

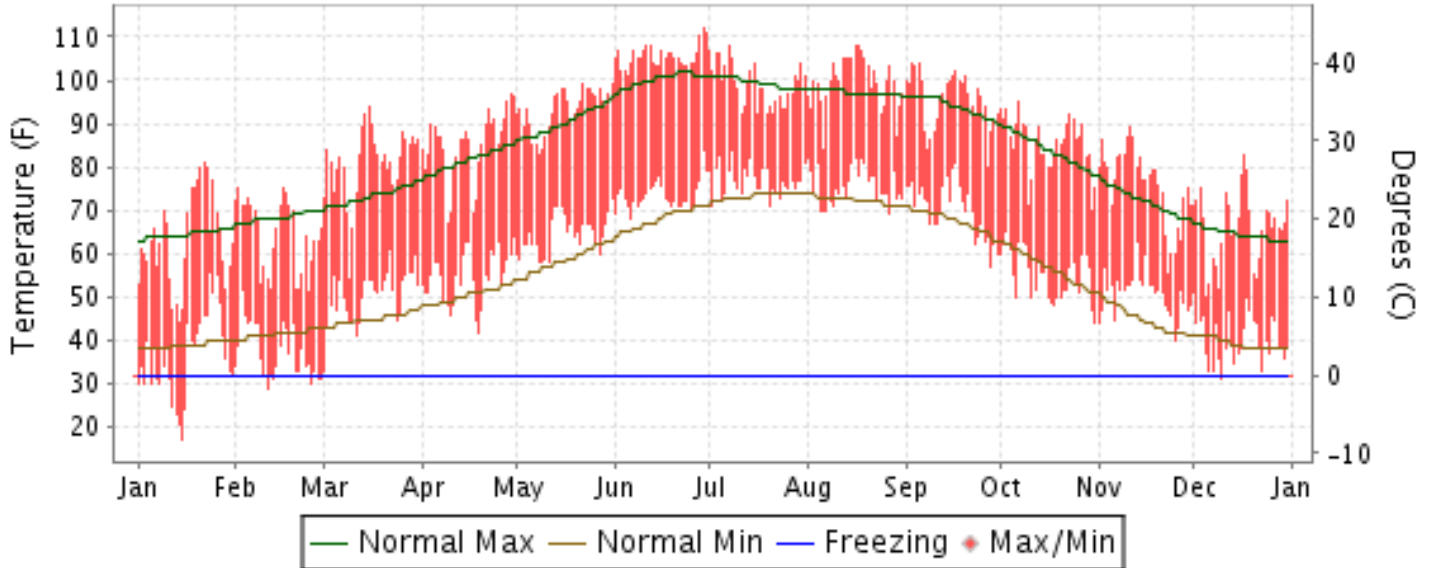


# 2013 LOCAL CLIMATOLOGICAL DATA ANNUAL SUMMARY WITH COMPARATIVE DATA

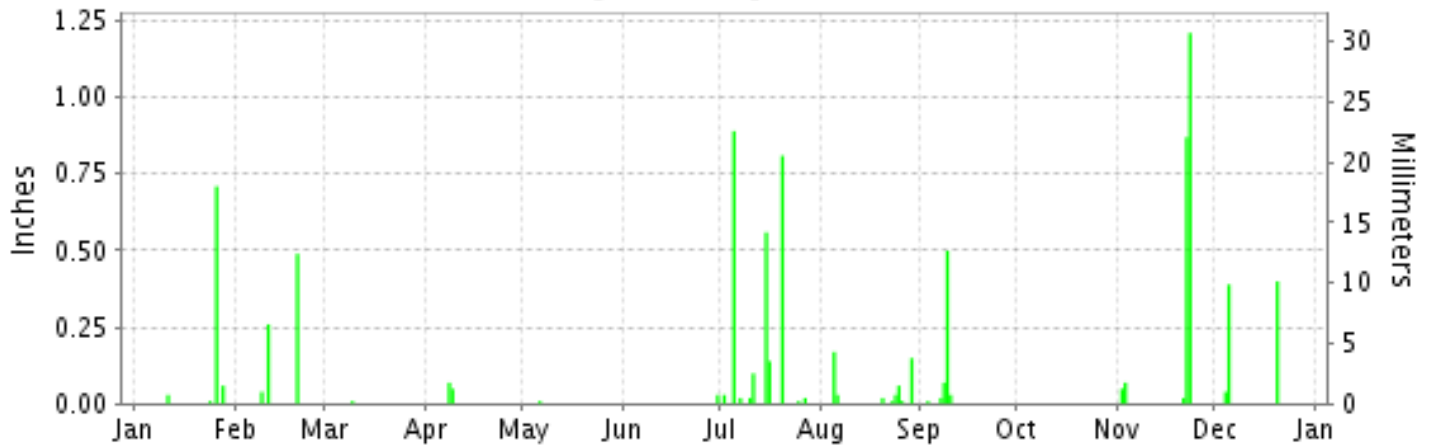
ISSN 0198-0580

## TUCSON, ARIZONA (KTUS)

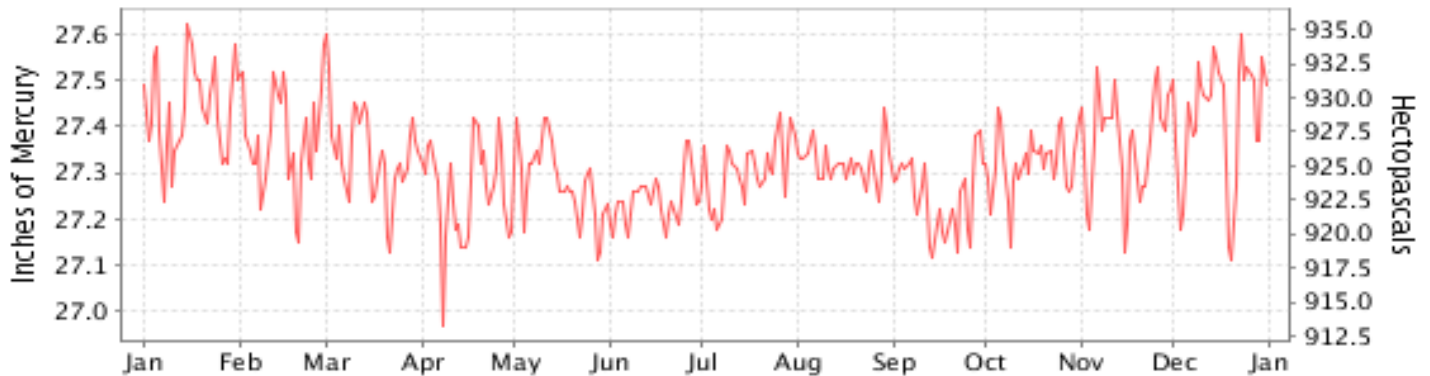
### Daily Max/Min Temperature



### Daily Precipitation



### Daily Station Pressure



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ASHEVILLE, NORTH CAROLINA

*Thomas R. Karl*  
DIRECTOR  
NATIONAL CLIMATIC DATA CENTER

# METEOROLOGICAL DATA FOR 2013

## TUCSON (KTUS)

LATITUDE: 32° 7'N      LONGITUDE: 110° 57'W      ELEVATION (FT): GRND: 2549 BARO: 2581      TIME ZONE: MOUNTAIN (UTC -7)      WBAN: 23160

ELEMENT		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	
TEMPERATURE °F	MEAN DAILY MAXIMUM	63.2	64.3	80.9	85.0	93.2	105.4	99.0	99.5	95.5	85.4	75.8	66.0	84.4	
	HIGHEST DAILY MAXIMUM	81	75	94	97	99	112	108	108	104	95	89	83	112	
	DATE OF OCCURRENCE	22	16+	15	29	31+	29	07	17+	05+	07	11	17	JUN 29	
	MEAN DAILY MINIMUM	36.5	37.4	50.5	54.6	64.5	73.5	76.9	75.6	70.4	55.1	50.9	40.5	57.2	
	LOWEST DAILY MINIMUM	17	29	33	42	58	68	71	69	57	44	40	31	17	
	DATE OF OCCURRENCE	15	11	01	19	11+	06	20+	27	28	31	25	10	JAN 15	
	AVERAGE DRY BULB	49.9	50.9	65.7	69.8	78.9	89.4	88.0	87.5	83.0	70.2	63.4	53.2	70.8	
	MEAN WET BULB	39.1	40.1	46.8	48.4	53.7	58.6	69.4	67.4	63.2	49.5	49.6	42.4	52.4	
	MEAN DEW POINT	24.4	25.6	22.7	20.1	25.5	28.0	59.7	55.8	49.1	26.2	35.9	29.5	33.5	
	NUMBER OF DAYS WITH:														
	MAXIMUM >= 90°	0	0	3	9	24	30	31	29	24	10	0	0	160	
	MAXIMUM <= 32°	0	0	0	0	0	0	0	0	0	0	0	0	0	
MINIMUM <= 32°	12	7	0	0	0	0	0	0	0	0	0	1	20		
MINIMUM <= 0°	0	0	0	0	0	0	0	0	0	0	0	0	0		
H/C	HEATING DEGREE DAYS	463	391	61	27	0	0	0	0	0	13	93	359	1407	
	COOLING DEGREE DAYS	0	0	91	182	438	741	720	702	547	183	49	0	3653	
RH	MEAN (PERCENT)	44	45	24	18	17	13	43	40	35	22	42	46	32	
	HOUR 05 LST	61	67	37	29	28	22	59	55	52	34	54	64	47	
	HOUR 11 LST	32	33	15	12	10	8	31	27	27	16	32	32	23	
	HOUR 17 LST	29	28	14	9	9	6	34	30	24	15	33	36	22	
