

1999

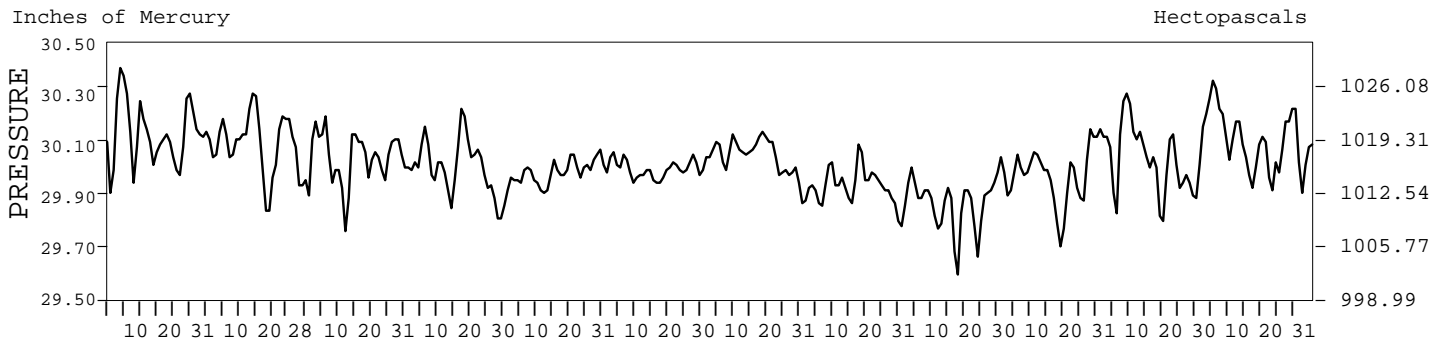
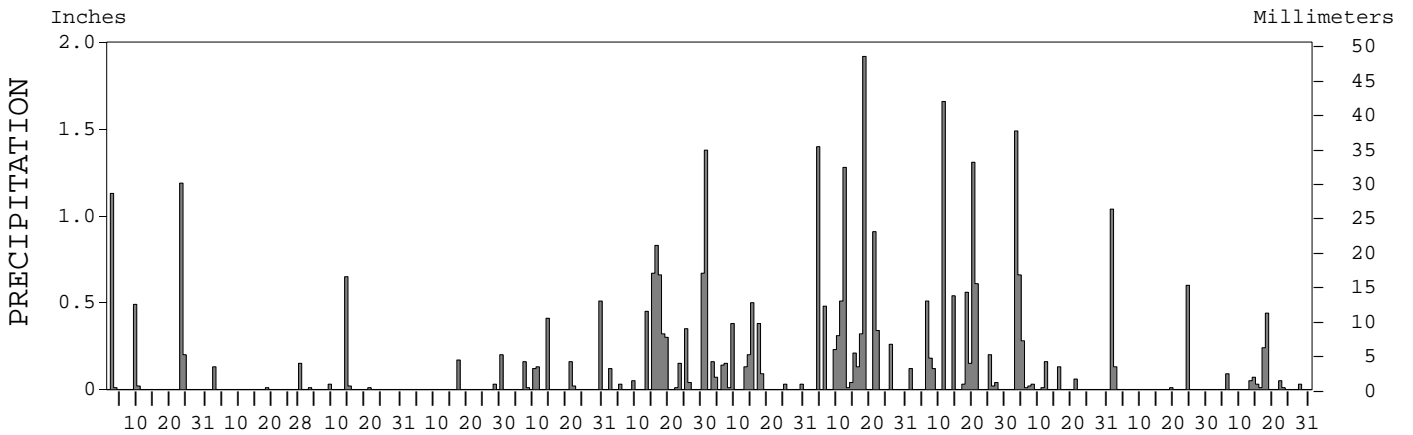
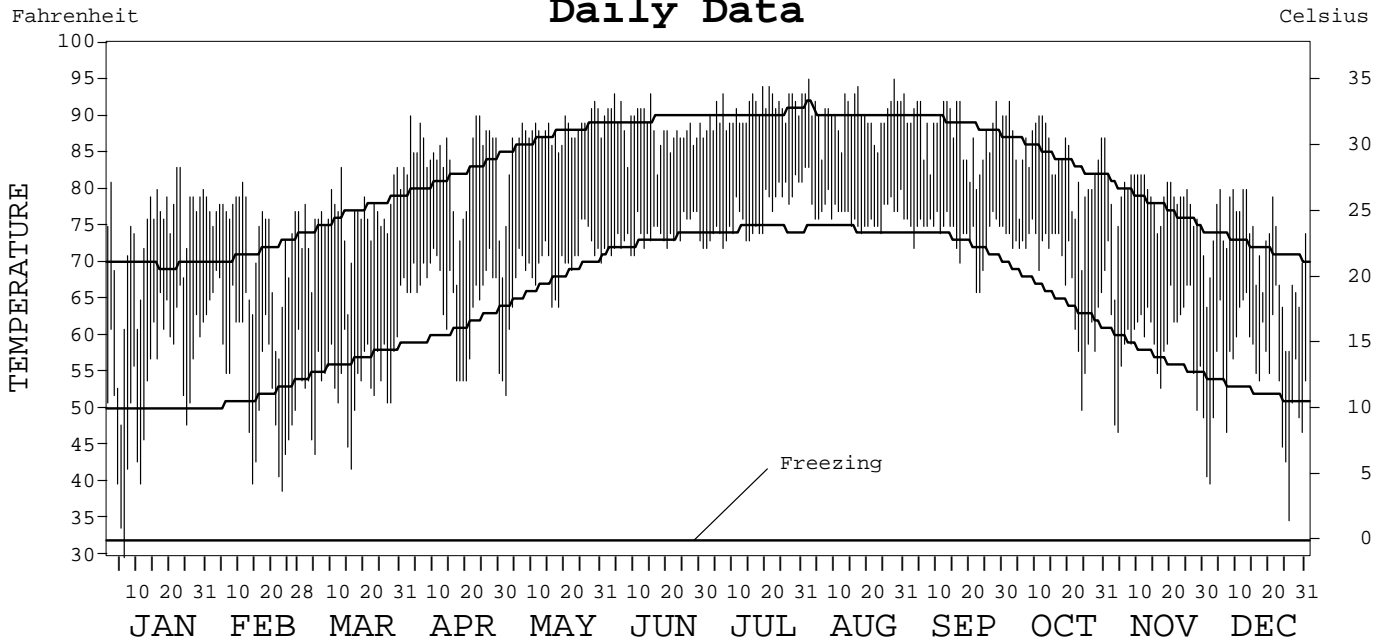
LOCAL CLIMATOLOGICAL DATA
ANNUAL SUMMARY WITH COMPARATIVE DATA



