

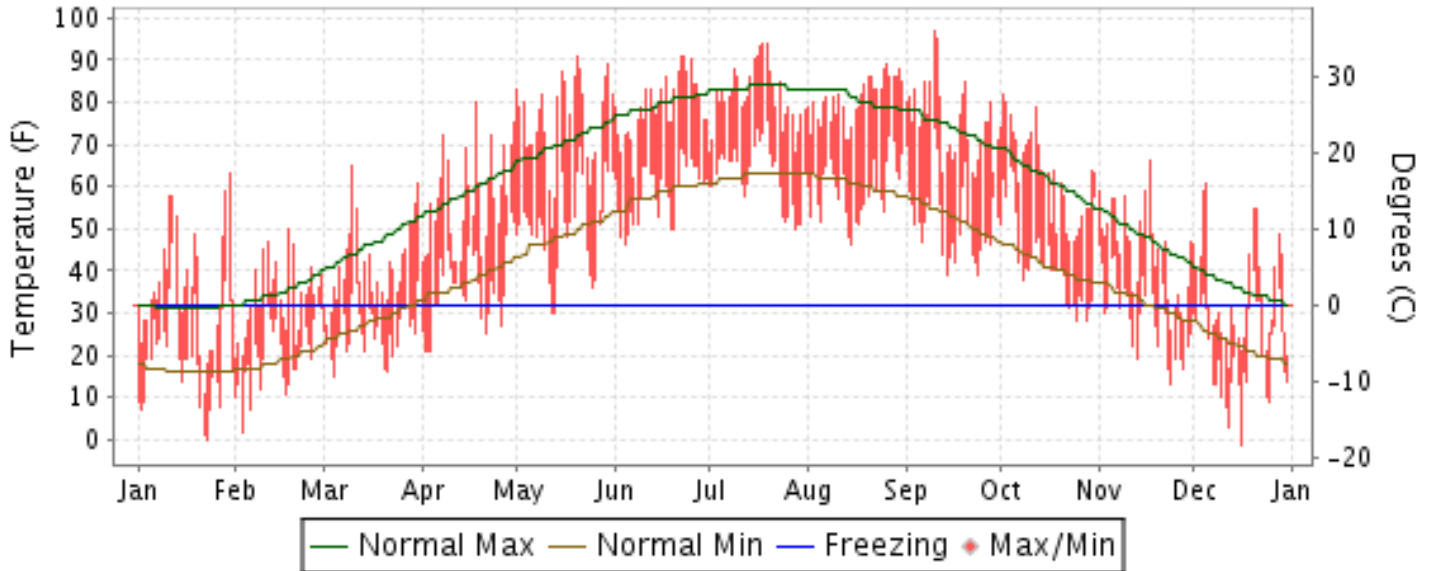


# 2013 LOCAL CLIMATOLOGICAL DATA ANNUAL SUMMARY WITH COMPARATIVE DATA

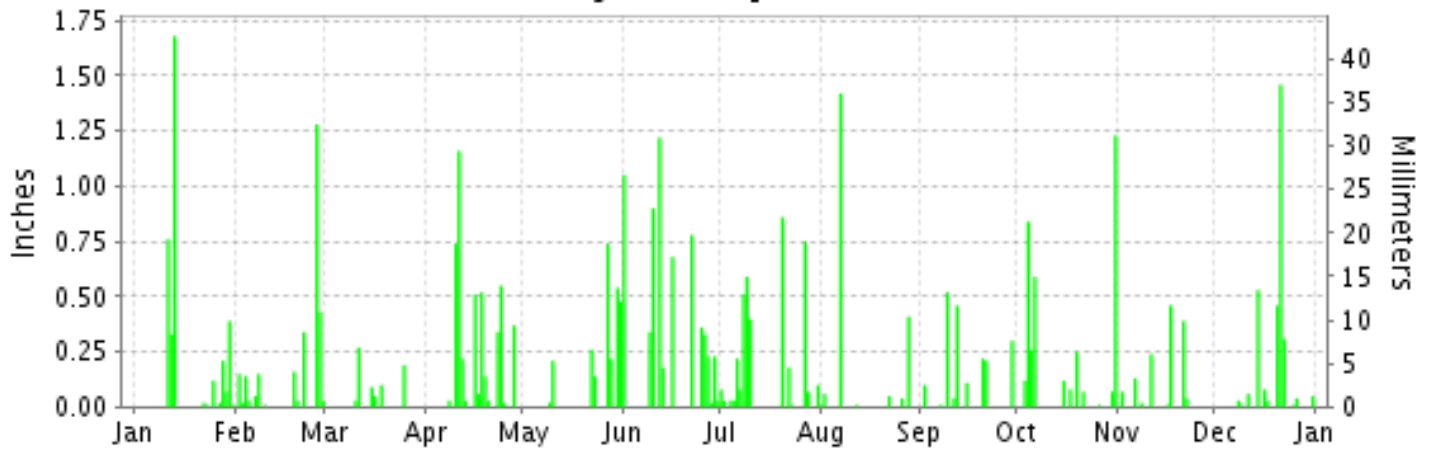
ISSN 0198-4012

## TOLEDO, OHIO (KTOL)

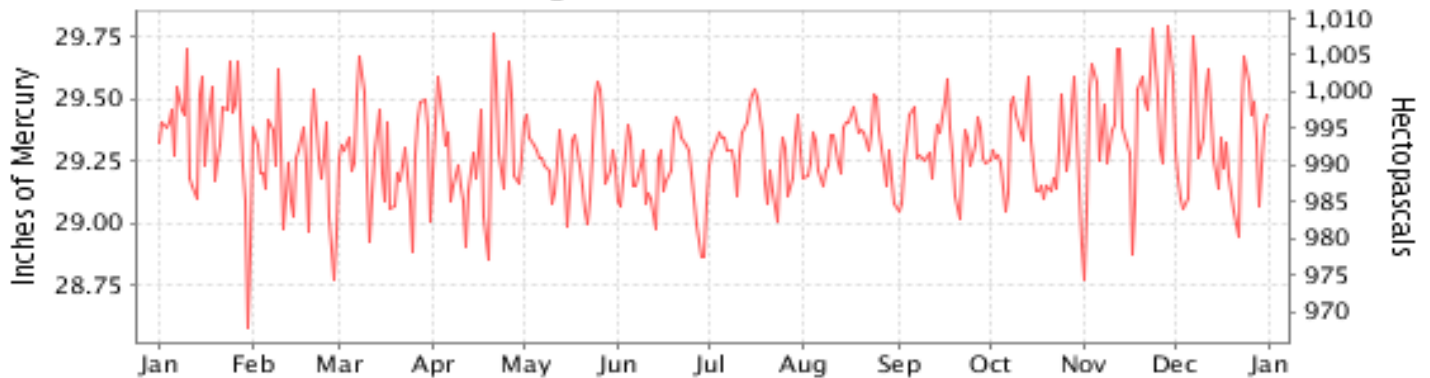
### Daily Max/Min Temperature



### Daily Precipitation



### Daily Station Pressure



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ASHEVILLE, NORTH CAROLINA

*Thomas R. Karl*  
DIRECTOR  
NATIONAL CLIMATIC DATA CENTER

# METEOROLOGICAL DATA FOR 2013

## TOLEDO (KTOL)

LATITUDE: 41° 35'N      LONGITUDE: 83° 48'W      ELEVATION (FT): GRND: 669 BARO: 693      TIME ZONE: EASTERN (UTC -5)      WBAN: 94830

ELEMENT		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	
TEMPERATURE °F	MEAN DAILY MAXIMUM	36.1	33.7	41.0	57.0	74.9	79.3	81.5	80.8	75.5	63.0	45.2	34.5	58.5	
	HIGHEST DAILY MAXIMUM	63	50	65	80	91	91	94	89	97	82	66	61	97	
	DATE OF OCCURRENCE	30	18	10	18	20	23+	19+	26	10	02	17	05	SEP 10	
	MEAN DAILY MINIMUM	19.9	19.8	25.8	35.9	50.5	58.8	62.9	59.5	52.1	42.7	30.3	20.7	39.9	
	LOWEST DAILY MINIMUM	0	2	15	21	30	46	50	46	39	28	13	-1	-1	
	DATE OF OCCURRENCE	23	03	04	04+	13+	04	28	15	24+	28+	24	16	DEC 16	
	AVERAGE DRY BULB	28.0	26.8	33.4	46.4	62.7	69.1	72.2	70.1	63.8	52.9	37.7	27.6	49.2	
	MEAN WET BULB	24.8		29.4	40.8	54.6	62.0	66.2	63.7	58.3	48.9		25.8		
	MEAN DEW POINT	19.3		22.4	32.8	47.0	57.1	62.8	59.7	54.4	45.1		21.2		
	NUMBER OF DAYS WITH:														
	MAXIMUM >= 90°	0	0	0	0	1	3	5	0	2	0	0	0	0	11
	MAXIMUM <= 32°	13	12	6	0	0	0	0	0	0	0	4	18	53	
MINIMUM <= 32°	26	28	28	10	2	0	0	0	0	6	18	26	144		
MINIMUM <= 0°	1	0	0	0	0	0	0	0	0	0	0	1	2		
H/C	HEATING DEGREE DAYS	1141	1064	971	550	157	31	13	16	118	390	811	1151	6413	
	COOLING DEGREE DAYS	0	0	0	0	94	162	245	181	90	21	0	0	793	
RH	MEAN (PERCENT)	73	74	66	64	60	69	75	73	75	78	69	76	71	
	HOUR 01 LST	76	78	74	74	75	83	86	90	89	89	75	80	81	
	HOUR 07 LST	79	80	75	71	65	77	81	80	86	89	76	80	78	
	HOUR 13 LST	65	65	55	50	42	52	60	53	51	59	57	70	57	
	HOUR 19 LST	72	73	62	60	57	67	73	74	81	81	69	77	71	
