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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.

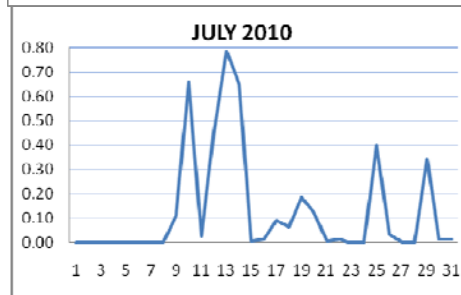
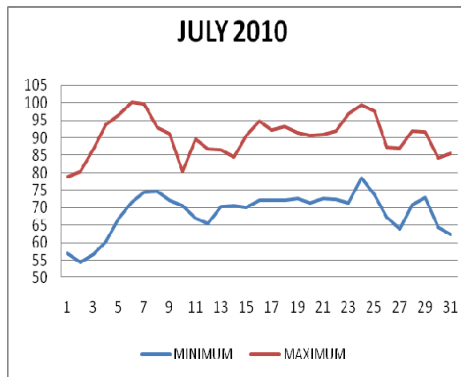
The first period of extreme heat quickly followed. The temperatures rose into the mid to upper 90's on the 4th of July. 100's were common on the 6th and 7th. The warmest temperature reported by an ACON observer was 105° by **Joe Manfre** of **Baltimore 2 SE**. **Marty Brumback** of **Bryans Road 2 ESE** 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.

**ACON MD/DE/DC
JULY 2010 SUMMARY**

OBSERVER	STATION COUNTY, STATE	TEMPERATURE									PEAK WIND			PRECIPITATION					SNOWFALL				OBS TIME						
		AVG MAX	AVG MIN	MEAN	MAX	DAY	MIN	DAY	MAX >=90	MAX <=32	MIN <=32	GUST	DIR	DAY	TOTAL	MAX DAY	DATE	YEAR	DAYS >=.01"	DAYS >=1"	TOTAL	MAX DAY		DATE	SEA- SON				
<i>New Castle, Delaware</i>																													
Gallagher, Gary	Bear 2 SW	89.8	67.7	78.8	103	6+	51	2	17	0	0	40	W	17	4.94	1.26	13	25.55	8	2	0.0	0.0	0.0	2400					
Legates, David	Middletown 6 N	90.0	68.8	79.4	103	6	54	2	18	0	0	24		25	6.76	2.04	14	<u>22.57</u>	10	4				2400					
NWS Wilmington	New Castle Co. Apt.	89.6	69.6	79.6	103	6+	54	2	15	0	0	43	N	25	6.15	2.45	13	26.49	8	2	0.0	0.0	0.0	2400					
UofDE AG FARM DEOS***	Newark	89.7	69.4	79.6	100	6+	57	3	14	0	0	22		25	4.39	1.12	14	<u>22.31</u>	9	1				2400					
U of D REC DEOS***	Townsend 4 W	87.7	67.9	77.8	100	6	52	2	9	0	0	31		25	3.49	1.95	10	<u>20.61</u>	11	1				2400					
<i>Sussex, Delaware</i>																													
NWS Georgetown	Sussex Co. Airport	90.0	70.1	80.1	102	6	56	3	15	0	0	44	N	25	2.41	1.03	10	22.15	5	1				2400					
U of D REC DEOS***	Georgetown 5 SW	88.9	69.3	79.1	101	6	54	2	15	0	0	39		25	2.39	1.15	10	<u>17.37</u>	7	1				2400					
U of D REC DEOS***	Harbeson 8 S	89.3	68.5	78.9	100	6+	54	3	16	0	0	23		25	1.46	0.69	10	<u>20.62</u>	5	0				2400					
<i>Allegany, Maryland</i>																													
Latta, Greg	Frostburg	82.1	60.5	71.3	92	9	45	1	2	0	0				3.71	1.69	10	30.78	8	2	0.0	0.0	0.0	0700					
