



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

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

TROPICAL DOWNPOURS BRING FLOODING AND RECORD RAINS AT SOME LOCATIONS.

June 2006 will be remembered for the torrential downpours which occurred from the 25th to 27th. Record to near record precipitation fell at many but not all locations east of the mountains. Temperatures averaged near average.

NWS National Airport set broke the daily record of 1.60" for the 25th which stood since 1871 when 5.19" fell. This was its wettest day since Agnes (6/21/1972). Other records set were:

- 24 Hour precip 7.94" on the 24-25
- 2 Consecutive days - 9.41" on 25-26
- 2 Consecutive days with =>4"
- 7 Day total of 11.37" on the 22-28
- Wettest June 14.02"

The first period of heat which began around Memorial Day ended on the first. Temperatures ranged from the upper 80-'s to mid 90's. Strong to severe thunderstorms bringing heavy downpours moved across portions of the region. **Dave Bryant of Annapolis 2 N** reported 2.23". The second was cloudy and humid. Heavy thunderstorms also occurred during the evening. **Kevin Shaw of Gaithersburg 2 WNW** reported his second consecutive day with over 1" of rain. 3.96" fell at the **U of D Research Center in Georgetown, DE (Dean Dey)** and 2.32" at **Sterling 4 N VA (Lance Shaffer)**.

The next week and a half (3rd - 15th) saw pleasant temperatures, maximums in the 70's to lower 80's and minimum in the 50's to lower 60's. Upper 40's occurred on the morning of the 11th. Two locations recorded a reading below 40: **Dave Leshner of Davis 3 SE WV** 37 and **NWS Salisbury Wicomico Co Airport** 39. Showers occurred with frontal passages on the 9th and 12th. Amounts were generally less than a half inch. Tropical Storm Alberto, which was drawn northeast off the coast by an approaching cold front from

the west on the 14th, brought rain to the extreme southeastern portion of the region - St Marys County MD, Sussex County DE, and Maryland's Lower Eastern Shore. **John Zyla of Ridge** measured 0.83", the greatest by an ACON observer.

Summer conditions began to move back into the region after the 16th. 90 degree readings were common east of the mountains on the 17th, 18th, 19th, and 22nd. Thunderstorms on the 19th brought generally 1/4" or less rain at most locations. The heaviest ones dropped an inch or more on the eastern side of Washington DC. **Brian Smith of Oxon Hill** measured 2.49" , **Karyn Molines of Jug Bay Wetlands**, 1.81" and **Jeff Stoudt of Laurel 2 E** 1.10". 1.99" fell at **NWS National Airport**.

A stalled frontal system with moist tropical air to the east resulted in intense tropical downpours stalled over many portions of the region.

Flooding rains fell on the morning of the 25th in west central Sussex County DE and adjacent Maryland. Severe flooding resulted. According to the media **Federalsburg MD** received 10 inches in less than 24 hours.

Flooding tropical downpours hit the Washington DC area the night of the 25th and morning of the 26th. A State of Emergency was declared in the District of Columbia as a result of severe flooding. In **Montgomery County** 2,000 people who lived below the **Lake Needwood Dam** were evacuated for fears that the dam may fail because the lake rose 23 feet above flood stage.

According to press reports five (5) people died as the result of the rainfall in **Frederick County**. **Stan Rossen** reported that a pizza delivery driver who was on his way home was swept away

EXTREMES REPORTED BY

ACON OBSERVERS

MAXIMUM TEMPERATURE

Fredrick 3 WNW	100
Baltimore 2 SE	98
Mont Village 1 SW	96
Gaithersburg 2 WNW	96
Forest Glen	96
Smithsburg 2 NE	96

MINIMUM TEMPERATURE

Davis 3 SE WV	37
Eagle Rock	40

WARMEST AVG. TEMP.

Baltimore 2 SE	76.0
Annapolis 2 N	74.1

COLDEST AVG. TEMP.

