

2003

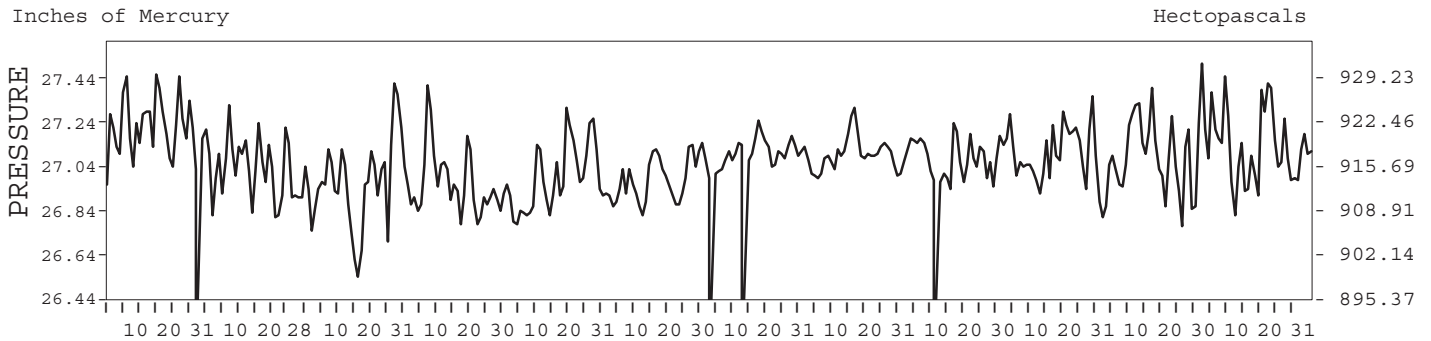
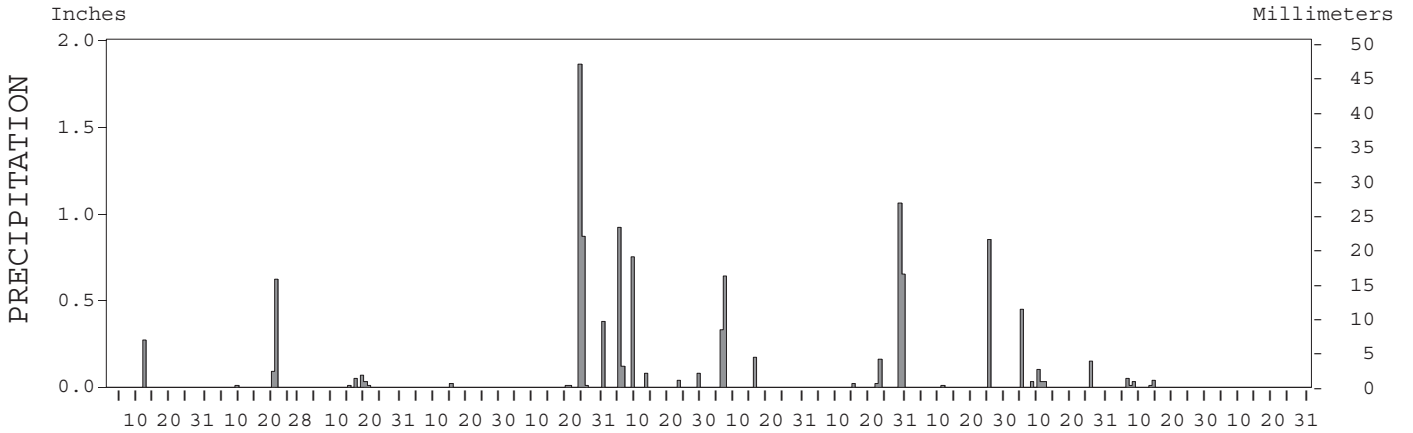
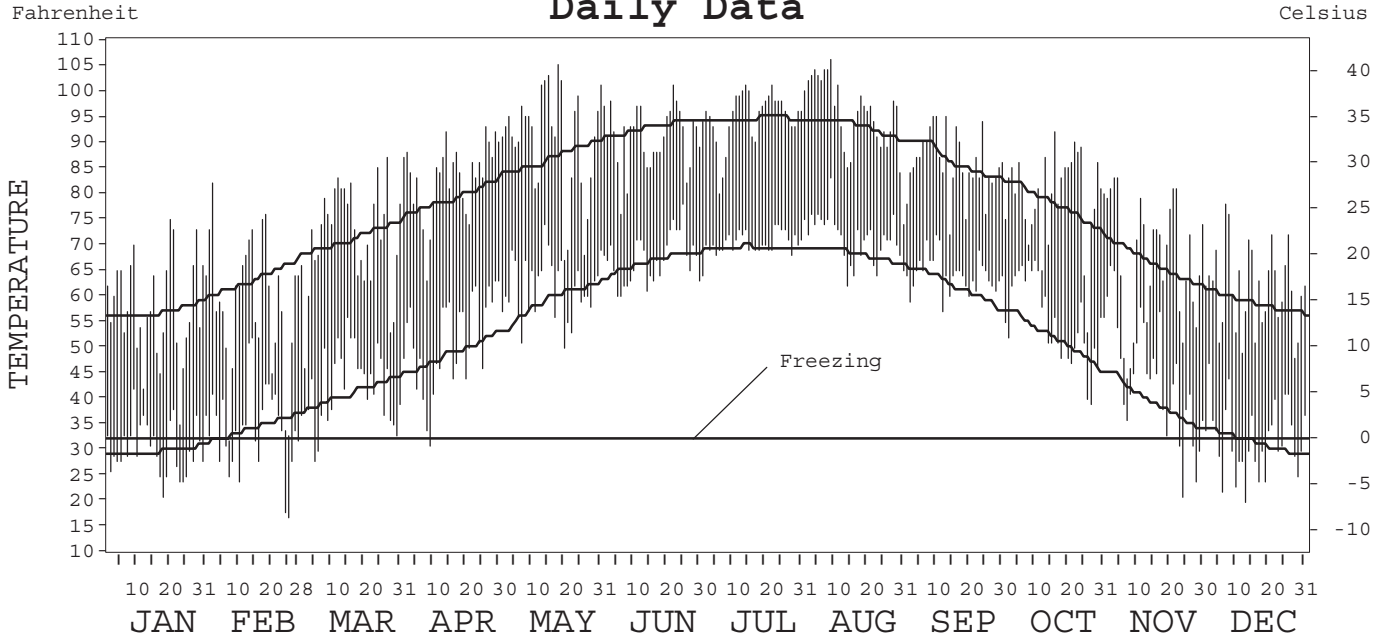
LOCAL CLIMATOLOGICAL DATA ANNUAL SUMMARY WITH COMPARATIVE DATA



