79	86	79	87	81	66	69	79	77	
	HOUR 06 LST	82	79	81	86	85	89	86	94	88	76	75	82	84	
	HOUR 12 LST	68	57	53	60	58	64	57	62	46	39	42	60	56	
	HOUR 18 LST	72	53	49	62	56	62	55	63	48	44	50	66	57	
S	PERCENT POSSIBLE SUNSHINE														
W/O	NUMBER OF DAYS WITH:														
	HEAVY FOG (VISBY ≤ 1/4 MI)	2	3	2	2	1	1	1	3	0	0	0	2	17	
	THUNDERSTORMS	0	0	1	4	8	9	5	6	5	0	0	0	38	
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.)	28.07	28.00	28.10	27.96	27.94	28.00	28.01	28.07	28.07	28.14	28.14	28.11	28.05	
	MEAN SEA-LEVEL PRESS. (IN.)	30.10	30.00			29.87	29.93	29.92	29.99	30.01		30.11	30.10		
WINDS	RESULTANT SPEED (MPH)	2.9	2.7	3.3	4.4	2.1	5.5	4.4	2.1	2.0	1.5	2.8	3.8	1.1	
	RES. DIR. (TENS OF DEGS.)	30	24	14	36	18	15	14	14	19	26	24	28	20	
	MEAN SPEED (MPH)	11.1	12.6	12.0	14.2	13.2	11.5	10.8	8.9	9.6	10.9	9.8	10.7	11.3	
	PREVAIL. DIR. (TENS OF DEGS.)	32	16	18	01	16	16	17	16	17	17	17	17	17	
	MAXIMUM 2-MINUTE WIND:														
	SPEED (MPH)	34	43	45	47	45	37	32	52	28	36	36	40	52	
	DIR. (TENS OF DEGS.)	33	33	18	35	30	19	19	22	16	17	32	35	22	
	DATE OF OCCURRENCE	22+	11+	30	14	05	05	03	15	25	07	01	27	AUG 15	
	MAXIMUM 5-SECOND WIND:														
	SPEED (MPH)	41	58	55	60	54	53	38	70	37	41	40	45	70	
DIR. (TENS OF DEGS.)	33	30	18	34	30	20	16	23	17	18	33	34	23		
DATE OF OCCURRENCE	22	03	30	14	05	05	04+	15	25	07	01	27	AUG 15		
PRECIPITATION	WATER EQUIVALENT:														
	TOTAL (IN.)	0.35	0.29	0.79	4.98	4.36	6.48	1.45	5.83	0.56	0.05	0.32	0.27	25.73	
	GREATEST 24-HOUR (IN.)	0.11	0.22	0.32	2.40	1.09	1.42	0.45	1.79	0.24	0.05	0.32	0.16	2.40	
	DATE OF OCCURRENCE	07	22	22+	13-14	20	01	17	11	20	07-08	22-23	14	APR 13-14	
	NUMBER OF DAYS WITH:														
	PRECIPITATION ≥ 0.01	5	4	6	11	14	15	7	8	6	2	2	5	85	
PRECIPITATION ≥ 0.10	2	1	2	6	9	11	5	7	2	0	1	1	47		
PRECIPITATION ≥ 1.00	0	0	0	2	1	3	0	2	0	0	0	0	8		
SNOWFALL	SNOW, ICE PELLETS, HAIL:														
	TOTAL (IN.)	5.7	3.1	4.2	T	0.0	0.0	0.0	0.0	0.0	0.0	T	2.0	15.0	
	GREATEST 24-HOUR (IN.)	2.2	2.2	3.7	T	0.0	0.0	0.0	0.0	0.0	0.0	T	1.6	3.7	
	DATE OF OCCURRENCE	07	22	08	15+							23+	14	MAR 08	
	MAXIMUM SNOW DEPTH (IN.)	3	2	4	0	0	0	0	0	0	0	T	1	4	
	DATE OF OCCURRENCE	10+	23	08								22	15	MAR 08	
NUMBER OF DAYS WITH:															
SNOWFALL ≥ 1.0	2	1	1	0	0	0	0	0	0	0	0	1	5		

# NORMALS, MEANS, AND EXTREMES

## GRAND ISLAND, NE (GRI)

LATITUDE: 40° 57' 30" N      LONGITUDE: 98° 18' 45" W      ELEVATION (FT): GRND: 1842      BARO: 1842      TIME ZONE: CENTRAL (UTC + 6)      WBAN: 14935