	HOUR 23 LST	52	52	29	22	21	16	49	48	39	26	50	55	38	
W/O	NUMBER OF DAYS WITH:														
	HEAVY FOG(VISBY <= 1/4 MI)	0	0	0	0	0	0	1	0	0	0	0	0	1	
	THUNDERSTORMS	0	0	1	0	0	2	12	11	2	0	0	0	28	
PR	MEAN STATION PRESS. (IN.)	27.47	27.38	27.33	27.26	27.28	27.24	27.30	27.32	27.25	27.32	27.37	27.42	27.33	
	MEAN SEA-LEVEL PRESS. (IN.)	30.10	30.01	29.91	29.82	29.82	29.75	29.82	29.84	29.77	29.89	29.96	30.05	29.90	
WINDS	RESULTANT SPEED (MPH)	2.2	1.8	1.8	3.3	2.9	2.8	1.8	3.0	3.1	2.8	3.6	2.4	2.2	
	RES. DIR. (TENS OF DEGS.)	15	20	22	23	20	24	16	16	15	19	14	15	19	
	MEAN SPEED (MPH)	6.5	6.7	6.7	8.1	8.6	7.5	7.4	7.1	7.6	7.3	7.9	6.2	7.3	
	PREVAIL.DIR.(TENS OF DEGS.)	14	15	14	14	14	15	12	14	14	14	12	13	14	
	MAXIMUM 2-MINUTE WIND														
	SPEED (MPH)	31	29	32	37	36	43	47	32	29	33	33	32	47	
	DIR. (TENS OF DEGS.)	12	32	24	22	13	16	04	18	19	20	12	13	04	
	DATE OF OCCURRENCE	17	24	08	08	03	30	05	24	03	09	13	26	JUL 05	
	MAXIMUM 3-SECOND WIND:														
	SPEED (MPH)	40	38	47	49	44	68	74	61	40	41	43	38	74	
DIR. (TENS OF DEGS.)	12	34	22	22	12	14	05	12	23	19	12	14	05		
DATE OF OCCURRENCE	17	24	08	08	03	30	05	17	26	09	13	26	JUL 05		
PRECIPITATION	WATER EQUIVALENT:														
	TOTAL (IN.)	0.81	0.79	0.01	0.12	0.01	0.03	2.60	0.48	0.63	0.00	2.22	0.83	8.53	
	GREATEST 24-HOUR (IN.)	0.71	0.49	0.01	0.12	0.01	0.03	0.89	0.20	0.53	0.00	1.72	0.43	1.72	
	DATE OF OCCURRENCE	26	20	09	08-09	06	30	05	05-06	09-10		22-23	04-05	NOV 22-23	
	NUMBER OF DAYS WITH:														
	PRECIPITATION 0.01	4	3	1	2	1	1	10	8	5	0	5	3	43	
PRECIPITATION 0.10	1	2	0	0	0	0	5	2	1	0	2	2	15		
PRECIPITATION 1.00	0	0	0	0	0	0	0	0	0	0	1	0	1		
SNOWFALL	SNOW,ICE PELLETS,HAIL														
	TOTAL (IN.)	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	
	GREATEST 24-HOUR (IN.)	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	
	DATE OF OCCURRENCE		20											FEB 20	
	MAXIMUM SNOW DEPTH (IN.)	0	0	0	0	0	0	0	0	0	0	0	0	0	
DATE OF OCCURRENCE															
NUMBER OF DAYS WITH:															
SNOWFALL >= 1.0	0	1	0	0	0	0	0	0	0	0	0	0	1		

