

1998

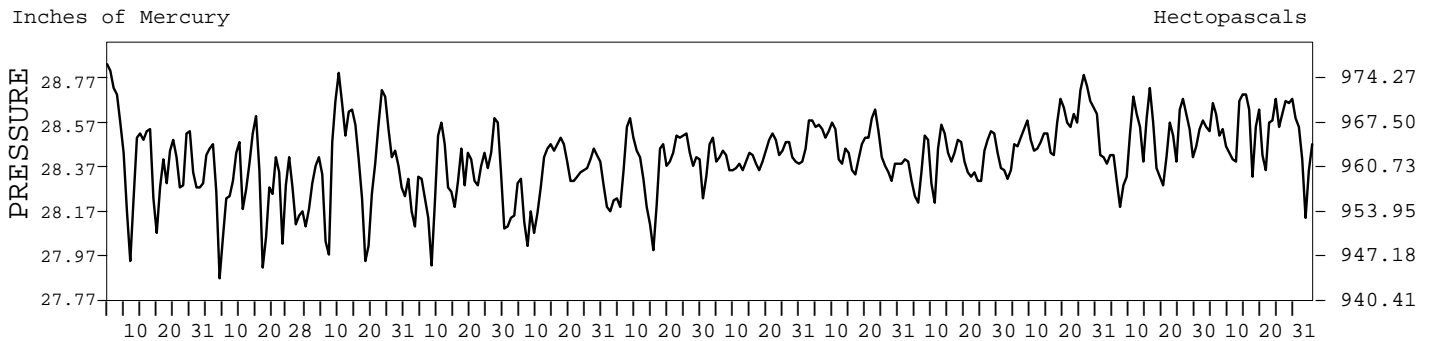
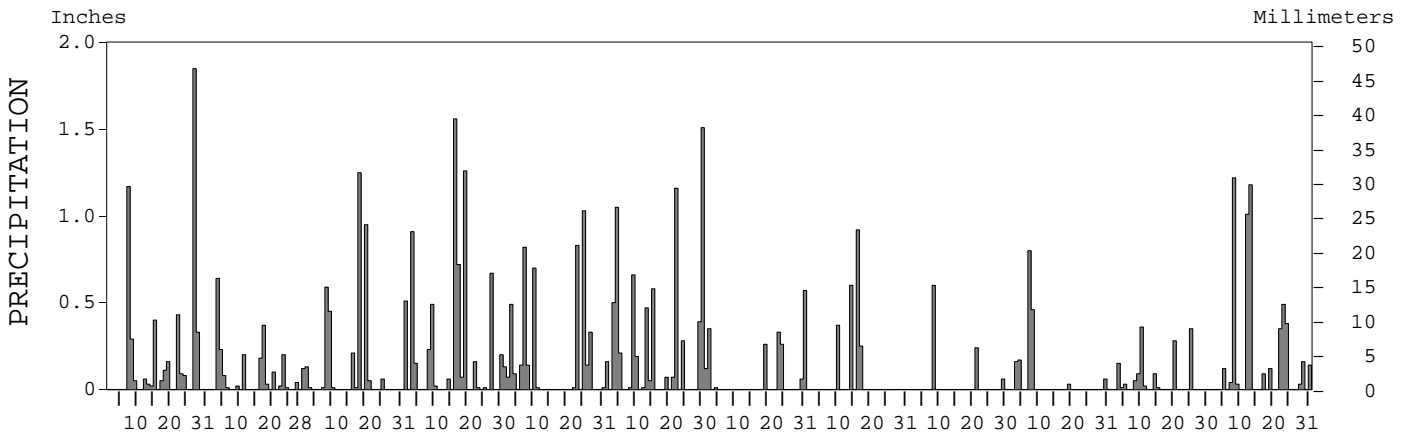
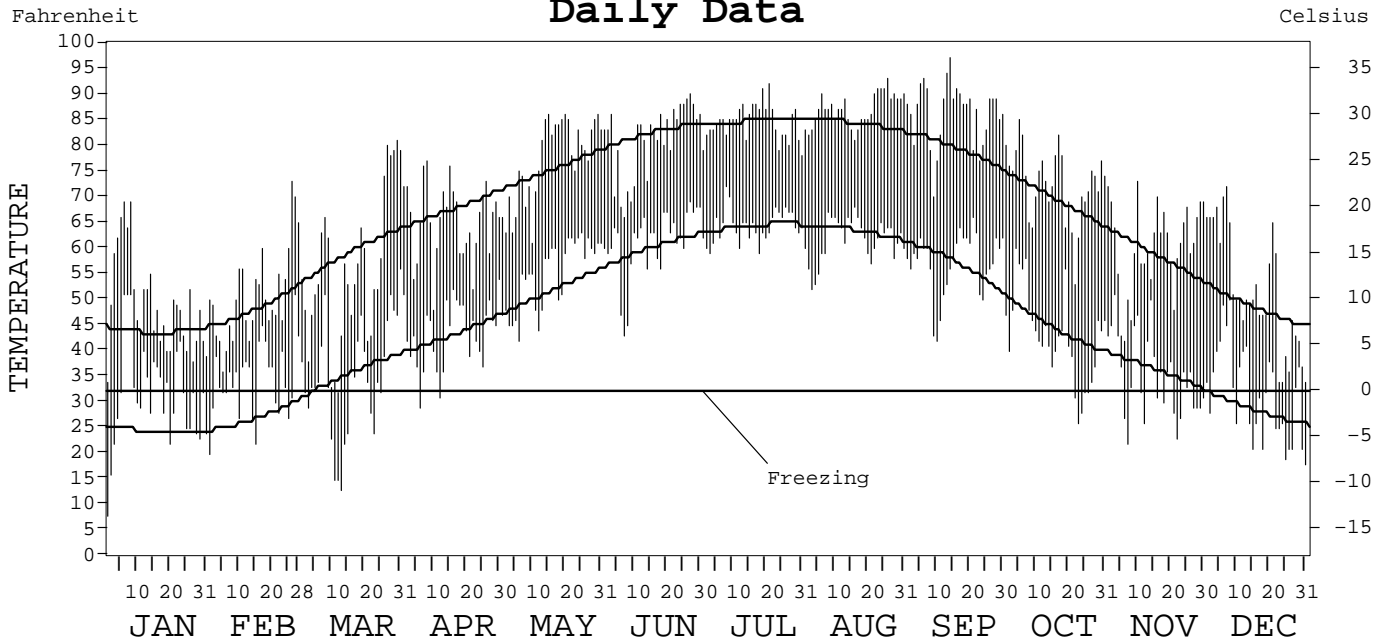
LOCAL CLIMATOLOGICAL DATA  
ANNUAL SUMMARY WITH COMPARATIVE DATA



