

1999

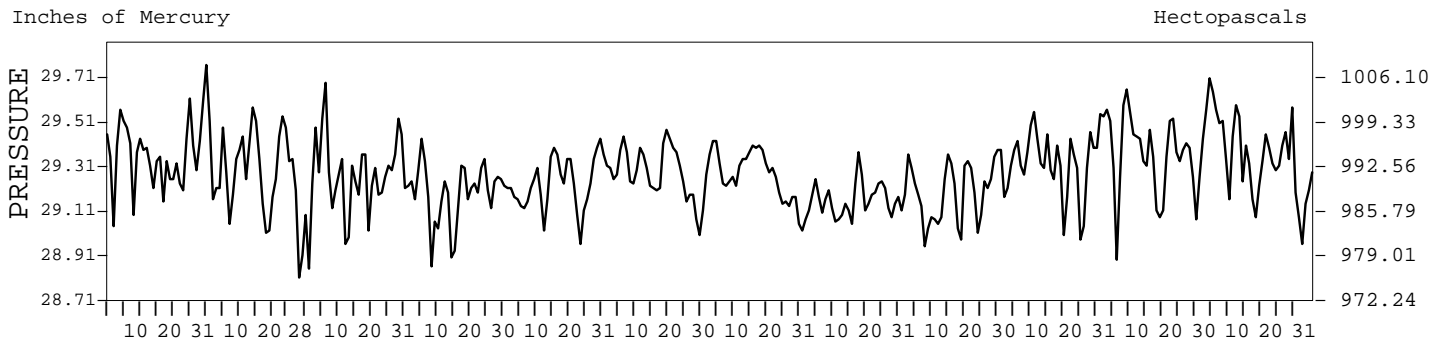
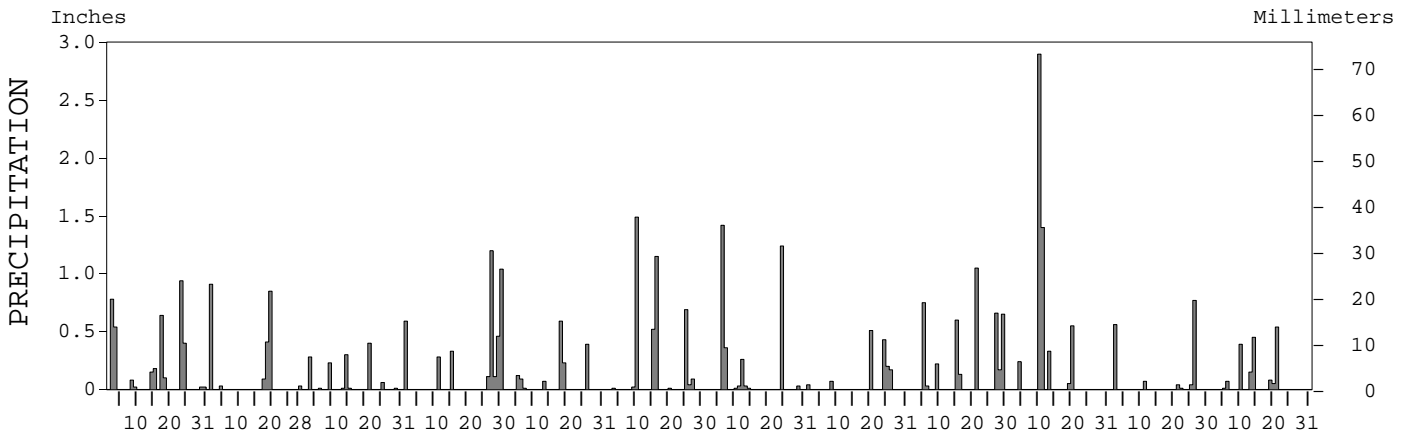
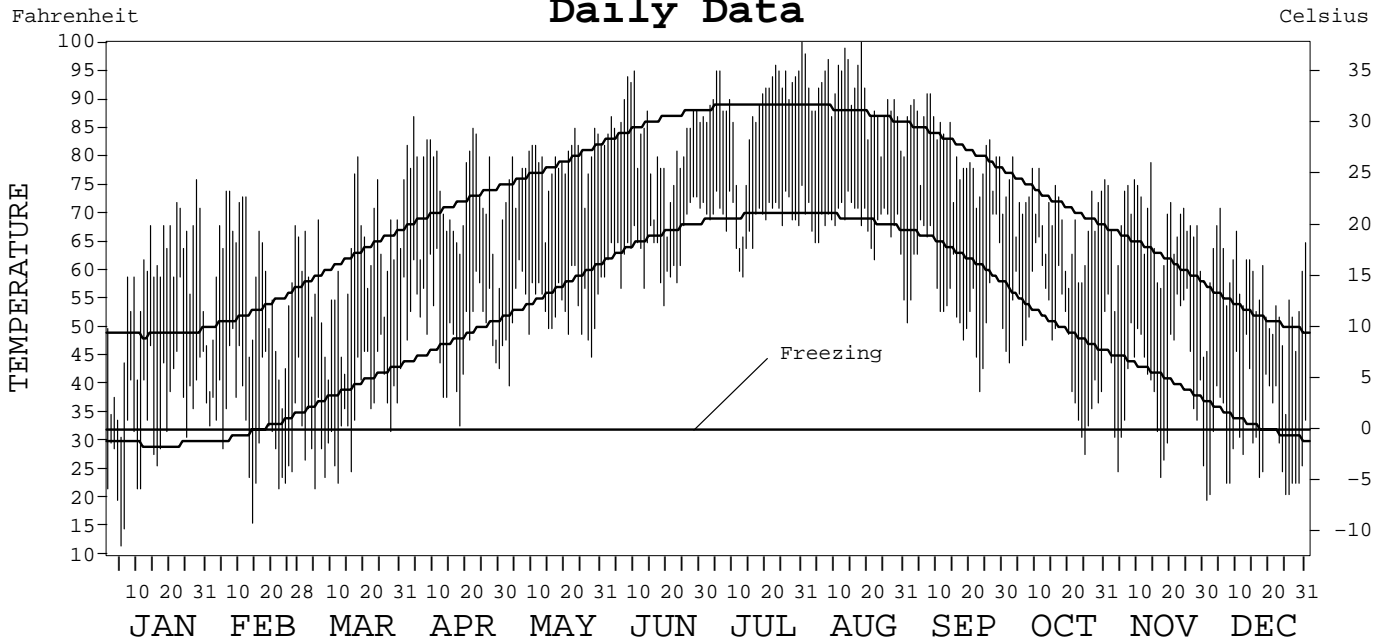
LOCAL CLIMATOLOGICAL DATA ANNUAL SUMMARY WITH COMPARATIVE DATA



