



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

HEAT INTENSIFIES DROUGHT CONDITIONS SMOKE FROM CANADIAN FOREST FIRES

Summer's heat and humidity hit with full force this month. This was in sharp contrast to July 2000 and 2001 when cool conditions persisted. Scattered heavy thunderstorms failed to curtail the drought as it intensified in many areas especially east and north of Baltimore / Washington, DC region. Dry northerly winds of the 6th through the 8th not only brought refreshing dry Canadian air into the area but smoke from forest fires in Quebec near James Bay. They were started by lightning a few days earlier. On the 29th an Amtrak passenger train derailed at Kensington, Maryland. Temperatures in the high 90's buckled a section of welded track. Two people were critically injured.

TEMPERATURE

The month began and ended on a hot note. 90 degree temperatures were common this month. Most stations saw the temperature rise to 90 or above on half of the days this month. A few stations broke the 100 degree mark.

The hottest period occurred around the Fourth of July holiday at many stations. Temperatures rose to the 100 degree mark at the following ACON locations: **Jim Vaughn** of **Smithsburg 2 NE** (103 & 101), **Joe Manfre** of **Baltimore 2 SE** (102 & 101), **Dan Hanson** of **Millersville 1 SE** (102 & 101), **Bill Hudelson** of **South Bowie** (102 & 100), **Jug Bay Wetlands** (101 twice), **Tony Scafide** of **Bethesda** (100), **Kevin Shaw** of **Gaithersburg 2 WNW** (100), and **Floyd Abell** of **Hollywood** (100). The only 100 degree temperature which was not recorded around the 4th of July holiday was reported by **Joe Manfre** of **Baltimore 2 SE** on the 23rd.

The heat was broken a few times by quite cool temperatures, well for July that is. Maximum temperatures from the 10th through the 14th generally ranged in the 75 to 85 degree range.

Another refreshing cool period occurred from the 24th to the 27th. Maximum temperature just broke the 70 degree mark on the 26th at some ACON stations.

The monthly minimum temperature occurred on the 12th at a majority of stations. The coldest temperature was 42 degrees at the Salisbury NWS ASOS Wicomico County Airport.

PRECIPITATION

Heavy summer thunderstorms were scattered across the region this month. Twenty ACON locations reported daily amounts over 1.00". Three ACON stations received daily amounts of over two inches: **Rob Cohen** of **Potomac 4 N** 2.40" on the 23rd, **John Zyla** of **Ridge** 2.23" on the 24th, and **Rebecca Harvey** of **Eagle Rock** 2.05" on the 27th. **John Zyla** of **Ridge** reported that 4.16" fell in less than 48 hours on the 23rd & 24th.

There were three periods of rain this month. The first period was the 9th & 10th. **Jeff Stoudt** of **Laurel 2 E** reported 1.75", **Ralph Hartsock** of **Westminster 4 SSE** reported 1.54". Soaking rains of 1 to 1 1/2" fell on the 14th at ACON locations in Montgomery, Howard, and far western Anne Arundel Counties in Maryland and at NWS Dulles and National Airports. Lesser amounts fell elsewhere. Delaware and Northern Maryland received the least. The third and final "rainy" period was from the 23rd to the 28th. The heaviest amounts reported by ACON stations are noted in the first paragraph in the Precipitation section. Other heavy amounts were reported by **Jug Bay Wetlands**, 1.82" on the 23rd, **Jeff Stoudt** of **Laurel 2 E**, 1.78" on the 24th, and **Rich Giannola** of **Laurel JHU / APL**, 1.49" also on the 23rd. Northern Delaware reported the least.

Hail was reported by the following ACON observers: **Rob Cohen** of **Potomac 4 N**—Pea size hail on the 23rd which lasted for 5 minutes between 6 & 7 PM, and **Jim Vaughn** of **Smithsburg 2 NE**—1/8" hail on both the 9th and 23rd.

EXTREMES REPORTED BY

ACON OBSERVERS

MAXIMUM TEMPERATURE

Smithsburg 2 NE	103
Millersville 2 SE	102
South Bowie	102

MINIMUM TEMPERATURE

Eagle Rock	46
Hanover 2 S	47
Jug Bay Wetlands	48
Parkton 5 SW	48

WARMEST AVG. TEMP.

Baltimore 2 SE	82.1
Ridge	81.1

COLDEST AVG. TEMP.

Eagle Rock	70.5
Hanover 2 S	73.9

MAXIMUM PRECIPITATION

Potomac 4 N	5.77
Ridge	5.39
Eagle Rock	4.81

MINIMUM PRECIPITATION

Newark Pearson Hall, DE	1.33
South Bowie	1.43
Owings Mills 2 SE	1.44

Jim Vaughn of **Smithsburg 2 NE** also reported the following wind gusts in thunderstorms: 61 MPH on the 9th (new station record for July) and 54 MPH on the 24th.