BRISTOL, JOHNSON CITY, KINGSPORT,  
TENNESSEE (TRI)

ISSN 0198-4772

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 SATELLITE, DATA, AND INFORMATION SERVICE	NATIONAL CLIMATIC DATA CENTER ASHEVILLE, NORTH CAROLINA	DIRECTOR NATIONAL CLIMATIC DATA CENTER
---	---	---	---	---

# METEOROLOGICAL DATA FOR 1998

## BRISTOL-JHNSN CTY-KN, TN (TRI)

LATITUDE: 36° 28' 47" N      LONGITUDE: 82° 23' 56" W      ELEVATION (FT): GRND: 1507      BARO: 1558      TIME ZONE: EASTERN (UTC+ 5)      WBAN: 13877

ELEMENT		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	
TEMPERATURE °F	MEAN DAILY MAXIMUM	49.1	50.9	55.9	65.3	77.1	81.1	84.5	87.0	86.2	72.5	60.2	51.6	68.5	
	HIGHEST DAILY MAXIMUM	69	73	81	77	86	90	92	93	97	85	73	72	97	
	DATE OF OCCURRENCE	08+	26	30	08	30+	27	21	26	14	05	10	07	SEP 14	
	MEAN DAILY MINIMUM	31.4	34.4	34.7	43.3	54.8	61.1	64.3	61.6	57.0	42.9	35.1	31.5	46.0	
	LOWEST DAILY MINIMUM	8	20	13	29	42	43	59	52	42	26	22	18	8	
	DATE OF OCCURRENCE	01	01	13	06	06	07	18+	03	10	23	07	31	JAN 01	
	AVERAGE DRY BULB	40.3	42.7	45.3	54.3	66.0	71.1	74.4	74.3	71.6	57.7	47.7	41.6	57.3	
	MEAN WET BULB	37.8	39.3	40.9	49.8	61.5	66.8	69.2	67.2	63.4	51.7	43.4	38.8	52.5	
	MEAN DEW POINT	34.6	34.9	35.3	45.2	59.0	64.5	66.9	63.8	58.9	47.2	38.8	35.0	48.7	
	NUMBER OF DAYS WITH:														
	MAXIMUM ≥ 90°	0	0	0	0	0	1	2	8	7	0	0	0	18	
	MAXIMUM ≤ 32°	0	0	1	0	0	0	0	0	0	0	0	0	1	
	MINIMUM ≤ 32°	19	11	11	2	0	0	0	0	0	5	13	16	77	
MINIMUM ≤ 0°	0	0	0	0	0	0	0	0	0	0	0	0	0		
H/C	HEATING DEGREE DAYS	758	618	606	314	72	26	0	0	15	237	511	718	3875	
	COOLING DEGREE DAYS	0	0	3	0	111	215	297	295	219	16	0	0	1156	
RH	MEAN (PERCENT)	82	77	71	74	82	82	81	76	71	75	75	80	77	
	HOUR 01 LST	87	84	78	84	96	95	95	94	91	91	86	86	89	
	HOUR 07 LST	91	88	89	91	95	96	95	95	96	95	90	89	92	
	HOUR 13 LST	74	68	58	61	64	68	65	51	45	50	54	68	60	
	HOUR 19 LST	78	72	62	62	73	72	72	65	58	66	69	78	69	
S	PERCENT POSSIBLE SUNSHINE														
W/O	NUMBER OF DAYS WITH:														
	HEAVY FOG (VISBY ≤ 1/4 MI)	4	1	2	1	8	11	7	6	3	5	6	10	64	
	THUNDERSTORMS	1	1	1	8	8	15	7	1	2	0	1	0	45	
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.)	28.43	28.29	28.40	28.34	28.32	28.37	28.44	28.48	28.41	28.56	28.50	28.55	28.42	
	MEAN SEA-LEVEL PRESS. (IN.)	30.06		30.02	29.94	29.90	29.94		30.05		30.16	30.13	30.19		
WINDS	RESULTANT SPEED (MPH)	0.6	0.7	2.9	2.5	1.4		1.0	0.5	0.4	0.7	1.2			
	RES. DIR. (TENS OF DEGS.)	29	26	25	25	25		28	30	25	32	25			
	MEAN SPEED (MPH)	3.8	6.4	6.6	5.4	3.7	4.7	2.9	2.6	2.6	2.4	3.1	3.3	4.0	
	PREVAIL. DIR. (TENS OF DEGS.)	08	24	24	23	24	25	25	01	01	36	24	01	24	
	MAXIMUM 2-MINUTE WIND:														
	SPEED (MPH)	26	31	39	36	30	39	36	25	25	24	33	23	39	
	DIR. (TENS OF DEGS.)	19	25	26	23	24	31	01	31	27	24	30	30	31	
	DATE OF OCCURRENCE	08	12	09	09	01	22	19	10	08	28	25	30	JUN 22	
	MAXIMUM 5-SECOND WIND:														
	SPEED (MPH)	33	38	46	45	36	47	46	36	36	31	40	30	47	
DIR. (TENS OF DEGS.)	20	25	26	24	25	32	01	31	28	24	30	29	32		
DATE OF OCCURRENCE	08	12	09	09	01	22	19	10	08	28	25	30	JUN 22		
PRECIPITATION	WATER EQUIVALENT:														
	TOTAL (IN.)	5.12	2.13	3.85	7.03	4.94	7.37	1.96	2.14	0.90	1.68	1.44	5.36	43.92	
	GREATEST 24-HOUR (IN.)	2.18	0.68	1.25	2.28	1.17	1.55	0.59	1.12	0.60	1.26	0.38	2.07	2.28	
	DATE OF OCCURRENCE	27-28	03-04	18	16-17	25-26	03-04	23-24	16-17	08	07-08	10-11	12-13	APR 16-17	
	NUMBER OF DAYS WITH:														
PRECIPITATION ≥ 0.01	15	14	13	16	15	17	8	4	3	6	11	14	136		
PRECIPITATION ≥ 0.10	8	7	7	11	10	12	6	4	2	4	4	10	85		
PRECIPITATION ≥ 1.00	2	0	1	2	1	3	0	0	0	0	0	3	12		
SNOWFALL	SNOW, ICE PELLETS, HAIL:														
	TOTAL (IN.)														
	GREATEST 24-HOUR (IN.)														
	DATE OF OCCURRENCE														
	MAXIMUM SNOW DEPTH (IN.)														
DATE OF OCCURRENCE															
NUMBER OF DAYS WITH:															
SNOWFALL ≥ 1.0															