ISSN 0198-1307

TAMPA,
FLORIDA (TPA)

Daily Data



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Thomas R. Karl

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION	NATIONAL ENVIRONMENTAL AND INFORMATION SERVICE	NATIONAL SATELLITE, DATA, AND INFORMATION SERVICE	NATIONAL CLIMATIC DATA CENTER ASHEVILLE, NORTH CAROLINA	DIRECTOR NATIONAL CLIMATIC DATA CENTER
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METEOROLOGICAL DATA FOR 1999

TAMPA, FL (TPA)

LATITUDE: 27° 57' 41" N LONGITUDE: 82° 32' 25" W ELEVATION (FT): GRND: 38 BARO: 38 TIME ZONE: EASTERN (UTC + 5) WBAN: 12842

	ELEMENT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	
TEMPERATURE °F	MEAN DAILY MAXIMUM	73.5	73.2	75.9	83.5	86.8	88.6	90.8	90.4	87.9	84.0	78.2	71.7	82.0	
	HIGHEST DAILY MAXIMUM	83	81	83	90	92	93	94	95	92	92	82	80	95	
	DATE OF OCCURRENCE	23+	11	30+	24+	29	15+	21+	28+	28+	02	12+	13+	AUG 28+	
	MEAN DAILY MINIMUM	54.0	55.2	54.2	65.0	68.7	73.7	76.3	77.0	73.9	68.5	59.5	54.6	65.0	
	LOWEST DAILY MINIMUM	30	39	42	54	52	71	72	74	66	50	47	35	30	
	DATE OF OCCURRENCE	06	23	16	20+	02	10+	07+	24+	23+	24	04	26	JAN 06	
	AVERAGE DRY BULB	63.8	64.2	65.1	74.3	77.8	81.2	83.6	83.7	80.9	76.3	68.9	63.2	73.6	
	MEAN WET BULB	59.0	58.5	58.4	67.2	69.8	74.4	76.5	77.4	75.5	70.2	62.9	58.3	67.3	
	MEAN DEW POINT	55.7	54.2	53.3	62.9	66.1	71.9	74.1	75.1	73.6	67.3	59.2	54.3	64.0	
	NUMBER OF DAYS WITH:														
	MAXIMUM ≥ 90°	0	0	0	3	4	11	20	22	11	4	0	0	0	75
	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	118	97	44	6	5	0	0	0	0	5	20	110	405	
	COOLING DEGREE DAYS	85	84	52	294	409	492	583	589	481	363	144	62	3638	
RH	MEAN (PERCENT)	78	74	70	72	71	78	76	78	82	78	76	76	76	
	HOUR 01 LST	87	84	83	83	80	86	84	85	89	87	85	84	85	
	HOUR 07 LST	91	87	85	85	82	88	84	86	91	90	88	87	87	
	HOUR 13 LST	64	58	51	55	56	65	64	67	69	62	60	61	61	
	HOUR 19 LST	73	71	65	68	68	74	76	77	79	75	73	73	73	
S	PERCENT POSSIBLE SUNSHINE														
W/O	NUMBER OF DAYS WITH:														
	HEAVY FOG (VISBY ≤ 1/4 MI)	4	2	1	0	0	0	0	0	1	0	3	1	12	
	THUNDERSTORMS	4	0	1	0	9	18	17	19	7	1	0	0	76	
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.)	30.15	30.11	30.05	30.02	30.00	30.01	30.06	29.94	29.88	30.01	30.06	30.11	30.03	
	MEAN SEA-LEVEL PRESS. (IN.)	30.16	30.12	30.06	30.03	30.01	30.02	30.07	29.95	29.89	30.01	30.10	30.15	30.05	
WINDS	RESULTANT SPEED (MPH)	1.5	2.1	0.8	2.8	1.2	0.2	2.1	0.5	0.9	2.7	4.2	1.5	1.0	
	RES. DIR. (TENS OF DEGS.)	08	30	31	28	27	25	29	24	36	01	03	05	34	
	MEAN SPEED (MPH)	6.3	7.0	7.5	7.8	7.4	5.6	5.6	6.2	6.3	7.1	6.8	5.8	6.6	
	PREVAIL. DIR. (TENS OF DEGS.)	08	01	07	33	27	08	08	25	11	08	03	01	08	
	MAXIMUM 2-MINUTE WIND:														
	SPEED (MPH)	44	28	25	28	36	29	30	24	24	25	25	18	44	
	DIR. (TENS OF DEGS.)	32	22	10	32	25	22	25	30	34	13	33	30	32	
	DATE OF OCCURRENCE	02	28	08+	28	14	30	09	09	15	03	02	26	JAN 02	
	MAXIMUM 5-SECOND WIND:														
	SPEED (MPH)	51	33	35	35	46	33	37	30	31	35	32	23	51	
DIR. (TENS OF DEGS.)	32	22	20	33	27	22	25	12	34	12	33	31	32		
DATE OF OCCURRENCE	02	28	14	28	14	30	09	19+	15	03	02	26+	JAN 02		
PRECIPITATION	WATER EQUIVALENT:														
	TOTAL (IN.)	3.04	0.29	0.72	0.40	1.52	4.65	3.65	8.35	6.05	2.85	1.78	1.02	34.32	
	GREATEST 24-HOUR (IN.)	1.39	0.15	0.67	0.20	0.51	1.46	1.53	1.92	1.82	1.50	1.17	0.68	1.92	
	DATE OF OCCURRENCE	23-24	28	14-15	30	30	15-16	30-01	18	20-21	03-04	01-02	17-18	AUG 18	
	NUMBER OF DAYS WITH:														
	PRECIPITATION ≥ 0.01	6	3	5	3	8	14	14	15	14	10	4	10	106	
PRECIPITATION ≥ 0.10	4	2	1	2	6	10	9	13	11	5	3	2	68		
PRECIPITATION ≥ 1.00	2	0	0	0	0	0	1	3	2	1	1	0	10		
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	
	DATE OF OCCURRENCE														
NUMBER OF DAYS WITH:															
SNOWFALL ≥ 1.0	0	0	0	0	0	0	0	0	0	0	0	0	0		

