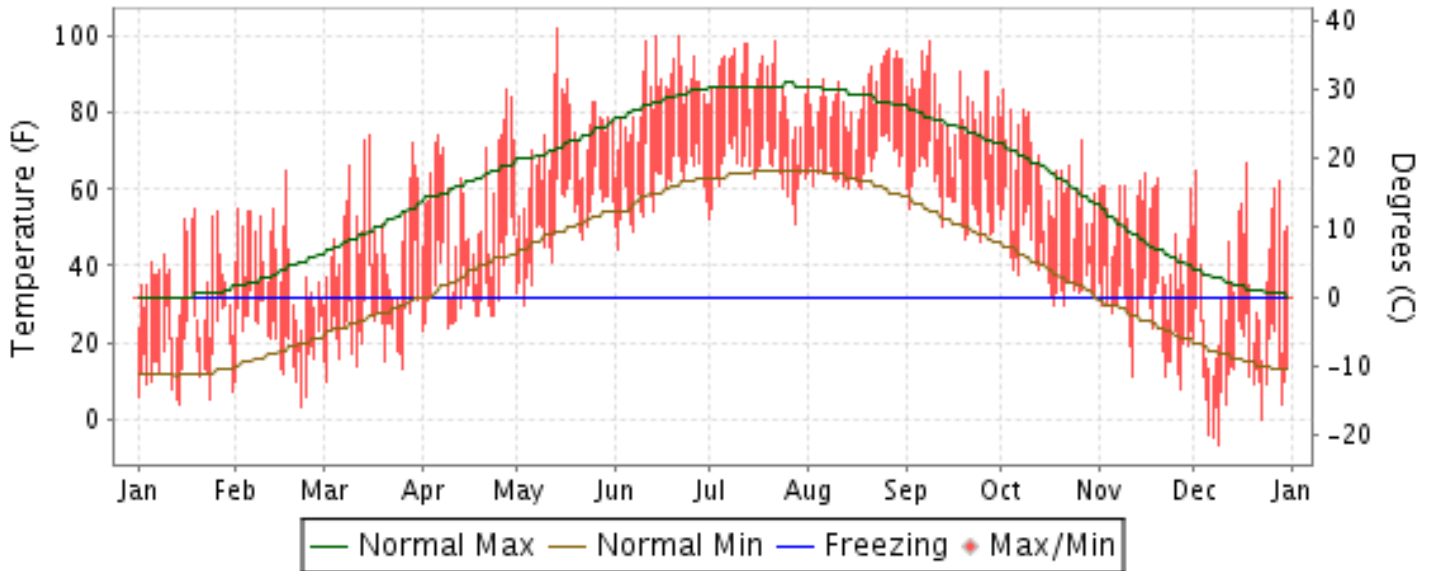


# 2013 LOCAL CLIMATOLOGICAL DATA ANNUAL SUMMARY WITH COMPARATIVE DATA

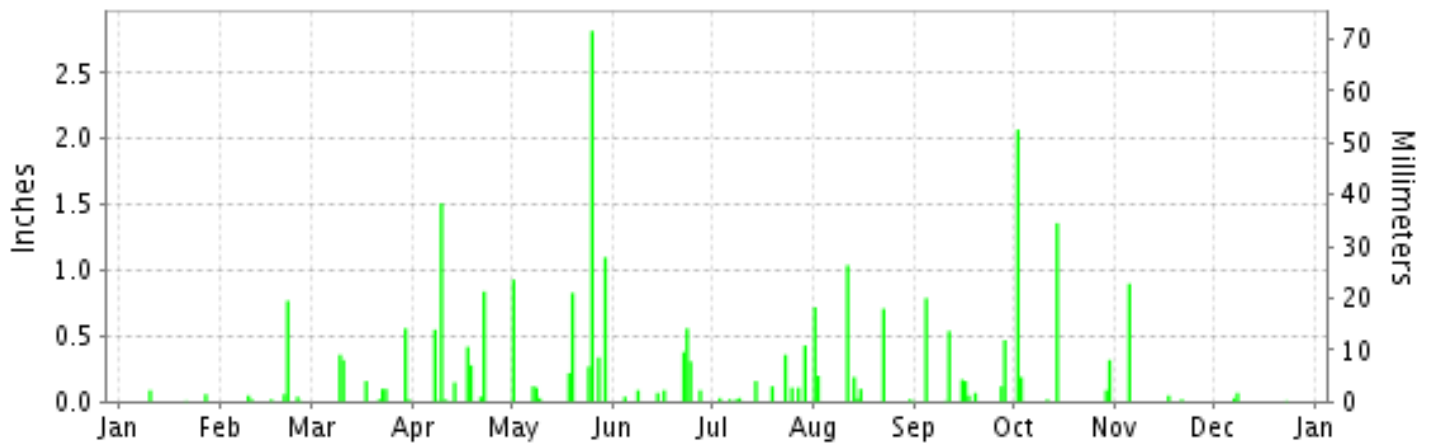
ISSN 0198-3105

## GRAND ISLAND, NEBRASKA (KGRI)

### Daily Max/Min Temperature



### Daily Precipitation



### Daily Station Pressure



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CLIMATIC DATA CENTER  
ASHEVILLE, NORTH CAROLINA

*Thomas R. Karl*  
DIRECTOR  
NATIONAL CLIMATIC DATA CENTER

# METEOROLOGICAL DATA FOR 2013

## GRAND ISLAND (KGRI)

LATITUDE: 40° 57'N      LONGITUDE: 98° 18'W      ELEVATION (FT): GRND: 1840 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	35.9	40.9	48.0	58.2	72.4	84.8	87.6	85.8	82.5	64.0	50.6	37.1	62.3	
	HIGHEST DAILY MAXIMUM	55	65	74	86	102	100	99	97	99	86	64	67	102	
	DATE OF OCCURRENCE	19	17	15	28	14	21+	22	27	09	02	16	18	MAY 14	
	MEAN DAILY MINIMUM	16.8	20.5	24.2	33.9	50.6	60.4	65.0	66.0	58.0	40.4	25.5	12.6	39.5	
	LOWEST DAILY MINIMUM	4	3	10	23	30	44	51	60	46	30	8	-7	-7	
	DATE OF OCCURRENCE	14	22	02	01	03	02	28	18+	25	21+	27	09	DEC 09	
	AVERAGE DRY BULB	26.4	30.7	36.1	46.1	61.5	72.6	76.3	75.9	70.2	52.2	38.1	24.9	50.9	
	MEAN WET BULB	23.7	27.4	31.6	39.5	54.2	63.4	67.0	68.7	61.5	45.7	32.4	20.4	44.6	
	MEAN DEW POINT	18.6	22.0	25.5	32.7	48.5	57.6	61.6	65.5	56.3	39.4	25.1	12.9	38.8	
	NUMBER OF DAYS WITH:														
	MAXIMUM >= 90°	0	0	0	0	2	8	14	10	8	0	0	0	0	42
