



<http://www.jhuapl.edu/weather/education/ACONdata.html>

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

MONTH BEGAN WITH TORNADOS AND ENDED WITH A STRONG DAMAGING DERECHO

June temperatures averaged close to normal while rainfall amounts varied greatly from less than two inches to nearly eight inches. The heaviest rains fell in scattered locations in the northern locales while the central and southern areas the driest. A Doppler radar picture of June's precipitation is on page 4.

The month started off with a "bang" west of the Chesapeake Bay. Heavy showers and thundershowers along with twelve tornadoes occurred on the 1st. **Herb Close** of **Manchester 1 SW** was the only ACON observer indirectly effected - his parents had damage on their property. **Herb Close's** report on the tornado is included in this report. The Sterling NWS Public Information Statement is on pages 5 to 7. **Herb Close** of **Manchester 1 SW** recorded 3.07" of rain, **Brian Smith** of **Oxon Hill 2.61"**, **Richard Holden** of **Clarksburg 2 ENE 2.47"** and **Jeff Stoudt** of **Laurel 2 E 2.15"**. Herb Close's parents recorded 2.76" at their home at Finksburg 2 NW.

Cool temperatures with some showers occurred from the 2nd to the 7th. The first hot temperatures of the month occurred from the 9th to the 11th. Temperatures from the upper 80's to lower 90's were common.

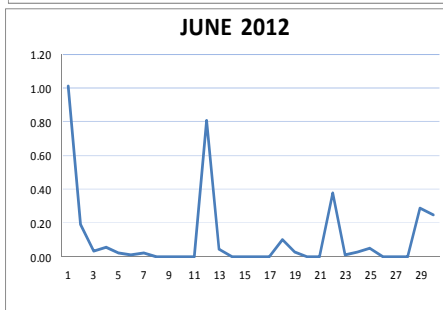
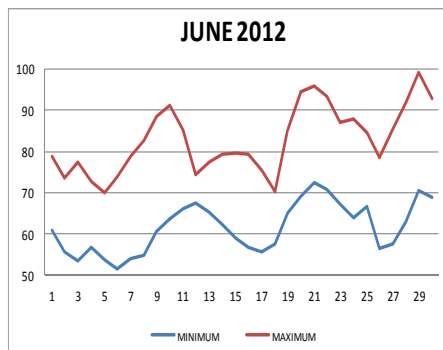
The 12th was cloudy, cool, and wet. The heaviest rains fell in the northern portions where amounts around 1" were common. South of Baltimore amounts less than half an inch was common. The heaviest amounts fell in a narrow west to east strip running from Cecil County MD through Central New Castle County Delaware into Southern New Jersey. **David Legates** of **Middletown 6 N DE** reported 4.06" and **Gary Gallaher** of **Bear 2 SW DE** 4.04". A Doppler radar storm total picture is on page 4.

Seasonal temperatures occurred from the 13th to the 17th. The 18th was cloudy, cool with some light rains.

The second period of summer heat and humidity began to move in on the 18th. Mid 90's were common from the

20th to the 22nd. **Joe Manfre's** urban **Baltimore 2 SE** station recorded maximum temperatures of over 100° each of these three days.

The heat was broken the evening of the 22nd by severe thunderstorms. Damaging downbursts occurred in central Maryland. The Sterling NWS Public Information statement of the event is on page 8. Severe damaging thunderstorms rolled through New Castle County bringing winds of 70 mph uprooting trees, snapping trees 2 feet diameter trees, and knocking out power. Damage pictures along with more information is on pages 9 and 10. Heavy rainfalls amounts fell at the following ACON sites **Rehoboth Beach U of D DEOS DE, 2.35"**, **Ralph Hartsock** of **Westminster 4 SSE 2.35"**, **David Legates** of **Middletown 6 N DE 1.70"**, and **Gary Gallaher** of **Bear 2 SW**



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	106
Lothian	104
West Seaford	103
Pasadena 2 N	103
Bryans Road 2 ESE	103
Smithsburg 2 NE	103

MINIMUM TEMPERATURE

Davis 3 SE WV	41
Smithsburg 1.5 SW	45
Millers 4 NE	45

WARMEST AVG. TEMP.

Baltimore 2 SE	79.4
Ridge	74.8

COLDEST AVG. TEMP.

Davis 3 SE WV	61.1
Frostburg	64.9
Emmitsburg 2 SE	69.0

MAXIMUM PRECIPITATION

Middletown 6 N DE	7.93
Bear 2 SW DE	7.24

MINIMUM PRECIPITATION

DEOS Georgetown 5SW DE	1.26
Hollywood 3 ENE	1.40

DE 1.66".

The heat returned on the 28th and became extreme on the 29th. Fifteen ACON observers reported triple digit readings on the 29th. **Greg Keefer** of **Hagerstown 1 E**, whose records go back to 1897, recorded Hagerstown's warmest June temperature ever of 101°. NWS Washington D.C. National broke its all-time June maximum temperature by two degrees with a 104° reading.

A very strong derecho

Continued on page 4

OBSERVER COMMENTS FOR JUNE 2012

Gary Gallaher of Bear 2 SW, DE

Temperatures averaged below normal despite seven days in the 90's. This was the first month since October 2011 that temperatures averaged below normal. Precipitation well above normal. This was the first month since December 2011 that precipitation was above normal.

12th - Training showers dumped 4.04" of rain. This was the second heaviest daily rainfall for June behind the 4.09" which fell on 6/22/1972 (Agnes). Most of the rain fell during the late afternoon and evening. The heaviest rain fell in a narrow west to east strip across Delaware into New Jersey.

22nd - Severe thunderstorm dumped 1.66" of rain. Wind blown sheets of rain limited visibility to a few hundred feet. Peak wind gust 47 W on Davis VP2 and 57 on Nimbus and Hanson anemometers. Just to the southeast heavy tree damage. Trees upwards of two feet in diameter were snapped or uprooted. Power out for 2 ¼ hours.

30th - Derecho rainfall 0.90", peak wind gust 31 MPH from the WSW. Severe thunderstorm, part of the Derecho that raced eastwards, hit at midnight of the 29th/30th. The storm put on a wicked lightning show, the most that I have seen in years. No damage or power loss here. Tree and utility damage occurred throughout New Castle County.

David Legates of Middletown 6 N

Above normal precipitation but distributed, as usual, so that significant dry periods existed. Much less rain fell south of Dover.

12th - 4.09" of rain fell. 0.68" fell by 5 PM. Nearly 3 ½" fell between 7 PM and 11 PM. We needed the rain but much of it went to runoff.

22nd - Strong thunderstorm with 1.70" of rain, PWG of 30 MPH (at 3 meter height). Power only flashed off a couple of times, no significant outage

30th - Derecho rain 1.51", PWG 35 mph (at 3 meter height),

Roy Lamberton of West Seaford

29th/30th - Derecho rain 0.17", PWG 45 from the south-west.

Greg Latta of Frostburg

29th - Derecho rainfall 1.47".

Dan Hanson of Pasadena 2 N

29th - Derecho rain 0.48", PWG 38 MPH from the WSW.

Nate Mullins of LaVale

1st - Intense line of thunderstorms with brief heavy rains and gusty winds early this evening.

29th - Extremely hot, 101° is one degree shy of the all-time June record of 102° set on 6/2/1951. AM low 81° would have shattered the all-time June daily minimum of 77° set on 6/28/2010 but the reading was erased before midnight due to rain from the derecho event.

29th - Derecho rainfall 0.65" Another local LaVale station reported 1.37". Tremendous line of thunderstorms ripped through the area around sunset (9 PM) producing widespread winds of 50 to 70 mph, over 75 in some places. Severe tree and power line damage. Power was knocked out for several days in parts of La Vale. Some areas went over a week without power. This was the most severe thunderstorm to hit Allegany County since the F4 Frostburg Tornado and hail storm on 6/2/1998.

Jeff Stoudt of Laurel 2 E

1st - Minor flooding triggered by 2.15" of rain which came mostly from a few brief torrents.

29th - Record high temperature of 102°.

29th - Derecho rainfall 0.31". The derecho storm (2150-2210 hours EST) brought only slight and brief relief from dry conditions. The 38 hour power outage was by far the longest ever suffered during the 19 year history of this neighborhood.

Ray Muller of Reisterstown

22nd - 1830 hours wind gust near 50 MPH brought down 3" branches onto the roof.

29th - Derecho rainfall 0.20", wind gust 50 mph at 11:30 PM from the west. Lots of downed power lines and trees in the local area. Barograph showed a 2 MB rise in the few minutes after severe thunderstorm arrived.

Marty Sharrow of Owings Mills

Temperatures averaged about 2 degrees above normal.

1st - Cloudy, stormy late day, humid. 1.92" of rain.

20th & 21st - Blazing sunshine and hot and humid.

29th - Sunny, very hot and humid.

29th - Derecho rainfall 0.11". Peak wind gust 51 MPH from the west. There was considerable tree damage in my area and points southward. To the north, where the winds were less violent, there wasn't much noticeable tree damage.

Joe Manfre of Baltimore 2SE

Five days with maximum temperature 101° or higher.

1st - Variable clouds, TS's from afternoon to evening.

29th - Hot and humid, 106°.

29th - Derecho rainfall 0.32".

Herb Close of Manchester 1 SW

29th - Derecho rainfall 0.32".

Ralph Hartsock of Westminster 4 SSE

1st - PM heavy thunderstorms, tornadoes, and flooding.

6th - Partly cloudy and cool. Cold morning.

22nd - Very hot, humid. Severe thunderstorm with dime size hail. 2.35" of rain fell in 40 minutes.

29th - Very hot, 101°. AM lightning.

29th - Derecho rainfall 0.13". Severe late evening thunderstorms. Very high winds. Massive power outages in the region.

Bobby Miller of Millers 4 NE

4th - Wind squall after obs. 50 MPH gust from the north.

8th - Wind squall after obs. 38 MPH.

29th - 95° tied station June maximum temperature.

29th - Derecho PWG 39 MPH, rainfall 0.10". No power failure.

Marty Brumback of Bryans Road 2 ESE

2nd - Kelvin-Helmholtz clouds observed @ approx. 1430 to 1440 hours.

16th - Parhelion 1640 to 1646 hours.

29th - Hot 103°. Derecho PWG 54 MPH from the SW. Rainfall 0.65". Weather computer did not transmit data to

Continued on page 3

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

Observer Comments Continued from page 2

CWOP or Weather Underground internet sites for approx. 18 hours due to loss of power. The wind bent the rooftop anemometer mask in a north to south direction by about 10 degrees. Tools used for digging were in a wheel barrow in my backyard during the storm. The long black heavy digging pole, pick axe, and shovel got lifted up by the wind and crashed back into my wheel barrow breaking it in half.

Eric Glass of Emmitsburg 2 SE

29th - Derecho rainfall 0.61". Two neighbors and I were without power from Friday evening to Tuesday evening. A tree in my woods blew down on the power line. As usual three different teams had to look at it, the tree man / logger had to come first, etc. The biggest problem was to get water to my cow herd of 50 head. Other than the million sticks on my lawn now other problems. We were actually in Washington, D.C. during the 20-25 minute storm. At least 40 trees were downed on the GW Parkway as we noticed Saturday morning. Many stop lights out. It was worse than it looked to us.

Ron Berger of Norbeck 1 SE

29th - Derecho rainfall 0.81". Power outage of 29+ hours.

Rob Cohen of Potomac 4 N

Despite an all-time monthly high of 98° on the 29th, June barely became the first below normal month temperature wise this year (-0.3°), and was the first month this year with above normal precipitation.

24th - Intense rain, 1" in about 40 minutes.

29th - Derecho rainfall 0.87", estimated wind gust 65 MPH. The severe thunderstorm between 10 and 11 PM did no damage on my property other than pruning the dead wood out of a couple of trees, but there were scattered trees down throughout the neighborhood. Thankfully, we only lost power for a couple of hours.

Rich Giannola of Olney 1 S

22nd - Mid morning shower, early evening thundershower.

29th - Derecho rainfall 0.99". Thunderstorm with strong winds came through at 10:30 PM. Rain ended in early morning of the 30th. Widespread damage from downed trees and power lines in the area. Numerous small branches, twigs, and leaves were down at my house. Power was lost for 55.5 hours from 10:30 PM on the 29th till 6:00 AM on July 2nd.

Richard Holden of Clarksburg 2 ENE

29th - Derecho rainfall 0.65". Peak wind gust 68 MPH. This was the third highest wind gust in 25 years of records.

Alexander McGinnis of Rockville 2 W

9th - Very low humidity, <30%.

20th - Light fog in low lying areas ~7 AM.

23rd - Light fog at dawn, heaviest in low lying areas.

25th - Thunder from dying storms ~10 AM. Strong cold front early PM.

29th - AM minimum temperature 73°. 9 PM temperature 90°.

29th - Derecho rainfall of 1.25" brought the worst tree damage since <1984 (9/17-18, 2004's Ivan?). Distant lightning appears by 9:30 PM, then began ~10:30 PM with much thunder and lightning, torrential downpours, and estimated gusts ~70 MPH. Light damage at immediate location but scores of downed trees made roads impassable thru 6/30.

Stan Rossen of Glenmont 1 NNE

29th - Derecho rainfall 0.62" A 60 foot tree fell across the street a few houses up from me, but even though it took lines

down, phone service was not interrupted and there were no live sparking power lines either. Otherwise it only damaged two parked cars. The battery back up on my Davis Weather Wizard II failed when the power went out with the derecho and by the time I was able to replace the battery, the strongest winds had passed and I lost the peak gust with the storm.

Tony Scafide of Bethesda

29th - Derecho rainfall 0.16". My weather data during and after the Derecho is unreliable. We lost power for six days with the first puff of wind. Unfortunately the battery backup did not last. We sustained little damage on our property with the exception of the top 30 feet of our neighbors 120 ft locust landing square in the middle of our backyard. The wind was making so much noise I did not hear the tree coming down. The neighborhood had a number of trees uprooted and lots of big branches blown down.

Kevin Shaw of Gaithersburg 2 WNW

June was quite close to normal, temperature wise, and a bit drier than normal. Generally a pleasant month with plenty of comfortable days in the beginning of the month.

29th - 99° ties June's all-time record maximum temperature set 6/22/1998 and tied 6/11/2000.

29th - Derecho rainfall 0.86", peak wind gust 23 MPH from the west, but estimated at 50+ mph due to protected anemometer location. The storm between 2230 and 2330 hours brought down numerous branches and my next door neighbor's large tree limb from his pear tree. The power outage in our community lasted some 112.5 hours till 3 PM on July 4th.

