



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

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

MILD TEMPERATURES - STRONG NOR'EASTER FORMED FROM REMNANTS OF HURRICANE IDA

November was a milder than normal month with very few cold air intrusions. Subfreezing temperatures were few and far between. Precipitation amounts varied across the region. The northern and western portions saw below normal amounts while the southern and southeast portions saw above normal amounts.

The month's extreme temperatures occurred on two consecutive days, the 7th and 8th. The first hard freeze of the season occurred on the 7th. "Indian Summer" arrived quickly on the 8th when temperatures rose into the low 70's.

A strong nor'easter (Veterans Day Storm) pounded the coastline from the 11th to the 14th. The heaviest rains fell on the 11th & 12th. The heaviest rains fell south and east of Baltimore / Washington. **John Zyla** of **Ridge** reported 5.70" and **Floyd Abell** of **Hollywood** reported 5.68" from the 10th to the 14th. Rainfall amounts were less than an inch in extreme Northern Delaware and from Carroll County Maryland westwards. A record setting wave height of 26.7 feet was reported at the NOAA Delaware Bay Buoy 44009 (since deployed in 1984) 26 miles southeast of Cape May, NJ. Flooding and beach erosion occurred on the coast. The following was taken from the NWS Mt. Holly (Philadelphia) website:

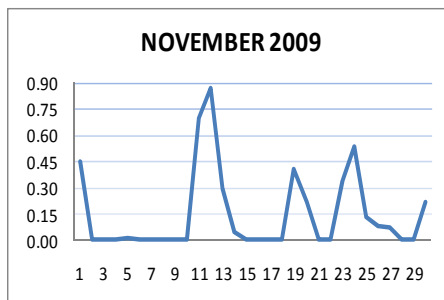
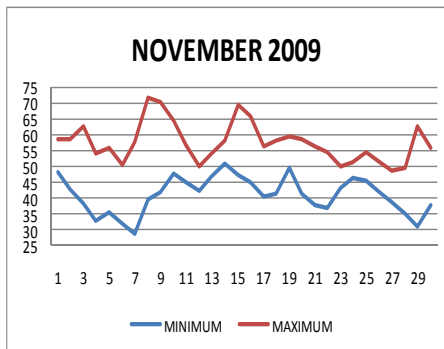
"The remnants of Hurricane Ida made landfall as a tropical storm along the U.S. Gulf Coast (near the Alabama-Florida border) on Tuesday morning, November 10, 2009. Tropical Storm Ida weakened quickly after landfall and was soon absorbed by a frontal boundary advancing toward the southeast U.S. Coast. By Thursday morning (12th) the remnant low was located near the North Carolina coastal waters. The interaction between this low and a strong high pressure system located over eastern Canada produced an intense pressure gradient over the mid-Atlantic region, including New Jersey and Delaware (also Maryland), which persisted for several tide cycles, from Thursday morning through most of Saturday."

More details can be found at:

<http://www.erh.noaa.gov/erphi/storms/11112009.php>

A cold front accompanied by some thunderstorms moved through the region the evening of the 19th and shortly after midnight in Delaware.

Thanksgiving week (23rd—27th) was wet. Rainfall amounts generally fell in the 3/4" to 1 1/3" range. Unstable conditions followed a strong cold front on the 27th. A strong upper vort lobe which moved down from the northwest mid day of the 27th was reported by ACON observers from Forest Glen southeast to Ridge. **Joe Terry** of **Forest Glen** reported light rain and a brief but very heavy shower of hail embedded which nearly covered the ground but melted quickly (could be defined as sleet). Conditions were nearly white-out for about 20 sec-



ACON MD/DE Network

Daily average temperatures and precipitation based on observation times, not calendar days.

EXTREMES REPORTED BY

ACON OBSERVERS

MAXIMUM TEMPERATURE

Glenmont 1 NNE	77
Forest Glen	77
Eagle Rock	76

MINIMUM TEMPERATURE

Eagle Rock	22
Davis 3 SE WV	22
Bear 2 SW DE	24
Smithsburg 1.5 SSW	24

WARMEST AVG. TEMP.

Baltimore 2 SE	52.1
Ridge	51.9

COLDEST AVG. TEMP.

Davis 3 SE WV	41.2
Frostburg	44.0
Eagle Rock	45.1

MAXIMUM PRECIPITATION

Ridge	9.24
Jug Bay Wetlands	8.18

MINIMUM PRECIPITATION

Eagle Rock	1.32
Frostburg	1.42

MAXIMUM SNOWFALL

Davis 3 SE WV	7.4
Eagle Rock	6.0
Frostburg	0.6

onds. The hail was 0.2" in diameter and oblate and accompanied by wind gusts to 28mph. **Marty Brumback** of **White Plain 5.5 WNW** reported rice size ice and snow pellets and a PWG of 42 MPH between 12:40 & 12:45 PM. **John Zyla** of **Ridge** observed rice sized hail fall at 2:15pm for about 15 seconds. See Observer Comments for more details about this event and page 3 for vort lobe information supplied by Marty Brumback.

OBSERVER COMMENTS FOR NOVEMBER 2009

Gary Gallaher of Bear 2 SW, DE

3rd - Frozen morning dew on car. Deep blue AM sky, afternoon partly cloudy, evening clear.

11th—13th - Windy 30+ mph, periods of light rain - heaviest on the 12th.

20th - Thunderstorm ~ 1 AM.

Nate Mullins of LaVale

November was the fourth warmest in the area in 62 years.

8th—30th - 23 consecutive days with no sub-freezing temps.

Jeff Stoudt of Laurel 2 E

11th - Steady light rain, wind driven at times.

19th - Occasional light rain / drizzle till mid evening, then rain shower / thundershower.

30th - Frequent light rain daybreak till dusk.

Marty Sharrow of Owings Mills

1st - Overcast with AM rain, PM clouds and sun.

25th - Overcast, damp with periods of drizzle.

Joe Manfre of Baltimore 2SE

1st - Cloudy, mild, light rain in AM and late PM.

15th - Partly cloudy and warm.

19th - Cloudy, mild, drizzle, fog, then showers and thunderstorm.

