



# CLIMATOLOGICAL DATA

## MARYLAND AND DELAWARE

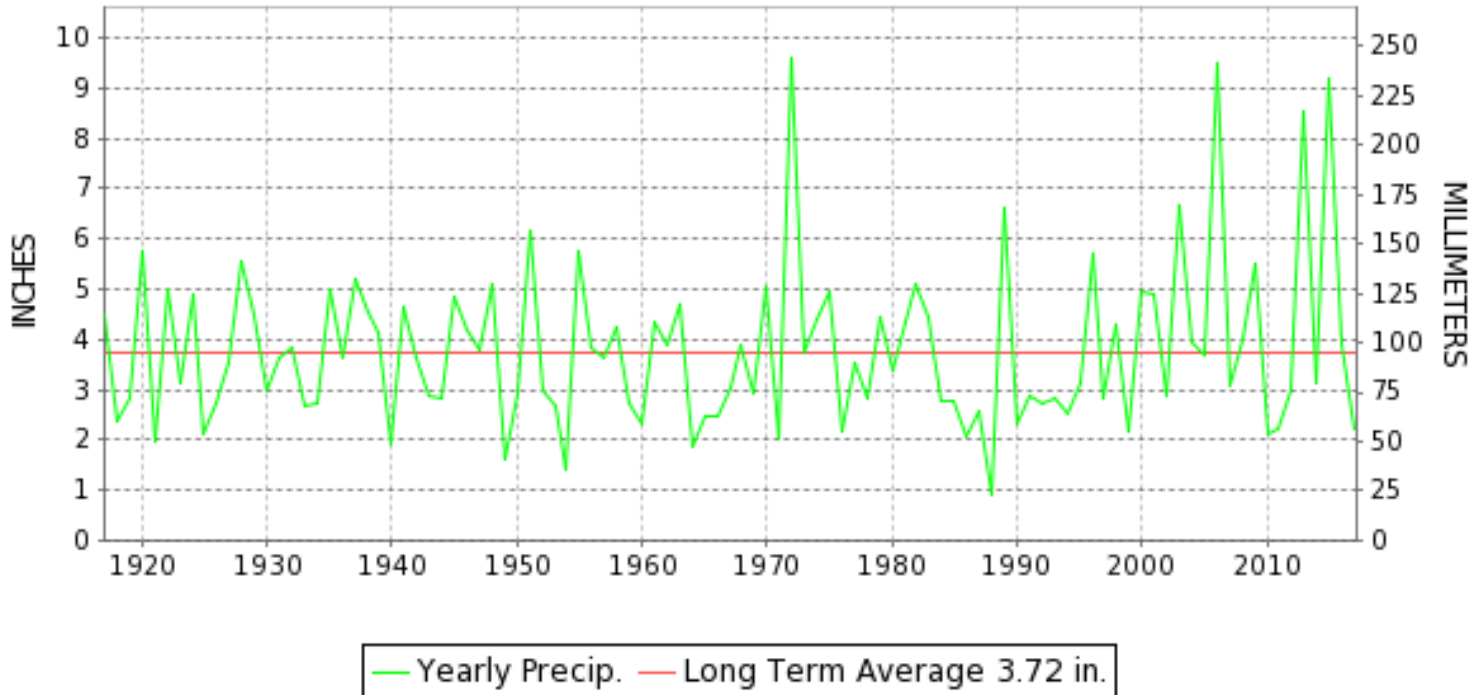
JUNE 2017

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### JUNE PRECIPITATION BY YEAR



#### TEMPERATURE AND PRECIPITATION EXTREMES

##### MARYLAND

HIGHEST TEMPERATURE	98	JUNE 13	MARYLAND SCI CTR
LOWEST TEMPERATURE	42	JUNE 09+	2 STATIONS
GREATEST TOTAL PRECIPITATION	5.94		SINES DEEP CREEK
LEAST TOTAL PRECIPITATION	0.52		SOLOMONS
GREATEST 1 DAY PRECIPITATION	2.16	JUNE 17	FROSTBURG 2
GREATEST TOTAL SNOWFALL	T		DAMASCUS 3 SSW

