

# 1999

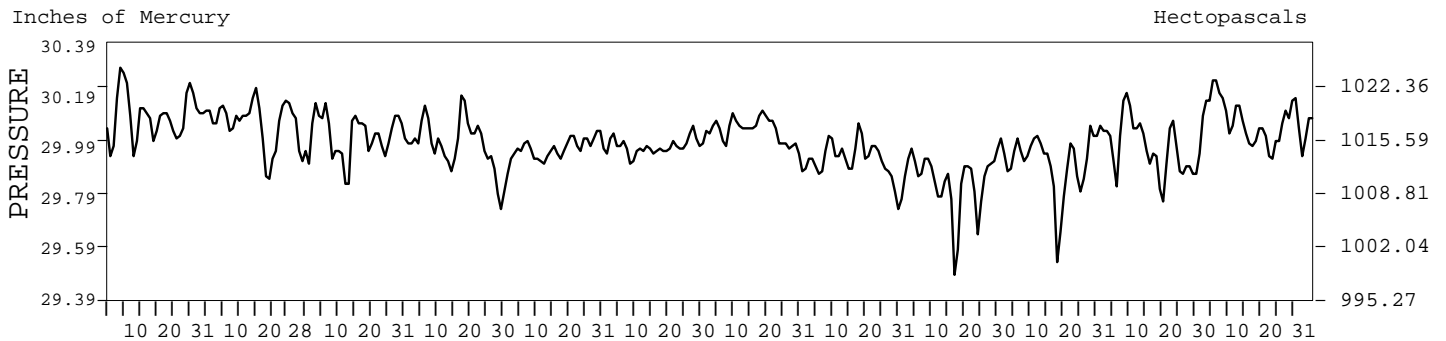
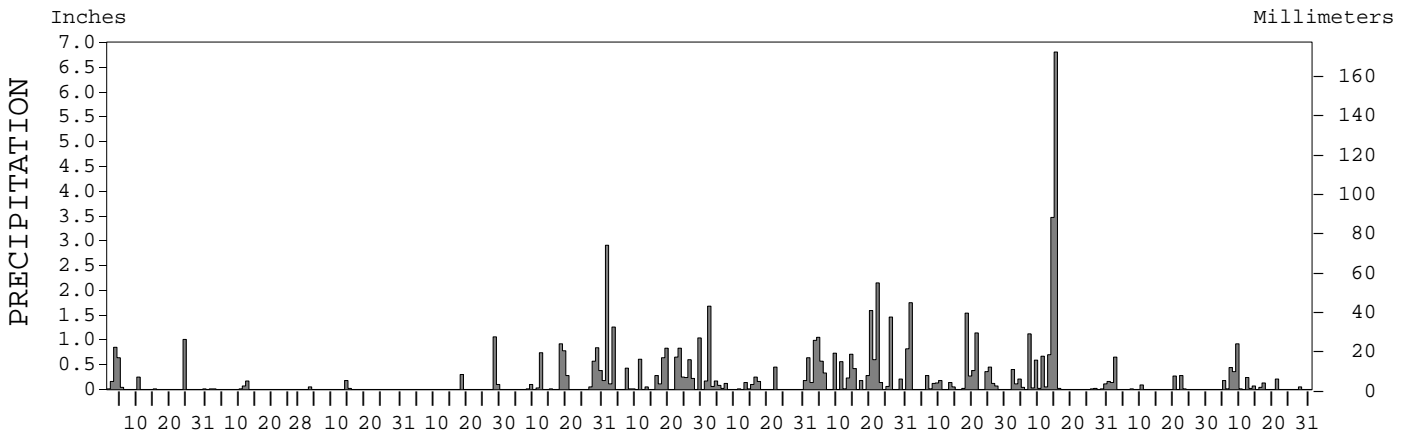
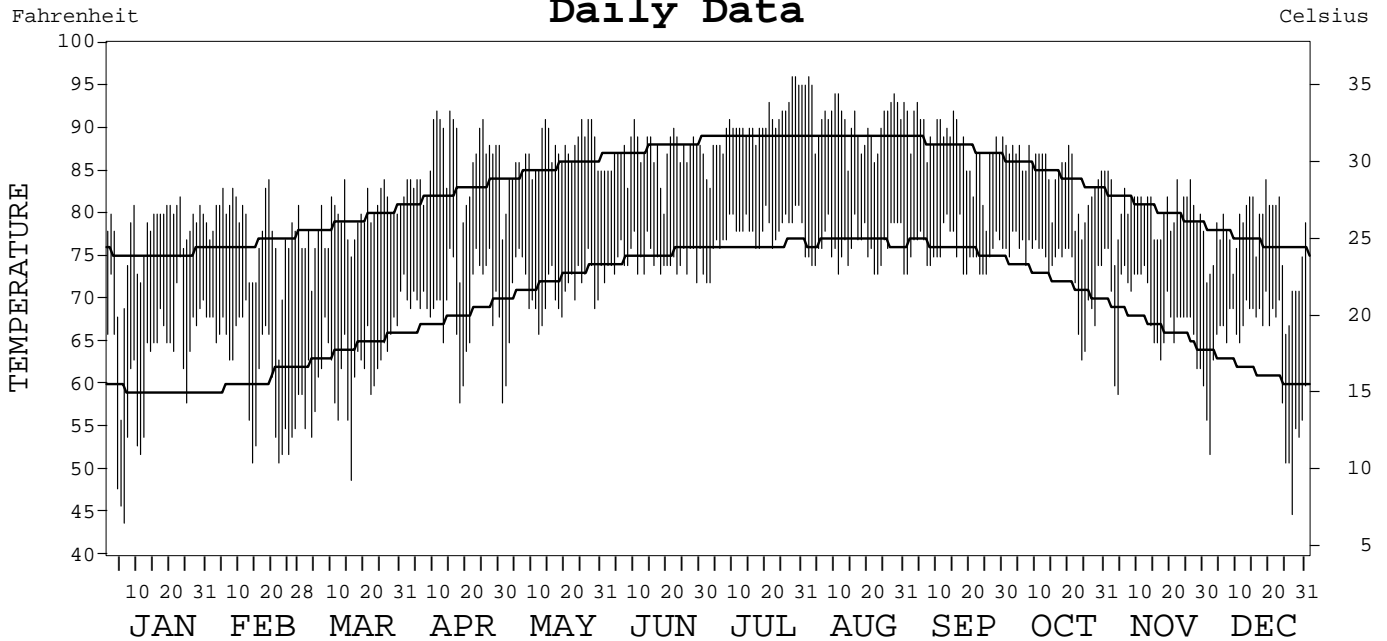
## LOCAL CLIMATOLOGICAL DATA ANNUAL SUMMARY WITH COMPARATIVE DATA



