



DECEMBER 2002

LOCAL CLIMATOLOGICAL DATA

NOAA, National Climatic Data Center

OAK RIDGE, TN

OAK RIDGE (OQT)
 Lat: 36°01' N Long: 84°14' W Elev (Ground): 913 Feet
 Time Zone: EASTERN WBAN: 53868 ISSN #: -

DECEMBER 2002
 OAK RIDGE, TN

DATE	TEMPERATURE °F							DEG DAYS BASE 65°		WEATHER	SNOW/ICE ON GND(IN)		PRECIPITATION (INCHES)		PRESSURE (INCHES OF HG)		WIND SPEED = MPH DIR = TENS OF DEGREES								DATE																																
	MAXIMUM	MINIMUM	AVERAGE	DEP FROM NORMAL	AVERAGE DEW PT	AVERAGE WET BULB	HEATING	COOLING	0700 LST		1300 LST	2400 LST	2400 LST	AVERAGE STATION	AVERAGE SEA LEVEL	RESULTANT SPEED	RES DIR	AVERAGE SPEED	MAXIMUM																																						
																			5-SEC		2-MIN																																				
																			SPEED	DIR	SPEED	DIR																																			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																																		
01	38	23	31	-12	12	24	34	0					0.00	29.22	30.24	0.8	22	2.8	13	31	9	19	01																																		
02	40	22	31	-12	22	29	34	0	RA				0.01	29.14	30.16	1.6	23	2.3	15	26	12	26	02																																		
03	50	32	41	-1	30	35	24	0					0.00	29.29		2.1	04	4.6	16	06	13	06	03																																		
04	38	33	36	-6	33	35	29	0	RA BR				1.69	29.27	30.28	5.1	05	5.4	15	06	12	04	04																																		
05	42	33	38	-4	35	37	27	0	RA BR HZ				0.39	29.09	30.10	1.9	35	4.0	13	36	9	36	05																																		
06	38	24	31	-10	22	28	34	0	BR				0.00	29.33	30.35	2.4	03	3.2	12	03	9	06	06																																		
07	46	21	34	-7	23	28	31	0	FG+ FZFG BR				0.00	29.36	30.39	0.8	21	1.4	13	21	9	21	07																																		
08	45	23	34	-7	27	31	31	0	FG+ FZFG BR				0.00	29.38	30.41	0.6	05	.6	7	04	6	05	08																																		
09	47	30	39	-2	30	35	26	0	BR HZ				0.00	29.38	30.40	3.3	06	4.0	13	05	12	05	09																																		
10	46	34	40	0	37	40	25	0	RA BR				0.51	29.11	30.11	4.2	05	4.6	20	06	15	07	10																																		
11	45	39	42	2	40	42	23	0	RA BR				0.13	29.05	30.04	2.8	25	4.7	17	26	14	27	11																																		
12	42	39	41	1	37	39	24	0	BR HZ				0.00	29.21	30.22	2.5	06	3.4	13	08	9	06	12																																		
13	46	39	43	3	41	42	22	0	RA BR				1.01	28.76	29.75	0.4	23	5.4	21	23	14	23	13																																		
14	41	35	38	-2	33	36	27	0	RA BR HZ				0.01	28.99	29.99	3.6	25	4.6	22	27	16	27	14																																		
15	50	29	40	1	33	37	25	0	BR HZ				0.00	29.10	30.10	2.2	23	3.0	15	19	10	21	15																																		
16	59	33	46	7	39	43	19	0	BR				0.00	29.04	30.04	2.6	23	3.3	16	22	13	20	16																																		
17	62	43	53*	14	45	48	12	0	BR HZ				0.00	29.13	30.11	1.5	22	2.1	15	22	13	23	17																																		
18	63	37	50	11	40	44	15	0	BR				0.00	29.19	30.18	2.5	22	2.9	20	23	16	20	18																																		
19	63*	39	51	12	47	49	14	0	RA BR				1.18	28.93	29.91	2.8	23	5.0	29	21	21*	19	19																																		
20	55	38	47	9	31	40	18	0					0.00	28.89	29.86	5.6	25	7.3	24	27	17	27	20																																		
21	53	28	41	3	24	34	24	0					0.00	29.09	30.09	3.0	22	3.7	16	23	14	22	21																																		
22	59	37	48	10	35	42	17	0	RA BR				0.06	29.08	30.07	4.7	26	5.5	22	28	15	22	22																																		
23	48	28	38	0	29	35	27	0					0.00	29.24	30.24	1.2	05	1.5	14	05	10	05	23																																		
24	44	38	41	3	41	41	24	0	RA BR				1.07	28.77	29.76	4.4	05	4.9	21	06	15	06	24																																		
25	46	29	38	0	26	30	27	0	RA SN BR UP HZ				0.03	28.96	29.96	8.6	26	9.7	30*	30	18	26	25																																		
26	36	26	31*	-6	23	27	34	0	BR				0.00	29.36	30.40	1.6	04	3.2	12	06	10	07	26																																		
27	43	21*	32	-5	25	29	33	0	BR				0.00	29.33	30.37	0.4	22	1.1	8	20	7	19	27																																		
28	50	23	37	0	28	33	28	0	BR				0.00	29.27	30.29	2.8	23	3.1	17	21	13	21	28																																		
29	59	30	45	8	33	38	20	0					0.00	29.24	30.24	1.9	24	3.5	12	23	9	23	29																																		
30	59	32	46	9	37	41	19	0	BR				0.00	29.17	30.17	2.6	23	3.6	18	21	14	21	30																																		
31	57	36	47	10	42	45	18	0	RA BR				0.20	28.98	29.96	2.8	05	2.9	15	05	12	06	31																																		
48.7										31.4		40.1		■ ■		32.3		36.7		24.7		0.0		< MONTHLY AVERAGES		TOTALS-->		6.29		29.14		0.7		26		3.8		<-- MONTHLY AVERAGES																			
-.3										1.6		0.7		■ ■		<-----DEPARTURE FROM NORMAL----->																				0.87		SUNSHINE, CLOUD, & VISIBILITY TABLES ON PAGE 3																			
DEGREE DAYS										GREATEST 24-HR PRECIPITATION: 2.02 DATE :04-05										SEA LEVEL PRESSURE										DATE		TIME																									
MONTHLY TOTAL DEPARTURE										SEASON TO DATE TOTAL DEPARTURE										GREATEST 24-HR SNOWFALL:										MAXIMUM										: 30.46		07 0953															
HEATING: 765										-22										1463										-102										MINIMUM										: 29.52		25 0053					
COOLING: 0										0										1773										472										NUMBER OF DAYS WITH										MAXIMUM TEMP ≥ 90: 0		MINIMUM TEMP ≤ 32: 16		PRECIPITATION ≥ 0.01 INCH : 12			
																																								MAXIMUM TEMP ≤ 32 : 0		MINIMUM TEMP ≤ 0 : 0		PRECIPITATION ≥ 0.10 INCH : 8													
																																								THUNDERSTORMS : 0		HEAVY FOG : 2		SNOWFALL ≥ 1.0 INCH :													