W/O	NUMBER OF DAYS WITH:														
	HEAVY FOG(VISBY <= 1/4 MI)	0	0	0	0	0	0	0	0	0	0	0	0	0	
	THUNDERSTORMS	0	0	0	5	4	9	8	2	0	2	1	0	31	
PR	MEAN STATION PRESS. (IN.)	29.35	29.23	29.26	29.28	29.26	29.19	29.29	29.30	29.29	29.28	29.41	29.33	29.29	
	MEAN SEA-LEVEL PRESS. (IN.)	30.14	30.00	30.04	30.04	30.00	29.92	30.03	30.04	30.03	30.04	30.18	30.10	30.05	
WINDS	RESULTANT SPEED (MPH)	6.8	4.2	3.9	1.7	1.2	1.3	1.4	1.5	1.1	3.9	5.3	5.6	2.9	
	RES. DIR. (TENS OF DEGS.)	24	25	30	23	20	30	25	27	30	24	25	24	26	
	MEAN SPEED (MPH)	9.8	9.7	10.0	9.5	7.8	6.8	5.7	4.8	5.1	6.3	9.4	9.7	7.9	
	PREVAIL.DIR.(TENS OF DEGS.)	24	25	28	09	09	23	23	23	23	25	21	24	24	
	MAXIMUM 2-MINUTE WIND														
	SPEED (MPH)	44	36	37	38	32	43	28	31	28	26	41	32	44	
	DIR. (TENS OF DEGS.)	26	26	25	25	26	01	25	24	36	24	25	24	26	
	DATE OF OCCURRENCE	20	19	11	19	30	27	27	28	12	31	17	10	JAN 20	
	MAXIMUM 3-SECOND WIND:														
	SPEED (MPH)	56	49	44	52	43	56	33	36	37	37	56	43	56	
DIR. (TENS OF DEGS.)	27	26	25	19	26	31	24	25	35	25	25	26	25		
DATE OF OCCURRENCE	20	11	11	18	30	22	19	28	12	06	17	10	NOV 17		
PRECIPITATION	WATER EQUIVALENT:														
	TOTAL (IN.)	3.62	2.82	0.73	4.72	2.61	6.35	3.94	2.00	1.97	3.64	1.36	3.07	36.83	
	GREATEST 24-HOUR (IN.)	2.01	1.41	0.30	1.50	0.88	1.40	0.96	1.42	0.52	1.23	0.47	1.62	2.01	
	DATE OF OCCURRENCE	12-13	26-27	10-11	10-11	27-28	12-13	08-09	07	09	31	16-17	21-22	JAN 12-13	
	NUMBER OF DAYS WITH:														
PRECIPITATION 0.01	11	13	6	14	8	13	15	7	9	11	8	12	127		
PRECIPITATION 0.10	6	7	3	9	7	11	8	2	7	7	4	4	75		
PRECIPITATION 1.00	1	1	0	1	0	2	0	1	0	1	0	1	8		
SNOWFALL	SNOW,ICE PELLETS,HAIL														
	TOTAL (IN.)	3.1	12.4	1.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.5	11.2	28.9	
	GREATEST 24-HOUR (IN.)	1.8	3.8	1.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.5	7.4	7.4	
	DATE OF OCCURRENCE	25	02	25	20							11	14	DEC 14	
	MAXIMUM SNOW DEPTH (IN.)	3	3	1	0	0	0	0	0	0	0	1	6	6	
	DATE OF OCCURRENCE	06+	06+	25								12	19+	DEC 19+	
	NUMBER OF DAYS WITH:														
SNOWFALL >= 1.0	1	4	1	0	0	0	0	0	0	0	0	1	7		