# NORMALS, MEANS, AND EXTREMES

BRISTOL-JHNSN CTY-KN, TN (TRI)

LATITUDE: 36° 28' 47" N      LONGITUDE: 82° 23' 56" W      ELEVATION (FT): GRND: 1507      BARO: 1558      TIME ZONE: EASTERN (UTC+ 5)      WBAN: 13877

ELEMENT		POR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
TEMPERATURE °F	NORMAL DAILY MAXIMUM	30	43.7	48.0	58.9	67.4	75.2	82.2	84.6	84.1	79.1	69.1	58.2	48.1	66.5
	MEAN DAILY MAXIMUM	51	45.1	49.4	58.1	67.8	76.0	82.8	85.6	84.8	79.5	68.1	57.6	48.2	66.9
	HIGHEST DAILY MAXIMUM	53	79	80	85	89	92	97	102	101	100	90	81	78	102
	YEAR OF OCCURRENCE		1950	1977	1954	1995	1969	1952	1952	1988	1954	1954	1993	1951	JUL 1952
	MEAN OF EXTREME MAXS.	51	65.6	69.0	77.2	83.8	86.5	90.9	92.5	91.9	89.5	80.4	74.8	67.3	80.8
	NORMAL DAILY MINIMUM	30	24.3	26.8	35.4	43.0	51.6	59.9	64.1	63.1	56.6	44.2	35.9	28.2	44.4
	MEAN DAILY MINIMUM	51	26.0	28.4	35.1	43.4	52.3	60.5	64.6	63.2	56.5	43.8	35.0	28.6	44.8
	LOWEST DAILY MINIMUM	53	-21	-15	-2	21	30	38	45	43	34	20	5	-9	-21
	YEAR OF OCCURRENCE		1985	1996	1980	1982	1997	1966	1947	1986	1983	1962	1950	1962	JAN 1985
	MEAN OF EXTREME MINS.	51	4.9	9.0	18.2	27.4	37.7	48.4	55.4	53.7	42.8	28.7	19.2	10.1	29.6
	NORMAL DRY BULB	30	34.0	37.4	47.2	55.2	63.4	71.1	74.4	73.6	67.9	56.7	47.0	38.2	55.5
	MEAN DRY BULB	51	35.6	39.0	46.6	55.6	64.1	71.6	75.0	73.9	68.1	55.8	46.3	38.4	55.8
	MEAN WET BULB	14	32.5	35.5	41.4	48.3	57.6	65.2	68.6	62.7	61.3	47.4	39.4	32.8	49.4
	MEAN DEW POINT	14	27.1	29.1	34.2	41.5	53.0	61.7	65.5	59.9	57.8	42.9	34.3	27.9	44.6
	NORMAL NO. DAYS WITH:														
MAXIMUM ≥ 90°	30	0.0	0.0	0.0	0.0	0.3	2.5	5.1	3.7	1.7	0.0	0.0	0.0	13.3	
MAXIMUM ≤ 32°	30	5.6	2.9	0.4	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	2.9	12.0	
MINIMUM ≤ 32°	30	23.7	19.4	13.2	3.7	0.2	0.0	0.0	0.0	0.0	2.9	12.2	20.5	95.8	
MINIMUM ≤ 0°	30	1.0	0.3	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.5	
H/C	NORMAL HEATING DEG. DAYS	30	961	773	552	298	121	6	0	0	44	280	540	831	4406
	NORMAL COOLING DEG. DAYS	30	0	0	0	0	71	189	291	267	131	23	0	0	972
RH	NORMAL (PERCENT)	30	71	68	64	62	71	74	76	77	76	72	71	72	71
	HOUR 01 LST	30	76	74	72	71	83	86	88	89	88	83	79	78	81
	HOUR 07 LST	30	80	79	79	80	88	90	91	93	92	89	84	81	86
	HOUR 13 LST	30	62	59	52	49	55	57	60	60	58	53	56	62	57
	HOUR 19 LST	30	65	61	54	51	60	62	67	69	70	64	64	67	63
S	PERCENT POSSIBLE SUNSHINE														
W/O	MEAN NO. DAYS WITH:														
	HEAVY FOG (VISBY ≤ 1/4 MI)	56	3.3	2.5	1.4	1.6	3.7	4.0	4.8	7.0	5.4	5.1	2.9	3.2	44.9
	THUNDERSTORMS	56	0.3	0.9	2.0	3.5	6.5	8.3	9.1	7.0	3.4	0.8	0.4	0.2	42.4
CLOUDINESS	MEAN:														
	SUNRISE-SUNSET (OKTAS)	1					4.8	4.0							