	MAXIMUM <= 32°	12	7	5	1	0	0	0	0	0	0	1	13	39	
MINIMUM <= 32°	30	27	29	18	1	0	0	0	0	4	24	31	164		
MINIMUM <= 0°	0	0	0	0	0	0	0	0	0	0	0	4	4		
H/C	HEATING DEGREE DAYS	1190	954	888	569	186	21	3	0	21	403	801	1236	6272	
	COOLING DEGREE DAYS	0	0	0	6	89	259	361	348	187	15	0	0	1265	
RH	MEAN (PERCENT)	75	74	69	66	68	62	64	74	66	67	65	65	68	
	HOUR 00 LST	78	81	78	75	77	74	75	83	76	76	75	72	77	
	HOUR 06 LST	81	83	82	81	84	81	82	89	82	83	80	74	82	
	HOUR 12 LST	68	63	58	55	56	48	48	61	52	50	49	53	55	
	HOUR 18 LST	72	66	55	52	52	44	48	62	52	56	59	61	57	
W/O	NUMBER OF DAYS WITH:														
	HEAVY FOG(VISBY <= 1/4 MI)	7	5	3	3	4	0	1	2	2	0	0	0	27	
	THUNDERSTORMS	0	0	2	4	6	7	3	4	2	4	0	0	32	
PR	MEAN STATION PRESS. (IN.)	28.12	28.03	28.09	28.00	27.99	27.97	28.07	28.08	28.00	28.02	28.17	28.11	28.05	
	MEAN SEA-LEVEL PRESS. (IN.)	30.15	30.04	30.10	29.97	29.93	29.89	29.98	29.99	29.93	29.98	30.17	30.14	30.02	
WINDS	RESULTANT SPEED (MPH)	4.1	4.1	2.7		0.7	1.0	4.5	5.8	4.5	3.1	2.6	4.4		
	RES. DIR. (TENS OF DEGS.)	27	31	36		02	12	15	16	17	26	26	31		
	MEAN SPEED (MPH)	9.8	12.6	12.4	14.2	12.3	11.2	8.4	8.8	10.1	11.6	10.8	10.9	11.1	
	PREVAIL.DIR.(TENS OF DEGS.)	22	34	33	19	01	16	16	17	17	16	17	35	17	
	MAXIMUM 2-MINUTE WIND														
	SPEED (MPH)	37	43	40	39	32	41	39	43	31	33	37	39	43	
	DIR. (TENS OF DEGS.)	35	31	35	04	28	27	34	06	28	28	32	31	06	
	DATE OF OCCURRENCE	30	10	10	09	31	14	23	01	27	05	01	30	AUG 01	