ISSN 0198-1269

### MIAMI, FLORIDA (MIA)

#### Daily Data



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NATIONAL ENVIRONMENTAL AND INFORMATION SERVICE  
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# METEOROLOGICAL DATA FOR 1999

## MIAMI, FL (MIA)

LATITUDE: 25° 49' 26" N      LONGITUDE: 80° 17' 59" W      ELEVATION (FT): GRND: 27      BARO: 27      TIME ZONE: EASTERN (UTC + 5)      WBAN: 12839

	ELEMENT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	
TEMPERATURE °F	MEAN DAILY MAXIMUM	77.3	77.9	79.2	85.8	86.7	87.1	90.2	91.0	88.1	84.6	80.5	76.8	83.8	
	HIGHEST DAILY MAXIMUM	82	84	84	92	91	91	96	96	93	88	85	84	96	
	DATE OF OCCURRENCE	23	19	26+	15+	28+	10	29+	02	04	20+	01	19	AUG 02	
	MEAN DAILY MINIMUM	62.7	61.2	61.8	69.7	70.5	74.6	77.7	76.1	75.7	73.7	68.0	63.2	69.6	
	LOWEST DAILY MINIMUM	44	51	49	58	58	72	72	73	73	63	59	45	44	
	DATE OF OCCURRENCE	06	22+	16	18	01	29+	03+	31+	25+	24	04	27	JAN 06	
	AVERAGE DRY BULB	70.0	69.6	70.5	77.8	78.6	80.9	84.0	83.6	81.9	79.2	74.3	70.0	76.7	
	MEAN WET BULB	64.4	63.0	62.9	69.9	70.6	74.7	76.1	76.9	76.2	73.7	67.6	64.6	70.0	
	MEAN DEW POINT	60.7	58.4	57.8	65.8	66.8	72.4	72.7	74.4	74.1	71.2	63.7	61.0	66.6	
	NUMBER OF DAYS WITH:														
	MAXIMUM ≥ 90°	0	0	0	9	6	2	22	22	10	0	0	0	0	71
	MAXIMUM ≤ 32°	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MINIMUM ≤ 32°	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MINIMUM ≤ 0°	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
H/C	HEATING DEGREE DAYS	35	19	5	0	0	0	0	0	0	0	0	26	85	
	COOLING DEGREE DAYS	195	152	184	390	429	482	594	583	513	447	285	190	4444	
RH	MEAN (PERCENT)	74	71	66	70	69	78	71	77	80	78	72	75	73	
	HOUR 01 LST	79	81	76	80	79	85	79	84	86	86	79	83	81	
	HOUR 07 LST	84	87	80	82	77	82	77	84	87	84	84	83	83	
	HOUR 13 LST	62	55	52	54	55	70	59	64	68	69	62	62	61	
	HOUR 19 LST	72	65	62	69	68	77	71	77	81	78	69	74	72	
S	PERCENT POSSIBLE SUNSHINE														
W/O	NUMBER OF DAYS WITH:														
	HEAVY FOG (VISBY ≤ 1/4 MI)	0	1	0	0	0	0	0	0	1	1	1	0	4	
	THUNDERSTORMS	2	0	1	1	10	19	8	20	10	3	0	0	74	
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.)	30.12	30.09	30.04	30.01	29.98	30.00	30.05	29.94	29.87	29.95	30.00	30.09	30.01	
	MEAN SEA-LEVEL PRESS. (IN.)	30.13	30.10	30.05	30.02	30.00	30.01	30.06	29.95	29.88	29.96	30.03	30.12	30.03	
WINDS	RESULTANT SPEED (MPH)	4.4	0.6	2.5	1.0	1.8	1.2	1.5	0.8	2.0	2.9	6.3	1.3	1.5	
	RES. DIR. (TENS OF DEGS.)	10	33	13	11	13	24	05	21	12	04	05	06	08	
	MEAN SPEED (MPH)	9.1	7.5	8.5	8.4	7.1	6.4	7.7	5.6	7.1	10.0	9.1	6.5	7.8	
	PREVAIL. DIR. (TENS OF DEGS.)	11	34	09	09	13	12	10	13	12	10	05	34	10	
	MAXIMUM 2-MINUTE WIND:														
	SPEED (MPH)	25	22	25	26	43	28	26	31	30	59	24	23	59	
	DIR. (TENS OF DEGS.)	13	26	11	32	10	12	11	15	23	09	09	11	09	
	DATE OF OCCURRENCE	23+	19+	31+	28	19	26	17	20	21	15	09	05	OCT 15	
	MAXIMUM 5-SECOND WIND:														
	SPEED (MPH)	33	29	34	37	52	32	30	37	41	70	32	28	70	
DIR. (TENS OF DEGS.)	14	24	30	35	10	11	10	31	23	09	05	10	09		
DATE OF OCCURRENCE	23+	28+	03	28	19	26	17+	11	21	15	12	04	OCT 15		
PRECIPITATION	WATER EQUIVALENT:														
	TOTAL (IN.)	2.98	0.27	0.25	1.46	4.89	11.08	3.60	13.87	7.01	14.55	1.45	2.68	64.09	
	GREATEST 24-HOUR (IN.)	1.01	0.17	0.20	1.07	1.39	2.91	1.68	2.15	1.77	7.37	0.65	0.92	7.37	
	DATE OF OCCURRENCE	24	12	14-15	28-29	28-29	01	02	22	18-19	14-15	02	09	OCT 14-15	
	NUMBER OF DAYS WITH:														
	PRECIPITATION ≥ 0.01	9	5	3	3	13	19	15	22	17	19	7	13	145	
PRECIPITATION ≥ 0.10	5	1	1	3	9	16	10	20	13	11	4	7	100		
PRECIPITATION ≥ 1.00	1	0	0	1	0	3	1	4	3	3	0	0	16		
SNOWFALL	SNOW, ICE PELLETS, HAIL:														
	TOTAL (IN.)	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	
	GREATEST 24-HOUR (IN.)	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	
	DATE OF OCCURRENCE					18								MAY 18	
	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