MEMBER NEWS

Gary Gallaher is at home recovering from surgery on August 15. He wishes to thank everyone who sent cards, e-mails, or phoned.

This month I have included data from **Dan Leathers**, Delaware State Climatologist. He has set up a Vantage station at University of Delaware's Pearson Hall in Newark Delaware.

OBSERVER COMMENTS FOR JULY 2002

Gary Gallaher of Bear 2 SW, DE

Hot, dry month. Less haze than normal due to the lower humidity and lack of rainfall. Average temperature of 77.6 tied 1983 and 1991 for the 9th warmest July. Six of the eleven warmest Julys (33 Julys of record) have occurred in the past 12 years.

Dan Hanson of Millersville 1 SE

July was a hot month. Precipitation was near average for the month due to several beneficial thunderstorms.

9th — Record July wind gust of 39 MPH.

24th — 1.82" of rain in about 2 hours.

Jeff Stoudt of Laurel 2 E

9th — Thunder, 1.75" of rain; very little rain as close as 1/2 mile to the south.

Al Kreinik of Parkton 5 SW

14th — Overcast with heavy AM fog.

Marty Sharrow of Owings Mills

4th — Blazing sunshine, hot, and bone dry.

14th — Overcast and damp; AM rain; cooler 73 deg max

Joe Manfre of Baltimore 2SE

Another month with below normal precipitation and above normal temperatures.

9th — Hot, humid, strong PM thunderstorms.

Herb Close of Manchester 1 S

Third warmest July in 14 years of records. There were 14 90 degree plus days, second highest. Record is 15 days set in 1999. This was the fourth driest July. Some corn fields are only 2 to 3 feet tall with ears! It is so dry the weeds are not growing!

26th — Temperatures stayed in the 60's all day. 0.62" fell making it the wettest day of the month.

Ralph Hartsock of Westminster 4 SSE

9th — Very hot—very heavy PM thunderstorm.

Bobby Miller of Millers 4 NE

14 days with the maximum temperature 90 or higher—second highest. Twelve month precipitation 28.54", 14.79" below average.

Rich Giannola of JHU/APL of Laurel

23rd — TS began ~6:10 PM. TSHRA began 6:35 PM. Mainly SHRA with some TSHRA continuing in evening, ending ~10:00 PM.

26th — SHRA/TSHRA began ~7:15 AM. Mainly SHRA rest of day, ending in afternoon = 0.63". Late evening DZ and SHRA brought 0.02" more.

Rob Cohen of Potomac 4 N

23rd — Severe thunderstorm 6—7 PM. Intense lightning—house struck 2 blocks away. Pea size hail for 5 minutes.

Kevin Shaw of Gaithersburg 2 WNW

Amazing hot spell to start the month—4 record highs in a row. As is in the summer, significant rains only fell on three (3) days, 9th, 14th, & 26th when 2.76" fell which

was 93.5% of the months total.

Joe Terry of Forest Glen

11th — Unusually dry—minimum dew point only 43 degrees. Numerous sun dogs and pastel colors in the high clouds during the afternoon and early evening.

14th — Good soaker. 6 1/2 hours of continuous moderate to heavy rain.

26th — Pleasant respite from the heat. Unusually cool daytime maximum temperature of 70 degrees.

28th — Worse combination of heat and humidity so far this year. Maximum heat index 107 degrees.

Bill Hudelson of South Bowie

1st to 4th — Hazy, hot

Brian Smith of Oxon Hill

5th — AM low 81 degrees.

23rd — I watch the LWX radar as a TS complex NW of me shot out an outflow boundary that spread SE and choked off any TS development. Got just sprinkles in rain-cooled air as temp went from 98 to 82.

Floyd Abell of Hollywood

4th — Hottest Fourth of July on record - 100 degrees

27th — Late day storm with vivid lightning.

29th — Fair, hot. Heat index 112 around 3 PM.

Mike Van Wie of Oraville

27th — Lost power. Lightning within 1/4 mile.

John Zyla of Ridge

23rd — Thunderstorm dumps 2.08" of rain in 2 hours 10:45 PM—12:45 AM.

24th — Another storm dumps another 2.08" during the evening! 4.16" in less than 48 hours and after all of that there were no puddles!

Greg Keefer of Hagerstown 1 E

2nd — Hazy, very hot and very humid today high of 96. Heat index averaged 103 this afternoon and peaked at 106.

4th — Very hot again today high of 98. Heat index averaged 103 peaked at 107.

7th — Very hazy smoky skies and reduced visibility from Canadian forest fires.

12th — Very chilly morning with a low of 49. That's rare in July.

28th — Hot and very oppressive high 94 with dew points briefly in the upper 70's at one point and heat indices averaging 105 peaking at 109 this afternoon.

Jim Vaughn of Smithsburg 2 NE

Fifth warmest July. Year to date precipitation 0.36" below 2001.

4th — 103 degrees ties highest July temp and highest temperature overall on record.

