

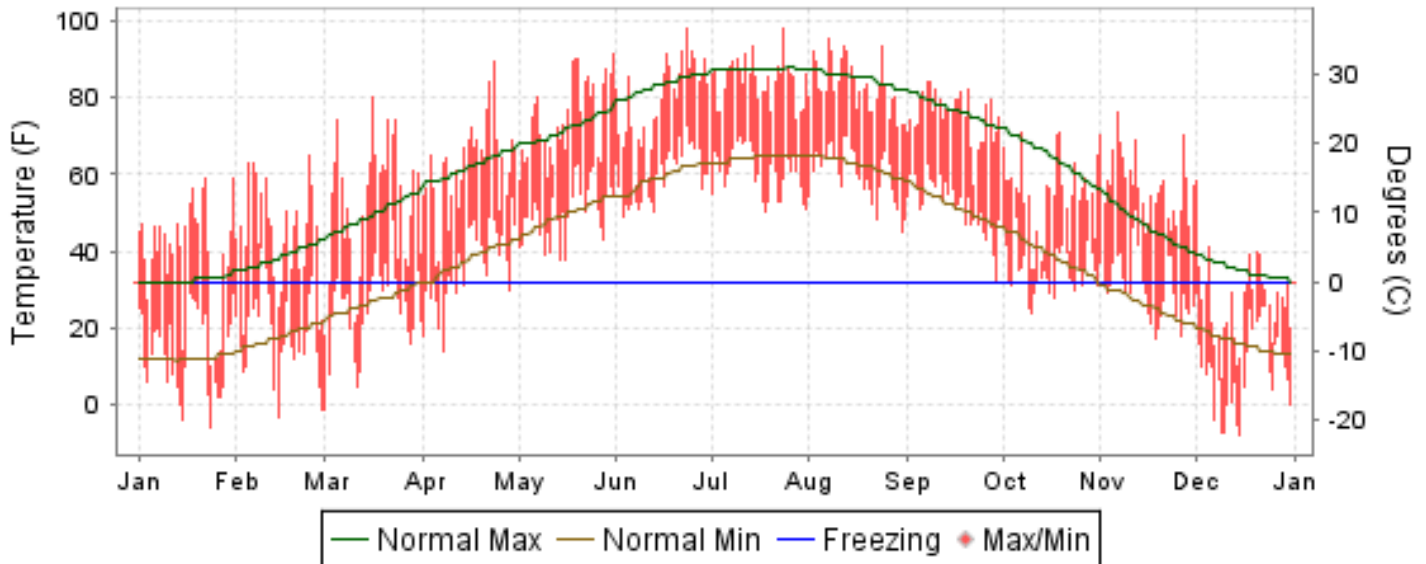


2009 LOCAL CLIMATOLOGICAL DATA ANNUAL SUMMARY WITH COMPARATIVE DATA

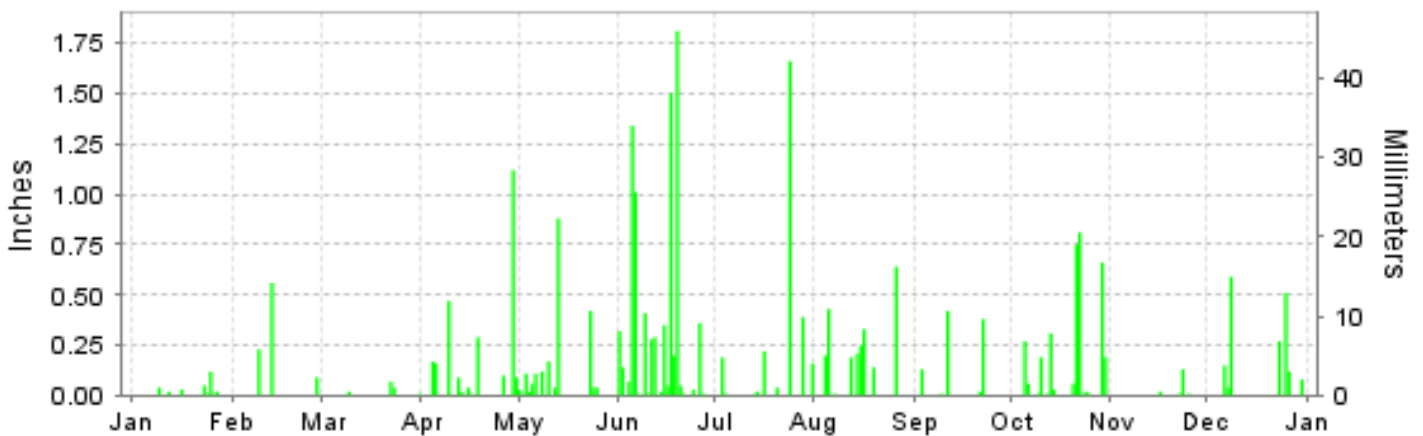
ISSN 0198-3105

GRAND ISLAND, NEBRASKA (KGRI)