Mullins, Nate**	LaVale	89.1	66.5	77.8	98	7+	50	2	17	0	0				5.32	2.71	9	24.66	10	2	0.0	0.0	0.0	2400					
<i>Anne Arundel, Maryland</i>																													
Hanson, Dan	Pasadena 2 N	91.6	68.5	80.1	103	6	56	3	21	0	0	29	NE	25	5.60	1.25	12	<u>20.93</u>	10	2	0.0	0.0	0.0	2400					
Jug Bay Wetlands	Lothian	93.8	67.4	80.6	103	7	50	1	20	0	0				4.40	1.36	14	<u>21.42</u>	8	2	0.0	0.0	0.0	0900					
NWS Baltimore	BWI Airport	92.5	70.5	81.5	105	6	56	2	20	0	0	72	SSW	18	4.36	0.98	12	23.52	9	0	0.0	0.0	0.0	2400					
Stoudt, Jeff	Laurel 2 E	91.3	71.6	81.5	102	6	59	2	20	0	0				3.61	0.80	14	23.38	9	0	0.0	0.0	0.0	2400					
<i>Baltimore, Maryland</i>																													
Sharrow, Marty	Owings Mills 2 SE	90.0	67.8	78.9	101	6	56	1+	17	0	0				4.22	1.41	29	21.13	8	1	0.0	0.0	0.0	2400					
<i>Baltimore City, Maryland</i>																													
Manfre, Joe	Baltimore 2 SE	94.5	76.5	85.5	105	6	66	1	25	0	0				5.23	1.42	12	22.22	9	1	0.0	0.0	0.0	2400					
Maryland Science Ctr	Baltimore Inner Harbor	92.8	75.0	83.9	105	6	64	1	21	0	0				6.09	1.86	12	22.70	9	3				2400					
<i>Carroll, Maryland</i>																													
Close Jr, Herb	Manchester 1 SW	89.8	68.3	79.1	101	6	54	1	18	0	0				5.02	2.32	19	22.60	9	1	0.0	0.0	0.0	2300					
Hartsock, Ralph	Westminster 4 SSE	93.5	68.6	81.1	103	7+	55	1	24	0	0				3.95	1.07	14	<u>22.75</u>	9	3	0.0	0.0	0.0	1800					
Miller, Bobby	Millers 4 NE	88.1	65.1	76.6	98	6	49	2	11	0	0				4.64	1.23	13	22.62	11	2	0.0	0.0	0.0	1800					
Muller, Ray	Westminster City	STATION CLOSED JULY 2010																			<u>15.86</u>								
<i>Charles, Maryland</i>																													
Brumback, Marty	Bryans Road 2 ESE	92.2	69.5	80.9	104	6+	55	3	20	0	0	40	W	25	5.96	1.93	13	24.57	11	2	0.0	0.0	0.0	2400/2000					
<i>Frederick, Maryland</i>																													
Glass, Eric	Emmitsburg 2 SE	89.1	64.9	77.0	99	25	50	2	17	0	0				1.86	0.64	14	<u>22.80</u>	10	0	0.0	0.0	0.0	0630					
<i>Garrett, Maryland</i>																													
Harvey, Rebecca	Eagle Rock																	<u>4.60</u>						0800					