ISSN 0198-5124

MIDLAND - ODESSA,
TEXAS (MAF)

Daily Data



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NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
 NATIONAL ENVIRONMENTAL AND INFORMATION SERVICE
 NATIONAL ENVIRONMENTAL AND INFORMATION SERVICE
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 ASHEVILLE, NORTH CAROLINA
 DIRECTOR NATIONAL CLIMATIC DATA CENTER

METEOROLOGICAL DATA FOR 2003

MIDLAND, TX (MAF)

LATITUDE: 31° 55' 56" N LONGITUDE: 102° 12' 29" W ELEVATION (FT): GRND: 2863 BARO: 2866 TIME ZONE: CENTRAL (UTC + 6) WBAN: 23023

	ELEMENT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	
TEMPERATURE °F	MEAN DAILY MAXIMUM	58.0	58.6	71.6	82.9	90.3	90.9	94.9	95.4	85.8	79.4	66.8	61.5	78.0	
	HIGHEST DAILY MAXIMUM	75	82	87	93	105	101	101	106	95	92	83	78	106	
	DATE OF OCCURRENCE	20	02	27	26	18	22	22+	09	13+	16	04+	07	AUG 09	
	MEAN DAILY MINIMUM	30.5	34.3	42.4	51.3	61.6	67.2	70.4	71.2	64.3	55.2	43.6	32.1	52.0	
	LOWEST DAILY MINIMUM	21	17	28	31	50	60	64	62	57	39	21	20	17	
	DATE OF OCCURRENCE	18	25	05	09	20	06+	01	14	12	27	24	13	FEB 25	
	AVERAGE DRY BULB	44.3	46.5	57.0	67.1	76.0	79.1	82.7	83.3	75.1	67.3	55.2	46.8	65.0	
	MEAN WET BULB	37.8	39.7	47.0				69.7	67.3			46.9	37.2		
	MEAN DEW POINT	30.1	31.8	36.9				62.9	58.4			37.5	23.0		
	NUMBER OF DAYS WITH:														
	MAXIMUM ≥ 90°	0	0	0	5	21	18	28	24	9	2	0	0	0	107
	MAXIMUM ≤ 32°	0	1	0	0	0	0	0	0	0	0	0	0	0	1
	MINIMUM ≤ 32°	19	11	2	1	0	0	0	0	0	0	5	17	55	
MINIMUM ≤ 0°	0	0	0	0	0	0	0	0	0	0	0	0	0		
H/C	HEATING DEGREE DAYS	634	512	252	56	10	0	0	0	0	41	318	556	2379	
	COOLING DEGREE DAYS	0	0	12	128	354	428	553	575	306	122	31	0	2509	
RH	MEAN (PERCENT)	63	62	54	36	47	60	55	47	59	60	58	45	54	
	HOUR 00 LST	71	68	60	39	54	69	60	53	66	67	65	50	60	
	HOUR 06 LST	80	75	77	55	69	82	81	67	80	79	70	58	73	
	HOUR 12 LST	53	54	44	28	36	51	45	38	50	49	49	32	44	
	HOUR 18 LST	46	46	31	21	30	42	35	33	41	42	47	33	37	
S	PERCENT POSSIBLE SUNSHINE														
W/O	NUMBER OF DAYS WITH:														
	HEAVY FOG (VISBY ≤ 1/4 MI)	5	2	2	0	1	0	0	0	2	3	1	2	18	
	THUNDERSTORMS	1	0	3	0	3	9	3	4	4	2	0	0	31	
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.)		27.03	26.97	26.97	26.99	26.98		27.10		27.08	27.11	27.13		
	MEAN SEA-LEVEL PRESS. (IN.)		29.96	29.86					29.93			30.03	30.08		
WINDS	RESULTANT SPEED (MPH)	0.9	1.2	3.2	4.5			3.4	5.8			3.3	3.8		
	RES. DIR. (TENS OF DEGS.)	17	21	25	20			14	12			18	23		
	MEAN SPEED (MPH)	9.0	10.9	11.4	12.7	11.1	11.6	10.5	10.3	10.9	9.2	10.9	10.5	10.8	
	PREVAIL. DIR. (TENS OF DEGS.)	11	22	21	18	18	16	18	16	17	18	18	18	18	
	MAXIMUM 2-MINUTE WIND:														
	SPEED (MPH)	33	30	41	44	45	47	31	38	33	36	36	43	47	
	DIR. (TENS OF DEGS.)	35	16	02	27	31	29	10	11	36	06	34	26	29	
	DATE OF OCCURRENCE	01	13+	27	23	31	09	29+	22	07	05	18	15	JUN 09	
	MAXIMUM 5-SECOND WIND:														
	SPEED (MPH)	41	35	51	54	55	63	36	43	40	46	44	52	63	
DIR. (TENS OF DEGS.)	35	17	02	27	32	18	16	11	02	04	32	27	18		
DATE OF OCCURRENCE	01	13+	27	23	31	03	23+	22	07	05	18	15	JUN 03		
PRECIPITATION	WATER EQUIVALENT:														
	TOTAL (IN.)	0.27	0.72	0.17	0.02	3.14	1.99	1.14	1.91	0.86	0.79	0.14	T	11.15	
	GREATEST 24-HOUR (IN.)	0.27	0.62	0.10	0.02	1.86	1.04	0.97	1.09	0.85	0.45	0.05	T	1.86	
	DATE OF OCCURRENCE	12	21	19-20	15	24	05-06	06-07	29-30	25	05	06	12+	MAY 24	
	NUMBER OF DAYS WITH:														
	PRECIPITATION ≥ 0.01	1	3	5	1	6	6	3	5	2	6	5	0	43	
PRECIPITATION ≥ 0.10	1	1	0	0	3	3	3	3	1	3	0	0	18		
PRECIPITATION ≥ 1.00	0	0	0	0	1	0	0	1	0	0	0	0	2		
SNOWFALL	SNOW, ICE PELLETS, HAIL:														
	TOTAL (IN.)														
	GREATEST 24-HOUR (IN.)														
	DATE OF OCCURRENCE														
	MAXIMUM SNOW DEPTH (IN.)														
	DATE OF OCCURRENCE														
NUMBER OF DAYS WITH:															
SNOWFALL ≥ 1.0															