ELEMENT		POR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
TEMPERATURE °F	NORMAL DAILY MAXIMUM	30	32.6	38.1	49.2	63.5	73.3	83.7	88.5	85.9	76.2	65.5	48.8	35.8	61.8
	MEAN DAILY MAXIMUM	60	33.0	38.5	48.4	62.4	72.9	83.2	88.7	86.6	77.7	66.7	49.1	37.4	62.1
	HIGHEST DAILY MAXIMUM	53	76	77	90	96	101	107	109	110	104	96	82	76	110
	YEAR OF OCCURRENCE		1990	1972	1986	1989	1989	1988	1954	1983	1998	1947	1999	1964	AUG 1983
	MEAN OF EXTREME MAXS.	51	57.3	63.1	75.5	85.6	90.6	98.6	100.4	98.9	94.4	85.9	71.6	61.0	81.9
	NORMAL DAILY MINIMUM	30	11.1	16.4	26.3	38.1	49.4	59.3	64.8	62.0	51.6	39.2	26.2	14.9	38.3
	MEAN DAILY MINIMUM	60	11.7	17.0	25.8	37.9	49.2	59.2	64.3	62.4	51.9	40.0	26.0	16.5	38.5
	LOWEST DAILY MINIMUM	53	-28	-21	-21	7	23	38	42	40	23	9	-11	-26	-28
	YEAR OF OCCURRENCE		1963	1994	1960	1975	1967	1954	1971	1950	1984	1997	1976	1989	JAN 1963
	MEAN OF EXTREME MINS.	51	-10.8	-4.5	4.9	21.6	33.9	45.5	52.9	50.4	35.5	22.7	8.4	-5.1	21.3
	NORMAL DRY BULB	30	21.9	27.3	37.7	50.8	61.4	71.5	76.7	73.9	63.9	52.4	37.6	25.4	50.0
	MEAN DRY BULB	60	22.4	27.7	37.1	50.2	61.0	71.1	76.5	74.5	64.9	53.3	37.6	27.0	50.3
	MEAN WET BULB	54	19.5	24.7	32.3	42.9	53.8	62.6	66.8	65.2	56.3	45.3	32.6	23.7	43.8
	MEAN DEW POINT	54	13.5	18.6	25.6	35.8	48.1	57.5	62.3	60.9	50.7	38.2	26.4	17.9	38.0
	NORMAL NO. DAYS WITH:														
MAXIMUM ≥ 90°	30	0.0	0.0	0.1	0.7	1.7	8.0	14.4	11.3	3.9	0.3	0.0	0.0	40.4	
MAXIMUM ≤ 32°	30	14.3	10.2	4.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	3.0	12.5	44.4	
MINIMUM ≤ 32°	30	30.7	26.6	22.6	7.8	0.7	0.0	0.0	0.0	0.5	6.5	22.6	30.1	148.1	
MINIMUM ≤ 0°	30	7.6	3.7	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	4.0	16.2	
H/C	NORMAL HEATING DEG. DAYS	30	1336	1056	846	430	171	18	0	12	107	395	822	1228	6421
	NORMAL COOLING DEG. DAYS	30	0	0	0	0	59	213	363	288	74	0	0	0	997
RH	NORMAL (PERCENT)	30	69	70	66	61	64	63	65	67	67	63	69	71	66
	HOUR 00 LST	30	74	75	73	70	73	74	74	77	77	72	76	76	74
	HOUR 06 LST	30	76	78	79	78	81	82	82	84	84	79	80	78	80
	HOUR 12 LST	30	62	61	57	50	53	50	52	54	53	48	57	63	55
	HOUR 18 LST	30	65	62	54	46	50	47	49	51	53	52	63	68	55
S	PERCENT POSSIBLE SUNSHINE														
W/O	MEAN NO. DAYS WITH:														
	HEAVY FOG (VISBY ≤ 1/4 MI)	60	4.9	2.4	2.5	0.7	1.1	0.9	0.9	1.1	2.2	4.4	4.8	4.9	30.8
	THUNDERSTORMS	60	0.0	0.2	0.3	1.1	3.0	5.4	5.1	5.1	2.0	0.5	0.1	0.0	22.8
CLOUDINESS	MEAN:														
	SUNRISE-SUNSET (OKTAS)	1	6.4	6.4	5.6	6.0	4.8	3.6	4.4	3.7	3.6	4.3	4.0	4.8	4.8
	MIDNIGHT-MIDNIGHT (OKTAS)	1	6.4	6.4	7.2	6.4	4.8	4.0	4.4	3.6	4.0	4.5	4.0	4.8	5.0
	MEAN NO. DAYS WITH:														