**ACON MD / DE / DC
JULY 2010 SUMMARY**

OBSERVER	STATION COUNTY, STATE	TEMPERATURE									PEAK WIND			PRECIPITATION					SNOWFALL				OBS TIME			
		AVG MAX	AVG MIN	MEAN	MAX	DAY	MIN	DAY	MAX >=90	MAX <=32	MIN <=32	GUST	DIR	DAY	TOTAL	MAX DAY	DATE	YEAR	DAYS >=.01"	DAYS >=1"	TOTAL	MAX DAY		DATE	SEA- SON	
	<u>Howard, Maryland</u>																									
Giannola, Rich	Laurel JHU / APL	89.9	69.4	79.7	100	6+	56	2	20	0	0	36	NNW	25	4.52	1.28	12	21.83	7	2	0.0	0.0		0.0	2400	
	<u>Montgomery, Maryland</u>																									
Berger, Ron	Norbeck 1 SE	89.7	68.4	79.1	101	7	54	3	17	0	0				5.26	1.12	13	23.81	8	2	0.0	0.0		0.0	2200	
Cohen, Rob	Potomac 4 N	89.5	69.0	79.3	99	24	55	3	18	0	0				4.63	0.90	12	22.99	7	0	0.0	0.0		0.0	2100	
Giannola, Rich	Olney 1 S	90.5	68.9	79.7	102	24	56	2	19	0	0				3.59	1.09	12	20.75	7	1	0.0	0.0		0.0	2400	
Holden, Richard	Clarksburg 2 ENE	89.9	69.0	79.5	99	6+	52	2	19	0	0	46	S	12	3.23	0.75	12	24.22	8	0	0.0	0.0		0.0	2400	
Roth, David	Montgomery Village 1SW	93.3	66.6	80.0	104	6	53	2+	21	0	0				3.92	1.22	10	<u>21.34</u>	8	2					2400	
Rossen, Stan	Glenmont 1 NNE	90.3	68.5	79.4	99	24	55	2+	19	0	0	30		25	4.60	0.95	12	22.82	9	0	0.0	0.0		0.0	2400	
Scafide, Tony	Bethesda	88.1	70.0	79.1	97	7+	57	2	13	0	0	20		25	3.40	0.69	13	<u>15.98</u>	11	0					2400	
Shaw, Kevin	Gaithersburg 2 WNW	90.4	68.9	79.7	101	24	55	2+	20	0	0	23	W	25	3.82	0.85	12	22.55	7	0	0.0	0.0		0.0	2400	
Terry, Joe	Forest Glen	92.9	69.0	81.0	103	6	55	2+	21	0	0	30	WNW	25	5.74	1.50	12	24.75	9	2	0.0	0.0		0.0	2400	
	<u>Prince Georges, Maryland</u>																									
Smith, Brian	Oxon Hill	91.2	70.8	81.0	101	6	58	3	20	0	0				5.64	1.22	14	22.94	9	2	0.0	0.0		0.0	2300	
	<u>St. Marys, Maryland</u>																									
Abell, Floyd	Hollywood	STATION CLOSED APRIL 2010																								2400
Zyla, John	Ridge	91.9	73.3	82.6	105	24+	63	3	19	0	0	29	N	25	1.25	0.65	29	23.82	8	0	0.0	0.0		0.0	2400	
	<u>Washington, Maryland</u>																									
Hutto, Max	Smithsburg 1.5 SW	91.3	63.9	77.6	100	7	47	1+	20	0	0	33	WSW	25	1.04	0.28	10	20.46	7	0	0.0	0.0		0.0	2400	
Keefer, Greg	Hagerstown 1 E	92.7	67.3	80.0	102	7	50	2	21	0	0	33	WSW	9+	1.53	0.65	9	19.65	7	0	0.0	0.0		0.0	2400	
Vaughn, Jim	Smithsburg 2 NE	91.3	67.6	79.5	105	24	51	1	19	0	0	45	N	25	1.45	0.31	13	19.74	8	0	0.0	0.0		0.0	2400	
	<u>Wicomico, Maryland</u>																									
NWS Salisbury	Wicomico Co. Apt	90.9	69.0	80.0	102	6	54	3	18	0	0	56	NNW	25	0.86	0.43	10	20.91	7	0	0.0	0.0		0.0	2400	
	<u>Arlington, Virginia</u>																									
NWS Washington National	National Airport	92.3	73.9	83.1	102	6+	63	2+	21	0	0	53	NNW	25	5.17	1.86	13	18.77	9	2	0.0	0.0		0.0	2400	
	<u>Loudon, Virginia</u>																									
NWS Washington Dulles	Dulles Airport	90.8	68.1	79.5	101	7	52	3	20	0	0	51	NW	25	4.17	0.75	13	22.17	10	0	0.0	0.0		0.0	2400	
Shaffer, Lance	Sterling 4 N	88.8	69.6	79.2	100	24	56	2+	14	0	0				3.35	0.98	13	23.85	11	0	0.0	0.0		0.0	2400	
	<u>Tucker, West Virginia</u>																									
Leshner, Dave	Davis 3 SE WV	77.9	57.8	67.9	85	7+	40	1	0	0	0				4.27	1.35	14	32.32	11	2	0.0	0.0		0.0	0700	
SECTION AVERAGE*		90.0	67.2	78.6											3.88			22.74						0.0		

NOTES:

M OR UNDERLINE= MISSING DATA
 > = INCLUDED IN NEXT DAYS DATA
ITALIC = ESTIMATED DATA

*SECTIONAL AVERAGE DOES NOT INCLUDE DATA FROM WEST VIRGINIA.

**OBSERVER FOR LAVALE IS SCOTT LOHR. DATA COMPILED BY NATE MULLINS.

*** DATA FROM DEOS (DELAWARE ENVIROMENTAL OBSERVING SYSTEM) PERMISSION GRANTED FOR USE OF DATA

*** REC= UNIVERSITY OF DELAWARE RESEARCH AND EDUCATION CENTER

National Weather Service station data listed herein is preliminary and may be subject to change. The data has not been certified and cannot be used in legal actions.
 Only reports certified by the National Climatic Data Center in Asheville, NC may be used for these purposes.
 Accuracy of Data from ACON Observers not guaranteed.