## MIAMI, FL (MIA)

LATITUDE: 25° 49' 26" N      LONGITUDE: 80° 17' 59" W      ELEVATION (FT): GRND: 27      BARO: 27      TIME ZONE: EASTERN (UTC + 5)      WBAN: 12839

	ELEMENT	POR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
TEMPERATURE °F	NORMAL DAILY MAXIMUM	30	75.2	76.5	79.1	82.4	85.3	87.6	89.0	89.0	87.8	84.5	80.4	76.7	82.8
	MEAN DAILY MAXIMUM	52	75.6	76.9	79.6	82.7	85.7	88.1	89.3	89.7	88.2	84.8	80.4	76.9	83.2
	HIGHEST DAILY MAXIMUM	57	88	89	92	96	96	98	98	98	97	95	89	87	98
	YEAR OF OCCURRENCE		1987	1994	1977	1971	1995	1985	1998	1990	1987	1980	1997	1989	JUL 1998
	MEAN OF EXTREME MAXS.	52	83.5	85.3	87.2	89.9	91.2	92.9	93.4	93.7	92.2	89.6	86.0	83.6	89.0
	NORMAL DAILY MINIMUM	30	59.2	60.4	64.2	67.8	72.1	75.1	76.2	76.7	75.9	72.1	66.7	61.5	69.0
	MEAN DAILY MINIMUM	52	59.7	60.6	64.2	67.8	71.9	74.9	76.2	76.5	75.7	72.1	66.4	61.4	69.0
	LOWEST DAILY MINIMUM	57	30	32	32	46	53	60	69	68	68	51	39	30	30
	YEAR OF OCCURRENCE		1985	1947	1980	1971	1945	1984	1985	1983	1943	1950	1989	1989	DEC 1989
	MEAN OF EXTREME MINS.	52	42.2	45.2	48.6	56.5	63.8	69.8	72.0	72.3	71.8	63.0	52.4	44.9	58.5
	NORMAL DRY BULB	30	67.2	68.5	71.7	75.2	78.7	81.4	82.6	82.8	81.9	78.3	73.6	69.1	75.9
	MEAN DRY BULB	52	67.6	68.8	71.9	75.2	78.8	81.5	82.8	83.1	82.0	78.4	73.5	69.2	76.1
	MEAN WET BULB	16	63.0	63.7	64.9	67.4	71.5	75.3	76.5	76.6	76.0	72.8	69.2	64.2	70.1
	MEAN DEW POINT	16	58.9	59.3	60.4	62.7	67.7	72.4	73.5	73.9	73.4	69.7	65.7	60.4	66.5
	NORMAL NO. DAYS WITH:														
MAXIMUM ≥ 90°	30	0.0	0.0	0.2	1.5	3.0	8.0	13.8	14.0	9.2	1.9	0.0	0.0	51.6	
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	0.1	0.0	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	
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	88	51	14	0	0	0	0	0	0	0	6	41	200
	NORMAL COOLING DEG. DAYS	30	156	149	221	306	425	492	546	552	507	412	264	168	4198
RH	NORMAL (PERCENT)	30	73	71	70	67	72	76	75	76	78	75	74	72	73
	HOUR 01 LST	30	81	79	77	76	79	83	82	83	85	82	81	80	81
	HOUR 07 LST	30	84	83	82	80	81	84	84	86	88	86	85	83	84
	HOUR 13 LST	30	59	57	56	53	59	65	63	65	66	62	61	59	60
	HOUR 19 LST	30	69	67	66	64	69	74	72	74	76	72	72	70	70
S	PERCENT POSSIBLE SUNSHINE	20	66	68	74	76	72	68	72	71	70	70	67	63	70
W/O	MEAN NO. DAYS WITH:														
	HEAVY FOG (VISBY ≤ 1/4 MI)	51	1.3	0.8	0.6	0.6	0.3	0.0	0.1	0.1	0.1	0.2	0.8	0.8	5.7
	THUNDERSTORMS	50	0.9	1.3	1.8	2.7	6.5	12.5	14.7	15.6	11.6	4.5	1.2	0.7	74.0
CLOUDINESS	MEAN:														
	SUNRISE-SUNSET (OKTAS)	48	4.3	4.2	4.3	4.2	4.6	5.4	5.1	5.1	5.3	4.6	4.3	4.2	4.6
