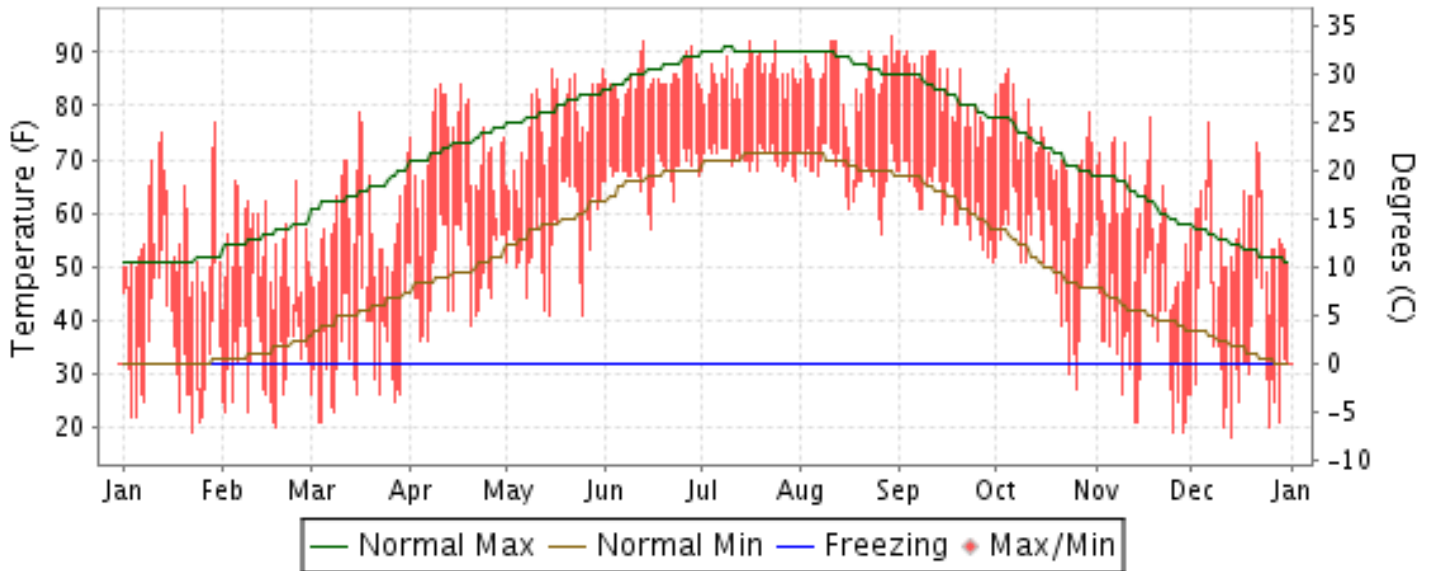




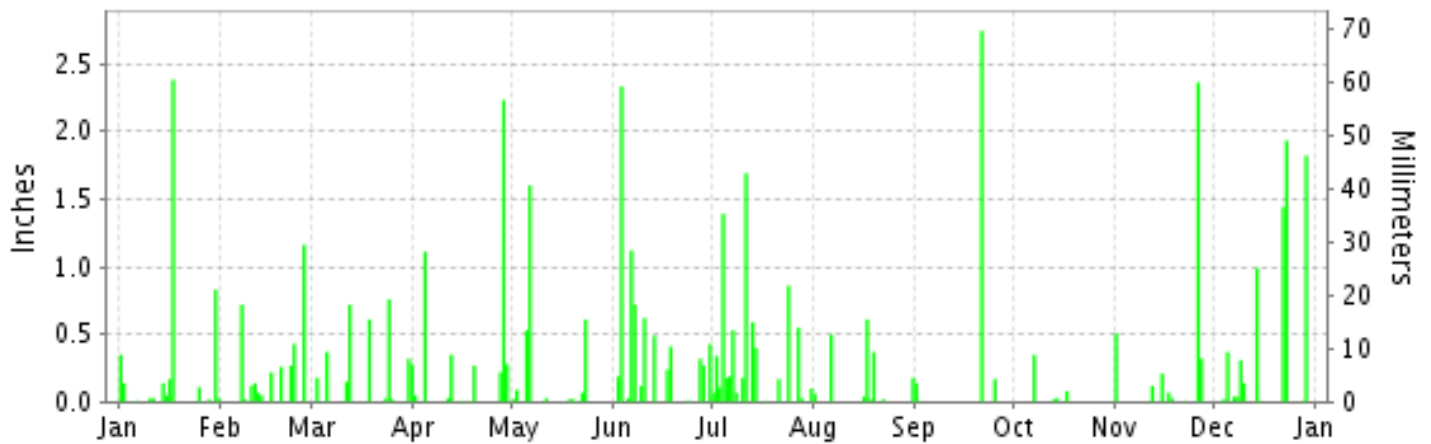
2013 LOCAL CLIMATOLOGICAL DATA ANNUAL SUMMARY WITH COMPARATIVE DATA

ISSN 0198-3733

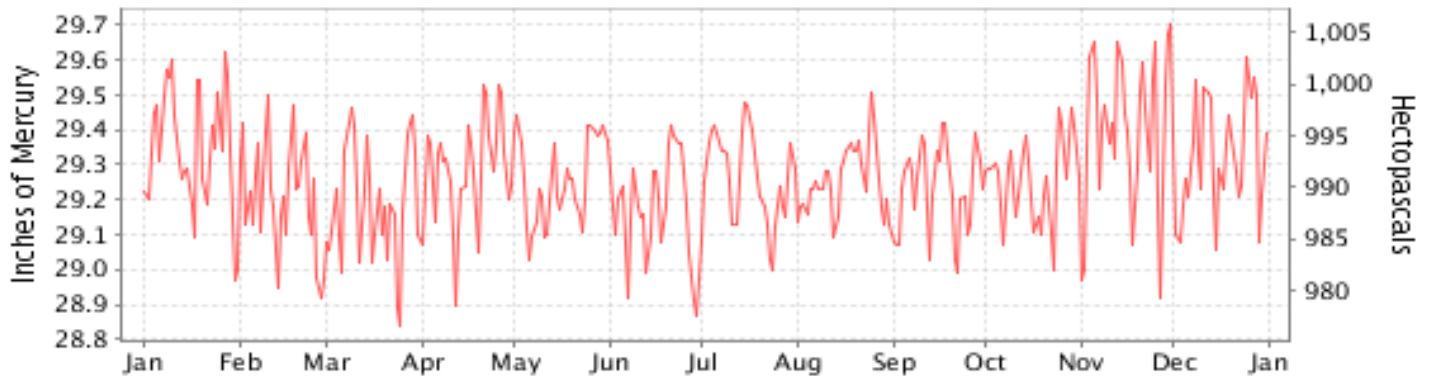
CHARLOTTE, NORTH CAROLINA (KCLT) Daily Max/Min Temperature