GARY GALLAHER 8/31/10 Rev 1

**ACON MD / DE / DC
JULY 2010 DAILY TEMPERATURES**

STATION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AVG	OBS TIME	
BEAR 2 SW, DE GALLAHER	80 57	81 51	88 60	96 54	98 65	103 70	103 75	89 72	90 71	76 72	91 66	92 62	88 72	83 71	90 69	94 72	91 70	93 73	91 73	85 71	90 70	90 71	94 70	97 78	94 71	85 64	86 62	88 72	89 74	83 63	85 59	89.8 67.7	2400 EDT	
MIDDLETOWN 6 N LEGATES	79 59	83 54	89 56	97 62	98 67	103 72	101 76	89 72	91 71	76 69	91 64	92 72	89 80	80 71	91 91	95 73	92 70	94 73	92 72	86 71	90 72	95 71	97 77	95 70	85 66	87 64	90 73	89 75	84 64	86 62	90.0 68.8	2400 EDT		
WILMINGTON , DE NWS NEW CASTLE CO APT	80 56	82 54	87 58	94 64	97 70	103 75	103 78	87 75	89 73	78 71	90 70	89 66	88 72	82 71	89 70	94 75	92 71	93 75	92 73	86 73	91 72	90 71	95 74	97 81	94 70	86 64	86 64	88 73	88 74	90 74	84 62	83 62	89.6 69.6	2400 EST
NEWARK AG FARM, DE U OF DE DEOS	M 58	80 M	87 57	95 63	95 68	100 73	100 78	89 74	89 72	76 71	88 68	89 64	89 72	84 71	92 70	95 73	91 70	93 74	92 73	85 72	92 70	88 72	96 71	96 79	95 70	84 64	88 64	90 70	89 75	83 61	85 61	89.7 69.4	2400 EDT	
TOWNSEND 4 W, DE U of D REC DEOS	77 57	80 52	86 55	93 59	95 66	100 71	99 74	87 72	88 70	76 71	87 67	89 65	86 70	82 70	89 70	92 74	89 70	90 72	85 71	85 73	89 73	88 72	93 73	95 72	92 79	82 64	85 63	87 71	88 72	81 63	84 60	87.7 67.9	2400 EDT	
GEORGETOWN, DE NWS SUSSEX CO APT	80 59	79 57	86 56	92 64	97 68	102 70	97 75	86 73	89 72	78 70	88 69	89 69	87 73	83 73	88 72	94 75	92 76	93 74	89 75	93 75	92 74	95 75	97 73	99 79	99 72	86 67	88 63	92 73	91 77	83 64	85 60	90.0 70.1	2400 EST	
GEORGETOWN, DE U of D REC DEOS	77 57	79 54	85 55	91 63	96 68	101 69	96 73	84 73	87 72	77 70	87 69	88 68	87 74	81 73	88 71	93 73	91 75	92 73	89 75	92 73	91 74	91 72	95 72	98 72	98 80	85 67	88 62	90 73	91 74	82 65	86 60	88.9 69.3	2400 EDT	
HARBESON 8 S, DE U of D REC DEOS	77 55	77 55	86 54	93 59	95 65	100 67	91 73	82 73	79 70	85 69	88 69	89 65	85 76	83 73	86 71	95 73	93 75	94 71	90 75	94 74	93 72	93 71	98 72	100 80	99 71	85 66	86 61	93 73	93 75	82 62	85 58	89.3 68.5	2400 EDT	
FROSTBURG LATTA	71 45	68 47	74 46	84 50	85 56	88 63	91 64	89 66	92 66	85 64	78 55	83 57	77 61	76 63	78 64	84 64	83 64	85 64	83 65	82 65	82 66	81 66	83 66	89 69	89 73	83 59	78 57	83 59	86 59	81 56	75 56	82.1 60.5	0700 EDT	
LAVALE MULLINS**	74 51	82 50	90 51	96 58	94 68	96 68	98 70	98 71	93 70	84 67	86 60	80 63	82 68	84 68	88 68	90 68	90 75	92 70	88 70	90 72	88 70	96 69	96 82	96 78	92 64	86 59	89 64	92 70	81 62	86 60	89.1 66.5	2400 EDT		
PASADENA 2 N HANSON	81 61	82 57	90 56	95 59	99 65	103 70	102 72	93 74	91 71	77 71	92 67	85 65	88 70	84 72	91 70	97 74	93 73	95 71	93 71	93 71	92 73	94 72	99 72	100 79	99 73	89 67	87 63	92 71	93 73	84 64	85 61	91.6 68.5	2400 EDT	