NORMALS, MEANS, AND EXTREMES

TAMPA, FL (TPA)

LATITUDE: 27° 57' 41" N LONGITUDE: 82° 32' 25" W ELEVATION (FT): GRND: 38 BARO: 38 TIME ZONE: EASTERN (UTC + 5) WBAN: 12842

ELEMENT		POR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
TEMPERATURE °F	NORMAL DAILY MAXIMUM	30	69.8	71.4	76.6	81.7	87.2	89.5	90.2	90.2	89.0	84.3	77.7	72.1	81.6
	MEAN DAILY MAXIMUM	52	70.6	72.2	76.4	81.7	87.4	89.9	90.3	90.4	89.1	84.0	77.5	72.1	81.8
	HIGHEST DAILY MAXIMUM	53	86	88	91	93	98	99	97	98	96	94	90	86	99
	YEAR OF OCCURRENCE		1991	1971	1949	1975	1975	1985	1995	1975	1991	1990	1971	1994	JUN 1985
	MEAN OF EXTREME MAXS.	52	80.7	82.2	85.3	88.8	93.0	94.7	94.6	94.4	93.4	90.3	85.2	82.0	88.7
	NORMAL DAILY MINIMUM	30	50.0	51.6	56.5	60.8	67.5	72.9	74.5	74.5	72.8	65.2	57.2	52.3	63.0
	MEAN DAILY MINIMUM	52	50.4	52.1	56.6	61.4	67.6	72.7	74.3	74.4	72.9	65.9	57.5	52.0	63.1
	LOWEST DAILY MINIMUM	53	21	24	29	40	49	53	63	67	57	40	23	18	18
	YEAR OF OCCURRENCE		1985	1958	1980	1987	1992	1984	1970	1973	1981	1964	1970	1962	DEC 1962
	MEAN OF EXTREME MINS.	52	32.5	35.9	40.8	48.3	57.6	66.4	70.3	70.5	67.3	52.5	41.2	34.5	51.5
	NORMAL DRY BULB	30	59.9	61.5	66.4	71.2	77.2	81.0	82.1	82.1	81.0	74.9	67.6	62.2	72.3
	MEAN DRY BULB	52	60.5	62.1	66.6	71.5	77.4	81.3	82.3	82.3	81.0	75.0	67.6	62.0	72.5
	MEAN WET BULB	16	56.7	58.1	60.7	64.8	70.5	74.9	76.1	76.3	74.8	69.3	63.7	54.6	66.7
	MEAN DEW POINT	16	52.9	53.7	56.4	60.2	66.5	72.0	73.6	74.1	72.5	66.0	60.2	51.0	63.3
	NORMAL NO. DAYS WITH:														
MAXIMUM ≥ 90°	30	0.0	0.0	0.0	0.0	0.6	8.2	15.8	20.5	21.4	15.4	2.9	0.1	0.0	84.9
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	0.0
MINIMUM ≤ 32°	30	1.8	0.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.0	3.6
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	0.0
H/C	NORMAL HEATING DEG. DAYS	30	234	160	81	7	0	0	0	0	0	0	72	171	725
	NORMAL COOLING DEG. DAYS	30	76	62	130	196	384	489	539	539	477	304	147	84	3427
RH	NORMAL (PERCENT)	30	75	73	72	69	70	74	77	78	78	74	75	75	74
	HOUR 01 LST	30	84	83	82	82	82	84	85	87	86	85	86	84	84
	HOUR 07 LST	30	86	86	87	86	86	87	88	90	91	89	88	87	88
	HOUR 13 LST	30	58	56	54	50	52	60	63	64	62	56	57	58	58
	HOUR 19 LST	30	73	69	67	62	62	69	73	75	75	71	74	74	70
S	PERCENT POSSIBLE SUNSHINE	49	63	65	71	75	75	67	62	61	61	65	64	61	66
W/O	MEAN NO. DAYS WITH:														
	HEAVY FOG (VISBY ≤ 1/4 MI)	53	5.2	3.0	2.5	1.1	0.4	0.3	0.1	0.2	0.3	1.0	2.5	3.8	20.4
	THUNDERSTORMS	53	1.1	1.7	2.6	2.6	5.3	13.6	20.4	19.9	11.4	2.9	1.2	1.2	83.9
