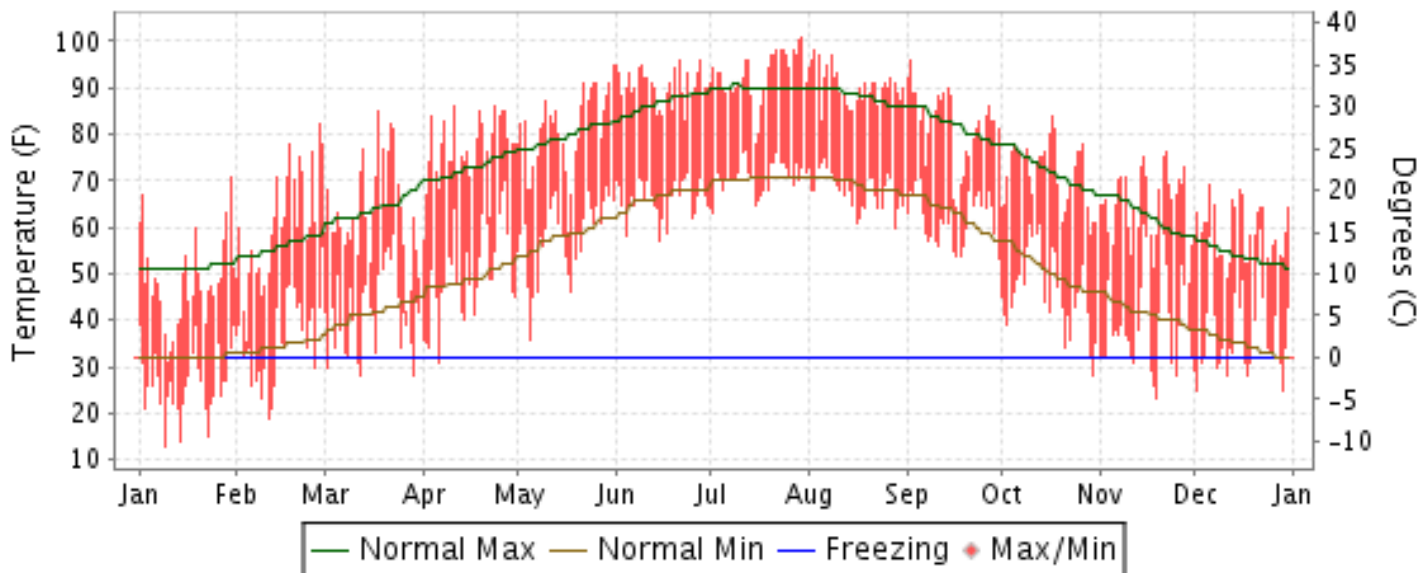




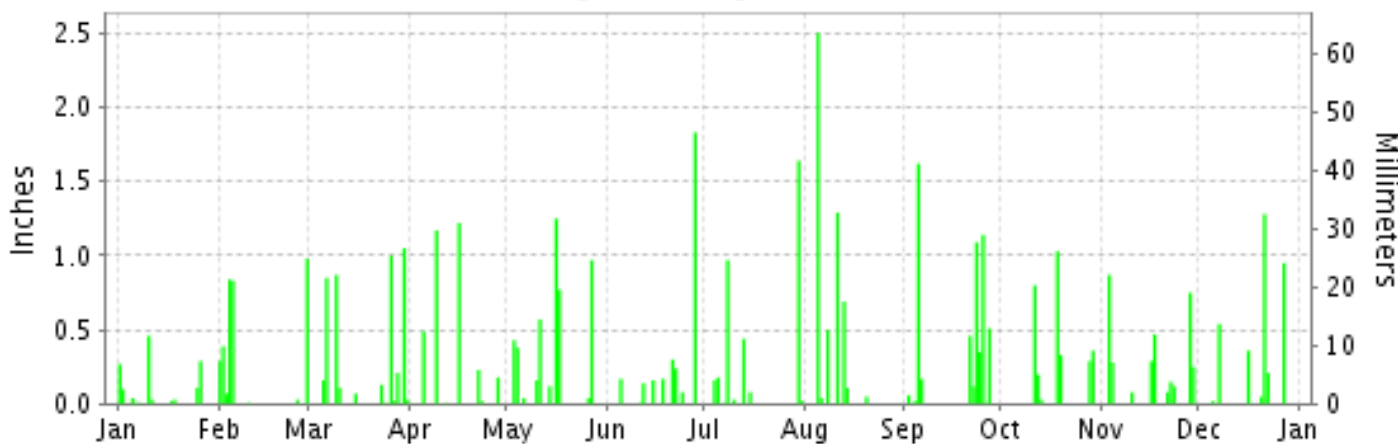
2011 LOCAL CLIMATOLOGICAL DATA ANNUAL SUMMARY WITH COMPARATIVE DATA

ISSN 0198-3733

CHARLOTTE, NORTH CAROLINA (KCLT) Daily Max/Min Temperature



Daily Precipitation



Daily Station Pressure



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.

NATIONAL
OCEANIC AND
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NATIONAL
ENVIRONMENTAL SATELLITE, DATA
AND INFORMATION SERVICE

NATIONAL
CLIMATIC DATA CENTER
ASHEVILLE, NORTH CAROLINA

Thomas R. Karl
DIRECTOR
NATIONAL CLIMATIC DATA CENTER

METEOROLOGICAL DATA FOR 2011

CHARLOTTE (KCLT)