ISSN 0198-3733

CHARLOTTE, NORTH CAROLINA (CLT)

Daily Data



I CERTIFY THAT THIS IS AN OFFICIAL PUBLICATION OF THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, AND IS COMPILED FROM RECORDS ON FILE AT THE NATIONAL CLIMATIC DATA CENTER.

Thomas R. Karl

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

METEOROLOGICAL DATA FOR 1999

CHARLOTTE, NC (CLT)

LATITUDE: 35° 12' 52" N LONGITUDE: 80° 56' 37" W ELEVATION (FT): GRND: 749 BARO: 749 TIME ZONE: EASTERN (UTC + 5) WBAN: 13881

	ELEMENT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	
TEMPERATURE °F	MEAN DAILY MAXIMUM	57.1	58.5	60.4	73.5	78.2	82.7	88.3	90.5	81.3	69.4	66.9	56.3	71.9	
	HIGHEST DAILY MAXIMUM	76	74	80	87	85	95	100	100	91	80	79	71	100	
	DATE OF OCCURRENCE	28	07+	18	04	29+	10	31	18	08+	03	14	05	AUG 18	
	MEAN DAILY MINIMUM	34.2	33.8	35.1	50.6	53.5	63.9	69.3	68.3	56.9	48.3	41.4	30.8	48.8	
	LOWEST DAILY MINIMUM	12	16	22	33	40	54	59	55	39	28	24	20	12	
	DATE OF OCCURRENCE	05	14	05	18	03	19	13	31	23	25	17	01	JAN 05	
	AVERAGE DRY BULB	45.7	46.2	47.8	62.1	65.9	73.3	78.8	79.4	69.1	58.9	54.2	43.6	60.4	
	MEAN WET BULB	41.4	40.9	40.6	55.2	59.9	67.7	73.0	70.8	63.5	55.1	49.7	40.1	54.8	
	MEAN DEW POINT	34.3	32.3	29.0	48.7	54.5	64.4	70.5	66.6	59.3	51.6	43.5	33.3	49.0	
	NUMBER OF DAYS WITH:														
	MAXIMUM ≥ 90°	0	0	0	0	0	4	17	17	3	0	0	0	0	41
	MAXIMUM ≤ 32°	1	0	0	0	0	0	0	0	0	0	0	0	0	1
	MINIMUM ≤ 32°	14	12	11	0	0	0	0	0	0	2	8	20	67	
	MINIMUM ≤ 0°	0	0	0	0	0	0	0	0	0	0	0	0	0	
H/C	HEATING DEGREE DAYS	592	519	526	140	35	2	5	0	30	202	321	658	3030	
	COOLING DEGREE DAYS	0	0	0	57	65	261	441	455	161	19	1	0	1460	
RH	MEAN (PERCENT)	66	62	51	64	68	76	79	68	73	78	70	68	69	
	HOUR 01 LST	71	70	58	72	78	86	88	81	87	89	78	76	78	
	HOUR 07 LST	80	78	69	78	81	87	91	83	89	91	89	86	84	
	HOUR 13 LST	54	49	39	52	52	63	61	51	53	61	51	51	53	
	HOUR 19 LST	60	53	45	56	60	70	75	61	68	77	66	62	63	
S	PERCENT POSSIBLE SUNSHINE														
W/O	NUMBER OF DAYS WITH:														
	HEAVY FOG (VISBY ≤ 1/4 MI)	2	2	0	0	0	0	0	1	0	1	3	2	11	
	THUNDERSTORMS	2	2	2	2	2	3	5	4	2	0	1	0	25	
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.)	29.36	29.29	29.25	29.19	29.23	29.28	29.26	29.17	29.19	29.35	29.36	29.34	29.27	
	MEAN SEA-LEVEL PRESS. (IN.)	30.17	30.09	30.05	29.98	30.01	30.06	30.04	29.94	29.97	30.14	30.16	30.14	30.06	
WINDS	RESULTANT SPEED (MPH)	1.2	0.5	1.2	0.6	0.8	0.6	0.7	1.1	2.5	2.0	0.7	0.6	0.6	
	RES. DIR. (TENS OF DEGS.)	16	31	36	13	34	07	30	03	01	03	01	21	02	
	MEAN SPEED (MPH)	6.0	6.5	6.9	7.2	5.9	5.8	4.6	5.7	6.2	5.2	5.0	4.9	5.8	
	PREVAIL. DIR. (TENS OF DEGS.)	20	19	01	19	18	01	19	01	01	01	35	19	01	
	MAXIMUM 2-MINUTE WIND:														
	SPEED (MPH)	25	23	23	29	24	32	38	25	30	22	24	21	38	
	DIR. (TENS OF DEGS.)	17	23	22	03	02	13	20	01	36	01	13	16	20	
	DATE OF OCCURRENCE	23	12+	03	30	01	10	24	30	16	17	02	10+	JUL 24	
	MAXIMUM 5-SECOND WIND:														
	SPEED (MPH)	33	36	36	41	31	37	47	36	39	29	31	26	47	
DIR. (TENS OF DEGS.)	17	21	28	03	03	13	20	02	36	01	21	21	20		
DATE OF OCCURRENCE	23	12	03	30	01	10	24	30	16	17	02	14+	JUL 24		
PRECIPITATION	WATER EQUIVALENT:														
	TOTAL (IN.)	3.87	2.32	1.31	4.12	1.50	4.02	3.39	1.42	4.26	5.47	1.49	1.74	34.91	
	GREATEST 24-HOUR (IN.)	1.34	0.91	0.40	1.47	0.82	1.49	1.56	0.59	1.05	4.30	0.80	0.59	4.30	
	DATE OF OCCURRENCE	23-24	01-02	21	29-30	18-19	10	06-07	24-25	21	10-11	25-26	13-14	OCT 10-11	
	NUMBER OF DAYS WITH:														
	PRECIPITATION ≥ 0.01	12	6	9	8	7	9	9	6	9	6	6	8	95	
PRECIPITATION ≥ 0.10	8	3	4	8	4	4	4	4	8	5	2	4	58		
PRECIPITATION ≥ 1.00	0	0	0	2	0	2	2	0	1	2	0	0	9		
SNOWFALL	SNOW, ICE PELLETS, HAIL:														
	TOTAL (IN.)	T	1.4	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	1.9	
	GREATEST 24-HOUR (IN.)	T	1.4	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	1.4	
	DATE OF OCCURRENCE	31	19	09									24	FEB 19	
	MAXIMUM SNOW DEPTH (IN.)	0	0	0	0	0	0	0	0	0	0	0	0	0	
	DATE OF OCCURRENCE														
NUMBER OF DAYS WITH:															
SNOWFALL ≥ 1.0	0	1	0	0	0	0	0	0	0	0	0	0	1		