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**DELAWARE**

HIGHEST TEMPERATURE	95	JUNE 13+	2 STATIONS
LOWEST TEMPERATURE	49	JUNE 09	DOVER
GREATEST TOTAL PRECIPITATION	3.99		WILMINGTON NEW CASTLE CO AP
LEAST TOTAL PRECIPITATION	3.16		DOVER
GREATEST 1 DAY PRECIPITATION	1.91	JUNE 19	DOVER



# MONTHLY STATION AND DIVISION SUMMARY

STATION	TEMPERATURE (°F)											PRECIPITATION (IN)												
	AVERAGE MAXIMUM	AVERAGE MINIMUM	AVERAGE	DEPARTURE FROM NORMAL	HIGHEST	DATE	LOWEST	DATE	HEATING DEG. DAYS	COOLING DEG. DAYS	NO. OF DAYS				TOTAL	DEPARTURE FROM NORMAL	GREATEST 24 HOURS	DATE	ICE PELLETS, SNOW			NO. OF DAYS		
											MAX		MIN						TOTAL	MAX DEPTH ON GROUND	DATE	.10 OR MORE	.50 OR MORE	1.00 OR MORE
											>=90	<=32	<=32	<=0										
REISTERSTOWN 2 NW	82.0M	62.9M	72.5M		93	14	50	08	12E	245E	3	0	0	0	M 1.57		0.82	24	M 0.0	0		11	3	0
SMITHSBURG 2NW	81.6	58.3	70.0	-0.5	92	14	45	08	25	178	2	0	0	0	2.67	-1.52	1.10	24	0.0	0		7	7	1
--DIVISIONAL DATA-----> APPALACHIAN MOUNTAIN 07			71.4	0.7B										2.25	-1.80B									
CUMBERLAND 2	83.5	58.6	71.1	-1.5	95	14	50	29+	14	204	8	0	0	0	3.82	0.54	0.87	16	0.0	0		11	8	0
FROSTBURG 2	76.0	55.3	65.7	0.6	87	19	46	08	65	91	0	0	0	0	5.31	1.31	2.16	17	0.0	0		12	8	2
SHARPSBURG 5 S	82.8	57.4	70.1	-0.1	93	14	45	08	20	178	4	0	0	0	2.33	-1.55	1.38	20	0.0	0		7	4	1
WILLIAMSPORT														M					M					
--DIVISIONAL DATA-----> ALLEGHENY PLATEAU 08			69.0	0.5B										3.82	0.30B									
OAKLAND 1 SE	77.4	56.4	66.9	2.5	86	19+	46	28+	39	105	0	0	0	0	3.92	-0.50	1.14	16	0.0	0		16	8	2
SAVAGE RIVER DAM	76.4M	54.9M	65.7M	-0.5	87	19+	46	02	53E	79E	0	0	0	0	M 2.51	-1.39	0.90	24	M 0.0	0		8	8	0
SINES DEEP CREEK	74.0M	50.1M	62.0M		85	19	42	30+	119E	37E	0	0	0	0	A 5.94		1.05	23	M 0.0	0		6	6	1
--DIVISIONAL DATA----->  DELAWARE NORTHERN 01														4.93	0.72B									
WILMINGTON NEW CASTLE CO AP	83.3	63.0	73.2	1.0	95	13	50	09+	10	261	5	0	0	0	3.99	0.11	1.28	14	0.0	0		9	6	1
WILMINGTON PORTER RSCH	81.1	62.0	71.5	-0.2	93	14+	51	09+	17	219	4	0	0	0	3.17	-1.02	0.93	24	0.0	0		7	6	0
--DIVISIONAL DATA-----> SOUTHERN 02			72.4	1.0B										3.58	-0.32B									
DOVER	83.8	65.1	74.5	1.2	95	14+	49	09	8	297	5	0	0	0	3.16	-0.84	1.91	19	0.0	0		8	5	1
--DIVISIONAL DATA----->			74.5	2.8B										3.16	-0.25B									