# NORMALS, MEANS, AND EXTREMES TOLEDO (KTOL)

**LATITUDE:** 41° 35'N      **LONGITUDE:** 83° 48'W      **ELEVATION (FT):** GRND: 669 BARO: 693      **TIME ZONE:** EASTERN (UTC -5)      **WBAN: 94830**

ELEMENT		POR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
<b>TEMPERATURE °F</b>	NORMAL DAILY MAXIMUM	30	32.6	36.0	46.9	60.1	71.0	80.7	84.5	82.2	75.4	62.8	49.7	36.4	59.9
	MEAN DAILY MAXIMUM	59	31.3	34.6	45.9	59.5	70.9	80.0	84.0	81.9	75.0	62.8	48.8	36.0	59.2
	HIGHEST DAILY MAXIMUM	58	66	71	85	88	96	104	104	99	98	91	80	70	104
	YEAR OF OCCURRENCE		2008	2000	2012	2002	2012	1988	1995	1993	1978	1963	2003	2001	JUL 1995
	MEAN OF EXTREME MAXS.	59	51.8	55.5	70.6	81.1	87.5	93.1	94.4	91.9	89.7	80.9	68.6	57.0	76.8
	NORMAL DAILY MINIMUM	30	18.4	20.6	28.3	38.7	48.5	58.3	62.4	60.9	52.8	41.8	33.2	23.1	40.6
	MEAN DAILY MINIMUM	59	16.6	18.9	27.4	37.6	47.8	57.0	61.5	59.7	52.1	41.0	32.0	22.0	39.5
	LOWEST DAILY MINIMUM	58	-20	-14	-6	8	25	32	40	34	26	15	2	-19	-20
	YEAR OF OCCURRENCE		1984	1982	1984	1982	2005	1972	1988	1982	1974	1976	1958	1989	JAN 1984
	MEAN OF EXTREME MINS.	59	-4.1	-0.7	9.4	22.0	32.7	43.2	49.3	47.1	35.9	25.5	16.3	1.8	23.2
	NORMAL DRY BULB	30	25.5	28.3	37.6	49.4	59.8	69.5	73.5	71.5	64.1	52.3	41.4	29.7	50.2
	MEAN DRY BULB	59	24.0	26.8	36.6	48.6	59.4	68.7	72.8	70.9	63.5	51.9	40.4	29.0	49.4
	MEAN WET BULB	30	23.0	25.3	32.1	41.5	52.0	61.0	65.2	64.2	57.3	46.1	36.6	26.9	44.3
	MEAN DEW POINT	30	21.0	22.0	29.4	38.4	49.5	58.9	63.4	62.8	55.2	44.0	34.4	25.0	42.0
	NORMAL NO. DAYS WITH: MAXIMUM >= 90	30	0.0	0.0	0.0	0.0	0.8	3.7	5.7	3.2	0.9	0.0	0.0	0.0	14.3
MAXIMUM <= 32	30	15.0	9.8	3.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.1	10.5	39.9	
MINIMUM <= 32	30	27.0	24.2	20.2	6.7	0.4	0.0	0.0	0.0	0.1	3.9	14.7	24.8	122.0	
MINIMUM <= 0	30	2.9	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	5.3	
<b>H/C</b>	NORMAL HEATING DEG. DAYS	30	1224	1027	850	476	208	35	3	11	110	402	707	1092	6145
	NORMAL COOLING DEG. DAYS	30	0	0	0	8	45	170	265	214	82	9	0	0	793
<b>RH</b>	NORMAL (PERCENT)	30	77	75	70	66	67	69	71	76	76	74	76	79	73
	HOURLY 01 LST	30	80	79	77	75	79	83	85	89	88	83	80	82	82
	HOURLY 07 LST	30	81	81	81	79	80	82	86	91	92	87	83	83	84
	HOURLY 13 LST	30	71	67	60	53	53	55	56	59	58	58	66	73	61
	HOURLY 19 LST	30	76	72	65	58	57	59	61	68	71	71	74	78	68
<b>S</b>	PERCENT POSSIBLE SUNSHINE	40	41	46	50	52	60	64	65	63	61	54	37	33	52
<b>W/O</b>	MEAN NO. DAYS WITH: HEAVY FOG (VISIB <= 1/4 MI)	50	1.7	1.6	1.7	0.7	0.8	1.0	0.7	1.4	1.5	1.6	1.4	2.1	16.2
	THUNDERSTORMS	59	0.2	0.5	1.6	3.2	4.5	5.9	6.1	5.0	3.0	1.1	0.7	0.2	32.0
