

2002

LOCAL CLIMATOLOGICAL DATA ANNUAL SUMMARY WITH COMPARATIVE DATA



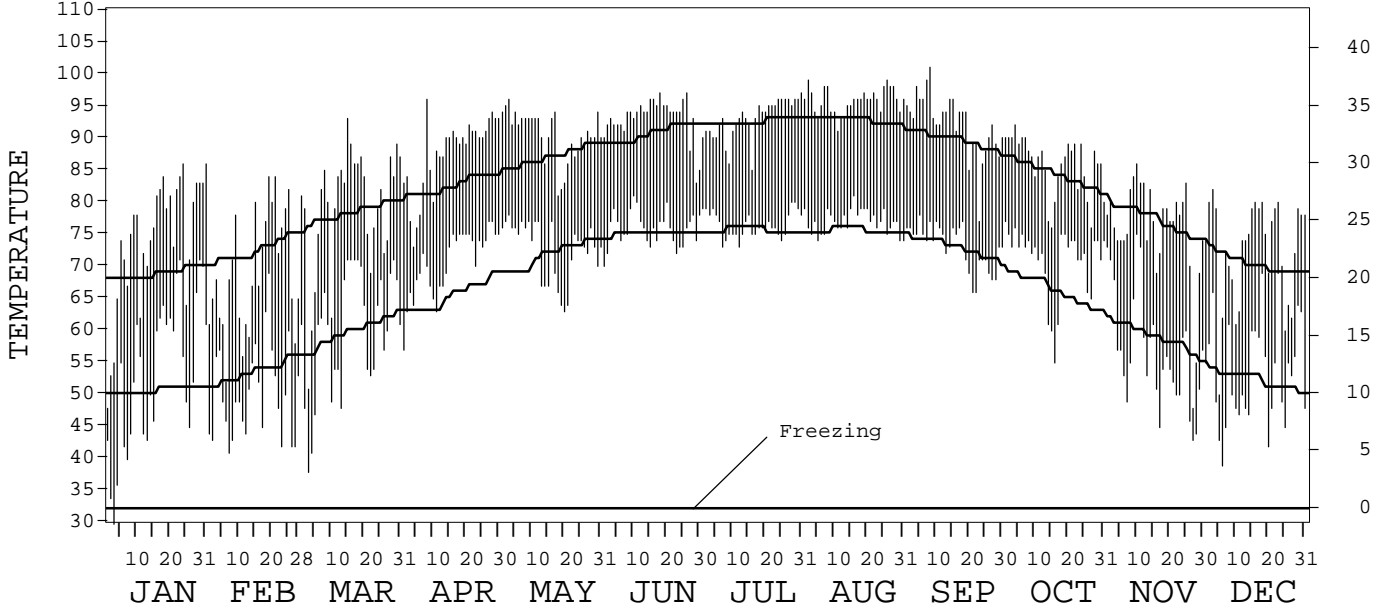
ISSN 0198-4942

BROWNSVILLE,
TEXAS (BRO)