Joe Terry of Forest Glen

1st - Very persistent evening rain, occasionally heavy. Highest daily precipitation (1.86") since 12/7/2011.

5th - Unusually cool for so late in the season. Daytime temperatures were mostly in the 60's despite partly sunny conditions and no rain.

29th - The 102° maximum temperature was a June record. The maximum heat index of 111° tied the June record.

29th - Derecho rainfall 0.58", Peak wind gust 49 MPH from the west. Near severe thunderstorm during the late evening. There were considerable lightning flashes but only one close discharge. The gust front hit at 2240 with a 49 mph wind gust (second highest in station's 17 year history) knocking out power for 25 hours. This was the longest power outage that I ever experienced due to a thunderstorm. There was 5 minutes of pea to marble size hail (2248 to 2253 hours). In the first 5 minutes after the gust front hit the temperature dropped 17° and the pressure jumped 0.09".

Brian Smith of Oxon Hill

1st - Numerous +SHRA/+TSRA afternoon and evening 2.60".

29th - Derecho rainfall 0.68", 2250 - 2310 hours. Power out for 16 hours, and I was lucky!

Wes Gleason of Hollywood 3 ENE

29th - Derecho rainfall 0.27", peak wind gust 57 MPH from the west at 2317 hours. Lost two 12" diameter trees - each broke in half.

John Zyla of Ridge

1st - Two thunderstorms dropped almost 2 inches of rain accounting for 2/3rds of the monthly total.

Continued on page 4

JUNE 2012 MD/DE/DE ACON REPORT

Observer Comments Continued from page 3

29th - Derecho rainfall 0.36", peak wind gust 27 MPH from the northwest. It did not leave much damage or rain, but we lost power from 11:20 PM until 9 AM the next morning (10 hours). It was a very hot sticky night with the windows open after a high temperature of 101° earlier that afternoon.

Max Hutto of Smithsburg 1.5 SW

12th - AM rain and PM rain heavy at times, warm, windy.

29th - Mostly sunny, extremely hot / humid. Heat index 113°.

29th - Derecho rainfall 0.36", PWG 22 mph at 10 PM.

Greg Keefer of Hagerstown 1 E

29th - Record extreme heat today. Sunny and very hot and humid high of 101° breaking the old daily record of 100° set in 1934. It also set a new all time record high for June. This was only the third 100° or higher reading in June since records began in 1897.

29th - Derecho rainfall 0.31", peak wind gust 45 from the west. Storm was not severe here. Lots of frequent lightning in all directions, some wind with one brief gust to 45 MPH. The storms intensified again as they moved east past this area.

Jim Vaughn of Smithsburg 2 NE

1st - Wind gust of 41 MPH.

2nd - Wind gust of 42 MPH.

7th - Wind gust of 48 MPH.

29th - Maximum temperature of 103° broke the previous daily record of 100° set in 2001. It also set a new June high temperature surpassing 101° set on 6/15/1994.

29th - Derecho rainfall 0.33", peak wind gust 43 MPH.

Dave Leshner of Davis 3 SE WV

29th - Derecho rain 0.73"

Top Right:
June Precipitation for
Maryland and Delaware

Source: NWS Advance
Hydrologic Prediction Ser-
vices web site

Bottom Right:
June 12th Doppler Radar
precipitation estimate.

Source: NWS Mt. Holly
Facebook

Monthly Summary Continued from page 1

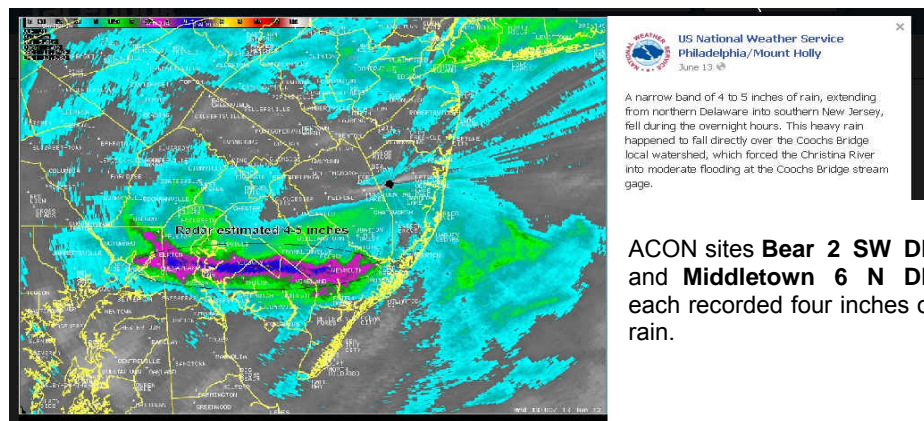
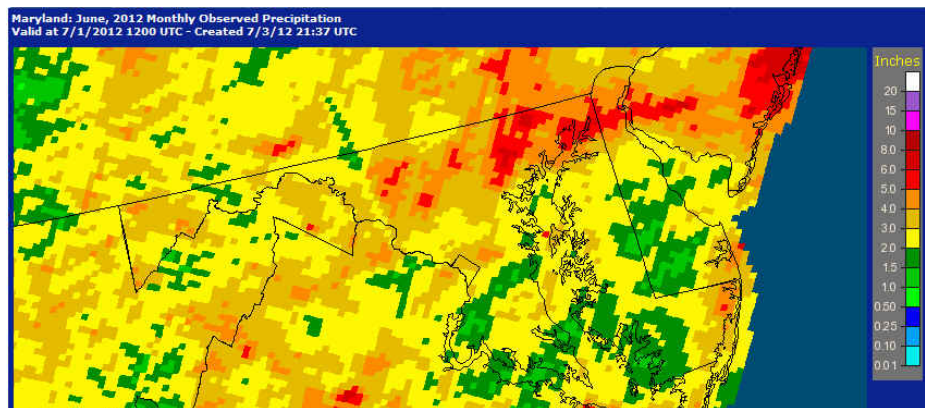
moved east-southeast at speeds of at least 60 mph from west of Chicago through the Maryland and Delaware and then off the Atlantic coast. Wind gusts of 71 MPH were recorded at NWS Washington Dulles and 70 MPH at NWS Washington National. **Richard Holden of Clarksburg 2 ENE** reported 68 MPH, the highest gust at an ACON station. Numerous trees and power lines were downed. Many customers were without power for upwards of a week or more. PEPCO, the power company serving Washington D.C. and its suburbs reported its largest number of outages ever for a non tropical event.

PEPCO's service area was at a rate of 51 percent restoration, and BGE's service was at 66 percent restoration, according to Maryland's Governor O'Malley.

ACON observer comments along with rainfall amounts, and wind gusts for stations with wind equipment can be found in the Observer Comments section of the report.

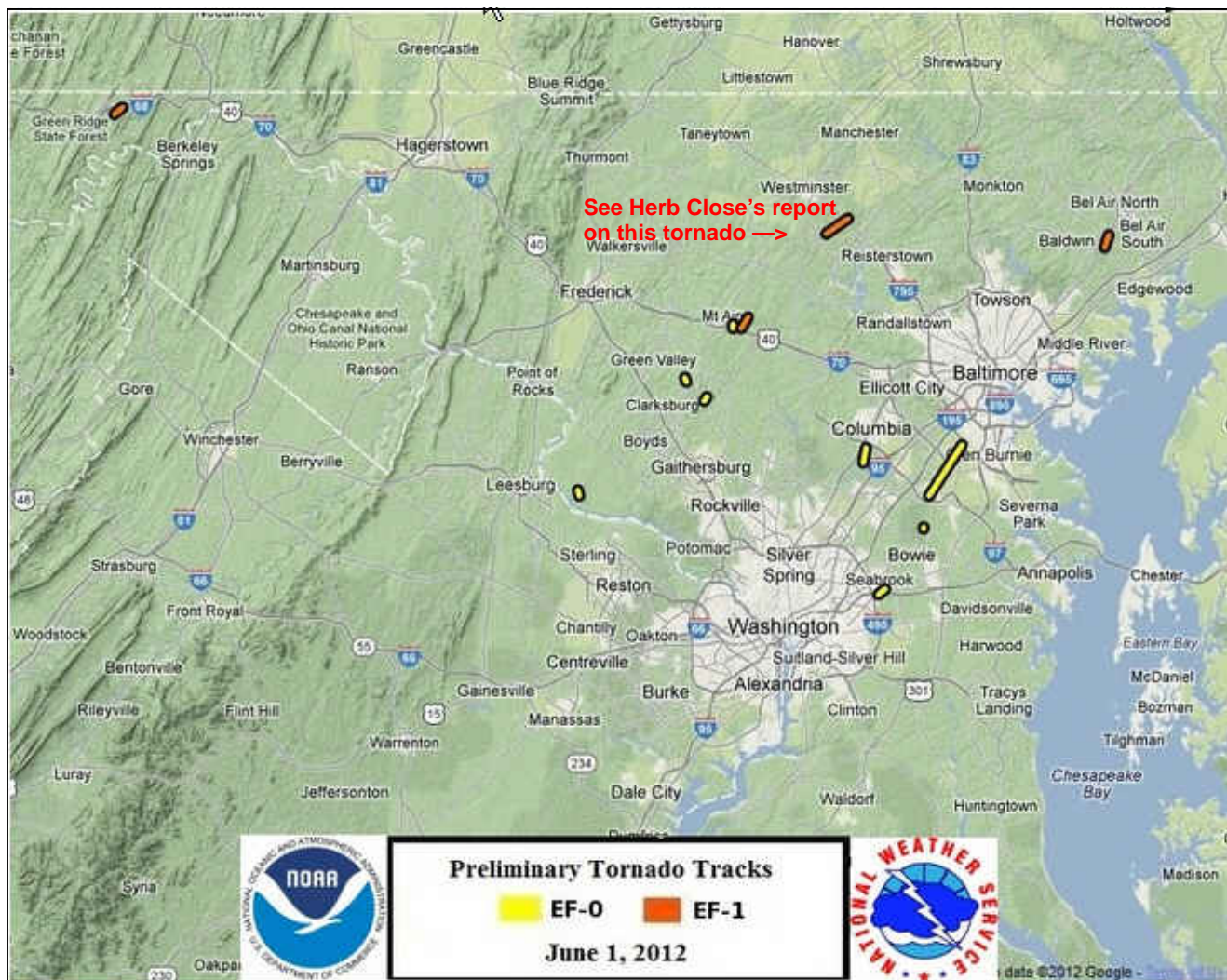
The following information on the Derecho Event are included in this report on pages 10 to 16:

- Pictures submitted by ACON Observers
- Link to NWS Sterling's report
- Link to NWS Mt Holly's report
- Link to WJLA Channel 7 storm pictures
- News release from PEPCO
- News release from BGE
- Southern New Jersey Winds



ACON sites **Bear 2 SW DE** and **Middletown 6 N DE** each recorded four inches of rain.

JUNE 1, 2012 CENTRAL MARYLAND TORNADO OUTBREAK



Below is the Sterling Public Information Statement on the June 1 outbreak. Details were removed due to space limitations. The complete report can be found on the Sterling Web Site via the following link: http://www.erh.noaa.gov/lwx/events/svrwx_20120601/pns.php and in the NWS Storm Data publication.

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**PUBLIC INFORMATION STATEMENT...UPDATED
NATIONAL WEATHER SERVICE BALTIMORE MD/
WASHINGTON DC
430 PM EDT THU JUN 21 2012**

...TWELVE TORNADOES ARE CONFIRMED ON 1 JUNE 2012 IN THE WFO STERLING COUNTY WARNING AREA...

BELOW IS A SUMMARY IN CHRONOLOGICAL ORDER BASED ON START TIME OF CONFIRMED TORNADOES THAT OCCURRED THE AFTERNOON AND EVENING OF FRIDAY JUNE 1ST 2012 IN THE WFO STERLING AREA OF RESPONSIBILITY.

* THE INFORMATION IN THIS STATEMENT IS PRELIMINARY AND SUBJECT TO CHANGE PENDING FINAL REVIEW OF THE EVENT(S) AND PUBLICATION IN NWS STORM DATA.

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JUNE 1, 2012 CENTRAL MARYLAND TORNADO OUTBREAK

...EF-0 TORNADO CONFIRMED NEAR DAMASCUS MD...

LOCATION...1 MILE WEST OF DAMASCUS IN MONTGOMERY COUNTY MD
DATE...JUNE 01 2012
ESTIMATED TIME...2:29 PM TO 2:32 PM EDT
MAXIMUM EF-SCALE RATING...EF-0
MAXIMUM WIND SPEED...70 MPH
MAXIMUM PATH WIDTH...150 YARDS
LENGTH...1.0 MILE
BEGINNING LAT/LON...39.274N / 77.232W
ENDING LAT/LON...39.282N / 77.233W
* FATALITIES...NONE
* INJURIES...NONE

...EF-0 TORNADO CONFIRMED IN WESTERN MONTGOMERY COUNTY MD...

LOCATION...3 MILES SW OF POOLESVILLE IN MONTGOMERY COUNTY MD
DATE...JUNE 1 2012
ESTIMATED TIME...2:37 PM TO 2:38 PM EDT
MAXIMUM EF-SCALE RATING...EF-0
MAXIMUM WIND SPEED...70 MPH
MAXIMUM PATH WIDTH...50 YARDS
LENGTH...0.5 MILES
BEGINNING LAT/LON...39.099N / 77.446W
ENDING LAT/LON...39.107N / 77.447W
* FATALITIES...NONE
* INJURIES...NONE

NOTE THIS TORNADO IS LISTED AS 4 NNW OF COUNTRYSIDE VA IN THE LOCAL STORM REPORT.

...EF-0 TORNADO CONFIRMED NEAR MT AIRY MD...

LOCATION...2 SE OF MT AIRY IN CARROLL COUNTY MD
DATE...JUNE 1 2012
ESTIMATED TIME...2:48 PM TO 2:49 PM EDT
MAXIMUM EF-SCALE RATING...EF-0
MAXIMUM WIND SPEED...75 MPH
MAXIMUM PATH WIDTH...100 YARDS
LENGTH...0.4 MILES
BEGINNING LAT/LON...39.358N / 77.139W
ENDING LAT/LON...39.364N / 77.137W
* FATALITIES...NONE
* INJURIES...NONE

...EF-1 TORNADO CONFIRMED NEAR WATERSVILLE MD...