Ralph Hartsock of Westminster 4 SSE

11th - Rainy, chilly - carryover high temperature.

16th - Sunny, nice.

19th - Foggy, heavy at night.

Bobby Miller of Millers 4 NE

4th - AM frost, killing freeze, afternoon clouds & virga.

7th - AM frost & clear skies, few afternoon cirrus, breezy.

19th - Visibility 1/8th mile at 8 AM.

24th - Steady AM rain then misty.

Ray Muller of Westminster City

I closed the climatic data on temperature since some of the maximums were estimated.

7th - 6 AM temperature 28°

12th - Winds gusting to 35 MPH, rain, fog.

26th - Dense fog visibility ¼ mile.

Marty Brumback of Bryans Road 2 ESE

19th - Thunder early afternoon, TRW 11:00 - 11:30 PM.

27th - Rice size ice & snow pellets & high winds (42 MPG from the WNW) between 12:40 and 12:45 PM. The air temp was 48.9, DP 34.8, and barometer 29.67 as the hail fell.

Eric Glass of Emmitsburg 2 SE

9th - Morning ground fog, clear sky, sunny, mild, pleasant.

17th - Lots of clouds, calm and pleasant.

Rob Cohen of Potomac 4 N

8th - 71° Tied daily record maximum temperature.

19th - Thunder with heavy shower 9 PM.

30th - Daytime temperatures in the upper 40's.

Rich Giannola of Olney 1 S

4th - Morning frost, first freeze of the season.

7th - Heavy morning frost.

Richard Holden of Clarksburg 2 ENE

27th - Light rain / light snow. AM min 39

30th - Moderate rain / AM min 48, Afternoon max 49.

Stan Rossen of Glenmont 1 NNE

19th - Dense fog. Thunderstorm ~ 9 PM.

26th - Dense early morning fog, visibility ¼ mile.

Kevin Shaw of Gaithersburg 2 WNW

Temperatures were well above normal - tied with 2001 for the third warmest November. Only 1985 and 1999 were warmer. There were only 3 days with freezing (or lower) minimum temperatures, a new record surpassing the old record of 4 set back in 1985.

28th - Sunny, wind abating as day wore on. Clear cold evening.

Joe Terry of Forest Glen

27th - Surprise convective cell was observed 1245 to 1300 with light rain and a brief but very heavy shower of hail embedded (could be defined as sleet). Conditions were nearly white-out for about 20 seconds. The hail was 0.2" in diameter and oblate and accompanied by wind gusts to 28mph. The hail nearly covered the ground but melted very quickly.

Brian Smith of Oxon Hill

7th - Heavy frost. The growing season has ended for 2009.

8th - Indian summer day.

Floyd Abell of Hollywood

12th - Flooding rains.

26th - Dense AM fog.

John Zyla of Ridge

Station record rainfall for November at 9.24" (broke old record from 1997 of 7.54"). I have had 16.36" of rain in the last 45 days (since Oct 15)!! Annual is at 53.60".

20th - Thunderstorm 12:33 AM to 1:45 AM.

27th - Also had my first Hail ever in November in 15 years. Rice sized hail fell at 2:15pm for about 15 seconds on Nov 27.

Max Hutto of Smithsburg 1.5 SW

9th - AM haze, partly sunny, not quite as warm as yesterday.

26th - AM fog, PM rain heavy at times, breezy.

Greg Keefer of Hagerstown 1 E

15th - Dense fog overnight and a good part of the morning. Sunny and warmer in the afternoon.

26th - Very dense fog overnight and this morning.

Jim Vaughn of Smithsburg 2 NE

13th - Minimum temperature of 46 ties the daily high minimum set back in 1964.

Lance Shaffer of Sterling 4 N VA

1st - Wet start to the month, some sun at times.

David Leshner of Davis 3 SE WV

28th - 5" snow depth, maximum depth for the month.

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

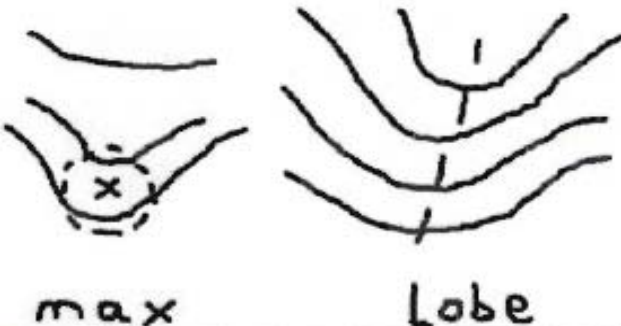
theweatherprediction.com

[-MAIN HOME-] [-ALL HABYHINTS-]

DEFINING A "VORT MAX" AND A "VORT LOBE"

METEOROLOGIST JEFF HABY

A vorticity max is the highest value of positive vorticity (point location) within a region of positive vorticity. A vorticity lobe is an axis of high positive vorticity values. You can think of a vorticity max as a "bullseye" and a vorticity lobe as an "elongated bullseye". Elongated regions of high positive vorticity that stretch over a large region are referred to as vort lobes. The amount of elongation of the vort lobe determines how large the region of PVA / NVA will be. If air flows through a vort lobe, ageostrophic circulations will promote uplift in the PVA region (downstream region) and sinking in the NVA region (upstream region). The PVA / NVA region with a vort max tends to be smaller but more intense. Vort lobes tend to occur with highly amplified synoptic troughs and a vort max tends to occur with shortwaves. Below is an example of a vort max and a vort lobe.



max Lobe

The above information was provided by Marty Brumback of White Plains 5.5 WNW.

This vort lobe was observed by ACON observers **Joe Terry** of **Forest Glen**, Montgomery County, **Marty Brumback** of **White Plains 5.5 WNW**, Charles County, and **John Zyla** of **Ridge**, St Marys County as it moved southeast from Montgomery County to St Marys County during the early afternoon of the 27th.