CLOUDINESS	MEAN:														
	SUNRISE-SUNSET (OKTAS)														
	MIDNIGHT-MIDNIGHT (OKTAS)														
	MEAN NO. DAYS WITH:														
CLEAR	1	1.0	2.0	9.0		9.0	9.0								
PARTLY CLOUDY	1	1.0	2.0	3.0		10.0	9.0								
CLOUDY	1	3.0	1.0	8.0		2.0	5.0								
PR	MEAN STATION PRESSURE (IN)	26	30.12	30.09	30.05	30.02	29.99	30.01	30.05	30.02	29.99	30.01	30.07	30.11	30.04
	MEAN SEA-LEVEL PRES. (IN)	16	30.12	30.10	30.07	30.02	30.01	30.01	30.06	30.02	29.99	30.02	30.08	30.13	30.05
WINDS	MEAN SPEED (MPH)	47	8.6	9.1	9.5	9.2	8.6	7.9	7.2	7.0	7.6	8.3	8.3	8.2	8.3
	PREVAIL. DIR (TENS OF DEGS)	31	06	06	09	09	27	27	27	09	09	06	06	06	09
	MAXIMUM 2-MINUTE:														
	SPEED (MPH)	4	44	36	31	44	36	29	31	28	32	40	33	37	44
	DIR. (TENS OF DEGS)		32	28	32	28	25	22	23	35	23	21	27	29	32
	YEAR OF OCCURRENCE		1999	1998	1996	1997	1999	1999	1996	1997	1998	1996	1997	1997	JAN 1999
	MAXIMUM 5-SECOND:														
SPEED (MPH)	4	51	44	38	49	47	47	38	43	39	53	41	47	53	
DIR. (TENS OF DEGS)		32	09	32	28	34	13	23	12	20	21	26	30	21	
YEAR OF OCCURRENCE		1999	1998	1996	1997	1997	1996	1996	1996	1998	1996	1997	1997	OCT 1996	
PRECIPITATION	NORMAL (IN)	30	1.99	3.08	3.01	1.15	3.10	5.48	6.58	7.61	5.98	2.02	1.77	2.15	43.92
	MAXIMUM MONTHLY (IN)	53	8.02	10.82	12.64	10.71	17.64	13.75	20.59	18.59	13.98	7.36	6.12	15.57	20.59
	YEAR OF OCCURRENCE		1948	1998	1959	1997	1979	1974	1960	1949	1979	1952	1963	1997	JUL 1960
	MINIMUM MONTHLY (IN)	53	T	0.21	0.06	T	0.07	1.46	1.65	2.35	1.28	0.09	T	0.07	T
	YEAR OF OCCURRENCE		1950	1950	1956	1981	1994	1997	1981	1952	1972	1988	1960	1984	APR 1981
	MAXIMUM IN 24 HOURS (IN)	53	3.81	4.41	5.20	5.44	11.84	5.53	12.11	5.37	8.45	2.93	4.48	4.76	12.11
	YEAR OF OCCURRENCE		1996	1998	1960	1997	1979	1974	1960	1949	1997	1985	1988	1997	JUL 1960
NORMAL NO. DAYS WITH:															
PRECIPITATION ≥ 0.01	30	6.7	6.7	6.2	3.6	6.2	11.7	14.8	16.7	11.9	6.2	5.7	6.3	102.7	
PRECIPITATION ≥ 1.00	30	0.4	0.9	1.0	0.2	0.7	1.8	1.9	2.6	2.1	0.6	0.3	0.6	13.1	
SNOWFALL	NORMAL (IN)	30	0.*	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0
	MAXIMUM MONTHLY (IN)	53	0.2	T	T	T	0.0	0.0	T	0.0	0.0	0.0	0.0	T	0.2
	YEAR OF OCCURRENCE		1977	1951	1980	1997			1998					1989	JAN 1977
	MAXIMUM IN 24 HOURS (IN)	53	0.2	T	T	T	0.0	0.0	T	0.0	0.0	0.0	0.0	T	0.2
	YEAR OF OCCURRENCE		1977	1951	1980	1997			1998					1989	JAN 1977
	MAXIMUM SNOW DEPTH (IN)	51	0	0	0	0	0	0	0	0	0	0	0	0	0
YEAR OF OCCURRENCE															
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	0.0