DAILY PRECIPITATION (INCHES)

STATION	TOTAL	DAY OF MONTH																															
		01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
<b>MARYLAND</b>																																	
<b>SOUTHERN</b>																																	
<b>EASTERN SHORE 01</b>																																	
PRINCESS ANNE	M 1.69			-	-	0.80					-						-	-	0.50				0.19	-	-				0.20				
SALISBURY 2N	2.52					0.74	0.10														1.00	0.04	0.02	0.19	0.24		0.19						
SALISBURY FAA AP	1.99					1.01		T								T	0.01			0.68	0.01	0.04		0.13	0.05	T		0.06					
SNOW HILL 4 N	0.95				0.43		0.09															0.36	0.01		0.06								
<b>CENTRAL</b>																																	
<b>EASTERN SHORE 02</b>																																	
ROYAL OAK 2 SSW	1.93					0.16											T			0.60	0.30	0.16		0.03	0.22			0.06	0.40				
<b>LOWER SOUTHERN 03</b>																																	
MECHANICSVILLE 5 NE	2.50	0.13					0.09										0.06							0.28	0.06			0.08	0.17				
SOLOMONS	MA 0.52		*	*	0.12 <sub>a</sub>	0.15	0.02	-		*	*	* 0.00 <sub>a</sub>				-	-	-	-				0.16	*	*	0.06 <sub>a</sub>	0.01					-	
<b>UPPER SOUTHERN 04</b>																																	
BALTIMORE-WASHINGTON INTL AP	1.40					0.14		T								T	0.04		0.91	T		T	0.16	0.15				T					
BALTIMORE WASHINGTON INTL CLIM	1.40					0.14		T								T	0.04		0.91	T		T	0.16	0.15				T					
BELTSVILLE	1.11	0.02					0.13	T									0.07						0.43	0.24	0.22								
DALECARLIA RSVR	0.98	0.05					0.06																0.60	0.12	0.15								
MARYLAND SCI CTR	0.73					0.06														0.46		0.03		0.05	0.13								
NATL ARBORETUM DC	1.41	0.06					0.03	T									0.39	T					0.15	0.20									
OXON HILL	0.75	0.05					0.02		T						T		0.16						0.06	0.20	0.25			0.01	T				
<b>NORTHERN</b>																																	
<b>EASTERN SHORE 05</b>																																	
STEVENSVILLE 2SW	1.43						0.59	0.01	T								0.02						0.47			0.24	0.04			0.06			
SUDLERSVILLE 1S	2.00						0.15	T	T														1.55		0.20	0.10							
<b>NORTHERN CENTRAL 06</b>																																	
ABERDEEN PHILLIPS FLD	A 1.94	T					0.12	0.18	T														0.78	0.18	0.09	T	*	0.59 <sub>a</sub>					
BRIGHTON DAM	M 1.13						-		-														0.80		0.03		0.30						
CONOWINGO DAM	2.21						0.08	0.25															0.84	0.13		0.80			0.11				
CYLBURN	MA 1.50						0.13		0.02														-	*	0.77 <sub>a</sub>	0.20	0.09	0.29					
DAMASCUS 3 SSW	2.53					0.12										0.01					0.03	1.86		0.14	0.37								
EMMITSBURG 2 SE	2.15	0.10					0.25															0.91		T	0.03	0.86						T	
MILLERS 4 NE	1.99	0.04				0.24	T	0.10								T	T	0.06	0.35		0.07	0.03	0.13	0.96				0.01					
REISTERSTOWN 2 NW	M 1.57						0.39	0.01	0.01							0.01	0.01		0.02	0.08			0.12	0.08	0.82		-	0.02					
SMITHSBURG 2NW	2.67	0.16					0.16		0.25													0.80	0.10	0.10	1.10								
<b>APPALACHIAN</b>																																	
<b>MOUNTAIN 07</b>																																	
CUMBERLAND 2	3.82	0.07					0.32		0.75						0.01	0.87	0.20	0.04	0.10	0.21			T	0.60	0.65								
FROSTBURG 2	5.31	0.09					0.23		0.17	0.01					0.01	0.43	2.16		0.10	0.33			0.03	0.68	1.07								
SHARPSBURG 5 S	2.33	0.02					0.06		0.10								0.01							0.11	0.65			T	T			T	
WILLIAMSPORT	M	0.04	0.04				0.12	-	-						-	-	-	-	-	-	-		0.05	-	-							-	
<b>ALLEGHENY PLATEAU 08</b>																																	