NORMALS, MEANS, AND EXTREMES

CHARLOTTE, NC (CLT)

LATITUDE: 35° 12' 52" N LONGITUDE: 80° 56' 37" W ELEVATION (FT): GRND: 749 BARO: 749 TIME ZONE: EASTERN (UTC + 5) WBAN: 13881

ELEMENT		POR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
TEMPERATURE °F	NORMAL DAILY MAXIMUM	30	49.0	53.0	62.3	71.2	78.3	85.8	88.9	87.7	81.9	72.0	62.6	52.3	70.4
	MEAN DAILY MAXIMUM	52	50.9	54.8	62.5	72.3	79.6	86.0	89.2	87.8	81.7	72.1	62.1	53.2	71.0
	HIGHEST DAILY MAXIMUM	60	78	81	90	93	100	103	103	103	104	98	85	78	104
	YEAR OF OCCURRENCE		1952	1989	1945	1960	1941	1954	1986	1983	1954	1954	1961	1998	SEP 1954
	MEAN OF EXTREME MAXS.	52	69.4	72.3	80.1	86.9	90.4	95.1	96.6	95.7	92.2	85.2	77.4	70.3	84.3
	NORMAL DAILY MINIMUM	30	29.6	31.9	39.4	47.5	56.4	65.6	69.6	68.9	62.9	50.6	41.5	32.8	49.7
	MEAN DAILY MINIMUM	52	31.4	33.5	39.8	48.7	57.5	65.5	69.4	68.4	62.0	50.3	40.4	33.5	50.0
	LOWEST DAILY MINIMUM	60	-5	5	4	24	32	45	53	53	39	24	11	2	-5
	YEAR OF OCCURRENCE		1985	1958	1980	1960	1963	1972	1961	1965	1999	1962	1950	1962	JAN 1985
	MEAN OF EXTREME MINS.	52	14.4	17.5	23.5	33.1	43.1	54.7	61.7	60.0	49.0	34.7	24.8	17.1	36.1
	NORMAL DRY BULB	30	39.3	42.5	50.9	59.4	67.4	75.7	79.3	78.3	72.4	61.3	52.1	42.6	60.1
	MEAN DRY BULB	52	41.1	44.1	51.1	60.5	68.5	75.7	79.3	78.0	71.8	61.2	51.3	43.4	60.5
	MEAN WET BULB	16	37.2	40.2	45.3	52.6	61.0	68.1	71.7	70.5	65.0	55.4	46.7	39.4	54.4
	MEAN DEW POINT	16	29.3	31.5	35.9	44.0	55.2	63.5	67.7	67.0	60.7	49.9	40.2	32.1	48.1
	NORMAL NO. DAYS WITH:														
MAXIMUM ≥ 90°	30	0.0	0.0	0.0	0.3	1.6	7.3	13.1	10.9	3.9	0.2	0.0	0.0	37.3	
MAXIMUM ≤ 32°	30	1.7	0.4	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	2.6	
MINIMUM ≤ 32°	30	19.2	15.6	7.5	1.1	*	0.0	0.0	0.0	0.0	0.8	6.6	15.9	66.7	
MINIMUM ≤ 0°	30	0.1	0.0	0.0	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	797	630	437	183	42	0	0	0	6	161	391	694	3341
	NORMAL COOLING DEG. DAYS	30	0	0	0	15	116	321	443	412	228	47	0	0	1582
RH	NORMAL (PERCENT)	30	66	62	62	59	67	70	72	74	73	70	68	67	68
	HOUR 01 LST	30	72	68	68	68	78	80	82	84	83	80	76	73	76
	HOUR 07 LST	30	78	76	79	78	82	84	86	89	89	86	83	79	82
	HOUR 13 LST	30	56	52	50	46	52	55	57	58	57	53	53	56	54
	HOUR 19 LST	30	60	55	52	49	58	61	65	66	67	66	62	63	60
S	PERCENT POSSIBLE SUNSHINE	47	54	58	61	68	67	67	67	65	64	65	58	55	62
W/O	MEAN NO. DAYS WITH:														
	HEAVY FOG (VISBY ≤ 1/4 MI)	61	3.7	2.8	2.4	1.2	1.0	1.0	1.1	1.4	2.0	1.8	3.0	3.9	25.3
	THUNDERSTORMS	61	0.6	0.9	1.9	3.2	5.4	7.3	9.4	6.7	2.9	1.3	0.6	0.4	40.6
CLOUDINESS	MEAN:														
	SUNRISE-SUNSET (OKTAS)	48	5.0	4.9	4.9	4.5	4.9	4.8	4.9	4.7	4.6	3.8	4.3	4.8	4.7