HOURLY PRECIPITATION

(WATER EQUIVALENT IN INCHES)

OAK RIDGE, TN

DECEMBER 2002 OQT WBAN # 53868

DATE	FOR HOUR (LST) ENDING AT												DATE	FOR HOUR (LST) ENDING AT												DATE	Sum if Different (See Note)	2400 LST
	1	2	3	4	5	6	7	8	9	10	11	12		13	14	15	16	17	18	19	20	21	22	23	24			Water Equiv.
01													01												01		0.00	
02													02			0.01	T	T							02		0.01	
03													03												03		0.00	
04													04	0.12	0.11	0.15	0.13	0.11	0.07	0.09	0.09	0.06	0.09	0.08	0.06	04	1.69	
05	0.05	T	T	0.02	0.05	0.02	0.02	0.02					05												05		0.39	
06													06												06		0.00	
07													07												07		0.00	
08													08												08		0.00	
09													09												09		0.00	
10					T	T	T						10	T	0.01	0.02	T	0.02	0.04	0.08	0.09	0.09	0.07	0.08	0.01	10	0.51	
11	0.01	0.02	0.02	0.02	0.03	0.01				0.01	0.01		11												11		0.13	
12													12												12		0.00	
13					0.03	0.12	0.02	T			0.07	0.35	0.08	13	0.03	0.01	0.04	0.07	0.09	0.10	T	T			13	1.01		
14	T			0.01	T	T							14											T	14		0.01	
15													15												15		0.00	
16													16												16		0.00	
17													17												17		0.00	
18													18												18		0.00	
19													19			0.02	0.05	0.10	0.15	0.10	0.34	0.18	0.19	0.05	19		1.18	
20													20												20		0.00	
21													21												21		0.00	
22			0.03	0.03	T	T							22												22		0.06	
23													23												23		0.00	
24		0.01	0.05	0.10	0.20	0.21	0.10	0.08	0.03	0.02	0.03	0.03	24	0.01	0.01	0.01	0.01	0.01	0.02		0.01	0.01	0.03	0.07	0.02	24	1.07	
25	0.01	0.01	0.01	T	T	T		T	T	T	T	T	25	T	T	T									25		0.03	
26													26												26		0.00	
27													27												27		0.00	
28													28												28		0.00	
29													29												29		0.00	
30													30												30		0.00	
31													31				T	0.01	0.01	T	0.07	0.11	T	T	31		0.20	

MAXIMUM SHORT DURATION PRECIPITATION (See Note)

Time Period (Minutes)	5	10	15	20	30	45	60	80	100	120	150	180
Precipitation (Inches)	.06	.09	.13	.15	.20	.28	.37	.45	.50	.55	.68	.75
Ending Date	19	19	13	13	19	19	13	13	13	19	19	19
Ending Time (Hour/Min)	2045	2048	1015	1019	2212	2045	1041	1101	1119	2212	2220	2235

Date and time are not entered for TRACE amounts.

Note : The sum of the hourly totals is given when it differs from the daily total. NWS does not edit ASOS hourly values but may edit daily and monthly totals. Hourly, daily, and monthly totals are printed as reported by the ASOS site.

REFERENCE NOTES & SUPPLEMENTAL SUMMARIES

* = Extreme for the month (last occurrence if more than one)

T = Trace precipitation amount

+ = also occurs on earlier date

FG+ = Heavy fog, visibility .25 miles or less

BLANK entries denote missing or unreported data

Resultant wind is the vector sum of the wind speeds and directions divided by the number of observations.

Wind direction is recorded in tens of degrees (2 digits) clockwise from true north. '00' = calm, 'VR' = variable.

Precipitation is for the 24-hour period ending at the time indicated in the column heading.

Water Equivalent of snow on the ground is reported only when the depth is 2 or more inches.

NORMALS ARE FOR THE YEARS 1971–2000

WEATHER NOTATIONS

QUALIFIER	WEATHER PHENOMENA		
	PRECIPITATION	OBSCURATION	OTHER
BC Patches	DZ Drizzle	BR Mist	DS Duststorm
BL Blowing	GR Hail	DU Widespread Dust	FC Funnel Cloud
DR Low Drifting	GS Small Hail and/or Snow Pellets	FG Fog	+FC Tornado Waterspout
FZ Freezing	IC Ice Crystals	FU Smoke	PO Well-Developed Dust/Sand Whirls
MI Shallow	PL Ice Pellets	HZ Haze	SQ Squalls
PR Partial	RA Rain	PY Spray	SS Sandstorm
SH Shower(s)	SG Snow Grains	SA Sand	GL Glaze
TS Thunderstorm	SN Snow	VA Volcanic Ash	
VC In the Vicinity	UP Unknown Precipitation		

Intensity (as indicated on pages 4 to 6):
'+' = Heavy ' ' = Moderate '-' = Light

OAK RIDGE, TN DECEMBER 2002

Ceilorometer (30-second) data are used to derive cloudiness at or below 12,000 feet. This cloudiness is the mean cloud cover detected during sunrise to sunset (SR–SS), or midnight to midnight (MN–MN).