	MAXIMUM 3-SECOND WIND:														
	SPEED (MPH)	43	55	47	55	45	54	48	59	39	43	49	48	59	
DIR. (TENS OF DEGS.)	33	32	35	04	12	27	33	06	35	30	32	35	06		
DATE OF OCCURRENCE	31	10	10	09	27	14	23	01	19	05	01	28	AUG 01		
PRECIPITATION	WATER EQUIVALENT:														
	TOTAL (IN.)	0.16	0.97	1.64	3.83	6.77	1.63	1.39	3.02	2.38	4.05	0.97	0.11	26.92	
	GREATEST 24-HOUR (IN.)	0.09	0.77	0.58	1.52	3.09	0.75	0.43	1.04	0.79	2.26	0.90	0.10	3.09	
	DATE OF OCCURRENCE	10	21	29-30	08-09	24-25	22-23	29	11	04	02-03	05	07-08	MAY 24-25	
	NUMBER OF DAYS WITH:														
	PRECIPITATION 0.01	3	7	8	10	10	8	10	9	9	6	3	3	86	
PRECIPITATION 0.10	0	1	6	6	9	3	6	6	6	4	1	0	48		
PRECIPITATION 1.00	0	0	0	1	2	0	0	1	0	2	0	0	6		
SNOWFALL	SNOW,ICE PELLETS,HAIL	0.6	11.0	6.2	6.9	0.7	0.0	0.0	0.0	0.0	0.0	0.2	2.2	27.8	
	TOTAL (IN.)	0.3	8.8	3.5	4.0	0.7	0.0	0.0	0.0	0.0	0.0	0.2	1.1	8.8	
	GREATEST 24-HOUR (IN.)	21	21	10	18	01						21	08	FEB 21	
	DATE OF OCCURRENCE	5	10	3	2	T	0	0	0	0	0	T	1	10	
	MAXIMUM SNOW DEPTH (IN.)	03+	23+	03+	18+	02						23+	11+	FEB 23+	
	DATE OF OCCURRENCE														
	NUMBER OF DAYS WITH:														
SNOWFALL >= 1.0	0	2	2	2	0	0	0	0	0	0	0	2	8		

# NORMALS, MEANS, AND EXTREMES GRAND ISLAND (KGRI)

**LATITUDE:** 40° 57'N      **LONGITUDE:** 98° 18'W      **ELEVATION (FT):** GRND: 1840 BARO: 1844      **TIME ZONE:** CENTRAL (UTC -6)      **WBAN: 14935**