LOCATION...1 SW OF WATERSVILLE IN HOWARD COUNTY MD
DATE...JUNE 1 2012
ESTIMATED TIME...2:52 PM TO 2:54 PM EDT
MAXIMUM EF-SCALE RATING...EF-1
MAXIMUM WIND SPEED...100 MPH
MAXIMUM PATH WIDTH...200 YARDS
LENGTH...1.4 MILES
BEGINNING LAT/LON...39.357N / 77.121W
ENDING LAT/LON...39.374N / 77.107W
* FATALITIES...NONE
* INJURIES...NONE

...EF-0 TORNADO CONFIRMED SOUTHEAST OF DAMASCUS MD...

LOCATION...2 MILES SSE OF DAMASCUS IN MONTGOMERY COUNTY MD
DATE...JUNE 1 2012
ESTIMATED TIME...3:09 PM TO 3:11 PM EDT
MAXIMUM EF-SCALE RATING...EF-0
MAXIMUM WIND SPEED...75 MPH
MAXIMUM PATH WIDTH...75 YARDS
LENGTH...1.0 MILE
BEGINNING LAT/LON...39.245N / 77.194W
ENDING LAT/LON...39.251N / 77.190W
* FATALITIES...NONE
* INJURIES...NONE

...EF-1 TORNADO CONFIRMED NEAR FINKSBURG MD...

(See the report by Herb Close for more details)

LOCATION...3 MILES NNW OF GAMBER IN CARROLL COUNTY MD
DATE...JUNE 1 2012
ESTIMATED TIME...3:21 PM TO 3:30 PM EDT
MAXIMUM EF-SCALE RATING...EF-1
MAXIMUM WIND SPEED...90 MPH
MAXIMUM PATH WIDTH...150 YARDS
LENGTH...4.0 MILES
BEGINNING LAT/LON...39.503N / 76.952W
ENDING LAT/LON...39.527N / 76.908W
* FATALITIES...NONE
* INJURIES...NONE

...EF-0 TORNADO CONFIRMED NEAR SCAGGSVILLE MD...

LOCATION...1 ENE SCAGGSVILLE IN EAST CENTRAL HOWARD COUNTY MD
DATE...JUNE 1 2012
ESTIMATED TIME...4:29 PM TO 4:32 PM EDT
MAXIMUM EF-SCALE RATING...EF-0
MAXIMUM WIND SPEED...85 MPH
MAXIMUM PATH WIDTH...75 YARDS
LENGTH...1.6 MILES
BEGINNING LAT/LON...39.150N / 76.878W
ENDING LAT/LON...39.172N / 76.870W
* FATALITIES...NONE
* INJURIES...NONE

...EF-0 TORNADO CONFIRMED NEAR LANDOVER MD...

LOCATION...1 NW SPRINGDALE IN PRINCE GEORGES COUNTY MD
DATE...JUNE 1 2012
ESTIMATED TIME...5:27 PM TO 5:28 PM EDT
MAXIMUM EF-SCALE RATING...EF-0
MAXIMUM WIND SPEED...65 MPH
MAXIMUM PATH WIDTH...50 YARDS
LENGTH...0.9 MILES
BEGINNING LAT/LON...38.944N / 76.846W
ENDING LAT/LON...38.953N / 76.834W
* FATALITIES...NONE
* INJURIES...NONE

JUNE 1, 2012 CENTRAL MARYLAND TORNADO OUTBREAK**...EF-0 TORNADO CONFIRMED NEAR ODENTON MD...**

LOCATION...3 MILES WEST-SOUTHWEST OF ODENTON IN ANNE ARUNDEL COUNTY

DATE...JUNE 01 2012

ESTIMATED TIME...5:46 PM TO 5:47 PM EDT

MAXIMUM EF-SCALE RATING...EF-0

MAXIMUM WIND SPEED...65 MPH

MAXIMUM PATH WIDTH...75 YARDS

LENGTH...0.2 MILE

BEGINNING LAT/LON...39.047N / 76.755W

ENDING LAT/LON...39.049N / 76.756W

* FATALITIES...NONE

* INJURIES...NONE

...EF-1 TORNADO CONFIRMED NEAR BEL AIR MD...

LOCATION...PLEASANT HILLS IN HARFORD COUNTY MD

DATE...JUNE 1 2012

ESTIMATED TIME...5:56 PM TO 5:59 PM EDT

MAXIMUM EF-SCALE RATING...EF-1

MAXIMUM WIND SPEED...100 MPH

MAXIMUM PATH WIDTH...300 YARDS

LENGTH...1.25 MILES

BEGINNING LAT/LON...39.487N / 76.393W

ENDING LAT/LON...39.504N / 76.388W

* FATALITIES...NONE

* INJURIES...2

Location	Start/End Time	Event Type	Path Length	Path Width
Montgomery 1 W Damascus	Jun. 1 2:29 pm- 2:32 pm	EF-0 Tornado 70 mph	1.0 mi	150 yds
Montgomery 3 SW Poolesville	Jun. 1 2:37 pm- 2:38 pm	EF-0 Tornado 70 mph	0.5 mi	50 yds
Carroll 2 SE Mt. Airy	Jun. 1 2:48 pm- 2:49 pm	EF-0 Tornado 75 mph	0.4 mi	100 yds
Howard 1 SW Watersville	Jun. 1 2:52 pm- 2:54 pm	EF-1 Tornado 100 mph	1.4 mi	200 yds
Montgomery 2 SSE Damascus	Jun. 1 3:09 pm- 3:11 pm	EF-0 Tornado 75 mph	1.0 mi	75 yds
Carroll 3 NNW Gamber	Jun. 1 3:21 pm- 3:30 pm	EF-1 Tornado 90 mph	4.0 mi	150 yds
Howard 1 ENE Scaggsville	Jun. 1 4:29 pm- 4:32 pm	EF-0 Tornado 85 mph	1.6 mi	75 yds
Prince Georges 1 NW Springdale	Jun. 1 5:27 pm- 5:28 pm	EF-0 Tornado 65 mph	0.9 mi	50 yds
Anne Arundel Patuxent Wildlife Research Refuge	Jun. 1 5:46 pm- 5:47 pm	EF-0 Tornado 65 mph	0.2 mi	75 yds
Harford Pleasant Hills	Jun. 1 5:56 pm- 5:59 pm	EF-1 Tornado 100 mph	1.25 mi	300 yds
Allegany 2 WSW Bellegrove	Jun. 1 6:31 pm- 6:32 pm	EF-1 Tornado 90 mph	1.1 mi	175 yds
Anne Arundel Northwestern Anne Arundel County	Jun. 1 7:06 pm- 7:22 pm	EF-0 Tornado 80 mph	6.4 mi	100 yds

...EF-1 TORNADO CONFIRMED IN EASTERN ALLEGANY COUNTY MD...

LOCATION...2 WSW BELLEGROVE IN EASTERN ALLEGANY COUNTY MD

DATE...JUNE 1 2012

ESTIMATED TIME...6:31 PM TO 6:32 PM EDT

MAXIMUM EF-SCALE RATING...EF-1

MAXIMUM WIND SPEED...90 MPH

MAXIMUM PATH WIDTH...175 YARDS

LENGTH...1.1 MILES

BEGINNING LAT/LON...39.688N / 78.376W

ENDING LAT/LON...39.699N / 78.361W

* FATALITIES...NONE

* INJURIES...NONE

...EF-0 TORNADO CONFIRMED FROM FORT MEADE TO BWI AIRPORT...

LOCATION...NORTHWESTERN ANNE ARUNDEL COUNTY MD

DATE...JUNE 1 2012

ESTIMATED TIME...7:06 PM TO 7:22 PM EDT

MAXIMUM EF-SCALE RATING...EF-0

MAXIMUM WIND SPEED...80 MPH

MAXIMUM PATH WIDTH...100 YARDS

LENGTH...6.4 MILES

BEGINNING LAT/LON...39.098N / 76.744W

ENDING LAT/LON...39.179N / 76.678W

* FATALITIES...NONE

* INJURIES...NONE

JUNE 2012 MD/DE/DE ACON REPORT

**June 22 Downbursts: Bladensburg, Prince Georges County and
Johnsville, Frederick County, Maryland**

The complete report, along with radar animation of the Bladensburg downburst, can be viewed on the Sterling NWS web site at: http://www.erh.noaa.gov/lwx/events/svrwx_20120622/

June 22, 2012 Severe Weather & Downbursts in D.C.

PUBLIC INFORMATION STATEMENT
NATIONAL WEATHER SERVICE BALTIMORE MD/WASHINGTON DC
1119 PM EDT SAT JUN 23 2012

...PUBLIC INFORMATION STATEMENT...

...DOWNBURSTS CONFIRMED IN BLADENSBURG AND JOHNSVILLE MARYLAND...

THE NATIONAL WEATHER SERVICE OFFICE IN STERLING VIRGINIA HAS CONFIRMED THAT DAMAGE IN TWO MARYLAND LOCALES FROM THUNDERSTORMS ON FRIDAY AFTERNOON AND EVENING 22 JUNE 2012 WAS THE RESULT OF DOWNBURST WINDS.

IN JOHNSVILLE MARYLAND...THE ROOF OF A DAIRY BARN WAS DESTROYED AND BLOWN DOWNWIND FOR SEVERAL HUNDRED FEET. NUMEROUS TREES WERE UPROOTED AND LARGE LIMBS WERE SNAPPED. WIND IN THIS DOWNBURST WAS ESTIMATED AT AROUND 80 MPH.

IN BLADENSBURG MARYLAND...EXTENSIVE DAMAGE OCCURRED TO BUILDINGS AND TREES. ALONG NEWTON STREET...ROOF DAMAGE WAS SUSTAINED AT AN APARTMENT BUILDING. PIECES OF THE ROOF WERE BLOWN DOWNWIND AND DAMAGED VEHICLES. ADDITIONAL HOMES IN THE AREA SUFFERED ROOFUPLIFT. NUMEROUS TREES WERE UPROOTED...AND MANY LARGE LIMBS WERE SNAPPED. POWER POLES ALSO WERE OBSERVED TO BE LEANING. WIND IN THIS DOWNBURST WAS ESTIMATED TO BE 90 TO 100 MPH.

A DOWNBURST OCCURS WHEN COLD AIR HIGH IN A THUNDERSTORM DESCENDS AND ACCELERATES. AS THE STREAM OF COLD AIR REACHES THE GROUND...IT SPREADS OUT AND CAN ACCELERATE FURTHER. WHEN ENVIRONMENTAL CONDITIONS ARE FAVORABLE...WIND IN A DOWNBURST CAN EXCEED 80 TO 100 MPH. SUCH WIND IS COMPARABLE TO OR STRONGER THAN MANY TORNADOES AND CAN CAUSE SIMILAR DAMAGE.

IN SOME CASES...HAIL AND VERY HEAVY RAIN ALSO ACCOMPANY THE DOWNBURST...LEADING TO FLOODING AND SIGNIFICANT DAMAGE FROM WIND-DRIVEN HAIL.

A LOCALIZED DOWNBURST...CALLED A MICROBURST...OCCURRED ON 1 AUGUST 1983 AT ANDREWS AIR FORCE BASE...WHERE A GUST OF 158 MPH WAS RECORDED. THIS DOWNBURST WAS ANALYZED IN DETAIL BY DR. TED FUJITA...WHO PIONEERED THE CONCEPT OF WIND DAMAGE SURVEYS.

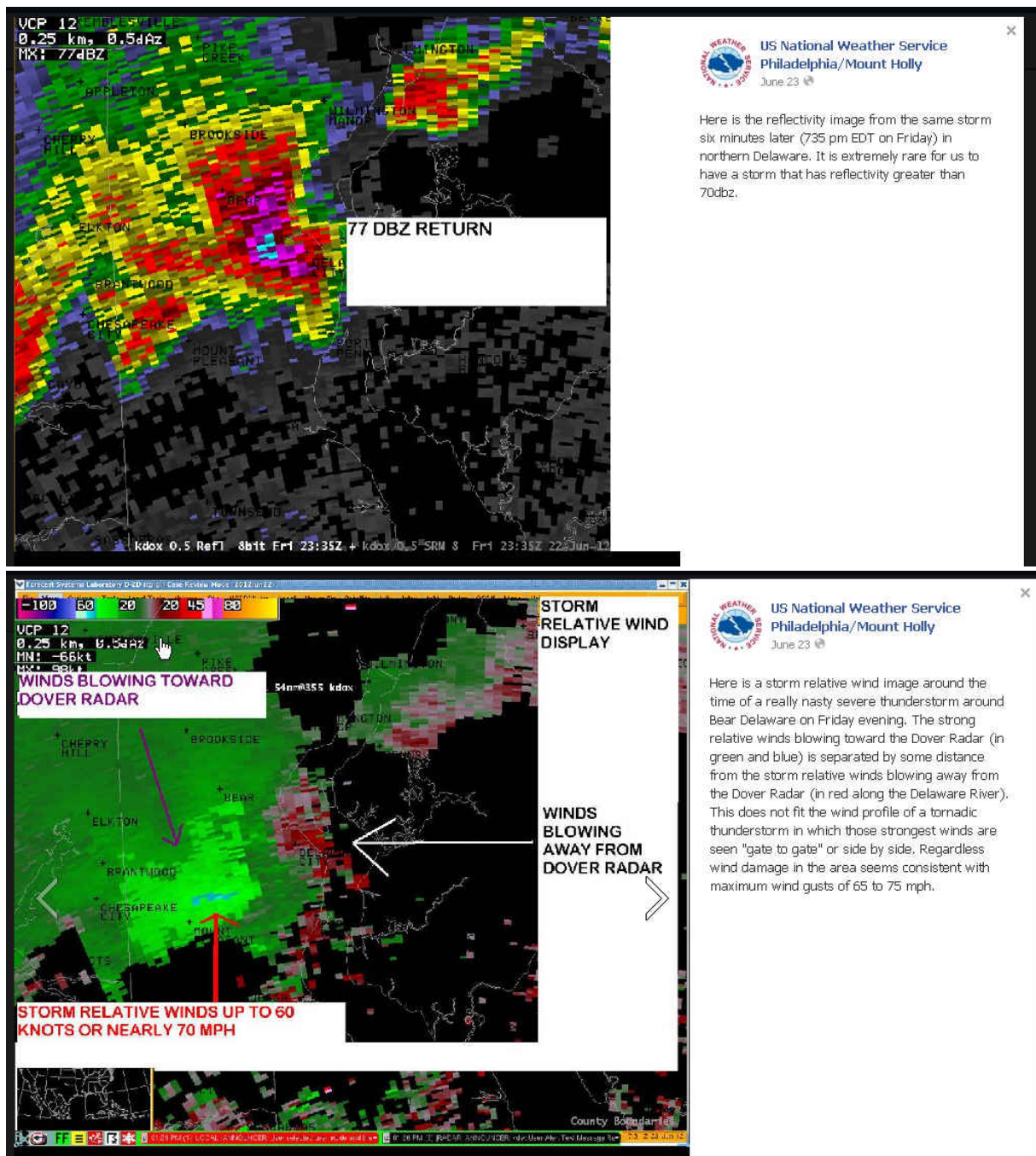
A WELL-SITED DOPPLER RADAR CAN OFFER HIGH CONFIDENCE THAT A DOWNBURST HAS OCCURRED. AS DOWNBURST AIR REACHES THE GROUND AND SPREADS OUTWARD...A DIVERGENT WIND SIGNATURE PROVIDES A TELLTALE SIGN THAT A DOWNBURST IS OCCURRING. IN BOTH STORMS ON 22 JUNE...SUCH WIND SIGNATURES WERE OBSERVED IN BOTH NATIONAL WEATHER SERVICE DOPPLER RADAR AND FAA TERMINAL DOPPLER RADAR DATA.