<b>CLOUDINESS</b>	MEAN: SUNRISE-SUNSET (OKTAS)														
	MIDNIGHT-MIDNIGHT (OKTAS)														
	MEAN NO. DAYS WITH: CLEAR				2.0		2.0								
	PARTLY CLOUDY				1.0										
	CLOUDY	1	1.0	1.0	2.0										
<b>PR</b>	MEAN STATION PRESSURE (IN)	30	29.31	29.31	29.29	29.23	29.24	29.23	29.25	29.29	29.31	29.31	29.32	29.32	29.28
	MEAN SEA-LEVEL PRES. (IN)	30	30.08	30.08	30.06	29.98	29.98	29.96	29.99	30.02	30.05	30.06	30.08	30.09	30.04
<b>WINDS</b>	MEAN SPEED (MPH)	30	10.5	10.1	10.2	10.4	8.8	7.6	6.9	6.3	6.8	8.2	9.6	9.8	8.8
	PREVAIL. DIR. (TENS OF DEGS)	39	25	25	07	07	07	24	24	24	25	24	25	24	25
	MAXIMUM 2-MINUTE: SPEED (MPH)	18	47	46	46	48	46	53	49	43	40	45	51	48	53
	DIR. (TENS OF DEGS)		26	26	24	25	25	25	25	26	23	24	21	30	25
	YEAR OF OCCURRENCE		2008	2001	2002	1997	2000	2007	2011	1998	2010	1996	2005	1998	JUN 2007
	MAXIMUM 3-SECOND SPEED (MPH)	18	56	56	69	61	68	62	61	54	49	59	66	66	69
	DIR. (TENS OF DEGS)		27	26	23	27	27	26	24	26	24	25	24	25	23
YEAR OF OCCURRENCE		2013	2001	2002	2003	1999	2007	2011	1998	2010	1996	1998	2008	MAR 2002	
<b>PRECIPITATION</b>	NORMAL (IN)	30	2.05	2.07	2.48	3.19	3.58	3.57	3.23	3.15	2.78	2.60	2.86	2.68	34.24
	MAXIMUM MONTHLY (IN)	58	4.61	5.50	5.70	6.30	6.80	8.48	9.19	8.47	8.10	6.26	7.15	6.81	9.19
	YEAR OF OCCURRENCE		1965	2008	1985	2011	2000	1981	2006	1965	1972	2001	2011	1967	JUL 2006
	MINIMUM MONTHLY (IN)	58	0.27	0.27	0.58	0.88	0.96	0.27	0.34	0.40	0.58	.27	0.55	0.54	0.27
	YEAR OF OCCURRENCE		1961	1969	1958	1962	1964	1988	1995	1976	1963	2005	1976	1958	OCT 2005
	MAXIMUM IN 24 HOURS (IN)	58	2.01	2.59	2.60	3.43	2.34	3.21	4.39	2.42	3.97	3.21	3.17	3.53	4.39
	YEAR OF OCCURRENCE		2013	1990	1985	1977	1991	1978	1969	1972	1972	1988	1982	1967	JUL 1969
NORMAL NO. DAYS WITH: PRECIPITATION >= 0.01	30	12.7	10.2	11.8	12.0	12.0	10.2	9.8	9.2	9.7	10.0	11.4	13.1	132.1	
PRECIPITATION >= 1.00	30	0.1	0.3	0.3	0.4	0.9	0.8	0.7	0.7	0.5	0.5	0.6	0.3	6.1	
<b>SNOWFALL</b>	NORMAL (IN)	30	11.6	9.4	5.7	1.3	0.1	0.0	0.0	0.0	0.0	0.2	1.9	7.4	37.6
	MAXIMUM MONTHLY (IN)	52	30.8	25.3	17.7	12.0	1.3	T	T	T	T	2.0	17.9	24.2	30.8
	YEAR OF OCCURRENCE		1978	2011	1993	1957	1989	1995	2012	1994	1993	1989	1966	1977	JAN 1978
	MAXIMUM IN 24 HOURS (IN)	52	12.0	10.0	9.7	9.8	1.3	T	T	T	T	1.8	8.3	13.9	13.9
	YEAR OF OCCURRENCE		2005	2010	1993	1957	1989	1995	2012	1994	1993	1989	1966	1974	DEC 1974
	MAXIMUM SNOW DEPTH (IN)	50	17	19	8	10	1	0	0	0	0	1	8	16	19
	YEAR OF OCCURRENCE		1978	1978	2002	1957	1989					1989	1966	1977	FEB 1978
NORMAL NO. DAYS WITH: SNOWFALL >= 1.0	30	3.5	3.0	1.8	0.3	0.0	0.0	0.0	0.0	0.0	0.1	0.7	2.3	11.7	