	MIDNIGHT-MIDNIGHT (OKTAS)	1						4.0							
	MEAN NO. DAYS WITH:														
	CLEAR	1	2.0	2.0	3.0		10.0	10.0							
PARTLY CLOUDY	1	1.0	2.0	2.0		5.0	7.0								
CLOUDY	1	1.0	6.0	10.0		6.0	5.0								
PR	MEAN STATION PRESSURE (IN)	26	28.50	28.49	28.40	28.40	28.40	28.40	28.50	28.50	28.50	28.50	28.49	28.46	
	MEAN SEA-LEVEL PRES. (IN)	15	30.13	30.10	30.05	29.98	30.00	30.01	30.04	27.90	30.08	28.11	30.13	28.14	29.56
WINDS	MEAN SPEED (MPH)	35	6.3	6.6	7.3	6.9	5.4	4.7	4.3	3.9	4.3	4.3	5.6	5.8	5.5
	PREVAIL. DIR (TENS OF DEGS)	26	24	24	24	23	24	24	25	04	06	06	24	24	24
	MAXIMUM 2-MINUTE:														
	SPEED (MPH)	3	40	31	39	39	32	39	36	32	25	31	33	34	40
	DIR. (TENS OF DEGS)		24	25	26	25	25	31	01	28	27	28	30	25	24
	YEAR OF OCCURRENCE		1996	1998	1998	1996	1997	1998	1998	1996	1997	1996	1998	1996	JAN 1996
	MAXIMUM 5-SECOND:														
	SPEED (MPH)	3	51	38	46	54	41	52	52	38	36	38	40	40	54
DIR. (TENS OF DEGS)		26	25	26	27	24	33	24	27	28	28	30	25	27	
YEAR OF OCCURRENCE		1996	1998	1996	1996	1997	1997	1997	1996	1998	1996	1998	1996	APR 1996	
PRECIPITATION	NORMAL (IN)	30	3.23	3.44	3.70	3.30	3.84	3.54	4.32	3.17	3.26	2.59	2.94	3.39	40.72
	MAXIMUM MONTHLY (IN)	53	9.18	7.75	9.56	7.03	9.71	7.37	9.73	7.07	7.09	5.65	5.90	6.75	9.73
	YEAR OF OCCURRENCE		1957	1994	1955	1998	1950	1998	1949	1966	1972	1959	1948	1961	JUL 1949
	MINIMUM MONTHLY (IN)	53	1.37	0.75	1.31	0.21	1.31	0.75	0.67	0.55	0.50	0.07	1.07	0.21	0.07
	YEAR OF OCCURRENCE		1981	1968	1985	1976	1966	1986	1995	1987	1985	1963	1953	1965	OCT 1963
	MAXIMUM IN 24 HOURS (IN)	53	2.34	2.48	3.35	2.66	3.26	3.10	2.90	3.07	3.61	3.65	2.55	2.95	3.65
	YEAR OF OCCURRENCE		1950	1994	1973	1977	1984	1954	1946	1982	1972	1964	1957	1969	OCT 1964
	NORMAL NO. DAYS WITH:														
PRECIPITATION ≥ 0.01	30	13.2	11.8	12.4	11.3	11.9	11.1	12.0	10.2	8.3	8.4	10.4	11.5	132.5	
PRECIPITATION ≥ 1.00	30	0.3	0.6	0.6	0.5	0.7	0.6	1.0	0.8	0.9	0.6	0.3	0.6	7.5	
SNOWFALL	NORMAL (IN)	30	6.9	5.4	1.7	0.7	T	0.0	0.0	0.0	0.0	0.*	0.7	3.2	18.6
	MAXIMUM MONTHLY (IN)	59	22.1	20.4	27.9	14.8	T	T	0.0	0.0	T	1.3	18.1	12.9	27.9
	YEAR OF OCCURRENCE		1966	1979	1960	1987	1992	1995			1994	1993	1952	1963	MAR 1960
	MAXIMUM IN 24 HOURS (IN)	53	13.0	11.5	14.2	10.0	T	T	0.0	0.0	T	1.3	16.2	9.6	16.2
	YEAR OF OCCURRENCE		1996	1996	1993	1987	1992	1995			1994	1993	1952	1969	NOV 1952
	MAXIMUM SNOW DEPTH (IN)	47	13	10	13	11	0	0	0	0	0	1	12	20	20
	YEAR OF OCCURRENCE		1966	1969	1960	1987						1993	1952	1948	DEC 1948
	NORMAL NO. DAYS WITH:														
SNOWFALL ≥ 1.0	30	2.3	1.4	0.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.1	5.7	