Satellite data are used to derive cloudiness above 12,000 feet. Effective Cloud Amount is based on the cloud cover and the transparency of the clouds within the satellite field of view (approx. 31x31 miles).

Sky Condition is based on the sum (not to exceed 8) of the sunrise to sunset cloud cover below and above 12,000 feet. Both ceilometer and satellite data must be present to compute Sky Condition. Clear = 0–2 oktas, Partly Cloudy = 3–6 oktas, Cloudy = 7–8 oktas.

A Heating (Cooling) Degree Day is the difference between the average daily temperature and 65 degrees F. The HDD season begins July 1, the CDD season begins January 1.

Dew Point is the temperature to which the air must be cooled to achieve 100% relative humidity. Wet Bulb is the temperature the air would have if cooled to saturation at constant pressure by evaporation of water into it.

Snow Depth, Snowfall, and Sunshine data may come from nearby sites that the National Weather Service deems Climatologically representative of this site.

ADDITIONAL NOTES:

DATE	SUNSHINE		CLOUDINESS (OKTAS)				VISIBILITY (MILES)		RESERVED
	TOTAL MINUTES	PERCENT POSSIBLE	SR–SS		MN–MN		MINIMUM	MAXIMUM	
			CEILOMETER	SATELLITE	CEILOMETER	SATELLITE			
01							10.00	10.00	
02							10.00	10.00	
03							.00	10.00	
04							1.50	10.00	
05							1.50	10.00	
06							5.00	10.00	
07							<.25	10.00	
08							.25	10.00	
09							4.00	10.00	
10							1.50	10.00	
11							1.00	10.00	
12							5.00	10.00	
13							1.00	10.00	
14							4.00	10.00	
15							1.50	10.00	
16							2.50	10.00	
17							5.00	10.00	
18							2.50	10.00	
19							1.00	10.00	
20							9.00	10.00	
21							10.00	10.00	
22							4.00	10.00	
23							10.00	10.00	
24							1.00	10.00	
25							.75	10.00	
26							6.00	10.00	
27							3.00	10.00	
28							4.00	10.00	
29							8.00	10.00	
30							4.00	10.00	
31							2.50	10.00	
MONTHLY AVGS							4.15	10.00	
SUNSHINE (MINUTES)									
Total: Possible: Percent Possible:									
NUMBER OF DAYS WITH:									
SKY CONDITION									
CLR PTLY CLDY CLOUDY MISSING									
31									
MINIMUM VISIBILITY (MILES)									
<=0.25 <=3.0 >=7.0									
2 15 7									