	CLEAR	2	5.0	7.3	7.0	5.5	9.0	12.0	11.0	13.5	7.5	9.0	9.0	10.5	106.3
PARTLY CLOUDY	2	3.0	4.3	3.7	5.5	3.0	4.3	7.5	4.0	2.5	3.0	4.5	2.5	47.8	
CLOUDY	2	10.7	7.3	7.0	9.0	8.7	4.7	4.5	5.0	3.0	6.0	5.5	10.0	81.4	
PR	MEAN STATION PRESSURE (IN)	26	28.11	28.09	27.99	27.98	27.97	27.99	28.04	28.06	28.07	28.08	28.06	28.10	28.05
	MEAN SEA-LEVEL PRES. (IN)	54	30.15	30.11	30.00	29.94	29.92	30.01	29.95	29.97	30.00	30.03	30.06	30.12	30.02
WINDS	MEAN SPEED (MPH)	40	11.7	11.7	13.4	13.8	12.5	11.8	10.5	10.3	11.1	11.2	12.0	11.8	11.8
	PREVAIL. DIR (TENS OF DEGS)	24	35	36	36	36	18	18	18	18	18	18	18	35	18
	MAXIMUM 2-MINUTE:														
	SPEED (MPH)	7	54	48	53	52	55	68	59	52	39	51	51	52	68
	DIR. (TENS OF DEGS)		34	33	34	21	24	30	29	22	01	33	33	31	30
	YEAR OF OCCURRENCE		1996	1996	1996	1994	1996	1993	1993	1999	1997	1996	1997	1997	JUN 1993
	MAXIMUM 5-SECOND:														
	SPEED (MPH)	7	64	59	61	60	80	77	72	70	51	61	60	63	80
DIR. (TENS OF DEGS)		35	33	33	34	24	30	29	23	01	34	33	32	24	
YEAR OF OCCURRENCE		1996	1996	1996	1999	1996	1993	1993	1999	1997	1996	1997	1997	MAY 1996	
PRECIPITATION	NORMAL (IN)	30	0.46	0.72	1.89	2.50	3.82	3.91	2.83	2.82	2.85	1.35	1.04	0.71	24.90
	MAXIMUM MONTHLY (IN)	60	1.65	3.39	6.63	4.98	8.88	13.96	10.38	8.73	9.00	4.42	3.77	2.17	13.96
	YEAR OF OCCURRENCE		1960	1971	1987	1999	1982	1967	1993	1977	1965	1946	1983	1968	JUN 1967
	MINIMUM MONTHLY (IN)	60	T	0.02	0.01	0.09	0.43	0.50	0.63	0.50	0.01	0.00	T	0.02	0.00
	YEAR OF OCCURRENCE		1986	1996	1967	1989	1964	1978	1970	1940	1998	1958	1939	1943	OCT 1958
	MAXIMUM IN 24 HOURS (IN)	60	1.38	2.21	3.15	3.30	3.07	4.54	5.41	4.12	5.88	2.75	1.90	1.20	5.88
	YEAR OF OCCURRENCE		1947	1971	1979	1964	1985	1967	1950	1977	1977	1968	1996	1968	SEP 1977
	NORMAL NO. DAYS WITH:														
PRECIPITATION ≥ 0.01	30	5.3	5.9	7.5	8.9	10.9	9.1	9.0	7.9	8.0	5.4	4.9	5.4	88.2	
PRECIPITATION ≥ 1.00	30	0.0	0.1	0.4	0.5	1.0	1.1	0.6	0.6	0.7	0.2	0.3	0.1	5.6	
SNOWFALL	NORMAL (IN)	30	4.9	6.4	6.5	1.4	0.1	0.0	0.0	0.0	0.1	0.5	3.8	7.5	31.2
	MAXIMUM MONTHLY (IN)	59	17.5	21.5	20.5	9.0	4.5	T	T	T	3.8	9.8	17.1	26.0	26.0
	YEAR OF OCCURRENCE		1993	1969	1984	1984	1947	1991	1991	1992	1985	1991	1983	1973	DEC 1973
	MAXIMUM IN 24 HOURS (IN)	59	9.0	15.0	12.2	5.5	4.5	T	T	T	3.8	9.8	11.2	12.0	15.0
	YEAR OF OCCURRENCE		1988	1984	1984	1984	1947	1991	1991	1992	1985	1991	1983	1968	FEB 1984
	MAXIMUM SNOW DEPTH (IN)	53	18	17	14	4	4	T	0	T	1	7	14	20	20
	YEAR OF OCCURRENCE		1974	1969	1984	1961	1967	1952		1951	1985	1997	1983	1968	DEC 1968
	NORMAL NO. DAYS WITH:														
SNOWFALL ≥ 1.0	30	1.7	2.1	1.7	0.4	0.*	0.0	0.0	0.0	0.*	0.1	1.1	1.7	8.8	