9th — July record wind gust of 61 MPH with 1/8" hail in thunderstorm. Old July record peak gust was 60 MPH set on July 25, 1999.

23rd — Wind gust of 54 MPH and 1/8" hail in t-storm.

ACON MD /DE / DC
JULY 2002 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 CAL	DATE	DAYS >=.01"	DAYS >=1"	YEAR	TOTAL	MAX CAL		DATE
<u>New Castle, Delaware</u>																								
Canavan, Jim	Wilmington 4 NNE	86.8	67.5	77.2	96	23+	54	12	14	0	0				2.25	0.75	8+	7	0	20.07M	0.0	0.0	0.0	2400
Gallaher, Gary	Bear 2 SW	88.7	66.5	77.6	99	4	52	12	16	0	0	37	W	9	1.82	1.17	9	8	1	19.14	0.0	0.0	0.0	2400
Wilmington NWS ASOS	New Castle Co. Apt.	87.5	67.5	77.5	97	29	56	12	13	0	0	48	WNW	9	1.40	0.96	9	8	0	19.21	0.0	0.0	0.0	2400
U of D DE Climatologist	Newark Pearson Hall	87.7	69.0	78.4	98	4	58	12	13	0	0	31		23	1.33	0.67	9	7	0	16.16M	0.0	0.0	0.0	2400
<u>Sussex, Delaware</u>																								
Georgetown NWS ASOS	Sussex Co. Airport	89.3	67.5	78.4	99	4	53	12	18	0	0	30	SSW	23	2.14	1.24	27	9	1	18.52	0.0	0.0	0.0	2400
U of D Research & Ed Ct	Georgetown	87.4	66.6	77.0	97	4	51	12	16	0	0				1.42	0.57	27	8	0	15.72				2400
<u>Anne Arundel, Maryland</u>																								
Baltimore NWS ASOS	BWI Airport	89.3	67.9	78.6	100	4	53	12	19	0	0	48	W	9	2.26	0.77	14	8	0	18.02	0.0	0.0	0.0	2400
Bryant, Dave	St. Margarets	89.3	70.5	79.9	98	3+	60	12	18	0	0				2.66	1.00	23	6	1	18.64	0.0	0.0	0.0	0700-P 1700-T
Hanson, Dan	Millersville 1 SE	90.2	67.2	78.7	102	4	52	12	19	0	0	39	NW	9	3.83	1.82	23	7	1	20.95	0.0	0.0	0.0	2400
Jug Bay Wetlands	Lothian	90.9	67.2	79.1	101	4+	48	12	20	0	0				3.23	1.78	24	9	1	20.26				0900
Stoudt, Jeff	Laurel 2 E	-	-	-	-	-	-	-	-	-	-				3.80	1.75	9	7	2	21.37	0.0	0.0	0.0	2400
<u>Baltimore, Maryland</u>																								
Kreinik, Al	Parkton 5 SW	87.5	63.5	75.5	96	4	48	12	15	0	0	31	WNW	23	2.23	0.71	26	7	0	19.50	0.0	0.0	0.0	2200
Sharrow, Marty	Owings Mills 2 SE	88.2	66.0	77.1	99	4	54	12	18	0	0	26		30	1.44	0.44	23	7	0	16.96	0.0	0.0	0.0	2400
<u>Baltimore City, Maryland</u>																								
Manfre, Joe	Baltimore 2 SE	90.9	73.2	82.1	102	4	61	26	20	0	0				2.52	1.20	9	6	1	20.56	0.0	0.0	0.0	1800
Maryland Science Ctr	Baltimore Inner Harbor	90.3	72.3	81.3	101	4	61	26	20	0	0				3.29	1.04	9	9	2	17.14				2400
<u>Carroll, Maryland</u>																								
Close Jr, Herb	Manchester 1 SW	86.7	66.4	76.6	98	4	56	6+	14	0	0	28		23	1.88	0.62	26	10	0	18.03	0.0	0.0	0.0	2300
Hartsock, Ralph	Westminster 4 SSE	87.5	64.7	76.1	98	29	49	12	11	0	0	40	WSW	9	4.23	1.54	9	9	1	19.72	0.0	0.0	0.0	2200
Miller, Bobby	Millers 4 NE	87.2	65.0	76.1	96	4	50	11+	14	0	0	40	NW	23	2.25	0.90	26	9	0	17.82	0.0	0.0	0.0	1800
<u>Charles, Maryland</u>																								
Brumback, Marty	Bryans Head 2 ESE																			5.87M				2400
<u>Garrett, Maryland</u>																								
Harvey, Rebecca	Eagle Rock	80.0	61.0	70.5	89	3+	46	12+	0	0	0				4.81	2.05	27	11	2	32.04	0.0	0.0	0.0	0800
<u>Harford, Maryland</u>																								
Albright, Lynn	Fallston 2 NW	90.5	64.0	77.3	99	4	50	12	18	0	0				2.71	1.06	23	8	1	21.61	0.0	0.0	0.0	2400
<u>Howard, Maryland</u>																								
Giannola, Rich	Laurel JHU / APL	89.0	68.3	78.7	99	4	53	12	19	0	0	34		9	4.21	1.49	23	7	2	22.31	0.0	0.0	0.0	2400