	MIDNIGHT-MIDNIGHT (OKTAS)	33	4.7	4.6	4.5	4.2	4.7	4.6	4.8	4.7	4.3	3.8	4.2	4.5	4.5
	MEAN NO. DAYS WITH:														
	CLEAR	50	9.0	8.2	9.2	9.8	7.7	7.3	6.6	7.3	9.1	12.9	11.2	9.8	108.1
PARTLY CLOUDY	50	6.1	6.3	8.2	8.6	10.6	11.4	11.6	12.2	9.2	7.6	6.3	5.9	104.0	
CLOUDY	50	15.8	13.7	13.5	11.6	12.7	11.5	12.3	11.0	11.1	10.0	12.0	14.7	149.9	
PR	MEAN STATION PRESSURE (IN)	27	29.30	29.29	29.20	29.20	29.20	29.20	29.20	29.30	29.29	29.30	29.30	29.29	29.26
	MEAN SEA-LEVEL PRES. (IN)	16	30.14	30.10	30.06	29.99	30.01	30.00	30.03	30.03	30.06	30.12	30.14	30.16	30.07
WINDS	MEAN SPEED (MPH)	50	7.8	8.3	8.8	8.7	7.5	6.9	6.7	6.5	6.6	6.8	7.1	7.4	7.4
	PREVAIL. DIR (TENS OF DEGS)	27	23	23	18	22	22	22	22	18	05	04	03	22	22
	MAXIMUM 2-MINUTE:														
	SPEED (MPH)	1	25	23	23	29	24	32	38	25	30	22	24	21	38
	DIR. (TENS OF DEGS)		17	23	22	03	02	13	20	01	36	01	13	16	20
	YEAR OF OCCURRENCE		1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	JUL 1999
	MAXIMUM 5-SECOND:														
	SPEED (MPH)	1	33	36	36	41	31	37	47	36	39	29	31	26	47
DIR. (TENS OF DEGS)		17	21	28	03	03	13	20	02	36	01	21	21	20	
YEAR OF OCCURRENCE		1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	JUL 1999	
PRECIPITATION	NORMAL (IN)	30	3.71	3.84	4.43	2.68	3.82	3.39	3.92	3.73	3.50	3.36	3.23	3.48	43.09
	MAXIMUM MONTHLY (IN)	60	7.44	7.59	8.76	7.64	12.48	8.26	9.12	9.98	10.89	14.72	8.68	7.49	14.72
	YEAR OF OCCURRENCE		1962	1979	1980	1958	1975	1961	1941	1948	1945	1990	1985	1983	OCT 1990
	MINIMUM MONTHLY (IN)	60	0.45	0.74	0.58	0.30	0.11	0.15	0.53	0.61	0.02	T	0.46	0.43	T
	YEAR OF OCCURRENCE		1981	1978	1985	1976	1941	1993	1983	1972	1954	1953	1973	1965	OCT 1953
	MAXIMUM IN 24 HOURS (IN)	60	3.57	2.92	3.83	3.20	3.67	3.77	3.00	5.30	4.74	5.46	3.27	2.87	5.46
	YEAR OF OCCURRENCE		1962	1973	1977	1962	1975	1949	1997	1995	1959	1990	1985	1972	OCT 1990
	NORMAL NO. DAYS WITH:														
PRECIPITATION ≥ 0.01	30	10.3	9.3	10.7	8.3	10.4	10.0	11.0	9.5	7.1	6.7	8.0	9.6	110.9	
PRECIPITATION ≥ 1.00	30	0.8	1.2	1.1	0.6	0.9	0.8	0.9	1.0	1.0	1.2	0.8	1.0	11.3	
SNOWFALL	NORMAL (IN)	30	2.7	2.3	1.2	0.*	0.0	0.0	0.0	0.0	0.0	0.1	0.6	6.9	
	MAXIMUM MONTHLY (IN)	60	12.1	14.9	19.3	0.1	T	T	0.0	0.0	0.0	T	2.5	7.5	19.3
	YEAR OF OCCURRENCE		1988	1979	1960	1982	1995	1998				1994	1968	1971	MAR 1960
	MAXIMUM IN 24 HOURS (IN)	60	12.1	12.0	10.3	0.1	T	T	0.0	0.0	0.0	T	2.5	7.5	12.1
	YEAR OF OCCURRENCE		1988	1969	1983	1982	1995	1998				1994	1968	1971	JAN 1988
	MAXIMUM SNOW DEPTH (IN)	51	12	12	9	0	0	0	0	0	0	0	2	6	12
	YEAR OF OCCURRENCE		1988	1969	1983								1968	1971	FEB 1969
	NORMAL NO. DAYS WITH:														
SNOWFALL ≥ 1.0	30	0.8	0.6	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.*	0.2	1.9	