	MIDNIGHT-MIDNIGHT (OKTAS)	32	3.8	3.8	3.8	3.5	4.1	4.9	4.4	4.4	4.7	4.0	3.8	3.6	4.1
	MEAN NO. DAYS WITH:														
	CLEAR	47	9.2	8.6	8.5	8.4	6.3	3.1	2.6	2.5	2.1	6.6	7.5	8.9	74.3
PARTLY CLOUDY	47	13.1	12.1	14.1	14.9	15.3	14.3	17.4	17.8	15.5	14.3	14.0	12.9	175.7	
CLOUDY	47	8.7	7.6	8.3	6.7	9.3	12.6	11.0	10.7	12.4	10.1	8.5	9.1	115.0	
PR	MEAN STATION PRESSURE (IN)	27	30.10	30.07	30.05	30.02	29.99	30.01	30.06	30.02	29.98	29.98	30.04	30.09	30.03
	MEAN SEA-LEVEL PRES. (IN)	16	30.10	30.08	30.06	30.02	30.00	30.01	30.07	30.03	29.98	29.99	30.05	30.10	30.04
WINDS	MEAN SPEED (MPH)	47	9.5	10.0	10.6	10.6	9.4	8.2	8.1	7.9	8.3	9.3	9.7	9.2	9.2
	PREVAIL. DIR (TENS OF DEGS)	31	34	34	13	10	10	13	11	10	10	07	09	34	10
	MAXIMUM 2-MINUTE:														
	SPEED (MPH)	3	30	55	29	28	43	32	36	34	43	59	36	29	59
	DIR. (TENS OF DEGS)		09	19	09	11	10	03	31	10	10	09	18	22	09
	YEAR OF OCCURRENCE		1998	1998	1998	1997	1999	1998	1997	1998	1998	1999	1998	1997	OCT 1999
	MAXIMUM 5-SECOND:														
SPEED (MPH)	3	35	104	36	37	63	41	47	44	51	70	44	40	104	
DIR. (TENS OF DEGS)		11	19	11	35	33	02	23	11	09	09	31	23	19	
YEAR OF OCCURRENCE		1997	1998	1997	1999	1998	1998	1997	1998	1998	1999	1998	1997	FEB 1998	
PRECIPITATION	NORMAL (IN)	30	2.01	2.08	2.39	2.85	6.21	9.33	5.70	7.58	7.63	5.64	2.66	1.83	55.91
	MAXIMUM MONTHLY (IN)	57	6.66	8.07	10.57	17.29	18.54	22.36	13.51	16.88	24.40	21.64	13.84	6.39	24.40
	YEAR OF OCCURRENCE		1969	1983	1986	1979	1968	1968	1947	1943	1960	1991	1992	1958	SEP 1960
	MINIMUM MONTHLY (IN)	57	0.04	0.01	0.02	0.05	0.44	1.81	1.77	1.65	2.63	1.25	0.09	0.12	0.01
	YEAR OF OCCURRENCE		1951	1944	1956	1981	1965	1945	1963	1954	1951	1977	1970	1988	FEB 1944
	MAXIMUM IN 24 HOURS (IN)	57	2.68	5.73	7.07	16.21	11.59	8.20	4.55	6.92	7.58	9.95	8.01	4.38	16.21
	YEAR OF OCCURRENCE		1973	1966	1949	1979	1977	1977	1952	1964	1960	1948	1992	1964	APR 1979
	NORMAL NO. DAYS WITH:														
PRECIPITATION ≥ 0.01	30	7.0	6.2	6.2	5.3	10.4	15.7	15.6	17.9	16.6	13.4	8.9	6.1	129.3	
PRECIPITATION ≥ 1.00	30	0.5	0.5	0.7	0.7	1.9	3.2	1.5	2.0	2.3	1.8	0.6	0.5	16.2	
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	0.0	0.0
	MAXIMUM MONTHLY (IN)	3	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T
	YEAR OF OCCURRENCE						1998								MAY 1998
	MAXIMUM IN 24 HOURS (IN)	57	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T
	YEAR OF OCCURRENCE						1998								MAY 1998
	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	