PRECIPITATION (inches) 1998 BRISTOL, JOHNSON CITY, KINGSPORT, TN (TRI)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1969	2.72	5.72	2.14	2.11	2.06	5.24	8.18	2.11	4.31	1.54	1.86	5.78	43.77
1970	2.89	2.75	1.60	5.85	1.60	2.48	2.95	4.28	1.67	3.29	1.33	3.40	34.09
1971	3.83	3.59	3.42	3.38	4.38	5.41	5.94	2.32	2.91	3.18	2.45	2.43	43.24
1972	4.87	4.81	2.86	2.92	5.92	2.97	3.18	2.70	7.09	4.57	2.85	6.43	51.17
1973	1.80	2.04	7.18	3.58	6.46	2.99	5.66	2.60	1.68	2.29	4.52	5.07	45.87
1974	5.33	4.07	4.34	3.96	8.66	4.01	1.78	1.95	3.12	2.34	3.29	3.53	46.38
1975	4.19	3.13	9.22	3.67	4.29	3.19	2.46	3.87	5.02	1.54	3.14	3.33	47.05
1976	2.60	3.07	3.24	0.21	3.31	5.62	2.14	2.27	4.44	5.30	1.41	3.80	37.41
1977	1.90	1.01	4.86	5.43	1.91	3.77	2.13	3.09	2.36	4.89	4.91	2.72	38.98
1978	4.22	0.89	3.18	2.44	4.50	5.67	4.78	3.71	3.04	0.58	2.64	4.89	40.54
1979	5.29	3.58	3.16	3.68	3.35	3.55	6.12	2.80	3.89	2.19	4.44	1.66	43.71
1980	3.91	1.39	5.68	3.56	2.69	1.10	3.82	2.54	3.01	2.09	2.10	1.38	33.27
1981	1.37	2.59	1.94	5.10	4.51	4.28	6.24	3.05	4.17	2.51	1.95	3.20	40.91
1982	4.07	5.07	3.35	2.30	2.55	5.52	9.14	4.70	5.53	2.54	4.12	2.89	51.78
1983	1.67	2.14	1.73	4.44	4.83	4.60	3.29	5.05	1.88	2.18	2.74	4.15	38.70
1984	1.79	4.50	2.73	2.85	7.42	3.86	4.63	1.23	1.43	1.14	2.61	1.76	35.95
1985	3.21	3.40	1.31	2.08	2.85	4.35	4.38	3.09	0.50	3.02	5.87	1.17	35.23
1986	1.55	4.11	1.56	0.51	4.16	0.75	5.50	3.40	3.93	1.69	2.67	3.66	33.49
1987	4.11	4.13	2.80	5.23	1.62	2.64	1.91	0.55	4.57	0.62	2.10	3.00	33.28
1988	2.74	3.20	1.54	2.69	2.48	0.89	3.20	2.78	3.20	1.79	3.44	2.73	30.68
1989	3.69	4.07	3.76	2.97	4.10	6.97	3.81	3.41	6.95	1.77	3.18	3.16	47.84
1990	3.23	5.06	4.00	2.44	6.57	2.90	3.78	3.51	1.47	5.23	1.32	4.85	44.36
1991	2.01	5.43	6.30	3.39	2.10	4.51	3.81	3.98	2.44	0.31	3.42	6.73	44.43
1992	2.42	3.52	2.62	1.53	5.46	3.44	5.11	2.41	1.49	3.42	2.25	5.05	38.72
1993	3.21	2.12	5.51	2.43	3.42	0.98	4.59	5.01	2.50	2.19	3.58	5.85	41.39
1994	4.52	7.75	7.46	4.26	3.90	4.63	4.95	4.63	1.30	2.68	2.37	1.38	49.83
1995	4.63	3.64	3.24	1.52	6.19	4.18	0.67	2.40	3.82	2.35	5.34	2.24	40.22
1996	6.51	2.51	4.10	3.54	6.76	3.36	5.74	3.64	3.79	0.97	4.82	3.90	49.64
1997	3.91	4.25	5.92	3.78	4.80	4.45	4.25	1.53	3.02	1.70	1.71	2.17	41.49
1998	5.12	2.13	3.85	7.03	4.94	7.37	1.96	2.14	0.90	1.68	1.44	5.36	43.92
POR= 61 YRS	3.52	3.49	3.91	3.20	3.79	3.61	4.66	3.35	2.89	2.16	2.89	3.42	40.89