Daily Max/Min Temperature



Daily Precipitation



Daily Station Pressure



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NATIONAL
CLIMATIC DATA CENTER
ASHEVILLE, NORTH CAROLINA

Thomas R. Karl
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NATIONAL CLIMATIC DATA CENTER

METEOROLOGICAL DATA FOR 2009

GRAND ISLAND (KGRI)

LATITUDE: 40° 57'N LONGITUDE: -98° 18'W ELEVATION (FT): GRND: 1850 BARO: 1844 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	39.3	43.6	51.8	61.9	74.8	79.3	84.4	82.9	75.0	54.2	56.8	26.7	60.9	
	HIGHEST DAILY MAXIMUM	59	65	80	89	91	98	98	95	84	71	76	58	98	
	DATE OF OCCURRENCE	31+	24	16	23	31	23	24	07	08+	19+	06	01	JUL 24	
	MEAN DAILY MINIMUM	13.8	18.4	25.1	36.4	49.9	59.6	60.6	59.9	51.9	35.0	30.6	9.9	37.6	
	LOWEST DAILY MINIMUM	-6	-3	-1	14	38	49	50	45	32	24	17	-8	-8	
	DATE OF OCCURRENCE	24	14	01	07	16+	03	18	30	29	10	18	15	DEC 15	
	AVERAGE DRY BULB	26.6	31.0	38.5	49.2	62.4	69.5	72.5	71.4	63.5	44.6	43.7	18.3	49.3	
	MEAN WET BULB	22.4	26.6	33.0	42.2	54.0	63.1	64.8	64.1	56.7	40.4	35.9	16.9	37.9	
	MEAN DEW POINT	16.0	19.7	25.5	34.3	46.8	59.1	60.3	60.1	52.4	35.9	31.9	12.5	37.9	
	NUMBER OF DAYS WITH:														
	MAXIMUM >= 90°	0	0	0	0	3	6	4	7	0	0	0	0	20	
	MAXIMUM <= 32°	6	5	4	0	0	0	0	0	0	0	0	25	40	
MINIMUM <= 32°	31	25	23	12	0	0	0	0	1	12	20	31	155		
MINIMUM <= 0°	3	2	1	0	0	0	0	0	0	0	0	7	13		
H/C	HEATING DEGREE DAYS	1185	945	813	473	149	50	0	15	82	624	630	1441	6407	
	COOLING DEGREE DAYS	0	0	0	6	76	192	244	223	45	0	0	0	786	
RH	MEAN (PERCENT)	68	67	64	61	61	73	69	70	72	75	69	77	69	
	HOUR 00 LST	73	73	72	70	70	83	84	81	85	82	79	82	78	
	HOUR 06 LST	77	78	80	79	81	87	87	86	88	86	84	81	83	
	HOUR 12 LST	60	56	53	47	48	62	53	56	55	64	53	70	56	
	HOUR 18 LST	64	58	49	47	45	57	53	55	59	69	60	77	58	
S	PERCENT POSSIBLE SUNSHINE														
W/O	NUMBER OF DAYS WITH:														
	HEAVY FOG(VISBY <= 1/4 MI)	2	1	1	0	1	4	1	1	9	2	2	6	30	
	THUNDERSTORMS	0	0	2	2	4	9	6	4	2	0	0	0	29	
CLOUDNESS	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.)	28.10	28.11	28.01	28.01	28.02	27.95	28.05	28.05	28.12	28.00	28.09	28.06	28.05	
	MEAN SEA-LEVEL PRESS. (IN.)	30.14	30.12	30.01	29.97	29.96	29.87	29.97	29.98	30.07	29.97	30.08	30.11	30.02	
WINDS	RESULTANT SPEED (MPH)	5.3	2.1	1.5	3.6	2.2	2.8	1.2	1.9	2.4	3.1	2.2	7.1	1.1	
	RES. DIR. (TENS OF DEGS.)	30	31	21	05	24	05	13	17	14	32	28	32	32	
	MEAN SPEED (MPH)	11.2	10.5	13.0	13.0	11.3	8.2	7.2	8.9	7.5	10.5	8.7	12.6	10.2	
	PREVAIL.DIR.(TENS OF DEGS.)	34	33	16	35	20	02	17	15	14	32	18	33	33	
	MAXIMUM 2-MINUTE WIND														
	SPEED (MPH)	45	44	48	41	36	46	38	35	32	43	33	44	48	
	DIR. (TENS OF DEGS.)	34	24	22	35	34	33	36	31	34	30	32	31	22	
	DATE OF OCCURRENCE	12	09	23	05	15	06	16	04	27	02	25	25	MAR 23	
	MAXIMUM 3-SECOND WIND:														
	SPEED (MPH)	53	55	60	51	45	66	49	44	43	55	41	54	66	
DIR. (TENS OF DEGS.)	33	22	21	36	35	34	35	36	35	30	32	33	34		
DATE OF OCCURRENCE	12	09	23	05	15	06	16	04	27	02	25	25	JUN 06		
PRECIPITATION	WATER EQUIVALENT:														
	TOTAL (IN.)	0.30	0.88	0.14	2.56	2.05	8.27	2.70	2.40	0.96	3.39	0.17	1.76	25.58	
	GREATEST 24-HOUR (IN.)	0.13	0.56	0.07	1.12	0.92	2.35	1.66	0.64	0.42	1.19	0.13	0.59	2.35	
	DATE OF OCCURRENCE	25-26	13	22	29	12-13	05-06	24	26	11	21-22	23	08	JUN 05-06	
	NUMBER OF DAYS WITH:														
	PRECIPITATION 0.01	8	3	4	11	13	21	9	9	5	15	4	7	109	
PRECIPITATION 0.10	1	2	0	6	6	12	5	8	3	7	1	5	56		
PRECIPITATION 1.00	0	0	0	1	0	4	1	0	0	0	0	0	6		
SNOWFALL	SNOW,ICE PELLETS,HAIL														
	TOTAL (IN.)	5.4	7.7	0.2	2.3	0.0	0.0	0.0	0.0	0.0	4.5	T	26.5	46.6	
	GREATEST 24-HOUR (IN.)	2.0	5.5	0.2	1.8	0.0	0.0	0.0	0.0	0.0	3.8	T	9.7	9.7	
	DATE OF OCCURRENCE	23	13	31	05						10	16+	08	DEC 08	
	MAXIMUM SNOW DEPTH (IN.)	4	6	2	2	0	0	0	0	0	1	0	15	15	
	DATE OF OCCURRENCE	28+	14	03+	05						12+	27+	27+	DEC 27+	
NUMBER OF DAYS WITH:															
SNOWFALL >= 1.0	2	2	0	1	0	0	0	0	0	1	0	6	12		