OBSERVATIONS AT 3-HOURLY INTERVALS

OAK RIDGE, TN

DECEMBER 2002

QQT

WBAN # 53868

HOUR (LST)	SATELLITE		WEATHER	TEMPERATURE °F			RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)		HOUR (LST)	SATELLITE		WEATHER	TEMPERATURE °F			RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)							
	SKY COVER	CEILING 100'S OF FT		OBSERVATION TIME (LST)	EFF CLD AMT Oktas	VISIBILITY (MILES)		DRY BULB	DEW POINT	WET BULB	SPEED (MPH)		DIRECTION TENS OF DEG	STATION		SEA LEVEL	SKY COVER	CEILING 100'S OF FT		OBSERVATION TIME (LST)	EFF CLD AMT Oktas	VISIBILITY (MILES)	DRY BULB	DEW POINT	WET BULB	SPEED (MPH)	DIRECTION TENS OF DEG	STATION	SEA LEVEL
SUNRISE: 0729 DEC 01 SUNSET: 1723																													
01	CLR	NC		10.00	29	13	24	51	6	VR	29.13	30.13	01	CLR	NC		4.00	BR	24	21	23	88	0	00	29.38	30.41			
04	CLR	NC		10.00	25	14	22	63	0	00	29.17	30.18	04	OVC	001		0.25	FZFG	22	21	22	96	0	00	29.37	30.40			
07	CLR	NC		10.00	24	13	21	62	6	20	29.22	30.24	07	VV	001		0.50	FZFG	22	22	22	100	0	00	29.39	30.44			
10	CLR	NC		10.00	28	9	23	45	3	VR	29.29	30.32	10	CLR	NC		2.50	BR	26	24	25	92	0	00	29.42	30.46			
13	CLR	NC		10.00	34	8	26	34	5	11	29.24	30.26	13	CLR	NC		10.00		41	21	34	45	8	20	29.36	30.39			
16	CLR	NC		10.00	37	9	28	31	5	VR	29.21	30.24	16	CLR	NC		10.00		46	20	36	35	7	VR	29.32	30.35			
19	CLR	NC		10.00	32	12	26	43	3	22	29.21	30.24	19	CLR	NC		10.00		37	25	32	62	0	00	29.32	30.35			
22	CLR	NC		10.00	29	15	25	56	0	00	29.22	30.25	22	CLR	NC		9.00		29	24	27	82	0	00	29.33	30.37			
SUNRISE: 0730 DEC 02 SUNSET: 1723																													
01	CLR	NC		10.00	26	16	23	66	0	00	29.20	30.23	01	CLR	NC		6.00	BR	26	23	25	88	0	00	29.34	30.36			
04	CLR	NC		10.00	24	17	22	75	0	00	29.21	30.24	04	VV	001		0.25	FZFG	25	24	25	96	0	00	29.36	30.38			
07	CLR	NC		10.00	24	18	22	77	0	00	29.20	30.23	07	VV	001		0.25	FZFG	24	23	24	96	0	00	29.38	30.41			
10	OVC	090		10.00	32	18	27	56	3	21	29.17	30.19	10	CLR	NC		2.50	BR	29	28	29	96	3	02	29.42	30.45			
13	OVC	085		10.00	39	17	31	41	6	VR	29.11	30.13	13	CLR	NC		10.00		40	26	35	58	5	04	29.38	30.40			
16	OVC	047		10.00	39	26	34	60	3	VR	29.07	30.09	16	CLR	NC		10.00		45	25	37	46	0	00	29.37	30.39			
19	OVC	050		10.00	38	30	35	73	0	00	29.08	30.09	19	CLR	NC		9.00		38	32	36	79	0	00	29.39	30.42			
22	SCT	NC		10.00	36	30	34	79	0	00	29.12	30.14	22	CLR	NC		7.00		37	33	35	86	0	00	29.43	30.45			
SUNRISE: 0731 DEC 03 SUNSET: 1723																													
01	BKN	044		10.00	34	30	32	85	0	00	29.14	30.15	01	CLR	NC		7.00		35	31	33	85	6	05	29.41	30.43			
04	OVC	038		10.00	38	32	36	79	3	22	29.16	30.17	04	CLR	NC		7.00		33	30	32	89	6	03	29.42	30.43			
07	CLR	NC		10.00	35	32	34	89	0	00	29.23	30.24	07	CLR	NC		7.00		32	28	31	85	3	04	29.42	30.44			
10				10.00							29.30		10	CLR	NC		9.00		38	28	34	68	8	06	29.44	30.46			
13	CLR	NC		10.00	49	33	42	55	10	06	29.30	30.30	13	CLR	NC		10.00		45	29	38	54	7	VR	29.39	30.40			
16	CLR	NC		10.00	45	30	39	56	7	VR	29.32	30.33	16	CLR	NC		10.00		47	27	39	46	5	04	29.34	30.35			
19	CLR	NC		10.00	37	28	34	70	8	05	29.35	30.37	19	CLR	NC		10.00		39	31	36	73	0	00	29.34	30.36			
22	BKN	110		10.00	38	26	33	62	7	05	29.40		22	CLR	NC		10.00		35	32	34	89	0	00	29.34	30.36			
SUNRISE: 0732 DEC 04 SUNSET: 1723																													
01	BKN	085		10.00	37	24	32	60	7	04	29.38	30.38	01	CLR	NC		9.00		35	32	34	89	3	06	29.29	30.30			
04	OVC	095		10.00	36	25	32	64	8	06	29.34	30.35	04	OVC	040		10.00		39	32	36	76	3	05	29.25	30.25			
07	OVC	043		4.00	RA BR	34	32	33	92	7	05	29.37	30.39	07	OVC	042		10.00		40	32	37	73	9	05	29.21	30.22		
10	OVC	007		2.00	RA BR	34	34	34	100	6	05	29.38	30.40	10	OVC	050		10.00		45	30	39	56	10	05	29.17	30.18		
13	OVC	023		1.75	RA BR	35	35	35	100	6	05	29.33	30.35	13	OVC	050		10.00	-RA	45	34	40	66	0	00	29.11	30.11		
16	OVC	007		2.00	RA BR	36	36	36	100	8	05	29.22	30.24	16	SCT	NC		10.00	-RA	45	41	43	86	5	06	29.00	30.00		
19	OVC	024		5.00	RA BR	37	37	37	100	6	05	29.13	30.15	19	OVC	070		2.50	-RA BR	43	43	43	100	0	00	28.99	29.98		
22	OVC	017		4.00	RA BR	38	38	38	100	3	09	29.08	30.10	22	OVC	060		4.00	-RA BR	45	44	45	97	7	06	28.97	29.96		
SUNRISE: 0733 DEC 05 SUNSET: 1723																													
01	OVC	010		2.00	RA BR	38	38	38	100	0	00	29.04	30.05	01	OVC	011		4.00	-RA BR	45	44	45	97	0	00	28.93	29.92		
04	OVC	014		9.00	-RA	39	38	39	96	3	VR	28.99	29.99	04	OVC	010		1.50	-RA BR	45	45	45	100	0	00	28.93	29.92		
07	OVC	007		2.50	-RA BR	41	40	41	96	3	VR	29.02	30.02	07	OVC	004		5.00	BR	43	43	43	100	3	22	28.95	29.94		
10	OVC	005		5.00	BR	42	41	42	96	5	23	29.06	30.06	10	OVC	010		5.00	BR	44	43	44	96	3	22	29.02	30.01		
13	OVC	023		10.00		41	36	39	82	7	35	29.08	30.08	13	OVC	040		10.00		44	41	43	89	10	26	29.04	30.03		
16	OVC	018		10.00		39	33	37	79	8	34	29.10	30.11	16	OVC	040		10.00		44	38	41	79	7	VR	29.08	30.07		
19	OVC	021		6.00	HZ	34	29	32	82	6	01	29.16	30.18	19	OVC	022		10.00		41	37	39	86	6	24	29.15	30.16		
22	OVC	035		7.00		33	29	31	85	0	00	29.22	30.23	22	OVC	018		10.00		39	36	38	89	6	VR	29.19	30.19		
SUNRISE: 0733 DEC 06 SUNSET: 1723																													
01	OVC	027		10.00	32	27	30	82	6	03	29.24	30.26	01	OVC	014		10.00		39	36	38	89	0	00	29.18	30.19			
04	OVC	027		10.00	30	22	27	72	7	35	29.27	30.29	04	OVC	007		8.00		39	37	38	93	0	00	29.21	30.21			
07	OVC	027		10.00	30	21	27	69	7	36	29.32	30.35	07	OVC	019		10.00		39	36	38	89	0	00	29.27	30.28			
10	OVC	027		10.00	30	19	26	64	7	06	29.38	30.40	10	OVC	015		7.00		40	37	39	89	3	09	29.30	30.32			
13	CLR	NC		10.00	35	20	30	54	3	VR	29.34	30.36	13	OVC	011		7.00		41	38	40	89	6	05	29.26	30.27			
16	CLR	NC		10.00	38	20	31	48	3	VR	29.32	30.34	16	OVC	013		5.00	HZ	42	37	40	82	5	06	29.20	30.21			
19	CLR	NC		10.00	30	24	28	79	0	00	29.34	30.37	19	OVC	013		8.00		41	38	40	89	6	VR	29.20	30.21			
22	CLR	NC		6.00	BR	26	24	25	92	0	00	29.36	30.40	22	OVC	013		9.00		41	38	40	89	6	07	29.11	30.12		