# NORMALS, MEANS, AND EXTREMES TUCSON (KTUS)

**LATITUDE:** 32° 7'N      **LONGITUDE:** 110° 57'W      **ELEVATION (FT):** GRND: 2549 BARO: 2581      **TIME ZONE:** MOUNTAIN (UTC -7)      **WBAN: 23160**

ELEMENT		POR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
<b>TEMPERATURE °F</b>	NORMAL DAILY MAXIMUM	30	65.5	68.5	74.1	82.1	91.6	100.3	99.7	97.4	94.5	84.8	73.5	64.8	83.1
	MEAN DAILY MAXIMUM	65	65.0	68.2	73.6	81.7	90.6	99.8	99.3	97.2	94.3	84.8	73.4	65.3	82.8
	HIGHEST DAILY MAXIMUM	73	87	92	99	104	109	117	114	112	107	102	93	84	117
	YEAR OF OCCURRENCE		1999	1957	1988	1989	2005	1990	1995	1993	2000	2010	2009	2010	JUN 1990
	MEAN OF EXTREME MAXS.	65	78.0	81.4	86.9	93.6	101.1	107.9	107.8	104.8	102.3	95.7	85.3	78.0	93.6
	NORMAL DAILY MINIMUM	30	39.8	42.2	46.2	52.0	60.5	69.3	74.4	73.3	68.6	57.3	46.1	39.1	55.7
	MEAN DAILY MINIMUM	65	38.8	40.9	45.1	51.1	59.0	68.3	74.5	72.8	68.1	56.9	45.6	39.1	55.0
	LOWEST DAILY MINIMUM	73	16	18	20	27	38	47	59	61	44	26	23	16	16
	YEAR OF OCCURRENCE		1949	2011	1965	1945	1950	1955	1992	1956	1965	1971	2010	1974	DEC 1974
	MEAN OF EXTREME MINS.	65	26.9	29.6	32.6	39.4	47.2	57.5	67.2	66.8	59.1	43.7	32.3	26.9	44.1
	NORMAL DRY BULB	30	52.6	55.3	60.1	67.0	76.0	84.8	87.0	85.3	81.6	71.0	59.8	51.9	69.4
	MEAN DRY BULB	65	51.9	54.6	59.3	66.4	74.8	84.2	86.9	85.0	81.2	70.8	59.5	52.2	68.9
	MEAN WET BULB	30	37.5	38.9	40.4	42.3	46.6	52.4	64.6	66.0	60.0	49.3	41.5	38.2	48.1
	MEAN DEW POINT	30	32.5	32.6	33.3	34.1	37.5	43.3	58.3	62.1	54.3	43.7	35.6	32.5	41.7
	NORMAL NO. DAYS WITH: MAXIMUM >= 90	30	0.0	0.0	0.6	5.4	19.3	28.8	29.2	28.2	24.2	8.3	0.3	0.0	144.3
	MAXIMUM <= 32	30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	MINIMUM <= 32	30	3.8	1.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	4.2	10.6
MINIMUM <= 0	30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
<b>H/C</b>	NORMAL HEATING DEG. DAYS	30	383	273	179	60	5	0	0	0	0	24	182	405	1511
	NORMAL COOLING DEG. DAYS	30	1	3	29	121	348	594	683	631	497	212	27	0	3146
<b>RH</b>	NORMAL (PERCENT)	30	49	45	39	28	24	21	40	47	41	39	43	50	39
	HOURLY 05 LST	30	62	59	55	43	37	33	55	64	57	53	56	62	53
	HOURLY 11 LST	30	41	36	31	21	18	17	32	37	33	32	34	41	31
	HOURLY 17 LST	30	31	27	24	16	14	13	27	32	27	25	27	33	25
	HOURLY 23 LST	30	57	50	43	31	26	23	44	52	46	44	49	56	43
<b>S</b>	PERCENT POSSIBLE SUNSHINE	52	80	81	86	92	93	92	78	80	87	88	85	79	85
<b>W/O</b>	MEAN NO. DAYS WITH: HEAVY FOG(VISBY <= 1/4 MI)	50	0.3	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.3	1.0
	THUNDERSTORMS	65	0.3	0.3	0.5	0.6	1.4	2.5	12.8	13.1	5.2	1.7	0.4	0.3	39.1