NORMALS, MEANS, AND EXTREMES

MIDLAND-ODESSA, TX (MAF)

LATITUDE: 31° 55' 56" N LONGITUDE: 102° 12' 29" W ELEVATION (FT): GRND: 2863 BARO: 2866 TIME ZONE: CENTRAL (UTC + 6) WBAN: 23023

ELEMENT		POR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
TEMPERATURE °F	NORMAL DAILY MAXIMUM	30	56.8	63.0	70.9	78.8	86.8	92.7	94.3	92.8	86.1	77.4	65.8	58.4	77.0
	MEAN DAILY MAXIMUM	55	57.0	62.2	69.8	78.9	86.7	93.0	94.5	93.3	86.5	77.7	65.9	58.8	77.0
	HIGHEST DAILY MAXIMUM	56	84	90	95	101	108	116	112	107	107	101	90	85	116
	YEAR OF OCCURRENCE		1974	1986	1989	1996	2000	1994	1989	1964	1953	2000	1996	1954	JUN 1994
	MEAN OF EXTREME MAXS.	55	76.0	80.5	86.7	93.1	99.5	102.8	101.8	101.3	97.6	91.2	81.9	76.2	90.7
	NORMAL DAILY MINIMUM	30	29.6	34.1	40.8	48.6	58.8	66.4	69.1	67.9	61.6	51.3	38.8	31.2	49.9
	MEAN DAILY MINIMUM	55	29.9	33.9	40.5	49.5	59.1	67.0	69.4	68.4	61.9	51.6	39.2	31.8	50.2
	LOWEST DAILY MINIMUM	56	-8	-11	9	20	34	47	53	54	36	24	11	-1	-11
	YEAR OF OCCURRENCE		1962	1985	1980	1973	1970	1983	1978	1989	1989	1993	2001	1989	FEB 1985
	MEAN OF EXTREME MINS.	55	13.9	18.0	23.0	33.6	45.1	57.1	63.1	62.5	48.8	37.0	23.9	17.4	37.0
	NORMAL DRY BULB	30	43.2	48.6	55.9	63.7	72.8	79.6	81.7	80.4	73.9	64.4	52.3	44.8	63.4
	MEAN DRY BULB	55	43.5	48.0	55.1	64.3	72.9	80.0	82.0	80.8	74.3	64.7	52.6	45.2	63.6
	MEAN WET BULB	20	36.1	39.9	44.5	48.7	60.0	66.7	67.8	67.5	62.9	54.7	44.1	37.0	52.5
	MEAN DEW POINT	20	26.4	29.1	32.3	37.5	49.5	58.9	59.9	60.3	56.3	46.9	35.2	27.5	43.3
	NORMAL NO. DAYS WITH:														
MAXIMUM ≥ 90°	30	0.0	*	0.5	3.8	12.5	21.3	25.8	23.1	11.9	2.4	*	0.0	101.3	
MAXIMUM ≤ 32°	30	1.6	0.7	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.9	3.4	
MINIMUM ≤ 32°	30	19.3	12.0	4.9	0.9	0.0	0.0	0.0	0.0	0.0	0.3	6.9	17.8	62.1	
MINIMUM ≤ 0°	30	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*	0.1	
H/C	NORMAL HEATING DEG. DAYS	30	680	472	302	120	18	0	0	0	19	103	380	622	2716
	NORMAL COOLING DEG. DAYS	30	0	2	15	77	254	438	512	473	281	83	4	0	2139
RH	NORMAL (PERCENT)	30	58	55	46	45	51	54	52	55	60	60	59	58	54
	HOUR 00 LST	30	64	62	54	53	60	63	58	62	68	70	68	65	62
	HOUR 06 LST	30	72	71	65	67	75	78	73	76	80	80	76	72	74
	HOUR 12 LST	30	47	44	35	33	38	42	42	44	49	47	45	46	43
	HOUR 18 LST	30	42	36	28	27	31	34	35	38	43	44	45	44	37
S	PERCENT POSSIBLE SUNSHINE	20	66	69	72	78	78	81	81	77	77	72	74	65	74
W/O	MEAN NO. DAYS WITH:														
	HEAVY FOG (VISBY ≤ 1/4 MI)	55	3.4	2.7	0.9	0.6	0.5	0.1	0.0	0.1	0.6	1.4	2.5	2.8	15.6
	THUNDERSTORMS	55	0.3	0.6	1.3	3.0	6.5	5.8	5.7	6.0	3.5	2.6	0.6	0.4	36.3
CLOUDINESS	MEAN:														
	SUNRISE-SUNSET (OKTAS)	48	4.2	4.1	3.8	3.7	3.8	3.2	3.5	3.4	3.4	3.0	3.4	3.8	3.6
