

2003

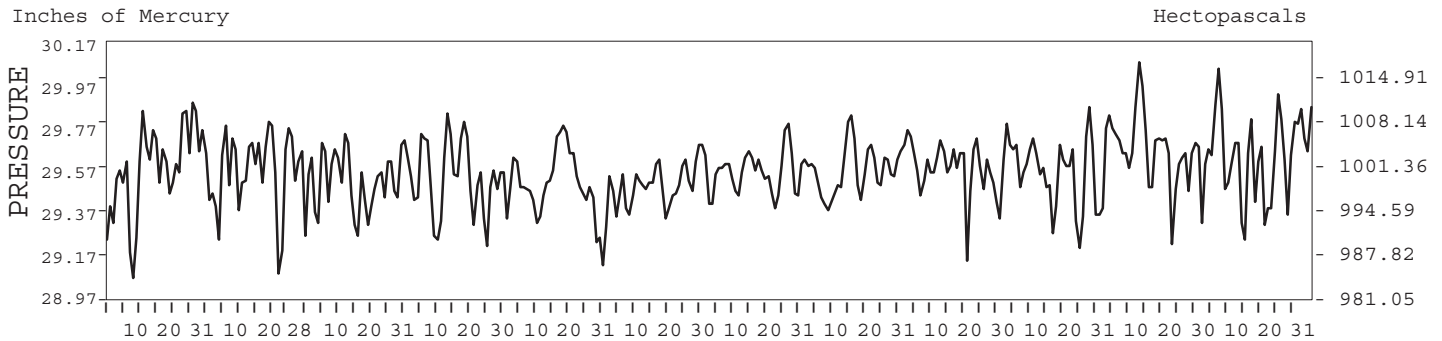
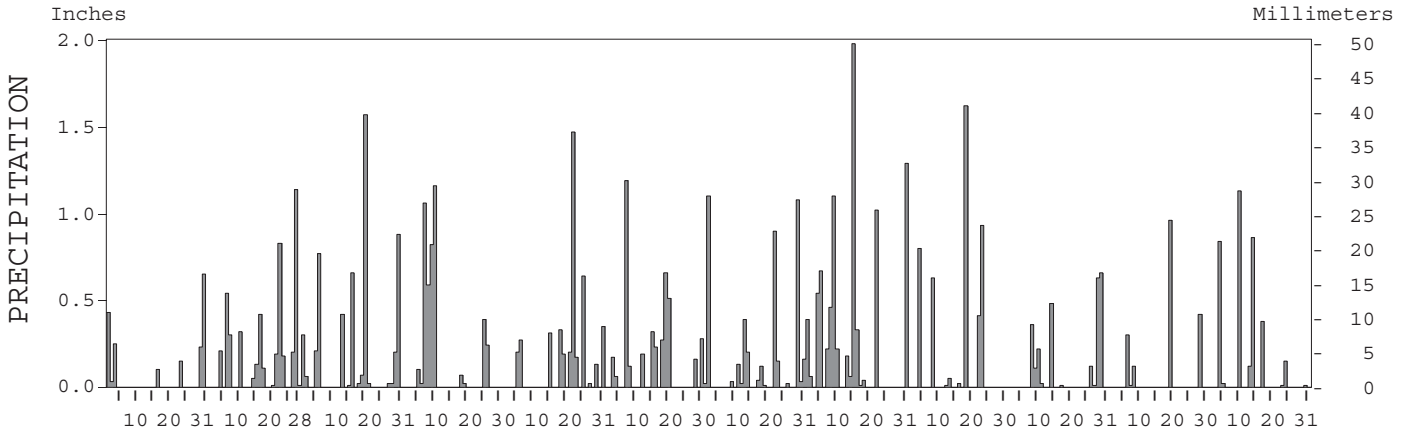
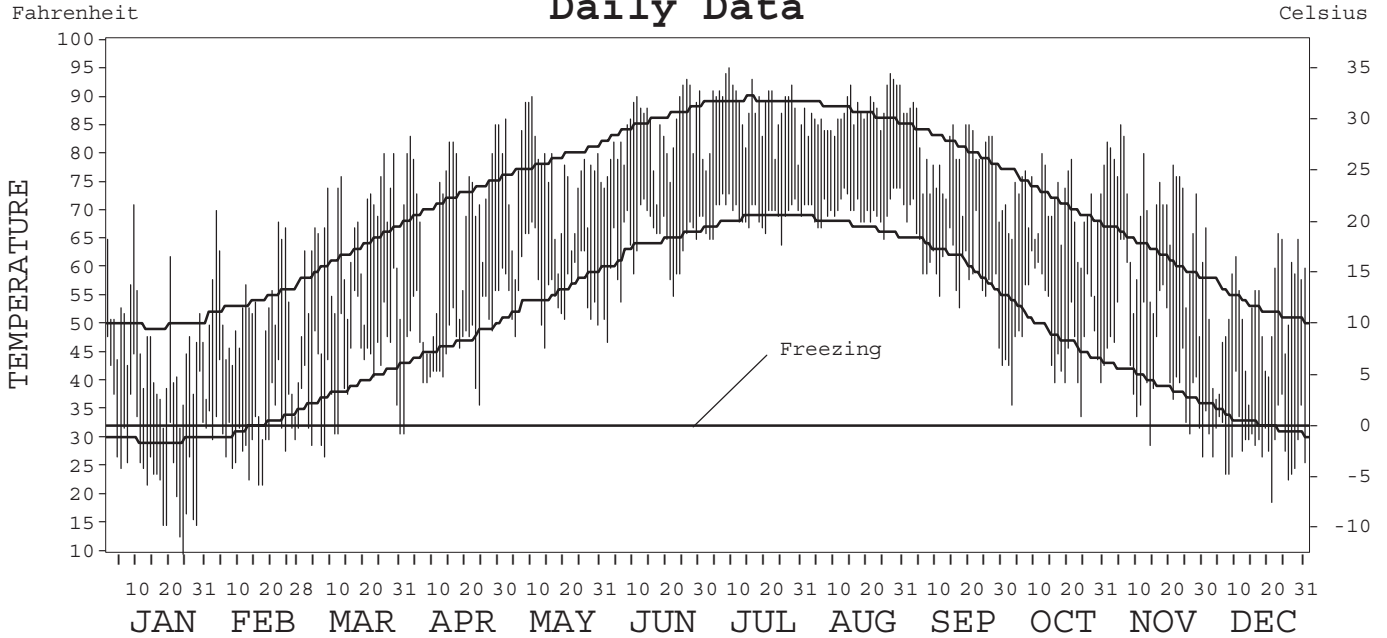
LOCAL CLIMATOLOGICAL DATA ANNUAL SUMMARY WITH COMPARATIVE DATA