PRECIPITATION (inches) 1999 CHARLOTTE, NC (CLT)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1970	1.70	3.66	2.93	2.04	2.69	2.62	5.73	4.03	0.55	5.12	1.58	3.14	35.79
1971	3.40	5.19	4.87	2.79	4.47	5.09	4.99	2.89	2.68	6.88	2.96	2.24	48.45
1972	4.47	3.21	2.59	1.75	5.61	3.01	6.59	0.61	3.77	1.37	5.42	5.83	44.23
1973	4.14	4.44	6.96	2.13	4.31	4.91	3.62	2.31	3.15	2.38	0.46	5.32	44.13
1974	5.22	4.90	3.30	3.26	4.49	2.32	4.16	6.35	6.50	0.46	4.50	3.82	49.28
1975	6.14	3.50	7.62	1.69	12.48	1.86	7.58	4.48	6.51	3.58	2.83	3.82	62.09
1976	1.89	1.13	4.36	0.30	4.26	3.84	2.26	0.90	5.55	8.33	3.37	5.60	41.79
1977	2.73	1.48	8.45	2.05	3.16	3.12	0.82	2.44	6.35	4.74	4.20	1.97	41.51
1978	6.80	0.74	4.97	2.69	4.91	4.19	4.03	8.11	1.16	1.18	2.81	3.13	44.72
1979	5.31	7.59	3.79	6.47	4.54	4.72	4.74	1.27	9.69	2.95	4.61	1.36	57.04
1980	4.67	1.31	8.76	2.31	3.59	2.27	2.63	1.94	5.37	1.67	3.77	0.83	39.12
1981	0.45	3.63	2.12	0.67	4.27	1.81	6.61	2.67	3.42	3.94	0.87	6.23	36.69
1982	4.30	4.87	1.58	3.84	4.97	4.16	4.19	2.03	0.64	3.83	3.05	4.23	41.69
1983	2.53	5.50	6.07	2.66	2.14	3.77	0.53	3.61	0.74	2.43	4.05	7.49	41.52
1984	4.09	5.90	5.89	4.50	4.78	2.95	5.96	3.95	1.74	0.75	2.08	2.40	44.99
1985	5.20	4.05	0.58	1.90	5.14	5.46	4.14	7.35	0.74	5.16	8.68	0.92	49.32
1986	1.02	1.03	3.01	1.20	1.63	0.41	2.26	5.43	0.83	3.49	3.44	3.16	26.91
1987	4.78	5.19	3.65	2.44	0.99	2.98	1.38	2.76	6.87	0.84	4.05	3.39	39.32
1988	3.43	1.11	3.29	2.27	2.20	1.55	3.56	4.56	4.45	4.12	2.11	1.62	34.27
1989	1.61	4.67	4.92	2.58	5.37	3.20	6.30	2.99	7.27	4.08	3.14	3.66	49.79
1990	3.81	5.65	3.57	2.03	4.99	0.90	2.71	3.47	1.75	14.72	2.75	3.23	49.58
1991	6.02	1.32	7.18	5.43	2.94	2.39	3.70	8.18	1.70	0.50	2.83	2.99	45.18
1992	3.28	4.31	4.93	2.51	3.59	6.83	1.78	3.46	8.18	6.21	5.84	2.81	53.73
1993	6.17	2.72	7.61	2.00	2.60	0.15	1.56	3.77	0.92	2.28	2.69	3.34	35.81
1994	3.54	2.62	4.94	2.29	1.47	4.58	2.61	5.75	1.00	3.60	2.32	1.92	36.64
1995	4.25	4.57	1.49	1.37	3.17	5.76	4.56	7.07	2.49	7.17	5.05	1.23	48.18
1996	4.13	2.52	4.73	4.41	2.13	2.56	3.05	4.74	4.12	2.32	2.83	2.61	40.15
1997	2.96	4.65	2.51	5.23	1.39	6.85	8.94	1.10	3.39	3.94	3.70	4.08	48.74
1998	5.74	3.82	3.01	6.19	1.53	3.56	3.65	2.82	3.79	1.38	2.27	3.28	41.04
1999	3.87	2.32	1.31	4.12	1.50	4.02	3.39	1.42	4.26	5.47	1.49	1.74	34.91
POR= 121 YRS	3.82	3.90	4.31	3.24	3.44	3.87	4.61	4.53	3.32	3.11	2.70	3.55	44.40

