

Washington-Baltimore Climate Review

September 2011

Brian G. Smith, Editor

Mail data to: 721 Crawford Street, Oxon Hill, MD 20745-1115

E-mail data to: wbcrl11@verizon.net

Home phone 301-839-3587; fax [Knights of Columbus hall] 301-839-6201

“Never had so much rain. Don’t need another [such month].” Bob Scace/13472, with 12.75 inches.

“18 cloudy days, 9 partly cloudy; we didn’t see the sun much.” Kevin Shaw/14507.

“I can’t believe with all this rain [12.00 inches] I came up short of my alltime September record [12.01 inches in 1999].” Bill Moody/20524.

Observations from 22548...

I am still trying with little success to get “caught up” in doing the WBCR. This issue will be a “full” issue because of the effects of the remnant of Tropical Storm Lee. I will be getting back to basics in a way, closer to the WBCR as it was when I started doing it, for September and later issues.

Since I only infrequently check the hotmail address any more, I have removed the address from the header above. There should be no problem getting through on the wbcrl11 address.

B.Smith

The prodigious rains and flooding associated with the remnant of Tropical Storm Lee (September 5-9) were the dominating event for the month, and the excessive precipitation for September was not welcome after the excessive precipitation of August.

Temperatures for September 2011 showed what is now a familiar trend: minimum temperatures averaging about 3F above normal, maximum temperatures averaging near or slightly below normal. High amounts of cloud cover caused this pattern. It doesn’t seem to matter how warm the monthly mean temperature is anymore; the average monthly min temp shows a greater departure from normal than the average max temp especially if the month was overall warmer than normal.

Precipitation for September 2011 was far above normal, even approaching record amounts for the month or for any month, for observers’ years of record.

In the sections that follow, all times are in 24-hour clock and EDT.

Comments and Observations from WBCR Observers – September 2011

DATE COMMENTS

- 8 4.47 inches at Scace/13472 was the most in a day he’s ever had.
5.49 inches at Turrisi/17512 was the most in a day he’s ever had also.
8.80 inches in 24 hours broke the record of 6.50 inches set during Hurricane Agnes in 1972; both are estimates due to gauge overflow. Jim Wagner/22505.
Fairfax County gauge The Fairfax Pumping Station (WBCR 24510) recorded 12.01 inches of rain, the most by a WBCR site that day.
A number of observers reported rain that overflowed their Tru-Chek wedge gauges, which means at least 6.5 inches fell on them that day!

Month:
CoCoRaHS site VA-PW-3 (WBCR 26499) reported 20.88 inches of rain for the month, including 9.94 inches in the 24 hours ending at 7 AM September 9! But that pales in comparison to CoCoRaHS site VA-WM-2 (Colonial Beach 1.2SSE, VA, just to our SE) which reported 23.74 inches for the month, including 6.27 and 12.00 inches at 7 AM on the 8th and 9th, respectively! The 12-inch rainfall was an underestimate because the CoCoRaHS gauge holds only that amount – the gauge overflowed, and the deluge fell in about 8 hours (4 PM-midnight) on the 8th. Truly horrific flooding occurred around Colonial Beach. See the radar image (storm total) for the date.

Wettest September ever: 16.08 inches at Hartge/13575; August and September was the wettest two month period ever (26.39 inches).

Wettest September for Baltimore in 140 years of official records: 13.32 inches at KBWI/13606, previous record 12.41 inches in 1934. Also, 23.70 inches for August and September was the wettest two-month period of record for Baltimore, easily breaking the 19.04 inches of Aug-Sep 1934.

Wettest September in 33 years of record: 12.10 inches at Shaw/14507; previous record 11.54 inches in 1999.

15.73 inches of precip broke all-time record (highest month since 2003); actually the 4 days of Lee did! Gregg Gallina/16605.

1.11 inches on the 8th set a new record for the date; the previous record was 0.56 inch set in 1969. KIAD/18475.

Wettest month (17.48 inches) since records began in 1977. David MacLean, Springfield, VA/22503.

Many observers had their two wettest consecutive months (20 or more inches in August and September) for their years of record.

+++++
...OPTICAL PHENOMENA, METEORS, ETC ...

Occurrences are in approximate chronological order. Unless noted, a halo is assumed to be a 22-degree halo, and a rainbow is a primary. In the times given below, a single (short) dash between two times indicates a continuous observation; two short dashes (or a long dash) indicate the phenomena were observed intermittently.