<b>CLOUDINESS</b>	MEAN: SUNRISE-SUNSET (OKTAS)				2.4		0.0	1.6							
	MIDNIGHT-MIDNIGHT (OKTAS)						0.0	1.6							
	MEAN NO. DAYS WITH: CLEAR	1	1.0	5.0	12.0		27.0	15.0							
	PARTLY CLOUDY	1	1.0	3.0	3.0		1.0	2.0							
	CLOUDY			4.0	1.0			1.0							
<b>PR</b>	MEAN STATION PRESSURE(IN)	30	27.41	27.38	27.33	27.29	27.26	27.25	27.31	27.32	27.30	27.33	27.38	27.41	27.33
	MEAN SEA-LEVEL PRES. (IN)	30	30.04	29.99	29.92	29.85	29.80	29.76	29.82	29.84	29.82	29.89	29.98	30.04	29.90
<b>WINDS</b>	MEAN SPEED (MPH)	30	7.2	7.5	8.0	8.4	8.4	8.3	8.0	7.5	7.9	7.6	7.4	6.9	7.8
	PREVAIL.DIR(TENS OF DEGS)	34	14	15	15	15	15	15	15	15	15	15	15	15	15
	MAXIMUM 2-MINUTE: SPEED (MPH)	18	36	37	40	39	43	48	55	48	46	40	33	37	55
	DIR. (TENS OF DEGS)		20	20	14	18	20	05	07	15	13	20	12	23	07
	YEAR OF OCCURRENCE		2008	1998	2004	2002	2012	2006	2001	2006	2010	2010	2013	2009	JUL 2001
	MAXIMUM 3-SECOND SPEED (MPH)	18	48	48	48	49	61	68	74	61	69	53	53	48	74
	DIR. (TENS OF DEGS)		20	22	26	22	25	14	05	12	14	26	19	23	05
	YEAR OF OCCURRENCE		2010	1998	2011	2013	2010	2013	2013	2013	2010	1996	2004	2009	JUL 2013
<b>PRECIPITATION</b>	NORMAL (IN)	30	0.94	0.86	0.73	0.31	0.23	0.20	2.25	2.39	1.29	0.89	0.57	0.93	11.59
	MAXIMUM MONTHLY (IN)	73	4.81	3.20	2.26	1.66	1.11	1.56	6.17	7.93	5.60	4.98	2.22	5.02	7.93
	YEAR OF OCCURRENCE		1993	1998	1952	1951	1992	2000	1981	1955	2011	1983	2013	1965	AUG 1955
	MINIMUM MONTHLY (IN)	73	T	0.00	0.00	0.00	0.00	0.00	0.04	0.23	0.00	0.00	0.00	0.00	0.00
	YEAR OF OCCURRENCE		2011	1972	1956	1972	1974	1983	1995	1976	1953	1982	1980	1981	JUN 1983
	MAXIMUM IN 24 HOURS (IN)	73	1.46	1.70	1.19	1.28	0.89	1.27	3.93	2.48	3.05	3.58	1.86	2.12	3.93
	YEAR OF OCCURRENCE		1993	2007	1952	1999	1943	1954	1958	1961	1964	1983	1968	1994	JUL 1958
	NORMAL NO. DAYS WITH: PRECIPITATION >= 0.01	30	4.9	4.1	3.9	2.0	1.8	1.7	9.8	9.7	4.4	3.2	2.7	4.7	52.9
	PRECIPITATION >= 1.00	30	0.1	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.3	0.2	0.1	0.1	1.8
<b>SNOWFALL</b>	NORMAL (IN)	30	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.6
	MAXIMUM MONTHLY (IN)	73	4.7	3.9	5.7	2.0	T	T	T	T	T	T	6.4	6.8	6.8
	YEAR OF OCCURRENCE		1987	1965	1964	1976	2012	2007	1995	2006	1996	2012	1958	1971	DEC 1971
	MAXIMUM IN 24 HOURS (IN)	72	4.3	3.9	5.7	2.0	T	0.0	T	T	T	T	6.4	6.8	6.8
	YEAR OF OCCURRENCE		1987	1965	1964	1976	1992		1995	1995	1990	1991	1958	1971	DEC 1971
	MAXIMUM SNOW DEPTH (IN)	64	1	4	5	0	0	0	0	0	0	0	1	5	5
	YEAR OF OCCURRENCE		1987	1965	1964								1958	1971	DEC 1971
NORMAL NO. DAYS WITH: SNOWFALL >= 1.0	30	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	

