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ATLANTIC COAST OBSERVER NETWORK, MD / DE / DC CHAPTER WITH DATA FROM NEARBY AREAS

EXTREME HEAT AND DAMAGING THUNDERSTORMS

Temperatures broke the century mark at many locations. This July was one of the hottest July in local recorded weather history. NWS Washington (DCA) tied 1993 for its hottest July and all time month ever. NWS Baltimore (BWI) also tied its hottest July (tied 1872 & 1995) along with its hottest month ever.

Thunderstorms, some severe with damaging winds, brought heavy rains and knocked out power for upwards of several days during the last two thirds of the month. Normal to above normal precipitation fell over much of the region except for Southern Delaware, Maryland's Eastern Shore, Frederick, St. Marys, and Washington Counties.

July began with bright sunshine, low humidity, and very pleasant below normal temperatures which was a pleasant welcome change from June's heat. Night time minimum temperatures in the 50's during the first four days at many locations were the coolest of the month.

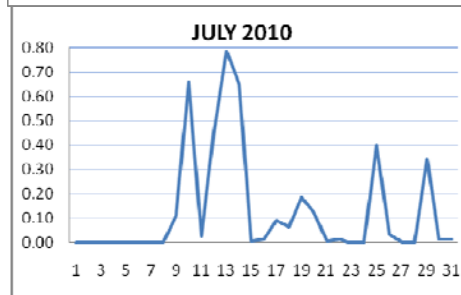
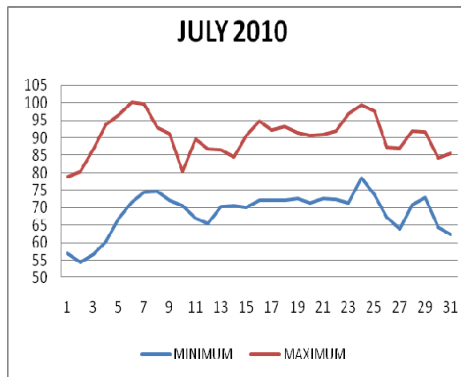
The first period of extreme heat quickly followed. The temperatures rose into the mid to upper 90's on the 4th of July. 100's were common on the 6th and 7th. The warmest temperature reported by an ACON observer was 105° by **Joe Manfre** of **Baltimore 2 SE**. **Marty Brumback** of **Bryans Road 2 ESE** and **David Roth** of **Montgomery Village 1 SW** as each recorded 104°. The dew points were not at extreme levels during this heat wave as they were later in the month.

Widely scattered storms occurred on the 9th. 2.71" fell at **LaVale**. The first widespread rains of the month fell on the 10th. Maximum temperatures were held down to the 70's and lower 80's as a result of the rains and overcast. Thunderstorms brought additional rains on the 12th, 13th, and 14th. These five days were the wettest period of the month.

Except for a few days with temperatures near normal above normal temperatures and humidity were the rule for

the last half of the month. The second period of extreme temperatures occurred from the 23rd to the 25th. Temperatures were in the mid 90's to lower 100's. **Jim Vaughn** of **Smithsburg 2 NE** and **John Zyla** of **Ridge** both observed 105°. Dew points were higher during this period of extreme heat than earlier in the month. Minimum temperatures were at near record levels. At **Baltimore 2 SE**, a city station, **Joe Manfre** recorded an 86. **Greg Keefer** of **Hagerstown 1 E** recorded an all time of 81°.

A squall line containing severe damaging thunderstorms moved across the region during the mid afternoon of the 25th. The fast moving storm did considerable damage in the Western Washington DC suburbs. Power outages of upwards



ACON MD/DE Network

Daily average temperatures and precipitation based on observation times, not calendar days.

EXTREMES REPORTED BY

ACON OBSERVERS

MAXIMUM TEMPERATURE

Baltimore 2 SE	105
Ridge	105
Smithsburg 2 NE	105
Montgomery Village 1SW	104

MINIMUM TEMPERATURE

Davis 3 SE WV	40
Frostburg	45
Smithsburg 1.5 SW	47

WARMEST AVG. TEMP.