LATITUDE: 35° 13'N LONGITUDE: -80° 57'W ELEVATION (FT): GRND: 728 BARO: 724 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	48.2	60.3	63.3	76.6	81.1	90.4	92.8	90.4	82.0	71.5	65.0	58.8	73.4	
	HIGHEST DAILY MAXIMUM	71	82	85	86	95	96	101	98	96	84	76	69	101	
	DATE OF OCCURRENCE	30	27	18	24+	31	28+	30	03	02	17	22	06	JUL 30	
	MEAN DAILY MINIMUM	26.5	35.8	41.7	50.0	58.3	66.3	70.7	68.1	62.0	46.1	39.2	37.0	50.1	
	LOWEST DAILY MINIMUM	13	19	28	31	36	57	63	60	53	28	23	25	13	
	DATE OF OCCURRENCE	09	11	29+	06	05	15	02	28	30	30	19	29+	JAN 09	
	AVERAGE DRY BULB	37.4	48.1	52.5	63.3	69.7	78.4	81.8	79.3	72.0	58.8	52.1	47.9	61.8	
	MEAN WET BULB	33.1	40.9	45.8	55.7	63.4	69.6	73.3	70.8	65.6	52.4	48.0	43.6	55.2	
	MEAN DEW POINT	25.1	30.3	37.5	48.6	59.0	65.1	69.5	66.5	62.1	46.5	42.4	37.8	49.2	
	NUMBER OF DAYS WITH:														
	MAXIMUM >= 90°	0	0	0	0	6	20	25	19	3	0	0	0	0	73
	MAXIMUM <= 32°	1	0	0	0	0	0	0	0	0	0	0	0	0	1
MINIMUM <= 32°	24	10	5	1	0	0	0	0	0	2	11	12	65		
MINIMUM <= 0°	0	0	0	0	0	0	0	0	0	0	0	0	0		
H/C	HEATING DEGREE DAYS	851	471	393	119	50	0	0	0	14	202	384	521	3005	
	COOLING DEGREE DAYS	0	2	12	76	205	407	528	448	229	16	5	0	1928	
RH	MEAN (PERCENT)	64	55	60	61	70	67	70	68	74	67	70	70	66	
	HOUR 01 LST	72	65	67	78	84	82	83	84	88	80	82	78	79	
	HOUR 07 LST	76	70	70	73	79	71	75	75	84	79	83	83	77	
	HOUR 13 LST	49	39	49	43	52	47	51	49	57	45	51	55	49	
	HOUR 19 LST	60	52	57	55	67	66	68	65	71	67	67	69	64	
S	PERCENT POSSIBLE SUNSHINE														
W/O	NUMBER OF DAYS WITH:														
	HEAVY FOG(VISBY <= 1/4 MI)	2	1	2	1	1	0	0	0	0	0	0	0	7	
	THUNDERSTORMS	0	2	2	3	6	11	8	7	5	0	0	0	44	
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.)	29.20	29.26	29.28	29.16	29.15	29.16	29.18	29.11	29.19	29.25	29.33	29.38	29.22	
	MEAN SEA-LEVEL PRESS. (IN.)	30.04	30.09	30.10	29.97	29.96	29.96	29.97	29.90	29.99	30.07	30.15	30.21	30.03	
WINDS	RESULTANT SPEED (MPH)	1.2	1.9	1.1	4.9	2.1	1.0	0.4	1.3	0.5	0.8	1.6	1.3	0.8	
	RES. DIR. (TENS OF DEGS.)	32	23	08	20	20	27	24	01	11	33	21	20	22	
	MEAN SPEED (MPH)	5.0	7.2	7.5	8.9	5.4	4.6	4.6	5.0	5.1	6.2	6.2	5.8	6.0	
	PREVAIL.DIR.(TENS OF DEGS.)	03	23	06	20	20	23	18	35	17	04	20	18	20	
	MAXIMUM 2-MINUTE WIND														
	SPEED (MPH)	22	30	28	37	49	36	32	41	35	28	24	29	49	
	DIR. (TENS OF DEGS.)	31	33	32	15	21	21	35	34	36	22	33	24	21	
	DATE OF OCCURRENCE	08	28	23	28	26	21	13	11	02	19	23	27	MAY 26	
	MAXIMUM 3-SECOND WIND:														
	SPEED (MPH)	30	43	40	66	67	44	47	58	46	36	33	41	67	
DIR. (TENS OF DEGS.)	29	32	33	28	21	21	33	35	35	20	33	25	21		
DATE OF OCCURRENCE	08	28	06	05	26	21	13	11	02	19	23	27	MAY 26		
PRECIPITATION	WATER EQUIVALENT:														
	TOTAL (IN.)	1.37	3.44	4.51	3.32	4.73	3.10	3.53	5.18	5.55	3.04	3.34	3.41	44.52	
	GREATEST 24-HOUR (IN.)	0.49	1.62	1.05	1.22	2.02	1.83	1.66	2.50	1.65	1.36	1.15	1.32	2.50	
	DATE OF OCCURRENCE	10-11	04-05	30	16	16-17	28	30-31	05	05-06	18-19	03-04	20-21	AUG 05	
	NUMBER OF DAYS WITH:														
	PRECIPITATION 0.01	11	8	12	7	10	9	9	7	11	7	10	7	108	
PRECIPITATION 0.10	5	5	8	5	8	7	5	5	8	6	8	5	75		
PRECIPITATION 1.00	0	0	2	2	1	1	1	2	3	1	0	1	14		
SNOWFALL	SNOW,ICE PELLETS,HAIL														
	TOTAL (IN.)	4.1	T	0.0	T	0.0	T	0.0	T	0.0	0.0	0.0	0.0	4.1	
	GREATEST 24-HOUR (IN.)	4.1	T	0.0	T	0.0	T	0.0	T	0.0	0.0	0.0	0.0	4.1	
	DATE OF OCCURRENCE	10	10+		09		09		11					JAN 10	
	MAXIMUM SNOW DEPTH (IN.)	3	T	0	0	0	0	0	0	0	0	0	0	3	
	DATE OF OCCURRENCE	12+	10											JAN 12+	
NUMBER OF DAYS WITH:															
SNOWFALL >= 1.0	1	0	0	0	0	0	0	0	0	0	0	0	1		

NORMALS, MEANS, AND EXTREMES CHARLOTTE (KCLT)