PRECIPITATION (inches) 1999 GRAND ISLAND, NE (GRI)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1970	0.04	0.24	0.42	2.72	2.49	0.81	0.63	3.36	5.76	1.44	0.33	0.07	18.31
1971	0.82	3.39	1.12	0.95	5.32	5.62	2.27	0.66	1.35	1.75	1.82	0.50	25.57
1972	0.19	0.17	0.23	3.00	5.91	1.86	4.98	1.43	2.50	1.04	2.40	2.03	25.74
1973	0.77	0.45	5.57	1.63	3.85	0.84	2.90	1.38	8.39	1.51	2.37	2.07	31.73
1974	0.62	0.07	0.51	1.73	2.44	2.67	1.35	1.55	0.50	1.41	0.25	1.33	14.43
1975	0.86	0.46	1.02	2.76	1.50	6.86	2.35	1.18	1.01	0.11	3.26	0.16	21.53
1976	0.39	0.73	2.15	2.79	3.21	2.11	1.12	0.78	2.42	0.07	0.12	0.04	15.93
1977	0.42	0.18	3.30	4.89	6.85	1.37	1.73	8.73	7.77	1.42	1.13	0.43	38.22
1978	0.27	1.18	0.83	6.12	1.87	0.50	2.88	3.05	1.62	0.56	1.35	0.64	20.87
1979	0.82	0.43	5.56	3.27	3.99	2.65	2.66	1.39	2.54	3.02	1.78	0.48	28.59
1980	0.80	0.65	2.23	1.92	2.06	3.62	0.85	4.42	0.83	1.46	0.12	0.18	19.14
1981	0.16	0.19	3.14	1.14	4.28	0.60	3.45	4.38	0.93	1.08	3.21	0.63	23.19
1982	0.65	0.56	2.41	3.15	8.88	4.47	2.65	5.78	2.37	2.06	1.49	1.18	35.65
1983	0.66	0.35	3.40	1.30	4.59	6.29	1.71	2.04	2.67	1.08	3.77	0.76	28.62
1984	0.24	1.65	3.18	7.34	5.75	3.95	1.99	1.21	0.19	3.49	1.37	1.34	31.70
1985	0.27	0.27	1.15	4.37	4.62	3.98	3.20	2.25	5.80	1.83	0.61	0.27	28.62
1986	T	0.50	1.98	2.52	3.05	3.07	3.77	2.51	3.65	3.31	0.23	0.31	24.90
1987	0.06	0.72	6.63	1.37	4.86	1.34	1.32	5.41	1.19	0.79	1.19	0.81	25.69
1988	1.13	0.33	0.10	2.41	1.77	4.39	3.93	2.79	3.26	0.01	0.70	0.27	21.09
1989	0.71	0.64	0.41	0.09	1.90	4.86	2.20	3.26	6.49	0.94	0.03	0.40	21.93
1990	0.37	0.45	3.00	0.46	4.15	8.21	3.64	3.16	0.72	0.90	0.82	0.76	26.64
1991	0.52	0.06	1.79	2.73	6.27	5.25	5.74	1.34	0.79	1.61	1.71	2.11	29.92
1992	1.40	1.36	2.95	0.76	3.58	5.31	4.67	5.20	1.02	3.63	1.08	0.94	31.90
1993	1.15	1.48	0.97	1.66	2.54	4.71	10.38	4.64	1.55	1.55	0.72	0.41	31.76
1994	0.66	1.20	0.04	3.29	0.46	3.93	5.40	2.26	1.31	1.85	1.77	0.59	22.76
1995	0.37	0.37	1.73	3.00	6.31	2.89	2.93	2.17	1.50	2.13	0.32	0.29	24.01
1996	1.08	0.02	0.50	1.31	8.76	4.41	3.46	3.04	3.02	0.35	3.67	0.04	29.66
1997	0.10	0.81	0.21	1.78	2.39	3.48	2.10	7.15	5.80	2.98	0.65	0.24	27.69
1998	0.14	0.41	3.07	4.05	4.48	5.26	1.86	2.01	0.01	2.07	2.14	0.11	25.61
1999	0.35	0.29	0.79	4.98	4.36	6.48	1.45	5.83	0.56	0.05	0.32	0.27	25.73
POR= 60 YRS	0.53	0.72	1.60	2.51	3.90	3.94	3.01	2.71	2.46	1.27	0.96	0.61	24.22