PRECIPITATION (inches) 1999 MIAMI, FL (MIA)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1970	2.64	1.77	2.61	0.95	10.98	5.53	4.48	3.60	8.89	3.01	0.09	0.17	44.72
1971	0.51	0.80	0.40	0.07	4.13	11.65	4.72	6.02	9.63	7.48	0.98	4.33	50.72
1972	1.60	2.71	3.01	2.67	13.71	10.90	7.13	6.49	5.08	2.86	2.77	4.18	63.11
1973	3.41	2.21	1.76	2.24	1.08	8.93	6.14	14.60	6.59	3.36	0.46	2.46	53.24
1974	2.54	0.10	2.27	2.11	2.63	8.12	6.09	9.29	6.38	3.68	4.62	1.17	49.00
1975	1.39	0.90	0.61	0.53	4.94	6.37	4.99	5.19	4.69	6.25	2.80	0.44	39.10
1976	0.95	3.54	0.23	4.17	10.45	6.81	3.83	9.45	7.75	4.42	2.69	1.61	55.90
1977	1.44	2.10	0.91	1.97	15.82	12.42	5.23	8.28	7.04	1.25	5.94	2.55	64.95
1978	2.07	3.44	2.92	3.50	5.66	5.29	2.69	3.93	3.42	7.68	3.17	2.06	45.83
1979	1.28	0.57	0.30	17.29	5.29	4.06	5.06	4.81	13.36	3.63	1.62	2.84	60.11
1980	1.89	0.88	3.17	10.20	2.14	3.02	9.40	11.32	5.60	6.05	3.47	0.20	57.34
1981	0.61	4.66	1.32	0.05	4.94	5.49	2.78	12.25	14.79	1.62	2.14	0.14	50.79
1982	0.44	1.22	4.22	9.27	8.80	10.82	3.84	5.79	7.62	7.12	7.09	1.18	67.41
1983	5.36	8.07	2.82	1.79	1.44	8.66	6.20	5.88	7.48	3.52	2.01	4.19	57.42
1984	0.18	0.70	6.12	4.51	10.91	7.24	7.38	5.44	10.45	2.35	4.04	0.70	60.02
1985	0.35	0.06	1.35	3.27	3.19	6.33	11.23	11.88	8.59	5.17	1.37	3.47	56.26
1986	5.04	1.72	10.57	0.71	8.24	9.06	7.81	7.67	4.38	3.96	4.75	2.21	66.12
1987	0.87	2.62	3.82	0.38	4.99	5.48	5.17	3.24	10.17	4.33	4.92	4.28	50.27
1988	1.88	0.61	0.39	1.82	5.28	10.36	10.90	7.89	3.09	1.49	0.76	0.12	44.59
1989	0.67	0.71	0.89	2.14	0.99	10.83	3.53	12.78	5.83	2.65	0.99	0.62	42.63
1990	0.24	1.19	2.28	6.96	7.79	6.84	4.31	11.06	3.52	4.82	1.67	1.03	51.71
1991	1.59	2.04	2.32	5.16	2.50	7.51	7.29	8.84	11.17	21.64	1.18	0.18	71.42
1992	1.80	1.49	2.67	2.43	0.55	13.17	4.21	7.22	6.48	2.02	13.84	1.94	57.82
1993	5.04	2.14	5.98	3.08	4.13	3.64	7.28	5.13	12.59	7.23	6.06	0.49	62.79
1994	3.59	5.66	1.94	2.14	4.72	4.97	3.03	16.64	13.50	9.50	8.92	4.95	79.56
1995	3.13	1.41	4.60	3.73	2.94	20.33	6.36	13.13	10.37	9.91	2.53	0.86	79.30
1996	2.33	0.80	1.40	3.37	8.30	11.67	5.25	5.55	7.21	10.10	0.69	1.04	57.71
1997	1.71	1.57	2.06	5.16	9.80	13.18	7.62	6.28	12.47	2.60	2.89	5.27	70.61
1998	1.04	6.62	5.97	0.66	3.45	6.67	5.41	11.66	14.41	5.70	6.66	1.98	70.23
1999	2.98	0.27	0.25	1.46	4.89	11.08	3.60	13.87	7.01	14.55	1.45	2.68	64.09
POR= 60 YRS	2.06	2.00	2.38	3.49	5.93	8.86	6.43	7.71	8.62	6.99	2.99	1.77	59.23