WBAN : 13877

AVERAGE TEMPERATURE (°F) 1998 BRISTOL, JOHNSON CITY, KINGSPORT, TN (TRI)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1969	34.3	35.8	38.6	54.7	63.0	73.1	76.4	73.0	66.2	55.7	41.4	34.5	53.9
1970	27.6	36.8	47.0	59.0	66.1	72.1	76.8	75.0	72.9	61.5	46.8	41.2	56.9
1971	35.6	36.9	43.0	55.1	61.5	73.9	74.0	73.7	72.3	63.4	46.5	47.5	57.0
1972	40.8	35.7	45.1	54.9	62.7	67.4	73.6	73.7	69.8	55.9	46.1	43.7	55.8
1973	35.8	36.9	53.9	53.9	60.7	73.1	74.7	73.4	71.4	60.3	48.8	39.3	56.9
1974	47.0	39.8	51.2	56.4	64.3	67.7	74.0	73.0	64.8	54.5	47.2	39.5	56.6
1975	40.4	42.8	44.7	54.2	67.1	71.1	74.8	76.1	67.8	59.0	49.8	40.0	57.3
1976	33.5	47.3	51.9	55.3	61.2	70.7	73.2	71.6	65.1	51.6	38.8	33.3	54.5
1977	22.1	34.5	50.0	59.4	66.8	71.2	76.8	74.8	69.6	53.3	49.9	35.3	55.3
1978	25.8	28.8	44.8	55.5	62.3	71.5	74.4	74.5	72.3	56.3	51.0	39.5	54.7
1979	30.4	31.9	48.3	55.4	63.8	68.2	70.9	73.1	66.8	54.6	48.7	38.8	54.2
1980	37.9	30.6	43.2	55.4	64.2	70.6	76.4	76.9	70.9	54.1	45.3	36.3	55.2
1981	29.3	37.9	42.6	60.4	61.3	75.1	75.3	72.1	65.0	53.7	45.8	34.5	54.4
1982	31.2	40.2	49.8	53.1	68.2	71.4	75.1	72.3	65.7	57.6	48.3	43.3	56.4
1983	35.1	38.2	46.4	50.5	60.9	69.5	74.2	74.7	65.9	57.1	45.3	34.8	54.4
1984	32.7	40.3	44.5	53.0	59.4	72.4	71.3	72.9	64.5	63.6	43.0	45.5	55.3
1985	27.6	35.5	48.2	57.0	63.8	69.5	73.2	71.2	66.1	61.4	55.3	33.9	55.2
1986	32.0	40.4	46.2	57.2	64.8	74.1	77.2	73.0	69.7	58.7	51.4	38.8	57.0
1987	34.7	39.9	47.8	52.0	69.3	73.5	77.0	77.5	68.2	50.8	48.5	41.6	56.7
1988	31.5	37.3	47.8	54.1	62.3	70.5	76.7	77.1	68.1	50.2	47.6	37.6	55.1
1989	42.3	39.5	51.2	54.7	59.8	71.9	75.1	73.3	67.8	56.6	45.6	28.1	55.5
1990	41.6	45.4	51.2	55.3	63.7	72.0	75.2	74.4	68.7	58.0	49.1	44.3	58.2
1991	38.8	41.2	49.2	59.7	69.6	72.0	76.6	73.2	67.7	58.1	46.1	40.6	57.7
1992	38.6	42.7	44.8	55.5	61.2	69.2	74.9	71.1	68.4	54.0	47.0	38.3	55.5
1993	41.7	37.4	43.6	53.2	64.7	72.7	79.6	73.8	67.1	55.3	46.8	38.3	56.2
1994	31.3	41.1	46.3	59.0	60.8	74.8	75.3	72.8	65.8	57.3	50.7	43.6	56.6
1995	38.1	37.5	50.1	57.1	64.7	71.3	77.2	78.4	67.7	56.1	41.0	34.4	56.1
1996	33.9	36.4	42.0	51.7	64.8	71.5	72.1	72.6	65.0	53.7	41.3	39.9	54.4
1997	35.8	43.1	50.6	50.7	58.3	68.6	74.6	70.7	65.9	55.4	41.5	36.6	54.3
1998	40.3	42.7	45.3	54.3	66.0	71.1	74.4	74.3	71.6	57.7	47.7	41.6	57.3
POR= 61 YRS	35.8	39.1	46.7	55.4	64.2	71.9	75.0	73.9	68.1	56.2	46.2	38.4	55.9

HEATING DEGREE DAYS (base 65°F) 1998 BRISTOL, JOHNSON CITY, KINGSPORT, TN (TRI)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1969-70	0	0	49	293	702	940	1155	784	553	201	66	1	4744
1970-71	0	0	26	147	538	737	903	780	676	296	135	0	4238
1971-72	0	0	0	87	560	537	743	844	610	307	86	36	3810
1972-73	8	0	10	281	559	652	898	779	334	333	152	0	4006
1973-74	0	0	12	169	483	792	552	700	424	257	86	14	3489
1974-75	0	0	72	326	527	785	755	616	621	328	29	1	4060
1975-76	0	0	46	188	451	768	970	509	402	297	134	9	3774
1976-77	0	0	46	409	776	973	1321	845	459	184	61	21	5095
1977-78	0	0	19	359	455	913	1207	1005	620	286	130	4	4998
1978-79	0	0	0	268	411	786	1065	920	511	283	88	11	4343
1979-80	3	3	23	323	483	804	832	990	670	285	76	4	4496
1980-81	0	0	31	337	586	882	1099	752	686	161	137	0	4671
1981-82	0	0	83	346	570	942	1042	687	465	351	32	0	4518
1982-83	0	0	66	256	494	667	922	745	570	436	140	19	4315
1983-84	0	0	98	242	583	928	995	709	627	357	199	8	4746
1984-85	0	0	91	73	652	599	1154	819	518	243	88	19	4256
1985-86	0	2	76	124	283	960	1015	681	577	240	80	0	4038
1986-87	0	19	2	227	402	804	932	698	527	393	30	0	4034
1987-88	0	0	24	436	489	718	1031	798	527	322	113	45	4503
1988-89	0	0	22	455	512	844	698	709	428	325	198	1	4192
1989-90	0	6	55	262	575	1139	718	540	423	303	93	0	4114
1990-91	0	0	48	225	474	636	806	659	483	175	32	2	3540
1991-92	0	0	68	224	562	750	813	638	617	293	148	22	4135
1992-93	0	3	32	337	532	820	714	767	657	346	65	10	4283
1993-94	0	0	59	298	537	823	1039	665	571	196	156	0	4344
1994-95	0	0	37	232	425	653	828	764	454	256	85	10	3744
1995-96	0	0	31	281	712	944	956	820	705	402	85	4	4940
1996-97	0	0	74	706	706	769	900	605	442	423	222	30	4297
1997-98	0	5	28	300	699	871	758	618	606	314	72	26	4297
1998-	0	0	15	237	511	718							