	ELEMENT	POR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
<b>TEMPERATURE °F</b>	NORMAL DAILY MAXIMUM	30	35.8	39.8	51.1	63.2	72.7	83.2	87.7	85.4	78.0	64.8	49.4	36.9	62.3
	MEAN DAILY MAXIMUM	113	34.2	37.1	49.6	62.0	73.1	82.4	89.5	87.3	77.3	66.3	49.3	37.4	62.1
	HIGHEST DAILY MAXIMUM	67	76	79	90	96	102	107	109	110	104	96	84	76	110
	YEAR OF OCCURRENCE		1990	2006	1986	2012	2013	2012	2006	1983	1998	1947	2006	1964	AUG 1983
	MEAN OF EXTREME MAXS.	114	57.8	63.5	75.5	86.0	91.3	98.3	100.6	99.2	94.2	86.1	72.3	61.2	82.2
	NORMAL DAILY MINIMUM	30	14.4	18.4	27.6	37.9	49.6	59.4	64.7	62.6	52.3	39.6	26.8	16.4	39.1
	MEAN DAILY MINIMUM	113	12.9	16.3	26.5	37.5	49.3	58.5	64.8	62.5	51.8	40.2	26.5	16.9	38.6
	LOWEST DAILY MINIMUM	67	-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.	114	-9.4	-3.9	6.0	22.1	34.3	45.7	53.3	50.7	35.7	23.3	8.6	-4.2	21.9
	NORMAL DRY BULB	30	25.1	29.1	39.4	50.6	61.2	71.3	76.2	74.0	65.1	52.2	38.1	26.7	50.8
	MEAN DRY BULB	113	23.6	26.8	38.1	49.8	61.2	70.5	77.2	74.9	64.6	53.2	37.9	27.2	50.4
	MEAN WET BULB	30	20.7	24.0	32.8	42.0	52.8	61.9	66.9	65.3	55.5	43.5	31.3	22.6	43.3
	MEAN DEW POINT	30	18.0	21.3	29.5	38.6	50.5	59.7	65.1	63.7	53.0	40.4	28.5	20.1	40.7
	NORMAL NO. DAYS WITH: MAXIMUM >= 90	30	0.0	0.0	0.1	0.5	1.1	6.5	12.2	8.3	3.7	0.4	0.0	0.0	32.8
	MAXIMUM <= 32	30	12.4	8.5	2.9	0.1	0.0	0.0	0.0	0.0	0.0	0.2	3.0	10.7	37.8
MINIMUM <= 32	30	30.3	25.6	21.1	7.4	0.3	0.0	0.0	0.0	0.4	6.0	21.2	30.1	142.4	
MINIMUM <= 0	30	4.0	2.3	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	2.5	9.6	
<b>H/C</b>	NORMAL HEATING DEG. DAYS	30	1237	1005	796	445	173	24	2	8	105	408	807	1189	6199
	NORMAL COOLING DEG. DAYS	30	0	0	0	11	54	213	349	287	109	11	0	0	1034
<b>RH</b>	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
<b>S</b>	PERCENT POSSIBLE SUNSHINE														
<b>W/O</b>	MEAN NO. DAYS WITH: HEAVY FOG (VISIB <= 1/4 MI)	50	2.0	2.3	2.3	1.3	1.1	0.8	0.9	1.9	1.4	1.8	1.8	2.5	20.1
	THUNDERSTORMS	66	0.0	0.2	1.2	3.5	7.4	9.1	8.4	7.4	4.7	1.9	0.4	0.1	44.3
<b>CLOUDINESS</b>	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
<b>PR</b>	MEAN STATION PRESSURE (IN)	30	28.10	28.10	28.04	27.97	27.98	27.98	28.03	28.06	28.06	28.06	28.07	28.10	28.05
	MEAN SEA-LEVEL PRES. (IN)	30	30.14	30.12	30.03	29.93	29.92	29.89	29.94	29.98	30.00	30.03	30.07	30.12	30.01
<b>WINDS</b>	MEAN SPEED (MPH)	30	11.1	11.5	12.5	13.4	12.1	11.0	9.4	9.1	10.4	11.0	11.3	11.1	11.2
	PREVAIL. DIR. (TENS OF DEGS)	38	34	35	36	36	17	17	17	17	17	19	19	34	17
	MAXIMUM 2-MINUTE: SPEED (MPH)	21	54	53	53	52	59	68	59	52	48	51	55	52	68
	DIR. (TENS OF DEGS)		34	33	34	21	29	30	29	22	17	33	32	31	30
	YEAR OF OCCURRENCE		1996	2002	1996	1994	2000	1993	1993	1999	2010	1996	2005	1997	JUN 1993
	MAXIMUM 3-SECOND SPEED (MPH)	21	64	61	61	60	80	77	72	70	61	63	62	63	80
	DIR. (TENS OF DEGS)		35	33	33	34	24	30	29	23	17	31	32	32	24
	YEAR OF OCCURRENCE		1996	2002	1996	1999	1996	1993	1993	1999	2010	2012	2005	1997	MAY 1996
<b>PRECIPITATION</b>	NORMAL (IN)	30	0.53	0.68	1.80	2.53	4.41	4.30	3.40	3.12	2.23	1.86	1.17	0.63	26.66
	MAXIMUM MONTHLY (IN)	74	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)	74	T	0.02	0.01	0.09	0.43	0.50	0.16	0.50	0.01	0.00	T	0.02	0.00
	YEAR OF OCCURRENCE		1986	1996	1967	1989	1964	1978	2012	1940	1998	1958	2007	1943	OCT 1958
	MAXIMUM IN 24 HOURS (IN)	74	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	5.1	5.1	7.1	8.4	11.6	10.5	8.8	8.2	7.0	6.6	5.3	5.0	88.7
	PRECIPITATION >= 1.00	30	0.0	0.0	0.4	0.6	1.1	1.3	1.0	0.9	0.5	0.4	0.2	0.0	6.4
<b>SNOWFALL</b>	NORMAL (IN)	30	6.5	6.3	5.4	1.5	0.0	0.0	0.0	0.0	0.1	1.0	3.1	5.1	29.0
	MAXIMUM MONTHLY (IN)	73	18.7	21.5	21.6	9.0	4.5	T	T	T	3.8	9.8	17.1	26.5	26.5
	YEAR OF OCCURRENCE		2011	1969	2006	1984	1947	2008	1991	1992	1985	1991	1983	2009	DEC 2009
	MAXIMUM IN 24 HOURS (IN)	73	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)	67	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	2.1	1.1	0.4	0.0	0.0	0.0	0.0	0.0	0.2	1.0	1.5	8.3