DATE TIME, PHENOMENON, OBSERVER
2 0736 crepuscular rays. J.Iekel/20519.
11 1600 crepuscular rays. J.Iekel/20519.
16 0640 Venus girdle. B.Smith/KDCA/20540.
1036--1238 partial halo and upper tangent arc. Pearl/17573.
23 1645-1700 rainbow. Bartman/17583.
1852-1901 left and right legs of brilliant rainbow in area of retreating rain.
B.Smith/KDCA/20540.
30 1817 crepuscular rays. J.Iekel/20519.

+++++
Peak Winds, measured, in mph (minimum 40 mph). Only the highest wind for the day or event is listed; only the latest occurrence for the day is listed, if more than one peak wind at the indicated value occurred. Entered in decreasing order of speed. Speeds of 58 mph (50 kt, NWS severe criterion) or higher, known or presumed to be with thunderstorms, are in *italic type*. Automated Weather Source/WeatherBug (AWS) sites are underlined; only the sites used in the WBCR are included. *Be aware that WeatherBug sites are often at rooftop level of multistory buildings.* Stations prefixed by U are WeatherUnderground sites; only those sites used in the WBCR are listed. Time of occurrence is in EDT except as noted.

DATE DIRECTION* and SPEED (*ff* or *ddfff*) , SITE, TIME*, AND LOCATION (* = IF AVAILABLE)
13 19040 at 2010, buoy 44043/13654.
14 36040 at 1820, buoy 44043/13654.
15 01040 at 1757, Quantico MCAS/KNYG/28492.

+++++
Severe weather observed by WBCR observers ONLY:
Date Time and Phenomenon
11 1911-1918 hail to 1 inch diameter. KBWI/13606.

Significant convective events:
Date Time and Phenomenon
3 BB-size hail, time not given. Leffler/Damascus 3SSW, MD/11505.

September 2011

Temperatures: Monthly temperatures averaged slightly above normal with positive departures of +0.3°F at DCA, +1.5°F at BWI and +1.2°F at IAD. There were no periods of excessive heat and temperatures stayed below 90°F across the area. Maximum temperatures held in the 60s on 5 days at IAD, 4 days at DCA and 3 days at BWI. High humidity resulted in 5 days with minimums at or above 70°F at DCA. IAD's minimum of 69°F set a new record for Sep. 26.

Precipitation/Severe Weather: The area recorded several excessively wet days with some localities measuring unprecedented rainfall. Monthly totals included 8.84" (+5.12") at DCA, 13.32" (+9.29") at BWI and 7.93" (+4.01") at IAD. BWI observed its wettest September and its 3rd wettest month on record. It was the wettest September since 1999 at DCA and IAD and the 5th wettest month on record at both locations. The month featured a 5-day stretch (5th-9th) of exceptionally heavy rainfall. During the first 2 days, the rain was a steady soaking precipitation in most of the area. On the third and fourth days of the event, tropical downpours from the remnants of Tropical Storm Lee fell across the area, resulting in record rainfall and extensive flooding in some areas. There were four fatalities locally, and about 100 people were left homeless from rising waters in a mobile home park in Prince William County, VA. Portions of Ellicott City were also evacuated due to rising waters. Rainfall storm totals in Virginia included 13.48" near Newington and 12.56" near Franconia (Fairfax County). In Maryland, storm totals included 11.65" in Parkville (Baltimore County) and 9.06" near Morningside (Prince Georges County). Most of the metro area was inundated by 5"-8" of rain. BWI's total of 8.11" was its third wettest 4-day total on record. IAD recorded more than an inch of rainfall each day from the 5th-8th, while DCA measured at least 0.90" daily during this period. The only previous occurrence of this much rain on consecutive days at both locations occurred Sep. 23-26, 1975.

The lengthy event also included isolated severe weather occurred across Southern Maryland, with EF-0 tornadoes observed near Wicomico (Charles County) and near Callaway in St. Mary's County. Peak winds reached 80 mph with tree and property damage reported. On the 11th and 12th, isolated severe weather occurred including 1.0" hail at BWI (11th) and thunderstorm wind damage on the 12th near Stanardsville, VA (Greene County).