**PRECIPITATION (inches) 2013 TUCSON (KTUS)**

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1984	0.62	0.00	0.00	0.36	0.06	1.05	2.92	4.19	1.81	0.77	0.45	3.30	15.53
1985	1.71	1.08	0.20	0.45	T	0.07	3.14	1.97	1.13	2.03	0.95	0.15	12.88
1986	0.98	1.13	1.30	T	0.44	0.06	1.82	3.56	0.31	0.50	0.42	1.28	11.80
1987	0.59	1.64	0.83	0.80	0.74	0.16	0.37	2.79	2.30	0.34	0.44	1.50	12.50
1988	0.41	0.53	0.35	1.15	0.02	0.15	1.69	3.64	0.80	2.09	0.75	0.05	11.63
1989	0.96	0.23	0.62	0.00	0.13	0.06	1.42	0.90	0.02	1.84	0.12	0.18	6.48
1990	0.96	0.71	0.38	0.10	0.03	0.64	5.45	2.70	1.63	0.58	0.23	1.54	14.95
1991	1.15	0.91	1.40	0.00	0.00	0.20	0.44	2.17	1.54	0.73	0.80	1.44	10.78
1992	1.21	1.80	2.12	0.19	1.11	0.07	0.93	4.55	0.94	0.03	T	3.47	16.42
1993	4.81	1.50	0.49	0.00	0.59	0.02	0.26	4.93	0.46	0.81	0.98	0.14	14.99
1994	0.02	1.03	1.14	0.04	0.52	0.26	0.41	0.45	1.46	0.76	1.83	3.71	11.63
1995	1.41	1.32	0.54	0.28	0.15	T	0.04	3.71	2.29	0.36	0.86	0.22	11.18
1996	0.01	0.82	0.32	T	0.00	T	1.88	1.87	3.68	1.74	.19	T	10.51
1997	0.93	0.67	0.02	0.47	0.44	0.02	0.51	2.32	1.43	0.38	0.49	2.88	10.56
1998	0.17	3.20	1.64	0.39	T	0.00	4.06	1.70	1.10	0.24	0.67	0.45	13.62
1999	0.01	T	T	1.34	0.00	0.16	4.15	3.05	0.97	T	0.00	T	9.68
2000	0.10	0.19	0.93	T	0.00	1.56	1.59	1.70	0.02	4.98	1.36	T	12.43
2001	1.24	0.46	0.88	0.84	0.24	0.54	1.09	0.85	0.33	0.69	0.05	0.60	7.81
2002	0.34	0.27	0.07	0.00	0.00	0.00	2.47	1.63	1.68	0.50	0.23	0.64	7.83
2003	0.08	1.02	0.51	0.04	0.13	T	2.50	2.04	2.16	0.38	1.03	0.16	10.05
2004	0.79	0.45	1.12	1.05	T	T	0.86	0.95	0.61	0.62	0.44	0.71	7.60
2005	1.35	1.27	0.37	0.33	0.63	0.01	0.72	4.52	0.05	0.31	0.00	0.01	9.57
2006	T	T	0.41	T	T	0.50	5.40	3.01	1.60	0.27	T	0.62	11.81
2007	0.71	0.04	0.59	0.16	0.14	T	5.22	0.90	0.45	0.02	0.80	0.76	9.79
2008	0.17	1.22	0.37	0.05	0.02	0.16	3.42	1.70	0.24	T	0.27	1.00	8.62
2009	0.63	0.56	0.18	0.29	0.67	0.01	1.78	0.33	0.74	0.05	0.13	0.30	5.67
2010	2.10	1.89	0.52	0.23	0.02	0.00	2.71	2.04	0.70	0.46	T	0.46	11.13
2011	T	0.25	0.02	0.28	0.00	0.03	1.64	1.35	5.60	0.06	0.97	2.03	12.23
2012	0.14	0.08	0.34	0.12	T	0.34	4.13	1.17	0.38	T	0.03	1.18	7.91
2013	0.81	0.79	0.01	0.12	0.01	0.03	2.60	0.48	0.63	0.00	2.22	0.83	8.53
POR= 65 YRS	0.85	0.73	0.66	0.30	0.17	0.22	3.54	2.19	1.35	0.82	0.60	0.94	12.37