PRECIPITATION (inches) 1999 TAMPA, FL (TPA)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1970	3.10	4.02	6.12	0.49	4.12	2.05	2.77	8.43	3.95	0.89	1.08	1.25	38.27
1971	0.86	4.25	0.54	1.80	4.09	2.54	7.74	7.46	10.16	4.70	1.40	0.79	46.33
1972	0.54	4.44	3.01	0.38	1.88	5.24	6.65	9.78	1.28	3.29	3.53	2.16	42.18
1973	3.75	2.54	4.21	2.42	0.17	4.19	4.77	9.43	8.91	0.98	2.82	5.52	49.71
1974	0.17	0.89	2.35	0.38	1.11	13.75	3.43	4.67	4.00	0.23	0.12	2.80	33.90
1975	0.91	1.56	1.09	0.91	2.07	8.73	6.65	4.24	11.25	4.94	0.22	0.87	43.44
1976	0.40	0.49	1.64	1.83	8.13	7.22	4.58	7.02	6.04	1.30	1.59	2.05	42.29
1977	2.75	2.41	0.73	0.86	0.73	2.66	5.36	5.98	4.28	0.42	1.89	3.40	31.47
1978	2.82	5.17	2.44	0.94	5.00	2.03	5.85	5.97	3.08	3.42	0.01	3.12	39.85
1979	5.72	2.87	2.43	0.55	17.64	2.07	5.93	12.76	13.98	0.16	0.83	1.52	66.46
1980	1.72	2.01	3.09	4.38	3.94	3.81	5.66	7.62	4.05	1.27	2.68	0.37	40.60
1981	0.44	5.34	1.70	T	1.68	9.37	1.65	7.71	5.87	0.87	0.43	3.58	38.64
1982	1.86	2.09	2.99	1.87	5.90	8.34	10.49	7.20	10.76	2.17	0.85	1.29	55.81
1983	1.25	7.35	7.59	2.76	4.10	7.17	6.37	8.89	6.61	1.74	2.33	4.71	60.87
1984	1.62	3.32	1.31	1.51	3.19	3.24	7.15	5.68	4.21	0.29	0.72	0.07	32.31
1985	2.06	2.07	1.80	0.96	0.22	6.43	6.48	8.65	9.04	4.77	0.99	1.13	44.60
1986	2.37	1.49	4.27	0.95	2.46	5.00	6.24	5.46	3.87	6.21	1.33	1.95	41.60
1987	3.29	1.50	12.01	0.39	2.86	3.39	6.06	8.50	4.76	1.46	4.36	0.50	49.08
1988	2.76	1.44	4.09	1.83	1.27	5.19	3.40	11.09	13.56	0.09	5.97	1.64	52.33
1989	1.54	0.41	1.79	0.71	0.24	7.41	8.86	7.90	6.11	1.89	2.05	4.72	43.63
1990	0.53	4.58	1.71	1.47	1.76	5.16	10.01	3.27	2.42	2.63	0.66	0.19	34.39
1991	2.41	0.41	4.73	1.54	6.88	3.78	9.92	7.35	3.43	0.78	1.26	0.67	43.16
1992	1.47	3.67	0.95	2.17	0.10	7.03	2.80	8.22	2.95	2.20	2.43	0.99	34.98
1993	3.60	2.32	3.93	2.45	1.74	3.18	2.92	5.06	6.60	4.23	0.22	1.28	37.53
1994	3.68	0.43	0.66	3.43	0.07	5.98	11.31	8.37	8.20	3.29	0.24	1.57	47.23
1995	3.51	2.02	2.02	1.48	1.67	9.79	10.12	13.75	2.80	4.71	1.24	1.02	54.13
1996	5.42	3.04	4.65	4.20	1.45	8.96	2.72	7.39	5.44	3.12	0.91	2.11	49.41
1997	0.95	0.66	1.28	10.71	1.70	1.46	6.73	8.20	12.84	4.20	3.41	15.57	67.71
1998	4.64	10.82	5.16	0.41	1.96	2.65	12.95	6.55	8.42	0.47	0.40	0.92	55.35
1999	3.04	0.29	0.72	0.40	1.52	4.65	3.65	8.35	6.05	2.85	1.78	1.02	34.32
POR= 109 YRS	2.30	2.78	3.00	2.07	2.95	6.69	7.53	7.89	6.47	2.59	1.60	2.11	47.98