Additional heavy rainfall occurred on the 21st near Frederick, MD, with 3.28", and near Purcellville, VA, (Loudoun County) where 1.21" fell. On the 23rd, heavy rainfall was concentrated across northeast Maryland with 2" to more than 4" falling in some locations. The greatest totals included 4.48" near Rossville (Baltimore County), 3.64" near Havre De Grace (Harford County) and a daily record of 3.19" at BWI. The month's final event occurred on the 27th-28th when severe thunderstorms moved across Charles County, MD, in the afternoon resulting in numerous downed trees. Flash flooding was reported near Potomac Creek in King George County, VA, while Odenton, MD (Anne Arundel County) measured 1.73".

September 2011 Weather Statistics for the Washington/Baltimore Area

Location	Station Temperatures (°F)					Extreme/Day		Precipitation (inches)			
	AvMx	AvMn	AvgT	NmIT	DepNml	Max	MinT	Total	Norm	DepNml	Yr to Date
National (DCA)	77.6	64.9	71.3	71.0	+0.3	87/14	49/16	8.84	3.72	+5.12	36.14
Baltimore (BWI)	77.3	61.3	69.3	67.8	+1.5	88/14	45/16	13.32	4.03	+9.29	46.26
Dulles (IAD)	76.8	61.3	69.1	67.9	+1.2	88/4,14	42/16	7.93	3.92	+4.01	33.29

Looking Ahead to October: The first freeze! October traditionally marks the first freeze in suburban locations. When will the Washington/Baltimore area record its first freeze in 2011? Below is a list of the first 32°F or lower readings at DCA and IAD in the last 10 years.

Year	First 32°F (or lower) reading		Year	First 32°F (or lower) reading	
	DCA	IAD		DCA	IAD
2010	November 29	November 1	2005	November 17	November 11*
2009	December 6	November 6	2004	December 4	October 18
2008	November 18	October 20	2003	November 10	October 3
2007	November 24	October 29	2002	November 27	October 18
2006	November 4	October 15	2001	December 22*	October 9

**Latest date for first freeze ever recorded*



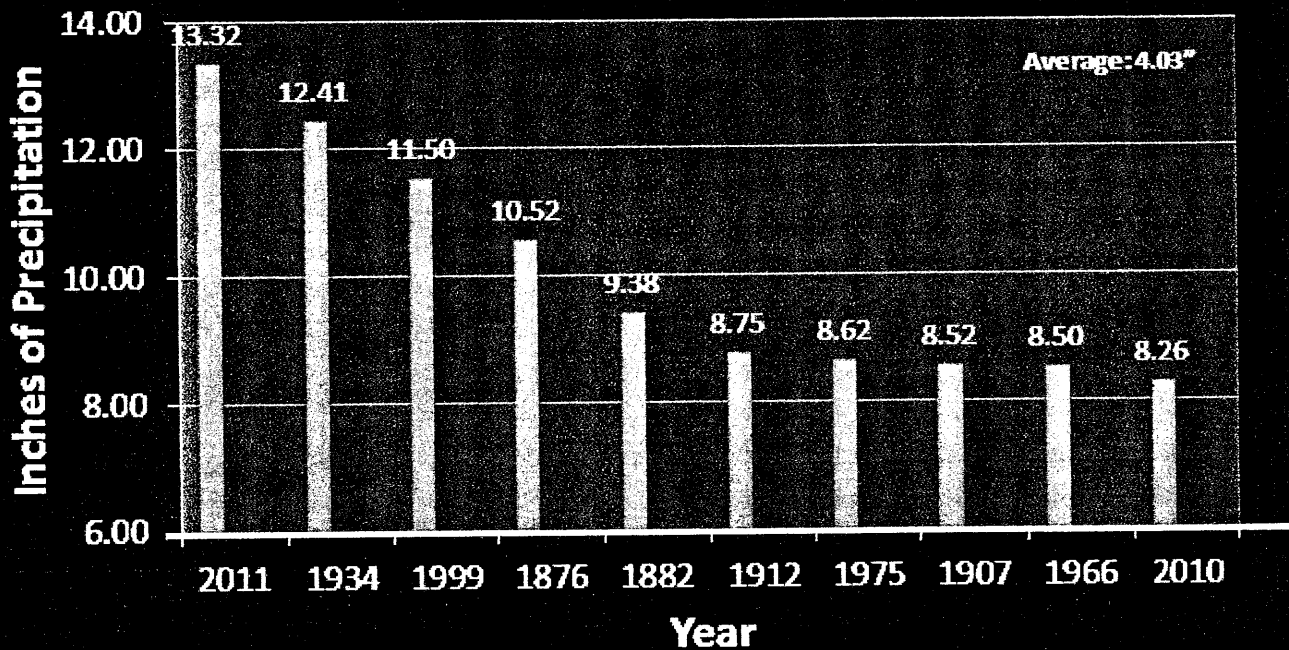
PRESTO

PRECipitation Summary and Temperature Observations
For the Washington, DC and Baltimore, MD Area