ISSN 0198-3776

RALEIGH, NORTH CAROLINA (RDU)

Daily Data



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METEOROLOGICAL DATA FOR 2003

RALEIGH/DURHAM, NC (RDU)

LATITUDE: 35° 52' 14" N LONGITUDE: 78° 47' 11" W ELEVATION (FT): GRND: 427 BARO: 430 TIME ZONE: EASTERN (UTC + 5) WBAN: 13722

ELEMENT		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	
TEMPERATURE °F	MEAN DAILY MAXIMUM	46.3	50.9	64.2	69.5	75.5	83.8	87.4	87.5	79.4	70.5	69.0	52.2	69.7	
	HIGHEST DAILY MAXIMUM	71	70	80	85	90	93	95	94	89	80	85	67	95	
	DATE OF OCCURRENCE	09	03	29+	30+	10	26	09	27	03	12	05	01	JUL 09	
	MEAN DAILY MINIMUM	27.1	31.3	42.3	46.9	57.0	63.5	69.1	70.2	60.3	48.6	44.0	29.8	49.2	
	LOWEST DAILY MINIMUM	10	22	27	31	46	47	64	65	43	34	27	19	10	
	DATE OF OCCURRENCE	24	17+	08	01	14	02	25	25	30	24	30	21	JAN 24	
	AVERAGE DRY BULB	36.7	41.1	53.3	58.2	66.3	73.7	78.3	78.9	69.9	59.6	56.5	41.0	59.5	
	MEAN WET BULB	31.5	37.0	47.9	53.0	61.5	68.1	72.9	73.7	65.0	55.0	51.0	36.0	54.4	
	MEAN DEW POINT	21.4	30.5	42.5	48.3	58.4	64.9	70.9	72.0	62.3	51.2	45.3	28.2	49.7	
	NUMBER OF DAYS WITH:														
	MAXIMUM ≥ 90°	0	0	0	0	1	6	15	8	0	0	0	0	0	30
	MAXIMUM ≤ 32°	2	1	0	0	0	0	0	0	0	0	0	0	0	3
	MINIMUM ≤ 32°	22	19	7	1	0	0	0	0	0	0	4	23	76	
	MINIMUM ≤ 0°	0	0	0	0	0	0	0	0	0	0	0	0	0	
H/C	HEATING DEGREE DAYS	871	663	365	216	55	5	0	0	16	178	274	739	3382	
	COOLING DEGREE DAYS	0	0	7	19	101	274	419	436	171	16	24	0	1467	
RH	MEAN (PERCENT)	59	71	72	74	80	78	82	85	81	78	70	64	74	
	HOUR 01 LST	65	77	82	84	89	90	95	96	92	89	80	74	84	
	HOUR 07 LST	70	80	86	89	89	89	95	96	93	92	84	81	87	
	HOUR 13 LST	47	59	60	60	65	60	67	70	63	58	51	48	59	
	HOUR 19 LST	56	66	65	67	77	73	77	83	82	81	70	59	71	
S	PERCENT POSSIBLE SUNSHINE														
W/O	NUMBER OF DAYS WITH:														
	HEAVY FOG (VISBY ≤ 1/4 MI)	3	5	3	1	1	4	1	2	4	1	3	0	28	
	THUNDERSTORMS	0	1	3	2	3	2	11	13	1	0	0	0	36	
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.)	29.59	29.58	29.53	29.55	29.51	29.51	29.57	29.59	29.59	29.58	29.66	29.65	29.58	
	MEAN SEA-LEVEL PRESS. (IN.)	30.07	30.06	30.00	30.02	29.97	29.97	30.03	30.05	30.05	30.05	30.13	30.13	30.04	
WINDS	RESULTANT SPEED (MPH)	2.6	1.5	0.7	2.4	1.2	0.9	1.7	1.7	1.2	0.4	2.1	2.0	0.7	
	RES. DIR. (TENS OF DEGS.)	26	28	05	04	24	35	16	25	01	32	23	27	27	
	MEAN SPEED (MPH)	6.6	6.8	6.9	7.6	6.5	5.8	6.9	5.1	6.0	5.0	6.0	5.8	6.2	
	PREVAIL. DIR. (TENS OF DEGS.)	23	03	04	23	23	23	23	23	03	23	23	23	23	
	MAXIMUM 2-MINUTE WIND:														
	SPEED (MPH)	23	33	24	33	24	28	29	28	32	22	31	23	33	
	DIR. (TENS OF DEGS.)	23	23	23	05	27	22	15	25	23	24	24	23	05	
	DATE OF OCCURRENCE	20	23	26	10	12+	15	29	15	18	21	19	24	APR 10	
	MAXIMUM 5-SECOND WIND:														
	SPEED (MPH)	31	41	31	47	36	33	38	33	45	33	40	30	47	
DIR. (TENS OF DEGS.)	34	28	23	05	26	23	14	26	29	29	29	22	05		
DATE OF OCCURRENCE	06	23	26	10	12	15	29	15	18	14	13	24	APR 10		
PRECIPITATION	WATER EQUIVALENT:														
	TOTAL (IN.)	1.84	4.64	5.23	4.47	4.28	4.16	4.40	8.57	4.47	2.62	1.81	3.52	50.01	
	GREATEST 24-HOUR (IN.)	0.72	1.19	1.62	1.35	1.59	1.22	1.11	2.31	1.62	1.29	0.96	1.13	2.31	
	DATE OF OCCURRENCE	29-30	26-27	19-20	09-10	21-22	07-08	01-02	15-16	18	28-29	19	10	AUG 15-16	
	NUMBER OF DAYS WITH:														
PRECIPITATION ≥ 0.01	7	15	15	10	12	12	16	16	8	10	5	9	135		
PRECIPITATION ≥ 0.10	6	12	8	7	11	11	9	12	5	7	4	6	98		
PRECIPITATION ≥ 1.00	0	1	1	2	1	1	2	4	1	0	0	1	14		
SNOWFALL	SNOW, ICE PELLETS, HAIL:														
	TOTAL (IN.)	3.5	1.6	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	5.1	
	GREATEST 24-HOUR (IN.)	2.3	1.3	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	2.3	
	DATE OF OCCURRENCE	23	16	30									19+	JAN 23	
	MAXIMUM SNOW DEPTH (IN.)	1	2		0	0	0	0	0	0	0	0	0		
	DATE OF OCCURRENCE	24+	17												
NUMBER OF DAYS WITH:															
SNOWFALL ≥ 1.0	2	1	0	0	0	0	0	0	0	0	0	0	3		