**PRECIPITATION (inches) 2013 TOLEDO (KTOL)**

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1984	0.99	1.18	2.95	5.15	3.48	1.49	2.30	3.87	2.02	1.75	2.74	3.22	31.14
1985	2.02	3.23	5.70	1.40	1.85	2.90	3.86	4.30	2.53	3.05	5.89	1.62	38.35
1986	0.99	2.46	2.16	2.81	2.72	5.32	3.37	5.93	4.75	4.78	1.66	1.87	38.82
1987	1.87	0.53	1.78	1.72	2.32	5.62	1.51	4.45	2.31	2.21	2.59	3.80	30.71
1988	1.17	1.33	1.69	1.45	1.37	0.27	3.76	5.11	1.80	4.37	4.27	1.96	28.55
1989	1.80	0.74	2.03	3.50	4.87	6.74	6.31	3.59	3.30	1.36	1.89	1.29	37.42
1990	2.18	5.39	3.46	2.09	4.63	3.14	1.89	3.32	1.72	2.63	2.27	5.69	38.41
1991	1.41	1.42	1.42	4.29	4.82	1.51	0.52	1.94	0.73	5.53	2.15	1.51	27.25
1992	1.70	1.68	3.05	3.41	3.18	1.28	6.51	2.40	4.01	1.77	4.45	3.60	37.04
1993	3.17	1.71	3.46	3.06	1.13	4.60	1.60	1.15	4.50	1.51	2.73	1.25	29.87
1994	2.83	1.88	2.06	4.86	1.11	3.63	2.14	3.05	0.93	1.00	2.69	3.01	29.19
1995	3.07	0.57	1.59	4.52	2.96	4.46	0.34	2.72	1.41	3.71	2.72	0.89	28.96
1996	2.22	0.95	2.67	3.85	2.62	4.91	1.81	.74	2.74	1.75	2.79	2.92	29.97
1997	2.35	4.27	2.53	1.55	6.76	3.70	2.63	4.07	4.74	1.24	2.16	2.07	38.07
1998	2.96	3.77	3.32	4.54	2.07	1.73	2.70	5.44	0.96	2.13	1.63	0.61	31.86
1999	3.17	1.67	1.42	4.89	4.93	1.86	2.87	1.40	1.50	1.92	1.46	1.71	28.80
2000	1.19	1.08	1.84	3.55	6.80	5.52	2.29	4.15	4.98	2.83	1.36	2.53	38.12
2001	0.52	2.45	0.64	2.47	5.06	2.87	1.87	2.48	4.72	6.26	2.11	1.96	33.41
2002	2.67	1.67	3.07	4.14	3.31	2.00	1.94	1.22	2.10	1.70	2.60	2.67	29.09
2003	1.29	1.87	2.11	2.57	5.69	3.12	4.04	3.32	5.27	2.75	1.99	3.25	37.27
2004	1.29	0.44	2.36	0.97	4.67	3.89	2.57	4.10	1.41	2.36	3.33	2.08	29.47
2005	4.52	2.73	0.80	2.71	2.08	1.66	5.03	1.76	2.82	0.27	4.02	3.17	31.57
2006	2.93	1.86	2.48	1.35	6.60	3.91	9.19	3.23	2.35	4.29	3.03	4.49	45.71
2007	3.56	0.96	1.91	3.77	2.23	2.95	3.40	8.26	1.45	1.81	2.79	3.86	36.95
2008	2.20	5.50	4.34	2.13	2.51	5.55	5.37	1.12	4.14	1.50	3.10	4.40	41.86
2009	1.59	3.72	4.82	4.76	2.77	3.82	2.98	2.96	2.96	3.94	0.67	3.03	38.02
2010	0.89	2.07	2.29	4.69	5.91	3.95	5.02	2.42	1.72	0.95	3.26	1.44	34.61
2011	2.09	4.17	3.09	6.30	5.88	0.51	3.34	3.19	6.51	3.16	7.15	3.37	48.76
2012	2.42	1.78	3.84	1.74	1.50	2.92	3.45	4.91	2.58	2.06	0.99	2.15	30.34
2013	3.62	2.82	0.73	4.72	2.61	6.35	3.94	2.00	1.97	3.64	1.36	3.07	36.83
POR= 59 YRS	1.99	1.97	2.49	3.17	3.26	3.55	3.30	3.20	2.76	2.28	2.71	2.67	33.35

WBAN : 94830

**AVERAGE TEMPERATURE (°F) 2013 TOLEDO (KTOL)**

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1984	16.6	33.0	27.6	46.8	54.4	71.2	69.8	71.2	60.8	55.2	38.7	34.0	48.3
1985	19.5	22.6	39.3	53.5	61.6	64.8	73.2	69.1	64.0	53.3	43.9	22.3	48.9
1986	25.6	25.0	39.2	50.0	60.3	66.8	73.8	67.0	65.3	53.2	37.2	31.6	49.6
1987	25.8	30.0	39.7	50.3	62.5	70.8	74.9	71.0	63.8	45.4	44.4	33.0	51.0
1988	23.8	23.3	37.5	48.1	61.0	69.3	75.9	73.9	62.5	45.2	41.8	28.0	49.2
1989	33.1	24.5	36.7	45.5	57.2	68.2	73.2	69.8	61.8	52.2	38.5	16.8	48.1
1990	34.3	32.4	41.1	49.4	56.6	69.1	71.8	70.0	63.7	51.8	44.3	33.1	51.5
1991	25.2	31.6	40.3	52.6	67.0	72.6	74.6	73.0	62.9	55.0	37.9	33.0	52.1
1992	28.8	31.9	36.1	47.4	57.9	65.1	70.1	67.8	61.9	49.6	40.8	32.9	49.2
1993	30.2	24.7	34.3	48.3	60.6	68.1	76.1	74.3	61.1	49.8	39.7	29.5	49.7
1994	17.1	23.0	36.7	50.8	57.2	71.0	72.6	67.1	64.1	53.6	45.9	35.7	49.6
1995	28.2	25.7	40.5	46.8	60.1	72.3	76.5	78.5	62.8	55.8	36.6	25.4	50.8
1996	23.7	26.9	31.7	46.1	57.5	70.8	70.5	72.3	64.3	53.1	34.4	31.6	48.6
1997	21.9	31.4	38.6	46.2	52.5	68.8	71.7	67.3	62.4	52.1	36.6	31.3	48.4
1998	33.0	36.3	40.0	50.0	66.0	70.2	73.3	72.2	67.2	53.5	42.9	35.1	53.3
1999	24.4	33.6	34.4	50.7	62.6	70.8	77.3	69.7	65.1	51.5	44.8	31.0	51.3
2000	23.8	33.3	43.8	48.2	61.8	69.0	70.3	70.2	62.5	55.4	39.9	18.3	49.7
2001	26.0	30.4	35.2	51.5	61.4	68.7	72.7	73.4	63.1	53.6	48.5	37.0	51.8
2002	35.2	34.9	36.6	52.4	56.3	72.2	77.6	74.2	69.0	50.6	40.1	29.3	52.4
2003	20.8	23.9	36.5	48.8	56.9	66.3	71.6	72.8	62.9	51.8	45.4	31.8	49.1
2004	20.5	28.0	40.6	51.1	62.0	67.4	72.3	68.1	66.2	52.5	42.9	29.2	50.1
2005	24.2	29.3	34.0	50.2	56.4	74.3	74.9	73.9	67.3	54.3	42.9	25.2	50.6
2006	36.6	30.3	37.7	52.8	59.9	68.9	74.8	73.0	62.3	49.8	42.6	37.2	52.2
2007	29.9	17.3	40.9	47.8	63.0	70.7	71.1	73.2	66.5	59.0	39.8	29.5	50.7
2008	27.4	25.0	33.8	50.8	57.6	70.1	73.6	71.7	66.3	50.9	38.4	27.7	49.4
2009	16.5	28.6	39.7	49.7	59.4	68.7	68.9	70.9	65.0	49.2	45.0	28.6	49.2
2010	24.3	26.3	41.2	54.4	63.0	72.2	76.7	74.1	65.1	54.9	41.5	24.6	51.5
2011	21.2	25.3	36.1	48.1	61.1	70.8	78.9	71.7	62.8	52.4	45.2	35.1	50.7
2012	30.3	32.9	50.9	49.5	64.9	71.1	77.9	70.6	62.2	51.6	39.0	35.3	53.0
2013	28.0	26.8	33.4	46.4	62.7	69.1	72.2	70.1	63.8	52.9	37.7	27.6	49.2
POR= 59 YRS	24.0	26.8	36.6	48.6	59.4	68.7	72.8	70.9	63.5	51.9	40.4	29.0	49.4