Daily Data

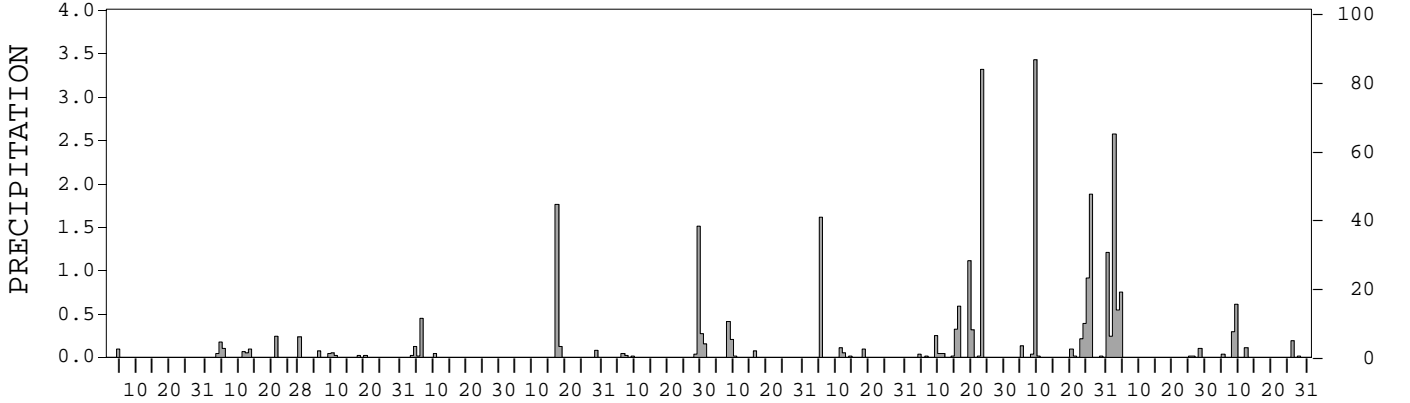
Fahrenheit

Celsius



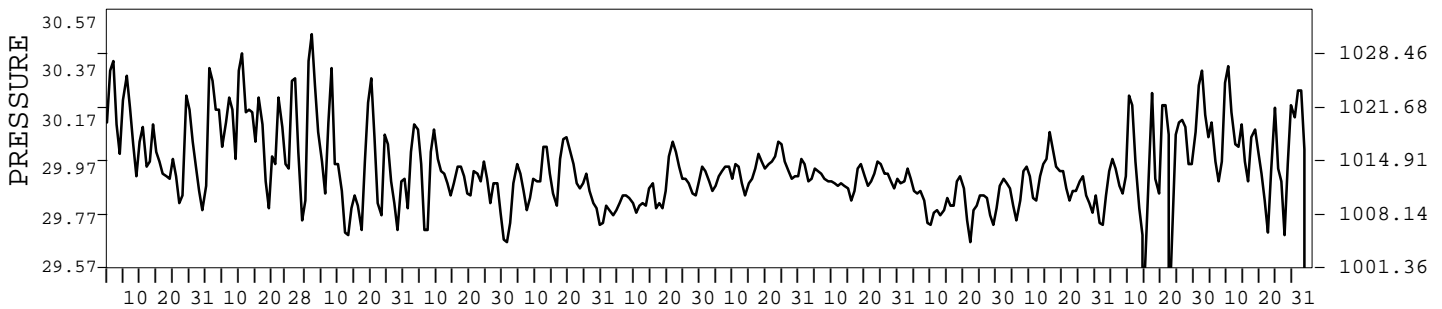
Inches

Millimeters



Inches of Mercury

Hectopascals



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Thomas R. Karl

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE

NATIONAL CLIMATIC DATA CENTER ASHEVILLE, NORTH CAROLINA

DIRECTOR NATIONAL CLIMATIC DATA CENTER

METEOROLOGICAL DATA FOR 2002

BROWNSVILLE, TX (BRO)

LATITUDE: 25° 54' 23" N LONGITUDE: 97° 25' 32" W ELEVATION (FT): GRND: 21 BARO: 24 TIME ZONE: CENTRAL (UTC + 6) WBAN: 12919

	ELEMENT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	
TEMPERATURE °F	MEAN DAILY MAXIMUM	74.2	69.0	79.1	87.5	90.5	93.1	92.9	95.7	92.1	85.7	75.7	72.4	84.0	
	HIGHEST DAILY MAXIMUM	86	84	93	96	96	97	97	99	101	92	86	82	101	
	DATE OF OCCURRENCE	31+	21+	15	08	03	26+	31	26+	08	04	10	03	SEP 08	
	MEAN DAILY MINIMUM	53.4	50.3	59.8	70.6	72.6	75.8	76.5	77.0	73.1	70.9	56.7	53.5	65.8	
	LOWEST DAILY MINIMUM	30	41	38	57	63	70	73	74	66	55	43	39	30	
	DATE OF OCCURRENCE	03	07	03	01	20	01	12+	31+	22+	16	27	06	JAN 03	
	AVERAGE DRY BULB	63.8	59.7	69.5	79.1	81.6	84.5	84.7	86.4	82.6	78.3	66.2	63.0	75.0	
	MEAN WET BULB	57.9	53.9	62.4	71.9	73.6	75.9	77.3	77.3	75.0					
	MEAN DEW POINT	53.1	48.3	57.8	69.1	70.2	72.7	74.5	74.0	72.0					
	NUMBER OF DAYS WITH:														
	MAXIMUM ≥ 90°	0	0	1	16	22	27	28	31	22	6	0	0	0	153
	MAXIMUM ≤ 32°	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MINIMUM ≤ 32°	1	0	0	0	0	0	0	0	0	0	0	0	0	1	
MINIMUM ≤ 0°	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
H/C	HEATING DEGREE DAYS	143	179	56	0	0	0	0	0	0	0	63	119	560	
	COOLING DEGREE DAYS	115	35	203	429	518	590	618	672	537	420	109	64	4310	
RH	MEAN (PERCENT)	72	71	73	77	72	72	76	72	75	83	78	80	75	
	HOUR 00 LST	81	81	82	90	83	82	88	86	88	90	88	89	86	
	HOUR 06 LST	85	79	84	92	87	89	92	92	92	94	88	89	89	
	HOUR 12 LST	56	55	54	58	53	54	58	50	55	69	62	66	58	
	HOUR 18 LST	65	65	68	70	67	64	67	63	68	79	74	76	69	