	MIDNIGHT-MIDNIGHT (OKTAS)	32	3.9	3.8	3.3	3.3	3.4	3.0	3.1	3.2	3.3	2.8	3.2	3.4	3.3
	MEAN NO. DAYS WITH:														
CLEAR	48	12.4	11.1	13.1	13.3	12.9	15.0	13.1	14.2	14.2	16.9	14.6	13.8	164.6	
PARTLY CLOUDY	48	6.4	7.0	7.7	8.0	9.6	9.5	11.1	10.4	7.9	6.3	6.5	6.0	96.4	
CLOUDY	48	12.2	10.1	10.2	8.7	8.5	5.5	6.8	6.3	8.0	7.7	8.9	11.2	104.1	
PR	MEAN STATION PRESSURE (IN)	30	27.12	27.08	27.00	26.99	26.97	27.01	27.07	27.08	27.09	27.10	27.10	27.12	27.06
	MEAN SEA-LEVEL PRES. (IN)	19	30.08	30.03	29.94	29.87	29.82	29.97	29.90	29.92	29.94	29.98	30.03	30.10	29.97
WINDS	MEAN SPEED (MPH)	47	10.4	11.2	12.4	12.6	12.4	12.2	10.7	9.9	9.9	9.9	10.3	10.1	11.0
	PREVAIL. DIR (TENS OF DEGS)	32	18	18	18	18	18	16	16	16	16	18	18	18	18
	MAXIMUM 2-MINUTE:														
	SPEED (MPH)	7	41	43	45	44	45	47	45	53	51	38	37	43	53
	DIR. (TENS OF DEGS)		26	03	02	27	31	29	14	23	19	17	26	26	23
	YEAR OF OCCURRENCE		2001	2002	2002	2003	2003	2003	1998	1997	2001	2000	2002	2003	AUG 1997
MAXIMUM 5-SECOND:															
SPEED (MPH)	7	51	52	54	59	55	63	59	64	70	46	45	52	70	
DIR. (TENS OF DEGS)		29	03	27	21	32	18	19	23	20	04	25	27	20	
YEAR OF OCCURRENCE		1999	2002	2000	2001	2003	2003	1998	1997	2001	2003	2001	2003	SEP 2001	
PRECIPITATION	NORMAL (IN)	30	0.53	0.58	0.42	0.73	1.79	1.71	1.89	1.77	2.31	1.77	0.65	0.65	14.80
	MAXIMUM MONTHLY (IN)	56	3.66	2.55	2.86	2.85	7.63	3.93	8.50	4.43	9.70	7.45	2.32	3.30	9.70
	YEAR OF OCCURRENCE		1949	1992	1970	1949	1992	1949	1991	1974	1980	1986	1968	1986	SEP 1980
	MINIMUM MONTHLY (IN)	56	0.00	0.00	T	0.00	0.02	0.01	T	0.05	0.00	0.00	0.00	T	0.00
	YEAR OF OCCURRENCE		1967	1999	1994	1964	1998	1990	1983	1999	2000	1952	1950	1958	SEP 2000
	MAXIMUM IN 24 HOURS (IN)	50	1.15	1.32	2.20	1.62	4.75	3.07	5.99	2.41	4.37	3.59	2.16	0.90	5.99
	YEAR OF OCCURRENCE		1958	1997	1970	1979	1968	1993	1961	1965	1986	1985	1975	2002	JUL 1961
	NORMAL NO. DAYS WITH:														
PRECIPITATION ≥ 0.01	30	3.9	3.4	2.6	3.2	6.2	4.9	5.0	5.8	6.0	4.7	3.1	3.6	52.4	
PRECIPITATION ≥ 1.00	30	0.0	*	*	0.1	0.4	0.5	0.5	0.4	0.6	0.5	0.2	0.1	3.3	
SNOWFALL	NORMAL (IN)	30	2.2	0.7	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.*	0.5	1.4	5.1
	MAXIMUM MONTHLY (IN)	55	9.0	3.9	5.9	2.0	T	T	T	T	T	0.6	8.0	9.8	9.8
	YEAR OF OCCURRENCE		1985	1973	1970	1996	1995	1993	1995	1992	2001	1993	2001	1998	DEC 1998
	MAXIMUM IN 24 HOURS (IN)	49	6.8	3.9	5.0	2.0	T	T	T	T	T	0.6	6.0	9.8	9.8
	YEAR OF OCCURRENCE		1974	1985	1970	1996	1995	1993	1995	1992	2001	1993	2001	1998	DEC 1998
	MAXIMUM SNOW DEPTH (IN)	53	7	5	3	0	0	0	0	0	0	1	8	5	8
	YEAR OF OCCURRENCE		1974	1985	1989							1993	2001	1998	NOV 2001
NORMAL NO. DAYS WITH:															
SNOWFALL ≥ 1.0	30	0.8	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.5	1.9	