NORMALS, MEANS, AND EXTREMES

RALEIGH, NC (RDU)

LATITUDE: 35° 52' 14" N LONGITUDE: 78° 47' 11" W ELEVATION (FT): GRND: 427 BARO: 430 TIME ZONE: EASTERN (UTC + 5) WBAN: 13722

ELEMENT		POR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	
TEMPERATURE °F	NORMAL DAILY MAXIMUM	30	49.8	54.0	62.5	71.8	78.7	85.5	89.1	87.2	81.3	71.8	62.4	53.3	70.6	
	MEAN DAILY MAXIMUM	56	50.5	53.9	61.7	72.0	78.9	85.7	88.7	87.4	81.3	71.9	62.5	53.0	70.6	
	HIGHEST DAILY MAXIMUM	59	80	84	92	95	97	104	105	105	104	98	88	80	105	
	YEAR OF OCCURRENCE		2002	1977	1945	1980	1953	1954	1954	1952	1988	1954	1954	1950	1998	AUG 1988
	MEAN OF EXTREME MAXS.	56	70.9	73.6	81.0	87.6	90.4	95.7	96.6	95.6	91.8	85.3	78.6	71.9	84.9	
	NORMAL DAILY MINIMUM	30	29.6	31.9	38.9	46.4	55.3	63.8	68.5	67.2	61.0	48.2	39.5	32.6	48.6	
	MEAN DAILY MINIMUM	56	29.8	31.8	38.2	46.7	55.4	63.6	68.0	66.9	60.5	48.2	38.9	32.0	48.3	
	LOWEST DAILY MINIMUM	59	-9	0	11	23	31	38	48	46	37	19	11	4	-9	
	YEAR OF OCCURRENCE		1985	1996	1980	1985	1977	1977	1975	1965	1983	1962	1970	1983		JAN 1985
	MEAN OF EXTREME MINS.	56	11.7	15.3	22.3	30.3	40.5	50.6	57.3	55.7	45.6	31.6	22.6	14.9	33.2	
	NORMAL DRY BULB	30	39.7	43.0	50.7	59.1	67.0	74.7	78.8	77.2	71.2	60.0	51.0	43.0	59.6	
	MEAN DRY BULB	56	40.0	43.0	50.1	59.3	67.2	74.6	78.5	77.1	71.0	60.0	50.7	42.5	59.5	
	MEAN WET BULB	19	36.0	39.2	44.7	52.3	60.6	68.2	68.5	67.2	61.7	55.1	46.5	36.3	53.0	
	MEAN DEW POINT	19	28.5	31.3	36.8	45.4	52.9	64.5	65.7	64.5	58.6	50.6	40.5	29.5	47.4	
	NORMAL NO. DAYS WITH:															
	MAXIMUM ≥ 90°	30	0.0	0.0	*	0.4	1.7	8.4	14.4	11.0	3.2	0.2	0.0	0.0	39.3	
	MAXIMUM ≤ 32°	30	1.9	0.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*	0.8	3.7	
MINIMUM ≤ 32°	30	19.1	15.8	8.8	2.1	*	0.0	0.0	0.0	0.0	1.2	8.8	16.9	72.7		
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	0.1		
H/C	NORMAL HEATING DEG. DAYS	30	783	627	456	214	61	5	0	1	20	194	425	679	3465	
	NORMAL COOLING DEG. DAYS	30	0	1	9	38	119	293	429	379	206	39	6	2	1521	
RH	NORMAL (PERCENT)	30	68	65	63	63	72	74	76	77	78	74	70	70	71	
	HOUR 01 LST	30	74	72	71	74	84	87	88	89	89	86	80	76	81	
	HOUR 07 LST	30	80	79	80	81	86	87	89	92	92	90	85	81	85	
	HOUR 13 LST	30	56	53	50	46	54	56	57	59	59	53	53	56	54	
	HOUR 19 LST	30	65	60	56	54	66	67	70	73	77	77	69	67	67	
S	PERCENT POSSIBLE SUNSHINE	42	52	56	60	63	59	60	60	58	58	60	57	53	58	
W/O	MEAN NO. DAYS WITH:															
	HEAVY FOG (VISBY ≤ 1/4 MI)	54	3.5	2.7	2.1	1.4	2.3	1.9	2.6	3.2	3.3	3.3	3.1	3.3	32.7	
	THUNDERSTORMS	59	0.4	0.9	2.1	3.5	6.0	7.1	10.4	7.8	3.3	1.4	0.8	0.3	44.0	
CLOUDINESS	MEAN:															
	SUNRISE-SUNSET (OKTAS)	47	5.0	4.7	4.7	4.4	4.7	4.6	4.8	4.7	4.7	3.9	4.2	4.6	4.6	
	MIDNIGHT-MIDNIGHT (OKTAS)	32	4.7	4.4	4.3	4.1	4.6	4.4	4.7	4.6	4.2	3.7	4.0	4.3	4.3	