LATITUDE: 35° 13'N **LONGITUDE:** -80° 57'W **ELEVATION (FT):** GRND: 728 BARO: 724 **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	51.3	55.9	64.1	72.8	79.7	86.6	90.1	88.4	82.3	72.6	62.8	54.0	71.7	
	MEAN DAILY MAXIMUM	64	51.0	54.9	62.7	72.4	79.6	86.1	89.1	87.9	81.8	72.2	62.5	53.1	71.1	
	HIGHEST DAILY MAXIMUM	72	79	82	90	93	100	103	103	104	104	98	85	80	104	
	YEAR OF OCCURRENCE		2002	2011	1945	1960	1941	1954	1986	2007	1954	1954	1961	2007	AUG 2007	
	MEAN OF EXTREME MAXS.	64	69.8	72.3	80.4	86.8	90.4	94.9	96.6	95.9	91.9	85.0	77.8	70.2	84.3	
	NORMAL DAILY MINIMUM	30	32.1	34.4	41.6	49.1	58.2	66.5	70.6	69.3	63.0	50.9	41.8	34.9	51.0	
	MEAN DAILY MINIMUM	64	31.2	33.5	40.0	48.5	57.4	65.3	69.2	68.3	62.0	50.0	40.2	33.2	49.9	
	LOWEST DAILY MINIMUM	72	-5	5	4	21	32	45	53	50	39	24	11	2	-5	
	YEAR OF OCCURRENCE		1985	1958	1980	2007	1963	2000	1961	2004	1999	1962	1950	1962	JAN 1985	
	MEAN OF EXTREME MINS.	64	14.2	17.7	23.4	32.7	42.9	54.6	61.3	60.0	49.1	34.1	24.5	17.2	36.0	
	NORMAL DRY BULB	30	41.7	45.2	52.8	60.9	69.0	76.5	80.3	78.9	72.7	61.7	52.3	44.4	61.4	
	MEAN DRY BULB	64	41.1	44.2	51.4	60.5	68.5	75.9	79.2	78.2	71.9	61.1	51.3	43.2	60.5	
	MEAN WET BULB	28	35.0	37.3	43.6	51.1	60.0	67.3	70.4	69.9	64.1	54.1	45.2	37.4	53.0	
	MEAN DEW POINT	28	30.6	33.0	38.5	46.5	56.9	64.9	68.4	68.1	61.9	51.2	41.6	33.1	49.6	
	NORMAL NO. DAYS WITH: MAXIMUM >= 90	30	0.0	0.0	0.0	0.2	1.4	8.5	15.3	11.1	3.6	0.2	0.0	0.0	40.3	
	MAXIMUM <= 32	30	1.2	0.6	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	2.1	
MINIMUM <= 32	30	16.9	13.1	6.2	0.9	0.0	0.0	0.0	0.0	0.0	0.6	6.0	14.2	57.9		
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	739	571	401	179	36	1	0	0	16	164	400	655	3162	
	NORMAL COOLING DEG. DAYS	30	0	1	7	40	145	332	459	415	231	45	5	1	1681	
RH	NORMAL (PERCENT)	30	66	62	61	59	67	69	71	73	73	70	68	67	67	
	HOURLY 01 LST	30	72	68	68	68	78	80	82	84	84	80	76	73	76	
	HOURLY 07 LST	30	78	76	77	76	81	83	85	88	89	86	83	79	82	
	HOURLY 13 LST	30	56	51	49	46	52	54	56	57	58	53	53	56	53	
	HOURLY 19 LST	30	61	54	52	49	57	61	64	66	68	66	63	62	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)	48	3.7	2.4	2.3	1.2	1.0	0.8	1.1	1.2	1.6	1.6	2.8	3.8	23.5	
	THUNDERSTORMS	64	0.6	1.0	2.1	3.3	5.3	7.2	9.1	6.8	2.5	1.0	0.7	0.4	40.0	