PRECIPITATION (inches) 2003 MIDLAND - ODESSA, TX (MAF)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1974	0.54	0.28	0.18	1.17	0.34	0.75	0.26	4.43	6.16	5.42	0.72	0.25	20.50
1975	0.81	0.69	0.08	0.09	3.44	2.05	7.73	1.68	3.44	0.70	2.16	0.37	23.24
1976	0.03	0.18	0.30	2.02	1.08	2.14	3.56	0.84	1.25	1.84	0.26	0.08	13.58
1977	0.63	0.55	0.61	1.22	0.60	0.81	0.40	0.37	0.09	1.27	0.02	0.27	6.84
1978	0.22	0.34	T	0.09	1.97	1.15	2.51	1.01	5.02	2.51	2.27	0.20	17.29
1979	0.16	0.26	0.81	1.63	1.14	2.98	3.05	2.17	0.08	0.97	T	2.80	16.05
1980	0.49	0.29	T	0.86	1.85	1.59	T	0.93	9.70	0.12	0.78	1.15	17.76
1981	0.56	0.67	0.56	2.15	2.21	0.46	0.40	3.33	1.68	5.53	T	0.05	17.60
1982	0.42	0.16	0.01	1.08	3.16	1.45	3.24	0.67	1.43	1.01	0.62	1.40	14.65
1983	1.14	0.26	0.21	0.06	0.50	0.19	T	0.43	0.62	4.64	1.62	0.33	10.00
1984	0.41	0.17	T	0.01	3.40	2.15	0.84	2.45	1.89	1.99	2.31	0.83	16.45
1985	0.84	0.59	0.63	0.21	0.99	2.23	0.90	0.81	3.15	5.93	0.08	0.05	16.41
1986	0.23	0.17	0.03	0.01	3.89	3.42	1.26	3.94	6.98	7.45	1.45	3.30	32.13
1987	0.10	1.93	1.23	0.63	4.13	2.98	0.33	0.51	1.37	0.44	0.02	0.38	14.05
1988	0.01	0.44	0.74	0.08	2.26	0.84	6.66	1.66	5.07	T	T	0.53	18.29
1989	0.25	1.28	0.34	0.05	0.95	0.61	0.34	1.19	2.78	0.17	0.04	0.14	8.14
1990	0.21	1.09	0.94	1.97	0.35	0.01	1.65	2.15	2.89	1.46	0.75	0.69	14.16
1991	1.80	0.25	T	0.01	0.54	3.50	8.50	1.58	3.76	0.58	0.71	2.23	23.46
1992	1.20	2.55	0.97	1.03	7.63	2.12	1.63	2.75	0.16	0.03	0.70	0.61	21.38
1993	1.28	0.82	0.26	0.57	1.45	3.11	0.89	4.37	2.11	1.11	0.06	0.34	16.37
1994	1.02	0.08	T	0.52	1.30	1.00	2.43	1.75	0.45	0.38	1.30	0.46	10.69
1995	0.72	0.46	0.19	0.40	2.51	1.45	2.28	0.34	1.77	0.34	T	0.24	10.70
1996	0.08	T	0.05	1.22	0.11	1.71	0.13	2.94	0.97	0.20	1.43	T	8.84
1997	0.21	1.69	0.26	2.02	0.73	3.27	2.26	2.41	0.86	1.60	0.44	1.35	17.10
1998	0.24	0.50	0.42	0.00	0.02	0.30	0.65	0.92	0.08	1.30	0.13	0.58	5.14
1999	0.33	0.00	1.22	0.19	1.10	2.87	0.61	0.05	0.95	0.28	0.00	T	7.60
2000	0.61	T	0.76	0.19	1.05	3.14	0.24	0.06	0.00	2.39	0.88	0.33	9.65
2001	0.69	1.24	0.78	T	1.14	0.01	T	3.44	0.95	0.03	1.47	0.10	9.85
2002	0.08	1.00	0.88	0.35	0.11	0.17	1.48	0.17	0.30	3.29	0.47	1.05	9.35
2003	0.27	0.72	0.17	0.02	3.14	1.99	1.14	1.91	0.86	0.79	0.14	T	11.15
POR= 73 YRS	0.63	0.66	0.49	0.79	1.97	1.67	1.71	1.60	1.95	1.58	0.52	0.60	14.17