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 ATMOSPHERIC ADMINISTRATION

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 2013

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	55.4	53.4	58.1	72.4	77.0	85.2	86.0	85.0	82.9	73.4	59.6	57.4	70.5	
	HIGHEST DAILY MAXIMUM	77	66	79	84	87	92	92	93	90	87	78	77	93	
	DATE OF OCCURRENCE	30	24+	16	17+	31+	13	24+	29	12+	05	18	06	AUG 29	
	MEAN DAILY MINIMUM	34.7	32.0	34.0	49.1	55.9	67.4	70.3	67.4	61.6	51.5	35.7	35.5	49.6	
	LOWEST DAILY MINIMUM	19	20	21	36	41	57	66	56	51	27	19	18	18	
	DATE OF OCCURRENCE	23	18	04+	06+	25+	15	30	26	30	26	28+	13	DEC 13	
	AVERAGE DRY BULB	45.1	42.7	46.1	60.8	66.5	76.3	78.1	76.2	72.3	62.4	47.7	46.4	60.1	
	MEAN WET BULB	41.5	37.6	39.3	53.7	60.1	69.8	72.6	70.2	64.8	57.2	42.3	42.5	54.3	
	MEAN DEW POINT	35.4	29.0	28.9	46.5	55.1	67.0	70.6	67.4	60.4	52.9	34.0	36.4	48.6	
	NUMBER OF DAYS WITH:														
	MAXIMUM >= 90°	0	0	0	0	0	4	4	7	5	0	0	0	0	20
	MAXIMUM <= 32°	1	0	0	0	0	0	0	0	0	0	0	0	0	1
MINIMUM <= 32°	14	15	16	0	0	0	0	0	0	2	12	17	76		
MINIMUM <= 0°	0	0	0	0	0	0	0	0	0	0	0	0	0		
H/C	HEATING DEGREE DAYS	610	616	581	161	74	0	0	1	2	130	517	577	3269	
	COOLING DEGREE DAYS	0	0	3	40	126	347	416	356	228	60	1	8	1585	
RH	MEAN (PERCENT)	70	63	55	63	69	77	82	78	70	73	62	71	69	
	HOUR 01 LST	78	72	66	75	82	90	94	90	84	86	71	79	81	
	HOUR 07 LST	80	79	67	71	76	83	87	86	79	84	77	85	80	
	HOUR 13 LST	57	49	41	48	53	60	66	61	49	52	46	56	53	
	HOUR 19 LST	68	59	51	58	65	78	81	75	68	71	59	69	67	
W/O	NUMBER OF DAYS WITH:														
	HEAVY FOG(VISBY <= 1/4 MI)	4	1	1	1	0	0	1	1	0	1	3	2	15	
	THUNDERSTORMS	0	0	1	3	4	11	11	4	2	0	0	0	36	
PR	MEAN STATION PRESS. (IN.)	29.35	29.21	29.19	29.28	29.26	29.17	29.26	29.26	29.23	29.26	29.40	29.33	29.27	
	MEAN SEA-LEVEL PRESS. (IN.)	30.19	30.05	30.02	30.10	30.07	29.97	30.07	30.06	30.03	30.08	30.23	30.16	30.09	
WINDS	RESULTANT SPEED (MPH)	0.6	0.9	2.2	1.1	1.1	2.4	2.9	0.5	2.1	1.3	2.7	1.3	0.1	
	RES. DIR. (TENS OF DEGS.)	21	29	31	15	15	19	16	12	03	01	01	21	17	
	MEAN SPEED (MPH)	6.0	6.5	6.9	7.2	6.8	6.4	6.1	5.0	5.0	5.0	6.0	5.5	6.0	
	PREVAIL.DIR.(TENS OF DEGS.)	19	23	33	18	19	22	16	17	02	02	01	20	16	
	MAXIMUM 2-MINUTE WIND														
	SPEED (MPH)	33	24	25	29	24	26	29	28	24	23	26	23	33	
	DIR. (TENS OF DEGS.)	17	33	31	16	11	32	03	35	34	03	02	18	17	
	DATE OF OCCURRENCE	30	01	06	12	05	13	17	23	01	08	12	21	JAN 30	