CLOUDINESS	MEAN: SUNRISE-SUNSET (OKTAS)	49	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)	34	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)	28	29.30	29.27	29.24	29.19	29.20	29.20	29.22	29.23	29.25	29.29	29.31	29.32	29.25	
	MEAN SEA-LEVEL PRES. (IN)	28	30.13	30.10	30.06	30.00	30.01	29.99	30.02	30.03	30.06	30.10	30.13	30.15	30.07	
WINDS	MEAN SPEED (MPH)	28	6.7	7.1	7.8	7.6	6.8	6.1	5.7	5.4	6.1	5.6	6.0	6.2	6.4	
	PREVAIL.DIR.(TENS OF DEGS)	39	21	19	19	19	19	19	19	19	01	01	01	02	19	
	MAXIMUM 2-MINUTE: SPEED (MPH)	13	37	33	41	37	49	37	41	43	35	28	31	38	49	
	DIR. (TENS OF DEGS)		25	32	32	15	21	26	02	31	36	22	18	16	21	
	YEAR OF OCCURRENCE		2009	2001	2004	2011	2011	2008	2006	2000	2011	2011	2006	2000	MAY 2011	
	MAXIMUM 3-SECOND SPEED (MPH)	13	48	45	54	66	67	46	55	62	46	36	45	53	67	
	DIR. (TENS OF DEGS)		25	23	31	28	21	25	01	30	35	20	20	16	21	
	YEAR OF OCCURRENCE		2009	2009	2004	2011	2011	2008	2006	2003	2011	2011	2003	2000	MAY 2011	
PRECIPITATION	NORMAL (IN)	30	4.00	3.55	4.39	2.95	3.66	3.42	3.79	3.72	3.83	3.66	3.36	3.18	43.51	
	MAXIMUM MONTHLY (IN)	72	7.44	7.59	8.76	8.25	12.48	8.26	9.12	10.35	10.89	14.72	8.68	7.49	14.72	
	YEAR OF OCCURRENCE		1962	1979	1980	2003	1975	1961	1941	2003	1945	1990	1985	1983	OCT 1990	
	MINIMUM MONTHLY (IN)	72	0.45	0.74	0.58	0.30	0.11	0.15	0.53	0.41	0.02	T	0.46	0.43	0.02	
	YEAR OF OCCURRENCE		1981	1978	1985	1976	1941	1993	1983	2007	1954	1953	1973	1965	SEP 1954	
	MAXIMUM IN 24 HOURS (IN)	72	3.57	2.92	3.83	3.20	4.53	3.77	4.14	8.19	4.74	5.46	3.27	2.87	8.19	
	YEAR OF OCCURRENCE		1962	1973	1977	1962	2003	1949	2004	2008	1959	1990	1985	1972	AUG 2008	
	NORMAL NO. DAYS WITH: PRECIPITATION >= 0.01	30	11.0	9.3	10.6	8.6	10.1	10.2	11.0	9.4	7.9	6.6	8.6	9.9	113.2	
	PRECIPITATION >= 1.00	30	0.9	1.0	1.0	0.6	0.9	0.9	0.8	1.0	1.1	1.3	0.9	0.8	11.2	
SNOWFALL	NORMAL (IN)	30	1.7	1.6	1.2	0.*	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.6	5.2	
	MAXIMUM MONTHLY (IN)	72	12.1	14.9	19.3	0.1	T	T	T	T	T	T	T	2.5	7.5	19.3
	YEAR OF OCCURRENCE		1988	1979	1960	1982	2009	2011	2011	2011	2011	1994	1968	1971	MAR 1960	
	MAXIMUM IN 24 HOURS (IN)	72	12.1	12.0	10.3	0.1	T	T	0.0	T	0.0	T	2.5	7.5	12.1	
	YEAR OF OCCURRENCE		1988	1969	1983	1982	2009	2011	2011	2011	2011	1994	1968	1971	JAN 1988	
	MAXIMUM SNOW DEPTH (IN)	63	12	13	9	0	0	0	0	0	0	0	2	6	13	
	YEAR OF OCCURRENCE		1988	2004	1983								1968	1971	FEB 2004	
NORMAL NO. DAYS WITH: SNOWFALL >= 1.0	30	0.5	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.4		