WBAN : 23023

AVERAGE TEMPERATURE (°F) 2003 MIDLAND - ODESSA, TX (MAF)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1974	45.2	49.5	62.7	66.1	77.5	81.1	83.4	79.5	67.8	64.3	53.6	45.6	64.7
1975	45.9	48.0	54.9	63.0	71.8	80.3	77.8	79.0	70.6	64.9	53.5	46.7	63.0
1976	43.9	56.2	57.0	64.6	68.5	78.1	75.8	78.8	71.7	58.4	46.6	44.3	62.0
1977	40.5	50.2	54.8	61.6	76.4	82.1	83.6	85.4	82.1	67.0	55.0	49.4	65.7
1978	38.2	43.8	58.1	67.8	72.1	78.1	81.9	78.9	71.4	61.3	52.3	42.6	62.2
1979	35.9	45.3	55.4	62.6	70.7	77.4	82.1	79.0	75.1	68.1	49.5	46.4	62.3
1980	44.9	46.3	52.4	59.1	69.1	81.9	84.1	80.8	72.7	60.2	47.2	46.2	62.1
1981	43.2	48.6	52.4	63.9	70.2	79.1	83.6	80.2	75.7	65.6	57.0	47.8	63.9
1982	43.6	45.9	57.5	63.8	70.7	79.1	82.3	82.8	77.4	64.2	52.2	43.4	63.6
1983	41.8	48.0	55.9	59.5	71.5	79.3	83.7	84.1	77.8	67.8	55.0	37.5	63.5
1984	40.1	48.2	55.0	63.6	74.1	79.8	80.9	80.2	71.5	61.7	50.7	48.0	62.8
1985	37.5	44.3	56.7	66.9	74.8	77.3	81.2	84.1	74.2	63.7	54.6	41.1	63.0
1986	46.3	51.3	58.9	68.4	72.8	77.2	80.8	79.6	74.2	61.7	50.7	43.7	63.8
1987	42.6	47.5	49.5	59.2	69.2	75.7	80.5	81.3	73.1	66.3	50.8	44.2	61.7
1988	39.3	46.2	54.3	63.1	70.8	78.5	77.7	79.3	72.5	64.7	54.9	43.7	62.1
1989	45.9	43.3	56.9	66.8	76.9	78.7	83.1	80.5	71.7	65.2	53.6	38.7	63.4
1990	46.4	50.5	54.9	64.7	73.0	86.5	79.0	78.6	75.0	63.8	55.6	43.4	64.3
1991	41.7	50.6	56.9	65.9	76.6	79.5	79.2	77.6	69.9	64.6	47.7	45.8	63.0
1992	41.3	50.9	57.3	63.2	68.0	77.0	79.9	76.9	74.8	66.4	49.2	46.5	62.6
1993	43.4	47.1	54.6	63.3	71.2	78.9	83.5	81.1	71.9	61.9	49.5	46.9	62.8
1994	44.1	48.0	57.2	63.3	72.0	84.5	83.3	81.8	73.6	66.0	55.5	48.7	64.8
1995	45.9	51.8	54.5	64.0	71.8	78.1	83.0	81.8	73.9	66.6	54.8	46.4	64.4
1996	44.6	51.3	51.2	63.4	81.1	82.9	84.5	80.0	72.3	64.1	52.9	47.4	64.6
1997	41.4	44.8	57.9	59.1	70.8	77.9	82.8	81.9	77.0	65.0	50.2	42.0	62.6
1998	48.1	49.3	53.8	62.2	79.0	85.7	86.9	81.5	79.6	69.0	56.4	44.0	66.3
1999	48.0	54.8	55.9	65.0	73.8	79.3	82.6	84.3	75.0	63.9	56.5	45.1	65.4
2000	47.4	55.3	59.1	67.4	78.8	78.7	85.4	83.2	77.8	64.2	47.0	40.4	65.4
2001	41.5	48.5	51.9	66.9	75.9	83.8	86.7	82.0	75.1	65.9	54.3	44.7	64.8
2002	45.9	44.4	52.5	66.2	74.1	82.3	82.4	85.3	75.8	62.3	49.9	43.8	63.7
2003	44.3	46.5	57.0	67.1	76.0	79.1	82.7	83.3	75.1	67.3	55.2	46.8	65.0
POR= 73 YRS	43.6	48.1	55.1	63.9	72.6	79.8	81.7	80.9	74.4	64.9	52.5	45.2	63.6