**PRECIPITATION (inches) 2013 GRAND ISLAND (KGRI)**

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
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
2010	0.54	0.66	2.53	1.94	4.24	8.77	4.10	3.87	1.66	0.30	0.44	0.24	29.29
2011	1.49	0.28	1.02	2.93	8.70	1.72	4.37	2.30	0.83	2.20	0.21	1.11	27.16
2012	0.16	1.05	0.83	1.41	2.29	1.27	0.16	0.94	0.47	0.78	0.53	1.66	11.55
2013	0.16	0.97	1.64	3.83	6.77	1.63	1.39	3.02	2.38	4.05	0.97	0.11	26.92
POR= 114 YRS	0.54	0.78	1.47	2.48	4.03	3.91	3.12	2.94	2.51	1.63	0.96	0.67	25.04

WBAN : 14935

**AVERAGE TEMPERATURE (°F) 2013 GRAND ISLAND (KGRI)**

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
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
2010	20.0	23.9	41.8	54.4	59.2	72.9	76.1	76.8	65.8	55.6	38.0	25.6	50.8
2011	18.6	27.4	38.1	49.8	59.8	71.8	79.4	74.8	61.1	54.9	39.6	29.6	50.4
2012	32.3	30.1	54.1	56.2	66.7	75.7	82.5	74.9	66.6	50.3	42.1	28.5	55.0
2013	26.4	30.7	36.1	46.1	61.5	72.6	76.3	75.9	70.2	52.2	38.1	24.9	50.9
POR= 113 YRS	23.6	26.8	38.1	49.8	61.2	70.5	77.2	74.9	64.6	53.2	37.9	27.2	50.4

**HEATING DEGREE DAYS (base 65°F) 2013 GRAND ISLAND (KGRI)**

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
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
2009-10	0	15	82	624	630	1441	1387	1146	712	316	241	0	6594
2010-11	0	0	62	292	802	1214	1431	1047	827	454	199	11	6339
2011-12	0	0	161	329	753	1089	1007	1007	348	282	74	11	5061
2012-13	0	4	66	451	679	1125	1190	954	888	569	186	21	6133
2013-	3	0	21	403	801	1236							

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**COOLING DEGREE DAYS (base 65°F) 2013 GRAND ISLAND (KGRI)**

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
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
2010	0	0	0	6	68	242	351	373	90	9	0	0	1139
2011	0	0	0	6	47	222	453	311	49	24	0	0	1112
2012	0	0	20	25	137	339	547	316	119	4	0	0	1507
2013	0	0	0	6	89	259	361	348	187	15	0	0	1265

## SNOWFALL (inches) 2013 GRAND ISLAND (KGRI)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
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				7.0	0.4	3.2	5.1	1.5	11.0	T	T	0.0	
1997-98				0.0	4.2	2.5	5.7	3.1	4.2	T	0.0	0.0	19.7
1998-99	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
1999-00	0.0	0.0	0.0	T	6.0	7.4	13.6	10.9	2.0	T	0.0	0.0	39.9
2000-01	0.0	0.0	0.0	0.0	T	1.7	13.0	1.0	11.0	0.0	T	0.0	26.7
2001-02	0.0	0.0	0.0	4.0	T	0.2	8.2	11.6	0.1	7.3	T	0.0	31.4
2002-03	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
2003-04	0.0	0.0	0.0	0.0	5.3	T	10.7	4.6	0.5	T	0.0	0.0	21.1
2004-05	0.0	0.0	0.0	T	2.8	5.0	T	1.4	21.6	T	0.0	T	30.8
2005-06	0.0	0.0	0.0	T	0.5	T	8.4	2.3	0.1	T	0.0	0.0	11.3