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		AVG MAX	AVG MIN	MEAN	MAX	DAY	MIN	DAY	MAX >=90	MAX <=32	MIN <=32	GUST	DIR	DAY	TOTAL	MAX CAL	DATE	DAYS >=.01"	DAYS >=1"	YEAR	TOTAL	MAX CAL		DATE
<i>Montgomery, Maryland</i>																								
Cohen, Rob	Potomac 4 N	86.4	69.1	77.8	96	4	54	12	12	0	0				5.77	2.40	23	8	2	23.64	0.0	0.0	0.0	2100
Giannola, Rich	Olney 1 S	87.7	68.1	77.9	98	4	56	12	13	0	0				3.65	1.19	14	6	1	19.86	0.0	0.0	0.0	2400
Rossen, Stan	Glenmont 1 NNE	88.1	67.1	77.6	98	4	53	121	16	0	0	18	SSW	22	2.90	1.24	14	8	1	18.89	0.0	0.0	0.0	2400
Scafide, Tony	Bethesda	90.2	69.1	79.7	100	4	57	12	21	0	0	16		23	3.83	1.31	14	7	2	19.02	0.0	0.0	0.0	2400
Shaw, Kevin	Gaithersburg 2 WNW	89.6	66.4	78.0	100	4	51	12	20	0	0				2.95	1.40	14	6	1	21.28	0.0	0.0	0.0	2400
Terry, Joe	Forest Glen	89.2	68.0	78.6	99	4	54	12	19	0	0	23	WNW	9	2.87	1.49	14	6	1	19.01	0.0	0.0	0.0	2400
Wash Gas Light	Rockville 1 NE	88.0	68.5	78.3	98	2+	53	12	15	0	0				3.60	1.32	23	7	2	17.95	0.0	0.0	0.0	2400
<i>Prince Georges, Maryland</i>																								
Hudelson, Bill	South Bowie	91.4	69.2	80.3	102	4	54	12	21	0	0	25	NW	9	1.43	0.97	14	4	0	17.98	0.0	0.0	0.0	2400
Smith, Brian	Oxon Hill	90.3	69.6	80.0	100	4	55	12	19	0	0				1.93	1.40	14	4	1	17.73	0.0	0.0	0.0	2300
<i>St. Marys, Maryland</i>																								
Abell, Floyd	Hollywood	89.8	68.6	79.2	100	4	52	12	19	0	0	22		27	2.50	0.74	23	5	0	16.69	0.0	0.0	0.0	2400
Van Wie, Michael	Oraville	90.9	66.0	78.5	98	4+	49	12	21	0	0	38		23	2.32	0.65	26	6	0	16.89	0.0	0.0	0.0	2400
Zyla, John	Ridge	90.2	72.0	81.1	98	4+	60	12	19	0	0	27	NE	11	5.39	2.23	24	8	2	22.16	0.0	0.0	0.0	2400
<i>Washington, Maryland</i>																								
Keefer, Greg	Hagerstown 1 E	88.6	65.8	77.2	98	4	49	12	17	0	0	35	NW	23	2.30	0.81	26	7	0	18.97	0.0	0.0	0.0	2400
Vaughn, Jim	Smithsburg 2 NE	91.2	66.6	78.9	103	4	52	12	21	0	0	61	NNW	9	2.46	1.22	26	7	1	18.00	0.0	0.0	0.0	2000
<i>Wicomico, Maryland</i>																								
Salisbury NWS ASOS	Wicomico Co. Apt	89.5	62.4	76.0	99	4	42	12	18	0	0	35	WSW	23	1.90	0.72	23	9	0	20.25	0.0	0.0	0.0	2400
<i>York, Pennsylvania</i>																								
Rickell, Robert	Hanover 2 S, PA	85.8	62.0	73.9	95	23	47	12	12	0	0				3.81	1.20	21	8	1	20.55	0.0	0.0	0.0	2100
<i>Arlington, Virginia</i>																								
Wash National NWS	National Airport	89.7	72.1	80.9	99	4	60	12	19	0	0	39	NW	9	2.20	1.36	14	6	1	16.81	0.0	0.0	0.0	2400
<i>Loudon, Virginia</i>																								
Wash Dulles NWS ASOS	Dulles Airport	87.8	66.7	77.3	97	4	47	12	15	0	0	33	WNW	9	2.65	1.56	14	9	1	19.63	0.0	0.0	0.0	2400
SECTION AVERAGE		88.7	67.3	78.0											2.82						0.0			

NOTES:

M = MISSING DATA

> = INCLUDED IN NEXT DAYS DATA

+ = ALSO OCCURRED ON A LATER DATE

GARY GALLAHER 11/07/02

**ACON MD / DE / DC
JULY 2002 DAILY TEMPERATURES**

STATION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AVG	OBS TIME
WILMINGTON 4NNE CANAVAN	88	92	94	94	89	80	82	91	92	83	77	81	80	71	87	88	91	90	91	86	88	92	96	75	80	75	83	92	96	93	93	86.8	2400
BEAR 2 SW, DE GALLAHER	90	95	98	99	87	84	85	90	95	86	78	82	81	79	88	89	92	93	93	91	86	93	95	79	82	75	85	94	97	93	95	88.7	2400
WILMINGTON, DE NWS NEW CASTLE CO APT	88	94	96	96	87	85	83	89	94	85	79	81	78	76	87	88	92	92	91	89	84	90	95	78	81	74	82	92	97	95	94	87.5	2400
U of D DE Climatologist Newark Pearson Hall	89	96	97	98	87	83	85	89	93	85	78	82	79	78	88	89	92	93	93	89	85	91	93	76	80	73	83	91	96	93	95	87.7	2400
GEORGETOWN, DE NWS SUSSEX CO APT	90	94	97	99	93	85	88	94	95	83	78	85	84	78	90	93	96	94	95	89	86	96	94	79	76	75	85	94	97	93	93	89.3	2400
GEORGETOWN, DE U OF D RES & ED CTR	90	94	96	97	93	85	88	92	92	83	77	84	83	77	89	92	95	92	64	90	86	93	91	79	75	73	83	94	96	92	93	87.4	2400
BALTIMORE NWS BWI APT	92	97	99	100	93	87	82	94	97	86	80	83	81	75	90	92	93	91	91	92	88	96	97	82	79	71	84	95	95	92	94	89.3	2400
ST MARGARETS BRYANT	91	93	98	98	92	88	88	91	98	85	80	84	81	76	89	93	94	93	93	90	89	92	96	80	80	72	85	92	98	96	94	89.3	1700
MILLERSVILLE 1SE HANSON	91	96	101	102	94	88	83	93	97	87	81	85	82	77	91	94	96	94	92	91	88	92	97	81	81	72	86	97	98	93	97	90.2	2400
LOTHIAN JUG BAY WETLANDS	91	92	98	101	101	95	90	89	94	99	86	82	85	83	76	91	94	96	96	96	93	91	97	97	83	79	73	86	M	99	95	90.9	0900
LAUREL 2 E STOUDT	***PRECIPITATION ONLY STATION***																																
PARKTON 5SW KREINIK	89	94	95	96	84	83	80	88	93	83	77	80	77	76	90	89	94	93	92	89	90	94	94	85	85	71	83	93	94	91	92	87.5	2200
OWINGS MILLS 2SE SHARROW	91	94	97	99	89	84	77	90	95	82	78	84	78	73	90	90	96	92	92	92	86	95	98	84	80	71	83	94	95	90	94	88.2	2400
BALTIMORE 2SE MANFRE	92	98	101	102	91	88	82	94	99	87	81	85	83	80	92	92	97	95	93	92	91	96	101	83	80	74	85	97	97	93	96	90.9	1800
BALT INNER HARBOR MD SCIENCE CENTER	91	96	100	101	90	87	82	94	99	86	80	85	83	77	92	92	96	94	93	91	91	95	100	83	82	74	85	96	97	93	95	90.3	2400
MANCHESTER 1SW CLOSE	88	94	96	98	86	83	79	89	94	82	77	81	75	74	88	88	92	90	91	90	85	92	94	82	79	69	82	91	94	91	93	86.7	2300
WESTMINSTER 4SSE HARTSOCK	88	94	94	96	87	81	79	89	95	83	74	83	80	74	86	87	89	92	95	88	89	96	93	84	82	73	88	93	98	88	96	87.5	2200
MILLERS 4NE MILLER	88	94	95	96	94	83	78	89	92	88	80	80	79	76	87	88	93	90	90	88	87	92	93	84	80	75	80	90	92	90	92	87.2	1800
BRYANS ROAD 2 ESE BRUMBACK	63	67	73	72	75	55	56	55	69	68	50	50	56	62	60	68	60	72	70	67	68	68	71	65	65	60	65	70	75	74	67	65.0	2400
EAGLE ROCK HARVEY	84	81	89	86	88	80	76	82	86	82	79	74	79	70	66	80	82	86	80	80	80	84	89	84	66	69	78	76	82	82	80	80.0	0800
FALLSTON 2 NW ALBRIGHT	93	98	98	99	87	86	81	94	98	87	78	85	84	81	92	89	96	97	96	93	90	94	96	85	84	78	88	96	98	92	94	90.5	2400
LAUREL JHU / APL GIANNOLA	94	96	98	99	90	84	81	91	96	86	79	85	81	77	89	90	94	91	90	91	90	96	96	84	81	71	86	95	95	90	94	89.0	2400
	66	70	77	78	71	61	59	60	70	70	60	53	61	63	62	70	76	76	74	70	71	68	71	67	67	58	67	73	77	77	73	68.3	EDT