S	PERCENT POSSIBLE SUNSHINE				58	59	70	68	74	59					
W/O	NUMBER OF DAYS WITH:														
	HEAVY FOG (VISBY ≤ 1/4 MI)	6	2	2	2	0	1	0	0	3	3	5	3	27	
	THUNDERSTORMS	0	0	0	1	3	4	3	3	9	3	0	1	27	
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.)	30.06	30.16	29.99	29.94	29.90	29.88	29.97	29.93	29.83	29.90				
	MEAN SEA-LEVEL PRESS. (IN.)	30.08	30.18	30.01	29.96	29.92	29.90	29.98	29.95	29.85	29.92				
WINDS	RESULTANT SPEED (MPH)	4.3	2.3	5.3	1.2	2.3	2.2	1.0	1.8	2.9	1.4				
	RES. DIR. (TENS OF DEGS.)	14	04	14	15	04	16	27	36	06	10				
	MEAN SPEED (MPH)	12.1	10.0	13.6	14.1	13.9	10.4	11.3	9.8	8.4	8.7	8.5	10.5	10.9	
	PREVAIL. DIR. (TENS OF DEGS.)	16	35	16	15	15	14	15	14	34	15	33	18	16	
	MAXIMUM 2-MINUTE WIND:														
	SPEED (MPH)	37	35	39	37	35	29	30	29	28	31	29	36	39	
	DIR. (TENS OF DEGS.)	18	19	16	16	18	16	18	16	31	13	18	19	16	
	DATE OF OCCURRENCE	23	19	08	07	01	16	16	15	19	05	14	23+	MAR 08	
	MAXIMUM 5-SECOND WIND:														
	SPEED (MPH)	48	41	45	44	40	33	36	36	37	60	36	43	60	
DIR. (TENS OF DEGS.)	18	15	17	16	17	19	17	16	02	17	21	19	17		
DATE OF OCCURRENCE	23	18	08	07	01	16	16	15	22	24	09	23	OCT 24		
PRECIPITATION	WATER EQUIVALENT:														
	TOTAL (IN.)	0.09	0.98	0.22	0.64	1.96	1.88	0.84	1.87	6.04	8.31	4.22	1.24	28.29	
	GREATEST 24-HOUR (IN.)	0.09	0.26	0.07	0.46	1.88	1.51	0.61	1.61	3.33	3.43	2.79	0.89	3.43	
	DATE OF OCCURRENCE	04	04-05	06	05-06	17-18	29	08-09	05	22-23	09	01-02	08-09	OCT 09	
	NUMBER OF DAYS WITH:														
	PRECIPITATION ≥ 0.01	1	8	6	5	3	6	5	5	12	12	7	6	76	
PRECIPITATION ≥ 0.10	0	4	0	2	2	2	3	2	6	7	5	4	37		
PRECIPITATION ≥ 1.00	0	0	0	0	1	1	0	1	2	3	1	0	9		
SNOWFALL	SNOW, ICE PELLETS, HAIL:														
	TOTAL (IN.)	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	
	GREATEST 24-HOUR (IN.)	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	
	DATE OF OCCURRENCE														
	MAXIMUM SNOW DEPTH (IN.)	0	0	0	0	0	0	0	0	0	0	0	0	0	
	NUMBER OF DAYS WITH:														
SNOWFALL ≥ 1.0	0	0	0	0	0	0	0	0	0	0	0	0	0		