**SEPTEMBER 2011: Wettest on Record at BWI;
Wettest Since 1999 AT DCA and IAD**

10 Wettest Septembers at BWI



September Highlights

- Above normal temperatures at the three major airports for the 8th consecutive month at BWI and IAD and 6th consecutive month at DCA; departure at DCA, +0.3°F; BWI, +1.5°F; IAD, +1.2°F
- IAD's maximum reading of 64°F on 17th set record for coolest maximum reading on record; 62°F on 16th tied lowest maximum temperature for date
- Excessively wet September: 8.84" (+5.12") at DCA, 13.32" (+9.29") at BWI, and 7.93" (+4.01") at IAD
- Wettest September and 3rd wettest month on record at BWI; wettest September since 1999 at DCA and IAD and 5th wettest month on record at both locations
- Torrential rainfall drenched area from 5th-9th, largely from remnants of Tropical Storm Lee: 5"-8" total rainfall across most of the metro area with some locations recording more than a foot, including parts of Fairfax, VA; in Maryland, Baltimore County, MD, had close to a foot; significant flash flooding from excessive rainfall on saturated soils led to flooded roads, homes and businesses; four fatalities in area from record rainfall; about 100 residents had to leave their mobile home park in Prince William County, VA, due to flooding; closed parts of I-66 and the Capital Beltway
- August-September rainfall 23.70" at BWI, greatest 2 month total on record
- Only 2nd occurrence (first in 1905) on record with greater than 8" precipitation in Washington on consecutive months