WBAN : 12842

AVERAGE TEMPERATURE (°F) 1999 TAMPA, FL (TPA)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1970	54.0	57.6	64.9	73.2	76.2	80.1	82.8	82.9	81.9	76.1	61.9	62.4	71.2
1971	60.0	63.1	62.2	69.4	75.8	81.2	82.3	81.8	80.3	77.5	67.7	69.4	72.6
1972	67.0	60.7	66.8	71.4	76.6	81.0	81.9	82.1	81.3	76.1	68.2	65.1	73.2
1973	61.9	57.4	70.2	69.3	76.8	81.8	83.2	81.8	81.7	75.8	70.8	60.1	72.6
1974	71.1	61.1	70.9	70.9	78.2	80.1	81.1	82.8	82.8	72.9	67.9	61.9	73.5
1975	65.1	66.6	67.6	74.0	81.5	82.6	83.2	83.7	81.9	77.9	68.3	60.2	74.4
1976	56.6	63.1	70.5	70.6	76.1	79.0	81.7	81.6	79.3	71.0	62.8	59.6	71.0
1977	51.2	57.5	70.9	71.5	76.5	83.7	82.9	83.0	82.3	72.5	67.7	58.7	71.5
1978	55.0	53.2	64.2	72.3	78.7	82.4	83.0	82.8	81.4	75.1	71.7	66.2	72.2
1979	57.8	59.3	65.4	74.2	75.9	80.8	83.9	82.2	81.9	75.2	68.7	63.0	72.4
1980	62.0	56.6	68.1	70.1	77.2	81.6	84.0	83.0	81.3	74.0	66.4	57.5	71.8
1981	50.4	61.4	62.8	72.4	75.4	81.5	82.5	81.7	78.6	74.5	64.4	59.2	70.4
1982	59.8	67.9	68.1	71.4	74.4	81.5	82.1	82.1	80.2	74.3	70.8	67.6	73.4
1983	58.9	60.3	63.3	68.6	76.8	80.9	82.2	82.2	79.4	75.8	65.9	59.9	71.2
1984	58.0	62.6	66.0	71.0	78.0	80.4	81.5	82.4	79.9	75.7	64.9	67.3	72.3
1985	55.9	63.6	69.4	72.5	79.8	83.7	82.4	83.1	80.5	79.2	73.6	59.0	73.6
1986	59.3	65.0	65.4	69.1	77.4	81.8	83.0	82.6	82.3	76.8	76.3	66.5	73.8
1987	59.2	63.2	66.4	66.4	77.8	82.7	83.1	83.7	81.4	71.3	68.9	64.3	72.4
1988	58.6	59.1	65.6	70.6	75.3	81.0	82.7	82.9	82.0	73.5	70.8	63.0	72.1
1989	67.1	64.9	69.8	72.0	78.4	82.4	83.3	83.0	82.4	75.4	68.9	56.2	73.7
1990	66.1	69.2	69.7	72.1	80.5	82.7	82.5	83.9	82.8	77.6	70.2	66.9	75.4
1991	66.7	64.2	68.4	76.8	81.2	81.3	82.3	83.2	81.9	75.3	65.8	64.6	74.3
1992	59.8	63.6	64.8	69.4	74.3	82.1	83.8	82.4	82.0	72.7	70.0	64.3	72.4
1993	67.0	60.2	64.3	67.2	76.1	81.8	83.8	83.7	81.9	75.8	69.1	59.5	72.5
1994	60.6	66.9	68.0	75.4	78.2	82.6	81.7	81.7	80.2	76.5	72.4	65.1	74.1
1995	58.8	61.4	68.7	73.5	81.8	80.2	83.0	83.3	82.0	77.8	65.2	61.0	73.1
1996	59.2	60.0	62.4	70.4	79.3	80.9	83.7	83.2	82.0	75.8	68.1	63.5	72.4
1997	62.6	68.6	73.9	71.6	77.7	81.8	82.7	82.8	81.7	74.7	66.8	61.3	73.9
1998	63.6	62.5	64.6	72.3	79.2	85.6	83.5	83.6	81.7	77.5	72.5	68.0	74.6
1999	63.8	64.2	65.1	74.3	77.8	81.2	83.6	83.7	80.9	76.3	68.9	63.2	73.6
POR= 109 YRS	60.8	62.3	66.8	71.4	77.0	80.8	81.1	82.1	80.7	74.7	67.4	62.1	72.3