WBAN : 13877

COOLING DEGREE DAYS (base 65°F) 1998 BRISTOL, JOHNSON CITY, KINGSPORT, TN

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1969	0	0	0	0	60	261	363	255	93	14	0	0	1046
1970	0	0	0	28	106	220	373	314	270	45	0	0	1356
1971	0	0	0	5	32	273	285	276	228	44	10	2	1155
1972	0	0	0	11	22	113	279	274	160	3	0	0	862
1973	0	0	0	5	26	249	309	267	212	32	1	0	1101
1974	0	0	0	9	73	102	286	254	73	5	1	0	803
1975	0	0	0	12	101	190	310	353	136	7	0	0	1109
1976	0	0	2	14	24	185	262	212	54	0	0	0	753
1977	0	0	1	23	124	213	374	309	163	2	8	0	1217
1978	0	0	0	6	53	204	299	302	224	4	0	0	1092
1979	0	0	0	1	59	113	194	259	85	9	0	0	720
1980	0	0	0	6	61	179	359	377	215	5	0	0	1202
1981	0	0	0	27	30	309	325	226	87	1	0	0	1005
1982	0	0	0	0	136	199	322	232	93	36	0	0	1018
1983	0	0	2	5	21	163	294	307	131	3	0	0	926
1984	0	0	0	2	35	236	202	253	83	38	0	0	849
1985	0	0	5	11	53	159	262	201	114	22	0	0	827
1986	0	0	0	14	78	278	385	275	149	38	3	0	1220
1987	0	0	0	11	171	259	378	395	126	0	0	0	1340
1988	0	0	0	4	32	214	369	383	120	2	0	0	1124
1989	0	0	5	24	42	218	322	268	144	11	0	0	1034
1990	0	0	3	20	62	217	325	299	161	17	0	0	1104
1991	0	0	0	23	180	218	367	258	157	20	2	0	1225
1992	0	0	0	14	36	155	312	199	143	0	0	0	859
1993	0	0	0	1	62	250	460	281	131	6	0	0	1191
1994	0	0	0	21	31	298	327	247	70	0	0	0	994
1995	0	0	0	25	81	204	387	423	117	11	0	0	1248
1996	0	0	0	7	84	205	227	244	80		1	0	
1997	0	0	3	2	17	144	303	190	65	9	0	0	733
1998	0	0	3	0	111	215	297	295	219	16	0	0	1156

SNOWFALL (inches) 1998 BRISTOL, JOHNSON CITY, KINGSPORT, TN (TRI)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1969-70	0.0	0.0	0.0	0.0	1.0	9.7	10.1	7.8	0.6	0.0	0.0	0.0	29.2
1970-71	0.0	0.0	0.0	0.0	0.4	4.2	4.5	9.9	6.3	T	0.0	0.0	25.3
1971-72	0.0	0.0	0.0	0.0	0.7	4.3	T	5.3	2.4	T	0.0	0.0	12.7
1972-73	0.0	0.0	0.0	0.0	2.1	0.1	4.2	1.2	T	T	0.0	0.0	7.6
1973-74	0.0	0.0	0.0	0.0	0.0	3.3	0.0	0.9	T	T	0.0	0.0	4.2
1974-75	0.0	0.0	0.0	0.0	0.5	3.1	1.8	0.3	3.4	T	0.0	0.0	9.1
1975-76	0.0	0.0	0.0	0.0	T	T	0.5	3.2	T	0.0	0.0	0.0	3.7
1976-77	0.0	0.0	0.0	0.0	1.2	6.2	12.7	2.4	0.4	T	0.0	0.0	22.9
1977-78	0.0	0.0	0.0	T	1.6	0.4	13.6	6.7	3.9	T	0.0	0.0	26.2
1978-79	0.0	0.0	0.0	0.0	0.0	T	9.2	20.4	0.8	0.0	0.0	0.0	30.4
1979-80	0.0	0.0	0.0	0.0	T	0.4	7.8	5.4	3.6	0.0	0.0	0.0	17.2
1980-81	0.0	0.0	0.0	0.0	T	T	7.3	1.1	1.1	0.0	0.0	0.0	9.5
1981-82	0.0	0.0	0.0	0.0	T	7.3	3.6	2.3	2.6	0.6	0.0	0.0	16.4
1982-83	0.0	0.0	0.0	0.0	0.0	6.3	3.4	5.5	1.1	5.6	0.0	0.0	21.9
1983-84	0.0	0.0	0.0	0.0	T	0.3	4.6	3.8	1.2	T	0.0	0.0	9.9
1984-85	0.0	0.0	0.0	0.0	0.0	0.3	9.7	6.0	T	T	0.0	0.0	16.0
1985-86	0.0	0.0	0.0	0.0	0.0	3.2	10.5	7.7	T	T	0.0	0.0	21.4
1986-87	0.0	0.0	0.0	0.0	T	0.2	12.2	4.0	0.3	14.8	0.0	0.0	31.5
1987-88	0.0	0.0	0.0	0.0	0.8	0.2	7.6	T	0.4	0.0	0.0	0.0	9.0
1988-89	0.0	0.0	0.0	T	T	2.3	3.7	11.0	T	T	T	0.0	17.0
1989-90	0.0	0.0	0.0	0.1	0.9	6.9	0.7	0.4	0.5	T	0.0	0.0	9.5
1990-91	0.0	0.0	0.0	0.0	0.0	T	T	1.4	T	0.0	0.0	0.0	1.4
1991-92	0.0	0.0	0.0	0.0	T	T	0.2	T	0.1	0.4	T	0.0	0.7
1992-93	0.0	0.0	0.0	0.0	T	3.5	T	2.3	14.2	T	0.0	T	20.0
1993-94	0.0	0.0	0.0	1.3	T	1.9	3.8	0.1	0.3	T	0.0	0.0	7.4
1994-95	0.0	0.0	T	0.0	0.0	T	2.7	1.7	5.0	0.0	0.0	T	9.4
1995-96	0.0	0.0	0.0	0.0	T	3.6	17.4		3.2	0.2			
1996-97													
1997-98													
1998-													
POR= 58 YRS	0.0	0.0	T	0.0	0.9	2.6	5.2	4.1	2.3	0.4	T	T	15.5