WBAN : 14935

AVERAGE TEMPERATURE (°F) 1999 GRAND ISLAND, NE (GRI)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1970	17.9	31.9	33.5	49.5	65.8	73.6	78.5	77.7	64.4	48.8	37.2	29.3	50.7
1971	19.9	26.1	36.1	51.7	59.0	76.0	72.8	75.4	64.4	56.0	39.9	29.9	50.6
1972	21.8	27.2	41.7	49.6	61.2	72.5	73.9	72.8	64.7	48.9	35.0	20.0	49.1
1973	23.7	29.7	41.1	47.4	57.7	72.3	75.9	77.7	62.3	55.1	36.6	22.8	50.2
1974	17.2	32.4	42.4	52.6	64.3	69.7	82.3	69.0	61.2	54.8	38.3	25.2	50.8
1975	22.7	21.1	30.8	47.4	62.2	69.0	76.8	77.1	61.0	56.1	35.8	27.3	48.9
1976	24.4	37.5	38.7	53.3	59.3	71.0	77.3	76.0	65.4	47.4	33.2	28.1	51.0
1977	17.7	34.1	41.3	56.2	67.1	73.7	78.9	71.7	65.7	52.6	39.2	26.5	52.1
1978	12.2	15.0	35.5	51.3	59.8	73.7	76.3	73.8	68.3	52.0	35.2	18.4	47.6
1979	7.5	13.8	36.9	48.3	57.5	70.5	74.0	74.2	67.6	53.0	34.4	33.2	47.6
1980	21.6	23.7	34.2	51.5	61.0	73.1	80.7	76.9	66.9	51.5	41.7	29.8	51.1
1981	28.9	31.4	41.7	58.2	57.0	73.2	75.8	71.8	64.6	50.6	41.0	24.6	51.6
1982	12.9	23.8	35.0	47.0	60.8	65.7	76.5	72.4	63.2	52.5	35.0	28.6	47.8
1983	25.5	31.4	37.9	43.6	56.8	69.6	79.5	82.4	68.3	53.8	38.3	8.4	49.6
1984	23.6	34.6	33.4	47.4	60.4	73.5	76.9	77.2	62.0	51.9	39.3	26.6	50.6
1985	20.5	23.8	43.3	55.3	65.0	68.8	75.6	70.6	61.9	52.0	27.4	21.8	48.8
1986	33.8	27.8	46.2	51.8	62.3	75.1	77.9	70.4	66.2	51.8	35.4	30.9	52.5
1987	30.2	36.4	39.3	54.0	65.8	73.6	79.0	71.2	64.6	47.9	41.2	29.2	52.7
1988	18.3	26.5	40.2	50.3	65.6	77.0	75.2	75.8	65.9	49.5	39.1	32.5	51.3
1989	32.7	17.0	37.0	53.9	61.9	69.0	76.7	73.9	62.7	54.0	38.6	20.8	49.9
1990	33.8	30.9	41.7	50.5	58.2	72.9	74.0	74.4	69.0	53.8	42.9	22.7	52.1
1991	20.9	38.3	42.0	53.2	64.1	75.1	76.1	74.6	66.5	50.8	31.6	33.2	52.2
1992	34.2	38.0	42.7	50.8	61.0	67.5	70.0	69.0	64.6	51.7	32.9	24.7	50.6
1993	17.6	18.7	36.0	47.6	59.8	68.1	73.5	73.3	60.0	50.7	34.4	31.7	47.6
1994	21.1	19.1	41.3	49.1	64.3	73.6	71.5	72.1	67.0	54.0	39.8	28.3	50.1
1995	24.9	34.3	39.2	45.4	54.3	69.4	76.8	77.7	62.0	51.7	36.9	27.6	50.0
1996	18.8	30.2	31.6	49.2	58.1	72.1	72.8	71.4	62.6	52.6	31.3	23.4	47.8
1997	22.1	30.0	41.5	44.2	56.9	72.0	76.6	72.2	66.2	53.3	36.1	30.3	50.1
1998	26.5	35.9	32.1	49.2	65.0	68.5	77.1	75.8	71.6	54.8	42.3	30.4	52.4
1999	25.1	37.4	39.2	48.9	60.4	68.1	78.8	72.8	62.7	53.0	45.8	32.6	52.1
POR= 61 YRS	22.4	27.9	37.1	50.2	61.0	71.2	76.4	74.7	64.9	53.3	37.5	27.0	50.3