**ACON MD / DE / DC
NOVEMBER 2009 SUMMARY**

OBSERVER	STATION COUNTY, STATE	TEMPERATURE									PEAK WIND			PRECIPITATION					SNOWFALL				OBS TIME		
		AVG MAX	AVG MIN	MEAN	MAX	DAY	MIN	DAY	MAX >=90	MAX <=32	MIN <=32	GUST	DIR	DAY	TOTAL	MAX DAY	DATE	YEAR	DAYS >=.01"	DAYS >=1"	TOTAL	MAX DAY		DATE	SEA- SON
<i>New Castle, Delaware</i>																									
Gallaher, Gary	Bear 2 SW	57.6	40.2	48.9	71	8	24	7	0	0	4	36	NE	20	3.08	0.58	12	45.63	13	0	0.0	0.0	0.0	2400	
Legates, David	Middletown 6 N	58.3	41.7	50.0	73	8	26	7	0	0	3	30		13	3.78	0.80	12	25.61	14	0	0.0	0.0	0.0	2400	
NWS Wilmington	New Castle Co. Apt.	57.6	41.8	49.7	72	8+	27	7	0	0	3	46	WNW	5	2.32	0.57	20	43.48	12	0	0.0	0.0	0.0	2400	
UofDE AG FARM DEOS***	Newark	57.4	40.8	49.1	71	8+	26	7	0	0	3	24		27	3.29	0.63	20	43.76	13	0				2400	
U of D REC DEOS***	Townsend 4 W	56.8	40.5	48.7	71	9	25	7	0	0	4	32		13	4.97	1.76	12	42.94	14	2				2400	
<i>Sussex, Delaware</i>																									
NWS Georgetown	Sussex Co. Airport	60.0	44.7	52.4	74	9	29	7	0	0	3	45	NNE	12	5.49	2.86	12	52.20	15	1				2400	
U of D REC DEOS***	Georgetown 5 SW	58.5	43.4	51.0	73	9	28	7	0	0	3	36		12	6.87	2.72	12	49.21	13	3				2400	
U of D REC DEOS***	Harbeson 8 S	58.6	43.5	51.1	71	9	26	7	0	0	3	33		12	5.18	2.15	12	46.96	12	1				2400	
<i>Allegany, Maryland</i>																									
Latta, Greg	Frostburg	51.4	36.5	44.0	71	9	26	4	0	0	10				1.42	0.57	20	37.83	9	0	0.6	0.4	27	0.6	0700
Mullins, Nate**	LaVale	55.0	39.9	47.5	72	8	27	7	0	0	3				1.54	1.03	19		6	1	T	T	27	T	2400
<i>Anne Arundel, Maryland</i>																									
Hanson, Dan	Pasadena 2 N	58.8	41.0	49.9	74	8+	26	7	0	0	4	32	NW	27	5.06	0.87	12	47.18	13	0	0.0	0.0	0.0	2400	
Jug Bay Wetlands	Lothian	60.3	40.8	50.6	78	8	26	7	0	0	3				8.18	2.25	11	53.45	12	4	0.0	0.0	0.0	0900	
NWS Baltimore	BWI Airport	58.4	40.9	49.7	73	8	28	7	0	0	4	43	W	28	4.94	0.96	24	47.51	12	0	0.0	0.0	0.0	2400	
Stoudt, Jeff	Laurel 2 E	58.1	41.6	49.9	74	8	29	7	0	0	3				4.90	0.78	11	49.28	14	0	0.0	0.0	0.0	2400	
<i>Baltimore, Maryland</i>																									
Sharrow, Marty	Owings Mills 2 SE	55.6	39.9	47.8	69	8	27	7	0	0	4				3.22	0.55	11	38.96	14	0	0.0	0.0	0.1	2400	
<i>Baltimore City, Maryland</i>																									
Manfre, Joe	Baltimore 2 SE	59.9	44.3	52.1	75	8	32	7	0	0	1				4.96	0.96	24	48.60	12	0	0.0	0.0	0.0	1800	
Maryland Science Ctr	Baltimore Inner Harbor	59.8	47.0	53.4	73	8+	37	7	0	0	0				3.80	0.77	24	45.60	11	0				2400	
<i>Carroll, Maryland</i>																									
Close Jr, Herb	Manchester 1 SW	54.7	39.9	47.3	70	8	30	4+	0	0	3				3.44	0.77	24	45.43	13	0	0.0	0.0	0.4	2300	
Hartsock, Ralph	Westminster 4 SSE	55.8	40.3	48.1	70	8	27	7	0	0	5	39	WNW	27	3.55	1.35	24	50.05	10	1	0.0	0.0	0.1	1900	
Miller, Bobby	Millers 4 NE	55.8	39.8	47.8	70	15	28	7	0	0	4	41	SW	27	3.11	0.77	24	48.04	14	0	0.0	0.0	0.3	1800	
Muller, Ray	Westminster City	PRECIPITATION STATION					28	7				35		12	3.38	0.83	24	46.77	14	0	0.0	0.0	T	1900	
<i>Charles, Maryland</i>																									
Brumback, Marty	White Plains 5.5 WNW	59.2	41.8	50.5	74	8	30	7	0	0	2	42	WNW	27	6.66	1.29	12	42.16	14	2	T	T	27	T	2400/2000
<i>Frederick, Maryland</i>																									
Glass, Eric	Emmitsburg 2 SE	57.1	38.2	47.7	71	16	25	7	0	0	7				2.70	0.68	24	40.94	11	0	0.0	0.0	0.0	0630	
<i>Garrett, Maryland</i>																									
Harvey, Rebecca	Eagle Rock	54.2	35.9	45.1	76	9	22	4	0	0	8				1.32	0.30	20	43.15	11	0	6.0	4.0	28	8.2	0800