PRECIPITATION (inches) 2011 CHARLOTTE (KCLT)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
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
2000	4.07	2.59	3.59	5.48	1.17	3.48	1.47	3.26	5.81	T	2.75	1.07	34.74
2001	1.87	2.19	5.68	1.18	2.65	1.90	2.24	0.64	4.31	0.78	0.83	1.96	26.23
2002	4.69	1.53	4.48	0.43	4.18	1.24	1.20	4.32	3.54	5.43	4.38	4.96	40.38
2003	1.96	3.61	7.06	8.25	10.69	5.06	8.29	10.35	2.69	1.43	0.84	2.40	62.63
2004	0.92	3.55	1.61	1.35	2.78	8.20	6.84	5.43	6.87	0.75	3.12	2.74	44.16
2005	1.66	2.95	5.27	3.00	2.42	8.23	3.05	1.97	0.36	4.66	3.06	5.25	41.88
2006	3.23	1.17	1.32	2.36	1.24	7.40	3.65	7.20	4.38	3.80	6.30	2.37	44.42
2007	3.38	2.77	4.40	4.12	0.60	2.57	2.04	0.41	1.07	2.54	0.47	4.24	28.61
2008	1.84	2.76	4.64	3.70	2.19	2.69	3.57	9.38	3.98	1.49	2.75	3.23	42.22
2009	2.52	2.21	5.40	2.30	7.28	4.74	4.69	1.66	1.67	3.58	5.08	7.01	48.14
2010	4.88	3.79	4.37	1.44	3.37	2.89	2.48	4.75	4.18	1.13	1.38	1.74	36.40
2011	1.37	3.44	4.51	3.32	4.73	3.10	3.53	5.18	5.55	3.04	3.34	3.41	44.52
POR= 64 YRS	3.57	3.53	4.42	3.13	3.45	3.66	3.81	4.10	3.43	3.08	3.05	3.30	42.53