NORMALS, MEANS, AND EXTREMES GRAND ISLAND (KGRI)

LATITUDE: 40° 57'N LONGITUDE: -98° 18'W ELEVATION (FT): GRND: 1850 BARO: 1844 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	38.6	49.5	61.9	71.9	83.0	87.1	84.8	76.9	64.6	46.8	35.3	61.1
	MEAN DAILY MAXIMUM	109	34.2	37.1	49.4	61.9	73.1	82.3	89.5	87.3	77.2	66.3	49.2	37.3	62.1
	HIGHEST DAILY MAXIMUM	63	76	79	90	96	101	107	109	110	104	96	84	76	110
	YEAR OF OCCURRENCE		1990	2006	1986	1989	1989	1988	2006	1983	1998	1947	2006	1964	AUG 1983
	MEAN OF EXTREME MAXS.	110	58.0	63.7	75.4	85.8	90.9	98.1	100.7	99.1	94.0	85.9	72.3	61.0	82.1
	NORMAL DAILY MINIMUM	30	12.2	17.7	27.0	37.8	49.3	59.1	64.4	62.3	51.8	39.3	25.9	15.9	38.6
	MEAN DAILY MINIMUM	109	12.9	16.3	26.4	37.5	49.3	58.4	64.7	62.4	51.8	40.2	26.5	16.9	38.6
	LOWEST DAILY MINIMUM	63	-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.	110	-9.7	-4.1	5.5	21.7	34.3	45.7	53.0	50.6	35.5	23.1	8.5	-4.1	21.7
	NORMAL DRY BULB	30	22.4	28.2	38.3	49.9	60.6	71.1	75.8	73.6	64.4	52.0	36.4	25.6	49.9
	MEAN DRY BULB	109	23.6	26.7	37.9	49.7	61.2	70.4	77.1	74.9	64.5	53.2	37.9	27.2	50.4
	MEAN WET BULB	26	21.6	24.7	33.2	42.7	53.7	62.4	67.2	65.8	56.4	44.5	32.2	23.5	44.0
	MEAN DEW POINT	26	17.5	20.8	28.4	37.7	50.0	59.0	64.4	63.1	52.4	39.7	27.8	19.7	40.0
	NORMAL NO. DAYS WITH: MAXIMUM >= 90	30	0.0	0.0	0.1	0.7	1.0	7.7	13.0	10.1	4.8	0.3	0.0	0.0	37.7
MAXIMUM <= 32	30	14.3	10.0	3.6	0.3	0.0	0.0	0.0	0.0	0.0	0.1	3.9	11.6	43.8	
MINIMUM <= 32	30	30.6	26.0	21.9	8.1	0.5	0.0	0.0	0.0	0.5	6.3	23.1	30.1	147.1	
MINIMUM <= 0	30	6.4	3.7	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	3.3	14.4	
H/C	NORMAL HEATING DEG. DAYS	30	1310	1031	819	452	175	23	3	7	114	401	843	1207	6385
	NORMAL COOLING DEG. DAYS	30	0	0	1	11	48	218	349	285	107	8	0	0	1027
RH	NORMAL (PERCENT)	30	71	71	68	64	67	65	68	71	66	64	70	73	68
	HOURLY 00 LST	30	75	76	74	72	76	75	77	80	76	72	76	77	76
	HOURLY 06 LST	30	77	79	80	80	83	83	84	86	83	80	80	79	81
	HOURLY 12 LST	30	63	61	57	51	55	52	55	57	51	49	58	64	56
	HOURLY 18 LST	30	67	63	55	49	53	49	53	55	51	53	64	70	57
S	PERCENT POSSIBLE SUNSHINE														
W/O	MEAN NO. DAYS WITH: HEAVY FOG(VISBY <= 1/4 MI)	46	1.8	2.3	2.3	1.2	1.0	0.8	0.9	1.8	1.4	1.9	2.0	2.5	19.9
	THUNDERSTORMS	62	0.0	0.2	1.3	3.5	7.4	9.3	8.6	7.6	4.9	1.8	0.5	0.1	45.2