OBSERVATIONS AT 3-HOURLY INTERVALS

OAK RIDGE, TN

DECEMBER 2002

QQT

WBAN # 53868

HOUR (LST)	SATELLITE		VISIBILITY (MILES)	WEATHER	TEMPERATURE °F				WIND		PRESSURE (INCHES, HG)		HOUR (LST)	SATELLITE		VISIBILITY (MILES)	WEATHER	TEMPERATURE °F				WIND		PRESSURE (INCHES, HG)					
	SKY COVER	CEILING 100'S OF FT			OBSERVATION TIME (LST)	EFF CLD AMT Otktas	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY (PCT)	SPEED (MPH)	DIRECTION TENS OF DEG		STATION	SEA LEVEL			SKY COVER	CEILING 100'S OF FT	OBSERVATION TIME (LST)	EFF CLD AMT Otktas	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY (PCT)	SPEED (MPH)	DIRECTION TENS OF DEG	STATION	SEA LEVEL
SUNRISE: 0739 DEC 13 SUNSET: 1724																													
01	OVC	013	7.00		41	38	40	89	3	VR	29.07	30.07	01	CLR	NC	8.00		44	41	43	89	3	VR	29.15	30.13				
04	OVC	095	8.00		41	37	39	86	0	00	29.03	30.02	04	CLR	NC	7.00		42	40	41	92	5	23	29.13	30.11				
07	OVC	065	5.00	BR	39	39	39	100	8	06	28.87	29.86	07	BKN	043	5.00	BR	41	40	41	96	0	00	29.11	30.11				
10	OVC	018	1.00	+RA BR	44	42	43	93	5	02	28.75	29.74	10	OVC	034	7.00		49	44	47	83	0	00	29.10	30.09				
13	OVC	005	3.00	-RA BR	45	44	45	97	6	07	28.68	29.66	13	BKN	090	10.00		60	48	54	65	7	VR	28.91	29.88				
16	OVC	007	1.50	-RA BR	45	45	45	100	5	25	28.57	29.55	16	OVC	065	4.00	-RA	58	53	55	84	8	22	28.79	29.77				
19	OVC	010	10.00		44	43	44	96	7	23	28.61	29.59	19	OVC	037	2.00	-RA BR	56	54	55	93	7	26	28.71	29.69				
22	OVC	050	10.00		42	38	40	85	9	23	28.67	29.65	22	OVC	015	1.25	+RA BR	54	54	54	100	7	26	28.68	29.64				
SUNRISE: 0739 DEC 14 SUNSET: 1724																													
01	OVC	022	10.00		41	35	38	79	10	24	28.71	29.70	01	OVC	048	10.00		54	48	51	80	13	27	28.69	29.65				
04	OVC	020	10.00	-RA	39	34	37	82	12	25	28.79	29.78	04	OVC	033	10.00		49	43	46	80	7	26	28.75	29.72				
07	OVC	023	10.00		36	33	35	89	7	22	28.87	29.86	07	SCT	NC	10.00		43	34	39	71	0	00	28.85	29.83				
10	OVC	019	4.00	BR	37	34	36	89	5	26	28.98	29.98	10	SCT	NC	10.00		44	36	40	73	9	23	28.93	29.91				
13	OVC	023	8.00		39	31	36	73	3	VR	29.04	30.04	13	BKN	046	10.00		49	30	41	48	7	27	28.90	29.87				
16	OVC	032	7.00		40	31	36	70	0	00	29.08	30.09	16	FEW	NC	10.00		49	19	37	31	14	26	28.90	29.88				
19	OVC	034	7.00		39	31	36	73	0	00	29.12	30.14	19	CLR	NC	10.00		45	22	36	40	7	22	28.95	29.94				
22	OVC	034	5.00	BR	35	34	35	96	0	00	29.13	30.15	22	CLR	NC	10.00		42	23	35	47	6	23	29.00	29.99				
SUNRISE: 0740 DEC 15 SUNSET: 1724																													
01	OVC	034	4.00	BR	36	33	35	89	0	00	29.15	30.17	01	CLR	NC	10.00		36	24	32	62	3	21	29.03	30.02				
04	OVC	032	5.00	BR	36	32	34	86	0	00	29.15	30.16	04	CLR	NC	10.00		32	25	29	75	0	00	29.05	30.05				
07	CLR	NC	2.00	BR	30	30	30	100	0	00	29.14	30.16	07	CLR	NC	10.00		29	25	28	85	0	00	29.09	30.11				
10	CLR	NC	4.00	HZ	39	33	37	79	5	21	29.16	30.17	10	CLR	NC	10.00		39	24	33	55	6	24	29.16	30.16				
13	CLR	NC	9.00		47	33	41	59	6	VR	29.09	30.10	13	CLR	NC	10.00		50	22	39	33	9	22	29.13	30.13				