DAILY PRECIPITATION (INCHES)

STATION	TOTAL	DAY OF MONTH																														
		01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
OAKLAND 1 SE	3.92	0.17				0.16		0.04	0.02	0.02						1.14	0.11	0.01	0.33	0.40	0.01	0.02	0.39	1.05		0.02	0.03					
SAVAGE RIVER DAM	M 2.51	0.12		-		0.17		0.45				-	-		0.17	0.13	-		0.22	0.35			-	0.90								
SINES DEEP CREEK	A 5.94	0.35		*	*	0.00 <sub>a</sub>	0.50	0.20	0.12	*	*	0.10 <sub>a</sub>				0.37	*	*	1.25 <sub>a</sub>				1.05	*	*	*	2.00 <sub>a</sub>					
DELAWARE NORTHERN 01																																
WILMINGTON NEW CASTLE CO AP	3.99			T		0.07	0.43							1.28		0.80			0.45	T	0.02		0.05	0.77			0.12					
WILMINGTON PORTER RSCH	3.17					0.05	0.39									0.59			0.47					0.93			0.35				0.39	
SOUTHERN 02																																
DOVER	3.16					0.27	0.06										0.07			1.91		0.59	0.14	0.10			0.02					



DAILY TEMPERATURES (°F)

STATION	OB. TIME	MAX/MIN	DAY OF MONTH																															AVERAGE
			01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
CONOWINGO DAM	07	MAX	77	79	77	76	82	71	75	64	72	80	85	91	91	92	83	80	77	83	88	86	85	86	87	86	84	82	80	79	79	85	81.4	
		MIN	58	53	53	52	52	64	55	51	52	56	60	67	67	67	62	64	64	71	75	64	64	66	67	69	65	59	59	56	58	61.1		
CYLBURN	08	MAX																														87		
		MIN																														72		
DAMASCUS 3 SSW	22	MAX	78	78	78	85	72	73	61	72	79	85	89	89	91	85	80	76	82	88	85	83	85	83	86	81	80	78	76	76	86	81.0		
		MIN	56	52	55	58	63	59	52	48	51	59	63	66	67	72	65	65	68	72	67	61	63	66	69	67	62	56	57	51	60	61.3		
EMMITSBURG 2 SE	07	MAX	81	78	78	79	84	71	75	62	73	80	85	89	90	93	87	82	80	84	90	85	83	85	86	86	83	81	78	77	79	81.7		
		MIN	58	50	51	50	50	60	55	46	46	51	62	62	65	68	67	67	71	73	63	58	59	63	68	62	56	56	49	49	56	58.4		
MILLERS 4 NE	18	MAX	78	76	77	82	74	73	71	73	79	84	88	89	92	90	83	80	82	88	86	82	82	84	85	82	81	77	76	77	85	81.5		
		MIN	56	50	53	50	60	60	53	46	51	56	64	66	68	71	64	63	68	70	67	63	59	62	70	67	64	55	54	48	59	60.2		
REISTERSTOWN 2 NW	08	MAX	81	79		85	70	74	63	74	79	86	90	91	93	86		79	84	89	84	86	86	85	86	84	82	78	77	78	86	82.0		
		MIN	61	54	56	63	61	54	50	53	62	67	68	73	73	64		66	72	75	62	64	66	72	68	65	59	57	54	60		62.9		
SMITHSBURG 2NW	08	MAX	80	77	75	79	86	74	73	64	74	80	85	89	89	92	87	82	80	86	90	85	83	85	86	86	82	80	79	76	78	81.6		