**HEATING DEGREE DAYS (base 65°F) 2013 TOLEDO (KTOL)**

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1984-85	11	15	173	297	782	951	1404	1182	791	368	158	58	6190
1985-86	0	16	138	356	626	1316	1216	1113	793	449	185	54	6262
1986-87	2	54	87	365	828	1027	1209	972	778	439	173	20	5954
1987-88	5	34	89	601	611	986	1269	1202	845	498	159	53	6352
1988-89	4	5	104	613	691	1141	979	1127	869	578	270	29	6410
1989-90	0	14	159	396	789	1488	947	907	742	492	262	31	6227
1990-91	4	3	125	415	612	981	1228	928	758	377	115	7	5553
1991-92	0	0	167	315	806	986	1116	953	889	525	245	62	6064
1992-93	7	25	146	473	719	987	1072	1123	943	493	156	48	6192
1993-94	0	3	151	465	756	1095	1479	1170	868	442	272	34	6735
1994-95	0	34	87	344	566	897	1137	1091	753	537	160	6	5612
1995-96	3	0	124	287	846	1221	1272	1099	1027	559	279	11	6728
1996-97	6	0	100	365	911	1027	1329	937	813	557	382	44	6471
1997-98	4	22	112	430	848	1037	985	795	783	447	63	72	5598
1998-99	0	3	52	363	655	920	1255	871	942	425	113	39	5638
1999-00	0	7	85	411	599	1047	1272	911	652	495	163	43	5685
2000-01	1	12	149	296	746	1445	1201	963	919	409	144	54	6339
2001-02	7	0	117	352	490	860	915	833	874	420	293	16	5177
2002-03	0	0	39	469	740	1099	1362	1143	877	491	242	55	6517
2003-04	0	1	102	409	582	1019	1374	1069	748	429	149	34	5916
2004-05	3	26	54	380	656	1102	1258	993	954	436	268	7	6137
2005-06	0	0	37	352	655	1229	875	964	840	360	216	15	5543
2006-07	0	0	114	469	667	852	1048	1328	739	515	140	18	5890
2007-08	3	9	65	238	753	1093	1159	1152	959	421	244	12	6108
2008-09	1	1	30	431	790	1151	1496	1011	779	482	179	34	6385
2009-10	4	10	62	484	595	1124	1255	1077	728	327	153	9	5828
2010-11	0	1	87	312	699	1244	1351	1103	887	501	183	7	6375
2011-12	0	1	137	385	587	916	1070	922	445	464	90	26	5043
2012-13	0	3	145	414	775	914	1141	1064	971	550	157	31	6165
2013-	13	16	118	390	811	1151							

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**COOLING DEGREE DAYS (base 65°F) 2013 TOLEDO (KTOL)**

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1984	0	0	0	5	17	203	168	214	51	1	0	0	659
1985	0	0	0	29	60	58	263	147	116	0	0	0	673
1986	0	0	1	4	48	113	282	125	103	4	0	0	680
1987	0	0	0	5	105	202	318	225	59	0	4	0	918
1988	0	0	0	0	43	190	350	286	39	5	0	0	913
1989	0	0	2	0	34	132	259	168	69	5	0	0	669
1990	0	0	7	32	11	164	222	164	91	14	0	0	705
1991	0	0	0	14	185	244	305	256	111	13	0	0	1128
1992	0	0	0	3	32	66	170	120	59	2	0	0	452
1993	0	0	0	0	26	148	351	297	41	1	0	0	864
1994	0	0	0	22	39	222	245	104	66	1	0	0	699
1995	0	0	0	0	16	230	367	426	64	8	0	0	1111
1996	0	0	0	2	53	191	184	234	85	2	0	0	751
1997	0	0	0	0	0	163	215	101	41	34	0	0	554
1998	0	0	13	0	100	233	263	236	126	11	0	0	982
1999	0	0	0	2	46	220	386	161	95	2	0	0	912
2000	0	0	2	0	69	168	170	182	82	6	0	0	679
2001	0	0	0	10	40	171	254	268	64	6	0	0	813
2002	0	0	0	50	32	240	398	290	165	29	0	0	1204
2003	0	0	0	9	2	101	216	250	47	7	1	0	633
2004	0	0	0	18	63	114	234	129	96	1	0	0	655
2005	0	0	0	0	10	294	317	281	114	28	0	0	1044
2006	0	0	0	4	64	141	310	256	42	4	0	0	821
2007	0	0	0	4	84	198	200	270	118	58	0	0	932
2008	0	0	0	2	21	172	275	213	78	1	0	0	762
2009	0	0	0	31	13	152	134	200	67	0	0	0	597
2010	0	0	0	17	96	231	368	288	95	5	0	0	1100
2011	0	0	0	0	71	190	436	218	80	2	0	0	997
2012	0	0	19	4	97	218	403	184	67	6	0	0	998
2013	0	0	0	0	94	162	245	181	90	21	0	0	793