CLOUDNESS	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	28.10	28.04	27.98	27.98	27.98	28.03	28.06	28.06	28.07	28.07	28.10	28.05
	MEAN SEA-LEVEL PRES. (IN)	26	30.14	30.12	30.03	29.94	29.92	29.90	29.94	29.98	30.00	30.03	30.07	30.12	30.02
WINDS	MEAN SPEED (MPH)	26	11.2	11.5	12.6	13.4	12.1	10.9	9.5	9.2	10.6	11.0	11.3	11.2	11.2
	PREVAIL.DIR(TENS OF DEGS)	34	34	36	36	36	17	17	17	17	17	19	19	34	17
	MAXIMUM 2-MINUTE: SPEED (MPH)	17	54	53	53	52	59	68	59	52	45	51	55	52	68
	DIR. (TENS OF DEGS)		34	33	34	21	29	30	29	22	28	33	32	31	30
	YEAR OF OCCURRENCE		1996	2002	1996	1994	2000	1993	1993	1999	2004	1996	2005	1997	JUN 1993
	MAXIMUM 3-SECOND SPEED (MPH)	17	64	61	61	60	80	77	72	70	52	61	62	63	80
	DIR. (TENS OF DEGS)		35	33	33	34	24	30	29	23	21	31	32	32	24
YEAR OF OCCURRENCE		1996	2002	1996	1999	1996	1993	1993	1999	2006	2008	2005	1997	MAY 1996	
PRECIPITATION	NORMAL (IN)	30	0.54	0.68	2.04	2.61	4.07	3.72	3.14	3.08	2.43	1.51	1.41	0.66	25.89
	MAXIMUM MONTHLY (IN)	70	1.65	3.39	6.63	4.98	9.04	13.96	10.38	8.73	9.00	5.99	3.77	2.17	13.96
	YEAR OF OCCURRENCE		1960	1971	1987	1999	2008	1967	1993	1977	1965	2008	1983	1968	JUN 1967
	MINIMUM MONTHLY (IN)	70	T	0.02	0.01	0.09	0.43	0.50	0.22	0.50	0.01	0.00	T	0.02	0.00
	YEAR OF OCCURRENCE		1986	1996	1967	1989	1964	1978	2003	1940	1998	1958	2007	1943	OCT 1958
	MAXIMUM IN 24 HOURS (IN)	70	1.38	2.21	3.15	3.30	7.21	4.54	5.41	4.12	5.88	2.75	1.90	1.20	7.21
	YEAR OF OCCURRENCE		1947	1971	1979	1964	2005	1967	1950	1977	1977	1968	1996	1968	MAY 2005
	NORMAL NO. DAYS WITH: PRECIPITATION >= 0.01	30	5.7	5.6	7.6	9.0	11.3	9.3	9.4	8.0	7.0	5.9	5.8	5.2	89.8
PRECIPITATION >= 1.00	30	0.0	0.1	0.4	0.5	1.1	1.1	0.7	0.9	0.5	0.3	0.3	0.1	6.0	
SNOWFALL	NORMAL (IN)	30	6.2	5.9	6.8	1.5	0.*	0.0	0.0	0.0	0.2	1.0	4.7	6.6	32.9
	MAXIMUM MONTHLY (IN)	69	17.5	21.5	21.6	9.0	4.5	T	T	T	3.8	9.8	17.1	26.5	26.5
	YEAR OF OCCURRENCE		1993	1969	2006	1984	1947	2008	1991	1992	1985	1991	1983	2009	DEC 2009
	MAXIMUM IN 24 HOURS (IN)	69	10.5	15.0	12.2	7.3	4.5	T	T	T	3.8	9.8	11.2	12.0	15.0
	YEAR OF OCCURRENCE'		2002	1984	1984	2003	1947	1991	1991	1992	1985	1991	1983	1968	FEB 1984
	MAXIMUM SNOW DEPTH (IN)	63	18	17	16	5	4	T	0	T	1	7	14	20	20
	YEAR OF OCCURRENCE		1974	1969	2006	2003	1967	1952	1952	1951	1985	1997	1983	1968	DEC 1968
	NORMAL NO. DAYS WITH: SNOWFALL >= 1.0	30	2.0	2.0	1.7	0.4	0.0	0.0	0.0	0.0	0.1	0.1	1.5	1.7	9.5