LOTHIAN JUG BAY	82 50	> >	> >	89 52	97 64	99 68	103 71	101 73	92 70	> >	91 66	94 65	88 71	87 69	> >	95 68	95 68	94 68	96 73	92 69	92 69	95 71	101 76	100 74	100 68	88 62	89 68	95 74	96 61	87 60	93.8 67.4	0900 EDT		
BALTIMORE NWS BWI APT	81 58	84 56	89 58	98 59	100 68	105 75	101 75	94 78	93 73	80 68	88 67	88 73	87 73	87 71	95 71	98 72	94 74	95 71	93 73	93 74	93 76	94 74	98 73	101 82	100 75	89 70	87 66	94 73	93 74	85 68	85 65	92.5 70.5	2400 EST	
LAUREL 2 E STOUDT	79 61	83 59	89 62	95 63	98 70	102 76	99 76	94 79	92 74	81 71	91 68	86 67	86 71	84 73	92 71	95 75	92 75	94 75	92 74	92 76	92 77	94 77	99 74	101 82	98 74	87 70	86 66	94 73	92 75	85 69	87 66	91.3 71.6	2400 EST	
OWINGS MILLS 2SE SHARROW	80 56	79 56	86 57	96 59	98 66	101 72	99 74	94 72	89 70	79 66	91 64	86 68	86 69	79 69	91 69	95 72	91 71	93 72	91 70	89 70	91 69	93 70	98 69	99 76	95 75	86 64	86 64	93 69	89 73	83 63	85 62	90.0 67.8	2400 EDT	
BALTIMORE 2SE MANFRE	82 66	85 68	92 71	99 72	102 78	105 85	103 87	96 81	94 78	82 74	94 70	90 75	91 75	90 78	98 76	99 79	97 78	98 79	96 78	97 78	98 79	97 80	100 80	103 86	100 77	90 76	89 75	96 77	95 74	86 72	87 74	94.5 76.5	2400 EDT	
BALT INNER HARBOR MD SCIENCE CENTER	80 64	83 66	91 68	97 70	101 76	105 83	102 85	95 79	93 77	81 73	94 70	89 72	89 73	84 76	91 78	98 77	95 75	96 76	95 78	93 77	95 78	94 78	100 80	102 84	100 77	88 74	87 74	95 76	94 71	84 73	86 75.0	2400 EST		
MANCHESTER 1SW CLOSE	76 54	80 58	88 61	96 67	98 71	101 74	99 75	95 76	91 71	76 68	89 67	86 67	80 67	91 68	94 69	92 71	93 67	92 73	85 71	85 67	91 71	90 69	96 72	97 77	96 72	84 63	89 66	93 68	91 73	82 61	85 68.3	2300 EDT		
WESTMINSTER 4 SSE HARTSOCK	78 55	81 56	88 57	96 61	99 68	102 72	103 74	100 75	96 72	78 72	92 67	91 64	92 71	87 72	95 69	98 70	97 71	96 74	98 73	94 70	96 72	95 70	100 70	103 80	100 75	86 66	93 62	96 68	94 76	85 64	91 61	93.5 68.6	1800 EDT	
MILLERS 4NE MILLER	75 53	78 49	86 54	93 59	94 66	98 70	97 72	94 69	89 69	84 66	87 65	86 61	84 66	80 67	88 66	91 69	89 68	91 68	89 70	84 68	88 67	87 67	93 67	97 77	95 69	82 61	85 59	90 66	89 72	85 61	83 57	88.1 65.1	1800 EDT	
WESTMINSTER CITY MULLER																																		
BRYANS ROAD 2 ESE BRUMBACK	82 61	83 56	88 55	96 60	99 67	104 70	104 75	95 71	93 71	80 68	92 69	86 72	87 72	89 70	93 74	97 73	93 72	93 74	90 71	92 73	92 72	94 72	98 74	99 74	100 74	88 70	89 66	94 72	96 74	85 67	87 63	92.2 69.5	2400 EDT	
EMMITSBURG 2 SE GLASS	79 53	77 53	78 50	85 55	92 60	94 64	97 67	97 68	94 71	89 71	80 63	88 60	85 61	84 70	85 68	90 70	92 70	90 72	92 72	91 69	86 70	90 67	90 67	97 67	99 81	98 66	86 60	87 60	93 69	93 61	84 57	89.1 64.9	0700 EDT	