NORMALS, MEANS, AND EXTREMES

BROWNSVILLE, TX (BRO)

LATITUDE: 25° 54' 23" N LONGITUDE: 97° 25' 32" W ELEVATION (FT): GRND: 21 BARO: 24 TIME ZONE: CENTRAL (UTC + 6) WBAN: 12919

ELEMENT		POR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
TEMPERATURE °F	NORMAL DAILY MAXIMUM	30	68.7	72.2	78.0	82.3	86.9	90.5	92.4	92.6	89.4	84.0	76.8	70.2	82.0
	MEAN DAILY MAXIMUM	40	69.8	72.7	78.2	83.7	87.8	91.4	93.4	93.7	90.3	84.8	78.3	71.9	83.0
	HIGHEST DAILY MAXIMUM	64	93	94	106	102	102	102	102	102	105	96	97	94	106
	YEAR OF OCCURRENCE		1971	1986	1984	1984	1999	2001	1939	1962	2000	1986	1988	1977	MAR 1984
	MEAN OF EXTREME MAXS.	55	82.8	86.0	90.3	93.1	93.7	95.3	96.6	97.4	95.8	91.6	88.3	84.3	91.3
	NORMAL DAILY MINIMUM	30	50.5	53.3	59.5	65.2	71.6	74.9	75.4	75.3	72.6	65.9	58.6	52.0	64.6
	MEAN DAILY MINIMUM	40	50.9	53.3	59.4	66.4	71.8	75.1	75.8	75.5	72.9	66.2	58.9	52.6	64.9
	LOWEST DAILY MINIMUM	64	19	22	32	38	52	60	68	63	55	35	31	16	16
	YEAR OF OCCURRENCE		1962	1951	1989	1980	1970	1975	1989	1967	1995	1993	1993	1989	DEC 1989
	MEAN OF EXTREME MINS.	55	33.5	37.2	41.5	51.0	60.7	68.1	71.9	71.3	63.4	52.3	41.3	35.7	52.3
	NORMAL DRY BULB	30	59.4	62.4	68.8	75.3	79.9	83.0	84.5	84.5	81.8	75.7	68.7	62.1	73.8
	MEAN DRY BULB	55	60.6	63.4	68.7	74.9	79.7	83.1	84.4	84.3	81.6	75.6	68.2	62.4	73.9
	MEAN WET BULB	51	56.0	58.2	62.8	68.3	73.0	75.6	76.2	76.3	74.6	69.2	62.7	57.4	67.5
	MEAN DEW POINT	51	52.6	54.8	59.2	65.1	70.4	73.0	73.3	73.5	72.1	66.0	59.4	54.0	64.4
	NORMAL NO. DAYS WITH:														
	MAXIMUM ≥ 90°	30	0.1	0.2	1.2	3.5	9.2	22.9	27.3	27.7	18.7	5.5	0.5	*	116.8
MAXIMUM ≤ 32°	30	0.1	0.0	0.0	0.0	0.0	0.0	0.0	*	0.0	0.0	0.0	*	0.1	
MINIMUM ≤ 32°	30	1.2	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	2.7	
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	
H/C	NORMAL HEATING DEG. DAYS	30	206	125	45	7	0	0	0	0	0	6	69	186	644
	NORMAL COOLING DEG. DAYS	30	54	76	179	287	457	545	601	603	494	332	166	80	3874
RH	NORMAL (PERCENT)	30	79	77	75	75	76	75	73	74	76	75	76	78	76
	HOUR 00 LST	30	87	86	85	86	87	86	86	86	87	86	85	85	86
	HOUR 06 LST	30	88	89	88	88	90	91	91	91	90	89	87	87	89
	HOUR 12 LST	30	67	63	59	59	61	59	55	56	60	58	60	65	60
	HOUR 18 LST	30	73	69	66	68	69	66	62	63	68	69	72	74	68
S	PERCENT POSSIBLE SUNSHINE	55	41	48	53	56	63	72	79	76	68	65	51	41	59
W/O	MEAN NO. DAYS WITH:														
	HEAVY FOG (VISBY ≤ 1/4 MI)	60	6.2	4.7	3.5	2.3	1.0	0.2	0.1	0.2	0.3	0.8	3.2	5.3	27.8
	THUNDERSTORMS	60	0.6	0.8	0.8	2.4	3.6	3.0	2.8	4.7	5.0	2.1	1.0	0.5	27.3
CLOUDINESS	MEAN:														
	SUNRISE-SUNSET (OKTAS)	1						3.2							
	MIDNIGHT-MIDNIGHT (OKTAS)														
	MEAN NO. DAYS WITH:														
CLEAR	1	4.0	4.0	4.0		7.0	12.0	3.0	6.0	7.0	6.0		5.0		
PARTLY CLOUDY	1	2.0	2.0	4.0		12.0	7.0	1.0	4.0	4.0	2.0		2.0		
CLOUDY	1	3.0	3.0	9.0		1.0			2.0	2.0	2.0		7.0		
PR	MEAN STATION PRESSURE (IN)	30	30.08	30.04	29.94	29.90	29.86	29.89	29.95	29.94	29.91	29.99	30.02	30.07	29.97
	MEAN SEA-LEVEL PRES. (IN)	51	30.10	30.05	29.96	29.91	29.89	29.90	29.96	29.94	29.92	30.00	30.05	30.09	29.98
WINDS	MEAN SPEED (MPH)	42	11.1	12.0	12.8	13.4	13.0	11.8	11.5	10.2	9.1	9.5	10.5	10.6	11.3
	PREVAIL. DIR (TENS OF DEGS)	27	34	16	16	15	15	15	15	14	15	15	16	34	15
	MAXIMUM 2-MINUTE:														
	SPEED (MPH)	8	40	36	39	41	38	36	36	34	51	33	36	38	51
	DIR. (TENS OF DEGS)		17	17	16	17	17	18	12	27	30	33	16	17	30
	YEAR OF OCCURRENCE		2000	1997	2002	2000	2000	1997	2001	1999	1996	1996	1999	1999	SEP 1996
	MAXIMUM 5-SECOND:														
	SPEED (MPH)	8	51	45	46	52	46	44	44	54	55	60	44	45	60
DIR. (TENS OF DEGS)		18	15	35	17	15	18	15	30	30	17	03	18	17	
YEAR OF OCCURRENCE		2000	1998	1998	2000	2000	1997	1997	1999	1996	2002	1995	1997	OCT 2002	
PRECIPITATION	NORMAL (IN)	30	1.36	1.18	0.93	1.96	2.48	2.93	1.77	2.99	5.31	3.78	1.75	1.11	27.55
	MAXIMUM MONTHLY (IN)	63	5.11	10.25	5.94	10.35	9.12	13.06	9.43	9.56	20.18	17.12	7.69	9.45	20.18
	YEAR OF OCCURRENCE		1945	1958	1997	1991	1982	1942	1976	1975	1984	1958	1986	1940	SEP 1984
	MINIMUM MONTHLY (IN)	63	T	T	T	T	T	0.01	T	0.02	0.07	0.34	0.01	T	T
	YEAR OF OCCURRENCE		1956	1954	1986	1988	1978	1955	1993	1974	1959	1961	1949	1969	JUL 1993
	MAXIMUM IN 24 HOURS (IN)	63	3.00	4.98	2.76	9.37	4.56	8.18	4.25	5.48	12.19	6.67	4.08	5.69	12.19
	YEAR OF OCCURRENCE		1988	1958	1997	1991	1969	1942	1976	1980	1967	1996	1986	1940	SEP 1967
	NORMAL NO. DAYS WITH:														
PRECIPITATION ≥ 0.01	30	8.0	5.8	3.5	3.4	5.2	6.3	5.3	7.0	9.9	6.5	5.3	6.5	72.7	
PRECIPITATION ≥ 1.00	30	0.3	0.2	0.1	0.5	1.1	0.8	0.5	0.6	1.8	0.8	0.3	0.2	7.2	
SNOWFALL	NORMAL (IN)	30	0.*	0.*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.*	0.*	0.0
	MAXIMUM MONTHLY (IN)	63	T	T	T	0.0	0.0	0.0	0.0	T	0.0	0.0	T	T	T
	YEAR OF OCCURRENCE		1993	1973	1993					1992			1991	1966	MAR 1993
	MAXIMUM IN 24 HOURS (IN)	63	T	T	T	0.0	0.0	0.0	0.0	T	0.0	0.0	T	T	T
	YEAR OF OCCURRENCE		1993	1973	1993					1992			1991	1966	MAR 1993
	MAXIMUM SNOW DEPTH (IN)	44	T	T	0	0	0	0	0	0	0	0	0	T	T
	YEAR OF OCCURRENCE		1985	1963										1983	DEC 1983
NORMAL NO. DAYS WITH:															
SNOWFALL ≥ 1.0	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	