THE NATIONAL WEATHER SERVICE OFFICE IN STERLING APPRECIATES ALL DAMAGE REPORTS AND INFORMATION PROVIDED BY EMERGENCY MANAGEMENT...STORM SPOTTERS...BROADCAST MEDIA AND THE PUBLIC.

\$\$

KRAMAR

June 22, 2012 Severe Thunderstorm south of Bear, Delaware



The above two pictures were taken off of NWS Mt. Holly Facebook web site.

The greatest damage that I saw occurred in the vicinity of the blue area in the pictures above, which is a couple miles SE of my home. Many trees upwards of two feet in diameter were snapped off or uprooted along with five consecutive power poles downed. More pictures are on the next page.

Pictures supplied by Gary Gallaher of Bear 2 SW, DE.

June 22, 2012 Storm Damage South of Bear, DE

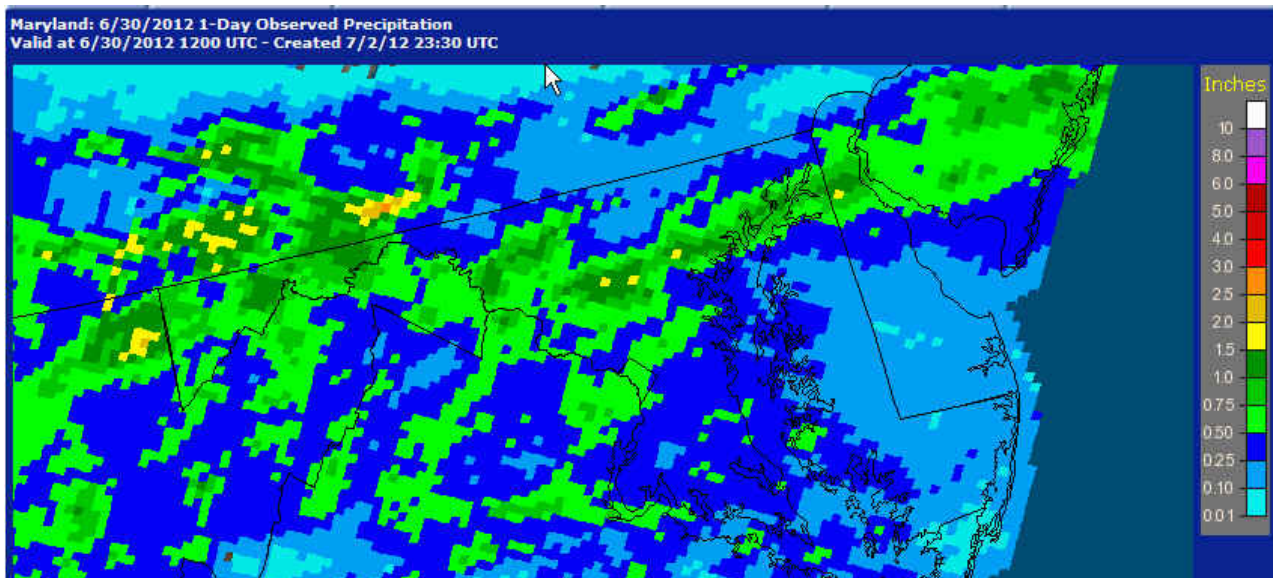
Four pictures below submitted by Gary Gallaher, Bear 2 SW DE



June 29-30 Derecho Storm

Precipitation for Maryland and Delaware

Source: NWS Advance Hydrologic Prediction Services web site



June 29-30, 2012 Derecho Storm

Below are links to the National Weather Service reports on the June 29th & 30th Derecho event. These reports include animated Doppler radar pictures which could not be printed here.

Washington / Baltimore, Sterling
Public Information Statement with animation

http://www.erh.noaa.gov/lwx/events/svrwx_20120622/

Philadelphia, Mt. Holly
Powerpoint presentation with animation:

http://www.erh.noaa.gov/er/phi/storms/2012/June%2029-30_2012%20Derecho.pptx

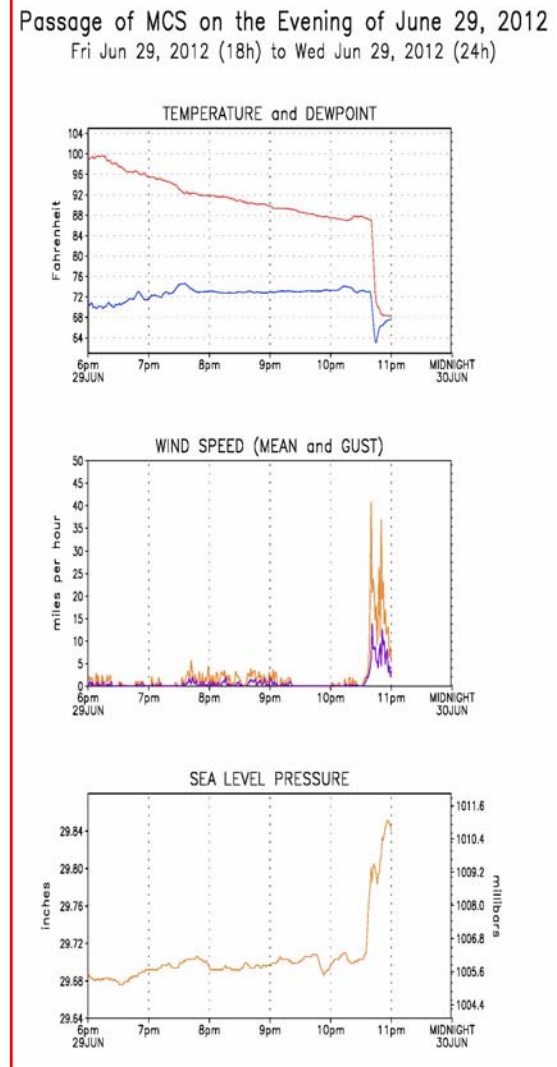
PDF presentation without animation:

http://www.erh.noaa.gov/er/phi/storms/2012/June%2029-30_2012%20Derecho.pdf

Pictures from WJLA Washington Channel 7 web site

www.wjla.com/pictures/2012/06/d-c-storm-2012-photos-deadly-storms-ravage-d-c-area/23477-1632.html

Chart to the right is from ACON observer **Joe Terry of Forest Glen** Silver Spring, MD. Plotted on the chart are weather parameters prior to and during the derecho until the battery backup ceased at 11 PM.



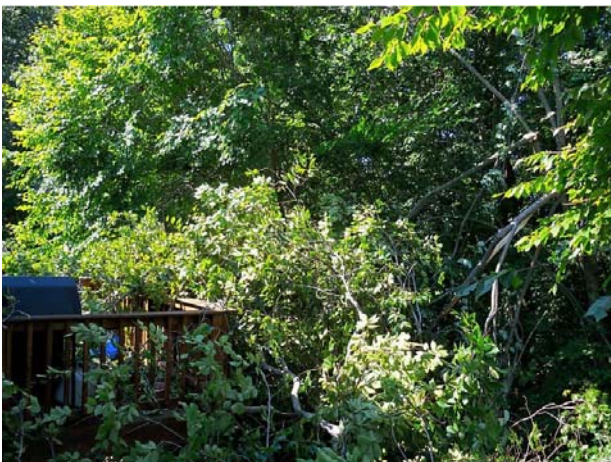
The two pictures below were furnished by **Alexander McGinnis of Rockville 2 W**
Downed trees made Glen Mill Road impassible for two days alongside Lakewood Elementary School in Rockville, MD



June 29-30, 2012 Derecho Storm Damage



Ron Berger of **Norbeck 1 SE** submitted these three pictures of damage in his neighborhood. The downed power lines in the picture to the left cut power to his neighborhood for 29 plus hours.

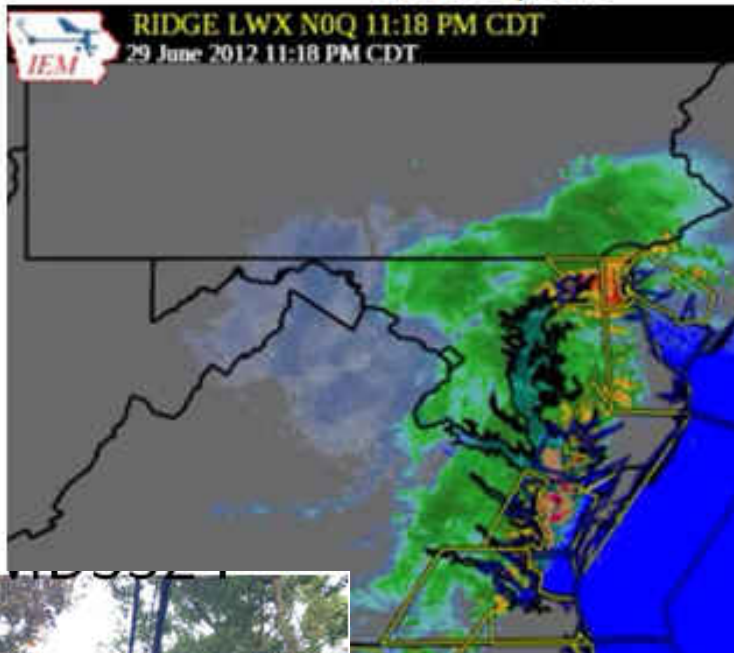


The picture at the left was submitted by **Marty Sharrow** of **Owings Mills**. Trees are down onto the street in front of the white vehicle.

Caption on the picture says “Last night's storm damaged quite a few trees in the Garrison / Owings Mills, MD area. In Baltimore / DC metro areas, over 1.25 million customers are without power!”

2012 Super Derecho Thunder Storm Delmarva Power-New Castle Region

June 29th, 2012



Storm pictures on this page are courtesy of Richard Aiello, Delmarva Power. The pictures were part of a Delmarva Power Powerpoint presentation.

Top Center: Radar shortly after midnight EDT 6/30 as the derecho was passing thru New Castle County DE

Top Right: DuPont Parkway, Odessa, DE

Bottom Two: East of Chesapeake City, MD



NEWS RELEASE

FOR IMMEDIATE RELEASE

701 Ninth Street NW
Washington, DC 20068

pepco.com

NYSE: POM

July 8, 2012 9:30 PM

Pepco Completes Full Restoration of Customers Impacted by Derecho

300,000 crew man-hours estimated, 3,000 personnel mobilized for eight-day restoration

19,000 cases of water and energy drinks supplied to keep crews hydrated

260 poles, 170 transformers supplied— more than Hurricanes Isabel or Irene

WASHINGTON, D.C. – Overnight, Pepco completed restoration to the final few customers without power as a result of the violent and destructive storm that struck the Washington region on Friday, June 29. At peak, the utility had more than 443,000 customers without service.

According to the U.S. Department of Energy, the storm left more than 3.8 million customers without power throughout the Midwest and Mid-Atlantic. A report issued by the Federal Emergency Management Agency Sunday morning, July 8, states that more than 146,000 customers remain without power due to the derecho. FEMA attributes 34 fatalities to the storm and reports that overnight more than 30 overnight mass care shelters were open in five states as citizens continue to cope with derecho's aftermath. Because of the storm's devastating impact, the governors of District of Columbia, Maryland, Virginia, West Virginia and Ohio all declared a state of emergency.

With the support of about 3,000 total personnel, Pepco worked full force, around the clock, to restore the vast majority of customers without power in the Washington, D.C., region by Wednesday, July 4. A number of outages persisted into the weekend due to heavy localized tree damage that impeded progress and made repairs more challenging.

To execute repairs, Pepco's Materials department issued crews about 260 electric poles and 170 transformers, which is considerably more than was needed for restoration after either Hurricane Isabel or Irene.

An estimated 300,000 man-hours were expended to restore customers, including call center support. Pepco secured about 1,000 hotel rooms to house field crews over an eight-day period, arranged more than 53,000 meals and issued about 10,000 cases of water and 9,000 cases of energy drinks to keep crews sufficiently hydrated during the high heat the region experienced last week. In addition, the company supplied about 376,000 pounds of ice to crew members to combat heat.

"The derecho storm was by many accounts the most destructive to hit the Mid-Atlantic region since Hurricane Isabel nearly a decade ago. Restoring service has been a mammoth effort involving about 3,000 Pepco and external personnel with reinforcements from as far away as Canada, Oklahoma and Florida," said Thomas H. Graham, Pepco Region President. "We appreciate the patience and understanding of our customers who had to cope with outages during record-breaking heat. We thank all personnel dedicated to the restoration effort, our partners at the emergency management agencies who provided critical relief coordination and support, and government officials and the media who assisted with communicating to our valued customers."

Damage Recap

The June 29 derecho struck the mid-Atlantic area with wind gusts in excess of 70 miles per hour. The high winds toppled and split trees, knocked down power lines and poles, crushed cars and homes, blocked intersections and generally wrought unprecedented damage to Pepco's electric system infrastructure.

At its peak, the storm left more than 443,000 Pepco customers without power. In the District of Columbia, about 64,000 customers were without power at peak; in Montgomery County, Md., 238,000 customers; and in Prince George's County, 141,000.