**ACON MD / DE / DC
JULY 2010 DAILY TEMPERATURES**

STATION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AVG	OBS TIME	
EAGLE ROCK HARVEY																																		0800 EST
LAUREL JHU / APL GIANNOLA	77	78	86	94	96	100	98	92	90	79	90	85	86	82	92	96	92	92	92	92	90	93	96	100	98	86	85	93	90	82	85	89.9	2400 EDT	
NORBECK 1 SE BERGER	80	81	86	94	95	100	101	96	92	80	89	84	83	84	90	93	91	91	88	90	89	92	96	97	97	87	85	91	90	84	85	89.7	2200 EDT	
POTOMAC 4N COHEN	78	79	85	92	94	98	98	94	91	83	89	84	83	84	90	94	91	91	90	90	88	92	96	99	97	86	87	92	90	83	85	89.5	2100 EDT	
OLNEY 1 S GIANNOLA	79	80	88	95	96	101	99	94	91	81	90	84	83	84	90	95	93	93	91	92	92	93	98	102	98	87	85	93	89	83	86	90.5	2400 EDT	
CLARKSBURG 2ENE HOLDEN	77	80	86	93	95	99	99	96	93	78	89	85	86	85	92	94	92	91	90	90	90	92	96	99	97	88	85	93	90	83	85	89.9	2400 EST	
MONTGOMERY VILLAGE ROTH 1SW	84	84	89	93	98	104	103	96	94	82	93	84	87	87	95	99	97	97	95	94	94	97	100	103	101	90	88	97	90	87	88	93.3	2400 EDT	
GLENMONT 1NNE ROSSEN	79	80	88	95	95	97	98	95	94	78	91	85	86	83	90	95	92	93	93	90	89	98	99	98	87	85	94	91	82	86	90.3	2400 EST		
BETHESDA SCAFIDE	77	78	84	91	93	96	97	91	88	79	87	83	83	84	89	93	89	90	88	88	88	92	93	97	95	86	85	90	90	82	84	88.1	2400 EDT	
GAITHERSBURG 2WNW SHAW	69	82	88	94	96	99	99	94	90	80	91	84	84	86	91	95	92	92	91	91	90	94	97	101	97	88	86	93	90	84	84	90.4	2400 EDT	
FOREST GLEN TERRY	58	55	55	60	66	71	74	77	73	72	67	67	70	71	69	73	72	71	72	71	74	74	72	78	75	69	64	73	70	62	63	69.0	2400 EDT	
OXON HILL SMITH	80	82	88	94	97	101	99	93	92	80	92	86	87	88	93	96	93	93	91	92	92	95	97	100	99	88	86	93	93	86	86	91.2	2300 EDT	
HOLLYWOOD ABELL																																		2359 EDT
RIDGE ZYLA	79	79	86	93	96	100	101	87	88	79	91	87	90	88	90	97	93	99	90	101	94	86	103	105	105	88	92	93	99	83	89	91.9	2400 EDT	
SMITHSBURG 1.5 SW HUTTO	64	65	63	68	73	75	80	77	75	72	70	76	76	73	73	77	78	73	76	74	75	76	76	82	76	73	70	77	73	69	69	73.3	2400 EDT	
HAGERSTOWN 1E KEEFER	77	81	88	95	97	98	100	98	93	86	90	85	88	88	91	96	92	94	93	91	89	91	99	99	96	88	90	94	91	86	87	91.3	2400 EDT	
SMITHSBURG 2 NE VAUGHN	47	47	48	53	61	65	66	68	70	69	60	59	68	69	66	68	67	71	72	68	70	67	65	78	72	63	58	65	68	58	56	63.9	2400 EDT	
SMITHSBURG 2 NE VAUGHN	79	80	88	97	99	100	102	99	93	86	91	86	88	89	95	98	94	95	96	92	91	93	101	101	99	89	90	96	94	85	88	92.7	2400 EDT	
SMITHSBURG 2 NE VAUGHN	52	50	52	57	65	70	71	72	73	71	63	64	70	71	69	74	70	73	73	71	73	69	68	81	75	65	61	67	74	61	60	67.3	2400 EDT	
SMITHSBURG 2 NE VAUGHN	74	77	85	83	100	100	103	91	93	85	88	86	90	88	95	97	92	95	96	92	92	90	104	105	101	84	88	96	93	81	86	91.3	2400 EDT	
SALISBURY NWS WICOMICO CO APT	51	65	63	60	66	77	72	77	70	68	62	65	70	67	67	72	69	73	71	69	69	68	67	79	70	66	62	69	70	64	58	67.6	2400 EDT	
SALISBURY NWS WICOMICO CO APT	81	80	85	92	97	102	98	89	88	77	90	89	88	83	90	96	93	95	90	94	93	94	99	101	100	88	89	91	94	85	87	90.9	2400 EST	
WASH NATIONAL NWS ASOS	57	56	54	61	66	70	72	73	73	69	69	65	76	74	71	72	75	72	75	74	73	74	71	81	74	65	59	74	73	62	58	69.0	2400 EST	
WASH NATIONAL NWS ASOS	81	83	87	94	99	102	102	95	93	83	92	87	87	90	92	98	93	95	92	93	93	96	98	101	99	89	87	93	94	86	86	92.3	2400 EST	
WASH DULLES NWS ASOS	65	63	63	67	73	77	80	80	76	74	73	73	73	74	76	77	75	77	75	75	75	79	77	81	75	75	72	75	76	70	71	73.9	2400 EST	
WASH DULLES NWS ASOS	79	81	87	95	96	100	101	95	91	84	90	84	85	88	91	96	92	92	91	90	90	95	96	99	98	88	87	93	92	85	85	90.8	2400 EST	
WASH DULLES NWS ASOS	59	53	52	57	64	69	73	78	74	71	64	65	71	69	71	69	71	71	71	69	73	72	68	78	74	67	62	71	73	66	63	68.1	2400 EST	
STERLING 4 N SHAFFER	77	77	84	94	94	98	96	94	89	80	86	82	82	86	87	92	92	90	88	87	89	92	96	100	96	86	84	92	93	85	84	88.8	2400 EDT	
STERLING 4 N SHAFFER	60	56	56	60	67	71	75	76	76	72	67	67	69	71	71	73	74	72	72	70	74	74	70	78	74	71	66	73	75	64	64	69.6	2400 EDT	
DAVIS 3 SE WV LESHAR	70	67	73	82	82	83	85	84	85	84	75	78	73	75	72	80	80	79	77	78	76	74	79	82	82	78	76	81	81	75	70	77.9	0700 EDT	
DAVIS 3 SE WV LESHAR	40	44	46	54	57	59	61	62	60	58	51	53	61	57	58	59	64	64	61	64	64	64	65	68	67	59	56	56	63	49	49	57.8	2400 EDT	