	MEAN NO. DAYS WITH:															
CLEAR	48	9.0	8.7	9.4	9.6	8.2	7.6	7.2	7.3	9.5	12.8	11.3	10.0	110.6		
PARTLY CLOUDY	48	6.7	6.1	7.3	9.1	10.0	11.8	12.2	12.3	9.1	7.1	7.3	7.0	106.0		
CLOUDY	48	15.2	13.5	14.3	11.3	12.8	10.7	11.6	11.3	11.4	11.1	11.4	14.0	148.6		
PR	MEAN STATION PRESSURE (IN)	30	29.64	29.61	29.57	29.54	29.54	29.55	29.57	29.60	29.62	29.65	29.66	29.67	29.60	
	MEAN SEA-LEVEL PRES. (IN)	19	30.13	30.12	30.06	30.01	30.01	30.00	30.04	30.04	30.07	30.12	30.14	30.17	30.08	
WINDS	MEAN SPEED (MPH)	49	8.0	8.4	9.1	8.7	7.5	6.9	6.6	6.2	6.6	6.5	7.0	7.4	7.4	
	PREVAIL. DIR (TENS OF DEGS)	34	23	23	22	23	23	22	23	23	04	04	23	23	23	
	MAXIMUM 2-MINUTE:															
	SPEED (MPH)	7	38	45	46	33	41	31	37	36	40	23	32	40	46	
	DIR. (TENS OF DEGS)		28	23	24	05	23	24	06	24	03	22	23	22	24	
	YEAR OF OCCURRENCE		1999	1997	1999	2003	2002	2002	1997	2001	1999	2001	1999	2000	MAR 1999	
	MAXIMUM 5-SECOND:															
SPEED (MPH)	7	70	64	61	47	52	43	52	43	61	33	40	49	70		
DIR. (TENS OF DEGS)		24	23	23	05	22	22	05	03	25	29	29	20	24		
YEAR OF OCCURRENCE		1999	1997	1999	2003	2002	1998	1997	1998	1998	2003	2003	2000	JAN 1999		
PRECIPITATION	NORMAL (IN)	30	4.02	3.47	4.03	2.80	3.79	3.42	4.29	3.78	4.26	3.18	2.97	3.04	43.05	
	MAXIMUM MONTHLY (IN)	59	7.52	6.42	7.78	6.10	7.67	9.38	10.27	12.18	21.79	9.35	8.22	6.65	21.79	
	YEAR OF OCCURRENCE		1954	1989	1983	1978	1974	1973	1991	1986	1999	2002	1948	1983	SEP 1999	
	MINIMUM MONTHLY (IN)	59	0.87	0.69	1.03	0.23	0.58	0.33	0.80	0.81	0.23	0.44	0.50	0.25	0.23	
	YEAR OF OCCURRENCE		1981	1991	1985	1976	1999	1993	1953	1950	1985	2000	2001	1965	SEP 1985	
	MAXIMUM IN 24 HOURS (IN)	59	3.11	3.22	3.70	4.04	4.40	3.44	4.27	5.20	5.41	5.78	4.70	3.18	5.78	
	YEAR OF OCCURRENCE		1984	1973	1983	1978	1957	1967	1997	5020	1999	2002	1963	1958	OCT 2002	
	NORMAL NO. DAYS WITH:															
PRECIPITATION ≥ 0.01	30	10.5	9.5	10.2	9.1	10.1	9.8	11.2	9.6	8.2	6.8	8.4	9.7	113.1		
PRECIPITATION ≥ 1.00	30	1.3	1.0	0.9	0.6	0.8	0.8	1.0	1.1	1.3	1.1	0.7	0.6	11.2		
SNOWFALL	NORMAL (IN)	30	2.3	3.0	1.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.5	7.1	
	MAXIMUM MONTHLY (IN)	59	25.8	17.2	14.0	1.8	T	T	T	0.0	0.0	0.0	2.6	10.6	25.8	
	YEAR OF OCCURRENCE		2000	1979	1960	1983	1996	1996	1993				1975	1958	JAN 2000	
	MAXIMUM IN 24 HOURS (IN)	59	17.9	10.4	9.3	1.8	T	T	T	0.0	0.0	0.0	2.6	9.1	17.9	
	YEAR OF OCCURRENCE		2000	1979	1969	1983	1995	1996	1993				1975	1958	JAN 2000	
	MAXIMUM SNOW DEPTH (IN)	55	20	10	11	0	0	0	0	0	0	0	2	9	20	
	YEAR OF OCCURRENCE		2000	1979	1980								2000	1958	JAN 2000	
	NORMAL NO. DAYS WITH:															
SNOWFALL ≥ 1.0	30	0.6	0.7	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	1.8		