**ACON MD / DE / DC
JULY 2002 DAILY TEMPERATURES**

STATION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AVG	OBS TIME
POTOMAC 4N COHEN	89	92	95	96	89	87	79	89	93	81	78	83	78	74	86	90	91	88	87	86	88	93	94	79	76	74	80	91	93	90	90	86.4	2100
OLNEY 1 S GIANNOLA	68	72	76	76	79	62	60	59	72	72	62	54	64	64	67	70	65	74	74	72	72	93	68	68	69	66	68	74	76	74	74	69.1	EDT
OLNEY 1 S GIANNOLA	89	91	96	98	91	86	>	>	>	>	95	82	78	71	86	90	92	89	87	88	86	94	95	79	76	71	>	91	94	91	93	87.7	2400
OLNEY 1 S GIANNOLA	70	70	74	74	73	60	>	>	>	>	60	56	64	63	63	67	65	72	73	70	72	72	71	67	68	61	>	66	75	73	72	68.1	EDT
GLENMONT 1NNE ROSSEN	92	93	95	98	90	85	80	91	96	82	79	85	82	73	90	89	95	91	88	89	89	96	97	81	80	70	83	95	95	90	93	88.1	2400
GLENMONT 1NNE ROSSEN	66	68	74	74	66	60	58	59	69	69	58	53	61	64	64	68	63	71	73	71	69	69	72	69	69	65	68	73	74	73	71	67.1	EST
BETHESDA SCAFIDE	94	95	99	100	96	91	81	91	95	87	86	91	78	74	92	96	97	92	88	91	92	96	99	82	78	71	82	97	98	94	98	90.2	2400
BETHESDA SCAFIDE	70	71	76	76	72	63	62	63	72	71	62	57	66	63	67	70	66	75	73	72	71	71	69	69	64	67	72	75	75	74	69.1	EDT	
GAITHERSBURG 2WNW SHAW	93	97	99	100	92	87	82	93	98	84	81	88	80	73	90	92	95	91	90	90	92	96	97	82	79	74	84	95	96	92	95	89.6	2400
GAITHERSBURG 2WNW SHAW	67	69	74	73	68	58	56	59	69	66	57	51	62	62	63	65	63	73	71	69	69	72	69	66	69	62	68	71	73	72	71	66.4	EDT
FOREST GLEN TERRY	91	95	98	99	92	87	83	91	95	85	80	86	81	76	89	92	94	92	91	90	90	95	95	84	79	70	85	96	96	92	95	89.2	2400
FOREST GLEN TERRY	69	70	76	75	71	60	59	59	72	70	59	54	67	64	65	67	63	74	73	71	71	70	71	68	69	63	67	72	74	74	72	68.0	EDT
ROCKVILLE 1NE WASH GAS LIGHT	91	98	98	98	88	85	81	90	94	83	78	84	85	75	88	91	92	90	88	88	88	96	95	83	77	70	82	94	94	94	91	88.0	2400
ROCKVILLE 1NE WASH GAS LIGHT	78	72	72	72	70	60	58	59	72	71	60	53	62	62	65	72	66	76	74	71	70	72	69	68	69	63	67	73	77	74	75	68.5	EDT
SOUTH BOWIE HUDELSON	93	97	100	102	96	90	87	94	98	85	83	87	84	76	91	94	96	96	95	93	90	96	98	84	82	74	86	96	98	95	96	91.4	2400
SOUTH BOWIE HUDELSON	65	68	76	76	72	63	60	59	74	72	62	54	64	67	64	72	66	72	74	72	72	70	75	72	70	66	70	74	76	76	73	69.2	EDT
OXON HILL SMITH	92	96	99	100	93	88	84	87	98	86	82	87	83	76	91	93	95	93	93	92	92	97	98	84	80	75	84	96	96	93	96	90.3	2400
OXON HILL SMITH	68	69	76	79	79	66	61	55	73	72	63	55	64	66	65	71	66	74	73	74	71	70	75	71	70	66	68	73	75	74	77	69.6	EDT