16	CLR	NC	10.00		50	34	43	54	6	23	29.03	30.02	16	CLR	NC	10.00		52	18	39	26	8	21	29.08	30.08				
19	CLR	NC	9.00		44	35	40	71	3	26	29.03	30.03	19	CLR	NC	10.00		44	23	36	43	0	00	29.08	30.09				
22	CLR	NC	8.00		38	35	37	89	0	00	29.04	30.04	22	CLR	NC	10.00		44	24	36	45	5	VR	29.07	30.06				
SUNRISE: 0741 DEC 16 SUNSET: 1724																													
01	CLR	NC	6.00	BR	36	33	35	89	0	00	29.04	30.03	01	OVC	100	10.00		43	24	36	47	5	28	29.03	30.01				
04	CLR	NC	7.00		38	35	37	89	8	21	29.04	30.03	04	OVC	050	5.00	-RA BR	39	37	38	93	3	VR	29.01	29.99				
07	CLR	NC	6.00	BR	37	34	36	89	3	29	29.04	30.03	07	OVC	030	10.00		41	38	40	89	3	23	29.00	29.99				
10	CLR	NC	7.00		44	37	41	76	3	25	29.06	30.06	10	BKN	046	10.00		47	41	44	80	5	VR	29.05	30.03				
13	CLR	NC	10.00		55	42	49	62	7	22	29.03	30.01	13	SCT	NC	10.00		57	38	48	49	10	27	29.04	30.02				
16	CLR	NC	10.00		59	44	51	58	6	VR	29.02	29.99	16	CLR	NC	10.00		57	32	46	39	10	27	29.08	30.06				
19	CLR	NC	10.00		50	45	47	83	0	00	29.06	30.05	19	CLR	NC	10.00		50	32	42	50	6	26	29.16	30.15				
22	BKN	055	7.00		45	43	44	93	0	00	29.08	30.06	22	CLR	NC	10.00		40	32	37	73	0	00	29.21	30.21				
SUNRISE: 0741 DEC 17 SUNSET: 1725																													
01	OVC	039	7.00		46	43	45	89	0	00	29.08	30.06	01	CLR	NC	10.00		36	31	34	82	0	00	29.24	30.23				
04	OVC	041	7.00		46	44	45	93	0	00	29.10	30.09	04	CLR	NC	10.00		31	30	31	96	0	00	29.28	30.29				
07	OVC	045	6.00	BR	45	44	45	97	0	00	29.13	30.12	07	CLR	NC	10.00		29	27	28	92	0	00	29.31	30.32				
10	SCT	NC	6.00	HZ	51	45	48	80	0	00	29.17	30.16	10	CLR	NC	10.00		35	30	33	82	0	00	29.35	30.37				
13	CLR	NC	10.00		59	47	53	64	0	00	29.10	30.09	13	CLR	NC	10.00		45	26	37	48	3	VR	29.24	30.25				
16	OVC	075	10.00		60	47	53	62	8	20	29.08	30.06	16	CLR	NC	10.00		47	24	38	41	0	00	29.18	30.19				
19	FEW	NC	10.00		53	46	49	77	0	00	29.11	30.10	19	CLR	NC	10.00		42	30	37	62	0	00	29.18	30.20				
22	CLR	NC	9.00		50	44	47	80	3	VR	29.17	30.16	22	OVC	080	10.00		43	29	37	58	3	06	29.14	30.15				
SUNRISE: 0742 DEC 18 SUNSET: 1725																													
01	CLR	NC	7.00		43	41	42	93	0	00	29.19	30.17	01	OVC	065	10.00		44	28	38	53	6	05	29.08	30.07				
04	CLR	NC	5.00	BR	39	38	39	96	0	00	29.22	30.20	04	OVC	065	3.00	RA BR	38	37	38	97	9	05	29.02	30.01				
07	CLR	NC	4.00	BR	38	38	38	100	0	00	29.21	30.21	07	OVC	060	5.00	-RA BR	38	38	38	100	12	05	28.87	29.86				
10	CLR	NC	8.00		47	38	43	71	0	00	29.26	30.25	10	OVC	012	10.00	-RA	40	40	40	100	9	05	28.76	29.75				
13	CLR	NC	10.00		57	39	48	51	9	21	29.19	30.17	13	OVC	022	2.50	-RA BR	43	43	43	100	3	07	28.71	29.69				
16	CLR	NC	10.00		61	39	50	44	9	22	29.15	30.14	16	OVC	016	1.50	-RA BR	44	44	44	100	0	00	28.66	29.64				
19	CLR	NC	10.00		55	41	48	59	6	21	29.17	30.16	19	OVC	005	1.75	BR	44	44	44	100	0	00	28.63	29.61				
22	SCT	NC	10.00		48	42	45	80	3	26	29.17	30.17	22	OVC	009	1.50	-RA BR	44	44	44	100	3	22	28.59	29.57				