**ACON MD / DE / DC
NOVEMBER 2009 SUMMARY**

OBSERVER	STATION <i>COUNTY, STATE</i>	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
	<i>Howard, Maryland</i>																							
Giannola, Rich	Laurel JHU / APL	56.7	40.8	48.8	74	8	27	7	0	0	3	41	WNW	27	3.94	0.60	11	40.53	13	0	0.0	0.0	0.0	2400
	<i>Montgomery, Maryland</i>																							
Berger, Ron	Norbeck 1 SE	56.5	40.6	48.6	70	8	27	7	0	0	3				5.48	1.10	19	47.82	14	1	0.0	0.0	0.0	2200
Cohen, Rob	Potomac 4 N	57.7	41.2	49.5	71	8	29	7	0	0	3				4.74	0.77	11	49.64	14	0	0.0	0.0	0.0	2100
Giannola, Rich	Olney 1 S	57.1	40.4	48.8	72	8	29	7	0	0	3				4.39	1.18	11-12	45.78	11	1	0.0	0.0	0.0	2400
Holden, Richard	Clarksburg 2 ENE	56.6	41.8	49.2	71	8	34	4+	0	0	0	43	W	27	4.06	0.93	11	48.63	13	0	T	T	27	T
Roth, David	Montgomery Village 1SW	56.6	39.8	48.2	70	9	29	7	0	0	2				3.59	1.01	19	<u>44.92</u>	10	1				
Rossen, Stan	Glenmont 1 NNE	59.1	39.6	49.4	77	8	28	7	0	0	5	19		27	4.66	0.83	11	43.29	14	0	0.0	0.0	0.0	2400
Scafide, Tony	Bethesda	57.5	41.7	49.6	72	8	30	7	0	0	1				4.83	0.97	19	39.14	14	0				
Shaw, Kevin	Gaithersburg 2 WNW	57.7	40.6	49.2	70	9	29	7	0	0	3				3.78	0.80	11	45.63	15	0	0.0	0.0	0.0	2400
Terry, Joe	Forest Glen	60.0	40.9	50.5	77	8	29	7	0	0	3	31	W	27	5.08	0.93	11	47.17	13	0	0.0	0.0	0.0	2400
	<i>Prince Georges, Maryland</i>																							
Smith, Brian	Oxon Hill	58.5	42.4	50.5	74	8	31	7	0	0	1				5.22	1.30	23-24	52.74	12	2	0.0	0.0	0.0	2300
	<i>St. Marys, Maryland</i>																							
Abell, Floyd	Hollywood	59.7	43.0	51.4	75	8	31	7	0	0	2	31		27	8.16	3.65	12	50.83	14	3	0.0	0.0	0.0	2400
Zyla, John	Ridge	58.1	45.7	51.9	69	15	34	30	0	0	0	34	NE	11+	9.24	3.57	12	53.60	14	3	0.0	0.0	0.0	2400
	<i>Washington, Maryland</i>																							
Hull, Gary	Sharpsburg																	<u>11.04</u>					0.0	2400
Hutto, Max	Smithsburg 1.5 SW	56.6	37.0	46.8	71	8	24	7	0	0	9	30	NE	12	2.59	0.64	19	42.19	11	0	0.0	0.0	0.0	2400
Keefer, Greg	Hagerstown 1 E	57.2	38.5	47.9	72	8	26	7	0	0	7	34	W	28	2.09	0.52	19	38.72	12	0	0.0	0.0	0.0	2400
Vaughn, Jim	Smithsburg 2 NE	55.8	39.3	47.6	71	8	30	4	0	0	5	41	NE	12	2.62	0.59	19	38.43	12	0	0.0	0.0	0.0	2400
	<i>Wicomico, Maryland</i>																							
NWS Salisbury	Wicomico Co. Apt	60.0	43.2	51.6	73	8	27	7	0	0	3	48	NE	13	5.14	2.76	12	40.17	12	1	0.0	0.0	0.0	2400
	<i>Arlington, Virginia</i>																							
NWS Washington Natona	National Airport	59.5	44.9	52.2	74	8	35	7+	0	0	0	43	WNW	27	4.43	0.94	11	40.11	14	0	0.0	0.0	0.0	2400
	<i>Loudon, Virginia</i>																							
NWS Washington Dulles	Dulles Airport	59.7	40.0	49.9	75	8	29	7	0	0	6	43	WNW	27	3.71	0.95	11	42.64	11	0	0.0	0.0	0.0	2400
Shaffer, Lance	Sterling 4 N	59.3	42.6	51.0	75	8	31	7	0	0	2				3.92	0.89	11	46.28	11	0	0.0	0.0	0.0	2400
	<i>Tucker, West Virginia</i>																							
Leshner, Dave	Davis 3 SE WV	49.1	33.3	41.2	68	9	22	4+	0	1	12				2.20	0.47	1+	56.37	14	0	7.4	4.3	28	10.5
SECTION AVERAGE*		57.3	40.2	48.7											4.20			45.12			0.2		0.3	