PRECIPITATION (inches) 2003 RALEIGH, NC (RDU)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1974	4.39	2.87	3.34	1.32	7.67	4.02	1.56	4.82	3.71	1.23	1.79	4.02	40.74
1975	6.09	2.85	6.26	1.64	3.84	1.66	6.74	2.11	5.77	1.23	4.60	4.04	46.83
1976	3.07	1.54	3.17	0.23	4.74	2.55	1.00	1.52	5.99	3.97	1.89	4.04	33.71
1977	2.82	2.13	5.63	1.89	3.94	0.84	0.89	4.12	3.86	5.06	2.22	3.70	37.10
1978	7.03	1.43	4.40	6.10	4.20	4.06	3.63	1.86	1.37	1.46	4.17	3.26	42.97
1979	5.71	5.55	2.69	2.63	4.71	3.27	4.84	1.66	6.76	1.88	4.73	0.94	45.37
1980	4.39	1.91	5.87	1.97	2.33	4.89	2.11	1.87	3.76	2.25	2.87	1.42	35.64
1981	0.87	3.02	2.35	1.03	4.28	0.55	5.69	5.34	2.70	4.64	0.95	4.96	36.38
1982	3.43	4.97	3.02	3.33	4.20	8.39	3.34	1.83	1.55	3.93	2.34	4.02	44.35
1983	1.79	6.00	7.78	3.54	5.89	3.09	1.10	1.81	2.13	3.59	3.86	6.65	47.23
1984	4.93	5.65	5.40	4.45	5.43	3.08	9.20	1.13	2.31	0.73	1.64	2.32	46.27
1985	4.83	4.44	1.03	0.64	3.95	2.87	6.28	3.73	0.23	1.75	7.61	0.81	38.17
1986	1.88	1.65	3.06	1.01	2.98	1.92	4.32	12.18	0.95	1.28	2.77	2.95	36.95
1987	6.53	5.52	2.88	4.68	1.19	2.11	1.78	5.80	5.48	1.71	1.39	3.02	42.09
1988	3.15	2.42	1.76	3.56	2.85	2.88	2.69	3.40	4.90	5.67	3.34	1.04	37.66
1989	1.35	6.42	5.40	4.91	3.88	7.30	5.46	5.08	3.96	3.44	3.94	3.01	54.15
1990	3.07	3.82	5.02	2.19	6.97	1.03	2.22	2.65	0.30	5.69	1.51	3.08	37.55
1991	4.12	0.69	4.59	1.04	2.89	2.05	10.27	1.87	3.16	1.40	0.73	2.65	35.46
1992	3.80	2.23	2.95	1.93	2.60	5.12	3.45	7.63	2.22	3.79	5.02	2.44	43.18
1993	4.50	2.22	6.13	4.84	3.32	0.33	2.11	1.77	3.50	2.95	2.66	3.72	38.05
1994	3.55	2.97	5.91	0.86	2.85	2.20	4.67	4.20	1.99	4.62	1.32	1.27	36.41
1995	4.50	4.52	2.49	1.32	3.91	7.75	3.29	2.70	2.46	9.10	4.67	1.88	48.59
1996	4.24	2.94	3.39	3.98	3.26	3.28	6.98	3.72	16.65	3.48	4.33	2.89	59.14
1997	3.13	2.83	3.41	4.75	2.21	3.83	6.51	1.01	3.07	3.26	4.05	2.75	40.81
1998	7.49	5.79	7.36	3.12	3.79	3.45	4.84	4.66	3.55	2.79	2.40	3.44	52.68
1999	5.77	1.96	3.69	3.53	0.58	1.16	3.00	3.20	21.79	2.45	1.20	2.31	50.64
2000	6.27	2.20	1.76	4.66	1.23	2.50	6.19	6.64	3.82	T	2.56	1.51	39.34
2001	1.30	2.34	7.11	1.72	3.53	4.54	4.13	4.88	0.86	1.86	0.50	2.01	34.78
2002	5.97	1.27	4.18	1.13	1.13	2.75	4.76	4.71	3.49	9.35	3.56	5.04	47.34
2003	1.84	4.64	5.23	4.47	4.28	4.16	4.40	8.57	4.47	2.62	1.81	3.52	50.01
POR= 117 YRS	3.55	3.62	3.84	3.21	3.80	4.03	5.06	4.89	3.78	2.95	2.62	3.20	44.55