HEATING DEGREE DAYS (base 65°F) 2003 MIDLAND - ODESSA, TX (MAF)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1974-75	0	0	44	65	344	594	582	468	314	135	2	3	2551
1975-76	0	0	40	82	340	560	652	258	261	73	38	0	2304
1976-77	0	0	10	220	545	635	755	409	320	117	0	0	3011
1977-78	0	0	0	47	295	478	823	586	245	49	30	0	2553
1978-79	0	0	36	138	374	689	893	546	297	106	34	3	3116
1979-80	0	0	3	63	459	566	619	535	384	184	34	0	2847
1980-81	0	0	20	173	531	575	669	452	383	99	20	0	2922
1981-82	0	0	0	109	234	527	655	535	245	112	21	0	2438
1982-83	0	0	0	128	378	661	711	469	281	224	19	3	2874
1983-84	0	0	9	56	304	844	768	481	313	100	7	0	2882
1984-85	0	0	66	135	426	521	843	573	277	53	2	1	2897
1985-86	0	0	30	87	308	734	575	390	192	39	11	0	2366
1986-87	0	0	2	137	423	653	689	484	473	205	14	0	3080
1987-88	0	0	2	38	427	636	788	540	338	100	11	0	2880
1988-89	0	0	10	54	321	654	586	601	279	102	2	0	2609
1989-90	0	0	36	98	341	806	569	401	324	105	58	0	2738
1990-91	0	0	2	101	295	662	715	398	260	47	8	0	2488
1991-92	0	0	47	107	513	587	728	404	235	113	29	0	2763
1992-93	0	0	1	32	475	564	665	494	322	118	16	0	2687
1993-94	0	3	10	185	457	556	639	468	265	117	18	0	2718
1994-95	0	0	3	80	284	500	586	363	343	119	8	0	2286
1995-96	0	0	29	45	301	573	626	410	423	139	0	0	2546
1996-97	0	0	25	101	358	538	726	560	232	206	22	0	2768
1997-98	0	0	3	119	437	704	518	434	367	129	0	0	2711
1998-99	0	0	0	48	259	644	522	282	285	104	9	0	2153
1999-00	0	0	16	106	250	610	542	274	195	83	13	0	2089
2000-01	0	0	12	127	535	755	720	455	399	56	0	0	3059
2001-02	0	0	5	51	329	619	586	572	394	94	8	0	2658
2002-03	0	0	0	160	449	652	634	512	252	56	10	0	2725
2003-	0	0	0	41	318	556							

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COOLING DEGREE DAYS (base 65°F) 2003 MIDLAND - ODESSA, TX (MAF)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1974	0	0	58	109	394	488	575	455	136	50	5	0	2270
1975	0	0	10	80	220	466	404	439	217	86	5	0	1927
1976	0	10	21	68	155	398	344	434	219	22	0	0	1671
1977	0	0	9	21	359	522	584	638	518	112	1	0	2764
1978	0	0	38	139	260	401	531	438	233	30	0	0	2070
1979	0	0	5	43	216	383	539	442	314	167	0	0	2109
1980	0	0	0	17	166	514	600	498	260	33	2	0	2090
1981	0	0	0	71	188	428	583	480	327	135	0	0	2212
1982	0	3	20	84	204	429	543	556	374	111	1	0	2325
1983	0	0	5	64	227	439	588	599	401	151	11	0	2485
1984	0	0	10	69	296	447	500	482	267	39	2	0	2112
1985	0	1	26	115	311	376	505	599	310	56	3	0	2302
1986	0	13	13	147	259	371	496	460	286	38	0	0	2083
1987	0	0	0	39	151	328	487	511	251	86	7	0	1860
1988	0	0	13	51	198	414	397	452	242	52	22	0	1841
1989	0	0	36	164	376	416	569	487	244	111	4	0	2407
1990	0	0	15	103	312	651	441	428	310	68	19	0	2347
1991	0	1	17	80	374	440	447	399	200	101	0	0	2059
1992	0	0	1	68	131	367	468	377	303	83	4	0	1802
1993	0	0	6	75	213	422	579	510	224	95	0	0	2124
1994	0	0	27	74	240	594	576	526	271	118	7	0	2433
1995	0	0	26	94	227	398	566	529	302	97	3	0	2242
1996	0	18	6	98	510	546	611	471	252	77	4	0	2593
1997	2	0	18	35	211	395	557	531	373	125	0	0	2247
1998	0	0	27	52	441	626	684	519	444	178	6	1	2978
1999	0	5	8	111	289	436	553	604	320	77	3	0	2406
2000	0	2	18	162	446	418	640	570	404	110	0	0	2770
2001	0	0	1	118	348	566	674	533	313	88	18	0	2659
2002	0	2	14	135	296	521	546	636	329	84	3	0	2566
2003	0	0	12	128	354	428	553	575	306	122	31	0	2509