*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

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 12/31/09

ACON MD / DE / DC
NOVEMBER 2009 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 GALLAHER	58 49	57 39	62 35	53 34	56 34	48 28	58 24	71 35	69 38	64 46	57 45	51 42	56 50	58 54	70 47	64 40	57 40	59 45	59 51	60 37	56 34	56 32	50 44	51 48	54 48	53 44	48 40	52 33	64 28	57 42	57.6 40.2	2400 EST
MIDDLETOWN 6 N LEGATES	57 49	58 42	65 36	55 35	58 36	49 29	59 26	73 38	70 40	64 48	57 46	51 42	56 42	59 54	72 43	66 43	57 42	59 46	59 52	60 39	57 37	56 37	50 47	51 48	54 48	54 44	48 40	53 36	66 41	58 42	58.3 41.7	2400 EST
WILMINGTON , DE NWS NEW CASTLE CO APT	58 50	57 40	63 37	52 35	56 37	49 32	57 27	72 38	66 40	64 47	57 46	50 43	55 50	59 53	72 54	64 44	57 40	59 45	60 51	59 42	57 37	56 36	50 47	51 48	53 45	54 44	48 40	52 36	62 31	58 38	57.6 41.8	2400 EST
NEWARK AG FARM, DE U OF DE DEOS	58 49	58 41	62 37	54 36	55 36	47 29	59 26	71 36	71 39	65 46	57 44	50 41	55 48	58 53	70 50	63 46	57 41	58 42	59 51	59 38	55 35	57 35	50 46	51 47	53 46	53 45	48 40	51 34	64 30	56 41	57.4 40.8	2400 EST
TOWNSEND 4 W, DE U of D REC DEOS	56 49	56 39	62 35	53 32	55 34	47 28	57 25	70 39	71 39	63 47	55 45	48 42	54 48	57 52	69 49	63 43	55 38	58 41	60 51	60 38	55 36	54 36	48 45	50 47	53 49	53 45	47 39	51 34	65 29	59 40	56.8 40.5	2400 EST
GEORGETOWN, DE NWS SUSSEX CO APT	58 52	57 48	65 40	57 36	59 42	51 31	59 29	73 42	74 42	70 51	58 50	53 49	54 51	58 54	71 54	68 45	58 44	61 45	68 55	63 39	57 37	55 38	54 50	55 52	57 52	56 48	51 42	53 39	66 32	61 43	60.0 44.7	2400 EST
GEORGETOWN, DE U of D REC DEOS	59 51	55 46	63 39	56 33	57 41	48 30	58 28	72 42	73 39	69 53	56 49	52 48	54 49	58 54	68 44	66 41	56 45	60 45	68 55	62 38	55 37	54 37	53 50	55 52	56 52	56 47	49 42	50 39	65 32	53 43	58.5 43.4	2400 EST
HARBESON 8 S, DE U of D REC DEOS	59 52	55 46	64 38	54 34	58 42	48 29	59 26	69 41	69 39	59 51	69 50	53 49	55 52	57 54	69 51	64 42	55 42	58 42	66 55	62 39	55 36	53 36	54 51	54 52	56 52	55 46	50 40	51 36	66 31	60 42	58.6 43.5	2400 EST
FROSTBURG LATTA	63 38	53 31	54 30	53 26	43 27	44 30	44 28	57 29	71 44	68 43	58 42	44 38	45 37	54 44	61 45	66 47	61 42	48 36	45 38	48 39	47 40	47 36	45 37	41 39	45 41	50 33	48 32	34 29	45 29	60 44	51.4 36.5	0700 EST
LAVALE MULLINS**	56 40	56 33	56 35	46 31	49 31	50 31	59 27	72 36	64 41	59 47	53 46	50 42	60 46	66 50	71 42	64 47	53 42	53 38	51 48	55 41	52 44	54 38	44 43	48 44	53 46	49 34	40 37	48 35	66 38	53 37	55.0 39.9	2400 EST
PASADENA 2 N HANSON	58 49	58 40	67 37	54 31	59 34	51 29	58 26	74 37	72 40	64 49	57 45	50 43	55 50	59 52	74 48	68 46	58 42	59 45	61 51	60 38	59 36	56 38	50 47	52 49	55 44	51 43	50 40	52 33	67 30	58 39	58.8 41.0	2400 EST
LOTHIAN JUG BAY	70 49	54 48	60 37	68 31	58 33	64 33	55 26	78 37	75 37	M M	65 48	48 43	53 54	55 50	58 47	73 43	M M	70 36	60 50	62 48	61 33	59 32	58 39	51 47	54 49	57 41	52 40	51 39	M M	M M	60.3 40.8	0900 EST
BALTIMORE NWS BWI APT	58 49	59 41	63 38	53 32	53 34	50 31	59 28	73 36	72 39	65 48	58 45	51 42	55 49	59 53	72 49	68 44	56 40	57 44	61 51	61 41	58 39	55 35	50 47	52 48	54 44	56 40	51 40	50 34	67 29	58 38	58.4 40.9	2400 EST
LAUREL 2 E STOUDT	57 50	59 43	62 40	54 35	56 37	50 32	60 29	74 39	71 43	66 51	58 44	49 42	54 47	58 52	71 49	66 44	58 40	58 40	61 52	61 45	57 39	57 38	50 41	52 47	55 44	51 43	49 39	50 34	64 31	56 37	58.1 41.6	2400 EST
OWINGS MILLS 2SE SHARROW	58 46	57 44	59 39	51 31	52 34	50 32	56 27	69 38	66 42	64 47	57 41	48 38	52 44	56 49	68 48	62 48	55 49	55 39	58 46	59 43	54 36	54 36	49 39	50 43	52 47	49 39	47 36	47 35	61 31	53 40	55.6 39.9	2400 EST
BALTIMORE 2SE MANFRE	61 50	61 48	66 45	54 42	58 35	52 34	60 32	75 41	74 42	66 50	59 46	52 42	57 48	60 54	72 49	70 46	59 43	57 46	62 51	63 46	59 44	59 46	50 47	54 49	54 47	52 40	51 42	52 42	69 42	58 41	59.9 44.3	1800 EST
BALT INNER HARBOR MD SCIENCE CENTER	60 51	61 50	66 47	54 43	59 45	51 40	61 37	73 45	68 49	68 54	60 47	54 44	57 44	61 54	73 54	67 53	60 49	59 48	62 48	62 49	59 45	58 47	51 48	54 50	55 49	53 47	51 42	52 42	67 38	58 41	59.8 47.0	2400 EST
MANCHESTER 1SW CLOSE	52 44	57 41	61 41	51 30	53 34	47 31	57 30	70 44	68 48	63 50	53 41	47 38	50 48	53 48	68 47	59 46	56 40	56 39	54 46	54 36	54 35	54 38	46 40	48 43	48 43	50 40	47 34	45 34	48 36	55 33	54.7 39.9	2300 EST
WESTMINSTER 4 SSE HARTSOCK	59 47	60 44	59 36	52 30	53 32	47 32	53 27	70 36	69 41	64 47	58 43	49 38	53 43	56 49	68 47	61 47	54 42	56 37	58 48	59 42	55 37	56 37	48 41	48 44	52 48	50 49	47 36	45 36	61 30	55 42	55.8 40.3	1900 EST
MILLERS 4NE MILLER	65 45	57 41	59 37	50 29	51 30	47 34	56 28	69 39	67 44	63 47	57 43	48 39	53 43	55 49	70 48	60 47	57 39	58 37	56 47	58 44	54 35	55 36	47 40	48 43	51 47	49 39	46 36	47 36	65 30	56 42	55.8 39.8	1800 EST
WESTMINSTER CITY MULLER	NO TEMPERATURE DATA - PRECIPITATION ONLY STATION																															
WHITE PLAINS 5.5 WNW BRUMBACK	58 50	60 42	66 39	56 34	60 35	52 33	60 30	74 43	73 40	65 51	56 46	47 43	55 46	58 52	72 46	69 46	58 41	59 42	61 52	60 42	58 36	58 38	51 41	52 47	56 46	50 41	51 40	54 36	68 32	59 40	59.2 41.8	2400 EST
EMMITSBURG 2 SE GLASS	70 49	55 45	58 35	60 29	51 30	52 32	49 25	58 30	70 34	67 37	67 45	50 44	53 43	58 50	60 41	71 41	63 41	57 34	58 40	54 46	55 37	55 33	55 33	49 44	51 46	55 41	49 40	47 38	49 30	66 32	57.1 38.2	0630 EST