HOLLYWOOD ABELL	91	95	97	100	95	86	89	93	96	85	78	85	84	75	89	92	95	97	94	91	90	96	96	81	80	70	86	95	97	92	93	89.8	2359
HOLLYWOOD ABELL	67	68	74	74	74	65	58	60	75	74	56	52	62	68	64	67	64	71	75	73	71	69	73	73	69	66	69	73	76	75	71	68.6	EDT
ORAVILLE VAN WIE	92	96	97	98	93	86	90	92	97	90	77	86	87	77	89	92	96	98	97	91	93	98	98	85	82	74	88	95	97	93	93	90.9	2400
ORAVILLE VAN WIE	63	67	70	72	71	62	57	57	72	70	53	49	61	64	62	64	62	69	72	70	68	66	71	71	69	65	68	70	72	70	69	66.0	EDT
RIDGE ZYLA	88	92	94	98	96	88	92	94	98	86	79	85	86	74	91	96	96	95	97	90	89	93	95	81	79	81	86	93	98	94	92	90.2	2400
RIDGE ZYLA	71	74	77	76	76	69	64	77	75	74	65	60	65	66	67	72	69	76	76	76	72	74	73	72	69	66	73	76	79	77	75	72.0	EDT
HAGERSTOWN 1E KEEFER	90	96	97	98	89	85	85	92	96	83	79	83	76	79	90	93	93	89	91	88	92	95	96	82	78	72	85	94	94	92	94	88.6	2400
HAGERSTOWN 1E KEEFER	66	68	73	70	68	59	55	58	69	65	55	49	59	64	63	66	62	73	70	68	70	70	71	64	70	62	68	71	73	74	68	65.8	EDT
SMITHSBURG 2 NE VAUGHN	96	99	101	103	94	88	87	93	97	90	83	88	76	82	91	92	93	95	92	96	94	95	95	85	81	73	88	94	95	94	98	91.2	2000
SMITHSBURG 2 NE VAUGHN	67	70	72	71	72	58	56	58	70	70	57	52	63	63	62	68	63	75	70	66	72	73	70	63	68	61	67	71	76	72	68	66.6	EDT
SALISBURY NWS WICOMICO CO APT	89	94	96	99	95	86	90	94	95	87	79	84	84	76	89	94	96	94	94	91	88	95	92	81	78	73	83	94	97	94	93	89.5	2400
SALISBURY NWS WICOMICO CO APT	54	61	66	66	71	56	48	50	73	70	46	42	50	68	64	58	55	69	73	66	63	58	72	71	62	58	66	68	73	70	67	62.4	EST
HANOVER 2 S, PA RICKELL	88	93	93	93	84	82	78	88	92	81	76	82	74	73	88	90	92	89	91	87	81	93	95	83	80	68	81	91	92	89	93	85.8	2100
HANOVER 2 S, PA RICKELL	62	65	69	69	60	54	51	51	67	63	48	47	54	61	64	61	61	68	67	63	61	65	70	63	67	56	65	67	72	69	63	62.0	EDT
WASH NATIONAL NWS ASOS	89	94	98	99	93	88	84	92	98	85	81	85	82	77	90	92	94	92	92	91	91	97	97	85	80	71	83	95	97	94	95	89.7	2400
WASH NATIONAL NWS ASOS	71	73	79	80	75	68	67	66	74	74	65	60	68	65	67	76	70	79	76	74	74	73	75	72	70	67	70	75	78	78	77	72.1	EST
WASH DULLES NWS ASOS	90	94	96	97	91	86	83	91	94	83	79	84	79	76	88	91	91	89	88	89	89	94	94	83	78	70	83	94	94	91	92	87.8	2400
WASH DULLES NWS ASOS	69	68	73	72	71	60	55	57	72	70	54	47	65	63	64	64	61	71	70	72	68	72	71	69	70	64	68	71	74	71	71	66.7	EST