*****UNOFFICIAL*** WBCR Precipitation Totals -- September 2011**

ID	Observer	pcpn	ID	Observer	pcpn	ID	Observer	pcpn
07465	C-Frederick 3.1NW	8.27	15539	Rossen	8.44	20508	Page	N
07477	N-Frederick 2NNE	10.25	15540	Unger	8.71	20513	Oja	14.12
07496	C-Frederick 7.2ENE	9.52	15544	Kusselson	8.48	20519	J.Iekel	13.37
07581	C-Reisterstown 0.4NE	12.40	15545	Foster	NR	20520	LeComte	12.96
07602	Mindel	10.91	15552	Pickering	7.91	20522	R.Anderson	12.41
08468	C-Frederick 3.5SSW	9.89	15560	W-Patuxent Plant	10.87	20524	Moody	12.00
08562	C-Eldersburg 2.0SE	10.10	15574	C-Laurel 2.0S	10.80	20530	Henderson	11.06
08588	Sharrow/Owings Mills	9.89	15577	Battel	12.11	20540	N-KDCA/NationalArpt	8.84
0861P	CR-Towson 0.8SW	9.64	15582	Stoudt	11.88	20567	Bohl	13.03
08619	CR-Towson 2.3SE	*11.33	15609	C-SouthGate 3.0SSW	16.10	20589	N-Uof MD CMREC	13.89
08643	C-PerryHall 0.9E	?21.77	15628	C-Pasadena 0.7SE	12.10	21468	Randall	10.24
09484	C-NewMarket 4.8WSW	11.47	15629	C-SevernaPark 1.9ENE	inc	21501	Schoenberg	15.74
09519	C-MountAiry 0.2SE	9.59	16469	Shaffer	NR	21523	Fein	17.38
09538	C-Woodbine 1.6SE	9.22	16471	CR-Sterling 3.7NNW	10.93	21561	Paroczay	13.30
09552	Ferraro	7.69	16487	Spalding	NR	21562	World Wx Bldg (WxU)	12.58
09556	C-Sykesville 2.6SE	9.87	16489	Castello	12.22	21563	Callicott	13.81
09565	C-Marriottsville 0.6SE	10.58	16496	Blasic	13.07	21570	KADW/Andrews AFB	inc
09607	C-Baltimore 6.2NNW	8.62	16502	W-Potomac Plant	11.86	21634	C-Deale 1.8ENE	8.54
09608	N-Cylburn Arboretum	10.99	16510	C-Potomac 0.9NNW	11.19	22438	C-Gainesville 1.6SE	5.99
09626	C-Hamilton 0.3NE	12.52	16524	Scafide	8.18	22503	MacLean	17.48
09652	C-WhiteMarsh 2.3ESE	13.51	16534	C-Kensington 0.1W	9.22	22505	Wagner	16.71
10622	Manfre	11.48	16537	J.Terry	8.19	22509	Pankow	17.48
11503	Holden	11.98	16543	C-SilverSpring0.9N	inc	22519	Schwartz	inc
11505	Leffler-WHOF	11.12	16544	C-WhiteOak 1.7NW	8.29	22535	Moore	inc
11509	CR-Damascus 1.0S	inc	16549	Horvitz	8.34	22548	N-B.Smith OXNM2	11.29
11572	C-EllicottCity 1.3WSW	14.18	16557	Gerson	8.27	22549	Hermann	N
11596	C-Catonsville 0.9ENE	9.09	16560	N-USDA Beltsville	9.80	22551	KofC Council 5317	11.51
12447	C-Leesburg 8.0N	7.21	16567	Walker	10.45	22599	Jug Bay Wetland	inc
12507	CR-Germantown4.6NNE	10.81	16595	C-Odenton 0.8WSW	15.51	22613	C-Dunkirk 3.2NNE	10.27
12508	Knapp	9.91	16605	Gallina	15.73	22631	C-Deale 0.9SE	inc
12546	Curtis	NR	16624	C-HeraldHarbor 0.5NE	12.23	23458	N-Manassas/Sheldon	10.00
12565	C-Columbia 2.6NW	10.83	16647	Goodwin	8.39	23515	KDAA Ft Belvoir	16.50
12566	C-Columbia 1.7W	11.26	17441	Retta	11.90	23522	C-Franconia 1.3SSE	16.13
1257D	C-Columbia 2.3N	12.64	17461	N-LWX/Sterling	11.09	23528	C-MountVernon 0.5NE	12.28
12573	Saffle	12.47	17483	N-Stern RTNV2	13.66	23534	Evans	11.09
12574	Spranklin	12.80	17512	Turrisi	9.81	23536	C-Alexandria 4.6S	9.31
12585	C-Sykesville 1.7SSE	?7.72	17523	Heffter	10.39	23545	Carlstead	MAIL
12608	C-Linthicum 0.4ENE	13.06	17529	Myers	12.95	23605	Burek	11.64
13472	Scace	12.75	17546	C-TakomaPark 0.6NNW	8.92	24487	C-Woodbridge 5.9NW	12.02
13509	Roth	NR	17560	C-CollegePark 1.2NE	9.90	24507	C-Lorton 1.2NE	19.20
13519	C-Gaithersburg 4.5NE	10.28	17573	Pearl	9.14	25531	C.Iekel	14.27
13546	W-Brighton Dam	9.14	17583	Bartman	15.13	25542	Jones	12.49
13549	Fulton	7.82	17586	Pearl	13.92+	25557	C-Waldorf 2.4W	14.58
13565	JHU/Giannola	10.99	18465	N-KIAD/Dulles Arpt	7.93	25572	Flood	15.02
13569	Yergey	inc	18477	Jobson	12.17	25579	Cedarville State Forest	12.47
13570	Penn	12.82	18478	Gray	12.23	25594	C-Brandywine 6.7ESE	11.42
13575	Hartge	16.08	18498	C-Vienna 3.3N	12.20	25618	Shaver	8.41
13577	Rolph	11.58	18527	N-Dalecarlia Reservoir	10.17	25629	C-Chspk Beach 2.3SW	10.42
13606	N-KBWI/BWI Arpt	13.32	18531	Baker	9.75	26499	C-Woodbridge 0.5SSW	20.88
14503	Mitchell	12.82	18597	C-Sullivan	14.89	26532	C-BryansRoad 1.0SW	12.95
14507	Shaw	12.10	18623	C-Annapolis 4.3W	8.37	26541	Brumbach	11.44
14534	Giannola	8.13	19457	Topping	8.42	26568	Rosenstein	16.71
14556	Friedman	9.31	19474	CR-Fairfax 7.0NW	10.85	26607	Hollinger	8.94
14566	Elvander	10.99	19478	Ashby	11.33	27545	C-La Plata 2.6WNW	14.62
14574	CR-NorthLaurel1.5ESE	12.55	19491	Fraim	NR	27617	C-PrinceFrederick 1.4W	7.75
14596	Oravec	13.13	19495	Boott	12.46	28492	KNYG/Quantico MCAS	11.78
14608	C-Severn 1.7E	inc	19516	Benedict	inc	29544	Kercher	17.47
14635	Pasadena 2N	10.37	19518	C-McLean 2.3SE	10.09	29597	C-Charlotte Hall 3.6ENE	8.47
15443	Tauss	NR	19555	N-National Arboretum	9.09			
15514	McGinnis	10.38	19584	Angyal	15.51			
15515	Cohen	10.00	19596	De Fazio	11.69			
15517	Graf	NR	20470	Bassett	9.47			
15537	Berger	8.95						