**ACON MD / DE / DC
NOVEMBER 2009 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	
EAGLE ROCK	69	62	56	52	50	66	52	70	76	68	60	42	42	58	59	66	69	50	45	50	44	46	44	44	50	52	52	34	38	60	54.2	0800	
HARVEY	34	34	34	22	24	26	28	50	46	48	40	34	34	40	48	48	39	40	40	38	38	36	38	34	40	30	28	24	24	38	35.9	EST	
LAUREL JHU / APL	57	59	61	53	55	47	57	74	70	66	55	48	53	56	70	65	56	55	60	56	55	56	48	50	54	49	46	48	65	56	56.7	2400	
GIANNOLA	47	43	38	33	36	31	27	41	42	50	41	39	44	50	50	46	41	49	42	39	39	43	45	44	40	37	36	31	37	40.8	EST		
NORBECK 1 SE	59	57	60	51	53	48	57	70	68	65	58	49	53	57	68	63	55	56	60	60	55	56	49	51	54	49	46	48	64	57	56.5	2200	
BERGER	49	44	37	31	33	31	27	38	39	50	44	41	46	52	47	46	43	39	50	43	37	36	41	46	45	42	39	35	30	38	40.6	EST	
POTOMAC 4N	63	60	63	53	56	50	58	71	70	66	58	49	54	59	70	65	56	56	59	59	56	55	49	52	55	49	47	48	65	59	57.7	2100	
COHEN	49	44	37	32	46	34	29	38	41	49	44	41	47	52	43	43	44	38	51	43	38	34	41	46	45	41	40	35	31	40	41.2	EST	
OLNEY 1 S	56	59	62	53	56	48	58	72	70	67	55	48	53	57	71	66	58	58	59	57	57	56	48	50	53	49	47	49	65	56	57.1	2400	
GIANNOLA	48	44	39	32	34	33	29	41	44	50	42	40	45	51	45	45	41	37	50	40	38	36	39	45	44	41	37	34	31	37	40.4	EST	
CLARKSBURG 2ENE	54	60	62	52	54	49	58	71	69	67	52	49	53	58	69	63	57	58	58	56	55	56	48	50	54	49	46	48	66	56	56.6	2400	
HOLDEN	47	43	42	34	35	36	34	45	51	51	42	40	46	50	46	41	40	41	49	41	41	37	41	44	46	42	38	38	38	35	41.8	EST	
MONTGOMERY VILLAGE	58	60	61	53	56	48	57	69	70	68	48	50	56	59	68	64	43	58	60	56	57	56	50	53	56	50	48	48	63	57	56.6	2400	
ROTH 1SW	50	43	38	33	35	33	29	39	42	50	41	42	41	52	45	44	40	37	41	41	39	35	41	41	41	41	39	34	31	38	39.8	EST	
GLENMONT 1NNE	57	61	64	56	60	51	62	77	74	67	57	51	54	58	72	68	61	59	61	58	58	59	50	52	55	50	49	52	69	51	59.1	2400	
ROSSEN	49	42	37	31	34	30	28	38	39	48	44	42	47	52	44	42	38	36	51	40	37	33	39	46	42	42	39	32	30	37	39.6	EST	
BETHESDA	56	59	63	52	56	50	58	72	71	67	57	51	54	59	69	66	57	57	61	56	57	56	50	52	54	49	47	49	66	57	57.5	2400	
SCAFIDE	48	43	40	34	36	34	30	41	45	51	43	42	47	52	46	46	42	42	51	42	39	39	43	46	45	42	39	37	33	37	41.7	EST	
GAITHERSBURG 2WNW	57	59	62	53	56	49	58	69	70	67	56	51	56	59	69	65	58	58	59	57	57	58	50	52	55	50	48	50	65	58	57.7	2400	
SHAW	50	42	38	33	35	32	29	38	41	49	44	41	48	52	45	45	40	38	51	41	39	35	41	46	43	40	40	34	31	37	40.6	EST	
FOREST GLEN	57	63	66	56	60	53	61	77	74	69	57	50	54	60	74	70	61	60	61	62	61	60	50	53	56	49	51	51	68	55	60.0	2400	
TERRY	49	42	38	33	35	32	29	40	43	51	44	42	47	52	45	45	40	39	50	40	38	36	42	46	44	43	39	35	32	37	40.9	EST	
OXON HILL	60	59	64	54	55	54	60	74	71	66	57	48	55	58	71	68	57	58	61	60	59	M	50	52	56	49	49	52	66	55	58.5	2300	
SMITH	50	45	40	35	37	34	31	43	44	51	45	42	52	45	49	45	45	52	43	38	41	47	47	41	40	40	36	33	40	42.4	EST		
HOLLYWOOD	58	59	67	57	61	52	61	75	74	67	56	48	55	57	72	68	57	63	64	61	57	56	52	52	57	51	52	55	66	60	59.7	2359	
ABELL	49	46	40	36	40	32	31	43	42	52	48	46	47	53	50	47	44	47	50	42	36	36	49	49	44	42	40	36	33	41	43.0	EST	
RIDGE	53	58	66	54	60	52	61	64	62	66	52	51	54	58	69	66	58	62	62	60	57	55	52	53	56	52	52	53	66	59	58.1	2400	
ZYLA	50	46	41	39	40	39	39	50	46	52	48	44	48	52	52	51	48	52	52	45	44	46	48	49	49	47	39	38	42	34	45.7	EST	
SHARPSBURG																																2400	
HULL																																EST	
SMITHSBURG 1.5 SW	56	58	59	50	52	48	59	71	69	66	54	53	59	59	67	63	57	56	54	55	54	56	49	50	57	50	47	47	67	55	56.6	2400	
HUTTO	42	38	32	27	29	27	24	33	37	46	46	44	48	42	41	39	38	32	50	39	35	30	41	44	38	36	38	29	27	37	37.0	EST	
HAGERSTOWN 1E	57	60	61	51	54	50	57	72	69	67	54	53	60	60	68	64	56	56	56	56	56	56	49	52	56	50	47	48	67	55	57.2	2400	
KEEFER	46	39	36	29	31	29	26	35	39	48	46	45	48	45	43	41	37	33	50	40	38	31	41	45	40	38	39	31	29	37	38.5	EST	
SMITHSBURG 2 NE	55	59	58	49	51	47	59	71	67	65	50	53	58	58	68	61	55	55	56	54	53	55	47	51	56	50	45	46	65	58	55.8	2400	
VAUGHN	43	41	38	30	31	31	32	42	50	45	41	39	46	46	39	45	42	40	46	44	38	34	40	42	42	37	33	34	35	32	39.3	EST	
SALISBURY	60	56	63	57	59	50	59	73	71	69	56	54	55	58	69	69	59	63	71	62	57	56	55	56	58	58	51	51	66	59	60.0	2400	
NWS WICOMICO CO APT	50	49	39	34	41	30	27	39	39	49	50	50	52	54	49	44	42	46	55	38	36	38	49	53	49	48	40	34	30	42	43.2	EST	
WASH NATIONAL	58	62	67	54	60	52	60	74	71	66	50	51	56	61	72	70	59	58	62	60	60	58	51	53	56	51	50	52	64	56	59.5	2400	
NWS ASOS	51	48	43	39	42	39	35	45	47	52	46	44	49	53	49	50	46	46	52	46	43	42	45	48	47	45	41	39	35	41	44.9	EST	
WASH DULLES	57	62	66	54	57	52	61	75	73	68	58	52	56	59	72	69	61	58	61	60	61	59	51	53	56	50	50	53	68	58	59.7	2400	
NWS ASOS	50	41	37	32	32	31	29	35	39	48	45	43	49	46	41	44	39	40	52	42	38	36	41	47	41	40	40	32	30	39	40.0	EST	
STERLING 4 N	55	60	67	55	58	51	61	75	73	66	57	51	54	58	72	69	64	58	59	60	59	60	50	53	57	50	49	53	67	58	59.3	2400	
SHAFFER	50	47	38	35	37	37	31	38	42	49	48	43	49	51	43	45	46	40	53	45	40	37	41	48	51	43	40	39	32	40	42.6	EST	
DAVIS 3 SE WV	61	49	53	46	44	38	41	62	68	67	57	36	38	47	60	60	63	49	45	51	40	46	45	43	49	46	45	27	42	54	49.1	0700	
LESHER	33	30	30	22	28	28	27	38	44	45	36	30	30	38	41	40	37	34	35	35	34	34	34	34	34	40	30	26	22	22	41	33.3	EST