WBAN : 12839

AVERAGE TEMPERATURE (°F) 1999 MIAMI, FL (MIA)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1970	63.8	64.7	71.8	79.0	79.1	82.0	82.7	84.0	82.2	79.5	69.6	70.9	75.8
1971	68.2	70.9	70.3	75.0	79.1	81.0	82.7	81.9	80.7	78.9	73.9	74.2	76.4
1972	73.0	68.4	72.1	75.0	77.6	79.9	80.9	81.7	80.4	77.9	73.3	70.8	75.9
1973	70.3	65.3	74.5	75.6	79.6	81.3	81.8	81.3	81.8	77.6	76.2	67.0	76.0
1974	74.3	68.9	75.6	76.2	80.0	82.1	82.6	84.0	84.1	78.1	72.9	69.0	77.3
1975	72.7	73.1	73.4	77.5	79.4	81.5	81.1	82.6	82.0	79.2	72.3	69.0	77.0
1976	64.7	68.8	75.8	75.1	78.5	79.1	83.1	81.9	80.4	76.3	71.5	68.2	75.3
1977	61.1	66.1	74.9	74.8	77.0	81.7	83.7	83.2	83.0	76.5	74.0	69.1	75.4
1978	64.0	63.2	68.9	74.0	79.2	81.9	82.5	82.6	82.0	78.8	75.7	73.0	75.5
1979	65.0	64.9	69.2	77.8	80.6	81.9	83.2	82.1	80.7	77.9	75.4	70.2	75.7
1980	67.5	64.0	73.2	75.4	79.0	81.4	82.6	82.8	82.1	80.1	74.3	67.3	75.8
1981	59.7	69.5	70.1	77.8	79.6	83.7	85.0	83.2	81.2	79.7	71.4	67.8	75.7
1982	67.8	74.4	74.7	77.9	77.2	82.0	84.3	84.0	82.7	77.9	75.0	72.6	77.5
1983	67.2	67.5	67.6	71.9	78.2	81.8	85.0	83.3	81.6	78.3	72.5	69.8	75.4
1984	67.0	68.6	70.4	73.2	77.1	79.8	81.9	82.6	80.1	78.2	71.5	71.1	75.1
1985	62.1	68.4	72.5	74.2	79.1	82.4	81.0	82.4	80.6	80.5	75.6	66.0	75.4
1986	65.2	69.4	68.6	71.7	77.5	81.3	83.1	83.5	83.3	80.3	79.3	73.6	76.4
1987	66.1	70.8	71.9	70.6	78.7	84.2	84.2	85.4	83.6	77.6	75.3	69.8	76.5
1988	67.9	67.7	70.7	76.1	77.9	82.0	83.1	83.6	84.0	79.1	76.9	70.5	76.6
1989	72.7	70.8	73.6	77.1	81.0	82.7	83.3	84.3	84.0	79.0	76.2	65.0	77.5
1990	73.6	74.0	73.7	75.2	80.3	83.0	83.5	83.7	83.1	80.4	74.4	72.9	78.2
1991	72.9	69.7	73.9	78.4	81.5	82.9	83.5	84.6	82.4	78.9	73.1	72.2	77.8
1992	67.4	70.5	71.9	74.0	77.8	81.5	84.9	84.4	83.2	79.5	76.8	71.6	77.0
1993	73.2	68.9	71.5	74.0	79.2	83.3	84.6	84.8	83.0	80.8	75.9	68.9	77.3
1994	69.4	73.3	74.0	78.2	81.0	83.6	83.7	82.8	81.9	80.3	77.2	72.0	78.1
1995	67.3	67.9	73.5	77.5	82.1	81.8	84.5	84.2	83.6	81.5	73.8	68.2	77.2
1996	68.1	66.7	69.7	76.0	81.2	82.5	84.5	83.1	83.2	78.4	74.3	70.2	76.5
1997	68.3	74.3	76.3	75.7	80.6	82.2	84.1	84.3	81.5	78.6	74.1	68.9	77.4
1998	70.1	69.2	69.5	76.0	80.7	85.4	84.8	84.9	83.2	80.8	76.3	73.4	77.9
1999	70.0	69.6	70.5	77.8	78.6	80.9	84.0	83.6	81.9	79.2	74.3	70.0	76.7
POR= 60 YRS	67.4	68.3	71.6	75.1	78.3	81.4	82.6	82.9	81.8	78.2	73.2	69.1	75.8

