



# JULY 2016 LOCAL CLIMATOLOGICAL DATA

## NOAA, National Climatic Data Center

**KNOXVILLE, TN**  
**MC GHEE TYSON AIRPORT (KTYS)**  
**Lat:35° 49'N Long: 83° 59'W Elev (Ground) 962 Feet**  
**Time Zone : EASTERN WBAN: 13891 ISSN#: 0198-4810**



Date 1	Temperature °F						Deg Days BASE 65°		WEATHER 10	SNOW/ICE ON GND(IN)		PRECIPITATION ON GND(IN)		PRESSURE (INCHES OF HG)		WIND SPEED = MPH DIR = TENS OF DEGREES								Date 24
	MAXIMUM 2	MINIMUM 3	AVERAGE 4	DEP FROM NORMAL 5	AVERAGE DEW PT 6	AVERAGE WET BULB 7	HEATING 8	COOLING 9		0700 LST	1300 LST	2400 LST	2400 LST	AVERAGE STATION 15	AVERAGE SEA LEVEL 16	RESULTANT SPEED 17	RES DIR 18	AVERAGE SPEED 19	MAXIMUM					
																			3-SEC		2-MIN			
20	21	22	23	24																				
01	89	65*	77*	0	61	67	0	12		0		0.0	0.00	28.95	29.97	3.1	25	3.5	18	24	15	23	01	
02	93	69	81	4	63	69	0	16		0		0.0	0.00	29.00	30.01	2.5	30	4.0	18	25	14	25	02	
03	94	73	84	7	68	72	0	19	RA BR	0		0.0	0.02	29.00	30.00	0.6	33	3.4	31	30	24	30	03	
04	95	73	84	7	69	74	0	19	TS TSRA RA BR	0		0.0	0.13	28.94	29.94	10.1	22	10.5	44	28	35	28	04	
05	86	72	79	2	71	73	0	14	TS TSRA RA FG+ BR	0		0.0	1.90	28.95	29.97	10.9	23	11.6	38	28	30	28	05	
06	90	70	80	3	70	72	0	15	TS TSRA RA BR VCTS	0		0.0	0.43	29.00	30.00	9.3	23	10.2	44	24	33	23	06	
07	88	69	79	2	69	71	0	14	TS TSRA RA BR VCTS	0		0.0	0.50	28.95	29.95	7.4	24	9.9	51	33	33	32	07	
08	92	69	81	4	69	72	0	16	TS TSRA RA GS FG+ BR VCTS	0		T	0.70	28.97	29.97	7.3	24	9.2	63*	31	36	32	08	
09	88	69	79	1	67	71	0	14	RA	0		0.0	0.05	28.98	29.99	5.8	24	7.5	21	30	16	30	09	
10	88	70	79	1	65	70	0	14		0		0.0	0.00	29.00	30.00	1.0	36	2.1	11	34	6	35	10	
11	88	69	79	1	67	71	0	14		0		0.0	0.00	29.01	30.03	2.8	27	3.8	16	26	12	29	11	
12	89	72	81	3	68	71	0	16	RA	0		0.0	T	29.03	30.06	4.2	24	7.8	36	25	30	23	12	
13	91	70	81	3	68	72	0	16	TS VCTS	0		0.0	0.00	29.07	30.08	4.2	22	5.0	21	21	17	21	13	
14	93	70	82	4	68	71	0	17	TS RA VCTS	0		0.0	0.07	29.00	30.02	6.8	24	8.2	35	24	26	25	14	
15	88	69	79	1	68	71	0	14		0		0.0	0.00	29.00	30.01	0.8	08	3.4	11	32	8	32	15	
16	88	71	80	2	68	72	0	15	VCTS	0		0.0	0.00	29.03	30.06	1.2	35	3.8	19	07	14	06	16	
17	93	67	80	2	68	72	0	15	FG+ BR	0		0.0	0.00	29.13	30.15	1.1	29	3.7	14	29	10	28	17	
18	94	72	83	5	70	74	0	18	RA	0		0.0	T	29.16	30.18	2.9	24	5.3	20	29	15	29	18	
19	94	71	83	5	70	74	0	18	TS TSRA RA	0		0.0	T	29.15	30.16	1.6	31	2.6	23	34	16	35	19	
20	96	72	84	6	67	73	0	19		0		0.0	0.00	29.13	30.14	2.6	03	4.3		9		02	20	
21	96	76	86	8	66	72	0	21	RA	0		0.0	T	29.08	30.09	2.6	35	5.1	15	23	12	23	21	
22	95	74	85	7	69	73	0	20	TS RA	0		0.0	T	29.03	30.03	3.5	25	4.4	22	30	17	31	22	
23	96	75	86	8	70	74	0	21	TS RA VCTS	0		0.0	T	28.96	29.97	2.4	24	5.0	34	17	28	18	23	
24	94	70	82	4	70	74	0	17		0		0.0	0.00	28.98	30.00	2.4	27	4.4	16	26	12	22	24	
25	97	76	87	9	70	75	0	22		0		0.0	0.00	28.97	29.99	3.9	25	6.0	18	21	15	21	25	
26	97*	76	87*	9	71	75	0	22	RA VCTS	0		0.0	0.07	28.97	29.99	3.2	24	5.4	17	10	14	10	26	
27	96	74	85	7	71	75	0	20		0		0.0	0.00	28.95	29.96	5.9	22	7.5	21	21	18	21	27	
28	88	74	81	3	69	73	0	16	RA BR	0		0.0	0.04	28.92	29.92	12.6	22	13.2	32	23	26	21	28	
29	91	73	82	4	71	73	0	17	TS TSRA RA BR	0		0.0	0.89	28.94	29.95	4.7	21	7.0	50	27	38*	24	29	
30	91	71	81	3	70	73	0	16	RA BCFG	0		0.0	T	28.95	29.96	4.1	24	5.6	16	24	13	24	30	
31	91	74	83	5	69	73	0	18		0		0.0	0.00	28.98	30.00	2.9	27	5.5	17	35	14	32	31	