PRECIPITATION (inches) 2002 BROWNSVILLE, TX (BRO)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1973	2.07	4.74	0.13	0.69	1.24	7.57	0.59	2.80	4.61	3.77	0.88	0.53	29.62
1974	0.65	0.01	0.20	0.52	1.82	4.59	1.02	0.02	4.93	2.60	0.65	0.78	17.79
1975	0.60	0.09	0.01	0.01	2.22	2.19	4.78	9.56	4.77	0.51	1.66	2.17	28.57
1976	0.48	0.03	1.28	5.71	4.95	0.80	9.43	3.35	2.85	8.45	2.49	1.32	41.14
1977	1.24	1.37	0.12	6.62	0.76	4.73	0.27	1.27	2.84	2.87	4.07	0.14	26.30
1978	1.94	1.29	0.01	2.39	T	2.25	0.39	3.20	8.28	4.45	0.82	1.86	26.88
1979	1.43	1.10	0.14	3.91	0.59	1.52	2.10	5.25	8.84	1.18	0.12	2.04	28.22
1980	1.05	1.74	0.28	0.01	1.78	0.02	1.46	7.29	1.48	2.26	2.50	1.90	21.77
1981	1.79	0.76	3.47	0.34	5.88	2.29	2.65	4.47	5.05	2.47	0.33	0.75	30.25
1982	0.04	0.75	0.19	4.08	9.12	0.18	T	1.04	2.42	1.63	3.11	2.70	25.26
1983	1.10	2.62	0.61	T	1.41	1.78	6.11	2.34	8.61	2.53	0.52	0.48	28.11
1984	4.79	0.42	0.13	T	6.18	2.44	1.59	1.80	20.18	0.93	0.02	1.85	40.33
1985	1.49	0.54	0.40	1.91	4.21	6.47	4.18	2.10	6.04	4.04	1.02	0.42	32.82
1986	1.07	0.21	T	0.87	2.89	3.72	0.35	2.14	1.71	4.61	7.69	2.42	27.68
1987	2.46	2.26	0.58	1.39	1.52	4.78	1.64	0.73	4.70	4.44	3.83	0.42	28.75
1988	3.97	1.53	1.42	T	0.25	2.86	1.00	2.56	7.48	1.80	0.14	0.07	23.08
1989	1.94	0.08	0.17	3.83	1.23	2.35	2.13	1.25	2.46	3.06	0.93	1.73	21.16
1990	0.58	0.56	0.81	1.55	2.72	1.08	1.53	2.87	3.90	2.29	0.91	0.05	18.85
1991	0.47	2.50	0.02	10.35	2.97	1.93	2.36	0.89	5.57	3.33	0.15	1.18	31.72
1992	3.50	1.99	0.12	4.15	5.55	1.50	0.40	3.71	3.62	0.85	5.61	0.85	31.85
1993	1.79	2.86	1.68	0.34	3.64	6.72	T	0.04	1.93	4.69	1.25	2.29	27.23
1994	2.01	0.44	1.84	0.71	1.25	3.32	0.15	3.39	4.09	3.91	1.42	1.59	24.12
1995	0.64	0.57	0.64	0.13	0.17	5.82	0.07	8.25	2.12	8.82	1.83	0.98	30.04
1996	0.06	0.15	T	0.50	0.08	0.01	0.65	5.77	8.57	11.49	0.66	0.77	28.71
1997	0.61	0.42	5.94	4.78	2.06	1.47	T	1.80	4.77	13.03	0.87	0.46	36.21
1998	0.37	1.72	0.62	0.04	T	0.30	T	1.36	7.82	3.59	3.72	0.29	19.83
1999	0.26	1.49	3.01	0.14	3.59	2.30	1.86	2.61	3.99	0.69	2.77	0.32	23.03
2000	0.85	0.19	2.89	0.39	1.87	0.85	0.28	4.29	0.66	2.71	0.41	1.10	16.49
2001	0.48	1.43	0.36	1.10	0.49	2.21	1.81	1.80	3.25	0.36	2.42	1.02	16.73
2002	0.09	0.98	0.22	0.64	1.96	1.88	0.84	1.87	6.04	8.31	4.22	1.24	28.29
POR= 132 YRS	1.36	1.29	1.05	1.52	2.54	2.71	1.76	2.64	5.47	3.38	1.80	1.47	26.99