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AVERAGE TEMPERATURE (°F) 2003 RALEIGH, NC (RDU)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1974	49.3	42.9	54.4	60.2	67.4	71.8	76.5	76.0	69.0	56.5	48.7	43.2	59.7
1975	43.8	43.7	47.1	55.8	68.2	73.7	75.6	78.3	71.1	62.2	53.5	42.0	59.6
1976	37.6	50.1	56.2	60.7	66.8	74.7	78.6	75.4	69.7	55.7	42.5	37.1	58.8
1977	26.6	39.3	53.3	62.6	68.4	73.3	80.6	78.1	72.8	56.4	51.8	39.9	58.6
1978	35.3	33.1	48.2	59.2	66.0	75.8	78.0	79.9	73.7	59.5	55.1	44.9	59.1
1979	39.1	36.5	52.2	59.7	66.8	69.8	75.4	77.2	71.2	59.9	52.0	43.4	58.6
1980	40.6	36.5	46.5	62.0	69.8	75.0	78.9	79.6	74.9	58.7	49.1	40.7	59.4
1981	33.4	43.9	46.2	61.7	64.0	78.9	80.8	74.6	68.3	57.2	50.7	39.7	58.3
1982	35.5	45.5	51.7	57.4	71.0	74.7	79.1	76.5	70.5	60.6	51.9	47.5	60.2
1983	38.1	40.7	50.7	55.1	65.4	72.5	79.1	79.1	70.7	60.4	50.9	39.5	58.5
1984	36.3	45.7	47.2	55.9	65.5	75.5	74.9	76.6	67.5	66.3	47.1	49.7	59.0
1985	34.0	41.9	52.7	62.0	67.3	73.9	76.8	75.2	69.7	63.7	58.4	39.4	59.6
1986	38.5	44.5	51.7	61.2	67.4	78.4	81.7	75.6	72.3	63.0	52.9	42.6	60.8
1987	38.3	40.4	49.2	56.9	69.3	76.3	81.2	79.2	73.0	54.6	52.8	44.5	59.6
1988	34.7	41.9	50.6	57.8	66.0	72.4	79.0	80.3	70.3	54.4	52.0	42.4	58.5
1989	44.8	42.9	50.7	58.0	65.0	77.0	78.1	76.2	71.7	61.3	51.4	34.6	59.3
1990	48.0	51.0	54.9	60.3	67.4	75.2	80.0	78.0	72.2	64.1	54.2	48.1	62.8
1991	41.9	46.8	54.3	62.3	72.3	75.8	80.6	77.8	71.6	61.1	50.0	47.0	61.8
1992	43.4	46.2	50.5	59.2	63.2	72.0	80.4	74.1	71.5	58.1	51.9	42.5	59.4
1993	43.3	40.9	47.9	56.9	69.0	76.1	82.5	78.2	73.7	59.6	51.8	40.3	60.0
1994	36.9	44.2	52.2	63.6	64.2	77.0	79.6	76.0	69.1	59.3	54.0	47.9	60.3
1995	42.9	41.0	52.7	61.0	68.5	73.8	80.4	80.6	70.5	63.4	47.1	39.5	60.1
1996	38.3	42.5	45.3	58.4	67.7	76.4	78.6	75.2	70.3	61.0	45.7	45.8	58.8
1997	41.3	46.7	54.6	55.2	63.9	71.5	79.5	76.6	70.9	59.6	47.3	40.9	59.0
1998	44.7	46.1	50.2	58.8	69.2	77.3	79.5	77.8	74.6	61.1	52.0	46.6	61.5
1999	45.7	45.7	47.5	61.5	66.8	74.5	81.3	80.0	69.1	58.6	54.4	43.9	60.8
2000	38.4	45.8	53.4	57.6	70.0	77.2	77.0	76.1	69.4	60.2	48.0	35.5	59.1
2001	41.6	47.2	49.1	60.8	68.0	76.9	76.2	79.6	69.0	59.4	55.8	47.6	60.9
2002	42.7	44.6	52.6	63.3	67.0	77.9	80.6	78.4	73.1	61.6	49.1	40.5	61.0
2003	36.7	41.1	53.3	58.2	66.3	73.7	78.3	78.9	69.9	59.6	56.5	41.0	59.5
POR= 117 YRS	41.1	42.9	50.4	59.3	67.9	75.2	77.7	76.4	71.6	60.7	50.9	42.7	59.7

HEATING DEGREE DAYS (base 65°F) 2003 RALEIGH, NC (RDU)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1974-75	0	0	44	268	501	668	651	589	553	293	34	0	3601
1975-76	0	0	17	117	351	705	843	426	300	194	52	6	3011
1976-77	0	0	7	302	668	857	1183	715	358	132	49	14	4285
1977-78	0	0	4	283	411	768	914	883	514	196	83	0	4056
1978-79	0	0	7	184	292	627	793	792	398	183	43	8	3327
1979-80	0	0	13	196	394	661	753	820	564	130	33	0	3564
1980-81	0	0	16	225	477	747	973	583	579	149	99	0	3848
1981-82	0	4	31	253	425	776	907	538	411	244	15	0	3604
1982-83	0	0	14	182	392	542	828	675	438	305	79	7	3462
1983-84	0	0	59	180	417	784	882	553	545	283	83	5	3791
1984-85	0	0	63	42	530	468	954	644	395	146	42	4	3288
1985-86	0	0	36	96	207	789	812	569	415	157	59	0	3140
1986-87	0	11	12	149	370	687	820	681	484	248	29	0	3491
1987-88	0	0	1	319	362	631	932	665	444	228	62	22	3666
1988-89	0	0	8	336	386	695	619	623	459	257	102	0	3485
1989-90	0	3	30	167	404	934	518	390	357	186	37	0	3026
1990-91	0	0	18	124	323	520	709	501	354	153	18	0	2720
1991-92	0	0	24	156	451	562	659	537	446	226	114	3	3178
1992-93	0	0	29	224	390	691	666	670	524	244	15	0	3453
1993-94	0	0	19	198	405	758	863	576	394	113	101	0	3427
1994-95	0	0	8	190	326	527	679	665	380	165	36	0	2976
1995-96	0	0	18	123	532	787	819	646	601	227	72	2	3827
1996-97	0	0	9	142	569	590	729	510	326	300	97	45	3317
1997-98	0	0	14	223	524	742	624	525	475	207	21	7	3362
1998-99	0	0	7	146	383	573	593	533	536	160	36	2	2969
1999-00	2	0	29	216	314	646	818	548	365	235	24	0	3197
2000-01	0	0	40	181	511	910	718	492	490	200	36	0	3578
2001-02	0	0	50	211	287	532	687	566	393	151	91	0	2968
2002-03	0	0	0	186	479	754	871	663	365	216	55	5	3594
2003-	0	0	16	178	274	739							