2006-07	0.0	0.0	0.0	0.0	0.1	9.0	3.8	2.7	0.1	0.3	T	T	16.0
2007-08	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
2008-09	0.0	0.0	0.0	4.5	T	26.5	5.6	7.4	0.5	T	0.0	0.0	44.5
2009-10	0.0	0.0	0.0	0.0	T	3.0	18.7	2.2	8.7	0.2	0.0	0.0	32.8
2010-11	0.0	0.0	0.0	0.0	T	8.3	1.6	10.2	T	0.0	0.0	0.0	20.1
2011-12	0.0	0.0	0.0	T	0.3	9.5	0.6	11.0	6.2	6.9	0.7	0.0	35.2
2012-13	0.0	0.0	0.0	0.0	0.2	2.2							
2013-	0.0	0.0	0.0	0.0	0.2	2.2							
POR= 114 YRS	T	T	0.1	0.6	2.4	5.2	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. ASOS INDICATES AUTOMATED SURFACE OBSERVING SYSTEM. PM INDICATES THE LAST DAY OF THE PREVIOUS MONTH. POR (PERIOD OF RECORD) BEGINS WITH THE JANUARY DATA MONTH AND IS THE NUMBER OF YEARS USED TO COMPUTE THE MEAN. INDIVIDUAL MONTHS WITHIN THE POR MAY BE MISSING. WHEN THE POR FOR A NORMAL IS LESS THAN 30 YEARS, THE NORMAL IS PROVISIONAL AND IS BASED ON THE NUMBER OF YEARS INDICATED. 0.* OR * INDICATES THE VALUE OR MEAN-DAYS-WITH IS BETWEEN 0.00 AND 0.05. CLOUDINESS FOR ASOS STATIONS DIFFERS FROM THE NON-ASOS OBSERVATION TAKEN BY A HUMAN OBSERVER. ASOS STATION CLOUDINESS IS BASED ON TIME-AVERAGED CEILOMETER DATA FOR CLOUDS AT OR BELOW 12,000 FEET CLEAR INDICATES 0 - 2 OKTAS, PARTLY CLOUDY INDICATES 3 - 6 OKTAS, AND CLOUDY INDICATES 7 OR 8 OKTAS.</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</p>	<p>PRECIPITATION, INCLUDING HAIL. A HEATING (COOLING) DEGREE DAY IS THE DIFFERENCE BETWEEN THE AVERAGE DAILY TEMPERATURE AND 65 F. DRY BULB IS THE TEMPERATURE OF THE AMBIENT AIR. DEW POINT IS THE TEMPERATURE TO WHICH THE AIR MUST BE COOLED TO ACHIEVE 100 PERCENT RELATIVE HUMIDITY. WET BULB IS THE TEMPERATURE THE AIR WOULD HAVE IF THE MOISTURE CONTENT WAS INCREASED TO 100 PERCENT RELATIVE HUMIDITY. ON JULY 1, 1996, THE NATIONAL WEATHER SERVICE BEGAN USING THE "METAR" OBSERVATION CODE THAT WAS ALREADY EMPLOYED BY MOST OTHER NATIONS OF THE WORLD. THE MOST NOTICEABLE DIFFERENCE IN THIS ANNUAL PUBLICATION WILL BE THE CHANGE IN UNITS FROM TENTHS TO EIGHTHS(OKTAS) FOR REPORTING THE AMOUNT OF SKY COVER. STATION HISTORY STOPPED WITH THE 2009 ANNUAL. IF YOU NEED STATION HISTORY INFORMATION GO TO "Historical Observing Metadata Repository", URL IS: <a href="http://www.ncdc.noaa.gov/homr/">http://www.ncdc.noaa.gov/homr/</a> SNOWFALL STOPPED MONTH &amp; YEAR INDICATED ABOVE. NO FURTHER YEARS INCLUDED UNLESS RESTARTED.</p> <p><b>NOTE:</b> The "Period of Record:(POR)" for all "averages" is based on "Summary of the Day First Order Station" and "Cooperative Summary of the Day" archives.</p>
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# 2013 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.