	MAXIMUM 3-SECOND WIND:														
	SPEED (MPH)	45	37	37	36	33	41	37	36	35	29	36	38	45	
DIR. (TENS OF DEGS.)	16	32	31	21	11	28	02	33	32	07	03	29	16		
DATE OF OCCURRENCE	30	01	06	19	05	10	17	23	01	14	12	22	JAN 30		
PRECIPITATION	WATER EQUIVALENT:														
	TOTAL (IN.)	4.29	3.46	3.44	4.56	3.00	7.31	7.46	1.80	3.06	0.48	3.63	7.13	49.62	
	GREATEST 24-HOUR (IN.)	2.41	1.16	0.87	2.50	2.12	2.52	1.85	0.61	2.74	0.35	2.63	3.20	3.20	
	DATE OF OCCURRENCE	16-17	26	11-12	28-29	05-06	02-03	10-11	17	21	07	26-27	22-23	DEC 22-23	
	NUMBER OF DAYS WITH:														
PRECIPITATION 0.01	13	11	10	10	10	15	18	8	4	4	8	13	124		
PRECIPITATION 0.10	7	8	8	6	3	12	14	4	3	1	5	7	78		
PRECIPITATION 1.00	1	1	0	2	1	2	2	0	1	0	1	3	14		
SNOWFALL	SNOW,ICE PELLETS,HAIL	T	2.7	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	2.7	
	TOTAL (IN.)	T	2.7	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	2.7	
	GREATEST 24-HOUR (IN.)	25+	16	06+			13					12		FEB 16	
	DATE OF OCCURRENCE	0	3	0	0	0	0	0	0	0	0	0	0	3	
	MAXIMUM SNOW DEPTH (IN.)		17											FEB 17	
	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 (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	50.7	55.0	63.1	71.9	78.9	86.0	89.0	87.5	81.3	71.8	62.4	52.9	70.9
	MEAN DAILY MAXIMUM	66	51.1	54.9	62.8	72.4	79.6	86.1	89.1	87.8	81.8	72.2	62.4	53.3	71.1
	HIGHEST DAILY MAXIMUM	74	79	82	90	93	100	104	104	104	104	98	85	80	104
	YEAR OF OCCURRENCE		2002	2011	1945	1960	1941	2012	2012	2007	1954	1954	1961	2007	JUL 2012
	MEAN OF EXTREME MAXS.	66	69.9	72.2	80.4	86.8	90.3	95.0	96.6	95.8	91.9	85.0	77.7	70.4	84.3
	NORMAL DAILY MINIMUM	30	29.6	32.7	39.3	46.9	55.8	64.5	68.1	67.2	60.4	48.8	39.2	31.9	48.7
	MEAN DAILY MINIMUM	66	31.3	33.5	40.1	48.5	57.4	65.3	69.2	68.3	62.0	50.0	40.0	33.4	49.9
	LOWEST DAILY MINIMUM	74	-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.	66	14.3	17.8	23.4	32.7	43.0	54.7	61.5	59.9	49.1	34.0	24.4	17.2	36.0
	NORMAL DRY BULB	30	40.1	43.9	51.2	59.4	67.4	75.3	78.5	77.3	70.8	60.3	50.8	42.4	59.8
	MEAN DRY BULB	66	41.2	44.2	51.4	60.5	68.5	75.8	79.2	78.1	71.9	61.1	51.2	43.3	60.5
	MEAN WET BULB	30	34.9	37.1	43.2	50.9	59.9	67.1	70.4	69.7	63.8	53.9	44.4	37.4	52.7
	MEAN DEW POINT	30	31.2	33.1	39.1	47.0	57.3	65.1	68.7	68.2	62.0	51.5	41.7	33.8	49.9
	NORMAL NO. DAYS WITH: MAXIMUM >= 90	30	0.0	0.0	0.0	0.1	1.0	7.6	13.6	9.8	2.7	0.2	0.0	0.0	35.0