SNOWFALL (inches) 2003 MIDLAND - ODESSA, TX (MAF)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1974-75	0.0	0.0	0.0	0.0	0.0	0.1	0.4	1.6	T	0.0	0.0	0.0	2.1
1975-76	0.0	0.0	0.0	0.0	0.0	1.3	0.3	T	0.0	0.0	0.0	0.0	1.6
1976-77	0.0	0.0	0.0	0.0	5.1	T	0.7	0.0	0.0	0.0	0.0	0.0	5.8
1977-78	0.0	0.0	0.0	0.0	0.0	T	1.1	T	T	0.0	0.0	0.0	1.1
1978-79	0.0	0.0	0.0	0.0	0.0	1.1	T	2.0	0.0	0.0	0.0	0.0	3.1
1979-80	0.0	0.0	0.0	0.0	0.0	2.1	0.1	3.2	0.0	T	0.0	0.0	5.4
1980-81	0.0	0.0	0.0	T	7.2	T	4.4	0.0	0.0	0.0	0.0	0.0	11.6
1981-82	0.0	0.0	0.0	0.0	0.0	0.0	3.8	T	0.0	0.0	0.0	0.0	3.8
1982-83	0.0	0.0	0.0	0.0	0.1	6.4	5.3	T	T	0.5	0.0	0.0	12.3
1983-84	0.0	0.0	0.0	0.0	0.0	2.1	T	T	T	0.0	0.0	0.0	2.1
1984-85	0.0	0.0	0.0	0.0	0.0	T	9.0	0.7	0.0	0.0	0.0	0.0	9.7
1985-86	0.0	0.0	0.0	0.0	0.0	0.5	2.0	0.2	0.0	0.0	0.0	0.0	2.7
1986-87	0.0	0.0	0.0	0.0	T	8.5	1.1	2.0	0.1	0.0	0.0	0.0	11.7
1987-88	0.0	0.0	0.0	0.0	0.0	1.2	T	3.2	0.1	0.0	0.0	0.0	4.5
1988-89	0.0	0.0	0.0	0.0	0.0	1.5	0.6	T	5.5	0.0	0.0	T	7.6
1989-90	0.0	0.0	0.0	0.0	0.4	0.3	0.0	0.0	0.0	0.3	0.0	0.0	1.0
1990-91	0.0	0.0	0.0	0.0	T	0.2	5.8	T	0.0	0.0	0.0	T	6.0
1991-92	0.0	0.0	0.0	0.1	0.0	T	5.8	2.1	T	0.0	T	T	8.0
1992-93	0.0	T	0.0	0.0	T	4.2	T	T	T	0.0	0.0	T	4.2
1993-94	0.0	0.0	0.0	0.6	0.0	0.9	5.5	T	T	T	T	0.0	7.0
1994-95	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0	T	0.0	T	0.0	2.1
1995-96	T	0.0	0.0	0.0	0.0	T	0.6	0.2	0.2	2.0	0.0	0.0	
1996-97	0.0	0.0	0.0	0.0	0.2	T	4.5	1.0	0.0	0.0	0.0	0.0	
1997-98	0.0	T	0.0	0.0	T	3.0	T	0.0	T	0.0	0.0	T	3.0
1998-99	0.0	0.0	0.0	0.0	0.0	9.8	0.8	0.0	0.0	0.0	0.0	0.0	10.6
1999-00	0.0	0.0	0.0	0.0	0.0	0.3	T	0.0	0.0	0.0	0.0	0.0	0.3
2000-01	0.0	0.0	0.0	0.0	1.2	0.3	2.2	T	0.0	0.0	T	0.0	3.7
2001-02	0.0	0.0	T	0.0	8.0	T	0.8	T	T	0.0	0.0	0.0	8.8
2002-03	T	0.0	0.0	0.0	0.0	T							
2003-													
POR= 54 YRS	T	T	0.0	0.0	0.5	1.0	1.9	0.8	0.4	0.1	T	T	4.7

WBAN : 23023

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.</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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2003
MIDLAND - ODESSA,
TEXAS (MAF)

The Midland-Odesa region is on the southern extension of the South Plains of Texas. The terrain is level with only slight occasional undulations.

The climate is typical of a semi-arid region. The vegetation of the area consists mostly of native grasses and a few trees, mostly of the mesquite variety.

Most of the annual precipitation in the area comes as a result of very violent spring and early summer thunderstorms. These are usually accompanied by excessive rainfall, over limited areas, and sometimes hail. Due to the flat nature of the countryside, local flooding occurs, but is of short duration. Tornadoes are occasionally sighted.

During the late winter and early spring months, blowing dust occurs frequently. The flat plains of the area with only grass as vegetation offer little resistance to the strong winds. The sky is occasionally obscured by dust but in most storms visibilities range from 1 to 3 miles.

Daytime temperatures are quite hot in the summer, but there is a large diurnal range of temperature and most nights are comfortable. The temperature drops below 32 degrees in the fall about mid-November and the last temperature below 32 degrees in spring comes early in April.

Winters are characterized by frequent cold periods followed by rapid warming. Cold frontal passages are followed by chilly weather for two or three days. Cloudiness is at a minimum. Summers are hot and dry with numerous small convective showers.

The prevailing wind direction in this area is from the southeast. This, together with the upslope of the terrain from the same direction, causes occasional low cloudiness and drizzle during winter and spring months. Snow is infrequent. Maximum temperatures during the summer months frequently are from 2 to 6 degrees cooler than those at places 100 miles southeast, due to the cooling effect of the upslope winds.

Very low humidities are conducive to personal comfort, because even though summer afternoon temperatures are frequently above 90 degrees, the low humidity with resultant rapid evaporation, has a cooling effect. The climate of the area is generally quite pleasant with the most disagreeable weather concentrated in the late winter and spring months.

STATION LOCATION

MIDLAND – ODESSA, 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	
						SEA LEVEL GROUND	GROUND											HYGRO THERMOMETER
							TEMPERATURE	WIND INSTRUMENT	EXTREME THERMOMETER	PSYCHROMETER	SUNSHINE SWITCH	TIPPING BUCKET	WEIGHING RAIN GAGE	8 INCH RAIN GAGE				
<p>*NOTE:</p> <p><u>AIRPORT</u></p> <p>NWS Building Midland-Odezza Regional Airport +</p> <p>+ Midland Regional Air Terminal, effective in 1974</p> <p>Midland International Airport eff. 3/1988.</p> <p>Midland Int'l Airport</p>	4/24/72	03/01/96	1.0 mi. ENE	31°56'	102°11'	2851 j2862	d22	4	4		h15	2	2	4	d4 i6	<p>d. Same site as prior to 4/24/72.</p> <p>g. Added 2/11/77.</p> <p>h. Installed 10/8/80.</p> <p>i. Type change and minor relocation 7/27/82.</p> <p>j. Effective 3/21/88.</p>		
	03/01/96	Present	NA	31°56'	102°12'	k2863									S	<p>ASOS Commissioned 03/01/96.</p> <p>k. Ground elevation.</p>		

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* NOTES: For earlier station history see previous edition.