WBAN : 23160

**AVERAGE TEMPERATURE (°F) 2013 TUCSON (KTUS)**

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1984	51.8	53.7	60.5	64.0	79.9	83.1	84.2	82.9	81.5	66.3	57.8	51.5	68.1
1985	50.3	53.1	58.7	68.7	75.9	85.8	87.5	86.1	77.4	70.0	58.0	52.9	68.7
1986	58.7	56.9	63.8	69.0	76.8	86.6	85.5	86.0	79.0	69.6	59.8	52.3	70.3
1987	50.9	54.2	57.9	70.1	74.3	86.3	87.4	85.1	79.9	75.1	58.9	50.3	69.2
1988	53.0	59.4	61.4	68.0	76.4	86.8	87.9	85.9	80.4	75.3	59.2	51.9	70.5
1989	49.9	58.2	65.0	73.8	77.4	85.4	90.0	86.6	84.5	71.1	61.7	53.0	71.4
1990	51.8	52.8	61.8	69.7	75.2	88.7	85.0	82.6	82.2	73.1	61.6	51.1	69.6
1991	52.3	59.8	55.4	65.2	73.5	81.5	87.5	86.6	80.7	74.0	58.9	54.3	69.1
1992	51.6	57.3	59.4	70.8	76.7	84.5	86.8	85.1	83.6	74.2	56.1	51.4	69.8
1993	55.2	54.0	61.3	68.6	78.1	85.0	88.0	85.5	81.4	72.6	58.8	53.4	70.2
1994	53.7	55.2	62.9	68.6	75.6	89.2	90.4	90.3	84.2	70.5	56.7	53.9	70.9
1995	52.6	60.7	61.2	64.8	72.6	83.3	88.4	87.3	82.9	72.4	63.1	54.0	70.3
1996	53.6	58.8	61.1	68.9	79.0	87.4	88.6	86.4	77.7	70.4	61.0	53.7	70.6
1997	52.4	53.6	64.8	65.8	79.7	83.1	88.0	85.8	84.2	70.0	60.7	48.6	69.7
1998	53.2	50.8	57.9	61.4	72.9	81.8	86.5	86.5	82.6	70.7	60.5	52.0	68.1
1999	53.6	56.9	61.4	62.3	74.7	83.8	84.0	85.2	81.8	74.7	65.4	51.3	69.6
2000	55.0	57.4	58.8	70.3	80.2	84.5	88.2	84.9	84.8	68.2	52.8	54.3	70.0
2001	49.7	52.8	60.2	66.6	79.3	85.6	86.2	85.9	84.4	73.2	62.9	49.4	69.7
2002	51.6	57.1	59.2	71.6	75.8	88.0	86.8	86.1	82.5	69.5	61.4	50.7	70.0
2003	58.2	54.9	59.8	65.7	78.0	85.7	89.2	86.3	82.8	75.4	59.0	52.8	70.7
2004	53.0	50.8	66.7	66.3	77.8	84.8	87.0	84.9	81.0	69.9	56.2	52.7	69.3
2005	54.5	55.8	59.3	67.8	77.4	85.7	90.6	83.9	83.6	72.8	62.6	54.6	70.7
2006	54.5	58.3	58.7	68.5	79.0	88.4	88.3	83.7	78.5	70.2	63.0	51.1	70.2
2007	48.6	55.4	63.1	68.6	78.1	86.0	87.9	86.9	83.0	72.9	65.7	49.2	70.5
2008	51.7	55.3	60.9	68.3	73.3	87.0	85.6	85.4	82.4	72.9	63.0	53.8	70.0
2009	55.5	57.3	63.2	67.0	80.1	82.9	90.1	88.7	83.7	69.8	64.4	50.8	71.1
2010	54.0	53.8	58.6	65.4	73.8	86.3	89.0	86.9	84.7	72.6	58.3	56.7	70.0
2011	51.6	51.9	64.1	69.7	73.5	86.2	88.1	89.3	82.6	73.3	59.3	48.9	69.9
2012	55.6	55.6	60.6	69.8	79.0	87.8	85.8	88.2	82.1	73.4	64.8	53.4	71.3
2013	49.9	50.9	65.7	69.8	78.9	89.4	88.0	87.5	83.0	70.2	63.4	53.2	70.8
POR= 65 YRS	51.9	54.6	59.3	66.4	74.8	84.2	86.9	85.0	81.2	70.8	59.5	52.2	68.9

**HEATING DEGREE DAYS (base 65°F) 2013 TUCSON (KTUS)**

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1984-85	0	0	0	49	221	413	448	328	200	41	0	0	1700
1985-86	0	0	0	9	217	369	193	244	117	22	6	0	1177
1986-87	0	0	0	11	154	387	429	299	225	24	0	0	1529
1987-88	0	0	0	0	188	452	366	171	161	46	12	0	1396
1988-89	0	0	0	0	220	402	461	199	82	9	4	0	1377
1989-90	0	0	0	25	107	361	402	340	156	16	3	0	1410
1990-91	0	0	0	5	152	427	384	140	296	47	3	0	1454
1991-92	0	0	0	56	195	325	408	215	169	24	0	0	1392
1992-93	0	0	0	0	261	418	298	299	129	28	0	0	1433
1993-94	0	0	0	5	186	355	345	272	94	42	0	0	1299
1994-95	0	0	0	24	255	335	377	123	143	84	17	0	1358
1995-96	0	0	0	3	64	332	344	173	135	23	0	0	1074
1996-97	0	0	0	91	147	346	386	315	66	77	0	0	1428
1997-98	0	0	0	52	146	502	360	392	232	153	3	0	1840
1998-99	0	0	0	20	136	398	346	220	126	155	7	0	1408
1999-00	0	0	0	0	83	416	308	217	186	26	0	0	1236
2000-01	0	0	0	60	357	323	470	335	178	95	1	0	1819
2001-02	0	0	0	0	134	479	409	221	197	3	0	0	1443
2002-03	0	0	0	22	114	435	204	283	178	67	0	0	1303
2003-04	0	0	0	0	186	370	366	405	87	55	0	0	1469
2004-05	0	0	0	36	274	375	322	247	183	29	0	0	1466
2005-06	0	0	0	0	122	314	321	185	203	18	0	0	1163
2006-07	0	0	0	19	97	424	498	262	131	37	0	0	1468
2007-08	0	0	0	2	68	480	403	278	155	24	4	0	1414
2008-09	0	0	0	24	100	343	296	226	110	62	0	0	1161
2009-10	0	0	0	47	89	437	335	306	210	70		0	
2010-11	0	0	0	9	230	249	407	362	67	36	7	0	1367
2011-12	0	0	0	14	174	490	289	265	165	49	0	0	1446
2012-13	0	0	0	2	65	354	463	391	61	27	0	0	1363
2013-	0	0	0	13	93	359							