Automated and Wx Underground sites: report only precip totals, no snowfall

ID	Location	pcpn	ID	Location	pcpn	ID	Location	pcpn
07584	U-KMDOWING1	TEMP	14497	W-Seneca WWTP/RGSC	N	19580	IF-Lottsford Rd	14.45
07612	U-KMDTIMON1	?13.47	14512	W-Depot/RGGD	9.17	19594	IF-Mitchellville	13.46
08469	A-Ballenger Crk ES	inc	14576	IF-Savage Park	11.26	19636	A-SouthRvrHS	N
08479	KFDK/Frederick Arprt	inc	15446	KJYO/Leesburg Arprt	7.45	19644	Thomas Point TPLM2	TEMP
08491	A-The Greens Ijamsvl	9.28	15547	W-RGHD	7.70	20501	D-Vienna Woods	11.15
08549	IF-Piney Run	8.39	15572	W-Laurel HS/RGLH	9.63	20507	A-Noblis	inc
08583	IF-Randallstown	12.13	15588	KFME/Tipton Arprt	TEMP	20514	D-Sislars	11.94
08596	IF-StrtcarMuseum	10.08	16476	A-NOVA Loudoun	10.25	20529	D-Skyline Towers	12.16
08610	IF-Lake Roland	INOP	16511	W-Wayside ES/RGWE	8.74	20543	WASD2-Navy Yard	TEMP
08612	U-KMDTOWSO3	inc	16538	W-Kensingtn FD/RGKN	7.88	20571	IF-District Hgts	13.50
08618	UR-KMDTOWSO2	11.31	16555	IF-PowderMill Rd	9.25	20577	IF-Harry Truman Dr	13.07
08621	A-CrmwIvly ES Townsn	TEMP	1655R	IF-MNCPPC-R	9.88	20592	IF-Leeland Road	14.17
08636	Perry Hall	13.16	16563	IF-Indian Creek 2	9.06	20636	A-Shady Side ES	N
08639	A-Perry Hall MS	10.96	16564	IF-Indian Creek 3	8.82	21454	A-NOVA Manassas	7.03
09517	A-TwinRidge ES	7.73	16574	IF-Montpelier S	10.20	21465	U-KVACENTR1	6.58
09534	IF-Lisbon	8.39	16577	W-Parkway	10.60	21466	U-KVACENTR5	inc
09596	IF-Pikesville	11.06	17479	D-Sugarland Run	12.21	21489	U-KVAFAIRF2	N
09612	A-Gilman School	?8.11	17515	W-Country Club/RGCC	11.01	21496	U-KVAFAIRF7	inc
09615	A-WMAR-TV	10.27	17537	W-Lyttonsville/RGLT	?6.45	21516	U-KVAALEXA6	INOP
09651	KMTN/Martin Field	TEMP	17548	Hill	TEMP	21529	U-KVAALEXA13	10.09
10484	A-Urbana ES	10.52	17551	IF-Adelphia Mill	9.17	21533	USGS-Fourmile Run	10.53
10510	W-Damascus FD/RGDF	9.78	1755M	IF-Sligo Creek	8.46	21536	A-JeffersonHouston	N
10574	U-KMDELLIC5	12.49	17557	IF-Berwyn Road	9.41	21584	IF-Marlboro Rd	16.42
10594	IF-Westview	11.02	17562	IF-Riverdale Road	inc	21587	IF-Brown Station RD	inc
10606	IF-Northbend	9.88	17567	W-Greenbelt ES/RGGB	10.16	21593	IF-Justice Cntr	13.74
10609	IF-Hazelwood	9.96	17568	IF-Kenilworth Ave	inc	21594	W-Western Branch	?8.96
10615	U-KMDBALTI25	9.68	1756E	KCGS/CollegePk Arprt	TEMP	21595	IF-Depot Pond	10.04
10624	IF-Ashburton	10.47	17577	IF-P G Sports Cntr	12.48	22539	D-Jones Point	9.15
10642	U-KMDESSEX3	13.17	17591	U-KMDBOWIE1	11.89	22541	UprPotomacCBIBS44061	TEMP