	MAXIMUM <= 32	30	0.9	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.4
MINIMUM <= 32	30	18.4	13.7	6.9	1.1	0.0	0.0	0.0	0.0	0.0	1.0	7.4	16.7	65.2	
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	770	592	433	200	53	3	0	0	23	183	430	701	3388
	NORMAL COOLING DEG. DAYS	30	0	0	5	32	126	311	420	383	198	38	4	1	1518
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(VISIBY <= 1/4 MI)	50	3.6	2.4	2.2	1.2	0.9	0.7	1.1	1.1	1.6	1.6	2.8	3.8	23.0
	THUNDERSTORMS	66	0.6	1.0	2.1	3.3	5.3	7.2	9.2	6.8	2.6	1.0	0.6	0.4	40.1
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)	30	29.30	29.27	29.24	29.19	29.21	29.20	29.22	29.23	29.25	29.28	29.31	29.32	29.25
	MEAN SEA-LEVEL PRES. (IN)	30	30.13	30.10	30.06	30.00	30.01	29.99	30.02	30.03	30.05	30.10	30.14	30.15	30.07
WINDS	MEAN SPEED (MPH)	30	6.7	7.1	7.7	7.6	6.7	6.1	5.7	5.4	6.0	5.6	6.0	6.2	6.4
	PREVAIL.DIR.(TENS OF DEGS)	41	21	19	19	19	19	19	19	19	01	01	01	21	19
	MAXIMUM 2-MINUTE: SPEED (MPH)	15	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)	15	48	45	54	66	67	46	55	62	46	38	45	53	67
	DIR. (TENS OF DEGS)		25	23	31	28	21	25	01	30	35	31	20	16	21
YEAR OF OCCURRENCE		2009	2009	2004	2011	2011	2008	2006	2003	2011	2012	2003	2000	MAY 2011	
PRECIPITATION	NORMAL (IN)	30	3.41	3.32	4.01	3.04	3.18	3.74	3.68	4.22	3.24	3.40	3.14	3.25	41.63
	MAXIMUM MONTHLY (IN)	74	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)	74	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)	74	3.57	2.92	3.83	3.20	4.53	3.77	4.14	8.19	4.74	5.46	3.27	3.20	8.19
	YEAR OF OCCURRENCE		1962	1973	1977	1962	2003	1949	2004	2008	1959	1990	1985	2013	AUG 2008
	NORMAL NO. DAYS WITH: PRECIPITATION >= 0.01	30	9.7	9.4	9.6	8.8	9.6	10.2	10.8	9.8	7.1	6.9	8.4	9.6	109.9
PRECIPITATION >= 1.00	30	0.9	0.8	1.0	0.6	0.8	1.1	0.8	1.3	0.9	1.1	0.8	0.9	11.0	
SNOWFALL	NORMAL (IN)	30	2.1	1.2	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	4.3
	MAXIMUM MONTHLY (IN)	74	12.1	14.9	19.3	0.1	T	T	0.0	T	0.0	T	2.5	7.5	19.3
	YEAR OF OCCURRENCE		1988	1979	1960	1982	2009	2011		2011		1994	1968	1971	MAR 1960
	MAXIMUM IN 24 HOURS (IN)	74	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		1994	1968	1971	JAN 1988
	MAXIMUM SNOW DEPTH (IN)	65	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	0.6	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.1	