		MIN	54	49	49	51	61	58	51	45	50	52	61	61	61	66	68	67	66	66	70	62	58	63	64	66	59	54	57	48	49	58.3		
<b>APPALACHIAN MOUNTAIN 07</b>																																		
CUMBERLAND 2	07	MAX	81	79	78	84	90	73	70	67	73	81	91	92	94	95	90	89	83	88	94	82	84	85	88	88	83	78	79	75	82	83.5		
		MIN	58	50	50	53	55	60	56	50	50	55	60	60	63	67	68	69	66	66	69	62	57	58	65	69	55	55	50	50	56	58.6		
FROSTBURG 2	07	MAX	73	70	71	74	82	69	64	59	68	73	82	82	83	84	83	81	78	81	87	74	76	78	80	82	75	73	73	67	76	76.0		
		MIN	50	48	50	52	55	53	50	46	47	53	58	59	60	66	61	63	60	62	65	55	55	58	65	62	55	47	48	49	52	55.3		
SHARPSBURG 5 S	07	MAX	81	79	79	82	87	74	74	67	74	80	87	90	90	93	89	84	80	87	91	86	85	86	86	87	82	81	79	78	79	82.8		
		MIN	55	49	50	50	54	57	50	45	48	50	58	60	62	65	67	68	68	70	70	59	57	61	66	67	59	52	53	48	49	57.4		
<b>ALLEGHENY PLATEAU 08</b>																																		
OAKLAND 1 SE	07	MAX	77	71	74	78	82	74	67	66	67	73	81	84	86	84	85	85	78	81	86	73	76	80	79	79	76	76	73	69	81	77.4		
		MIN	54	46	46	51	58	55	51	53	54	55	55	58	63	63	64	64	61	64	66	55	55	60	66	64	56	49	52	46	51	56.4		
SAVAGE RIVER DAM	08	MAX	75	72		78	81	69	65	64	67	74	80		84	87	85	80		80	87	74	76	78		82	76	74	73	69	76.4			
		MIN	52	46		49	53	56	51	52	52	54	54		55	62	64	64		63	65	56	53	54		65	56	50	49	47	54.9			
SINES DEEP CREEK	07	MAX	66	69		80	67	60	60	67				80	81	83	82	81		85	77	75	75	77				71	65	72	80			
		MIN	53	43		43	52	46	49	49				48	53	55	59	58		57	56	55	56	50				45	42	42	42			
<b>DELAWARE NORTHERN 01</b>																																		
WILMINGTON NEW CASTLE CO AP	24	MAX	82	80	78	81	74	73	66	71	83	87	92	93	95	84	80	82	84	90	89	86	87	87	88	86	85	80	80	81	86	83.3		
		MIN	59	53	52	53	64	57	52	50	50	59	65	69	71	68	63	67	70	74	70	70	66	67	74	71	65	62	59	56	63	63.0		
WILMINGTON PORTER RSCH	24	MAX	77	77	72	80	73	69	63	68	79	85	90	90	93	93	80	81	83	88	88	84	85	87	85	83	83	79	77	75	84	81.1		
		MIN	59	53	54	54	64	54	51	53	51	61	64	70	70	67	61	61	67	67	68	68	66	65	72	68	67	62	58	58	66	61		
<b>SOUTHERN 02</b>																																		
DOVER	16	MAX	81	80	77	85	76	72	70	67	81	87	93	93	95	95	82	83	88	88	86	86	86	86	86	86	86	81	82	81	85	83.8		
		MIN	62	58	54	54	69	64	56	50	49	63	69	73	73	74	62	68	70	75	76	70	69	68	71	72	66	63	62	58	63	65.1		