Davis 3 SE WV	60.4
Eagle Rock	63.4

MAXIMUM PRECIPITATION

Gaithersburg 2 WNW	15.15
Glenmont 1 NNE	13.85
Bethesda	13.54

MINIMUM PRECIPITATION

Frostburg	3.45
LaVale	5.06
Eagle Rock	5.07

on **Colesville Rd** and killed in flash flooding on the night of the 25/26th. His body was not found until July.

Below are 4 days totals (25th to 28th) reported by ACON observers:

Lynn Albright	Fallston 2NE	18.61
Tony Scaffide	Bethesda	12.27
Stan Rossen	Glenmont 1 NNE	12.11
Wash Gas Light	Rockville 1 NE	11.95
Joe Terry	Forest Glen	10.84
Rich Giannola	Olney 1 S	10.69
Kevin Shaw	Gaithersburg 2WNW	8.94

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Max Hutto	Smithsburg 1.5 SW	8.93
Rich Giannola	JHU/APL	8.69
David Roth	Mont Village 1SW	8.68
Greg Keefer	Hagerstown 1 E	8.62
Jeff Stoudt	Laurel 2 E	8.45
Jim Vaughn	Smithsburg 2 NE	8.32
Greg Klein	Westminster 5SSE	8.13*

Dave Bryant Annapolis 2 N 7.99

* = 24th-28th

The rains ended on the 29th. The last day of the month was dry with seasonal temperatures.

OBSERVER COMMENTS FOR JUNE 2006

Gary Gallaher of Bear 2 SW, DE

2nd wettest June in 38 years of records for June. Wettest June is 8.94" which was set in 2003

1st - Hot. Heavy strong thunderstorm ~8:30—9:30 PM.

21st - Low humidity, Nice!

26th - Very heavy rain ~4 - 5 PM.

Nate Mullins of LaVale

1st - Strong, slow moving thunderstorms formed overhead this afternoon around 2:30 PM producing hail and heavy downpours. The heaviest of the storms were from 2:30 - 3:15 PM.

11th - Cool low 46 F then mostly sunny, pleasant.

22nd - Small intense thunderstorm moved in around 9 PM with hail and brief but very heavy rain.

Dave Bryant of Annapolis 2 N

1st - Severe thunderstorm 8:30 - 10 PM.

19th - Severe thunderstorm ~8:30 PM.

25th, 26th, & 27th - Heavy rain & some thunder each day.

Jeff Stoudt of Laurel 2 E

Wettest month. Old record was 9.99" set in Sept 2003.

19th - Slow moving t-storms in area 1500 to 1900.

25th & 26th - Two day rainfall (7.32") nearly equaled the two day total (7.44") from last October.

Al Kreinik of Parkton 5 SW

4th - Clear AM, partly cloudy PM.

9th - Thunderstorm with brief heavy rain.

25th - Series of storms with heavy rain.

Marty Sharrow of Owings Mills

Lots of rain here in Owings Mills but fortunately no major flooding other than on the nearby Jones Falls, where there was one water rescue.

5th - Mix of sun and clouds and pleasant.

18th - Sunny, breezy, and hot.

25th - Overcast with heavy late day and evening storms.

Joe Manfre of Baltimore 2SE

12 days with thunder.

20th - Cloudy, AM light shower, sunny late, a little less humidity.

Herb Close of Manchester 1 SW

9.67" fell 10 miles south at Finksburg 2 NW, my parents home where widespread ponding was reported the evening of the 24th and on the 27th.

Greg Klein of Westminster 5 SSE

24th - 2 inches of rain in just 20 minutes during an intense evening thunderstorm.

Bobby Miller of Millers 4 NE

4th Wettest of 25. The last week saw flooding rains in the central and western parts of Carroll County, none locally.

2nd & 3rd -- Thunderstorms with heavy rain the evening of the 2nd till 1 AM of the 3rd.

29th - Evening thunder with 3/8" hail at 7:40 PM.

Ray Muller of Westminster City

9 days with thunder, most recorded here in the City.

Rebecca Harvey of Eagle Rock

5 days with thunder.