PRECIPITATION (inches) 2009 GRAND ISLAND (KGRI)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
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
2000	0.25	1.35	1.32	1.60	2.19	0.70	5.25	1.77	1.01	2.21	1.83	0.60	20.08
2001	0.99	1.25	1.07	4.07	5.51	0.84	2.58	2.25	2.31	0.58	1.55	0.11	23.11
2002	0.69	0.13	1.40	1.19	3.21	1.73	0.86	2.78	2.61	2.43	0.09	0.02	17.14
2003	0.63	1.32	0.57	3.36	4.06	3.57	0.22	1.01	2.47	0.64	0.34	0.17	18.36
2004	0.60	1.72	1.77	1.04	2.23	1.20	4.70	0.81	3.67	1.08	2.00	0.07	20.89
2005	0.76	0.86	1.54	1.76	8.51	4.11	2.51	3.77	1.10	2.49	0.99	0.47	28.87
2006	0.18	0.07	3.26	2.41	1.16	4.07	1.49	3.44	4.75	1.17	0.21	1.76	23.97
2007	0.62	0.56	2.20	4.62	7.13	2.87	8.99	4.49	1.92	3.91	T	1.38	38.69
2008	0.34	0.29	0.71	3.42	9.04	9.85	2.63	1.07	1.51	5.99	1.52	0.68	37.05
2009	0.30	0.88	0.14	2.56	2.05	8.27	2.70	2.40	0.96	3.39	0.17	1.76	25.58
POR= 110 YRS	0.54	0.79	1.47	2.48	3.97	3.93	3.15	2.96	2.56	1.62	0.97	0.66	25.10