WBAN : 13881

AVERAGE TEMPERATURE (°F) 2011 CHARLOTTE (KCLT)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
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
2000	39.8	46.6	55.1	57.1	69.4	75.9	76.9	76.5	69.1	60.6	48.8	35.2	59.3
2001	40.7	47.8	48.7	61.3	68.2	75.6	76.4	79.6	69.0	58.1	56.4	48.3	60.8
2002	43.1	44.3	51.7	64.3	65.9	76.2	80.6	78.0	73.3	61.7	48.4	40.9	60.7
2003	37.3	42.6	54.1	58.6	66.4	72.8	76.6	77.7	69.8	60.2	55.7	40.5	59.4
2004	39.7	40.0	53.8	59.5	72.1	75.1	77.9	74.7	71.1	63.1	53.2	42.0	60.2
2005	44.2	45.4	49.0	58.5	64.8	74.6	79.6	79.5	74.9	62.0	51.8	40.1	60.4
2006	47.0	43.5	51.7	63.1	65.8	74.6	78.2	78.8	69.9	57.8	51.7	47.4	60.8
2007	44.1	41.1	56.8	58.6	67.6	76.0	76.7	83.7	75.0	66.1	50.1	48.8	62.1
2008	40.6	46.7	52.3	58.7	67.2	79.0	78.5	77.6	71.5	58.3	46.6	46.9	60.3
2009	40.0	44.5	50.7	60.0	69.1	76.8	77.0	78.5	71.7	59.2	53.1	39.9	60.0
2010	37.6	38.4	50.9	62.7	71.5	80.3	82.0	80.9	75.4	61.7	50.9	34.8	60.6
2011	37.4	48.1	52.5	63.3	69.7	78.4	81.8	79.3	72.0	58.8	52.1	47.9	61.8
POR= 64 YRS	41.1	44.2	51.4	60.5	68.5	75.9	79.2	78.2	71.9	61.1	51.3	43.2	60.5