HEATING DEGREE DAYS (base 65°F) 1999 TAMPA, FL (TPA)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1970-71	0	0	0	0	145	115	201	134	139	36	0	0	770
1971-72	0	0	0	0	41	13	62	139	26	5	0	0	286
1972-73	0	0	0	0	65	130	166	223	18	21	0	0	623
1973-74	0	0	0	6	24	200	0	159	17	12	0	0	418
1974-75	0	0	0	0	39	138	84	64	61	5	0	0	391
1975-76	0	0	0	0	88	183	268	109	18	2	0	0	668
1976-77	0	0	0	11	122	208	422	214	28	6	0	0	1011
1977-78	0	0	0	18	53	222	320	323	99	4	0	0	1039
1978-79	0	0	0	0	2	75	245	190	53	0	0	0	565
1979-80	0	0	0	0	47	112	136	262	64	8	0	0	629
1980-81	0	0	0	1	65	233	447	127	103	2	0	0	978
1981-82	0	0	0	0	83	223	209	24	53	8	0	0	600
1982-83	0	0	0	12	18	95	218	148	103	20	0	0	614
1983-84	0	0	0	0	57	214	252	115	68	5	0	0	711
1984-85	0	0	0	0	87	61	306	119	17	5	0	0	595
1985-86	0	0	0	0	9	238	185	78	105	7	0	0	622
1986-87	0	0	0	0	0	53	202	88	42	64	0	0	449
1987-88	0	0	0	4	46	107	221	195	85	14	0	0	672
1988-89	0	0	0	0	9	127	41	116	45	7	0	0	345
1989-90	0	0	0	17	27	285	70	32	13	5	0	0	449
1990-91	0	0	0	7	11	70	72	84	46	0	0	0	290
1991-92	0	0	0	0	93	94	179	90	69	32	5	0	562
1992-93	0	0	0	0	57	83	58	137	84	24	0	0	443
1993-94	0	0	0	6	44	185	158	62	50	5	0	0	510
1994-95	0	0	0	0	7	81	200	151	23	1	0	0	463
1995-96	0	0	0	0	83	180	198	188	152	16	0	0	817
1996-97	0	0	0	3	36	101	132	39	0	7	0	0	318
1997-98	0	0	0	7	36	163	108	103	113	4	0	0	534
1998-99	0	0	0	0	4	56	118	97	44	6	5	0	330
1999-	0	0	0	5	20	110							

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COOLING DEGREE DAYS (base 65°F) 1999 TAMPA, FL (TPA)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1970	12	10	85	255	352	464	557	563	514	353	58	40	3263
1971	54	86	58	174	342	490	541	526	463	396	128	155	3413
1972	131	20	90	204	365	487	528	536	497	352	168	141	3519
1973	75	15	188	158	374	510	574	529	510	348	205	55	3541
1974	196	55	204	197	413	460	506	562	540	250	130	48	3561
1975	93	115	151	282	521	536	572	585	512	407	191	39	4004
1976	17	63	199	175	348	424	525	517	440	202	63	45	3018
1977	2	9	218	210	364	567	559	565	526	258	139	36	3453
1978	18	0	79	232	431	529	565	557	500	319	208	121	3559
1979	28	36	73	283	344	482	592	543	515	322	164	55	3437
1980	45	22	164	165	386	506	598	564	493	284	115	7	3349
1981	0	32	43	230	331	501	552	525	414	303	71	49	3051
1982	56	114	156	208	299	499	537	537	467	311	197	182	3563
1983	36	24	57	137	369	487	540	541	439	342	91	64	3127
1984	42	52	104	190	410	468	517	546	454	337	92	135	3347
1985	30	88	163	237	464	569	547	566	475	445	275	58	3917
1986	15	85	123	139	391	510	565	551	526	374	348	107	3734
1987	27	43	91	114	405	538	567	583	497	207	169	91	3332
1988	30	32	110	188	326	489	554	562	517	271	191	74	3344
1989	112	120	202	224	425	528	575	564	529	344	151	18	3792
1990	107	154	164	225	487	537	549	592	541	406	176	139	4077
1991	131	68	158	361	509	498	543	572	515	326	126	88	3895
1992	25	55	70	170	301	519	589	544	518	248	212	72	3323
1993	126	12	72	95	352	511	593	587	513	347	174	21	3403
1994	32	118	148	321	415	535	524	524	461	364	233	91	3766
1995	15	59	145	264	526	464	561	574	518	405	95	63	3689
1996	27	50	76	182	450	482	589	570	516	348	135	63	3488
1997	62	145	283	213	397	510	556	559	508	314	97	55	3699
1998	75	41	107	229	446	623	582	583	506	394	236	160	3982
1999	85	84	52	294	409	492	583	589	481	363	144	62	3638

SNOWFALL (inches) 1999 TAMPA, FL (TPA)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1970-71	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
1971-72	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
1972-73	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
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	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.2
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	T	0.0	0.0	0.0	T
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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	T	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1992-93	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
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	T	0.0	0.0	T	0.0	0.0	T
1997-98	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
1998-99	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T
1999-	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= 52 YRS	0.0	0.0	0.0	0.0	0.0	T	0.0	T	T	0.0	0.0	0.0	T

WBAN : 12842

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 EIGHTHS(OKTAS) FOR REPORTING THE AMOUNT OF SKY COVER.</p>
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1999
TAMPA,
FLORIDA (TPA)

Tampa is on west central coast of the Florida Peninsula. Very near the Gulf of Mexico at the upper end of Tampa Bay, land and sea breezes modify the subtropical climate. Major rivers flowing into the area are the Hillsborough, the Alafia, and the Little Manatee.