**ACON MD / DE / DC
JULY 2010 DAILY PRECIPITATION**

STATION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	TOTAL	OBS TIME	
BEAR 2 SW, DE GALLAHER									1.21		0.01	1.26	0.61			0.31		0.20	0.82						0.52				T			4.94 0.0	2400 EDT	
MIDDLETOWN 6 N LEGATES									1.08		0.02	1.22	2.04			0.09		0.08	1.40	0.01					0.81	0.01						6.76	2400 EDT	
WILMINGTON, DE NWS NEW CASTLE CO APT									T	0.76		T	2.45	1.32			0.72		0.23	0.06	T							0.01				6.15 0.0	2400 EST	
NEWARK AG FARM, DE U OF DE DEOS									0.82		0.04	0.88	1.12			0.52		0.29	0.21	0.01												4.39	2400 EDT	
TOWNSEND 4 W, DE U of D REC DEOS									0.48	1.95	0.01	0.02	0.15	0.04	0.01		0.01												0.01			3.49	2400 EDT	
GEORGETOWN, DE NWS SUSSEX CO APT								T	T	1.03	0.05		0.64	0.31												0.38				T		2.41 -	2400 EST	
GEORGETOWN, DE U of D REC DEOS									0.02	1.15	0.01		0.31	0.03														0.78				2.39	2400 EDT	
HARBESON 8 S, DE U of D REC DEOS										0.69	0.04		0.34	0.10												0.29						1.46	2400 EDT	
FROSTBURG LATTA									1.69			0.12	1.14					0.14	0.04		0.15					0.39		0.04				3.71 0.0	0700 EDT	
LAVALE MULLINS**								2.71			T	1.09	0.60				0.07	0.12	0.01	0.15					0.19			0.01		0.37	5.32 0.0	2400 EDT		
PASADENA 2N HANSON									1.18		1.25	0.94	0.61			0.08		0.31	0.45	0.03					0.56			0.19				5.60 0.0	2400 EDT	
LOTHIAN JUG BAY										0.56		1.34	1.36					0.03	0.23							0.82	0.02		0.04			4.40 0.0	0900 EDT	
BWI NWS ASOS									0.43		0.98	0.67	0.75		T	0.22	0.48	T	0.01						0.41			0.41				4.36 0.0	2400 EST	
LAUREL 2 E STOUDT									0.46		0.55	0.51	0.80		0.01	0.33	0.41	T							0.43			0.11		T		3.61 0.0	2400 EST	
OWINGS MILLS 2SE SHARROW									0.27		0.78	0.59	0.98							0.12	T	0.03			0.04			1.41				4.22 0.0	2400 EDT	
BALTIMORE 2SE MANFRE									0.38		1.42	0.91	0.72			0.24			0.34		0.03				0.28			0.91				5.23 0.0	2400 EDT	
BALT INNER HARBOR MD SCIENCE CENTER									0.33		1.86	1.15	0.72			0.24			0.34		0.03				0.25			1.17				6.09 -	2400 EST	
MANCHESTER 1SW CLOSE								0.13	0.35		0.25	0.90	0.89		0.06			2.32	0.01						0.11							5.02 0.0	2300 EDT	
WESTMINSTER 4 SSE HARTSOCK									0.30		0.08	1.05	1.07					0.11	0.10		0.07				0.12			1.05				3.95 0.0	1800 EDT	
MILLERS 4NE MILLER								0.12	0.52		0.14	1.23	1.21			0.24		0.04	0.05	0.04					0.88			0.17				4.64 0.0	1800 EDT	
WESTMINSTER CITY MULLER																																		
BRYANS ROAD 2 ESE BRUMBACK									0.94		0.61	1.93	1.02				0.03	0.26	0.28	0.04					0.24			0.10	0.51			5.96 0.0	2000 EDT	
EMMITSBURG 2 SE GLASS									0.30	0.33		0.10	0.64	0.16				0.06	0.03	0.08	0.05					0.11						1.86 0.0	0700 EDT	