WBAN : 23160

**COOLING DEGREE DAYS (base 65°F) 2013 TUCSON (KTUS)**

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1984	0	0	6	87	469	549	601	562	503	96	12	0	2885
1985	0	1	7	159	345	633	704	660	379	173	14	0	3075
1986	2	23	88	150	378	653	643	657	431	158	3	0	3186
1987	0	2	12	184	297	644	702	630	452	325	12	0	3260
1988	2	13	58	142	374	658	716	657	471	327	51	1	3470
1989	0	16	89	281	397	619	780	676	592	221	16	0	3687
1990	0	6	63	164	327	719	625	553	522	262	56	0	3297
1991	0	1	6	58	274	501	703	675	479	345	21	0	3063
1992	0	0	4	204	372	590	683	627	563	291	1	0	3335
1993	1	0	22	142	413	604	721	641	500	250	11	3	3308
1994	0	4	34	156	332	733	794	788	584	203	11	0	3639
1995	0	8	31	85	261	558	733	698	544	241	12	0	3171
1996	0	1	24	148	440	679	740	670	387	266	33	2	3390
1997	0	2	65	105	462	549	718	651	581	212	26	0	3371
1998	1	0	19	54	255	512	672	671	536	203	9	1	2933
1999	0	1	18	83	318	573	598	635	512	306	103	1	3148
2000	3	1	1	194	479	595	725	624	599	164	0	0	3385
2001	0	0	37	150	450	623	667	655	586	265	79	0	3512
2002	0	4	26	208	340	695	683	661	532	169	13	0	3331
2003	0	3	23	96	409	629	756	667	539	326	11	2	3461
2004	0	1	144	97	404	603	691	627	487	193	17	0	3264
2005	2	0	13	120	390	626	801	593	562	248	58	0	3413
2006	2	4	14	131	444	709	731	586	414	188	46	0	3269
2007	0	0	80	149	413	636	714	684	547	250	96	0	3569
2008	0	4	36	129	268	668	646	637	527	276	48	0	3239
2009	7	18	61	131	474	541	785	744	568	203	80	0	3612
2010	0	0	16	88		649	751	688	597	251	36	1	
2011	0	0	45	183	278	642	726	761	537	275	8	0	3455
2012	2	0	35	198	442	692	651	725	517	271	64	0	3597
2013	0	0	91	182	438	741	720	702	547	183	49	0	3653

## SNOWFALL (inches) 2013 TUCSON (KTUS)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1984-85	0.0	0.0	0.0	0.0	0.0	T	0.0	2.2	0.0	0.0	0.0	0.0	2.2
1985-86	0.0	0.0	0.0	0.0	0.0	T	0.0	T	0.0	0.0	0.0	0.0	T
1986-87	0.0	0.0	0.0	0.0	0.0	0.0	4.7	0.0	T	0.0	0.0	0.0	4.7
1987-88	0.0	0.0	0.0	0.0	0.0	3.6	0.0	0.0	0.0	0.0	0.0	0.0	3.6
1988-89	0.0	0.0	0.0	0.0	0.0	T	0.0	T	0.0	0.0	0.0	0.0	T
1989-90	0.0	0.0	0.0	0.0	0.0	0.0	2.7	2.3	0.0	T	0.0	0.0	5.0
1990-91	0.0	T	T	0.0	0.0	0.6	0.0	T	0.3	0.0	0.0	0.0	0.9
1991-92	0.0	0.0	0.0	T	0.0	T	0.0	0.0	T	0.0	T	0.0	T
1992-93	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T
1993-94	0.0	T	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	T
1994-95	0.0	0.0	0.0	0.0	T	0.0	0.0	T	0.0	0.0	0.0	0.0	T
1995-96	T	T	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	T
1996-97	0.0	0.0	T	0.0	0.0	0.0	T	0.0	0.0	T	0.0	0.0	T
1997-98	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	T	T	0.0	0.0	T
1998-99	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	T	0.0	0.0	T
1999-00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2000-01	0.0	0.0	0.0	0.0	0.0	0.0	T	T	0.0	0.0	0.0	0.0	T
2001-02	0.0	0.0	0.0	0.0	0.0	T	0.6	0.0	0.0	0.0	0.0	0.0	0.6
2002-03	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T
2003-04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2004-05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2005-06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2006-07	0.0	T	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	T
2007-08	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2008-09	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	T
2009-10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2010-11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	T
2011-12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2012-13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0
2013-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
POR= 66 YRS	T	T	T	T	0.1	0.2	0.3	0.2	0.2	T	T	0.0	1.0

WBAN : 23160

### REFERENCE NOTES :

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).

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).

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.

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 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:

<http://www.ncdc.noaa.gov/homr/>

SNOWFALL STOPPED MONTH & YEAR INDICATED ABOVE. NO FURTHER YEARS INCLUDED UNLESS RESTARTED.