WBAN : 12919

AVERAGE TEMPERATURE (°F) 2002 BROWNSVILLE, TX (BRO)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1973	54.5	58.7	70.4	71.9	77.8	81.1	83.6	81.5	81.6	76.4	74.6	63.0	72.9
1974	61.4	63.9	73.1	75.6	81.6	80.9	81.9	84.9	80.0	73.6	66.5	61.2	73.7
1975	61.7	64.0	71.0	76.7	81.8	82.6	82.4	82.4	78.3	74.8	68.2	61.3	73.8
1976	59.1	65.6	71.0	74.2	75.8	81.6	81.3	82.3	81.7	70.2	60.8	57.4	71.8
1977	55.0	61.9	69.0	73.7	80.2	82.6	84.6	85.9	84.3	77.1	69.8	64.4	74.0
1978	54.6	55.9	66.8	74.8	83.3	85.0	86.8	85.4	82.3	75.9	71.2	62.9	73.7
1979	56.3	59.5	69.0	76.1	77.0	82.1	85.5	84.5	77.7	76.6	65.3	59.7	72.4
1980	63.9	60.6	69.6	72.0	82.0	86.9	87.5	84.9	84.9	73.6	63.1	61.6	74.2
1981	59.7	62.9	68.1	77.0	80.3	84.3	85.3	85.6	81.7	77.6	70.9	64.8	74.9
1982	62.7	61.1	71.7	76.0	80.1	85.7	86.9	86.3	83.4	77.0	68.4	62.4	75.1
1983	59.8	62.8	68.2	73.0	79.8	83.4	84.5	85.6	81.7	76.2	71.5	55.4	73.5
1984	55.9	62.4	69.7	76.3	79.3	82.8	84.2	84.5	79.4	79.3	68.8	70.3	74.4
1985	54.4	59.2	71.4	75.9	80.6	82.5	82.9	84.9	82.1	76.7	73.0	60.4	73.7
1986	61.0	65.9	69.0	77.0	79.4	83.1	84.8	84.8	84.4	76.3	66.7	60.2	74.4
1987	59.4	64.0	64.3	69.6	79.6	82.6	84.3	86.2	83.0	74.1	67.8	64.3	73.3
1988	55.6	61.4	66.9	73.4	78.3	81.8	85.7	84.5	80.8	76.0	72.3	64.0	73.4
1989	66.2	61.2	67.1	74.3	82.0	84.3	84.0	84.4	81.0	74.5	70.6	51.8	73.5
1990	65.1	67.0	70.2	75.5	81.0	85.4	84.5	85.4	81.3	74.9	70.8	61.8	75.2
1991	58.5	64.5	73.4	78.0	81.6	84.7	84.0	86.0	79.6	77.1	64.6	64.3	74.7
1992	58.0	65.5	70.3	72.8	76.8	84.1	85.4	84.3	82.0	76.4	66.4	64.7	73.9
1993	61.2	65.7	68.6	73.4	77.7	82.3	84.7	85.6	82.9	75.0	65.8	63.8	73.9
1994	62.6	63.6	68.1	74.1	79.9	84.1	85.7	83.1	79.7	76.3	73.9	65.7	74.7
1995	61.3	67.3	66.9	74.3	82.4	83.0	84.9	83.5	82.0	75.2	68.0	63.2	74.3
1996	60.8	63.7	65.2	72.1	82.7	84.7	86.3	84.7	81.6	76.0	69.5	64.1	74.3
1997	58.2	64.2	70.0	70.8	77.2	82.4	85.5	85.6	82.2	74.2	65.7	59.7	73.0
1998	65.3	64.5	67.9	72.1	81.5	87.3	87.1	86.5	82.9	76.8	72.2	62.0	75.5
1999	64.7	69.0	71.0	77.5	81.3	83.9	83.8	85.5	80.3	74.4	69.1	62.2	75.2
2000	66.1	70.4	74.4	75.7	82.5	84.3	85.7	84.0	82.7	74.8	68.6	57.2	75.5
2001	59.6	67.5	66.9	78.0	80.6	85.7	85.7	86.5	81.8	76.3	70.4	64.4	75.3
2002	63.8	59.7	69.5	79.1	81.6	84.5	84.7	86.4	82.6	78.3	66.2	63.0	75.0
POR= 118 YRS	60.3	63.3	68.5	74.4	79.0	82.7	83.9	84.2	81.3	75.5	68.0	62.1	73.6