Rich Giannola of JHU/APL

25th --Rained 4.93" in two hours (7:30-9:30 PM)

Rob Cohen of Potomac 4 N

Wettest month on record. Data from 6/23 through 6/30 is estimated based largely on data from McGinnis, located approximately 1 1/4 miles due north.

Rich Giannola of Olney 1 S

25th & 26th - 4.63" of rain fell between 7 PM of the 25th and 6 AM of the 26th from showers and thunderstorms.

26th - An additional 3.16" of rain fell between 6 AM and 10:10 PM.

29th - Double rainbow at 6:25 PM.

Stan Rossen of Glenmont 1 NNE

The monthly prec. total of 13.85" is not only the highest June prec. amount on record here, but the greatest monthly prec. total in almost 30 years of record. The old June record was 7.32" in 2003. The old wettest month was September 1999 when 12.26" fell. During the past twelve months (July 2005-June 2006) 51.95" of prec. has fallen. This is very deceiving as 33.97" of that total fell in just three months, July 2005: 8.60", October 2005: 11.52", & June 2006: 13.85"). On the flip side two of the three driest months on record here have occurred in the past year: September 2005: 0.16" the 3rd driest, and March 2006: 0.07", the driest.

Kevin Shaw of Gaithersburg 2 WNW

Wettest month ever! Old record was 11.54" which fell in September 1999.

25th - Third wettest day in station history with 4.09". Daily record is 5.41 which fell on September 5, 1979.

25th & 26th - 6.80" of rain, a new record two day precipitation total. Old record was 6.12" set on 6/18-19/1996.

Joe Terry of Forest Glen

Wettest June and second wettest month in station history.

10th - Spectacular weather for mid-June. Falling dew points all day to as low as the low 40's.

11th - 45° minimum temperature is the coldest so late in the

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OBSERVER COMMENTS FOR JUNE 2006

(Continued from page 2)

season and the lowest June temperature in station history.

25th & 26th - Quite a deluge! The 25th has become the wettest day in station history. Over 9" in two days. ~6 hours of continuous heavy rain from numerous thunderstorm cells which dumped 4.31" starting early evening of the 25th.

Brian Smith of Oxon Hill

25th - -SHRA/TSRA 0000-1400 0.79" rain fell. Series of +TSRA 2100-2400, 3.00" rain fell.

26th -+TSRA 0000-0530, 1.49" rain fell. More SHRA/TSRA 1200-2400.

Floyd Abell of Hollywood

14th - Fringe of Tropical Storm Alberto. Rainy day, fair evening.

25th - Very heavy rain before dawn shower, 2.21" fell.

John Zyla of Ridge

14th - Tropical Storm Alberto brought 0.83" of rain.

Max Hutto of Smithsburg 1.5 SW

7th, 8th, 9th - AM patchy fog

27th - PM extremely heavy downpours, flooding of area roads.

Greg Keefer of Hagerstown 1 E

Third wettest June with 10.69". Wettest is 11.57" which fell in 1928. Records date back to 1898.

1st - Hazy, hot, and humid. Intense thunderstorm this evening 6:30—7:30 PM with quick heavy rain, intense sharp close lightning, and loud thunder. Wind gusted to 38 MPH.

Several thunderstorms passed nearby today with dark skies, thunder, and strong winds but no rain. Around 2 PM strong winds from a storm to the SW gusted to 48 MPH.

25th - Torrential downpours from showers and thunderstorms between 3:30-5pm with 2.5" in that period.

26th - More heavy rains overnight with torrential downpours between 3-5:30am with another 2.20" of rain. Many roads flooded and creeks out of their banks.