HEATING DEGREE DAYS (base 65°F) 1999 MIAMI, FL (MIA)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1970-71	0	0	0	0	42	23	67	45	31	5	0	0	213
1971-72	0	0	0	0	0	0	2	39	0	0	0	0	41
1972-73	0	0	0	0	3	30	41	64	0	0	0	0	138
1973-74	0	0	0	0	1	93	0	37	0	0	0	0	131
1974-75	0	0	0	0	2	32	14	1	10	0	0	0	59
1975-76	0	0	0	0	33	49	93	27	0	0	0	0	202
1976-77	0	0	0	0	9	32	165	62	3	0	0	0	271
1977-78	0	0	0	0	6	58	123	99	34	0	0	0	320
1978-79	0	0	0	0	0	1	84	82	13	0	0	0	180
1979-80	0	0	0	0	6	10	50	95	39	0	0	0	200
1980-81	0	0	0	0	7	59	168	25	12	0	0	0	271
1981-82	0	0	0	0	1	80	65	1	3	0	0	0	150
1982-83	0	0	0	0	0	22	50	25	38	2	0	0	137
1983-84	0	0	0	0	4	69	54	37	17	0	0	0	181
1984-85	0	0	0	0	9	18	135	61	4	1	0	0	228
1985-86	0	0	0	0	2	78	76	22	54	0	0	0	232
1986-87	0	0	0	0	0	0	83	15	6	27	0	0	131
1987-88	0	0	0	0	3	29	49	38	26	0	0	0	145
1988-89	0	0	0	0	0	36	1	49	18	0	0	0	104
1989-90	0	0	0	1	0	110	7	4	0	0	0	0	122
1990-91	0	0	0	0	0	4	2	31	5	0	0	0	42
1991-92	0	0	0	0	7	0	38	7	6	0	0	0	58
1992-93	0	0	0	0	2	10	5	7	21	0	0	0	45
1993-94	0	0	0	0	4	31	26	15	1	0	0	0	77
1994-95	0	0	0	0	0	14	39	51	1	0	0	0	105
1995-96	0	0	0	0	3	77	65	77	41	0	0	0	263
1996-97	0	0	0	0	0	26	58	2	0	0	0	0	86
1997-98	0	0	0	0	2	49	20	29	25	0	0	0	125
1998-99	0	0	0	0	0	8	35	19	5	0	0	0	67
1999-	0	0	0	0	0	26							

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COOLING DEGREE DAYS (base 65°F) 1999 MIAMI, FL (MIA)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1970	85	59	239	425	446	518	558	596	522	457	185	213	4303
1971	176	219	202	315	444	488	558	531	476	443	274	292	4418
1972	262	144	227	307	398	454	498	523	471	408	261	217	4170
1973	212	81	301	324	459	499	531	516	511	394	343	163	4334
1974	294	150	335	342	471	518	551	596	578	414	245	163	4657
1975	261	233	276	382	456	501	508	553	517	448	257	178	4570
1976	92	144	336	309	424	429	569	530	470	361	209	141	4014
1977	50	97	318	299	381	508	587	574	549	364	284	191	4202
1978	97	54	163	273	449	515	547	552	513	437	329	254	4183
1979	90	81	149	391	492	516	572	537	481	407	324	178	4218
1980	138	75	296	321	441	501	555	563	519	476	292	135	4312
1981	10	154	177	389	460	568	625	570	492	460	198	173	4276
1982	161	270	311	394	385	518	606	596	537	406	304	264	4752
1983	125	101	124	213	417	514	628	576	503	419	236	221	4077
1984	124	144	194	252	380	452	532	554	460	416	213	214	3935
1985	55	164	244	285	445	529	505	546	476	488	329	114	4180
1986	86	150	175	207	395	495	569	582	556	483	432	272	4402
1987	122	186	227	202	430	580	603	639	565	401	314	182	4451
1988	145	123	209	339	408	516	571	584	578	445	364	216	4498
1989	247	219	292	367	502	540	576	603	578	442	346	114	4826
1990	279	262	276	314	479	547	578	587	552	486	287	254	4901
1991	254	167	288	408	515	547	583	614	531	437	255	231	4830
1992	121	173	226	277	404	503	624	609	553	454	366	222	4532
1993	269	123	227	277	449	557	613	622	550	497	338	159	4681
1994	167	252	288	403	503	566	589	557	512	479	374	239	4929
1995	119	138	274	377	537	509	612	602	565	519	272	178	4702
1996	168	134	193	335	512	532	609	566	555	421	284	195	4504
1997	164	270	360	326	489	523	600	607	502	427	282	179	4729
1998	186	152	174	337	493	616	623	621	555	498	348	277	4880
1999	195	152	184	390	429	482	594	583	513	447	285	190	4444

SNOWFALL (inches) 1999 MIAMI, FL (MIA)

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	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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	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	0.0	0.0	0.0	0.0	0.0	T	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	T	0.0	T
1999-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
POR= 56 YRS	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

WBAN : 12839

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  
MIAMI,  
FLORIDA (MIA)

Miami is located on the lower east coast of Florida. To the east of the city lies Biscayne Bay, an arm of the ocean, about 15 miles long and 3 miles wide. East of the bay is the island of Miami Beach, a mile or less wide and about 10 miles long, and beyond Miami Beach is the Atlantic Ocean. The surrounding countryside is level and sparsely wooded.