91.9	71.5	81.7	☼	68.4	72.3	0.0	16.9	< MONTHLY AVERAGES   TOTALS >				T	4.80	29.00	30.02	3.7	24	6.1	< MONTHLY AVERAGES			
3.7	2.8	3.3		-----DEPARTURE FROM NORMAL ----->								-0.28	SUNSHINE, CLOUD, & VISIBILITY TABLES ON PAGE 3									

<b>DEGREE DAYS</b>				<b>GREATEST 24-HR PRECIPITATION :</b> 2.03 <b>DATE :</b> 04-05				<b>SEA LEVEL PRESSURE</b>			
<b>MONTHLY</b>				<b>GREATEST 24-HR SNOWFALL :</b> T <b>DATE :</b> 08				<b>MAXIMUM :</b> 30.24 <b>DATE</b> 18 <b>TIME</b> 1053			
<b>TOTAL DEPARTURE</b>				<b>GREATEST SNOW DEPTH :</b> 0 <b>DATE :</b>				<b>MINIMUM :</b> 29.86 <b>DATE</b> 28 <b>TIME</b> 1553			
<b>SEASON TO DATE</b>				<b>NUMBER OF -&gt; DAYS WITH</b>				<b>MAXIMUM TEMP &gt;= 90 :</b> 21			
<b>HEATING :</b> 0 0 0 0				<b>MAXIMUM TEMP &lt;= 32 :</b> 0				<b>MINIMUM TEMP &lt;= 0 :</b> 0			
<b>COOLING :</b> 525 108 1134 250				<b>THUNDERSTORMS :</b> 11				<b>HEAVY FOG :</b> 3			
				<b>PRECIPITATION &gt;= 0.01 INCH :</b> 11				<b>PRECIPITATION &gt;= 0.10 INCH :</b> 6			
				<b>SNOWFALL &gt;= 1.0 INCH :</b> 0							

**JULY 2016  
KNOXVILLE, TN**

# HOURLY PRECIPITATION

(WATER EQUIVALENT IN INCHES)

KNOXVILLE, TN (KTYS)  
JULY 2016

WBAN # 13891

Date	FOR HOUR (LST) ENDING AT												Date	FOR HOUR (LST) ENDING AT												Date	Sum of Hourly Data	2400 LST Water Equiv.
	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													01												01	0.00	0.00	
02													02												02	0.00	0.00	
03													03		T		T		0.02		T				03	0.02	0.02	
04													04						T	0.13					04	0.13	0.13	
05													05	T	T	0.13	1.56	0.01							05	1.90	1.90	
06													06						T	0.28	0.12	0.03		T	06	0.43	0.43	
07													07						0.04	0.46					07	0.50	0.50	
08													08						0.70	T					08	0.70	0.70	
09	0.05	T											09												09	0.05	0.05	
10													10												10	0.00	0.00	
11													11												11	0.00	0.00	
12													12												12	T	T	
13													13			T		T							13	0.00	0.00	
14													14							0.04	0.03				14	0.07	0.07	
15													15												15	0.00	0.00	
16													16												16	0.00	0.00	
17													17												17	0.00	0.00	
18													18				T								18	T	T	
19													19				T								19	T	T	
20													20												20	0.00	0.00	
21													21												21	T	T	
22													22												22	T	T	
23	T												23												23	T	T	
24													24												24	0.00	0.00	
25													25												25	0.00	0.00	
26													26												26	0.07	0.07	
27													27												27	0.00	0.00	
28													28		T	T			0.01						28	0.04	0.04	
29													29				0.58	0.01		0.08	0.22		T		29	0.89	0.89	
30													30												30	T	T	
31													31												31	0.00	0.00	

\* Indicates sum of Hourly and Daily disagree.