## SNOWFALL (inches) 2013 TOLEDO (KTOL)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1984-85	0.0	0.0	0.0	0.0	2.4	5.1	14.0	12.4	2.6	2.0	0.0	0.0	38.5
1985-86	0.0	0.0	0.0	0.0	2.5	8.7	6.6	10.2	2.2	0.2	0.0	0.0	30.4
1986-87	0.0	0.0	0.0	T	4.5	1.3	20.5	0.5	10.0	2.4	0.0	0.0	39.2
1987-88	0.0	0.0	0.0	T	0.1	11.1	8.3	14.3	4.2	T	0.0	0.0	38.0
1988-89	0.0	0.0	0.0	T	2.3	6.6	2.4	4.8	2.6	0.7	1.3	0.0	20.7
1989-90	0.0	0.0	0.0	2.0	2.3	6.5	2.5	10.4	3.5	0.3	0.0	0.0	27.5
1990-91	0.0	0.0	0.0	0.0	T	8.2	5.0	10.1	T	T	0.0	0.0	23.3
1991-92	0.0	0.0	0.0	T	1.7	2.5	10.5	3.0	12.5	0.1	0.0	0.0	30.3
1992-93	T	0.0	0.0	1.0	0.2	5.2	6.3	10.2	17.7	0.8	0.0	0.0	41.4
1993-94	0.0	T	T	0.8	1.1	6.9	20.2	16.6	4.2	7.0	0.0	T	56.8
1994-95	0.0	T	0.0	0.0	T	4.8	13.6	1.2	2.6	0.1	0.0	T	22.3
1995-96	0.0	0.0	0.0	0.0	6.8	7.0	11.0	2.5	4.4	T	0.0	0.0	31.7
1996-97	0.0	0.0	0.0	0.0	8.1	15.6	15.1	3.3	3.2	T	0.0	0.0	45.3
1997-98	0.0	0.0	0.0	T	5.2	5.2	2.6	0.9	2.1	0.0	0.0	0.0	16.0
1998-99	0.0	0.0	0.0	0.0	0.0	0.5	21.9	7.3	12.7	0.0	0.0	0.0	42.4
1999-00	0.0	0.0	0.0	0.0	T	3.1	12.2	4.7	2.5	0.2	0.0	0.0	22.7
2000-01	0.0	0.0	0.0	0.0	1.2	26.0	3.2	1.9	5.2	T	0.0	0.0	37.5
2001-02	0.0	0.0	0.0	T	0.0	1.2	2.5	3.9	11.4	T	0.0	0.0	19.0
2002-03	0.0	0.0	0.0	0.0	5.7	13.6	14.1	18.8	3.7	0.5	0.0	0.0	56.4
2003-04	0.0	0.0	0.0	0.0	0.7	9.3	14.0	1.1	3.9	T	0.0	0.0	29.0
2004-05	0.0	0.0	0.0	0.0	0.5	10.0	27.6	6.4	7.5	4.0	0.0	0.0	56.0
2005-06	0.0	0.0	0.0	0.0	5.0	21.5	1.9	1.5	1.6	0.0	0.0	0.0	31.5
2006-07	0.0	0.0	0.0	T	T	1.6	6.7	14.2	3.6	2.4	0.0	0.0	28.5
2007-08	0.0	0.0	0.0	0.0	0.8	10.1	6.2	23.6	17.4	T	0.0	0.0	58.1
2008-09	0.0	0.0	0.0	T	2.4	7.0	30.7	5.2	0.1	0.5	0.0	0.0	45.9
2009-10	0.0	0.0	0.0	0.0	T	7.0	8.0	24.1	T	0.0	0.0	0.0	39.1
2010-11	0.0	0.0	0.0	0.0	T	6.0	13.7	25.3	4.7	T	0.0	0.0	49.7
2011-12	0.0	0.0	0.0	0.0	1.4	3.3	6.7	5.7	3.7	T	0.0	0.0	20.8
2012-13	T	0.0	0.0	T	T	7.0	3.1	12.4	1.4	0.3	0.0	0.0	24.2
2013-	0.0	0.0	0.0	0.0	0.5	11.2							
POR= 59 YRS	T	T	T	0.1	2.6	8.4	10.1	8.4	5.7	1.2	0.0	T	36.5

WBAN : 94830

### REFERENCE NOTES :

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).

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).

GENERAL:

T INDICATES TRACE PRECIPITATION, AN AMOUNT GREATER THAN ZERO BUT LESS THAN THE LOWEST REPORTABLE VALUE.

+ INDICATES THE VALUE ALSO OCCURS ON EARLIER DATES.

BLANK ENTRIES DENOTE MISSING OR UNREPORTED DATA.

ASOS INDICATES AUTOMATED SURFACE OBSERVING SYSTEM.

PM INDICATES THE LAST DAY OF THE PREVIOUS MONTH.

POR (PERIOD OF RECORD) BEGINS WITH THE JANUARY DATA MONTH AND IS THE NUMBER OF YEARS USED TO COMPUTE THE MEAN. INDIVIDUAL MONTHS WITHIN THE POR MAY BE MISSING.

WHEN THE POR FOR A NORMAL IS LESS THAN 30 YEARS, THE NORMAL IS PROVISIONAL AND IS BASED ON THE NUMBER OF YEARS INDICATED.

0.\* OR \* INDICATES THE VALUE OR MEAN-DAYS-WITH IS BETWEEN 0.00 AND 0.05.

CLOUDINESS FOR ASOS STATIONS DIFFERS FROM THE NON-ASOS OBSERVATION TAKEN BY A HUMAN OBSERVER. ASOS STATION CLOUDINESS IS BASED ON TIME-AVERAGED CEILOMETER DATA FOR CLOUDS AT OR BELOW 12,000 FEET

CLEAR INDICATES 0 - 2 OKTAS, PARTLY CLOUDY INDICATES 3 - 6 OKTAS, AND CLOUDY INDICATES 7 OR 8 OKTAS.

GENERAL CONTINUED:

WIND DIRECTION IS RECORDED IN TENS OF DEGREES (2 DIGITS) CLOCKWISE FROM TRUE NORTH. "00" INDICATES CALM. "36" INDICATES TRUE NORTH.

RESULTANT WIND IS THE VECTOR AVERAGE OF THE SPEED AND DIRECTION.

AVERAGE TEMPERATURE IS THE SUM OF THE MEAN DAILY MAXIMUM AND MINIMUM TEMPERATURE DIVIDED BY 2.

SNOWFALL DATA COMPRISE ALL FORMS OF FROZEN

PRECIPITATION, INCLUDING HAIL.