Pepco's Response

Although the derecho storm provided little warning, in preparation for possible weekend thunderstorms, Pepco activated its emergency incident response plan early on Friday, June 29, holding over line crews, securing

Continued on Page 15

June 29-30, 2012 Derecho Storm

PEPCO News Release Continued from page 14

local contractors, activating its Pepco emergency response personnel and reviewing material inventories. By 6 a.m., Saturday, June 30, all Pepco employees were on deck, outside reinforcements were being aggressively recruited and a comprehensive damage assessment and initial restoration effort begun. By Monday, 700 outside crew members had arrived to support the restoration effort. That number would grow to more than 800 for a total force of about 2,000 Pepco, local contractor and out-of-state field crew members. These crews remained hard at work through the following weekend.

Including support personnel, Pepco had a total of more than 3,000 resources dedicated to the restoration effort.

To help process incoming crews and strategically distribute materials, two staging areas were up and running by Saturday afternoon, June 30—one at the Montgomery County Fairgrounds and another at the Capital Plaza Shopping Center in Prince George's County. In addition, the company activated its regional storm centers to more effectively dispatch crews to local outages.

To keep customers informed, Pepco proactively updated Twitter, Facebook, the mobile outage reporting and tracking application, and the website, which experienced an increase of traffic of 1,600 percent; answered more than 575,000 customer phone calls; issued continual press updates; held press conferences; conducted countless media interviews; and held daily conference calls with government officials.

Pepco personnel staffed the state and local emergency management agencies and emergency operations centers and the company was in constant contact with fire departments and departments of transportation to ensure a coordinated community response.

Post-Restoration Follow-Up

The high heat forecast for the remainder of the weekend, combined with existing storm-related damage to the electric system and high demand for electricity may cause additional outages. Pepco asks customers to continue conserving electricity.

The following tips will help customers reduce their energy use:

- During hot weather, a central air conditioner can account for 30 percent of a customer's energy bill. Pepco suggests checking the air filter regularly – a clean air filter improves system efficiency, which should lead to energy savings.
- Set your thermostat at 78 degrees Fahrenheit, a reasonably comfortable and energy-efficient indoor temperature.
- Have a professional check your air conditioning system to ensure that it works properly and is not leaking coolant.
- Be sure all windows are shut and outside doors are closed when the air conditioning is on.
- It is important not to have lamps, televisions or other heat sources close to the air conditioner thermostat. Heat from these sources may cause the air conditioner unit to run longer than it should.
- Check to ensure that no furniture or other obstacles are blocking ducts or fans. This will enable cooled air to circulate freely, making your home more comfortable.

To learn more, visit www.pepco.com/energy/conservation/.

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Pepco, a subsidiary of Pepco Holdings, Inc. (NYSE: POM), delivers safe, reliable and affordable electric service to more than 788,000 customers in Maryland and the District of Columbia.

Southern New Jersey Peak Wind Gusts



The Derecho continued eastwards through Southern New Jersey with wind gusts of over 80 MPH. It left a trail of damage similar to what it did in Maryland and Delaware. To the left are reported peak wind gusts.

Source: Pressofatlanticcity.com 7/1/2012

June 29-30, 2012 Derecho Storm

Statement from BGE concerning the Derecho

Summer storms left hurricane-like destruction—and a state of emergency across Maryland.

When sudden and violent thunderstorms hit us the evening of June 29, they packed hurricane-force winds and unleashed major destruction in central Maryland as they made their way across a 500-mile stretch of the Mid-Atlantic region. Yet unlike hurricane systems that move up the coast over a period of days, this system gave little indication of its severity until it hit our region. It became one of the most damaging storms in BGE's nearly 200-year history. A state of emergency was officially declared in Maryland as more thunderstorms continued.

More than 748,000 customers in eight counties and Baltimore City lost power since the start of these storms, nearly the number of outages caused by Hurricane Irene last summer. Across the Mid-Atlantic, more than three million customers experienced outages.

While BGE restored service to 100,000 customers by the morning after the storms—and almost half of all affected customers within 36 hours—we acknowledge that many customers experienced inconvenience, frustration and discomfort during the ongoing restoration efforts.

We thank our customers, employees and the community for your patience and understanding during this restoration process. BGE has received many inquiries about the storm recovery efforts. Here are answers to some of our customers' most frequently asked questions.

Was BGE ready for these storms?

As utility officials and meteorologists have agreed, this system—termed a “derecho”—gave few, if any, signs of the intensity it would pack in the Mid-Atlantic region. In the early stage of the storms, however, BGE and our restoration crews already were in action, assessing damages as they occurred and activating immediate round-the-clock measures in order to get our customers back in service as safely and quickly as possible.

What made this restoration effort so challenging?

In their wake, the storms had crippled many portions of our electricity distribution system, including feeders that supply power to the lines serving our customers. BGE crews follow a storm restoration plan that first brings public safety facilities—including hospitals, 911 centers and pumping stations—back online. However, the backbone of the utility's electric distribution system, larger lines that supply power to substations, sustained significant damage. Those lines require repair or replacement first before other equipment can be repaired, which may cause extended outage durations for some customers.

BGE crews faced the additional challenge of removing trees and limbs from tangled wires before power lines and poles could be repaired—a significant effort given the impact of the 60-70 mph winds that swept across our region.

How was BGE staffed to meet the challenge?

More than 4,700 utility workers, including 2,800 BGE personnel and 1,900 out-of-state utility workers, were actively working to restore power to customers. Because of the unexpected arrival and intensity of these storms, utilities throughout the region had limited availability of support crews due to their own restoration needs. Still, BGE received quick responses from utility crews in Alabama, Connecticut, Florida, Georgia, Louisiana, Maryland, Massachusetts, Michigan, Mississippi, Missouri, New Hampshire, New Jersey, North Carolina, Oklahoma, Pennsylvania,

Rhode Island, Tennessee, Texas and Canada. BGE's sister utility, PECO, an Exelon company based in Philadelphia, was one of the first utilities to dispatch crews to Maryland. We extend our gratitude to these crews for their dedication and service to our customers.

Why does it take so long to get to some neighborhoods?

The severity of these storms, coupled with necessary attention to critical feeder equipment, requires a methodical approach to restoration. In addition, once crews begin working in a neighborhood, new problems identified may require them to leave and make repairs elsewhere before returning to the area to complete repairs to customers' power lines. Fallen trees may further compound restoration efforts, requiring tree crews to clear them before calling in restoration crews waiting nearby.

Why are some estimated times of restoration changed?

We know customers have decisions to make and would like an estimated time when their service will be restored. However, in many cases, when crews arrive on the scene they encounter significantly more damage than previously reported. There are also instances where we restore power to a neighborhood at the estimated time—yet hidden issues, such as a damaged wire leading to an individual home, may still exist. A number of factors such as these can result in a change in estimated restoration time.

What is BGE doing to prepare for the next storm?

BGE continually evaluates and assesses our storm response procedures to ensure we are prepared in the event of outages. In addition, BGE continues to upgrade technology, enhance training and preparedness programs, and make every effort possible to lessen the impact of storms. BGE offers resources and tips for what to do before, during and after a storm through our online storm center at BGE.COM.

We continue our commitment to safely and efficiently restore power to our customers in the event of storms and service disruptions, and we welcome your questions and comments as we make continuous enhancements to serve our customers and the community.

Severe Thunderstorm with an EF1 Tornado Hits the Gamber and Finksburg area. Part of a Tornado Outbreak that hits Maryland & Virginia on June 1, 2012.

By

Herbert Close, Jr.

High damaging winds and very heavy rains caused white-out conditions on Friday afternoon, June 1, 2012 in the Finksburg 2 NW area. I came from work in Hunt Valley, MD near Cockeysville to my parent's house between 4:15 PM and 5:10 PM. Rt. 140 was all backed up from Rt. 91 traffic light in Finksburg SE to I-795 due to the light being out at Finksburg. In fact the power was out from Finksburg to about 3 miles to the NW. As I approached my parent's area on the Old Westminster Pike, I noticed some trees and limbs down halfway across the road just before Brown Rd.

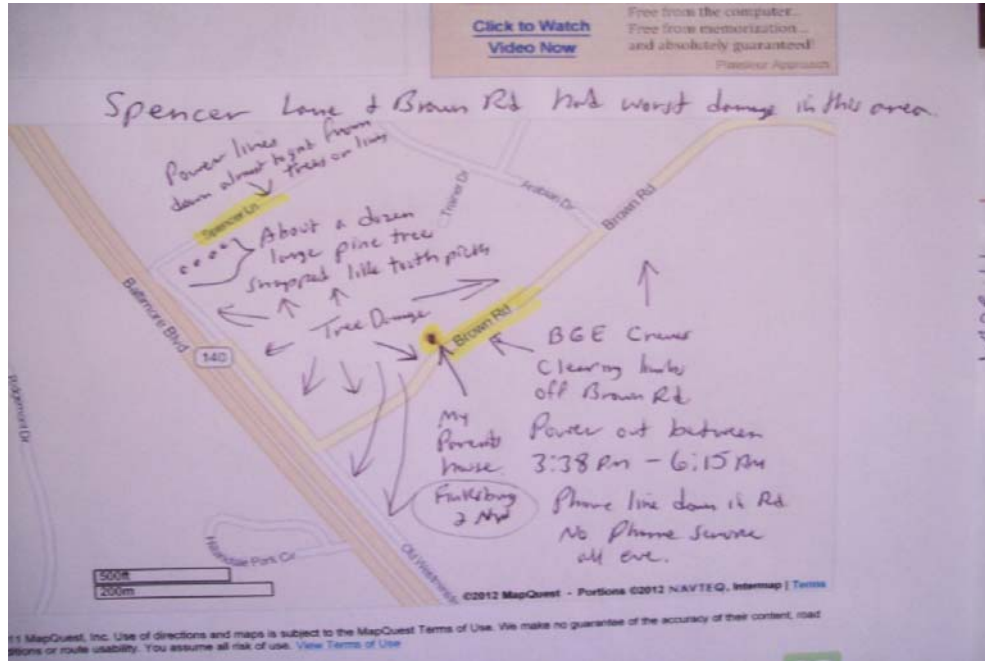
As I drove back Brown Road, I could see a BGE truck in front of my parent's house along with many tree limbs and a telephone line across the road. It was the phone line that went to my parent's house. I saw my mom talking with a neighbor on the front porch. My dad, another neighbor and a man with BGE, were cleaning limbs off Brown Rd. The road had been blocked with many tree limbs. Other BGE trucks were also in the area.



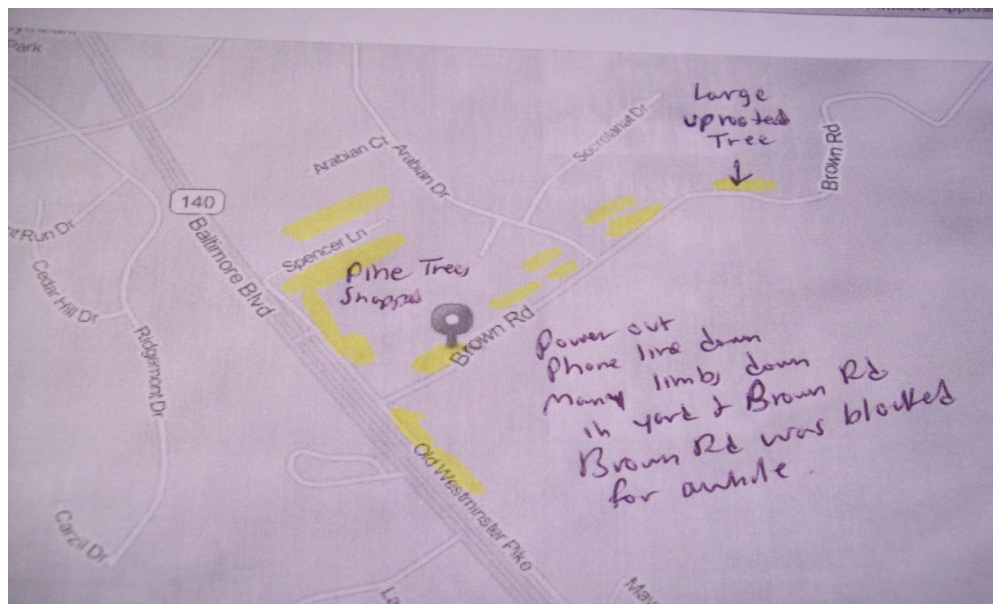
Home of Herb Close's Parents

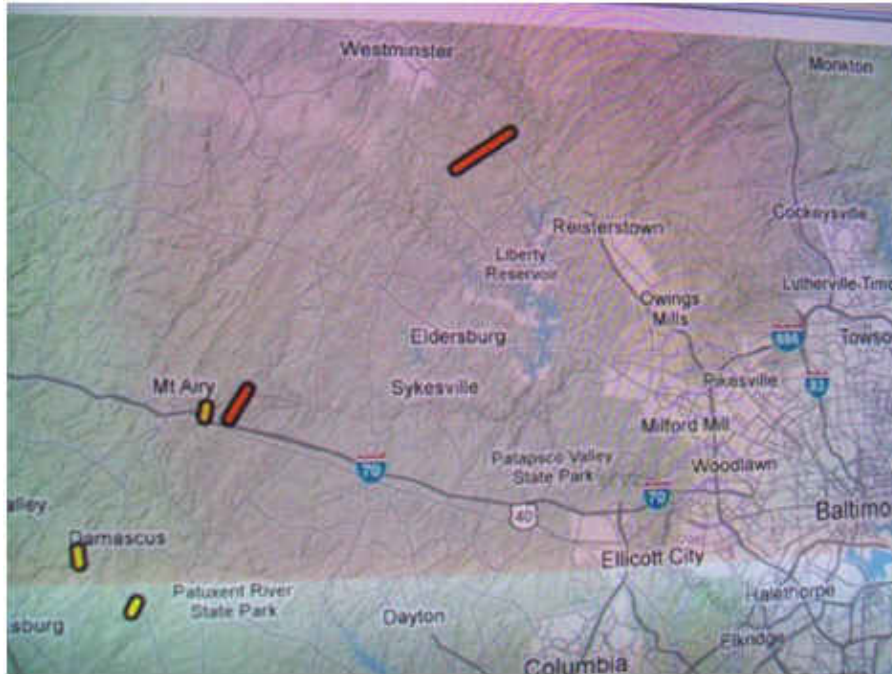
Around just after 3:30 PM my Mom said that the light rain that started earlier suddenly became very heavy and then the winds picked up and just kept getting stronger out of the SW. Visibility was suddenly reduced to zero in a white-out of wind and rain. Mom said she could hear the limbs on their large Kentucky Coffee Tree starting to snap. Mom and Dad headed quickly to the basement. After staying in the basement for a few minutes, the worse seemed to be over. They came back up and looked outside to find many large limbs all over their front yard and blocking

Brown Road. Their power went out. As of 5:50 PM, 1.42 inches of rain fell but moderate to heavy rain was still falling. Another line of severe thunderstorm would come later in the evening with more heavy rain. The 24 hour storm total would be 2.76 inches of rain. Note the damage to my Mom and Dad's rainspout in front of their house from a tree limb. Mom and Dad's power was out for just a few hours but their phone line was out for a whole week. It would not be until the next Friday mid-day when their phone service returned. So many phone lines were down from this storm and other storms in the state that there was a large backlog.