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COOLING DEGREE DAYS (base 65°F) 2003 RALEIGH, NC (RDU)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1974	0	0	25	51	130	210	363	347	169	9	21	0	1325
1975	0	0	3	22	141	269	337	421	209	38	12	0	1452
1976	0	3	31	71	116	304	428	330	157	19	0	0	1459
1977	0	2	4	68	162	272	490	414	245	25	19	0	1701
1978	0	0	2	30	120	330	412	468	275	21	3	10	1671
1979	0	0	6	28	105	159	332	384	205	46	10	0	1275
1980	0	0	0	45	190	306	441	460	321	38	6	0	1807
1981	0	0	2	56	75	425	497	309	139	19	0	0	1522
1982	0	0	3	24	208	299	443	363	183	53	5	7	1588
1983	0	0	0	16	97	238	441	447	239	42	0	0	1520
1984	0	0	0	16	108	324	311	366	143	90	0	0	1358
1985	0	3	20	65	121	277	373	323	181	64	14	0	1441
1986	0	0	7	51	142	408	526	349	237	96	15	0	1831
1987	0	0	0	11	170	347	508	447	250	0	2	0	1735
1988	0	3	5	17	98	249	438	482	172	14	3	0	1481
1989	0	11	23	54	110	367	412	359	237	59	4	0	1636
1990	0	3	49	51	117	312	472	410	239	102	4	5	1764
1991	0	0	28	78	253	333	493	403	230	40	9	13	1880
1992	0	0	3	58	65	218	487	285	228	15	3	0	1362
1993	0	0	0	12	147	338	550	417	286	34	17	0	1801
1994	0	0	6	78	86	367	462	350	139	21	3	1	1513
1995	3	0	3	53	154	270	486	490	191	81	3	0	1734
1996	0	0	0	35	164	352	427	324	176	26	0	0	1504
1997	1	3	14	11	68	249	451	368	199	64	0	0	1428
1998	3	0	23	29	158	382	457	401	302	32	0	12	1799
1999	3	0	0	64	100	292	513	474	161	24	0	0	1631
2000	0	0	9	19	185	374	380	351	176	38	8	0	1540
2001	0	0	3	83	137	364	356	461	176	46	17	2	1645
2002	4	0	15	104	160	391	489	422	253	86	6	0	1930
2003	0	0	7	19	101	274	419	436	171	16	24	0	1467

SNOWFALL (inches) 2003 RALEIGH, NC (RDU)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1974-75	0.0	0.0	0.0	0.0	0.0	T	T	T	0.6	0.0	0.0	0.0	0.6
1975-76	0.0	0.0	0.0	0.0	2.6	T	0.4	T	0.0	0.0	0.0	0.0	3.0
1976-77	0.0	0.0	0.0	0.0	T	T	2.1	1.5	0.0	0.0	0.0	0.0	3.6
1977-78	0.0	0.0	0.0	0.0	T	T	T	9.0	1.6	0.0	0.0	0.0	10.6
1978-79	0.0	0.0	0.0	0.0	0.0	0.0	0.4	17.2	T	0.0	0.0	0.0	17.6
1979-80	0.0	0.0	0.0	0.0	0.0	0.0	2.2	5.0	11.1	0.0	0.0	0.0	18.3
1980-81	0.0	0.0	0.0	0.0	0.0	3.1	2.6	0.0	T	0.0	0.0	0.0	5.7
1981-82	0.0	0.0	0.0	0.0	0.0	T	6.0	0.6	0.0	0.0	0.0	0.0	6.6
1982-83	0.0	0.0	0.0	0.0	0.0	T	T	2.7	7.3	1.8	0.0	0.0	11.8
1983-84	0.0	0.0	0.0	0.0	0.0	0.0	T	6.9	T	0.0	0.0	0.0	6.9
1984-85	0.0	0.0	0.0	0.0	0.0	0.0	4.1	T	0.0	0.0	0.0	0.0	4.1
1985-86	0.0	0.0	0.0	0.0	0.0	T	T	0.9	T	0.0	0.0	0.0	0.9
1986-87	0.0	0.0	0.0	0.0	T	0.0	0.6	10.2	T	T	0.0	0.0	10.8
1987-88	0.0	0.0	0.0	0.0	0.6	0.0	7.3	T	0.0	0.0	0.0	0.0	7.9
1988-89	0.0	0.0	0.0	0.0	0.0	0.1	0.0	11.1	0.5	0.3	0.0	0.0	12.0
1989-90	0.0	0.0	0.0	0.0	0.0	2.7	0.0	T	T	0.0	0.0	0.0	2.7
1990-91	0.0	0.0	0.0	0.0	0.0	T	T	T	T	0.0	0.0	0.0	T
1991-92	0.0	0.0	0.0	0.0	T	0.0	T	T	0.0	0.0	0.0	0.0	T
1992-93	0.0	0.0	0.0	0.0	0.0	T	T	1.6	0.9	0.0	0.0	0.0	2.5
1993-94	T	0.0	0.0	0.0	0.0	3.1	T	1.1	0.2	0.0	0.0	0.0	4.4
1994-95	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.4	T	0.0	T	0.0	2.2
1995-96	0.0	0.0	0.0	0.0	T	T	5.6	8.1	0.9	0.0	T	T	14.6
1996-97							0.4	T	0.0	0.0	T	T	
1997-98	0.0	0.0	0.0	0.0	0.0	0.4	2.0	0.0	T	0.0	0.0	T	2.4
1998-99	0.0	0.0	0.0	0.0	0.0	T	T	T	T	0.0	0.0	0.0	T
1999-00	0.0	0.0	0.0	0.0	0.0	T	25.8	0.0	0.0	0.0	0.0	T	25.8
2000-01	0.0	0.0	0.0	0.0	2.2	0.1	T	0.3	T	T	T	0.0	2.6
2001-02	0.0	0.0	0.0	0.0	0.0	0.0	10.8	T	0.0	0.0	0.0	0.0	10.8
2002-03	0.0	0.0	0.0	0.0	0.0	2.3	3.5	1.6	T	0.0	0.0	0.0	7.4
2003-	0.0	0.0	0.0	0.0	0.0	T							
POR= 58 YRS	T	0.0	0.0	0.0	0.1	0.8	2.7	2.5	1.3	0.0	T	T	7.4