Winters are mild. Summers are long, rather warm, and humid. Low temperatures are about 50 degrees in the winter and 70 degrees during the summer. Afternoon highs range from the low 70s in the winter to around 90 degrees from June through September. Invasions of cold northern air produce an occasional cool winter morning. Freezing temperatures occur on one or two mornings per year during December, January, and February. In some years no freezing temperatures occur. Temperatures rarely fail to recover to the 60s on the cooler winter days. Temperatures above the low 90s are uncommon because of the afternoon sea breezes and thunderstorms. An outstanding feature of the Tampa climate is the summer thunderstorm season. Most of the thunderstorms occur in the late afternoon hours from June through September. The resulting sudden drop in temperature from about 90 degrees to around 70 degrees makes for a pleasant change. Between a dry spring and a dry fall, some 30 inches of rain, about 60 percent of the annual total, falls during the summer months. Snowfall is very rare. Measurable snows under 1/2 inch have occurred only a few times in the last one hundred years.

A large part of the generally flat sandy land near the coast has an elevation of under 15 feet above sea level. This does make the area vulnerable to tidal surges. Tropical storms threaten the area on a few occasions most years. The greatest risk of hurricanes has been during the months of June and October. Many hurricanes, by replenishing the soil moisture and raising the water table, do far more good than harm. The heaviest rains in a 24-hour period, around 12 inches, have been associated with hurricanes.

Fittingly named the Suncoast, the sun shines more than 65 percent of the possible, with the sunniest months being April and May. Afternoon humidities are usually 60 percent or higher in the summer months, but range from 50 to 60 percent the remainder of the year.

Night ground fogs occur frequently during the cooler winter months. Prevailing winds are easterly, but westerly afternoon and early evening sea breezes occur most months of the year. Winds in excess of 25 mph are not common and usually occur only with thunderstorms or tropical disturbances.

Based on the 1951-1980 period, the average first occurrence of 32 degrees Fahrenheit in the fall is December 26 and the average last occurrence in the spring is February 3.

STATION LOCATION

TAMPA, FLORIDA

LOCATION	OCCUPIED FROM	OCCUPIED TO	AIRLINE DISTANCES AND DIRECTIONS FROM PREVIOUS LOCATION	LATITUDE NORTH	LONGITUDE WEST	ELEVATION ABOVE											* Type	REMARKS
						SEA LEVEL	GROUND											
							G	W	E	P	S	T	R	W	8	H		
<u>CITY</u>																		
Allen Building 508 Franklin Street	4/1/90	4/15/92		27°57'	82°27'	19	52	45	45									T.B. gage in use beginning 7/23/01.
Knight Building 315 1/4 Franklin	4/16/92	9/30/04	2 blks. E	27°57'	82°27'	19	67	61	60			52	1	52				
Post Office Building 611 Florida Avenue	10/1/04	12/31/40	2 blks. NE	27°57'	82°27'	23	**96	79	79			71						Separate WBAS established 12/23/38 at Peter O. Knight Airport. Raised to 83 on 7/30/31. **Lowered to 93 on 12/26/36. Raised to 197 on 12/30/29. ***Raised to 88 on 8/1/31. ****Raised to 79 on 7/1/31.
<u>AIRPORT</u>																		
Administration Building Peter O. Knight Airport 2.5 miles south of Tampa Post Office	12/23/38	6/5/46		27°55'	82°27'	6	*61	**5	**5			3						WBAS and WBO consolidated at Peter O. Knight Airport 1/1/41. *Lowered to 43 on 4/19/41. **Raised to 6 on 4/19/41.
Administration Building Tampa International Airport	6/6/46	8/24/52	6 mi. NW	27°58'	82°32'	24	36	5	5			3		b				
Airline Terminal Bldg., Tampa International Airport	8/25/52	10/1/75	3/8 mi. SW	27°58'	82°32'	19	c22	5	5			#22	%22	b5				# - 3 feet to 7/21/60. * - Added 7/15/58. Elevation 3 feet to 10/12/62 and 23 feet to 3/13/63. b - Telemetry (4') 8/24/52-10/26/63. Hygro. comm. 10/25/63, 4000' WNW of telemetry site. c - 56 feet to 3/1/65.
2222 N. Westshore Blvd. Tampa International Airport	10/1/75	12/7/81	1/2 mi. S	27°58'	82°32'	19	e22	NA	5	5	5	NA	3	e5	NA			e - Same site as prior to 10/1/75. Station type changed from WSMO to WSCMO 12/13/78.
Hangar One Tampa International Airport	12/7/81	11/01/95	0.5 mi. N	27°58'	82°32'	19	22	NA	f35	f52	f35	NA	f35	5	NA			f - Moved to new location 12/1/81. g - Type change 8/1985.
International Airport	11/01/95	Present	NA	27°58'	82°32'	38								S				ASOS Commissioned 11/01/95

SUBSCRIPTION: Price and ordering information available through: National Climatic Data Center, Federal Building, Asheville, North Carolina 28801. INQUIRIES/COMMENTS CALL: (828) 271-4800

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