11510	W-Damascus WWTP	10.06	17641	KNAK-USNA Arprt	7.53	22561	W-Temple Hills/RGTH	N
11573	U-KMDELLIC7	inc	18472	D-Rock Hill Road	9.45	22594	W-Wrn Branch/RGWB	?7.84
11574	IF-Centennial	12.32	18482	A-USGS	N	2262N	U-KMDDEALE1	TEMP
11582	IF-Ellicott City	12.05	18486	U-KVARESTO8	13.84	23454	KHEF/Manassas Arprt	TEMP
11598	A-U MD Baltimore Co	TEMP	18491	U-KVARESTO5	11.68	23465	U-KVAMANAS7	TEMP
11599	U-KMDRELAY1	9.99	18492	D-Colvin Run PS	12.36	23521	A-Topo Engrg Ctr	?12.75
11607	IF-Falls Road	9.61	18514	D-CIA PS	10.30	23556	U-MKVKX	TEMP
11609	U-KMDLANSD1	9.44	18551	IF-Queens Chapel	8.90	23564	W-Clinton/RGBW	12.26
11610	IF-Carroll Park	9.45	18557	IF-Brentwood PS	INOP	23576	U-KMDCHELT1	inc
11615	U-KMDBALTI22	8.75	18558	W-Anacostia/RGAN	10.12	24471	U-KVAMANAS3	?6.69
11616	N-Baltimore Sci Ctr	10.73	18559	IF-Edmonson Rd	8.86	24503	D-I95 Landfill	15.32
11618	IF-Caroline	11.22	18560	IF-Bladensburg	inc	24506	A-Lorton WWTP	19.97
11622	NOS buoy BLTM2	TEMP	18568	IF-Wildercroft	10.71	24510	D-The Fairfax PS	18.76
12482	A-Barnesville School	11.10	18577	IF-Greenbelt	12.76	24524	U-KVAFORTB2	N
12572	IF-Columbia	11.06	18584	GlennDaleVFD/RGGF	9.30	24548	W-Piscataway	13.09
12588	Elkridge	inc	18591	IF-Bowie	?9.69	24613	U-KMDOWING1	7.29
12599	IF-Elkridge	10.67	18639	A-StAnne's Day Schl	7.95	25461	U-KVANOKES1	9.30
12631	F S Key Bridge-FSKM2	TEMP	19467	D-Upper Cub	8.11	25589	A-Baden ES	inc
12646	A-SparrowsPointHS	?9.39	19521	U-KVAARLIN10	11.27	26567	A-Thos.Stone HS	inc
13448	USGS-LimestoneBr	7.14	19538	A-GWU Geog Dept	?6.63	26618	A-Calverton School	7.09
13499	W-Fire Station 29/RGGT	10.18	19544	A-Children's Hospital	9.50	27623	A-Calvert HS	7.17
13518	KGAI/Gaithrsburg Arprt	8.92	19562	A-ElizbthSetonHS	TEMP	29508	A-NanjemoyEnv	inc
13561	A-Clarksville MS	inc	19572	IF-Landover	14.09			
13613	U-KMDGLENB3	10.78	19576	IF-Lake Arbor 1	13.90			
14496	W-Seneca	12.33						

NOTATIONS...

in "Observer" column:

A = Automated Wx Source (AWS) or WeatherBug site.
 Used with permission of AWS, Inc.
 ARPT = airport C = CoCoRaHS site
 CR = CoCoRaHS "reserve" site, too close to plot
 D = Fairfax County Department of Public Works gauge
 IF = NWS IFLOWS gauge
 N = National Weather Service site or co-op site
 W = WSSC gauge
 U = WeatherUnderground site; R="Reserve" site

in "PCPN" column:

NR = not received
 N = no data
 inc = incomplete
 INOP = inoperative
 Ex.xx = Estimated; used in analysis
 TEMP = temperatures only
 * = includes precip from early October