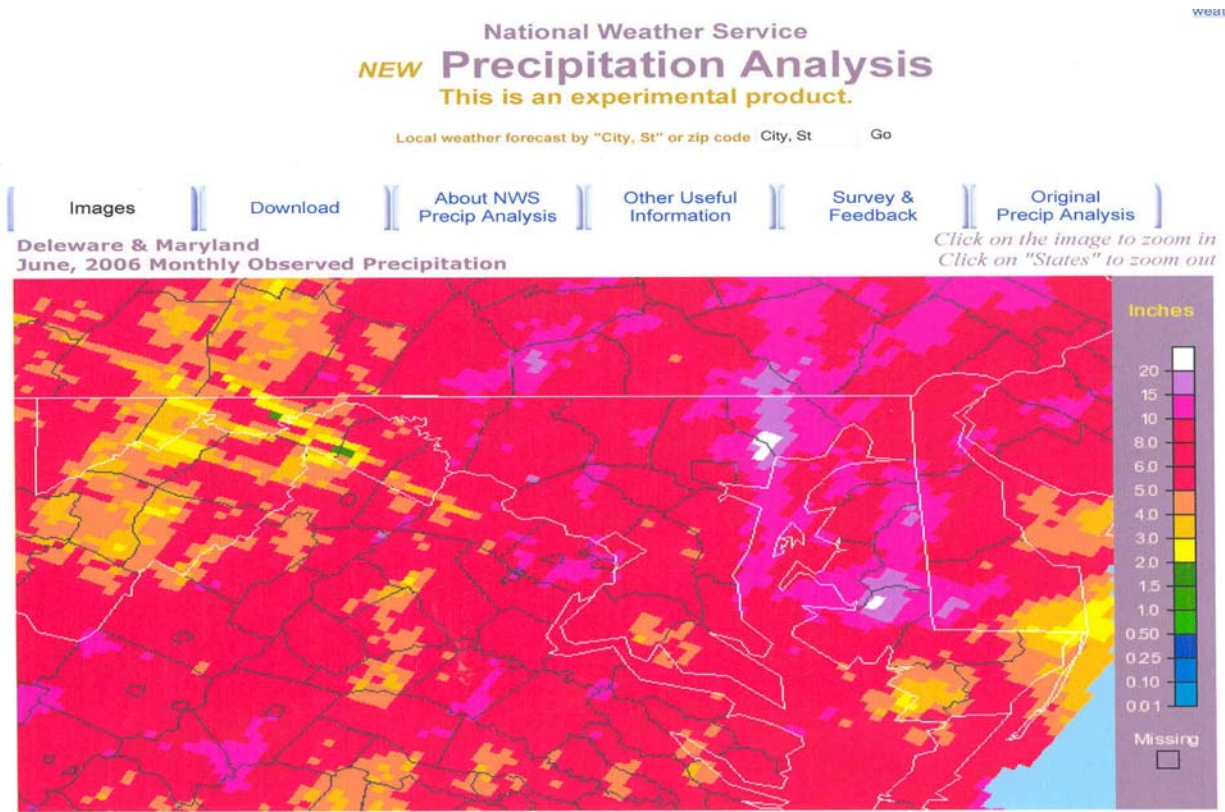
27th - More torrents of rain this afternoon from thunderstorms and tropical cloudbursts. Nearly 2 inches of rain fell 1:30-2pm. One inch fell in 10 minutes. Flash flooding everywhere.

Jim Vaughn of Smithsburg 2 NE

11.14" second wettest June and 4th wettest month ever. June's and the all-time monthly record is 12.92" set in 1996.

27th - 4.08" is the third greatest daily June rainfall. Record is 6.00" set 6/19/1996. Three people drown on the other side of the mountain.