**ACON MD / DE / DC
NOVEMBER 2009 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	0.13				0.01						0.30	0.58	0.06	T					0.45	0.46			0.18	0.34	0.13	0.01	0.20			0.23	3.08 0.0	2400 EST
MIDDLETOWN 6 N LEGATES	0.18				0.06						0.37	0.80	0.04	0.02					0.44	0.40			0.16	0.56	0.11	0.01	0.41			0.22	3.78 0.0	2400 EST
WILMINGTON, DE NWS NEW CASTLE CO APT	0.08				0.01						0.14	0.36	0.05	0.03					0.38	0.57			0.14	0.18	0.17		T			0.21	2.32 0.0	2400 EST
NEWARK AG FARM, DE U OF DE DEOS	0.18				0.05						0.34	0.54	0.13	0.05					0.37	0.63			0.15	0.37	0.12		0.11			0.25	3.29	2400 EST
TOWNSEND 4 W, DE U of D REC DEOS	0.21				0.03						0.54	1.76	0.02	0.05					0.27	0.41			0.21	1.06	0.06	0.01	0.06			0.28	4.97	2400 EST
GEORGETOWN, DE NWS SUSSEX CO APT	0.27	T		0.01	0.01					T	0.98	2.86	0.17	0.03					0.03	0.09			0.44	0.15	0.01	0.02	0.11			0.31	5.49 -	2400 EST
GEORGETOWN, DE U of D REC DEOS	0.52			0.01	0.01						1.10	2.72	1.09	0.01					0.17	0.09			0.74		0.01		0.02			0.38	6.87	2400 EST
HARBESON 8 S, DE U of D REC DEOS	0.36	0.05		0.02							0.93	2.15	0.53	0.05						0.04			0.63		0.06		0.02			0.34	5.18	2400 EST
FROSTBURG LATTA	0.01					0.15								0.01					0.28	0.57				0.16	T		0.14 0.4	0.09 0.2	0.01	1.42 0.6	0700 EST	
LAVALE MULLINS**					0.16														1.03				0.16			0.07	0.09 T			0.03	1.54 T	2400 EST
PASADENA 2N HANSON	0.35										0.70	0.87	0.28	0.06					0.56	0.14			0.76	0.86	0.19	0.04	0.02			0.23	5.06 0.0	2400 EST
LOTHIAN JUG BAY	0.64	0.07	0.01			T				M	2.25	1.49	1.12	0.27				M		0.63				1.35	0.23	0.07	0.05		M	M	8.18 0.0	0900 EST
BWI NWS ASOS	0.41										0.67	0.57	0.41	0.09				T	0.78	0.21			0.39	0.96	0.21	T	0.02			0.22	4.94 0.0	2400 EST
LAUREL 2 E STOUDT	0.52				0.01						0.78	0.65	0.39	0.06					0.74	0.02			0.48	0.70	0.19	0.01	0.13			0.22	4.90 0.0	2400 EST
OWINGS MILLS 2SE SHARROW	0.31				0.02						0.55	0.35	0.27	0.03					0.43	0.03			0.39	0.46	0.15	0.01	0.07			0.15	3.22 0.0	2400 EST
BALTIMORE 2SE MANFRE	0.35			T							0.48	0.87	0.41	0.07					0.77	0.21			0.39	0.96	0.21	T	0.02			0.22	4.96 0.0	1800 EST
BALT INNER HARBOR MD SCIENCE CENTER	0.35										0.43	0.34	0.27	0.06					0.52	0.36			0.30	0.77	0.18					0.22	3.80 -	2400 EST
MANCHESTER 1SW CLOSE	0.39				T						0.55	0.10	0.13	0.09					0.63	0.07			0.21	0.77	0.19	0.11	0.03			0.17	3.44 0.0	2300 EST
WESTMINSTER 4 SSE HARTSOCK	0.43				0.02						0.45	0.31	0.18	0.06					0.15	0.40				1.35						0.20	3.55 0.0	1900 EST
MILLERS 4NE MILLER	0.32				0.02	T					0.48	0.17	0.12	0.11	T				0.14	0.42			0.05	0.77	0.18	0.01	0.14			0.18	3.11 0.0	1800 EST
WESTMINSTER CITY MULLER	0.44				0.02						0.56	0.14	0.09	0.11					0.12	0.36			0.13	0.83	0.16	0.03	0.23			0.16	3.38 0.0	1900 EST
WHITE PLAINS 5.5 WNW BRUMBACK	0.61				0.02						1.14	1.29	0.90	0.07					0.25	0.49			0.25	0.98	0.19	0.03	0.12 T			0.32	6.66 T	2000 EST
EMMITSBURG 2 SE GLASS	0.36					0.02					0.34	0.30	0.01	0.07					T	0.56				0.68	0.13	0.06	0.17				2.70 0.0	0630 EST