WBAN : 13881

AVERAGE TEMPERATURE (°F) 1999 CHARLOTTE, NC (CLT)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1970	34.7	41.1	48.6	61.2	68.2	74.4	79.5	78.9	75.9	63.6	49.7	44.7	60.0
1971	39.9	41.4	46.3	58.3	65.0	76.5	76.2	75.8	73.1	64.7	49.0	50.6	59.7
1972	44.6	40.4	49.6	58.5	64.7	71.3	77.0	77.1	72.7	59.0	48.8	46.5	59.2
1973	39.6	40.0	54.1	57.6	64.7	74.7	78.5	76.8	74.6	62.1	52.7	41.7	59.8
1974	49.8	44.0	55.2	60.0	68.5	72.2	76.9	75.9	68.4	58.3	49.9	42.1	60.1
1975	45.2	45.0	50.4	59.0	70.5	75.0	76.2	78.9	70.8	63.6	53.5	42.4	60.9
1976	39.3	50.2	54.7	59.9	65.0	72.4	76.9	76.1	69.5	55.5	44.1	39.1	58.6
1977	30.1	42.1	54.9	62.5	69.8	75.2	82.4	79.7	74.4	58.7	53.6	42.5	60.5
1978	36.9	36.7	49.4	61.5	66.7	76.2	78.9	79.0	74.2	60.1	56.2	44.8	60.1
1979	36.7	37.9	53.7	60.2	67.7	71.6	76.6	78.4	70.4	59.3	52.9	43.7	59.1
1980	41.4	38.9	47.4	60.0	68.2	74.0	80.0	80.9	74.8	58.3	48.8	42.6	59.6
1981	36.1	44.2	48.5	64.2	65.1	78.2	78.7	75.1	70.2	58.0	51.3	39.3	59.1
1982	36.0	45.4	52.7	57.6	72.0	75.0	78.4	76.3	70.0	60.5	52.3	47.9	60.3
1983	38.8	41.8	50.6	54.8	66.7	73.9	80.7	80.2	71.1	61.0	50.0	39.6	59.1
1984	38.3	45.4	50.0	56.5	65.9	76.4	76.1	77.1	69.0	67.8	47.8	50.0	60.0
1985	35.6	43.1	54.0	61.4	68.0	75.8	77.4	75.7	70.6	64.8	58.6	39.7	60.4
1986	38.8	46.8	52.8	64.3	69.5	80.6	84.8	76.9	74.1	64.0	53.2	43.4	62.4
1987	40.0	42.9	51.1	58.9	71.6	77.8	82.3	81.4	73.5	56.2	53.5	45.5	61.2
1988	35.8	43.4	52.7	60.6	68.4	75.3	79.6	80.9	71.8	56.3	53.0	43.8	60.1
1989	46.8	45.9	53.4	60.7	66.7	78.2	79.6	77.8	71.8	63.5	52.2	36.5	61.1
1990	48.5	52.3	55.9	61.1	69.0	77.7	81.1	80.1	74.1	63.8	55.4	49.0	64.0
1991	43.1	48.4	55.2	64.4	74.0	77.6	82.2	78.4	73.8	63.5	51.4	48.2	63.4
1992	45.1	48.7	52.7	61.3	66.0	73.9	82.4	76.1	72.1	60.0	52.4	42.9	61.1
1993	45.0	43.1	49.6	58.7	70.5	78.8	85.5	80.2	74.8	62.3	52.7	42.9	62.0
1994	38.4	46.7	55.1	64.7	67.1	79.0	79.9	77.2	71.1	61.8	55.6	48.0	62.1
1995	42.2	41.8	54.3	62.3	69.3	74.0	80.4	79.9	70.4	62.8	47.1	40.9	60.5
1996	39.3	44.5	47.3	59.1	70.2	76.8	78.9	76.9	71.6	61.9	47.6	46.3	60.0
1997	42.8	48.5	58.3	58.1	66.3	73.0	81.3	78.9	73.3	62.7	48.7	43.0	61.2
1998	47.1	49.7	52.1	62.4	74.4	80.8	79.8	77.1	73.1	61.6	53.2	47.7	63.3
1999	45.7	46.2	47.8	62.1	65.9	73.3	78.8	79.4	69.1	58.9	54.2	43.6	60.4
POR= 121 YRS	41.6	44.0	51.3	60.0	68.9	76.0	78.9	77.6	72.2	61.4	51.1	43.2	60.5

HEATING DEGREE DAYS (base 65°F) 1999 CHARLOTTE, NC (CLT)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1970-71	0	0	12	111	456	622	770	655	574	208	73	0	3481
1971-72	0	0	4	72	490	444	625	710	472	226	47	13	3103
1972-73	0	0	3	195	490	564	780	693	341	241	74	0	3381
1973-74	0	0	2	124	361	715	463	583	320	182	36	0	2786
1974-75	0	0	50	216	454	699	609	554	444	212	12	0	3250
1975-76	0	0	13	103	347	694	789	425	321	192	68	12	2964
1976-77	0	0	5	299	621	799	1075	636	306	120	36	7	3904
1977-78	0	0	3	215	356	690	862	785	473	140	72	0	3596
1978-79	0	0	7	155	255	620	873	750	350	163	30	4	3207
1979-80	1	0	14	197	357	655	726	750	538	171	27	0	3436
1980-81	0	0	26	230	482	689	890	574	508	87	74	0	3560
1981-82	0	2	18	228	405	790	891	544	376	235	6	0	3495
1982-83	0	0	20	191	380	529	806	645	441	308	46	1	3367
1983-84	0	0	44	149	445	780	820	562	459	266	74	2	3601
1984-85	0	0	47	31	517	458	905	607	358	150	32	0	3105
1985-86	0	0	28	85	198	777	799	503	381	106	24	0	2901
1986-87	0	6	2	119	357	665	767	614	426	217	9	0	3182
1987-88	0	0	1	264	339	597	899	621	378	154	23	6	3282
1988-89	0	0	1	279	354	653	558	541	378	189	77	0	3030
1989-90	0	0	27	111	382	877	503	350	307	158	23	0	2738
1990-91	0	0	15	109	282	491	671	457	313	88	11	0	2437
1991-92	0	0	9	102	410	525	608	465	375	174	83	1	2752
1992-93	0	0	20	162	372	679	612	610	469	199	16	0	3139
1993-94	0	0	12	139	384	677	819	507	311	87	58	0	2994
1994-95	0	0	0	130	279	524	699	645	331	132	27	1	2768
1995-96	0	0	27	119	529	740	788	591	544	193	45	0	3576
1996-97	0	0	6	132	517	571	683	457	219	209	46	26	2866
1997-98	0	0	5	147	483	678	552	423	421	116	4	0	2829
1998-99	0	0	7	133	348	534	592	519	526	140	35	2	2836
1999-	5	0	30	202	321	658							