Between Old Westminister Pike and where you see the word "Tree" in "Tree Damage" near the center of the map, is where Mr. Roy Bogan has his property. He lost about two dozen trees, many of them large trees. He also had some house damage. A large tree uprooted in front of his house and damage part of his house. Many large tree limbs fell. Some trees snapped like tooth picks.





The same thunderstorm cells that spawned tornadoes in Mt. Airy moved NE into Carroll County.

Credit: Sterling, VA
NWS, NOAA

Before the Gamber and Finksburg areas got hit with the EF1 tornado, Mt. Airy got hit with a couple tornadoes. This same thunderstorm cell, shown in the picture above in Mt. Airy, moved NE toward Gamber and Finksburg and generated another tornado. My Mom was kind enough to video tape live coverage for me so I could play back and take photos of these “hook echoes” as they occurred on live TV for this research report.



Photo of WJZ-TV Ch 13 of Baltimore live video Friday afternoon when the tornadoes were occurring.

Credit: WJZ-TV, Channel 13, Baltimore, MD



Photo of live video footage. Tornado hitting the Mt. Airy area.

Credit: WJZ-TV 13, Baltimore, MD



Sterling Doppler Radar showing wind direction with the classic red bar of a rotating tornado near Mt. Airy and Damascus, Md.

Credit: WJZ-TV Ch 13, Baltimore, MD



Close-up of Doppler radar showing the tornado signature near Damascus, Maryland.

Credit: WJZ-TV Ch 13, Baltimore, MD.



Note that the thunderstorm cell leaving Mt. Airy is now heading NE for Gamber and Finksburg. The “hook echo” part of the storm is just SW of Gamber. To the NW of Hampstead, Manchester is about to get a lot of heavy rain.

Credit WJZ-TV Ch 13,
Baltimore, MD



Photo of my parent’s back yard with three snapped pine trees. My dad already sawed up the trees on the ground Saturday morning. The photo was taken Saturday afternoon.

Mr. Bogan gave me a tour of the damage on his property. His property is right next to my parents back lot where they had three pine trees and a walnut tree snap. Mr. Bogan suffered a lot of tree damage. His house is located between Brown Road and Spencer Lane. Mr. Bogan suffered the most extensive damage in this neighborhood. About two dozen trees were badly damaged or destroyed. Many of these trees were large trees



Photo taken Saturday afternoon. Front of Mr. Bogan's house from the Old Westminster Pike.



Damage from Mr. Bogan's driveway.

Storm damage on Mr. Brogan's property



Above: Mr. Bogan standing next to one of his uprooted trees.

Left: Mr. Bogan next to a fallen tree, one of many fallen trees.

Storm damage on Mr. Brogan's property



A large uprooted tree in front of Mr. Bogan's house.



Large tree limbs in front of Mr. Brogan's house.

Above: Storm damage on Mr. Brogan's property



Large tree limbs holding down power lines. At the time of the storm, these power lines sparked and caught fire causing power outages.





About a dozen large pine trees snapped like tooth picks. At the time of the storm, reports of tree limbs falling on power lines causing fires here on Spencer Lane.

Just a quarter mile from my parent's house is Spencer Lane. Many trees were damaged and a row of large pine trees snapped like tooth picks. Some of the trees just missed the houses. One neighbor reported a fire burning where tree limbs pulled down the power lines. A news crews from WBFF FOX TV, Channel 45 from Baltimore filmed the pine tree damage. WJZ Channel 13 and WBAL Channel 11 news were also in the Finksburg area filming damage. There was a TV report of an uprooted tree on Deer Park Road SW of my parents. Another report from the Finksburg area reported a large tree down on a house. The house was badly damaged. One of the NWS Storm Teams reported one tree two feet across fell in the area from this storm. The next day on Saturday and over the weekend I saw many convoys of BGE trucks as well as other contract utility and tree trimming trucks scattered all over the area bringing back power to the area.

It's amazing that with so much tree damage, that there wasn't more damage to homes. Most people were very fortunate that the damage wasn't worse than it was.



Spencer Lane Pine Tree Damage
WBFF-TV FOX45 News at 10



Tree damage on Deer Park Road between Gamber and Finksburg.



Tree damage looking NE along
Deer Park Road.



Large Pine Trees snapped at
Carroll Trails



A whole area of trees knocked
down and tore up from the EF1
tornado at Carroll Trails



A large up rooted tree in a wooded area of Carroll Trails.



This whole section of wooded area was knocked down by the EF1 tornado.



Center and top photos taken from the NE side of Carroll Trails about a mile and a half from my parents.

Wooded area all tore up from the EF1 Tornado in Carroll Trails

June 1, 2012 Gamber and Finksburg Tornado Report

My rainfall at Manchester 1SW as of 11 PM was 3.07". Storm total was 3.13" of rainfall.
No wind damage seen at Manchester 1 SW.

It's interesting to note that in the past 16 years, there have been three tornadoes hitting the Gamber/Finksburg area. Each tornado struck within a mile or two of the other.

1. July 19, 1996. An F3 tornado hits the Gamber area near Bird Hill and Bird View Road. It would be one of the most powerful tornadoes in county history. The tornado had multiple vortices with winds 175mph to 180 mph. The tornado destroyed 12 homes, left 12 homes with major damage and 37 homes with minor damage. Fortunately only three injured. There were no deaths.
2. July 31, 2009. An EF0 tornado hits the Gamber/Finksburg area mainly by Deer Park Road. Deer Park Road runs parallel to Rt. 140 and Rt. 32 in between Finksburg and Gamber. Three homes were condemned and 15 homes damaged. There was one injury. The tornado hit 2 miles west of Finksburg. My parents had some storm damage from that thunderstorm also.
3. June 1, 2012. An EF1 tornado hits the Gamber/Finksburg area. Doppler radar indicated tornado touch down along Bird View Road NW of Gamber. The tornado moved NE crossing Deer Park Road and continuing along Green Mill Road damaging trees and homes in several developments. One large tree did fall on a house. One of the NWS Teams reported that the tornado knocked down a tree with a two foot diameter trunk. The tornado passed by the Sandymount Branch of the Carroll County Library crossing Rt. 140 and moving through the development at Carroll County Trails. Adjacent to Carroll Trails just to the SE is Spencer Lane and Mr. Roy Bogan who suffered a lot of tree damage. Estimated winds from the EF1 tornado were 85mph to 110mph. The path of the tornado was 4 miles.

Credits:

1. I would like to give special thanks to my Mom for taping live storm coverage for me while I was working. Photos of the radar coverage with the "hook echoes" would not have been possible without her.
2. Special thanks to WJZ-TV Channel 13 in Baltimore for their live storm coverage at the time of the storms. Photos of the storms on radar would not been possible without their coverage.
3. Special thanks to WBFF-TV Fox 45 News at 10PM for their coverage of storm damage in the Finksburg area.
4. Special thanks to the NWS at Sterling, VA for their hard work and Doppler radar coverage of the storms and tornadoes as they occurred. Thanks to the National Weather Service, NOAA, for their watches and warnings during this tornado outbreak saving many lives.

Herbert Close, Jr.

Sky Warn Spotter Code CLC12

Manchester 1 SW, Carroll County, Maryland

ACON MD /DE / DC
JUNE 2012 SUMMARY

OBSERVER	STATION	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>New Castle, Delaware</u>																									
Gallaher, Gary	Bear 2 SW	82.3	59.3	70.8	95	21+	47	6	7	0	0	47	W	22	7.24	4.04	12	17.61	10	2	0.0	0.0		5.2	2400
Legates, David	Middletown 6 N	82.3	60.6	71.5	96	29	49	6	8	0	0	35		30	7.93	4.06	12	18.60	11	3					2400
NWS Wilmington	New Castle Co. Apt.	83.5	61.1	72.3	98	21	49	6	8	0	0	39	SSW	29	3.64	1.48	12	14.01	13	1	0.0	0.0		5.2	2400
UofDE AG FARM DEOS***	Newark	81.5	60.7	71.1	95	29	49	6	7	0	0	33		29	4.75	2.39	12	15.49	11	1					2400
U of D REC DEOS***	Townsend 4 W	81.1	60.6	70.9	95	29	48	6	7	0	0	42		30	2.68	0.94	12	14.13	8	0					2400
<u>Sussex, Delaware</u>																									
Lamberton, Roy	West Seaford	86.2	62.4	74.3	103	29	52	6+	12	0	0	49	SW	29	1.60	0.51	12	<u>3.72</u>	10	0					2400
NWS Georgetown	Sussex Co. Airport	84.6	62.1	73.4	101	29	48	18	9	0	0	53	WNW	29	1.72	0.44	12	11.00	13	0					2400
U of D REC DEOS***	Georgetown 5 SW	82.4	60.5	71.5	100	29	46	18	7	0	0	39		30	1.26	0.36	12	12.99	11	0					2400
U of D REC DEOS***	Harbeson 8 S	81.0	60.0	70.5	97	29	46	18	7	0	0	24		30	2.53	1.04	22	13.64	8	1					2400
U of D DEOS***	Rehoboth Beach Bwk	78.3	64.9	71.6	93	22+	53	6	5	0	0	30		22	4.60	2.54		14.62	9	1					2400
<u>Allegany, Maryland</u>																									
Latta, Greg	Frostburg	75.4	54.4	64.9	91	30	47	6+	1	0	0				3.75	1.47	30	20.29	11	1	0.0	0.0		33.4	0700
Mullins, Nate**	LaVale	80.6	58.8	69.7	101	29	50	4+	5	0	0				2.53	0.65	29	16.83	9	0	0.0	0.0		16.5	2400
<u>Anne Arundel, Maryland</u>																									
Hanson, Dan	Pasadena 2 N	85.5	61.0	73.3	103	29	51	6	12	0	0	38	WSW	29	2.02	0.74	1	12.51	9	0	0.0	0.0		0.7	2400
Jug Bay Wetlands	Lothian	85.7	58.6	72.2	104	29	49	6	11	0	0	16		1	2.25	0.77	1	14.02	12	0	0.0	0.0			2400
NWS Baltimore	BWI Airport	85.3	61.9	73.6	103	29	50	6	11	0	0	66	WNW	29	2.68	1.55	1	13.38	9	1	0.0	0.0		1.8	2400
Stoudt, Jeff	Laurel 2 E	83.8	64.1	74.0	102	29	53	6	7	0	0				3.01	2.15	1	14.89	8	1	0.0	0.0		2.9	2400
<u>Baltimore, Maryland</u>																									
Muller, Ray	Reisterstown				98	21	50	6				50	W	22+	3.53	1.06	22	14.10	9	1	0.0	0.0		3.7	2100
Sharrow, Marty	Owings Mills 2 SE	82.5	60.9	71.7	98	29	50	6	7	0	0	51	W	29	3.33	1.92	1	13.85	7	2	0.0	0.0		5.4	2400
<u>Baltimore City, Maryland</u>																									
Manfre, Joe	Baltimore 2 SE	89.1	69.6	79.4	106	29	59	5+	14	0	0				2.49	1.37	1	<u>6.86</u>	6	1	0.0	0.0		<u>0.0</u>	2400
Maryland Science Ctr	Baltimore Inner Harbor	88.3	69.4	78.9	106	29	59	5+	13	0	0				1.88	1.09	1	11.88	8	1					2400
<u>Carroll, Maryland</u>																									
Close Jr, Herb	Manchester 1 SW	80.4	58.4	69.4	97	29	49	5	6	0	0				5.07	3.07	1	18.41	11	2	0.0	0.0		21.6	2300
Hartsock, Ralph	Westminster 4 SSE	85.6	61.6	73.6	101	29	49	6	10	0	0				6.29	2.35	22	19.20	9	3	0.0	0.0		7.9	2000
Miller, Bobby	Millers 4 NE	81.5	58.5	70.0	95	29	45	6	5	0	0	50	N	4	4.66	1.46	2	19.30	13	2	0.0	0.0		18.1	1800
<u>Charles, Maryland</u>																									
Brumback, Marty	Bryans Road 2 ESE	84.9	61.8	73.4	103	29	52	3	10	0	0	54	SW	29	1.83	0.63	29	13.03	9	0	0.0	0.0		2.7	2359
<u>Frederick, Maryland</u>																									
Glass, Eric	Emmitsburg 2 SE	79.4	58.6	69.0	96	30	48	6	3	0	0				4.09	2.08	2	18.46	9	2	0.0	0.0		7.0	0700
<u>Howard, Maryland</u>																									
Giannola, Rich	Laurel JHU / APL				Station Closed 02/01/12													<u>1.83</u>						1.8	2400