HEATING DEGREE DAYS (base 65°F) 2002 BROWNSVILLE, TX (BRO)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1973-74	0	0	0	0	16	130	190	102	40	5	0	0	483
1974-75	0	0	0	3	77	169	177	90	31	5	0	0	552
1975-76	0	0	0	5	74	180	215	74	22	0	0	0	570
1976-77	0	0	0	21	177	256	319	123	43	3	0	0	942
1977-78	0	0	0	0	25	101	342	286	66	6	0	0	826
1978-79	0	0	0	0	35	152	305	203	41	0	0	0	736
1979-80	0	0	0	0	99	204	108	180	51	13	0	0	655
1980-81	0	0	0	34	141	166	181	117	38	0	0	0	677
1981-82	0	0	0	14	23	101	183	187	54	17	0	0	579
1982-83	0	0	0	0	82	145	187	85	18	11	0	0	528
1983-84	0	0	0	0	22	365	299	138	39	2	0	0	865
1984-85	0	0	0	2	51	55	349	213	21	0	0	0	691
1985-86	0	0	0	1	21	184	153	97	25	0	0	0	481
1986-87	0	0	0	12	117	177	192	79	80	36	0	0	693
1987-88	0	0	0	0	53	119	298	170	65	4	0	0	709
1988-89	0	0	0	0	21	123	100	206	104	9	0	0	563
1989-90	0	0	0	16	43	415	95	45	25	2	2	0	643
1990-91	0	0	0	3	26	194	217	69	5	0	0	0	514
1991-92	0	0	1	0	121	134	223	63	26	10	0	0	578
1992-93	0	0	0	0	82	93	152	58	48	1	0	0	434
1993-94	0	0	0	36	110	134	130	115	44	7	2	0	578
1994-95	0	0	0	1	4	89	173	43	90	4	0	0	404
1995-96	0	0	0	0	44	175	177	158	122	23	0	0	699
1996-97	0	0	0	1	44	135	287	90	19	28	0	0	604
1997-98	0	0	0	6	83	196	75	53	56	3	0	0	472
1998-99	0	0	0	0	7	193	111	43	9	3	0	0	366
1999-00	0	0	0	13	31	133	96	27	1	2	0	0	303
2000-01	0	0	0	54	66	262	199	77	38	0	0	0	696
2001-02	0	0	0	0	46	116	143	179	56	0	0	0	540
2002-	0	0	0	0	63	119							

WBAN : 12919

COOLING DEGREE DAYS (base 65°F) 2002 BROWNSVILLE, TX (BRO)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1973	19	21	178	242	404	490	585	519	504	365	309	74	3710
1974	83	75	299	329	520	485	534	624	458	275	130	59	3871
1975	79	68	223	363	526	536	548	546	408	315	176	69	3857
1976	41	97	216	283	343	507	511	547	509	190	59	24	3327
1977	15	44	174	272	476	535	615	658	585	384	177	88	4023
1978	32	38	129	308	572	605	680	638	524	342	228	92	4188
1979	45	56	173	339	380	517	645	614	388	368	118	46	3689
1980	83	62	198	230	536	661	707	623	602	309	91	67	4169
1981	22	64	139	365	482	586	635	646	507	414	204	102	4166
1982	119	85	267	357	474	626	684	667	555	381	190	73	4478
1983	29	29	124	254	466	560	607	645	506	354	222	73	3869
1984	24	70	190	349	451	541	604	611	441	451	175	224	4131
1985	28	57	226	334	492	533	560	623	518	370	269	47	4057
1986	36	126	155	367	453	550	620	620	584	367	174	39	4091
1987	26	58	65	181	457	533	605	663	544	289	144	105	3670
1988	15	73	131	263	416	512	649	612	481	349	245	99	3845
1989	145	108	176	296	534	586	599	607	490	318	218	12	4089
1990	105	107	194	324	503	619	612	641	494	318	209	100	4226
1991	23	62	273	395	522	599	599	657	446	383	117	120	4196
1992	13	81	198	249	375	579	640	603	518	361	129	89	3835
1993	44	82	166	260	401	522	620	647	543	349	142	103	3879
1994	61	80	149	289	471	581	646	568	446	360	278	114	4043
1995	66	115	158	292	549	551	626	582	519	324	143	128	4053
1996	54	129	134	240	553	596	668	621	507	349	187	110	4148
1997	84	74	178	209	388	530	647	643	523	297	111	40	3724
1998	88	44	151	223	518	673	692	674	545	372	229	107	4316
1999	110	159	200	383	513	573	588	642	465	312	159	58	4162
2000	137	189	300	330	549	585	649	597	535	363	179	27	4440
2001	38	153	106	399	487	630	644	675	511	356	216	103	4318
2002	115	35	203	429	518	590	618	672	537	420	109	64	4310