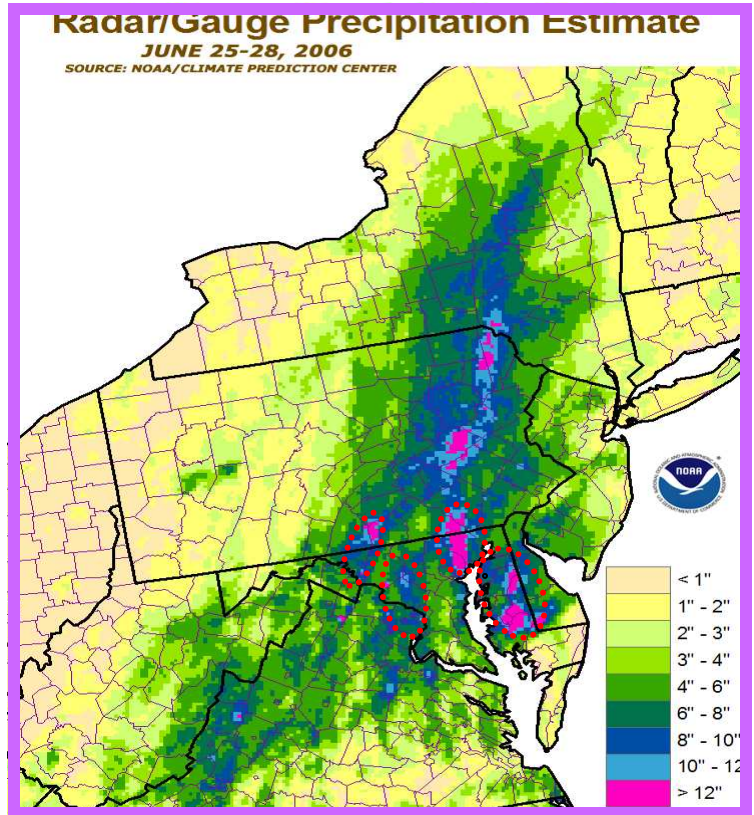
Rich Giannola supplied an article from the Olney Gazette (6/28/06) on the rainstorms in late June. Here is also the link to that article that includes a couple of photos: http://www.gazette.net/stories/062806/olnnew200054_31939.shtml.