Baltimore 2 SE	85.5
Ridge	82.6
Laurel 2 E	81.5

COLDEST AVG. TEMP.

Davis 3 SE WV	67.9
Frostburg	71.3
Millers 4 NE	76.6

MAXIMUM PRECIPITATION

Middletown 6 N DE	6.76
Bryans Road 2 ESE	5.96
Forest Glen	5.74

MINIMUM PRECIPITATION

Smithsburg 1.5 SW	1.04
Ridge	1.25
Smithsburg 2 NE	1.45

of 72 hours were reported by ACON observers. Rainfall amounts were generally less than 3/4 of an inch.

Thunderstorms on the 29th signaled a break in the heat and humidity. The last two days were pleasant with maximum temperatures generally in the mid 80's and minimums in the upper 50's to lower 60's on the 31st.

More details can be found in the expanded observer comments on the following pages.

OBSERVER COMMENTS FOR JULY 2010

Gary Gallaher of Bear 2 SW, DE

Third hottest July / hottest month ever behind 1999 (80.8°) and 1994 (79.4°).

6th & 7th - 103° tied all time record high set 7/3/66 & 7/4/66.

14th - Afternoon flash flooding in Wilmington area but less than a tenth of an inch fell here during the event.

25th - Strong thunderstorm. Lightning struck my anemometer mask.

Nate Mullins of LaVale

Hottest July and month on record. Old record was 77.2° in 1999. No daily maximum records were set. Average maximum was the 4th hottest. The average minimum set a record as the warmest for any month. The previous daily record high minimum was broken on three days - 82° on the 24th, 78° on the 25th and 29th. Previous July record high minimum was 77° set 7/15/1995. The 82° on the 24th shattered the all time record minimum of 78° set 8/23/1968.

1st - Low humidity, very nice day to start July.

9th - Slow moving thunderstorm dumped daily record of 2.71", the third heaviest daily July rain on record.

25th - Storms were severe south and west of station where +1" of rain fell along with several reports of damaging winds. Doppler radar indicated a possible tornado near Friendsville in Garrett County.

Jeff Stoudt of Laurel 2 E

Heat was king, and occasional backings down were modest such that maximums averaged above 91° and minimums averaged above 71° to produce a torrid month indeed. Two triple-digit maximums plus a few upper 90's and a minimum of 82° were the major contributors toward producing this Texas-style July.

Marty Sharrow of Owings Mills

Although the rainfall total looks impressive, things here in northern MD are still quite dry. Much of the rain fell in a period from the 12th - 14th and on the 29th. I believe this July had the highest monthly average temperature since I began keeping records in 1966.

6th - Blistering sun, hazy, hot and humid.

14th - Lots of clouds with periods of showers.

Joe Manfre of Baltimore 2SE

5th, 6th, & 7th - Partly cloudy, very hot, low humidity.

12th - Afternoon and night thunderstorms.

24th, 25th - Partly cloudy, very hot, humid. Afternoon thunderstorm on the 25th.

30th - Partly cloudy, warm, low humidity.

Herb Close of Manchester 1 SW

All time hottest month ever. Old record 77.6° in July 1999.

All time record number of 90° days. Old record 16 in August 2002.

All time record maximum temperature of 101°. Old record 99° which occurred on many dates.

Ralph Hartsock of Westminster 4 SSE

7th - Hottest day ever, 103°.

13th - Heavy showers and storms early, late pm showers.

14th - Overnight showers and storms, more AM soaking rain.

23rd - Sunny, hotter again, like an oven.

Bobby Miller of Millers 4 NE

July was a very warm month but not record breaking thanks to July 1st, 2nd, 3rd and 31st. Average maximum temperature was the 2nd highest, only 1999 with 89.4° was higher.

24th - Tied all time high minimum of 77° set 7/21/1987.

25th - Thunderstorm with PWG of 44 mph followed by another storm minutes later with 40 MPH. One large branch just missed our transformer on the ground.