WBAN : 14935

AVERAGE TEMPERATURE (°F) 2009 GRAND ISLAND (KGRI)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
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	26.4	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
2000	28.1	34.7	42.5	50.1	64.1	70.3	76.2	77.8	67.5	55.1	29.1	17.1	51.1
2001	26.3	20.7	35.7	53.7	63.0	71.6	79.1	75.9	64.8	52.9	46.8	32.2	51.9
2002	30.5	31.4	32.0	51.7	58.8	76.9	80.3	74.8	66.5	45.9	39.2	33.0	51.8
2003	25.4	25.8	41.3	51.9	58.7	68.4	77.9	76.7	62.4	55.9	37.4	31.5	51.1
2004	21.9	24.0	44.5	52.9	63.5	68.1	72.2	70.6	69.4	53.3	40.0	31.1	51.0
2005	21.6	34.5	40.9	51.9	61.2	72.7	77.4	73.8	69.7	55.1	41.9	26.4	52.3
2006	38.4	30.6	37.9	55.9	64.6	74.8	79.5	74.6	62.0	49.6	38.6	32.4	53.2
2007	23.3	24.4	47.2	49.6	64.8	71.5	77.7	77.7	66.6	56.1	41.3	23.1	51.9
2008	20.9	27.7	39.2	47.0	59.3	71.2	77.4	73.5	65.0	52.2	39.0	22.2	49.6
2009	26.6	31.0	38.5	49.2	62.4	69.5	72.5	71.4	63.5	44.6	43.7	18.3	49.3
POR= 109 YRS	23.6	26.7	37.9	49.7	61.2	70.4	77.1	74.9	64.5	53.2	37.9	27.2	50.4

HEATING DEGREE DAYS (base 65°F) 2009 GRAND ISLAND (KGRI)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
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
1999-00	2	1	133	366	569	1000	1137	871	692	440	93	32	5336
2000-01	0	2	99	309	1072	1479	1191	1236	901	354	140	39	6822
2001-02	0	0	87	377	540	1009	1061	936	1016	417	243	1	5687
2002-03	0	3	89	589	770	986	1222	1089	729	410	209	39	6135
2003-04	0	3	139	293	821	1030	1328	1182	631	375	127	39	5968
2004-05	12	23	29	363	742	1045	1340	845	739	391	177	4	5710
2005-06	4	1	39	349	685	1186	816	958	835	282	137	0	5292
2006-07	0	2	127	506	784	966	1287	1132	545	480	78	11	5918
2007-08	0	0	75	292	704	1292	1359	1076	793	533	208	1	6333
2008-09	0	0	76	395	771	1320	1185	945	813	473	149	50	6177
2009-	0	15	82	624	630	1441							

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COOLING DEGREE DAYS (base 65°F) 2009 GRAND ISLAND (KGRI)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
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
2000	0	0	0	0	73	197	352	406	178	10	0	0	1216
2001	0	0	0	22	82	245	442	345	86	10	0	0	1232
2002	0	0	0	24	59	366	482	315	142	4	0	0	1392
2003	0	0	0	24	21	145	409	372	67	17	0	0	1055
2004	0	0	2	17	88	136	240	200	169	6	0	0	858
2005	0	0	0	2	66	240	393	282	185	46	0	0	1214
2006	0	0	0	21	130	302	457	304	46	35	0	0	1295
2007	0	0	0	22	75	211	400	401	128	26	0	0	1263
2008	0	0	0	0	41	194	387	271	83	8	0	0	984
2009	0	0	0	6	76	192	244	223	45	0	0	0	786