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HEATING DEGREE DAYS (base 65°F) 1999 GRAND ISLAND, NE (GRI)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1970-71	0	0	146	513	828	1102	1392	1080	891	396	194	0	6542
1971-72	6	0	131	284	743	1083	1335	1089	714	463	181	19	6048
1972-73	6	9	116	494	894	1389	1273	980	734	520	240	11	6666
1973-74	2	0	123	306	847	1304	1479	904	691	369	91	40	6156
1974-75	0	27	165	315	793	1229	1302	1221	1052	524	127	31	6786
1975-76	0	0	178	296	870	1166	1251	791	808	354	198	11	5923
1976-77	0	0	95	551	944	1139	1461	861	729	280	15	0	6075
1977-78	0	1	47	380	768	1185	1632	1395	914	409	205	25	6961
1978-79	0	3	64	400	886	1438	1777	1431	866	492	258	38	7653
1979-80	9	10	49	366	915	978	1340	1191	946	420	176	11	6411
1980-81	0	2	71	420	694	1084	1113	934	716	221	255	7	5517
1981-82	9	0	80	439	713	1245	1612	1148	925	537	148	61	6917
1982-83	0	12	139	385	896	1120	1216	933	832	635	269	37	6474
1983-84	0	0	89	349	793	1751	1276	875	974	521	177	3	6808
1984-85	0	0	184	405	764	1185	1372	1147	664	319	76	39	6155
1985-86	0	13	217	399	1120	1334	962	1035	587	392	108	0	6167
1986-87	0	17	49	403	882	1052	1071	793	789	356	68	7	5487
1987-88	0	32	82	527	708	1103	1441	1109	761	435	87	2	6287
1988-89	7	8	78	474	770	997	994	1339	864	393	152	22	6098
1989-90	0	6	152	345	786	1368	956	947	717	456	221	17	5971
1990-91	7	0	76	360	655	1303	1358	742	708	370	129	1	5709
1991-92	0	0	110	442	994	977	947	778	686	433	170	23	5560
1992-93	10	25	92	414	959	1243	1464	1288	890	518	181	45	7129
1993-94	0	9	170	460	911	1028	1358	1280	728	493	126	9	6572
1994-95	1	9	93	335	745	1130	1237	855	788	581	325	40	6139
1995-96	5	4	162	418	834	1152	1427	965	1027	472	247	17	6730
1996-97	3	1	152	394	1004	1283	1322	972	722	616	261	3	6733
1997-98	5	15	66	411	860	1072	1189	807	1014	473	89	71	6072
1998-99	0	0	27	318	675	1064	1230	769	793	476	161	41	5554
1999-	2	1	133	366	569	1000							

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COOLING DEGREE DAYS (base 65°F) 1999 GRAND ISLAND, NE (GRI)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1970	0	0	0	12	128	279	426	401	132	19	0	0	1397
1971	0	0	0	6	15	338	256	327	122	15	0	0	1079
1972	0	0	0	8	70	251	287	257	111	0	0	0	984
1973	0	0	0	0	19	238	345	401	53	9	0	0	1065
1974	0	0	0	6	77	189	541	159	56	6	0	0	1034
1975	0	0	0	2	49	158	373	384	66	28	0	0	1060
1976	0	0	0	9	29	196	387	344	111	12	0	0	1088
1977	0	0	0	24	85	268	437	214	77	0	0	0	1105
1978	0	0	5	5	47	293	355	283	169	2	0	0	1159
1979	0	0	0	0	36	211	294	303	132	2	0	0	978
1980	0	0	0	20	56	261	493	377	133	9	0	0	1349
1981	0	0	0	25	15	259	356	219	74	0	0	0	948
1982	0	0	0	1	24	90	364	248	92	2	0	0	821
1983	0	0	0	0	23	183	460	546	194	8	0	0	1414
1984	0	0	0	2	42	264	374	386	105	4	0	0	1177
1985	0	0	0	33	81	158	335	195	134	0	0	0	936
1986	0	0	10	1	30	306	407	193	95	1	0	0	1043
1987	0	0	0	30	99	273	442	233	76	4	1	0	1158
1988	0	0	0	2	111	366	332	351	111	0	0	0	1273
1989	0	0	2	67	63	147	371	291	94	9	0	0	1044
1990	0	0	0	26	16	260	295	302	203	19	0	0	1121
1991	0	0	0	22	108	312	351	306	160	11	0	0	1270
1992	0	0	0	13	55	103	172	156	87	9	0	0	595
1993	0	0	0	0	25	146	269	273	27	23	0	0	763
1994	0	0	0	20	110	274	209	234	159	1	0	0	1007
1995	0	0	0	0	0	181	379	408	81	14	0	0	1063
1996	0	0	0	4	44	238	251	207	86	18	0	0	848
1997	0	0	0	0	15	223	374	248	111	55	0	0	1026
1998	0	0	0	4	96	180	383	340	232	8	0	0	1243
1999	0	0	0	0	24	140	437	247	72	1	0	0	921