**ACON MD / DE / DC
JULY 2002 DAILY PRECIPITATION**

STATION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	TOTAL	OBS TIME	
WILMINGTON 4NNE CANAVAN								0.75	0.75					0.21					0.20				0.25			0.04	T	0.05				2.25 0.0	2400 EDT	
BEAR 2 SW, DE GALLAHER									1.17	0.07				0.17					T				0.15	0.02		0.15	0.02	0.07	T			1.82 0.0	2400 EDT	
WILMINGTON, DE NWS NEW CASTLE CO APT									0.96	0.02				0.20				T	0.01				0.11	0.01	T	0.03	T	0.06				1.40 0.0	2400 EST	
U of D DE Climatologist Newark Pearson Hall									0.67					0.19					0.01				0.33	0.01		0.05		0.07				1.33 0.0	2400 EDT	
GEORGETOWN, DE NWS SUSSEX CO APT				0.04					T	0.03				0.20					0.08				0.23	0.11	0.20	0.01	1.24					2.14 0.0	2400 EST	
GEORGETOWN, DE U OF D RES & ED CTR									0.01	0.01				0.20									0.47	0.06	0.07	0.03	0.57					1.42 0.0	2400 EST	
BWI NWS ASOS									0.69	0.01			0.01	0.77				T					0.49	0.03		0.25	0.01					2.26 0.0	2400 EST	
ST MARGARETS BRYANT									0.28				0.38	0.53									1.00	0.02		0.45						2.66 0.0	0700 EDT	
MILLERSVILLE 1SE HANSON									0.81	0.01				0.90									1.82	0.01	0.02	0.26						3.83 0.0	2400 EDT	
LOTHIAN JUG BAY										0.03	T	T		0.72	0.21	0.01								1.78	0.10	0.04	0.32	0.02					3.23 0.0	0900 EDT
LAUREL 2 E STOUDT									1.75	T				1.05					T		0.14		0.39	0.06	0.38		0.03					3.80 0.0	2400 EST	
PARKTON 5SW KREINIK									0.50	0.11			T	0.51						T	0.13		0.24	T		0.71		0.03				2.23 0.0	2200 EDT	
OWINGS MILLS 2SE SHARROW									0.41	0.02			0.01	0.17					T				0.44	0.02		0.37	T					1.44 0.0	2400 EDT	
BALTIMORE 2SE MANFRE									1.20					0.33									0.66	0.05		0.15		0.13				2.52 0.0	1800 EDT	
BALT INNER HARBOR MD SCIENCE CENTER									1.04	0.03			0.01	0.31									0.76	0.08		1.00	0.01	0.05				3.29 -	2400 EST	
MANCHESTER 1SW CLOSE									0.38	0.18			T	0.45				0.03	0.02				0.04	0.01	T	0.62	0.14	0.01				1.88 0.0	2300 EDT	
WESTMINSTER 4SSE HARTSOCK									1.54	0.06				0.43					0.04		0.60		0.74		0.04	0.76	0.02					4.23 0.0	2200 EDT	
MILLERS 4NE MILLER										0.24			T	0.47				T	T	0.01	T		0.06	0.07	T	0.90	0.15	0.30	0.05			2.25 0.0	1800 EDT	
BRYANS ROAD 2 ESE BRUMBACK																																		2400 EDT
EAGLE ROCK HARVEY					0.01					0.77			0.02	1.04	0.03				0.14	0.17				0.10	T	0.21	2.05	0.27		T		4.81 0.0	800 EDT	
FALLSTON 2 NW ALBRIGHT									0.73	0.06			T	0.23					T				1.06	0.05		0.44	0.02	0.12				2.71 0.0	2400 EDT	
LAUREL JHU / APL GIANNOLA									0.81	0.01				1.04									1.49	0.34	T	0.49	0.03					4.21 0.0	2400 EDT	

**ACON MD / DE / DC
JULY 2002 DAILY PRECIPITATION**

STATION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	TOTAL	OBS TIME	
POTOMAC 4N COHEN									0.35	0.03				1.49						T				2.40	0.64	0.10	0.61	0.15	T			5.77	2100	
OLNEY 1 S GIANNOLA									0.98				T	1.19										0.80	0.02		0.65	0.01				3.65	2400	
GLENMONT 1NNE ROSSEN									0.49	0.01			T	1.24				T			T			0.32	0.43	0.03	0.25	0.13	T			2.90	2400	
BETHESDA SCAFIDE									0.18					1.31										1.03	0.09	0.04	0.31	0.87				3.83	2400	
GAITHERSBURG 2WNW SHAW									0.50	T			T	1.40				T						0.15	0.01		0.86	0.03	T			2.95	2400	
FOREST GLEN TERRY									0.27	T				1.49										0.46	0.12	T	0.46	0.07				2.87	2400	
ROCKVILLE 1NE WASH GAS LIGHT									0.33					1.20				T	T					1.32	0.17		0.54	0.03	0.01			3.60	2400	
SOUTH BOWIE HUDELSON									0.02					0.97										T		0.03	0.41	T				1.43	2400	
OXON HILL SMITH									0.13	T			T	1.40										T			0.35	0.05	T			1.93	2300	
HOLLYWOOD ABELL									T	T				0.50										0.74	T	0.10	0.70	0.46				2.50	2359	
ORAVILLE VAN WIE				T						0.03				0.37	T			T			T	T		0.61	0.03	T	0.65	0.63				2.32	2400	
RIDGE ZYLA									T	0.15				0.35	0.01					0.01				1.89	2.23	0.04	0.71	T				5.39	2400	
HAGERSTOWN 1E KEEFER									0.15				0.04	0.72						0.03				0.32		T	0.81	0.23				2.30	2400	
SMITHSBURG 2 NE VAUGHN									0.24	T			T	0.65				0.10	0.03					0.20			1.22	0.02				2.46	2000	
SALISBURY NWS WICOMICO CO APT				T					0.02	T				0.19				T	0.02				0.06	0.72	0.07	0.47	0.13	0.22	T			1.90	2400	
HANOVER 2 S, PA RICKELL									0.63				T	0.67								1.20			0.24		T	0.67	0.09	0.01	0.30		3.81	2100
WASH NATIONAL NWS ASOS									0.08	0.03			T	1.36				T			T			T		0.01	0.69	0.03	T			2.20	2400	
WASH DULLES NWS ASOS									0.04	0.03			0.01	1.56	0.01			T	T					0.37	0.07	T	0.41	0.15				2.65	2400	
																																	0.0	EST