### MAXIMUM SHORT DURATION PRECIPITATION (See Note)

Time Period (Minutes)	5	10	15	20	30	45	60	80	100	120	150	180
Precipitation (Inches)												
Ending Date												
Ending Time (Hr/Min)												

Note : The hourly and daily precipitation totals are printed in the last 2 columns and hi-lighted in red when they disagree. 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.

Date and time are not entered for TRACE amounts.

# 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.

Ceilometer (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).

## WEATHER NOTATIONS

QUALIFIER	WEATHER PHENOMENA		
DESCRIPTOR	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	
PR Partial	RA Rain	PY Spray	SQ Squalls
SH Shower(s)	SG Snow Grains	SA Sand	SS Sandstorm
TS Thunderstorm	SN Snow	VA Volcanic Ash	
VC In the Vicinity	UP Unkown Precipitation		GL Glaze

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

# KNOXVILLE, TN JULY 2016

Sky Condition is based on the sum (not to exceed 8) of the sunrise to sunset cloud cover below and above 12,000 feet.

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.

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

NORMALS ARE FOR THE YEARS 1981-2010

### ADDITIONAL NOTES & ERRATA:

Station Augmentation-CONTRACTOR ON AIRPORT  
 Lat/Lon:/ Elevation:  
 Distance:2200 FT Dir:W  
 Augmented Elements:Temp,Precip,Snow  
 Equipment:SRG, PSY, Snow Board, Snow stick

Date	VISIBILITY (MILES)	
	MINIMUM	MAXIMUM
01	10.00	10.00
02	10.00	10.00
03	5.00	10.00
04	4.00	10.00
05	0.25	10.00
06	2.00	10.00
07	3.00	10.00
08	3.00	10.00
09	9.00	10.00
10	10.00	10.00
11	10.00	10.00
12	10.00	10.00
13	10.00	10.00
14	6.00	10.00
15	10.00	10.00
16	10.00	10.00
17	0.25	10.00
18	10.00	10.00
19	10.00	10.00
20	9.00	10.00
21	10.00	10.00
22	10.00	10.00
23	10.00	10.00
24	10.00	10.00
25	10.00	10.00
26	10.00	10.00
27	10.00	10.00
28	8.00	10.00
29	1.50	10.00
30	9.00	10.00
31	10.00	10.00
<b>AVGS</b>	7.74	10.00
<b>MINIMUM VISIBILITY (MILES)</b>		
	<= .25	<= 3.0    >= 7.0
	2	6    22





OBSERVATIONS AT 3-HOURLY INTERVALS

KNOXVILLE, TN

JULY 2016

KTYS

WBAN # 13891

Main table containing 2 columns of hourly observations for July 25, 26, 27, 28, 29, and 30. Each column includes time, sky cover, ceiling, visibility, weather, temperature (dry bulb, dew point, wet bulb), relative humidity, wind (speed, direction), and pressure (station, sea level).

3-HOURLY OBSERVATION NOTES
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, W = Vertical Visibility = 8/8

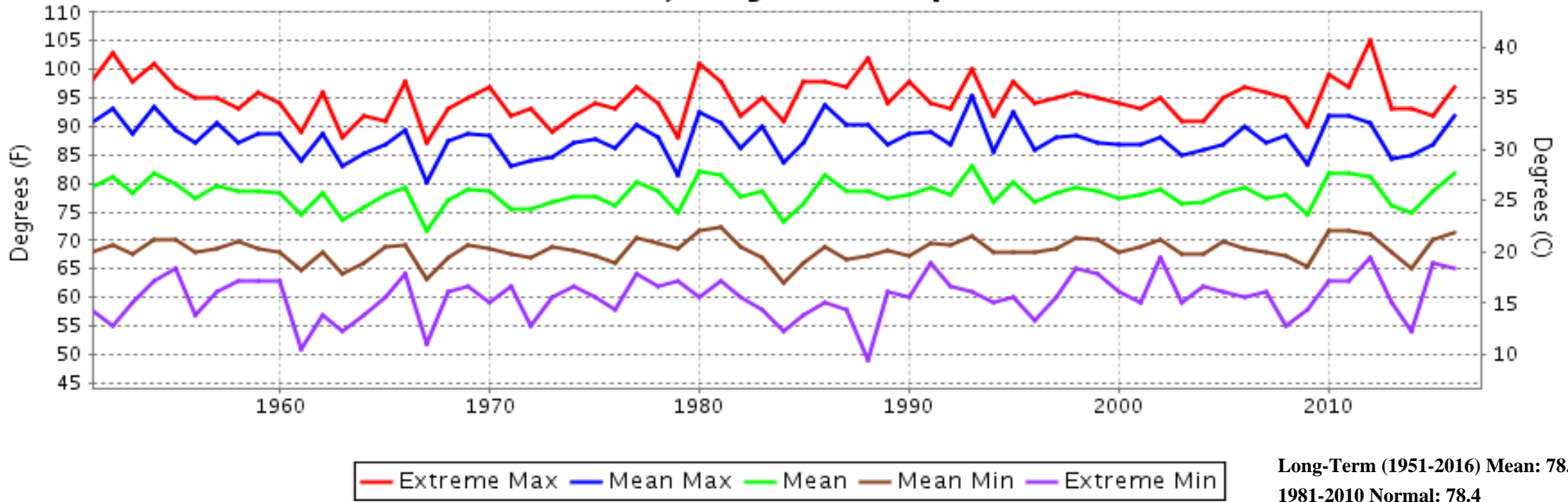
Ceiling is reported in hundreds of feet above ground level for clouds at or below 12,000 feet.
NC = No Ceiling detected.