### NOTE:

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.

# 2013 TUCSON ARIZONA (KTUS)

Tucson lies at the foot of the Catalina Mountains, north of the airport. The area within about 15 miles of the airport station is flat or gently rolling, with many dry washes. The soil is sandy, and vegetation is mostly brush, cacti, and small trees. Rugged mountains encircle the valley. The mountains to the north, east, and south rise to over 5,000 feet above the airport. The western hills and mountains range from 500 to 4,000 feet.

The climate of Tucson is characterized by a long hot season, from April to October. Temperatures above 90 degrees prevail from May through September. Temperatures of 100 degrees or higher average 41 days annually, including 14 days each for June and July, but these extreme temperatures are moderated by low relative humidities. The temperature range is large, averaging 30 degrees or more a day.

More than 50 percent of the annual precipitation falls between July 1 and September 15, and over 20 percent falls from December through March. During the summer, scattered convective or orographic showers and thunderstorms often fill dry washes to overflowing. On occasion, brief, torrential downpours cause destructive flash floods in the Tucson area. Hail rarely occurs in thunderstorms. The December through March precipitation occurs as prolonged rainstorms that replenish the ground water. During these storms, snow often falls on the higher mountains, but snow in Tucson is infrequent, particularly in accumulations exceeding an inch in depth.

From the first of the year, the humidity decreases steadily until the summer thunderstorm season, when it shows a marked increase. From mid-September, the end of the thunderstorm season, the humidity decreases again until late November. Occasionally during the summer, humidities are high enough to produce discomfort, but only for short periods. During the hot season, humidity values sometimes fall below 5 percent.

Tucson lies in the zone receiving more sunshine than any other section of the United States. Cloudless days are commonplace, and average cloudiness is low.

Surface winds are generally light, with no major seasonal changes in velocity or direction. Occasional duststorms occur in areas where the ground has been disturbed. During the spring, winds may briefly be strong enough to cause some damage to trees and buildings. Wind velocities and directions are influenced by the surrounding mountains, and the general slope of the terrain. Usually local winds tend to be in the southeast quadrant during the night and early morning hours, veering to northwest during the day. Highest velocities usually occur with winds from the southwest and east to south.

While dust and haze are frequently visible, their effect on the general clarity of the atmosphere is not great. Visibility is normally high.

Based on the 1951-1980 period, the average first occurrence of 32 degrees Fahrenheit in the fall is November 29 and the average last occurrence in the spring is February 28.

# Station History

TUCSON, AZ

NAME	Begin Date	End Date	Latitude	Longitude	Elevation Feet	Relocation	Platform
TUCSON INTL AP	1996-01-01	2009-09-03	32° 7'	-110° 57'	2549		ASOS, COOP
TUCSON INTL AP	1958-01-01	1973-01-01	32° 7'	-110° 55'	2580		AIRWAYS, COOP
TUCSON INTL AP	1948-10-15	1958-01-01	32° 7'	-110° 57'	2559		AIRWAYS, COOP
TUCSON INTL AP	1973-01-01	1981-12-31	32° 7'	-110° 55'	2580		COOP, WXSVC
TUCSON INTL AP	1981-12-31	1985-11-21	32° 7'	-110° 55'	2580		COOP
TUCSON INTL AP	1985-11-21	1996-01-01	32° 7'	-110° 55'	2584		COOP
TUCSON INTL AP	2009-09-03	Present	32° 7'	-110° 57'	2549		ASOS, COOP

# Element History

Element	Begin Date	End Date	Frequency	Time Of Observation	Equipment *	Equipment * Modifications	Equipment Exposure
TEMP	1995-07-01	1996-01-01	DAILY	2400	HYGR		
PRECIP	1995-07-01	1996-01-01	DAILY	2400	UNIV	RCRD	
TEMP	1996-01-01	2001-09-27	DAILY	2400			
PRECIP	2009-09-03	Present	DAILY	2400	PCPN1		
TEMP	2009-09-03	Present	DAILY	2400	HYGR		
PRECIP	1948-10-15	1958-10-15	DAILY	2400	UNIV	RCRD	
PRECIP	1958-10-15	1982-01-01	DAILY	2400	UNIV	RCRD	
PRECIP	1982-01-01	1995-07-01	HOURLY	2400			
PRECIP	1996-01-01	2001-09-27	DAILY	2400	TB	RCRD	
TEMP	1982-01-01	1995-07-01	DAILY	2400	HYGR		
TEMP	1958-10-15	1982-01-01	DAILY	2400	HYGR		
PRECIP	1982-01-01	1995-07-01	DAILY	2400	UNIV	RCRD	
PRECIP	1996-01-01	2001-09-27	HOURLY	2400	TB	RCRD	
PRECIP	2009-09-03	Present	HOURLY	2400	AWPAG	RCRD;HTD	
TEMP	2001-09-27	2009-09-03	DAILY	2400	HYGR		
PRECIP	2001-09-27	2009-09-03	HOURLY	2400	TB	RCRD	
TEMP	1948-10-15	1958-10-15	DAILY	2400	MXMN		
PRECIP	1995-07-01	1996-01-01	HOURLY	2400	UNIV	RCRD	
PRECIP	2001-09-27	2009-09-03	DAILY	2400	TB	RCRD	

\* 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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Email : [ncdc.orders@noaa.gov](mailto:ncdc.orders@noaa.gov)

NOAA/National Climatic Data Center

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