SNOWFALL (inches) 1999 GRAND ISLAND, NE (GRI)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1970-71	0.0	0.0	0.0	0.1	0.1	0.4	10.3	12.7	11.7	0.2	0.0	0.0	35.5
1971-72	0.0	0.0	0.0	T	4.1	2.7	3.5	2.6	1.0	0.1	0.0	0.0	14.0
1972-73	0.0	0.0	0.0	0.2	11.5	17.5	2.6	4.7	2.1	3.8	T	0.0	42.4
1973-74	0.0	0.0	0.0	0.0	6.6	26.0	11.0	1.3	1.2	2.4	0.0	0.0	48.5
1974-75	0.0	0.0	0.0	0.0	0.3	16.0	8.3	7.4	3.1	2.6	0.0	0.0	37.7
1975-76	0.0	0.0	0.0	0.0	16.0	1.2	3.6	1.4	11.7	0.0	0.0	0.0	33.9
1976-77	0.0	0.0	0.0	T	1.1	0.4	5.4	1.1	12.5	4.8	0.0	0.0	25.3
1977-78	0.0	0.0	0.0	0.0	2.5	7.7	4.6	17.9	8.3	T	0.0	0.0	41.0
1978-79	0.0	0.0	0.0	0.0	10.4	8.1	11.0	3.9	10.4	2.2	0.0	0.0	46.0
1979-80	0.0	0.0	0.0	0.6	1.9	6.2	8.3	8.2	11.6	T	0.0	0.0	36.8
1980-81	0.0	0.0	0.0	6.6	0.8	1.6	2.0	2.8	5.4	T	0.0	0.0	19.2
1981-82	0.0	0.0	0.0	0.1	3.9	8.4	7.5	6.9	8.8	1.1	0.0	0.0	36.7
1982-83	0.0	0.0	0.0	0.2	2.7	10.7	5.0	5.9	11.8	3.9	0.0	0.0	40.2
1983-84	0.0	0.0	T	0.0	17.1	13.8	3.1	15.1	20.5	9.0	0.0	0.0	78.6
1984-85	0.0	0.0	0.0	T	1.6	7.5	5.9	3.4	4.5	0.0	0.0	0.0	22.9
1985-86	0.0	0.0	3.8	0.0	7.4	4.5	T	6.1	0.9	T	0.0	0.0	22.7
1986-87	0.0	0.0	0.0	T	2.5	1.8	1.7	0.6	18.6	0.0	0.0	0.0	25.2
1987-88	0.0	0.0	0.0	0.8	6.4	7.4	11.4	5.2	1.3	T	0.0	0.0	32.5
1988-89	0.0	0.0	0.0	0.0	4.3	0.8	0.8	9.8	4.4	T	0.0	0.0	20.1
1989-90	0.0	0.0	0.0	0.2	2.0	4.7	4.4	6.8	5.1	1.5	0.0	0.0	24.7
1990-91	0.0	0.0	0.0	0.0	2.8	4.8	7.2	T	4.9	T	T	T	19.7
1991-92	T	0.0	0.0	9.8	7.3	T	6.3	5.8	0.7	1.5	T	0.0	31.4
1992-93	0.0	T	0.0	3.6	8.1	17.5	12.7	6.9	T	T	T	0.0	40.2
1993-94	T	0.0	0.0	0.8	4.0	3.7	7.9	16.7	0.4	4.8	T	0.0	38.3
1994-95	0.0	0.0	0.0	0.0	1.8	7.0	5.3	1.9	4.4	0.0	0.0	0.0	20.4
1995-96	T	T	3.0	0.7	2.1	2.7	11.1	0.2	T	T	T	T	19.7
1996-97													
1997-98				7.0	0.4	3.2	5.1	1.5	11.0	T	T	0.0	
1998-99	0.0	0.0	0.0	0.0	4.2	2.5	5.7	3.1	4.2	T	0.0	0.0	19.7
1999-	0.0	0.0	0.0	0.0	T	2.0							
POR= 61 YRS	T	T	0.1	0.6	3.3	5.8	6.0	6.1	0.4	1.7	0.3	T	24.3