PRECIPITATION (inches) 2013 CHARLOTTE (KCLT)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
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
2012	2.28	1.30	3.89	1.67	5.92	1.02	3.98	3.11	4.82	1.21	0.65	3.84	33.69
2013	4.29	3.46	3.44	4.56	3.00	7.31	7.46	1.80	3.06	0.48	3.63	7.13	49.62
POR= 66 YRS	3.56	3.50	4.40	3.13	3.48	3.68	3.87	4.05	3.45	3.01	3.03	3.36	42.52

WBAN : 13881

AVERAGE TEMPERATURE (°F) 2013 CHARLOTTE (KCLT)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
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
2012	44.7	46.9	61.3	61.2	71.5	74.7	82.3	77.1	71.4	60.3	48.0	48.9	62.4
2013	45.1	42.7	46.1	60.8	66.5	76.3	78.1	76.2	72.3	62.4	47.7	46.4	60.1
POR= 66 YRS	41.2	44.2	51.4	60.5	68.5	75.8	79.2	78.1	71.9	61.1	51.2	43.3	60.5

HEATING DEGREE DAYS (base 65°F) 2013 CHARLOTTE (KCLT)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
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
2011-12	0	0	14	202	384	521	623	518	168	156	11	0	2597
2012-13	0	0	6	176	504	493	610	616	581	161	74	0	3221
2013-	0	1	2	130	517	577							

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COOLING DEGREE DAYS (base 65°F) 2013 CHARLOTTE (KCLT)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
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
2012	0	0	60	47	222	298	542	381	205	35	0	0	1790
2013	0	0	3	40	126	347	416	356	228	60	1	8	1585

SNOWFALL (inches) 2013 CHARLOTTE (KCLT)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
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
2011-12	0.0	T	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	T
2012-13	0.0	0.0	0.0	0.0	0.0	0.0	T	2.7	T	0.0	0.0	0.0	2.7
2013-	0.0	0.0	0.0	0.0	T	0.0							
POR= 66 YRS	0.0	T	0.0	T	0.1	0.4	2.1	1.7	1.0	T	T	T	5.3

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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. 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 CLEAR INDICATES 0 - 2 OKTAS, PARTLY CLOUDY INDICATES 3 - 6 OKTAS, AND CLOUDY INDICATES 7 OR 8 OKTAS.</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</p>	<p>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 EIGHTHS(OKTAS) FOR REPORTING THE AMOUNT OF SKY COVER. STATION HISTORY STOPPED WITH THE 2009 ANNUAL. IF YOU NEED STATION HISTORY INFORMATION GO TO "Historical Observing Metadata Repository", URL IS: http://www.ncdc.noaa.gov/homr/ 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 "Summary of the Day First Order Station" and "Cooperative Summary of the Day" archives.</p>
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2013 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	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	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	1954-01-01	1969-01-01	35° 13'	-80° 55'	737		AIRWAYS, COOP
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	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	1930-09-01	1979-09-01	DAILY	2400	UNIV	RCRD	
TEMP	1989-01-01	1995-07-01	DAILY	2400	HYGR		
PRECIP	2007-05-15	Present	DAILY	2400	PCPNX		
TEMP	1979-09-01	1989-01-01	DAILY	2400			
PRECIP	2007-05-15	Present	HOURLY	2400	TB	RCRD	
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	1989-01-01	1995-07-01	DAILY	2400	SRG		
PRECIP	1998-07-01	2007-05-15	DAILY	2400	TB	RCRD	
PRECIP	1998-07-01	2007-05-15	HOURLY	2400	TB	RCRD	
PRECIP	1995-07-01	1998-07-01	HOURLY	2400	UNIV	RCRD	
TEMP	1995-07-01	1998-07-01	DAILY	2400	HYGR		
PRECIP	1979-09-01	1989-01-01	HOURLY	2400			

* 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.orders@noaa.gov

NOAA/National Climatic Data Center

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