**ACON MD /DE / DC
JUNE 2012 SUMMARY**

OBSERVER COUNTY, STATE	STATION	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
<u>Montgomery, Maryland</u>																								
Berger, Ron	Norbeck 1 SE	83.4	61.3	72.4	100	29	49	6	8	0	0				2.62	1.08	1	16.07	8	1	0.0	0.0	3.1	2200
Cohen, Rob	Potomac 4 N	81.1	62.0	71.6	98	29	50	6	7	0	0				4.41	1.12	1	16.56	9	2	0.0	0.0	2.0	2100
Giannola, Rich	Olney 1 S	81.6	61.0	71.3	98	29	49	6	7	0	0				2.70	1.02	1	16.06	7	1	0.0	0.0	4.2	2400
Holden, Richard	Clarksburg 2 ENE	80.8	60.7	70.8	98	29	50	6	4	0	0	68	W	29	4.24	2.47	1	18.46	11	1	0.0	0.0	11.8	2400
McGinnis, Alexander	Rockville 2 W	82.2	62.0	72.1	98	29	50	6	7	0	0				4.12	1.25	29	17.22	6	2	0.0	0.0	3.9	2400
Rossen, Stan	Glenmont 1 NNE				99	29	50	6	<u>Data delayed. Extremes and totals only.</u>					3.31	1.71	1	15.85	3	1	0.0	0.0	2.7	2400	
Scafide, Tony	Bethesda	81.7	62.2	72.0	97	29	51	6	7	0	0	13	W	22	3.65	1.49	1	16.16	9	2				2400
Shaw, Kevin	Gaithersburg 2 WNW	82.7	61.3	72.0	99	29	50	6	7	0	0	23	W	29	2.97	1.27	1	17.32	7	1	0.0	0.0	5.0	2400
Terry, Joe	Forest Glen	85.9	61.1	73.5	102	29	50	6	11	0	0	49	W	29	3.56	1.86	1	16.33	11	1	0.0	0.0	3.0	2400
<u>Prince Georges, Maryland</u>																								
Smith, Brian	Oxon Hill	84.1	63.2	73.7	102	29	52	6	8	0	0				3.62	2.61	1	15.01	4	1	0.0	0.0	2.8	2300
<u>St. Marys, Maryland</u>																								
Gleason, Wes	Hollywood 3 ENE	82.6	65.6	74.1	99	29	57	5	7	0	0	57	W	29	1.40	0.43	2	13.75	8	0	0.0	0.0	1.1	2400
Zyla, John	Ridge	84.2	65.4	74.8	101	29	57	5+	10	0	0	27	NW	29	3.05	1.97	1	17.59	10	1	0.0	0.0	1.7	2400
<u>Washington, Maryland</u>																								
Hutto, Max	Smithsburg 1.5 SW	82.0	57.4	69.7	100	29	45	6	6	0	0	29		3	2.84	1.31	12	22.64	11	1	0.0	0.0	12.8	2400
Keefer, Greg	Hagerstown 1 E	81.9	59.5	70.7	101	29	47	6	6	0	0	45	W	29	2.42	1.00	1	19.95	9	1	0.0	0.0	9.4	2400
Vaughn, Jim	Smithsburg 3 NE	81.3	59.8	70.6	103	29	46	6	6	0	0	48	N	7	2.87	1.11	12	20.59	11	1	0.0	0.0	17.1	2400
<u>Wicomico, Maryland</u>																								
NWS Salisbury	Wicomico Co. Apt	85.4	61.9	73.7	101	29	49	6+	12	0	0	52	W	30	3.52	1.43	25	15.91	7	1				2400
<u>Arlington, Virginia</u>																								
NWS Washington Nationa	National Airport	85.9	66.6	76.3	104	29	58	6+	11	0	0	70	WNW	29	2.38	1.22	1	13.12	5	1	0.0	0.0	2.0	2400
<u>Loudon, Virginia</u>																								
NWS Washington Dulles	Dulles Airport	83.8	59.9	71.9	102	29	50	3	9	0	0	71	WNW	29	1.79	0.61	1	14.60	5	0	0.0	0.0	3.7	2400
Shaffer, Lance	Sterling 4 N																<u>4.39</u>					3.8	2400	
<u>Tucker, West Virginia</u>																								
Leshner, Dave	Davis 3 SE WV	71.2	50.9	61.1	89	30	41	26	0	0	0				3.65	0.91	18	23.90	12	0	0.0	0.0	110.4	0700
SECTION AVERAGE*		81.0	60.1	70.5											3.25		15.79						7.2	

*SECTIONAL AVERAGE DOES NOT INCLUDE DATA FROM WEST VIRGINIA.

**OBSERVER FOR LAVALLE 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

NOTES:

M OR UNDERLINE= MISSING DATA

> = INCLUDED IN NEXT DAYS DATA

ITALIC = ESTIMATED DATA

+ = FIRST OF SEVERAL OCCURANCES

WINTER TYPE PRECIPITATION FROM STATIONS WITH

TIPPING BUCKET RAIN GAUGE MAY SHOW UNDER CATCH.

ALSO AMOUNTS CAUGHT MAY BE NOTED IN THE FOLLOWING
DAYS AS IT MELTS.

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 07/27/12

ACON MD / DE / DC
JUNE 2012 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	AVG	OBS TIME	
BEAR 2 SW, DE	77	73	78	72	68	75	80	84	90	92	86	72	80	80	80	80	75	70	83	94	95	94	86	87	82	78	84	89	95	91	82.3	2400	
GALLAHER	56	54	49	57	51	47	52	52	54	60	67	67	67	62	55	53	56	52	65	66	70	71	66	61	65	56	53	59	68	69	59.3	EDT	
MIDDLETOWN 6 N DE	77	73	78	71	69	76	80	84	90	93	86	72	80	79	80	80	74	70	83	94	95	93	86	88	82	77	84	90	96	90	82.3	2400	
LEGATES	59	56	52	58	52	49	53	55	57	62	67	68	66	63	58	57	53	65	66	72	68	67	62	66	57	56	62	69	68	60.6	EDT		
WILMINGTON , DE	79	74	79	70	70	76	81	84	90	93	85	73	82	82	82	82	76	71	79	97	98	96	88	86	85	79	87	92	97	93	83.5	2400	
NWS NEW CASTLE CO APT	61	58	52	57	50	49	53	54	61	64	68	67	66	64	56	55	60	57	64	68	73	71	69	61	61	56	55	63	70	69	61.1	EST	
NEWARK AG FARM, DE	77	72	77	71	68	74	79	83	89	92	84	72	78	79	79	79	74	70	82	94	94	93	85	86	82	78	84	90	95	90	81.5	2400	
U OF DE DEOS	57	59	54	56	51	49	54	55	60	63	67	67	66	64	56	55	57	53	64	66	73	71	68	62	64	56	57	63	68	69	60.7	EDT	
TOWNSEND 4 W, DE	76	71	76	69	66	75	78	81	87	90	83	72	79	78	79	78	74	70	83	93	94	92	84	87	82	76	84	91	95	90	81.1	2400	
U of D REC DEOS	59	57	55	57	53	48	54	54	58	63	66	68	68	63	56	54	55	51	64	69	72	68	66	62	66	58	55	61	72	68	60.6	EDT	
LAMBERTON, ROY	87	76	80	76	72	74	83	87	91	96	93	75	84	80	81	80	77	73	87	99	100	97	92	93	90	80	89	95	103	96	86.2	2400	
WEST SEAFORD	M	58	55	58	55	52	53	57	63	65	68	68	68	64	59	55	56	52	64	68	73	72	70	67	70	59	56	62	74	70	62.4	EDT	
GEORGETOWN, DE	85	76	81	74	69	72	81	85	90	94	89	77	81	76	78	78	73	74	86	98	99	97	89	90	89	79	88	94	101	95	84.6	2400	
NWS SUSSEX CO APT	61	58	57	59	52	49	52	58	65	65	66	69	67	64	58	54	52	48	65	68	76	71	71	66	70	60	54	62	73	72	62.1	EST	
GEORGETOWN, DE	83	73	77	73	67	71	79	82	88	92	89	74	80	74	76	76	71	72	83	95	96	94	89	89	86	78	86	91	100	92	82.4	2400	
U of D REC DEOS	61	57	55	58	52	48	51	56	63	63	66	67	66	62	57	53	52	46	63	65	72	71	69	63	69	58	53	59	71	70	60.5	EDT	
HARBESON 8 S, DE	80	72	77	71	65	70	79	83	88	90	86	74	77	73	74	73	69	70	83	95	96	93	84	84	85	76	84	90	97	92	81.0	2400	
U of D REC DEOS	60	55	52	58	51	47	50	56	62	62	64	68	66	64	60	52	51	46	63	65	72	70	68	64	69	58	53	59	71	70	60.0	EDT	
REHOBOTH BEACH BWK	72	75	79	72	63	69	76	75	88	83	77	72	77	69	70	70	66	68	74	87	91	93	83	79	82	77	85	93	91	93	78.3	2400	
U of D DEOS	64	62	58	60	57	53	57	59	67	72	70	68	66	65	65	64	62	58	66	70	77	68	68	69	71	61	61	68	74	70	64.9	EDT	
FROSTBURG	77	77	65	70	64	56	67	71	75	80	84	73	77	71	74	75	74	77	65	84	87	86	81	77	79	71	69	77	88	91	75.4	0700	
LATTA	53	49	49	50	49	47	47	51	53	55	59	62	55	48	49	53	53	55	57	62	66	66	58	56	56	49	50	56	58	60	54.4	EDT	
LAVALLE	70	70	77	68	65	70	76	80	86	88	80	81	79	77	76	78	77	70	88	92	90	89	84	86	77	75	82	96	101	90	80.6	2400	
MULLINS**	57	53	52	50	55	50	50	54	61	59	62	68	59	53	52	54	61	65	68	69	71	61	59	63	54	61	58	67	64		58.8	EDT	
PASADENA 2 N	82	75	80	75	72	75	80	86	93	93	90	76	81	82	82	75	71	86	98	100	98	90	90	88	82	90	97	103	96		85.5	2400	
HANSON	61	56	52	58	56	51	53	52	57	62	64	69	69	65	57	55	54	56	65	69	71	71	66	62	69	57	55	61	71	68	61.0	EDT	
LOTHIAN	81	77	81	76	70	75	83	87	92	93	91	75	82	80	80	80	75	72	89	99	98	97	92	92	89	82	89	96	104	96	85.7	2400	
JUG BAY	59	54	51	55	51	49	51	50	57	59	63	68	60	60	56	52	51	54	65	67	70	69	65	61	64	49	52	59	71	68	58.6	EDT	
BALTIMORE	81	75	79	74	70	77	80	85	90	94	89	76	80	82	81	81	75	70	88	98	100	98	90	92	88	81	90	96	103	95	85.3	2400	
NWS BWI APT	60	56	53	57	53	50	56	52	62	65	66	68	67	65	57	55	53	58	67	70	75	71	68	64	66	58	59	64	71	70	61.9	EST	
LAUREL 2 E	79	74	78	72	66	75	78	83	89	92	89	76	80	81	81	82	78	68	88	96	97	93	88	89	84	80	87	96	102	93	83.8	2400	
STOUDT	61	56	56	59	56	53	58	58	66	67	67	69	67	65	61	59	57	61	66	73	77	73	70	66	71	59	63	68	72	70	64.1	EST	
REISTERSTOWN						50														98									96			2100	
MULLER																																	EDT
OWINGS MILLS 2SE	75	72	77	71	67	76	78	83	88	93	88	74	81	81	80	80	75	67	85	94	95	93	87	89	84	76	86	91	98	91	82.5	2400	
SHARROW	61	53	51	56	52	50	55	53	60	64	65	66	59	63	57	57	54	58	63	69	72	72	67	63	70	55	58	64	73	68	60.9	EDT	
BALTIMORE 2SE	85	78	82	77	74	81	83	88	98	97	94	81	84	85	85	87	79	76	90	101	104	101	93	95	92	84	93	99	106	101	89.1	2400	
MANFRE	62	63	64	62	59	59	62	63	72	76	76	71	73	69	67	68	65	65	70	77	82	78	77	75	75	64	69	75	74	75	69.6	EDT	
BALT INNER HARBOR	84	77	83	77	73	80	84	88	95	96	94	80	83	84	85	85	78	75	89	100	103	100	92	94	91	83	92	99	106	100	88.3	2400	
MD SCIENCE CENTER	63	63	62	62	59	59	62	63	70	75	76	71	73	69	67	68	67	65	70	77	82	78	76	75	64	68	74	74	75		69.4	EST	
MANCHESTER 1SW	71	69	74	68	65	75	76	80	M	90	M	M	M	M	78	77	77	75	67	85	93	94	90	84	86	81	76	83	89	97	90	80.4	2300
CLOSE	57	50	52	53	49	50	55	52	58	M	M	M	M	M	57	56	56	53	56	61	70	72	68	64	64	60	51	54	64	70	66	58.4	EDT
WESTMINSTER 4 SSE	79	78	81	76	72	80	83	85	89	93	92	77	77	83	84	84	81	75	92	97	99	96	90	85	85	81	85	94	101	94	85.6	2000	
HARTSOCK	61	53	53	56	53	49	58	54	61	64	64	68	64	61	59	58	55	61	64	69	72	72	66	62	73	54	58	63	75	68	61.6	EDT	
MILLERS 4NE	77	71	74	74	68	74	78	81	85	89	88	82	75	80	79	78	77	71	85	92	93	91	83	85	80	76	82	88	95	93	81.5	1800	
MILLER	58	52	51	53	50	45	54	51	59	62	63	65	62	58	56	55	52	56	61	68	70	69	63	58	63	53	55	60	68	66	58.5	EDT	
BRYANS ROAD 2 ESE	82	74	79	75	70	76	82	84	90	93	88	77	80	80	81	81	76	69	89	96	98	96	91	91	88	82	88	95	103	93	84.9	2359	
BRUMBACK	66	57	52	57	55	53	53	54	60	61	66	68	67	66	58	55	53	58	65	69	72	71	68	63	69	58	59	62	71	69	61.8	EDT	
EMMITSBURG 2 SE	78	72	70	74	68	67	71	77	80	84	87	85	74	76	78	78	76	75	66	85	91	91	88	84	84	80	77	83	88	96	79.4	0700	
GLASS	58	53	52	55	54	48	49	53	52	59	61	63	63	59	58	57	54	59	60	64	68	71	64	59	63	55	58	59	63	66	58.6	EDT	