**ACON MD / DE / DC
JULY 2010 DAILY PRECIPITATION**

STATION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	TOTAL	OBS TIME	
EAGLE ROCK HARVEY																																	0800 EST	
LAUREL JHU / APL GIANNOLA										0.50		1.28	0.58	1.17				0.28														4.52 0.0	2400 EDT	
NORBECK 1 SE BERGER										0.57		0.25	1.12	1.11			0.04		0.67													5.26 0.0	2200 EDT	
POTOMAC 4N COHEN										0.58		0.90	0.78	0.47					0.54		T											4.63 0.0	2100 EDT	
OLNEY 1 S GIANNOLA										0.49		1.09	0.32	0.70				>	0.12													3.59 0.0	2400 EDT	
CLARKSBURG 2ENE HOLDEN										0.53		0.75	0.51	0.24				0.05	0.10											T	3.23 0.0	2400 EST		
MONTGOMERY VILLAGE ROTH 1SW										1.22		1.10	0.80	0.19					0.02				0.01									3.92 0.0	2400 EDT	
GLENMONT 1NNE ROSSEN										0.49		0.95	0.90	0.47		0.02		0.17	T.	T.	T.										0.01	4.60 0.0	2400 EST	
BETHESDA SCAFIDE									0.04	0.61		0.20	0.69	0.61			0.24	0.03	0.45												0.04	3.40 -	2400 EDT	
GAITHERSBURG 2WNW SHAW										0.58		0.85	0.59	0.29					0.05		T											3.82 0.0	2400 EDT	
FOREST GLEN TERRY									T	0.50		1.50	1.05	0.87		T	0.35	0.46	0.16												T	5.74 0.0	2400 EDT	
OXON HILL SMITH										1.16		0.87	0.75	1.22				0.01	0.04		0.02											5.64 0.0	2300 EDT	
HOLLYWOOD ABELL																																		2359 EDT
RIDGE ZYLA							0.01	0.01		0.21				0.25					0.04	0.06												0.65	1.25 0.0	2400 EDT
SMITHSBURG 1.5 SW HUTTO									0.10	0.28			0.14	0.09					0.16	0.06													1.04 0.0	2400 EDT
HAGERSTOWN 1E KEEFER									0.65	0.28		T	0.10	0.07					0.17	0.12													1.53 0.0	2400 EDT
SMITHSBURG 2 NE VAUGHN									0.18	0.21		0.05	0.31	0.30					0.17			0.04											1.45 0.0	2400 EDT
SALISBURY NWS WICOMICO CO APT								T	T	0.43		0.01	0.15	0.13		0.04				T													0.86 0.0	2400 EST
WASH NATIONAL NWS ASOS									0.02	1.17		0.40	1.86	0.34		0.01		T	0.03	T	T												5.17 0.0	2400 EST
WASH DULLES NWS ASOS									T	0.61		0.41	0.75	0.02		0.30		0.56	0.52	T	T											0.08	4.17 0.0	2400 EST
STERLING 4 N SHAFFER										0.82		0.26	0.98	0.02		T	T	0.13	0.20	0.01	0.02							0.02	0.47			3.35 0.0	2400 EDT	
DAVIS 3 SE WV LESHAR										1.15			0.10	1.35			0.04	T	0.37	0.07	0.06	0.08					0.72					4.27 0.0	0700 EDT	