WBAN : 14935

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  
GRAND ISLAND,  
NEBRASKA (GRI)

The Grand Island Weather Service Office is located at the Hall County Regional Airport, 3 miles northeast of downtown Grand Island. It is situated just west of the mid-point of the north-south runway. The site is less than 50 miles from the geographical center of the contiguous United States and in the shallow Platte River valley. The complex of the Loup River and its tributaries converge approximately 15 miles northwest of the station, then flows eastward across the state. The terrain immediately surrounding the station is flat, sandy, loam. Just to the north is the southern boundary of the Nebraska sandhills. The terrain slopes gently upward from the Missouri River valley in eastern Nebraska to the Rocky Mountains of Colorado and Wyoming.

The climate is primarily continental in nature with occasional incursions of maritime tropical air from the Gulf of Mexico and modified maritime polar air from the Pacific Ocean. Wintertime outbreaks of cold, dry, Arctic air from Canada are common, usually accompanied by strong biting winds.

The east-west upslope produces periods of fog and low stratus when winds have an easterly component, and the characteristics of a Chinook, with warm dry air, when the component is westerly. Dry-season dust storms occur occasionally with these Chinook winds. These have been reduced in recent years by increased farm irrigation. Growing season humidities have also been increased by the expanding irrigation projects. Summers are usually hot and dry with temperatures often reaching 100 degrees or more. Late spring and early summer is the peak season for severe thunderstorms with frequent hail and tornados occasionally occurring. Winters are punctuated by occasional severe blizzards and have wide variations in temperatures that range from mild to bitterly cold.

Based on the 1951-1980 period, the average first occurrence of 32 degrees Fahrenheit in the fall is October 9 and the average last occurrence in the spring is April 29.

# STATION LOCATION

GRAND ISLAND, NEBRASKA

LOCATION	OCCUPIED FROM	OCCUPIED TO	AIRLINE DISTANCES AND DIRECTIONS FROM PREVIOUS LOCATION	LATITUDE NORTH	LONGITUDE WEST	ELEVATION ABOVE											* Type	REMARKS	
						SEA LEVEL	GROUND												AUTOMATED
							G	W	E	P	S	T	R	W	8	H			
<u>COOPERATIVE</u>																			
T. A. Watson	9/1889	9/1891	NA															Locations prior to American Crystal Sugar Company were in the South portion of Grand Island.	
J. H. Thompson	10/1891	6/1892	Unknown																
Thomas Connor	1/1895	12/1895	Unknown	40° 55'	98° 21'														
F. Corbin 122 Greenwich Avenue	1/1896	12/1905	Unknown	40° 55'	98° 21'	1860													
Eli A. Barnes 805 West 2nd Street	1/1906	2/1921	Unknown	40° 55'	98° 23'	1860												Observations during 1919-1921 were sometimes by Eli A. Barnes and sometimes by American Crystal Sugar Company.	
American Crystal Sugar Company	1/1919	2/1938	Unknown	40° 54'	98° 23'													Thos. Millar, H. Von Bergen, and C. T. Powell, employees of the Sugar Company observed.	
<u>AIRPORT</u>																			
Administration Building Central Airport	1/1/29	3/1/38	NA	40° 57'	98° 19'	1851	44	4											
Administration Building Municipal Airport	3/1/38	3/15/71	2 mi. N	40° 58'	98° 19'	1841	43 b47 c20	18 a4 e5	4 e4	NA	NA	5 e5	3 e3	NA d4 f4	NA			a - Moved to ground 3/1947. b - Effective 5/1948. c - Moved to field site 12/2/61. d - Telepsychrometer (4') 6/10/54-12/9/60 Hygro. comm. 60' NNW of Admin. bldg. 12/9/60. e - Minor adjustment 12/9/60. f - Moved 2130' E 5/27/61.	
Weather Service Bldg. Hall County Regional Airport (also called Grand Island Airpark)	3/15/71	10/1/92	875 ft. NNE	40° 58'	98° 19'	1841	20	5 g5	4 g4	NA	NA j3	5 h4	3 i3	4	NA			Instruments not moved. g - Moved 20' NE 4/3/71. h - Moved 25' NE 4/9/71. i - Moved 40' NE 4/9/71. j - Installed 3/6/74.	
Hall County Regional AP	10/01/92	Present	NA	40°58'	98°19'	1842												S ASOS Commissioned 10/01/92	

SUBSCRIPTION: Price and ordering information available through: National Climatic Data Center, Federal Building, Asheville, North Carolina 28801.  
INQUIRIES/COMMENTS CALL: (828) 271-4800

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