HEATING DEGREE DAYS (base 65°F) 2011 CHARLOTTE (KCLT)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
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
1999-00	5	0	30	202	321	658	773	529	309	236	13	4	3080
2000-01	0	0	43	153	483	916	748	474	499	174	14	0	3504
2001-02	0	0	42	232	258	512	668	575	410	110	88	0	2895
2002-03	0	0	0	174	489	740	850	621	336	197	33	1	3441
2003-04	0	0	18	156	298	751	778	717	349	197	27	0	3291
2004-05	0	0	7	93	360	706	643	543	489	197	64	2	3104
2005-06	0	0	0	163	394	764	551	594	416	110	75	1	3068
2006-07	0	0	22	235	396	538	640	662	272	222	45	0	3032
2007-08	0	0	0	94	441	501	753	524	390	201	25	0	2929
2008-09	0	0	5	225	544	552	772	569	444	176	43	0	3330
2009-10	0	0	11	199	348	769	843	737	431	112	16	0	3466
2010-11	0	0	3	128	415	929	851	471	393	119	50	0	3359
2011-	0	0	14	202	384	521							

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COOLING DEGREE DAYS (base 65°F) 2011 CHARLOTTE (KCLT)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
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
2000	0	0	8	6	156	338	380	365	174	23	4	0	1454
2001	0	0	0	70	119	327	360	461	174	26	8	0	1545
2002	0	0	4	95	122	344	491	411	254	78	2	0	1801
2003	0	0	8	11	84	242	365	401	171	16	27	0	1325
2004	1	0	9	41	254	310	406	307	195	40	13	0	1576
2005	2	0	0	9	62	296	457	456	305	76	2	0	1665
2006	0	0	12	59	107	294	416	435	175	20	3	0	1521
2007	0	0	22	38	132	336	371	587	303	137	0	5	1931
2008	0	0	3	17	98	428	428	397	209	23	0	0	1603
2009	0	0	9	32	176	361	380	425	216	27	0	0	1626
2010	0	0	0	50	225	466	535	499	319	36	0	0	2130
2011	0	2	12	76	205	407	528	448	229	16	5	0	1928

SNOWFALL (inches) 2011 CHARLOTTE (KCLT)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
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
1999-00	0.0	0.0	0.0	0.0	0.0	T	9.2	0.0	0.0	0.0	T	0.0	9.2
2000-01	0.0	0.0	0.0	0.0	2.5	0.2	T	0.0	T	0.0	0.0	0.0	2.7
2001-02	0.0	0.0	0.0	0.0	0.0	0.0	4.4	0.0	0.0	0.0	0.0	0.0	4.4
2002-03	0.0	0.0	0.0	0.0	0.0	T	9.5	0.6	0.0	0.0	T	0.0	10.1
2003-04	0.0	0.0	0.0	0.0	0.0	T	1.3	13.2	0.0	0.0	0.0	0.0	14.5
2004-05	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	T	0.0	0.0	0.0	0.8
2005-06	0.0	0.0	0.0	0.0	0.0	T	0.0	T	T	0.0	T	0.0	T
2006-07	0.0	0.0	0.0	0.0	T	0.0	T	1.0	0.0	0.0	0.0	0.0	1.0
2007-08	0.0	0.0	0.0	0.0	0.0	T	1.4	0.0	0.0	0.0	0.0	0.0	1.4
2008-09	0.0	0.0	0.0	0.0	0.0	0.0	T	T	4.0	0.0	T	0.0	4.0
2009-10	0.0	T	0.0	0.0	0.0	T	2.7	2.8	0.4	0.0	0.0	0.0	5.9
2010-11	0.0	0.0	0.0	0.0	0.0	2.0	4.1	T	0.0	T	0.0	T	6.1
2011-	0.0	T	0.0	0.0	0.0	0.0							
POR= 64 YRS	0.0	T	0.0	T	0.1	0.5	2.1	1.7	1.0	T	T	T	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 (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. 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.</p>	<p>GENERAL CONTINUED: 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. 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. STATION HISTORY STOPPED WITH THE 2009 ANNUAL. IF YOU NEED HISTORY GO TO "MULTI-NETWORK MEDADATA SYSTEM", URL IS: https://mi3.ncdc.noaa.gov/mi3qry/login.cfm SNOWFALL STOPPED MONTH & YEAR INDICATED ABOVE. NO FURTHER YEARS INCLUDED UNLESS RESTARTED.</p> <p>NOTE: The "Period of Record:(POR) for all "averages" is based on the "Summary of the Day First Order Station" and "Cooperative Summary of the Day" archives.</p>
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2011 CHARLOTTE NORTH CAROLINA (KCLT)