& = Original observation contained additional weather elements.
See page 3 for additional notes.

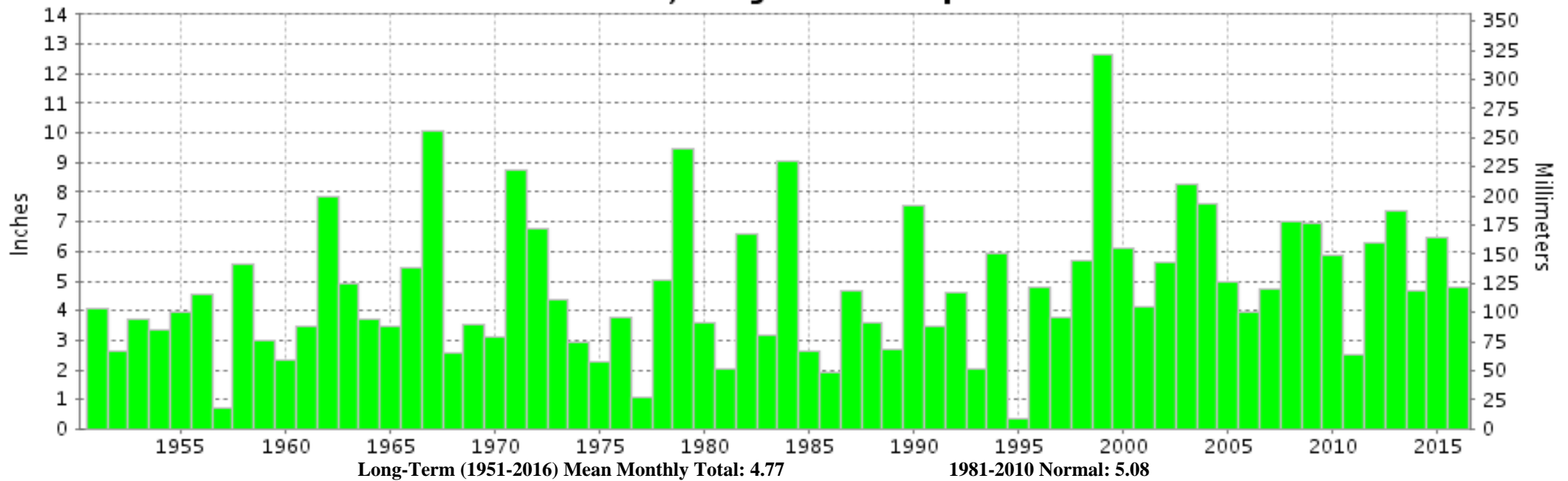
SUMMARY BY HOUR

Summary by hour table with columns for Hour (LST), Dry Bulb, Dew Point, Wet Bulb, Relative Humidity, Station Pressure, Sea Level Pressure, Visibility, Wind Speed, and Wind Direction. It provides averaged data for each hour from 01 to 24.

# KNOXVILLE, TN JULY Temperatures



# KNOXVILLE, TN JULY Precipitation





**JULY 2016**  
**KNOXVILLE, TN**

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*I certify that this is an official publication of the National Oceanic and Atmospheric Administration (NOAA). It is compiled using information from weather observing sites operated by NOAA-National Weather Service / Department Of Transportation-Federal Aviation Administration and received at the National Climatic Data Center (NCDC), Asheville, North Carolina 28801.*

A handwritten signature in black ink, appearing to read "Thomas R. Karl".

**DIRECTOR**

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We welcome your questions or comments, please contact us at:  
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