ACON MD / DE / DC
JUNE 2012 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		AVG	OBS TIME
LAUREL JHU / APL GIANNOLA																																2400 EDT	
NORBECK 1 SE BERGER	78 64	72 54	76 52	72 56	70 56	75 49	78 54	82 54	90 60	93 62	88 64	76 67	79 65	82 63	82 57	81 54	77 53	68 61	89 66	96 71	97 70	94 71	87 67	89 62	85 68	78 55	87 59	92 64	100 73	90 67	83.4 61.3	2200 EDT	
POTOMAC 4N COHEN	78 64	68 55	74 52	70 57	66 57	73 50	78 53	83 54	85 62	90 64	85 65	75 69	75 66	78 63	78 60	78 58	75 55	68 62	86 67	92 70	94 71	91 72	86 67	88 64	80 66	77 57	84 57	90 62	98 72	90 68	81.1 62.0	2100 EDT	
OLNEY 1 S GIANNOLA	77 60	71 54	76 51	75 56	67 55	74 49	77 54	81 53	87 58	90 63	86 66	76 67	77 64	78 61	78 58	79 56	75 55	67 60	85 65	93 71	94 72	91 71	84 67	86 63	83 68	77 54	85 56	91 63	98 74	91 67	81.6 61.0	2400 EDT	
CLARKSBURG 2ENE HOLDEN	74 58	71 52	76 54	69 54	68 53	73 50	76 54	80 56	86 63	88 68	85 68	75 65	76 62	79 58	78 57	76 58	67 56	86 59	91 63	92 71	88 74	85 68	87 66	82 59	77 52	84 58	90 65	98 68	89 67	80.8 60.7	2400 EST		
ROCKVILLE 2 W MCGINNIS	79 62	73 55	76 53	71 56	67 56	75 50	78 54	83 54	86 62	91 64	87 65	75 67	77 65	80 63	81 68	80 58	77 56	67 60	87 66	93 70	97 71	91 70	87 68	88 65	82 64	76 56	83 59	90 66	98 69	90 68	82.2 62.0	2400 EST	
GLENMONT 1NNE ROSSEN					68 50																	72							99			2400 EST	
BETHESDA SCAFIDE	79 61	71 55	76 53	72 57	66 56	74 51	79 54	81 55	87 61	90 64	86 68	75 68	77 66	79 63	78 60	77 58	75 57	68 61	86 67	94 71	94 73	90 68	84 66	89 65	82 67	77 57	83 59	90 64	97 70	95 73	81.7 62.2	2400 EDT	
GAITHERSBURG 2WNW SHAW	76 61	74 54	79 52	71 56	67 55	76 50	79 55	83 54	89 58	91 62	86 65	76 69	78 65	80 62	80 60	79 57	75 55	68 61	89 67	94 71	95 71	90 70	87 67	87 63	84 66	80 57	85 57	92 63	99 70	92 68	82.7 61.3	2400 EDT	
FOREST GLEN TERRY	82 61	76 56	80 51	77 56	71 53	79 50	82 53	86 54	91 59	94 63	90 65	78 67	82 65	84 63	83 59	83 56	79 55	71 61	92 67	97 71	98 72	95 70	89 67	91 63	87 65	82 54	88 58	94 62	102 70	95 68	85.9 61.1	2400 EDT	
OXON HILL SMITH	81 65	74 60	78 54	75 59	70 56	75 52	80 54	84 56	89 61	91 64	87 67	76 67	81 67	79 66	80 60	80 57	74 55	69 59	89 66	96 70	97 73	94 72	89 70	91 66	86 70	80 60	87 65	93 63	102 71	95 70	84.1 63.2	2300 EDT	
HOLLYWOOD 3 ENE GLEASON	81 68	73 62	77 58	74 61	70 57	71 59	79 59	83 60	87 63	90 66	85 69	76 69	80 71	78 66	79 63	78 61	74 60	72 69	81 71	95 74	96 71	92 74	87 70	87 70	86 71	79 64	86 63	91 67	99 72	92 71	82.6 65.6	2400 EDT	
RIDGE ZYLA	82 67	76 58	79 58	77 61	70 57	71 57	80 58	83 58	90 66	93 69	87 71	76 69	80 68	78 66	81 63	80 60	76 61	71 58	82 67	95 71	96 75	92 74	88 70	90 71	93 73	81 61	87 62	96 69	101 75	96 69	84.2 65.4	2400 EDT	
SMITHSBURG 1.5 SW HUTTO	74 59	72 52	76 49	69 53	66 50	77 45	79 52	82 50	87 53	90 56	86 60	79 66	78 59	81 54	81 58	79 54	68 53	89 62	94 65	93 67	89 69	85 61	85 57	80 61	77 49	84 49	91 57	100 69	90 66	82.0 57.4	2400 EDT		
HAGERSTOWN 1E KEEFER	74 60	71 52	77 52	68 55	66 52	74 47	77 54	81 53	88 57	89 62	87 67	79 62	77 62	80 58	80 60	79 57	67 56	89 65	93 70	95 70	90 63	85 60	86 62	81 53	78 53	85 59	93 70	101 67	90 67	81.9 59.5	2400 EDT		
SMITHSBURG 3 NE VAUGHN	74 58	79 53	75 55	67 56	66 52	74 46	75 53	80 54	86 57	87 60	85 66	79 65	75 62	79 57	79 60	78 61	77 59	68 61	89 65	95 69	95 70	90 70	83 63	84 59	78 60	76 51	82 56	90 61	103 68	91 67	81.3 59.8	2400 EDT	
SALISBURY NWS WICOMICO CO APT	87 64	77 56	80 54	78 59	71 52	72 49	81 51	86 55	92 63	96 65	93 67	78 69	84 68	78 63	79 58	78 53	74 49	85 65	97 67	98 75	97 72	92 69	92 68	90 70	80 59	87 55	92 63	101 71	93 72	85.4 61.9	2400 EST		
WASH NATIONAL NWS ASOS	82 65	75 61	80 58	75 62	71 58	75 58	83 58	85 60	91 67	92 69	90 72	78 70	82 69	83 68	82 64	77 63	71 62	88 69	98 74	99 78	97 74	91 73	93 72	89 69	82 62	89 66	96 70	104 72	97 72	85.9 66.6	2400 EST		
WASH DULLES NWS ASOS	80 63	73 53	78 50	74 54	70 53	74 51	79 52	83 51	88 56	90 60	87 65	79 68	80 66	81 61	80 59	80 53	77 52	68 61	90 67	94 69	96 69	93 68	87 66	90 62	86 64	80 51	87 54	93 58	102 71	94 70	83.8 59.9	2400 EST	
STERLING 4 N SHAFFER																																2400 EDT	
DAVIS 3 SE WV LESHER	73 51	65 43	58 42	64 47	62 43	55 46	60 43	67 44	67 50	74 57	79 56	67 61	73 53	69 44	70 50	70 50	70 50	72 54	73 59	79 58	83 59	80 62	79 54	71 50	75 52	68 41	65 43	73 48	86 60	89 56	71.2 50.9	0700 EDT	

ACON MD / DE / DC
JUNE 2012 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	TOTAL	OBS TIME
BEAR 2 SW, DE GALLAHER	0.30	0.10	0.04	0.12								4.04						0.01	0.01			1.66		T	T				0.06	0.90	7.24 0.0	2400 EDT
MIDDLETOWN 6 N DE LEGATES	0.28	0.12	0.03	0.14	0.01		0.06					4.06						0.01				1.70	0.01							1.51	7.93 -	2400 EDT
WILMINGTON, DE NWS NEW CASTLE CO APT	0.41	0.06	0.16	0.14	0.02		0.04					1.48						0.01	0.02			0.36		T	T	0.02			0.77	0.15	3.64 0.0	2400 EST
NEWARK AG FARM, DE U OF DE DEOS	0.35	0.11	0.11	0.36								2.39	0.01						0.01			0.28			0.01				0.30	0.82	4.75 -	2400 EDT
TOWNSEND 4 W, DE U of D REC DEOS	0.37	0.16	0.08	0.11								0.94										0.49	0.01							0.52	2.68 -	2400 EDT
LAMBERTON, ROY WEST SEAFORD	0.18	0.45		0.09	0.04		0.02	0.01				0.51						0.01	0.12											0.17	1.60 0.0	2400 EDT
GEORGETOWN, DE NWS SUSSEX CO APT	0.28	0.24	0.09	0.16	0.05	0.01						0.44	0.02	0.01					T			0.11			0.04				0.16	0.11	1.72 -	2400 EST
GEORGETOWN, DE U of D REC DEOS	0.17	0.25		0.11	0.03		0.14				0.01	0.36		0.01					0.05						0.02					0.11	1.26 -	2400 EDT
HARBESON 8 S, DE U of D REC DEOS	0.28	0.18		0.20	0.01							0.52										1.04			0.16					0.14	2.53 -	2400 EDT
REHOBOTH BEACH BWK U of DE DEOS	0.62	0.18	0.10	0.07	0.01							0.56										2.54			0.32					0.20	4.60 -	2400 EDT
FROSTBURG LATTA		0.45		0.06	0.02	0.20		T				0.16	0.27					0.66	0.23			0.07	0.16		T					1.47	3.75 0.0	0700 EDT
LAVALE MULLINS**	0.62		0.05		0.20						0.03	0.28						0.52	0.03			0.15							0.65		2.53 0.0	2400 EDT
PASADENA 2N HANSON	0.74	0.01		0.03	0.13							0.49										0.08	0.06						0.46	0.02	2.02 0.0	2400 EDT
LOTHIAN JUG BAY	0.77			0.02	0.05		0.01	0.01				0.72	0.01		0.01			0.01				0.04							0.55	0.05	2.25 0.0	2400 EDT
BWI NWS ASOS	1.55		T	0.06	T		0.04					0.33						0.03				0.04	0.11	T	T				0.51	0.01	2.68 0.0	2400 EST
LAUREL 2 E STOUDT	2.15		0.03	T	T		T					0.30		T				0.13				0.07	T	0.01	T				0.31	0.01	3.01 0.0	2400 EST
REISTERSTOWN MULLER	0.56	0.58	0.13				T					0.81	0.03					0.15	0.01			1.06								0.20	3.53 0.0	2100 EDT
OWINGS MILLS 2SE SHARROW	1.92		0.03	0.07			0.03					1.06						0.11							T					0.11	3.33 0.0	2400 EDT
BALTIMORE 2SE MANFRE	1.37			0.05				T				0.72						0.03											0.30	0.02	2.49 0.0	2400 EDT
BALT INNER HARBOR MD SCIENCE CENTER	1.09			0.05								0.59						0.02				0.01			0.02				0.07	0.03	1.88 -	2400 EST
MANCHESTER 1SW CLOSE	3.07	0.06	0.11	0.06	0.01							1.11						0.12	0.01			0.20							0.18	0.14	5.07 0.0	2300 EDT
WESTMINSTER 4 SSE HARTSOCK	1.78	0.58	0.10	0.08			T					1.04						0.22				2.35			0.01					0.13	6.29 0.0	2000 EDT
MILLERS 4NE MILLER	1.32	1.46	T	0.18	0.02			T				0.86	0.06					0.18	0.02			0.19	0.10	T	0.02				0.15	0.10	4.66 0.0	1800 EDT
BRYANS ROAD 2 ESE BRUMBACK	0.45					0.02	T					0.55						0.12	T			0.01	0.01		0.02				0.63	0.02	1.83 0.0	2359 EDT
EMMITSBURG 2 SE GLASS		2.08		0.05				0.01				T	1.19					T	0.11				0.02			0.01			0.01	0.61	4.09 0.0	0700 EDT

ACON MD / DE / DC
JUNE 2012 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	TOTAL	OBS TIME
LAUREL JHU / APL GIANNOLA																																2400 EDT
NORBECK 1 SE BERGER	1.08	0.13				0.02	T					0.32	0.03					0.09				0.14		T						0.81	2.62 0.0	2200 EDT
POTOMAC 4N COHEN	1.12		0.09	0.04								0.46	0.12					0.25				0.46		1.00						0.87	4.41 0.0	2100 EDT
OLNEY 1 S GIANNOLA	1.02						0.01					0.38		T				0.20				0.09			0.01				>	0.99	2.70 0.0	2400 EDT
CLARKSBURG 2ENE HOLDEN	2.47		0.03				0.02					0.73	0.01					0.16				0.13	0.01	T	0.03				0.64	0.01	4.24 0.0	2400 EST
ROCKVILLE 2 W McGINNIS	1.20		T				T					0.76						0.30	T			0.42		0.19	T				1.25	T	4.12 0.0	2400 EST
GLENMONT 1NNE ROSSEN	1.71																												0.64	0.01	3.31 0.0	2400 EST
BETHESDA SCAFIDE	1.49	0.01				0.06						0.32	0.01					0.20				1.36		0.04					0.16		3.65 0.0	2400 EDT
GAITHERSBURG 2WNW SHAW	1.27		T			T	0.04					0.54						0.11				0.15							0.85	0.01	2.97 0.0	2400 EDT
FOREST GLEN TERRY	1.86		T	T		0.01	0.01					0.40	T					0.17				0.47	0.01	0.01	0.02				0.58	0.02	3.56 0.0	2400 EDT
OXON HILL SMITH	2.61					0.06						0.27											T		T				0.68		3.62 0.0	2300 EDT
HOLLYWOOD 3 ENE GLEASON		0.43		0.09	0.11		0.10					0.20	0.06									0.14							0.27		1.40 0.0	2400 EDT
RIDGE ZYLA	1.97	0.19			0.16		0.18					0.30						0.03				0.03	0.03						0.06	0.10	3.05 0.0	2400 EDT
SMITHSBURG 1.5 SW HUTTO	0.92	0.01	0.09	0.03			0.01					1.31						0.02				0.02			0.05				0.36	0.02	2.84 0.0	2400 EDT
HAGERSTOWN 1E KEEFER	1.00		0.04	0.02	T		0.17					0.76						0.02				0.10			T				0.30	0.01	2.42 0.0	2400 EDT
SMITHSBURG 3 NE VAUGHN	0.94	0.20	0.09	0.06			0.06					1.11	0.02					0.02							0.04				0.30	0.03	2.87 0.0	2400 EDT
SALISBURY NWS WICOMICO CO APT	0.37	0.16		T	T		0.03					0.91		T				0.01	0.61		T	T			1.43						3.52 -	2400 EST
WASH NATIONAL NWS ASOS	1.22		T		T	0.03						0.26						0.28				T			T				0.59	T	2.38 0.0	2400 EST
WASH DULLES NWS ASOS	0.61		T	T	T		T				T	0.60						0.12				0.08							0.38		1.79 0.0	2400 EST
STERLING 4 N SHAFFER																																2400 EDT
DAVIS 3 SE WV LESHER		0.41			0.01	0.01	0.30	T				0.19	0.13					0.91	0.02			0.03	0.87			0.04				0.73	3.65 0.0	0700 EDT

EVAPORTRANSPIRATION (PER MANUAL INSTRUMENT, NOT COMPUTER GENERATED)

BRYANS ROAD 2 ESE BRUMBACK	0.25	0.10	0.23	0.17	0.20	0.20	0.20	0.18	0.27	0.35	0.30	0.20	0.10	0.25	0.15	0.20	0.20	0.10	0.10	M	M	M	M	M	M	M	M	M	M	M	M	M	3.75	0700 EDT
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