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 History

CHARLOTTE, NC

NAME	Begin Date	End Date	Latitude	Longitude	Elevation Feet	Relocation	Platform
CHARLOTTE DOUGLAS MUNICIPAL AP	1954-01-01	1969-01-01	35° 13'	-80° 55'	737		AIRWAYS, COOP
CHARLOTTE DOUGLAS MUNICIPAL AP	1937-05-26	1948-09-01	35° 13'	-80° 55'			AIRWAYS
CHARLOTTE DOUGLAS INTL AP	2007-05-15	Present	35° 13'	-80° 57'	728		ASOS, COOP
CHARLOTTE DOUGLAS MUNICIPAL AP	1948-09-01	1954-01-01	35° 13'	-80° 55'	768		AIRWAYS, COOP
CHARLOTTE DOUGLAS INTL AP	1998-07-01	2007-05-15	35° 13'	-80° 57'	728		ASOS, COOP
CHARLOTTE DOUGLAS MUNICIPAL AP	1969-01-01	1981-12-31	35° 13'	-80° 55'	737		COOP, WXSVC
CHARLOTTE DOUGLAS MUNICIPAL AP	1982-01-01	1982-11-01	35° 13'	-80° 55'	720		COOP
CHARLOTTE CANNON AP	1930-09-01	1937-01-01	35° 13'	-80° 54'			AIRWAYS
CHARLOTTE CANNON AP	1937-01-01	1937-05-26	35° 13'	-80° 55'			AIRWAYS
CHARLOTTE DOUGLAS MUNICIPAL AP	1981-12-31	1982-01-01	35° 13'	-80° 55'	737		COOP
CHARLOTTE DOUGLAS INTL AP	1982-11-01	1998-07-01	35° 13'	-80° 55'	720		COOP

Element History

Element	Begin Date	End Date	Frequency	Time Of Observation	Equipment *	Equipment * Modifications	Equipment Exposure
TEMP	1979-09-01	1989-01-01	DAILY	2400			
PRECIP	2007-05-15	Present	HOURLY	2400	TB	RCRD	
PRECIP	1995-07-01	1998-07-01	HOURLY	2400	UNIV	RCRD	
TEMP	1995-07-01	1998-07-01	DAILY		HYGR		
PRECIP	1998-07-01	2007-05-15	HOURLY	2400	TB	RCRD	
PRECIP	1998-07-01	2007-05-15	DAILY	2400	TB	RCRD	
PRECIP	1989-01-01	1995-07-01	DAILY		SRG		
TEMP	1930-09-01	1979-09-01	DAILY	2400			
PRECIP	1979-09-01	1989-01-01	DAILY	2400	UNIV	RCRD	
TEMP	1998-07-01	2007-05-15	DAILY	2400	HYGR		
PRECIP	1979-09-01	1989-01-01	HOURLY	2400			
PRECIP	1989-01-01	1995-07-01	HOURLY	2400			
PRECIP	1995-07-01	1998-07-01	DAILY	2400	SRG		
TEMP	2007-05-15	Present	DAILY	2400	HYGR		
PRECIP	1930-09-01	1979-09-01	DAILY	2400	UNIV	RCRD	
TEMP	1989-01-01	1995-07-01	DAILY		HYGR		
PRECIP	2007-05-15	Present	DAILY	2400	PCPNX		

* For explanation of codes and abbreviations see Station Metadata link below.

Other Station Information can be found at:

ASOS Implementation by NWS: <http://www.nws.noaa.gov/ops2/Surface/asosimplementation.htm>

Station Metadata website: <http://www.ncdc.noaa.gov/homr>

INQUIRES/COMMENTS CALL: (828) 271-4800, option 2

Fax Number : (828) 271-4876

TDD : (828) 271-4010

Email : ncdc.info@noaa.gov

NOAA/National Climatic Data Center

Attn: User Engagement & Services Branch

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