WBAN : 13877

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>
---	---

1998  
BRISTOL, JOHNSON CITY, KINGSPORT,  
TENNESSEE (TRI)

The Weather Service Office is located an almost equal distance of 15 miles in the middle of a geographical triangle between the cities of Bristol, Tennessee-Virginia, Kingsport and Johnson City, Tennessee, and is more commonly known as the Tri-City Area. This location is situated in the extreme upper East Tennessee Valley. The terrain immediately surrounding the station ranges from gently rolling on the east and south to very hilly on the west and north. Mountain ranges begin about 10 miles to the southeast and about 15 miles to the west and north, with many peaks and ridges rising to 4,000 feet, and some to 6,000 feet toward the southeast.

This section does not lie directly within any of the principal storm tracks that cross the country, but comes under the influence of storm centers that pass along the Gulf Coast and then up the Atlantic Coast toward the northeast. Being quite varied, the topography has considerable influence on the weather. Moist air from the east is forced up the slopes of the mountains causing much of the moisture to be precipitated before the air mass reaches the Bristol area. The same process occurs to a lesser extent when air masses move over the smaller mountain ranges to the west and north. The maximum monthly precipitation occurs in July, usually from afternoon and early evening thunderstorms. A second maximum of precipitation occurs in the late winter months, due mainly to moist air associated with storm centers to the south or northeast. Annual precipitation amounts recorded in mountainous sections to the east and southeast are almost double what they are in the immediate vicinity.

Lowest temperatures normally occur during the early morning hours, but rise rapidly during the morning hours. Periods of cold weather are generally associated with air flow from winter storm centers near the northeast coast. Periods of unusually high temperatures occur most frequently when Gulf air associated with the Bermuda high pressure system dominates the area.

Snowfall seldom occurs before November and rarely remains on the ground for more than a few days. However, mountains to the east and south of the station are frequently well blanketed with snow for much longer periods of time.

Agricultural activities within this area include such staple crops as tobacco, beans, and hay which are raised in such amounts as to be important commercially. The last freezing temperature in spring normally occurs in late April, and the first in autumn around mid-October. The growing season of 180 days, usually coupled with ample sunshine and rainfall, permits a second planting and harvesting of some staple crops.

# STATION LOCATION

BRISTOL-JOHNSON CITY-KINGSPORT, TENNESSEE

LOCATION	OCCUPIED FROM	OCCUPIED TO	AIRLINE DISTANCES AND DIRECTIONS FROM PREVIOUS LOCATION	LATITUDE NORTH	LONGITUDE WEST	ELEVATION ABOVE											* Type	REMARKS	
						SEA LEVEL	GROUND												A U T O M A T I C
							G	W	E	P	S	T	R	W	8	H			
Bristol Airport 3-1/3 miles ENE Bristol, Virginia Post Office	6/23/34	9/30/37	NA	36° 37'	82° 08'	1900													No instrument records.
Tri-City Airport Administration Bldg. 7 miles WSW of P.O. at Blountville, Tenn.	10/1/37	4/10/45	18 mi. WSW	36° 29'	82° 24'	1519	68	60	60	NA	NA	58	58	NA	NA	NA	NA	NA	Change in status from CAA to WBAS 3/17/44.
Tri-City Airport Administration Bldg. 7 miles WSW of P.O. at Blountville, Tenn.	4/10/45	2/2/65	No Change	36° 29'	82° 24'	1519 a1507	61 a20	5	5	NA	NA	3	3	NA b5	NA	NA	NA	a - Effective 5/1/61 b - Commissioned 2900' SSE of thermometer site 5/6/61.	
FAA/Weather Bureau + Building, Tri-City Airport  + NWS/FAA Building effective 1970.	2/2/65	Present	150 ft. NW	36° 29'	82° 24'	1507	c20	NA e6	NA f6	NA	NA g20	4 d4	4 d4	4 h5 15	NA	NA	NA	c - Not moved 2/2/65. d - Moved 65' SSE 5/15/71. e - Installed 12/20/72. f - Installed 5/10/74. g - Installed 8/19/74. h - Type change 11/5/82. i - Type change 3/24/86.  S ASOS Commissioned 10/01/95	

SUBSCRIPTION: Price and ordering information available through: National Climatic Data Center, Federal Building, Asheville, North Carolina 28801.  
INQUIRIES/COMMENTS CALL: (828) 271-4800

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

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