WBAN : 13881

COOLING DEGREE DAYS (base 65°F) 1999 CHARLOTTE, NC (CLT)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1970	0	0	0	47	148	289	453	438	346	71	0	0	1792
1971	0	0	0	12	83	354	354	341	251	69	16	5	1485
1972	0	0	0	40	43	208	377	385	241	17	10	0	1321
1973	0	0	11	25	72	292	426	373	296	39	0	0	1534
1974	0	0	20	38	152	223	375	346	158	15	10	0	1337
1975	0	0	0	40	188	307	356	436	196	67	11	0	1601
1976	0	2	11	43	76	238	374	351	146	14	0	0	1255
1977	0	2	0	50	191	319	545	465	294	27	20	0	1913
1978	0	0	0	41	132	343	438	440	287	13	1	1	1696
1979	0	0	4	28	122	208	369	419	183	30	3	0	1366
1980	0	0	0	28	133	275	473	497	328	26	0	0	1760
1981	0	0	2	69	87	403	431	323	182	21	0	0	1518
1982	0	0	3	22	230	308	424	357	179	59	6	5	1593
1983	0	0	1	6	107	275	494	476	234	32	0	0	1625
1984	0	0	0	18	110	350	348	381	176	124	6	0	1513
1985	0	0	24	48	132	330	395	338	204	87	11	0	1569
1986	0	0	9	94	174	474	618	381	284	93	10	0	2137
1987	0	0	0	38	222	389	542	515	264	2	1	0	1973
1988	0	0	3	28	135	323	461	500	213	18	1	0	1682
1989	0	14	25	72	138	403	458	405	237	75	1	0	1828
1990	0	1	32	50	157	389	507	475	292	81	4	3	1991
1991	0	0	17	79	300	382	542	423	280	66	8	13	2110
1992	0	0	1	71	124	274	546	351	240	12	2	0	1621
1993	0	0	0	15	195	419	643	476	313	62	21	0	2144
1994	0	4	10	86	129	428	469	384	189	36	3	2	1740
1995	0	0	9	59	167	276	481	472	196	58	0	0	1718
1996	0	1	0	21	213	361	436	376	212	41	1	0	1662
1997	0	0	17	8	96	272	512	439	262	87	0	0	1693
1998	4	0	24	43	303	483	463	383	261	34	0	5	2003
1999	0	0	0	57	65	261	441	455	161	19	1	0	1460

SNOWFALL (inches) 1999 CHARLOTTE, NC (CLT)

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	2.7	0.1	0.8	5.7	0.0	0.0	0.0	9.3
1971-72	0.0	0.0	0.0	0.0	T	7.5	0.0	0.5	3.7	0.0	0.0	0.0	11.7
1972-73	0.0	0.0	0.0	0.0	T	0.0	5.5	1.0	0.0	0.0	0.0	0.0	6.5
1973-74	0.0	0.0	0.0	0.0	0.0	5.4	0.0	T	1.4	0.0	0.0	0.0	6.8
1974-75	0.0	0.0	0.0	0.0	0.0	T	0.0	1.0	0.2	0.0	0.0	0.0	1.2
1975-76	0.0	0.0	0.0	0.0	0.5	T	T	T	0.0	0.0	0.0	0.0	0.5
1976-77	0.0	0.0	0.0	0.0	T	T	3.4	T	0.0	0.0	0.0	0.0	3.4
1977-78	0.0	0.0	0.0	0.0	0.0	T	T	0.7	4.8	0.0	0.0	0.0	5.5
1978-79	0.0	0.0	0.0	0.0	0.0	0.0	0.4	14.9	0.0	0.0	0.0	0.0	15.3
1979-80	0.0	0.0	0.0	0.0	0.0	0.0	0.4	7.3	6.8	0.0	0.0	0.0	14.5
1980-81	0.0	0.0	0.0	0.0	0.0	0.3	1.8	T	T	0.0	0.0	0.0	2.1
1981-82	0.0	0.0	0.0	0.0	0.0	T	4.8	5.9	0.0	0.1	0.0	0.0	10.8
1982-83	0.0	0.0	0.0	0.0	0.0	T	0.8	1.5	10.3	0.0	0.0	0.0	12.6
1983-84	0.0	0.0	0.0	0.0	T	T	T	5.9	0.0	0.0	0.0	0.0	5.9
1984-85	0.0	0.0	0.0	0.0	0.0	T	1.7	T	0.0	0.0	0.0	0.0	1.7
1985-86	0.0	0.0	0.0	0.0	0.0	T	T	0.3	T	0.0	0.0	0.0	0.3
1986-87	0.0	0.0	0.0	0.0	0.0	0.0	5.6	2.1	0.3	T	0.0	0.0	8.0
1987-88	0.0	0.0	0.0	0.0	T	0.0	12.1	0.0	0.0	0.0	0.0	0.0	12.1
1988-89	0.0	0.0	0.0	0.0	0.0	T	0.0	3.5	T	0.0	0.0	0.0	3.5
1989-90	0.0	0.0	0.0	0.0	T	0.6	0.0	0.0	T	T	0.0	0.0	0.6
1990-91	0.0	0.0	0.0	0.0	0.0	T	1.0	T	T	0.0	0.0	0.0	1.0
1991-92	0.0	0.0	0.0	0.0	T	0.0	T	0.0	0.0	0.0	0.0	0.0	T
1992-93	0.0	0.0	0.0	0.0	0.0	T	0.0	T	1.6	0.0	T	0.0	1.6
1993-94	0.0	0.0	0.0	0.0	0.0	2.6	T	T	0.0	0.0	0.0	0.0	2.6
1994-95	0.0	0.0	0.0	T	0.0	T	T	T	0.0	0.0	T	0.0	T
1995-96	0.0	0.0	0.0	0.0	0.0	0.0	3.0	T	T	0.0	0.0	0.0	3.0
1996-97	0.0	0.0	0.0	0.0	0.0	T	0.1	0.4	0.0	0.0	0.0	0.0	0.5
1997-98	0.0	0.0	0.0	0.0	0.0	2.9	1.5	0.0	0.5	T	0.0	T	4.9
1998-99	0.0	0.0	0.0	0.0	0.0	T	T	1.4	0.5	0.0	0.0	0.0	1.9
1999-	0.0	0.0	0.0	0.0	0.0	T							
POR= 59 YRS	0.0	0.0	0.0	T	0.1	0.5	2.0	1.6	1.2	0.0	T	0.0	5.4

WBAN : 13881

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>
---	---

1999
CHARLOTTE,
NORTH CAROLINA (CLT)

Charlotte is located in the Piedmont of the Carolinas, a transitional area of rolling country between the mountains to the west and the Coastal Plain to the east. The mountains are to the northwest about 80 miles from Charlotte. The general elevation of the area around Charlotte is about 730 feet. The Atlantic ocean is about 160 miles southeast.