SNOWFALL (inches) 2009 GRAND ISLAND (KGR1)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
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		0.0	
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				
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
1999-00	0.0	0.0	0.0	0.0	T	2.0	3.1	6.2	4.0	0.0	0.0	0.0	15.3
2000-01	0.0	0.0	0.0	T	6.0	7.4	13.6	10.9	2.0	T	0.0	0.0	39.9
2001-02	0.0	0.0	0.0	0.0	T	1.7	13.0	1.0	11.0	0.0	T	0.0	26.7
2002-03	0.0	0.0	0.0	4.0	T	0.2	8.2	11.6	0.1	7.3	T	0.0	31.4
2003-04	0.0	0.0	0.0	0.0	0.2	1.6	11.4	15.5	3.4	T	0.0	0.0	32.1
2004-05	0.0	0.0	0.0	0.0	5.3	T	10.7	4.6	0.5	T	0.0	0.0	21.1
2005-06	0.0	0.0	0.0	T	2.8	5.0	T	1.4	21.6	T	0.0	T	30.8
2006-07	0.0	0.0	0.0	T	0.5	T	8.4	2.3	0.1	T	0.0	0.0	11.3
2007-08	0.0	0.0	0.0	0.0	0.1	9.0	3.8	2.7	0.1	0.3	T	T	16.0
2008-09	0.0	0.0	0.0	0.0	0.2	4.5	5.4	7.7	0.2	2.3	0.0	0.0	20.3
2009-	0.0	0.0	0.0	4.5	T	26.5							
POR= 110 YRS	T	T	0.1	0.6	2.5	5.1	5.6	6.0	5.7	1.6	0.1	T	27.3

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 (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. 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.</p>	<p>GENERAL CONTINUED: WIND DIRECTION IS RECORDED IN TENS OF DEGREES (2 DIGITS) CLOCKWISE FROM TRUE NORTH. "00" INDICATES CALM. "36" INDICATES TRUE NORTH. RESULTANT WIND IS THE VECTOR AVERAGE OF THE SPEED AND DIRECTION. AVERAGE TEMPERATURE IS THE SUM OF THE MEAN DAILY MAXIMUM AND MINIMUM TEMPERATURE DIVIDED BY 2. SNOWFALL DATA COMPRISE ALL FORMS OF FROZEN PRECIPITATION, INCLUDING HAIL. A HEATING (COOLING) DEGREE DAY IS THE DIFFERENCE BETWEEN THE AVERAGE DAILY TEMPERATURE AND 65 F. DRY BULB IS THE TEMPERATURE OF THE AMBIENT AIR. DEW POINT IS THE TEMPERATURE TO WHICH THE AIR MUST BE COOLED TO ACHIEVE 100 PERCENT RELATIVE HUMIDITY. WET BULB IS THE TEMPERATURE THE AIR WOULD HAVE IF THE MOISTURE CONTENT WAS INCREASED TO 100 PERCENT RELATIVE HUMIDITY. ON JULY 1, 1996, THE NATIONAL WEATHER SERVICE BEGAN USING THE "METAR" OBSERVATION CODE THAT WAS ALREADY EMPLOYED BY MOST OTHER NATIONS OF THE WORLD. THE MOST NOTICEABLE DIFFERENCE IN THIS ANNUAL PUBLICATION WILL BE THE CHANGE IN UNITS FROM TENTHS TO EIGHTS(OKTAS) FOR REPORTING THE AMOUNT OF SKY COVER. STATION HISTORY STOPPED WITH THE 2009 ANNUAL. IF YOU NEED HISTORY GO TO "MULTI-NETWORK METADATA SYSTEM", URL IS: https://mi3.ncdc.noaa.gov/mi3qry/login.cfm</p> <p>NOTE: The "Period of Record:(POR) for all "averages" is based on the "Summary of the Day First Order Station" and "Cooperative Summary of the Day" archives.</p>
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2009 GRAND ISLAND NEBRASKA (KGRI)

The city of Grand Island is located in the shallow Platte River Valley in south-central Nebraska, less than 50 miles from geographical center of the contiguous United States. The complex of the Loup River and its tributaries converge approximately 20-25 miles northwest to north of the city, then flows east across the state. The terrain immediately around Grand Island is flat, sandy, loam. Just to the north is the south boundary of the Nebraska Sandhills. The terrain slopes gently upward from the Missouri River valley in eastern Nebraska to the Rocky Mountains of Wyoming and Colorado.

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. Winter time outbreaks of cold, dry, Arctic air from Canada are also common, usually accompanied by strong biting winds.

The east to west upslope wind flow provides periods of fog and low stratus, while a west to east wind component provides a warm and dry Chinook wind effect. Dry season dust storms occur infrequently with these Chinook winds. These have been reduced in recent years by increased farm irrigation and soil management techniques. Growing season humidities have also been increased by the increased use of irrigation in farming. 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 occasional tornados. Winters are punctuated by occasional severe blizzards with temperature variations that range from mild to bitterly cold.

Based on the 1971-2000 period, the average first occurrence of 32 degrees Fahrenheit in the fall is October 8th, and the average last occurrence in the spring is May 6th.

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