A HEATING (COOLING) DEGREE DAY IS THE DIFFERENCE BETWEEN THE AVERAGE DAILY TEMPERATURE AND 65 F.

DRY BULB IS THE TEMPERATURE OF THE AMBIENT AIR.

DEW POINT IS THE TEMPERATURE TO WHICH THE AIR MUST BE COOLED TO ACHIEVE 100 PERCENT RELATIVE HUMIDITY.

WET BULB IS THE TEMPERATURE THE AIR WOULD HAVE IF THE MOISTURE CONTENT WAS INCREASED TO 100 PERCENT RELATIVE HUMIDITY.

ON JULY 1, 1996, THE NATIONAL WEATHER SERVICE BEGAN USING THE "METAR" OBSERVATION CODE THAT WAS ALREADY EMPLOYED BY MOST OTHER NATIONS OF THE WORLD. THE MOST NOTICEABLE DIFFERENCE IN THIS ANNUAL PUBLICATION WILL BE THE CHANGE IN UNITS FROM TENTHS TO EIGHTHS(OKTAS) FOR REPORTING THE AMOUNT OF SKY COVER.

STATION HISTORY STOPPED WITH THE 2009 ANNUAL. IF YOU NEED STATION HISTORY INFORMATION GO TO "Historical Observing Metadata Repository", URL IS:

<http://www.ncdc.noaa.gov/homr/>

SNOWFALL STOPPED MONTH & YEAR INDICATED ABOVE. NO FURTHER YEARS INCLUDED UNLESS RESTARTED.

### NOTE:

The "Period of Record:(POR)" for all "averages" is based on "Summary of the Day First Order Station" and "Cooperative Summary of the Day" archives.

# 2013 TOLEDO OHIO (KTOL)

Toledo is located on the western end of Lake Erie at the mouth of the Maumee River. Except for a bank up from the river about 30 feet, the terrain is generally level with only a slight slope toward the river and Lake Erie. The city has quite a diversified industrial section and excellent harbor facilities, making it a large transportation center for rail, water, and motor freight. Generally rich agricultural land is found in the surrounding area, especially up the Maumee Valley toward the Indiana state line.

Rainfall is usually sufficient for general agriculture. The terrain is level and drainage rather poor, therefore, a little less than the normal precipitation during the growing season is better than excessive amounts. Snowfall is generally light in this area, distributed throughout the winter from November to March with frequent thaws.

The nearness of Lake Erie and the other Great Lakes has a moderating effect on the temperature, and extremes are seldom recorded. On average, only fifteen days a year experience temperatures of 90 degrees or higher, and only eight days when it drops to zero or lower. The growing season averages 160 days, but has ranged from over 220 to less than 125 days.

Humidity is rather high throughout the year in this area, and there is an excessive amount of cloudiness. In the winter months the sun shines during only about 30 percent of the daylight hours. December and January, the cloudiest months, sometimes have as little as 16 percent of the possible hours of sunshine.

Severe windstorms, causing more than minor damage, occur infrequently. There are on the average twenty-three days per year having a sustained wind velocity of 32 mph or more.

Flooding in the Toledo area is produced by several factors. Heavy rains of 1 inch or more will cause a sudden rise in creeks and drainage ditches to the point of overflow. The western shores of Lake Erie are subject to flooding when the lake level is high and prolonged periods of east to northeast winds prevail.

# Station History

TOLEDO, OH

NAME	Begin Date	End Date	Latitude	Longitude	Elevation Feet	Relocation	Platform
TOLEDO EXPRESS AIRPORT	1969-01-01	1981-12-31	41° 36'	-83° 48'	669		COOP, WXSVC
TOLEDO EXPRESS AIRPORT	1955-01-12	1969-01-01	41° 36'	-83° 48'	669		AIRWAYS, COOP
TOLEDO MUNICIPAL AP	1955-01-01	1955-01-12	41° 36'	-83° 48'	669		AIRWAYS, COOP
TOLEDO EXPRESS AIRPORT	1981-12-31	1995-12-01	41° 36'	-83° 48'	669		COOP
TOLEDO EXPRESS AIRPORT	1995-12-01	Present	41° 35'	-83° 48'	669		ASOS, COOP

# Element History

Element	Begin Date	End Date	Frequency	Time Of Observation	Equipment *	Equipment * Modifications	Equipment Exposure
TEMP	1928-06-03	1982-01-01	DAILY	2400			
PRECIP	1988-01-28	1995-03-28	HOURLY	2400			
PRECIP	1995-03-28	1995-07-01	DAILY	2400	UNIV	RCRD	
PRECIP	1995-07-01	Present	DAILY	2400	UNIV	RCRD	
TEMP	1995-03-28	1995-07-01	DAILY	2400	HYGR		
TEMP	1995-07-01	Present	DAILY	2400	HYGR		
PRECIP	1982-01-01	1988-01-28	DAILY	2400	UNIV	RCRD	ROOF
PRECIP	1995-07-01	Present	HOURLY	2400	UNIV	RCRD	
PRECIP	1982-01-01	1988-01-28	HOURLY	2400			
PRECIP	1988-01-28	1995-03-28	DAILY	2400	UNIV	RCRD	ROOF
TEMP	1988-01-28	1995-03-28	DAILY	2400	HYGR		ROOF
PRECIP	1928-06-03	1982-01-01	DAILY	2400	UNIV	RCRD	ROOF
TEMP	1982-01-01	1988-01-28	DAILY	2400			
PRECIP	1995-03-28	1995-07-01	HOURLY	2400			

\* For explanation of codes and abbreviations see Station Metadata link below.

Other Station Information can be found at:

ASOS Implementation by NWS: <http://www.nws.noaa.gov/ops2/Surface/asosimplementation.htm>

Station Metadata website: <http://www.ncdc.noaa.gov/homr>

INQUIRES/COMMENTS CALL: (828) 271-4800, option 2

Fax Number : (828) 271-4876

TDD : (828) 271-4010

Email : [ncdc.orders@noaa.gov](mailto:ncdc.orders@noaa.gov)

NOAA/National Climatic Data Center

Attn: User Engagement & Services Branch

151 Patton Avenue

Asheville, NC 28801-5001

Visit our Web Site for other weather data: [www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)