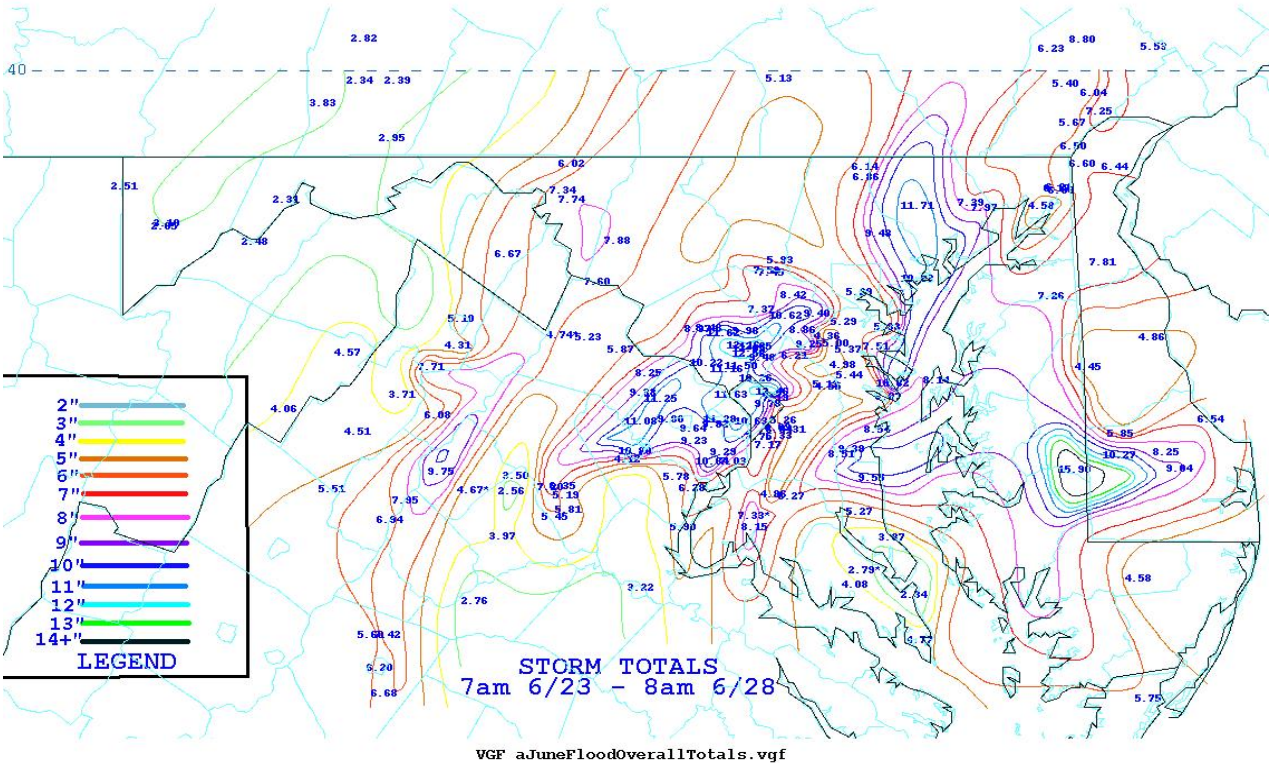
MONTHLY ESTIMATED RADAR PRECIPITATION SUMMARY FOR JUNE 2006

Right—Radar estimate for June 25 to 28 for the Northeast.

Note: Zoom in for more detail. Areas within a dashed oval represents areas in Maryland and Delaware which received the heaviest rainfall.



Below—Storm Analysis done by Gregg Gallina supplied by Brian Smith. It is based only on reports received.



**NATIONAL WEATHER SERVICE BALTIMORE MD/WASHINGTON DC
1230 PM EDT TUE JUN 27 2006 ***

THE FOLLOWING ARE UNOFFICIAL OBSERVATIONS TAKEN DURING THE PAST 24 HOURS FOR THE STORM THAT HAS BEEN AFFECTING OUR REGION. APPRECIATION IS EXTENDED TO HIGHWAY DEPARTMENTS...COOPERATIVE OBSERVERS...SKYWARN SPOTTERS AND MEDIA FOR THESE REPORTS. THIS SUMMARY IS ALSO AVAILABLE ON OUR HOME PAGE AT WEATHER.GOV/BALTIMORE

NOTE: THIS SUMMARY IS A 4-DAY TOTAL STRETCHING FROM 7 AM EDT FRIDAY JUNE 23 THROUGH 7 AM EDT TUESDAY JUNE 27. COOP OBSERVATIONS WILL BE ADDED LATER THIS AFTERNOON.

*****4-DAY STORM TOTAL RAINFALL*****

LOCATION	STORM TOTAL	TIME/DATE	COMMENTS	RAINFALL
<u>MARYLAND</u>				
ANNE ARUNDEL COUNTY...				
LAUREL ACRES	8.26	700 AM 6/27	COCORAHS --	2.7E
OWINGS BEACH	4.48	815 AM 6/27	IFLOWS	
HILLSMERE ESTATES	4.20	815 AM 6/27	IFLOWS	
BALTO/WASH INTL	4.13	800 AM 6/27	BWI AIRPORT	
BALTIMORE COUNTY...				
BOWLEYS QUARTERS	7.00	700 AM 6/27	COCORAHS --	0.5 ENE
CALVERT COUNTY...				
DUNKIRK	8.05	700 AM 6/27	COCORAHS --	3.2 NNE
MARLTON	7.99	700 AM 6/27	COCORAHS --	6.0 E
CHARLES COUNTY...				
PORT TOBACCO VILLAGE	7.33	700 AM 6/27	COCORAHS --	1.6N
WALDORF	5.52	700 AM 6/27	COCORAHS --	3.6 SSE
WALDORF	4.36	700 AM 6/27	COCORAHS --	3.2 SW
HARFORD COUNTY...				
BEL AIR	12.29	1200 AM 6/27	TOTAL SINCE SAT	
BEL AIR	11.46	700 AM 6/27	COCORAHS --	0.8 NW
HOWARD COUNTY...				
COLUMBIA	10.10	700 AM 6/27	COCORAHS --	1.7 W
ELKRIDGE	8.72	700 AM 6/27	COCORAHS --	1.8 W
JESSUP	7.86	700 AM 6/27	COCORAHS --	3.0 W
ELLCOTT CITY	7.82	700 AM 6/27	COCORAHS --	1.3 WSW
MONTGOMERY COUNTY...				
COLESVILLE	11.65	700 AM 6/27	SINCE 4PM SAT	
COLESVILLE	11.29	700 AM 6/27	COCORAHS --	1.1 NNW
GLENMONT	10.88	700 AM 6/27	COCORAHS --	1 NNE
NORBECK	10.41	700 AM 6/27	COCORAHS --	1.0 SE
KENSINGTON	10.21	700 AM 6/27	COCORAHS --	0.1 W
TAKOMA PARK	9.46	700 AM 6/27	COCORAHS --	0.6 NNW
POTOMAC	9.27	700 AM 6/27	COCORAHS --	0.9 NNW
PRINCE GEORGE'S COUNTY...				
HYATTSVILLE	11.91	700 AM 6/27	COCORAHS --	0.4 S
BLADENSBURG	6.75	815 AM 6/27	IFLOWS	
<u>VIRGINIA</u>				
ARLINGTON COUNTY...				
WASHINGTON/NATL	12.11	800 AM 6/27	REAGAN-NATIONAL AIRPORT	
FAIRFAX COUNTY...				
WASH DC/DULLES	9.69	800 AM 6/27	DULLES AIRPORT	
HERNDON	9.60	700 AM 6/27	COCORAHS	3.3 S
CENTREVILLE	9.38	700 AM 6/27	COCORAHS-	1.0 W
LAKE BARCROFT	9.30	700 AM 6/27	COCORAHS -	0.5NE
FRANCONIA	8.12	700 AM 6/27	COCORAHS -	1.3 SSE
MANTUA	7.89	700 AM 6/27	COCORAHS -	1.4 S
WEST SPRINGFIELD	7.18	700 AM 6/27	COCORAHS-	0.7 W
MANASSAS GAP PARK	4.23	815 AM 6/27	IFLOWS	