SNOWFALL (inches) 2002 BROWNSVILLE, TX (BRO)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1973-74	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
1974-75	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
1975-76	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
1976-77	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T
1977-78	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
1978-79	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
1979-80	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
1980-81	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
1981-82	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
1982-83	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
1983-84	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
1984-85	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	T
1985-86	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
1986-87	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
1987-88	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
1988-89	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
1989-90	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	T
1990-91	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
1991-92	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T
1992-93	0.0	T	0.0	0.0	0.0	0.0	T	0.0	T	0.0	0.0	0.0	T
1993-94	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
1994-95	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
1995-96	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
1996-97	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
1997-98	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	T
1998-99	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
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2001-02	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
2002-	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= 63 YRS	0.0	T	0.0	0.0	T	T	T	T	T	0.0	0.0	0.0	T

WBAN : 12919

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 EIGHTS(OKTAS) FOR REPORTING THE AMOUNT OF SKY COVER.</p>
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2002 BROWNSVILLE, TEXAS (BRO)

Brownsville is located at the southern tip of Texas. It is the largest city in the four county area referred to as the Lower Rio Grande Valley or just the Valley.

The Gulf of Mexico, located about 18 miles east, is the dominant influence on local weather. Prevailing southeast breezes off the Gulf provide a humid but generally mild climate. Winds are frequently strong and gusty in the spring.

Brownsville weather is generally favorable for outdoor activities and the Valley is a popular tourist area, especially for Winter Texans who come to enjoy the mild winters. High temperatures range mostly in the 70s and 80s from October through April, with lows in the 50s and 60s during the same period. For the remainder of the year highs are frequently in the 90s with lows in the 70s.

Temperature extremes are rare but do occur. Temperatures in the 90s have occurred in every month of the year, with 100 degree readings noted as early as March and as late as September. Temperatures of 100 degrees or more are associated with west winds bringing hot dry air out of Mexico. Very hot temperatures are often moderated by a cooling sea breeze from the Gulf during the afternoon hours.

Located about 150 miles north of the tropics, cold weather in Brownsville is infrequent and of short duration. Some winters pass without a single day with freezing temperatures. This climate permits

year around gardening and cultivation of citrus and other cold sensitive tropical and sub-tropical plants. Damaging cold comes from frigid air masses, called northers or arctic outbreaks, plunging south from Canada or the Arctic. The worst of these can drop temperatures well below freezing for several hours, and a few have produced readings in the teens. Fortunately such events are very rare since they are disastrous to the local economy.

Rainfall is not well distributed. Heaviest rains occur in May through June and mid August through mid October. Extended periods of cool rainy weather, called overrunning, can occur in winter. Torrential rains of 10 to 20 inches or more may accompany tropical storms or hurricanes that occasionally move over the area in summer or fall. Rainy spells may be followed by long dry periods. Irrigation is required to ensure production of crops such as cotton, grains, and vegetables. Snow and freezing rain or drizzle are so rare that years may pass between occurrences.

Brownsville is blessed by having little severe weather. Damaging hail or winds from heavy thunderstorms are generally limited to the Spring season and many years may elapse between occurrences. Tornadoes are even more rare. Tropical storms and hurricanes from the Gulf are a threat each summer and fall, but again, damaging storms are quite rare.

STATION LOCATION

BROWNSVILLE, TEXAS

LOCATION	Occupied From	Occupied To	Airline Distances and Directions from previous Location	LATITUDE NORTH	LONGITUDE WEST	ELEVATION ABOVE										AUTOMATIC OBSERVING EQUIPMENT *	* TYPE M = AMOS T = AUTOB S = ASOS W = AWOS REMARKS
						GROUND											
						SEA LEVEL	GROUND	WIND	EXTREME	PSYCHROMETER	SUNSHINE	TIPPING GAUGE	WEIGHING	8 INCH	HYGROMETER		
*NOTES: <u>AIRPORT</u>																	
SE corner Adm. Bldg. Municipal Airport	8/2/30	11/16/38	4.5 mi. E FED BLD	25°54'	97°26'	16	35	19	19		3			3			WBAS established.
Administration Bldg. RGV International AP	11/16/38	12/14/50	NA	25°54'	97°26'	16	33	5	5	31	28	NA	28	NA	NA	NA	Changes in building, WBO and WBAS combined 4/1/42 for record purposes.
Administration Bldg. RGV International AP+	12/15/50	05/01/94	NA	25°54'	97°26'	16	c19	56	4	4	32	NA	28	d4	NA	a. Effective 5/15/55. b. Effective 1/12/61. c. Effective 11/3/66. d. Telepsychrometer (4') 2/16/49-11/3/66. Hygro. comm. 3400' NE of Telepsychrometer site 11/3/66. e. Effective 2/9/72. f. Minor move 7/10/74. g. Installed 4/1/79. h. Type change 6/13/85.	
Brownsville Airport	05/01/94	Present	NA	25°54'	97°26'	i21									S	ASOS commissioned 5/1/94. i. Ground elevation.	

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* NOTES: For earlier station history see previous edition.