The mountains have a moderating effect on winter temperatures, causing appreciable warming of cold air from the northwest winds. The ocean is too far away to have any immediate effect on summer temperatures but in winter an occasional general and sustained flow of air from the warm ocean waters results in considerable warming.

Charlotte enjoys a moderate climate, characterized by cool winters and quite warm summers. Temperatures fall as low as the freezing point on a little over one-half of the days in the winter months. Winter weather is changeable, with occasional cold periods, but extreme cold is rare. Snow is infrequent, and the first snowfall of the season usually comes in late November or December. Heavy snowfalls have occurred, but any appreciable accumulation of snow on the ground for more than a day or two is rare.

Summers are long and quite warm, with afternoon temperatures frequently in the low 90s. The growing season is also long, the average length of the freeze-free period being 216 days. On the average, the last occurrence in spring with a temperature of 32 degrees is early April. In the fall the average first occurrence of 32 degrees is early November.

Rainfall is generally rather evenly distributed throughout the year, the driest weather usually coming in the fall. Summer rainfall comes principally from thunderstorms with occasional dry spells of one to three weeks duration.

Hurricanes which strike the Carolina coast may produce heavy rain but seldom cause dangerous winds.

STATION LOCATION

CHARLOTTE, NORTH CAROLINA

LOCATION	OCCUPIED FROM	OCCUPIED TO	AIRLINE DISTANCES AND DIRECTIONS FROM PREVIOUS LOCATION	LATITUDE NORTH	LONGITUDE WEST	ELEVATION ABOVE											AUTOMATION	* Type	REMARKS
						SEA LEVEL	GROUND												
							G	W	E	P	S	T	R	W	8	H			
CITY - - NOTE: For period April 1, 1873 through March 31, 1918, refer to previous editions.	4/1/18	11/10/32	1100 ft. WNW	35° 14'	80° 51'	741	62	55	55										Moved back to Post Office Building.
20th Floor, 1st Nat'l Bank Building, 112 South Tryon Street	11/10/32	8/10/34	1100 ft. SE	35° 14'	80° 51'	762	267	244	244			236							Addition being made to Post Office.
Second Floor Post Office Building Mint & Trade Streets	8/10/34	4/30/51	1100 ft. NW	35° 14'	80° 51'	741	86	64	64			55							On 7/1/39 the full observational program was transferred to the Airport Station, with curtailed program including max. and min. temp., precipitation and wind movement records continued at City Office until 4/30/51.
AIRPORT																			
Cannon Airport Hangar	9/20/30	5/26/37	NA	35° 15'	80° 54'	788			5										2.5 miles WNW of P.O. Building.
Administration Building North end of field Douglas Municipal AP	5/26/37	4/5/39	3 mi. SW	35° 14'	80° 56'	753	85		5										New Municipal Airport established 5.9 miles W of P.O. Mercurial barometer installed.
CAA Administration Bldg Douglas Municipal AP	4/5/39	2/3/45	75 ft. W	35° 14'	80° 56'	753	85	5	5				5	3					
Administration Building North end of field Douglas Municipal AP	2/3/45	8/4/54	75 ft. E	35° 14'	80° 56'	753	85	5	5	a		4	5	3					a - Effective 4/26/51.
New Terminal Building Douglas Municipal AP	8/4/54	9/4/79	0.75 mi. SSW	35° 13'	80° 56'	725	59	21	20			4	4	NA	NA	NA			b - Remoted to field 11/17/60; c - Commissioned 1/1/61, 2250' NNE of original installation. d - Effective 1/1/61. e - Effective 8/1/61. f - Moved 100' SSE 9/12/65. g - Moved 180' NNE 12/3/65. h - Moved 155' NNE 12/3/65. i - Effective 12/3/65. j - Moved to roof 6/1/71. k - Moved to roof 9/28/78. m - Installed on roof 9/28/78. n - Not moved 9/4/79. p - Relocated 9/6/79. q - Moved approx. 300' W and type change 11/2/79. r - Relocated 12/17/79. t - Moved 10' NNW 10/25/82. u - Minor relocation 11/16-17/82. v - Minor relocation 10/16/82. w - Moved 225' NNW to field 3/17/86. x - Moved 4500' ESE, also Hygro type change 3/17/86.
5304 Morris Field Drive Douglas Municipal AP	9/4/79	11/17/82	1650 ft. E	35° 13'	80° 56'	736	n20	n34	n33	30	n31	28	n32	n4	NA	NA			
5304 Morris Field Drive Douglas International AP	11/17/82	07/01/98				u737	u33	r28	t28	v28	p27		p27	q5	u5	x5			
Douglas Int'l Airport	07/01/98	Present	NA	35°13'	80°57'	749											S		ASOS Commissioned 07/01/98

SUBSCRIPTION: Price and ordering information available through: National Climatic Data Center, Federal Building, Asheville, North Carolina 28801. INQUIRIES/COMMENTS CALL: (704) 271-4800

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

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE \$300
FORWARD AND ADDRESS CORRECTION

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