* Edited to remove stations outside the ACON MD/DE/DC region.

**PUBLIC INFORMATION STATEMENT
NATIONAL WEATHER SERVICE BALTIMORE MD/WASHINGTON DC
305 PM EDT WED JUN 28 2006**

...A PROLIFIC FLOODING EVENT EAST OF THE MOUNTAINS...

TROPICAL AIR SURGING NORTHWEST FROM THE ATLANTIC CONTINUALLY RAN INTO A STATIONARY FRONT OVER THE MID ATLANTIC STATES LATE LAST WEEK THROUGH LAST NIGHT. THE RESULT WAS FOUR TO FIVE DAYS OF SHOWERS AND THUNDERSTORMS...THAT DUE TO THE TROPICAL AIR PRODUCED EXCEPTIONALLY HEAVY RAIN IN SHORT PERIODS OF TIME. THIS HIGH RAINFALL RATE COMBINED WITH THUNDERSTORMS THAT IN A FEW CASES CONTINUALLY REFORMED OVER THE SAME AREA... PRODUCING EXCEPTIONALLY HEAVY RAINFALL. WHILE ALL OF THE AREA HAD AT LEAST TWO INCHES OF RAIN... SOME OF THE PLACES THAT HAD REFORMING OR TRAINING THUNDERSTORMS HAD OVER TEN INCHES.THE DELMARVA HAD THOSE CONDITIONS SATURDAY NIGHT AND SUNDAY...AND PLACES LIKE FEDERALSBURG MARYLAND HAD TO BE EVACUATED WHEN OVER TEN INCHES FELL IN 24 HOURS. WASHINGTON AND COLUMBIA MARYLAND HAD THOSE CONDITIONS ON SUNDAY AND SUNDAY NIGHT AND SEVEN TO TEN INCHES OF RAIN FELL IN 24 HOURS. WASHINGTON HAD SEVERAL FEDERAL BUILDINGS CLOSED...A MUDSLIDE OVER THE BELTWAY...DOZENS OF ROADS CLOSED...AND CARS SWEEPED FROM PARKING GARAGES AND STREETS.NORTHEAST MARYLAND JUST EAST AND NORTHEAST OF BALTIMORE HAD THESE CONDITIONS ON SUNDAY NIGHT... AND AGAIN SEVEN TO TEN INCHES OF RAIN FELL IN 24 HOURS. MANY SWIFT WATER RESCUES WERE NEEDED AND DOZENS OF BUILDINGS AND HOMES WERE DAMAGED FROM FLOODING.