OBSERVATIONS AT 3-HOURLY INTERVALS

OAK RIDGE, TN

DECEMBER 2002

QQT

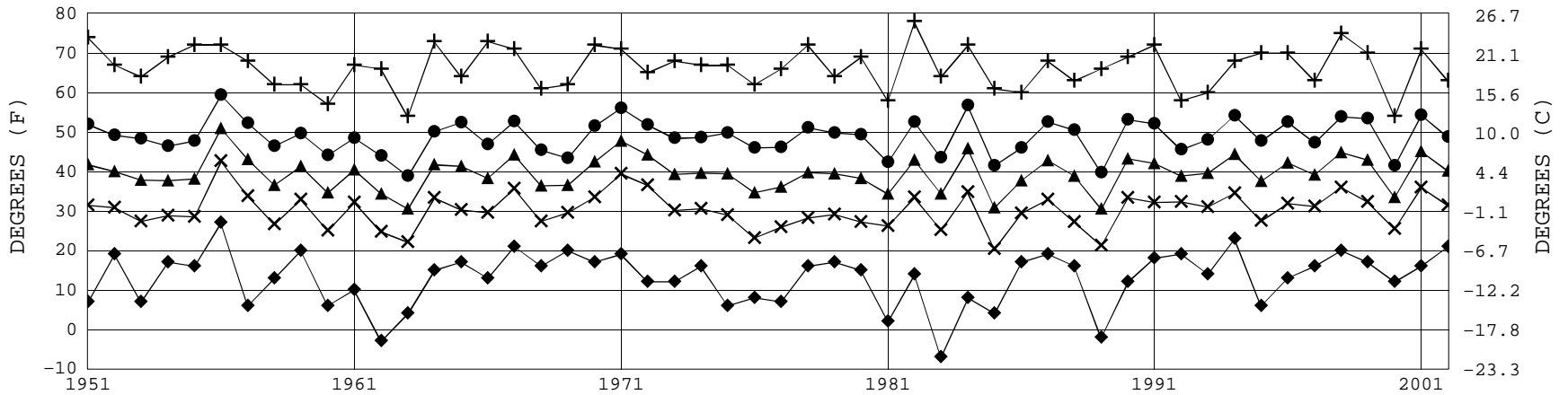
WBAN # 53868

HOUR (LST)	SKY COVER		CEILING 100'S OF FT	SATELLITE		OBSERVATION TIME (LST)	EFF CLD AMT Okta	VISIBILITY (MILES)	WEATHER	TEMPERATURE °F				WIND		PRESSURE (INCHES, HG)		HOUR (LST)	SKY COVER		CEILING 100'S OF FT	SATELLITE		OBSERVATION TIME (LST)	EFF CLD AMT Okta	VISIBILITY (MILES)	WEATHER	TEMPERATURE °F				WIND		PRESSURE (INCHES, HG)	
	DRY BULB	DEW POINT		WET BULB	RELATIVE HUMIDITY (PCT)					SPEED (MPH)	DIRECTION TENS OF DEG	STATION	SEA LEVEL	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY (PCT)		SPEED (MPH)	DIRECTION TENS OF DEG		STATION	SEA LEVEL												
SUNRISE: 0745										DEC 25				SUNSET: 1729				SUNRISE: 0747										DEC 31				SUNSET: 1733			
01	OVC	004						7.00		45	45	45	100	9	21	28.54	29.52	01	CLR	NC						10.00		44	39	42	83	0	00	29.13	30.12
04	OVC	043						10.00		36	31	34	82	13	25	28.67	29.66	04	CLR	NC						9.00		41	39	40	93	0	00	29.08	30.06
07	OVC	024						10.00		32	24	29	73	10	27	28.81	29.81	07	CLR	NC						8.00		38	37	38	97	0	00	29.08	30.08
10	OVC	016						0.75	-SN BR	30	26	29	85	9	26	28.94	29.94	10	BKN	048						8.00		48	40	44	74	6	09	29.08	30.07
13	OVC	035						6.00	-SN	31	23	28	72	12	28	28.98	29.98	13	SCT	NC						10.00		54	40	47	59	5	04	28.99	29.96
16	OVC	033						10.00		31	22	28	69	9	26	29.07	30.08	16	OVC	048						10.00		56	42	49	60	5	07	28.91	29.89
19	OVC	029						10.00		30	22	27	72	6	VR	29.16	30.18	19	OVC	042						7.00	-RA	51	48	50	89	7	05	28.86	29.84
22	OVC	027						10.00		30	21	27	69	6	28	29.24	30.27	22	OVC	034						2.50	-RA BR	50	50	50	100	5	05	28.78	29.76
SUNRISE: 0746										DEC 26				SUNSET: 1729				<h3>3-HOURLY OBSERVATION NOTES</h3> <p>Sky Cover is the amount of the sky obscured. CLR or SKC = 0, FEW = 1/8-2/8, SCT = 3/8-4/8, BKN = 5/8-7/8, OVC = 8/8, VV = Vertical Visibility = 8/8. Ceiling is reported in hundreds of feet above ground level for clouds at or below 12,000 feet. NC= No ceiling detected. & = Original observation contained additional weather elements. See page 3 for additional notes.</p>																	
01	OVC	023						10.00		30	21	27	69	3	25	29.27	30.29																		
04	OVC	028						10.00		29	22	27	75	3	VR	29.31	30.35																		
07	OVC	026						10.00		30	21	27	69	3	VR	29.34	30.37																		
10	OVC	024						10.00		30	22	27	72	6	VR	29.42	30.45																		
13	BKN	026						10.00		32	21	28	64	3	VR	29.37	30.40																		
16	CLR	NC						10.00		35	24	31	64	8	06	29.38	30.41																		
19	CLR	NC						10.00		30	24	28	79	3	02	29.39	30.42																		
22	CLR	NC						6.00	BR	27	24	26	89	3	05	29.40	30.44																		
SUNRISE: 0746										DEC 27				SUNSET: 1730																					
01	CLR	NC						5.00	BR	24	23	24	96	0	00	29.37	30.40																		
04	CLR	NC						4.00	BR	24	23	24	96	0	00	29.36	30.39																		
07	CLR	NC						4.00	BR	22	21	22	96	0	00	29.36	30.40																		
10	CLR	NC						5.00	BR	28	25	27	88	0	00	29.39	30.43																		
13	BKN	110						10.00		38	26	33	62	7	22	29.31	30.34																		
16	SCT	NC						10.00		43	23	35	45	3	VR	29.27	30.29																		
19	OVC	100						10.00		36	27	33	70	0	00	29.30	30.33																		
22	OVC	100						6.00	BR	32	28	31	85	0	00	29.32	30.35																		
SUNRISE: 0746										DEC 28				SUNSET: 1731																					
01	CLR	NC						6.00	BR	29	27	28	92	0	00	29.31	30.33																		
04	CLR	NC						5.00	BR	25	25	25	100	0	00	29.32	30.34																		
07	CLR	NC						6.00	BR	24	22	23	91	0	00	29.31	30.35																		
10	CLR	NC						6.00	BR	34	30	32	85	5	22	29.35	30.38																		
13	CLR	NC						10.00		44	31	39	60	7	26	29.25	30.27																		
16	CLR	NC						10.00		50	31	42	48	10	22	29.21	30.22																		
19	CLR	NC						10.00		42	31	37	65	0	00	29.21	30.23																		
22	CLR	NC						10.00		38	30	35	73	0	00	29.23	30.25																		
SUNRISE: 0747										DEC 29				SUNSET: 1731																					
01	CLR	NC						10.00		35	30	33	82	3	24	29.23	30.24																		
04	CLR	NC						10.00		34	29	32	82	6	VR	29.24	30.25																		
07	CLR	NC						10.00		33	29	31	85	6	VR	29.26	30.27																		
10	CLR	NC						10.00		42	31	37	65	3	VR	29.28	30.29																		
13	CLR	NC						10.00		53	34	44	49	5	22	29.23	30.23																		
16	CLR	NC						10.00		59	37	48	44	5	VR	29.19	30.19																		
19	CLR	NC						10.00		45	38	42	77	0	00	29.22	30.23																		
22	CLR	NC						10.00		38	36	37	93	0	00	29.22	30.23																		
SUNRISE: 0747										DEC 30				SUNSET: 1732																					
01	CLR	NC						10.00		37	35	36	93	6	23	29.22	30.22																		
04	CLR	NC						7.00		33	33	33	100	0	00	29.20	30.20																		
07	CLR	NC						4.00	BR	32	32	32	100	0	00	29.18	30.19																		
10	CLR	NC						9.00		39	36	38	89	5	23	29.23	30.24																		
13	SCT	NC						10.00		54	39	47	57	6	VR	29.16	30.16																		
16	CLR	NC						10.00		58	39	49	50	8	23	29.10	30.10																		
19	CLR	NC						10.00		52	39	46	61	0	00	29.13	30.13																		
22	CLR	NC						10.00		46	39	43	77	3	23	29.14	30.14																		