# Station History

GRAND ISLAND, NE

NAME	Begin Date	End Date	Latitude	Longitude	Elevation Feet	Relocation	Platform
GRAND ISLAND AIRPARK	1971-03-01	1973-01-01	40° 58'	-98° 19'	1841		AIRWAYS, COOP
GRAND ISLAND CENTRAL NE REGIONAL AP	1997-10-01	2000-11-10	40° 57'	-98° 18'	1841		AIRWAYS, ASOS, COOP, WXSVC
GRAND ISLAND CENTRAL AP	1938-01-01	1938-03-01	40° 58'	-98° 19'			AIRWAYS
GRAND ISLAND AIRPARK	1973-01-01	1980-06-01	40° 58'	-98° 19'	1841		COOP, WXSVC
GRAND ISLAND CENTRAL NE REGIONAL AP	2004-03-01	Present	40° 57'	-98° 18'	1840		AIRWAYS, ASOS, COOP, WXSVC
GRAND ISLAND MUNICIPAL AP	1938-03-01	1947-12-01	40° 58'	-98° 19'	1846		AIRWAYS
GRAND ISLAND CENTRAL NE REGIONAL AP	1995-04-15	1996-03-01	40° 58'	-98° 19'	1841		ASOS, COOP, WXSVC
GRAND ISLAND CENTRAL AP	1931-01-01	1938-01-01	40° 57'	-98° 19'			AIRWAYS
GRAND ISLAND CENTRAL NE REGIONAL AP	1992-10-01	1995-04-15	40° 58'	-98° 19'	1841	.8 MI SE	ASOS, COOP, WXSVC
GRAND ISLAND MUNICIPAL AP	1947-12-01	1970-04-24	40° 58'	-98° 19'	1860		AIRWAYS, COOP
GRAND ISLAND MUNICIPAL AP	1970-04-24	1970-12-01	40° 58'	-98° 19'	1841		AIRWAYS, COOP
GRAND ISLAND HALL CO AP	1970-12-01	1971-03-01	40° 58'	-98° 19'	1841		AIRWAYS, COOP
GRAND ISLAND AP	1980-06-01	1992-10-01	40° 58'	-98° 19'	1841		COOP, WXSVC
GRAND ISLAND CENTRAL NE REGIONAL AP	2000-11-10	2004-03-01	40° 57'	-98° 18'	1840		AIRWAYS, ASOS, COOP, WXSVC
GRAND ISLAND CENTRAL AP	1929-01-01	1929-08-31	40° 57'	-98° 19'			AIRWAYS
GRAND ISLAND CENTRAL NE REGIONAL AP	1996-03-01	1997-10-01	40° 58'	-98° 19'	1841		AIRWAYS, ASOS, COOP, WXSVC