WASHINGTON...

THE WASHINGTON METRO AREA HAD A RECORD BREAKING RAIN EVENT. THE HEAVIEST OF THAT RAIN CAME LATE SUNDAY INTO EARLY MONDAY MORNING. A THUNDERSTORM CONTINUALLY REFORMED OVER THE METRO AREA FOR SEVERAL HOURS LEAVING SEVERAL INCHES OF RAIN IN JUST A FEW HOURS... AND HELPED TO BREAK WASHINGTON/S 24 HOUR PRECIPITATION RECORD.RECORDS FELL AS THE RAINFALL MOUNTED...

24 HOUR RAINFALL RECORD...7.94 INCHES SUN/MON
RECORD RAINFALL FOR A WEEK...11.20 INCHES
RECORD RAINFALL FOR A 2 DAY PERIOD...9.41 INCHES
DAILY RAINFALL RECORD FOR SUNDAY THE 25TH...5.19 INCHES
DAILY RAINFALL RECORD FOR MONDAY THE 26TH...4.22 INCHES
FIRST TIME MORE THAN FOUR INCHES ON TWO CONSECUTIVE DAYS.
RECORD RAINFALL FOR JUNE...13.85 INCHES *SO FAR

FIVE TO TEN INCHES WAS FAIRLY COMMON ACROSS THE WASHINGTON METRO AREA. THE LOWEST AMOUNTS WERE OVER THE EASTERN SUBURBS AROUND CROFTON... BOWIE... LARGO... AND UPPER MARLBORO. THE HIGHEST AMOUNTS WERE OVER EASTERN MONTGOMERY... THE CITY AND IMMEDIATE WESTERN SUBURBS... FAIRFAX. AND MANASSAS.

BALTIMORE...

WHILE BWI AIRPORT AND THE INNER HARBOR DID NOT HAVE QUITE AS MUCH RAIN AS WASHINGTON... IT STILL WAS EXCESSIVE. AND IN FACT MANY OF THE SUBURBS HAD MORE RAIN THAN EITHER THE INNER HARBOR OR BWI AIRPORT... WHICH BOTH HAD A LITTLE OVER FIVE INCHES OF RAIN OVER THE WEEKEND AND EARLY THIS WEEK. EAST OF THE CITY HAD OVER 10 INCHES OF RAIN FOR THE WEEK...AND NORTH BEL AIR HAD NEARLY TWELVE INCHES. FIVE TO TEN INCHES WAS FAIRLY COMMON ACROSS THE BALTIMORE METRO AREA. THE LOWEST AMOUNTS WERE OVER THE SOUTHERN CITY AND MUCH OF WESTERN ANNE ARUNDEL COUNTY. THE HIGHEST AMOUNTS WERE OVER EASTERN BALTIMORE COUNTY AND HARFORD COUNTY... WITH ANOTHER MAXIMUM AROUND LAUREL WESTERN HOWARD AND MOUNT AIRY.RECORDS AT BWI AIRPORT...DAILY RAINFALL RECORD FOR SUNDAY THE 25TH...2.75 INCHESMANY OF THE BALTIMORE EXCESSIVE PRECIPITATION RECORDS WERE SET IN AUGUST 1955 WHICH INCLUDED THE REMNANTS OF HURRICANES CONNIE AND DIANE.THE PREVIOUS VERSION OF THIS PUBLIC INFORMATION STATEMENT HAS STORM TOTAL PRECIPITATION FROM ACROSS THE REGION.



On Friday, June 23 at 8:00 PM, there was a thunderstorm just north of Washington, DC. From my vantage point in Olney, I pointed the camera to the south and snapped this photo of the CB clouds associated with that thunderstorm. What prompted me to take the photos was the thin, ice crystal cap draped across the top of the CB cloud. I don't often see that. Enjoy!

Photo by **Rich Giannola** of **Olney 1 S**