SUMMARY BY HOUR

HOUR (LST)	AVERAGES										RESULTANT WIND (MPH)	
	CEILOMETER	EFF CLD AMT	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY	PRESSURE (INCHES, HG)		VISIBILITY (MILES)	WIND SPEED (MPH)	SPEED	DIRECTION
							STATION	SEA LEVEL				
01			37	31	35	82	29.14	30.14	8.03	3	1	26
02			36	31	35	83	29.13	30.13	8.00	2	0	0
03			36	32	34	85	29.14	30.14	7.50	3	1	24
04			35	31	34	87	29.14	30.15	7.35	3	1	28
05			35	31	33	87	29.15	30.15	7.41	3	1	28
06			34	31	33	88	29.15	30.16	7.23	3	1	34
07			34	31	33	89	29.16	30.17	6.91	3	1	2
08			33	30	32	89	29.16	30.18	6.42	3	1	1
09			35	31	34	86	29.17	30.19	6.28	3	0	0
10			39	32	36	79	29.19	30.19	6.96	4	0	0
11			41	32	38	73	29.19	30.19	7.89	3	0	0
12			43	32	39	67	29.17	30.17	8.52	4	1	26
13			45	32	40	63	29.14	30.14	8.94	5	1	25
14			46	32	40	61	29.12	30.12	8.68	5	2	25
15			47	32	41	60	29.11	30.11	8.77	6	3	23
16			47	32	41	59	29.11	30.11	8.74	4	2	24
17			46	32	40	63	29.11	30.12	8.59	4	2	25
18			44	33	39	69	29.11	30.12	8.88	3	1	25
19			42	34	39	74	29.12	30.13	8.62	2	1	27
20			40	34	38	78	29.13	30.14	8.31	2	0	0
21			40	34	37	81	29.13	30.14	7.97	2	0	0
22			39	34	37	82	29.13	30.13	7.81	2	0	0
23			38	33	36	82	29.13	30.12	8.03	3	0	0
24			38	33	36	83	29.13	30.12	7.90	2	0	0

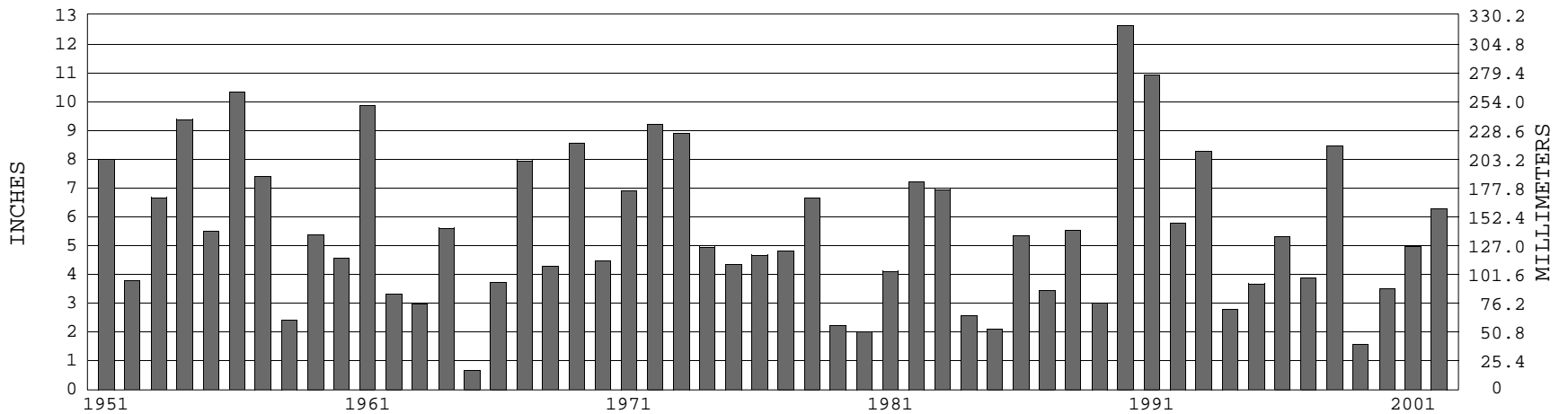
OAK RIDGE, TN DECEMBER TEMPERATURES



+ Extreme Max. ● Mean Max. ▲ Mean × Mean Min. ◆ Extreme Min.

Long-Term (1951-2002) Mean: 39.6 1961-1990 Normal: 39.4

OAK RIDGE, TN DECEMBER PRECIPITATION



Long-Term (1951-2002) Mean Monthly Total: 5.54

1961-1990 Normal: 5.42



DECEMBER 2002

OAK RIDGE, TN

LOCAL CLIMATOLOGICAL DATA

NOAA, National Climatic Data Center

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