ACON MD / DE / DC
NOVEMBER 2009 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
EAGLE ROCK HARVEY	0.25				T	0.01							0.02	0.03					0.10	0.30				0.25		0.01	0.15	0.15		0.05	1.32	0800
LAUREL JHU / APL GIANNOLA	0.43				T						0.60	0.47	0.35	0.07					0.50	0.02			0.33	0.53	0.17	0.21	0.05			0.21	3.94	2400
NORBECK 1 SE BERGER	0.60				0.04						0.83	0.62	0.37	0.06					1.10	0.24			0.35	0.50	0.24	0.06	0.17			0.30	5.48	2200
POTOMAC 4N COHEN	0.66				T	0.03					0.77	0.56	0.30	0.03					0.47	0.27			0.38	0.66	0.20	0.04	0.06			0.31	4.74	2100
OLNEY 1 S GIANNOLA	0.54				0.02						>	1.18	0.34	0.05					>	0.82			>	0.89	0.20	0.01	0.08			0.26	4.39	2400
CLARKSBURG 2ENE HOLDEN	0.53				0.02						0.93	0.20	0.38	0.03	0.01				0.35				0.53	0.44	0.19	0.21	T			0.24	4.06	2400
MONTGOMERY VILLAGE ROTH 1SW	0.60				0.04						0.73	0.20	0.21						1.01				0.38	0.21			0.05			0.16	3.59	2400
GLENMONT 1NNE ROSSEN	0.59			T	0.01						0.83	0.57	0.31	0.03					0.75	0.01			0.44	0.40	0.18	0.18	0.10			0.26	4.66	2400
BETHESDA SCAFIDE	0.67				0.01						0.91	0.52	0.34	0.02					0.97	0.01			0.50	0.32	0.16	0.10	0.05			0.25	4.83	2400
GAITHERSBURG 2WNW SHAW	0.50				0.02					T	0.80	0.27	0.30	0.03					0.44	0.01			0.44	0.45	0.19	0.07	0.01	0.01		0.24	3.78	2400
FOREST GLEN TERRY	0.59				0.02						0.93	0.61	0.33	0.03					0.71	T			0.53	0.42	0.18	0.34	0.14			0.25	5.08	2400
OXON HILL SMITH	0.70										0.91	1.12	0.34	0.07					0.34	0.01		>	>	1.30	0.07	0.04	0.01			0.31	5.22	2300
HOLLYWOOD ABELL	1.01			T						0.02	1.65	3.65	0.31	0.05					0.01	0.04			0.67	0.25	0.07	0.01	0.07			0.35	8.16	2359
RIDGE ZYLA	1.45									0.06	1.93	3.57	0.08	0.06					0.04	0.16			0.94	0.28	0.15	0.02	0.11			0.39	9.24	2400
SHARPSBURG HULL																																2400
SMITHSBURG 1.5 SW HUTTO	0.18				T						0.27	T	0.05	0.01	0.01				0.64				0.44	0.35	0.03	0.48				0.13	2.59	2400
HAGERSTOWN 1E KEEFER	0.16				0.01						0.23	0.03	0.01	0.01					0.52				0.44	0.24	0.06	0.30				0.08	2.09	2400
SMITHSBURG 2 NE VAUGHN	0.21										0.25	0.01	0.17	0.01					0.59	0.01			0.28	0.42	0.05	0.50				0.12	2.62	2400
SALISBURY NWS WICOMICO CO APT	0.18	0.01		T	T					0.08	0.51	2.76	0.64	T					0.09	0.05			0.53	T	0.01		0.03		T	0.25	5.14	2400
WASH NATIONAL NWS ASOS	0.55				0.01					T	0.94	0.60	0.33	0.02					0.57	0.01			0.58	0.30	0.18	0.13	0.03		T	0.18	4.43	2400
WASH DULLES NWS ASOS	0.65				T						0.95	0.40	0.34	0.04				T	0.33				0.43	0.14	0.14	0.03	T			0.26	3.71	2400
STERLING 4 N SHAFFER	0.57										0.89	0.71	0.42	0.03					0.22	T			0.30	0.34	0.14	0.06	T			0.24	3.92	2400
DAVIS 3 SE WV LESHAR	0.47				0.01	0.03					0.04	0.30	0.02	0.05					0.06	0.28				0.15		0.06	0.24	0.47		0.02	2.20	0700
					0.2	T						1.2														0.06	1.7	4.3		7.4	EST	