Marty Brumback of Bryans Road 2 ESE

July was a brutal and savage month with heat waves, three 100°+ days, and high humidity.

13th - Heavy rain between 12:30 and 1:30 AM produced 1.59" of precipitation.

25th - TRW+ from 3:50 to 4:50 PM caused 1 tree collapse and mostly small limb and leaf damage. Temperature dropped from 100° to 76° in the hour.

29th - Hard rain continued after my 8 PM obs and ended just before midnight.

Eric Glass of Emmitsburg 2 SE

24th - A/C broke on Saturday night.

26th - Still very, very dry - my corn crop is probably at a 45 to 45% loss if it rains this week. I have not mowed my lawn since early June!

Rich Giannola of Olney 1 S

Maximum barometric pressure: 30.26" on the 2nd

Minimum barometric pressure: 29.79" on 10th & 25th.

Ron Berger of Norbeck 1 SE

6th & 7th - First 100°+ days since July 1999.

7th - High of 101° warmest for 16 year record.

25th - "Derecho" 3:25 - 3:35 PM. Scattered branches up to 6" in diameter snapped off trees. This suggests a Beaufort scale category of 9: gusts of 47 to 54 MPH. Power out for 45 hours afterwards. It was the 3rd longest outage here surpassing 42 hours February 6-7, 2010. No damage to power lines or poles in neighborhood. Cause of the outage was elsewhere where wind gusts were likely stronger.

Rob Cohen of Potomac 4 N

Tied record number of 90°+ days (18) and warmest average maximum (89.5°). Surprisingly it was not the hottest July falling just shy of 1993 and 1999.

6th, 7th, 25th - Tied daily record maximum temperature.

19th - Thunder 6 PM.

24th - 99° - All time record maximum at this station.

25th - Severe TS 3:30 PM. Estimated gusts 60-65 mph tore off several limbs and large sections of trees throughout the neighborhood. I thought we were safe when our power returned after two hour, but at 6:30 AM Monday morning it went out again and didn't return for 72 hours.

Rich Giannola of Olney 1 S

8th - An interesting obs: Lightning was seen WNW of Olney at 11:15 PM. I checked the local radar on TV and it showed the only cell in this direction near Paw Paw, WV. As the crow flies, that is a distance of about 80 miles.

25th - +TSRA began 3:20 PM accompanied by strong gusty winds.

CONTINUED ON PAGE 3

OBSERVER COMMENTS FOR JULY 2010 CONTINUED FROM PAGE 2

Richard Holden of Clarksburg 2 ENE

July was the second warmest month ever (79.4°) recorded since temperature records began in 1987. July 1999 was the warmest with 20 90°+ days and an average temp of 79.6°.

Stan Rossen of Glenmont 1 NNE

12th - A thundershower knocked the temperature down from 84° at 2:00 PM EST to 74° by 3:00 PM EST. A later second shower caused the barometer to rise from 29.88" at 8:55 PM EST to 29.93" at 9:20 PM EST before falling back to 29.89" at 9:56 PM EST,

25th - Distant thunder was first heard at 2:10 PM EST. Fifteen minutes later the thunder was frequent and winds were increasing. Within two minutes a squall line was in full force with winds whipping trees and small to medium size branches breaking off trees, torrential rains falling, and white out conditions reducing visibility to 1/16 mile. During the next few minutes at the height of the storm, the power flickered frequently and there was a 24 second power outage. This storm knocked the temperature down from 97° at 2:25 PM EST to the days low of 74° by 3:00 PM EST. It also caused the barometer to jump from the days low of 29.79" at 2:09 PM EST to 29.95" at 2:30 PM EST. It fell back to 29.87" at 2:49 PM EST before rising again. The thunder continued until 3:07 PM EST.

Kevin Shaw of Gaithersburg 2 WNW

July had the warmest ever average mean temperature, average minimum temperature and the 4th warmest average high temperature. 20 days with minimums of 70° or greater well over the long term average of 7.6 days.