WBAN : 13722

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.</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 EIGHTS(OKTAS) FOR REPORTING THE AMOUNT OF SKY COVER.</p>
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2003
RALEIGH,
NORTH CAROLINA (RDU)

The Raleigh-Durham Airport is located in the zone of transition between the Coastal Plain and the Piedmont Plateau. The surrounding terrain is rolling, with an average elevation of around 400 feet, the range over a 10-mile radius is roughly between 200 and 550 feet. Being centrally located between the mountains on the west and the coast on the south and east, the Raleigh-Durham area enjoys a favorable climate. The mountains form a partial barrier to cold air masses moving eastward from the interior of the nation. As a result, there are few days in the heart of the winter season when the temperature falls below 20 degrees. Tropical air is present over the eastern and central sections of North Carolina during much of the summer season, bringing warm temperatures and rather high humidities to the Raleigh-Durham area. Afternoon temperatures reach 90 degrees or higher on about one-fourth of the days in the middle of summer, but reach 100 degrees less than once per year. Even in the hottest weather, early morning temperatures almost always drop into the lower 70s.

Rainfall is well distributed throughout the year as a whole. July and August have the greatest amount of rainfall, and October and November the least. There are times in spring and summer when soil moisture is scanty. This usually results from too many days between rains rather than from a shortage of total rainfall, but occasionally the accumulated total during the growing season falls short of plant needs. Most summer rain is produced by thunderstorms, which may occasionally be accompanied by strong winds, intense rains, and hail. The Raleigh-Durham area is far enough from the coast so that the bad weather effects of coastal storms are reduced. While snow and sleet usually occur each year, excessive accumulations of snow are rare.

From September 1887 to December 1950, the office was located in the downtown areas of Raleigh. The various buildings occupied were within an area of three blocks. All thermometers were exposed on the roof, and this, plus the smoke over the city, had an effect on the temperature record of that period. Lowest temperatures at the city office were frequently from 2 to 5 degrees higher than those recorded in surrounding rural areas. Maximum temperatures in the city were generally a degree or two lower. These observations are supported by a period of simultaneous record from the Municipal Airport and the city office location between 1937 and 1940.

From September 1946 to May 1954, simultaneous records were kept at a surface location on the North Carolina State College campus in Raleigh, and at the Raleigh-Durham Airport 10 1/2 air miles to the northwest.

Based on the 1951-1980 period, the average first occurrence of 32 degrees Fahrenheit in the fall is October 27 and the average last occurrence in the spring is April 11.

STATION LOCATION

RALEIGH, NORTH CAROLINA

LOCATION	Occupied From	Occupied To	Airline Distances and Directions from previous Location	LATITUDE NORTH	LONGITUDE WEST	ELEVATION ABOVE										AUTOMATIC OBSERVING EQUIPMENT *	REMARKS
						GROUND											
						SEA LEVEL	GROUND	WIND	EXTREME	PSYCHROMETER	SUNSHINE	TIPPING GAUGE	WEIGHING	8 INCH	HYGROMETER		
*NOTE: <u>AIRPORT</u> Headquarters Building T206, Raleigh-Durham AP	5/17/44	5/16/54	10.5 mi. NW of PO	35°52'	78°47'	438	30 f32	7	6				5	4			Thermometers relocated in Weather Bureau standard instrument shelter 12/10/53. f. Effective 9/27/49. g. Airport and City offices consolidated 5/17/54. h. Effective 11/1/54. i. Effective 4/7/59. j. Effective 6/18/63. k. Commissioned 2000' E of thermometer site 11/1/64. l. Effective 11/1/64. m. Removed 8/13/68. n. Effective 8/19/68. p. Added 10/1/74.
Weather Bureau Bldg. Raleigh-Durham Airport	5/17/54	12/14/79	0.5 mi SSW	35°52'	78°47'	433 k434	26 i20	7 m	7 m	13 g18 h17	p4	4	4 n3	j4	NA		
Old Cargo Building Raleigh-Durham Airport	12/14/79	02/01/96	0.25mi. W	35°52'	78°47'	416	q20	5 u5	5 u5	31	3	4	4	q4 r4 t4	NA		q. Not moved 12/14/79. r. Type change 10/29/82. t. Type change 1/6/86. u. Minor move 07/1988.
Raleigh-Durham Airport	02/01/96	Present	NA	35°52'	78°47'	v427									S		ASOS Commissioned 02/01/96 v. Ground Elevation

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* NOTES: For earlier station history see previous edition.