# Element History

Element	Begin Date	End Date	Frequency	Time Of Observation	Equipment *	Equipment * Modifications	Equipment Exposure
EVAP	1929-01-01	1982-01-01	DAILY	0800			
EVAP	1987-12-01	1992-10-01	DAILY	0700	WIND		
EVAP	1992-10-01	1995-04-15	DAILY	0700	SIXES		
PRECIP	2010-06-30	Present	DAILY	2400	PCPN1	SHLD	
PRECIP	2010-06-30	Present	HOURLY	2400	TB	RCRD	
TEMP	1982-01-01	1987-12-01	DAILY	2400			
EVAP	1987-12-01	1992-10-01	DAILY	0700	SIXES		
TEMP	1987-12-01	1992-10-01	DAILY	2400	HYGR		
EVAP	1992-10-01	1995-04-15	DAILY	0700	WIND		
PRECIP	1992-10-01	2004-03-01	DAILY	2400	TB	RCRD	
PRECIP	1982-01-01	1987-12-01	DAILY	2400	UNIV	RCRD	
EVAP	1982-01-01	1987-12-01	DAILY	0800			
EVAP	1987-12-01	1992-10-01	DAILY	0700	PAN-LEVEL		
PRECIP	1992-10-01	2004-03-01	HOURLY	2400	TB	RCRD	
EVAP	1992-10-01	1995-04-15	DAILY	0700	PAN-LEVEL		
TEMP	2010-06-30	Present	DAILY	2400	HYGR		
PRECIP	1929-01-01	1982-01-01	DAILY	2400	UNIV	RCRD	
PRECIP	1982-01-01	1987-12-01	HOURLY	2400	UNIV	RCRD	
PRECIP	1987-12-01	1992-10-01	DAILY	2400	UNIV	RCRD	
TEMP	1929-01-01	1982-01-01	DAILY	2400			
PRECIP	1987-12-01	1992-10-01	HOURLY	2400	UNIV	RCRD	
PRECIP	2004-03-01	2010-06-30	HOURLY	2400	TB	RCRD	
TEMP	2004-03-01	2010-06-30	DAILY	2400	HYGR		
PRECIP	2004-03-01	2010-06-30	DAILY	2400	PCPNX		
TEMP	1992-10-01	2004-03-01	DAILY	2400	HYGR		

\* For explanation of codes and abbreviations see Station Metadata link below.

Other Station Information can be found at:

ASOS Implementation by NWS: <http://www.nws.noaa.gov/ops2/Surface/asosimplementation.htm>

Station Metadata website: <http://www.ncdc.noaa.gov/homr>

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NOAA/National Climatic Data Center

Attn: User Engagement & Services Branch

151 Patton Avenue

Asheville, NC 28801-5001

Visit our Web Site for other weather data: [www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)