The climate of Miami is essentially subtropical marine, featured by a long and warm summer, with abundant rainfall, followed by a mild, dry winter. The marine influence is evidenced by the low daily range of temperature and the rapid warming of cold air masses which pass to the east of the state. The Miami area is subject to winds from the east or southeast about half the time, and in several specific respects has a climate whose features differ from those farther inland.

One of these features is the annual precipitation for the area. During the early morning hours more rainfall occurs at Miami Beach than at the airport, while during the afternoon the reverse is true. The airport office is about 9 miles inland.

An even more striking difference appears in the annual number of days with temperatures reaching 90 degrees or higher, with inland stations having about four times more than the beach. Minimum temperature contrasts also are particularly marked under proper conditions, with the difference between inland locations and the Miami Beach station frequently reaching to 15 degrees or more, especially in winter.

Freezing temperatures occur occasionally in the suburbs and farming districts southwest, west, and northwest of the city, but rarely near the ocean.

Hurricanes occasionally affect the area. The months of greatest frequency are September and October. Destructive tornadoes are very rare. Funnel clouds are occasionally sighted and a few touch the ground briefly but significant damage is seldom reported. Waterspouts are often visible from the beaches during the summer months, however, significant damage is seldom reported. June, July, and August have the highest frequency of dangerous lightning events.

# STATION LOCATION

MIAMI, FLORIDA

LOCATION	OCCUPIED FROM	OCCUPIED TO	AIRLINE DISTANCES AND DIRECTIONS FROM PREVIOUS LOCATION	LATITUDE NORTH	LONGITUDE WEST	ELEVATION ABOVE												* Type M = AMOS T = AUTOB S = ASOS W = AWOS	REMARKS
						GROUND											A U T O B A R O M E T E R		
						SEA LEVEL	WIND	EX	P	S	T	R	W	8	H	HO			
CITY -- NOTE: For period September 1841 through June 30, 1929 refer to previous editions.	7/1/29	1/21/43	0.13 mi. SW	25°47'	80°12'	9	168	124											
Seybold Building 36 N.E. 1st Street																			
Congress Building 111 N.E. 2nd Avenue	1/12/43	6/18/48	0.25 mi. ENE	25°47'	80°11'	11	249	242					234						
Lindsey Hopkins Bldg. 1410 N.E. 2nd Avenue	6/16/48	7/1/58	1 mi. N	25°47'	80°12'	8	229	193					188					b - Effective 5/19/50.	
Aviation Building 3240 N.W. 27th Avenue	7/1/58	12/23/64	3.5 mi. WNW	25°48'	80°14'	9	111						56						
Computer Building 1365 Memorial Drive Coral Gables, Florida	12/23/64	6/27/79	7 mi. SSW	25°43'	80°17'	15	111	67					65					c - Moved to ground site 1/12/66. d - Decommissioned 11/1/75.	
Gables One Tower 1320 S. Dixie Coral Gables, Florida	6/27/79	Present	0.5 mi. SSW	25°43'	80°17'	10	146	NA	NA	NA	122	NA	NA	NA	NA	NA	NA		
AIRPORT Former Municipal AP 13 mi. NNW Post Office	9/4/29	7/31/42	NA	25°55'	80°17'	8	32	f7	e5						f3			e - Added 9/1/30. f - Added 1936.	
Main Terminal Building Miami Int'l Airport 6 mi. NW of Post Office	7/31/42	5/13/43	7 mi. S	25°49'	80°17'	8	61	6	6						3				
Main Terminal Building West Wing, Miami International Airport	5/13/43	2/28/57	200 ft. W	25°49'	80°17'	8	50	6	6			j31	k29	n				g - Effective 10/6/47. h - Effective 11/23/48. i - Effective 4/20/49. j - Installed 8/7/50. k - Effective 12/6/48. m - Effective 3/25/60. n - Telepsychrometer (5) 2/3/49-1/1/65. Hygro. comm. about 1 mile WSW of tele. site 1/1/65.	
FAA & Weather Bureau Building, Miami Int'l Airport	2/28/57	3/1/77	1 mi. SSE	25°48'	80°16'	7	33	6	6				4	3	n6				
General Aviation Center	3/1/77	07/01/96	9200 ft. WNW	25°49'	80°17'	7	p23	NA	q4	19	16	16	16	p6	r6	NA		p - Not moved 3/1/77. q - Minor move 4/1/78. r - Station type changed from WSMO to WSCMO 3/1/80. s - Type change 07/1985.	
International Airport	07/01/96	Present	NA	25°49'	80°18'	27										S		ASOS Commissioned 07/01/96	

**SUBSCRIPTION:**

Price and ordering information available through: National Climatic Data Center, Federal Building, Asheville, North Carolina 28801.

**INQUIRIES/COMMENTS CALL: (828) 271-4800**

National Climatic Data Center  
151 Patton Avenue, Rm 120  
Asheville NC 28801-5001

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POSTAGE & FEES PAID  
United States Department of Commerce  
NOAA Permit No. G - 19