1st - Sunny, beautiful way to start July!

6th - Sunny, very hot, more humid.

24th - 80° minimum temp set an all-time record high minimum ever surpassing the 78° set 7/11/1989 and tied on 8/8/2007.

25th - Sunny, hot AM, early PM, cloudy afternoon, severe thunderstorm 3:15 - 3:45 PM. Maximum rain rate 3.31"/hr. Torrential rains and damaging winds caused widespread power outages in the region. Power was out for nearly 40 hours.

Joe Terry of Forest Glen

Fourth month with record temperatures this year. This month just barely exceeded July 1999 as the hottest July month in station history. However July 1999 had more 90° and 100° days.

1st & 2nd - Near full sunshine yet low 80's for highs and dew points mostly in the 40°'s.

6th - 103° ties the 15 year station history all time high temperature.

12th - Heavy rain during the evening thunderstorm of 1.28". Daily rain of 1.50" the most precipitation in a calendar day since February 5th.

23rd - The 86° midnight observation temperature is the highest in station history.

25th - Rapidly moving line of thunderstorms from the NW. Dark to NW by 1515 then strong gust front and rain hit this station at 1530 knocking out power for 4 hours 15 minutes. Sharp pressure rise of 0.10" in 8 minutes. However the max gust was only 30 MPH.

Brian Smith of Oxon Hill

12th - +TSRA 1430-1450 with 0.38" of rain. 8 inch branch blown down 3 blocks away.

29th - 1939 hours - left leg of red rainbow.

John Zyla of Ridge

Record station high temperature broken twice in 2 days (104.7° on the 24th and 105.2° on the 25th). This was the highest temperatures for St Marys County in almost 100 years, since July 3, 1911 when Leonardtown recorded 106 degrees. Six days of 100 degree or more in a month ties record set in July 1999. Record highest July average mean and average minimum temperatures and the second highest average maximum temperature - record is 93.1° set in 1999.

Max Hutto of Smithsburg 1.5 SW

7th - 100° record high for this station.

16th - Partly cloudy, very hot, humid. Nearby thunderstorms but not at this station.

25th - Overnight low of 80° is the hottest low temperature for this station. Low for the day is 72°.

Greg Keefer of Hagerstown 1 E

July tied 1999 for the hottest July or for any month on record.

1st - Sunny and pleasant. Dew point down to 37° at one point.

6th - First 100 degree day since August 17, 1999. 100° tied daily record set in 1949, 1977, & 1999.

7th - 102° ties daily record set in 1988. First two 100 degrees days back to back since 8/2 & 8/3/1991.

8th - 99° ties daily record set in 1988. Thunderstorms to the east brought gusty winds from east and a drop of temperature into the 80's.

24th - 81° All time highest low temperature ever for any date. Old record was 79° set 7/5/1911 & 7/11/1989.

25th - Overnight low of 81° was erased as showers and storms dropped temperatures into the 70's during the afternoon. Most of these storms missed the station as only 0.14" fell here. They were quite severe in some locations.

Jim Vaughn of Smithsburg 2 NE

July was the 4th driest and 4th hottest July on record. Driest is 0.81 in 1973. Warmest is 80.2° in 1988.

5th - 100° broke the daily record of 97° set in 1999.

6th - 77° tied highest daily minimum record set in 1977.

7th - 103° ties the daily record set in 1988. Three consecutive days of 100+ degrees ties record set on several occasions.

23rd - 104° broke the daily record of 102° set in 1991.

24th - 105° broke the daily record of 98° set in 1987. It is also the highest temperature ever recorded. Old record was 104° set on several occasions. Minimum temperature of 79° set a daily record. Old record 76° set on several occasions.

25th - 101° broke the daily record of 98° last set in 2001.

Lance Shaffer of Sterling 4 N VA

2nd - Awesome cool July weather!

24th - 90° by 9 AM.

Compiled by Gary Gallaher, MD/DE ACON Data Collector and Report Writer, from data received from dedicated observers. Without your observations each month this report will not be possible.