MARYLAND AND DELAWARE  
201706

# DAILY SOIL TEMPERATURES

STATION	DEPTH	TIME	DAY OF MONTH																															AVERAGE	
			01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
MARYLAND UPPER SOUTHERN 04 BELTSVILLE (in)																																			

MARYLAND AND DELAWARE  
201706

## SOILS REFERENCE NOTES

STATION	SOIL TYPE	SOIL COVER	SLOPE	UNITS
BELTSVILLE	UNKNOWN	GRASS	0	F

**SNOWFALL AND SNOW ON GROUND (INCHES)**

STATION	DAY OF MONTH																															
	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
<b>MARYLAND</b>																																
<b>SOUTHERN</b>																																
<b>EASTERN SHORE 01</b>																																
PRINCESS ANNE																																
SALISBURY 2N																																
SALISBURY FAA AP																																
SNOW HILL 4 N																																
<b>NORTHERN CENTRAL 06</b>																																
DAMASCUS 3 SSW																																
EMMITSBURG 2 SE																																
MILLERS 4 NE																																
REISTERSTOWN 2 NW																																
SMITHSBURG 2NW																																
<b>DELAWARE</b>																																
<b>NORTHERN 01</b>																																
WILMINGTON NEW CASTLE CO AP																																
WILMINGTON PORTER RSCH																																

Snowfall: Includes snow and ice. Values for NWS stations (J index note) are Mid-Mid (LST).

Snow on ground: Includes snow, sleet, ice, and hail. Values for NWS stations (J index note) are observed at 12 UTC (GMT).

Water Equivalent: Given for NWS stations (J index note) only, when snow depth is 2 inches or more, and is measured at 18 UTC (GMT)

# PAN EVAPORATION AND WIND

STATION		DAY OF MONTH																															TOTAL OR AVERAGE
		01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
MARYLAND UPPER SOUTHERN 04 BELTSVILLE	WIND	21	47	62	32	34	29	63	24	35	44	26	34	27	44	46	49	22	68	94	58	51	46	33	69	78	54	46	55	50	101	1442	
	EVAP	0.17	0.30	0.33	0.19	0.22	0.06	0.27	0.08	0.19	0.26	0.25	0.29	0.29	0.32	0.29	0.26	0.11	0.24	0.31	0.24	0.28	0.29	0.16	0.24	0.30	0.33	0.31	0.31	0.27	0.35	7.51	
	MAX	82	82	80	80	86	73	80	66	79	84	90	94	92	95	90	86	82	88	91	90	87	88	86	88	90	83	81	79	82	86	84.8	
	MIN	59	56	53	53	58	60	57	48	50	55	56	63	64	69	64	64	65	70	75	64	63	63	68	68	61	56	58	52	53	61	60.2	
ALLEGHENY PLATEAU 08 SAVAGE RIVER DAM	WIND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	M	
	EVAP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	M	
	MAX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	MIN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	M	

Evaporation: Is measured in hundreths of inches.

Wind: Is measured in miles.

Max and Min: The maximum and minimum temperatures (Fahrenheit) of the water in the evaporation pan.

# STATION INDEX

STATION	INDEX NO.	DIVISION	COUNTY	LATITUDE	LONGITUDE	ELEVATION (IN FEET)	OBSERVATION TIME AND TABLES			
							LOCAL STD TIME			
							TEMP	PRECIP	EVAP	SPECIAL SEE (NOTES)
MARYLAND										
ABERDEEN PHILLIPS FLD	0015	06	HARFORD	39 28	76 10W	57	07	07		CH
BALTIMORE WASHINGTON INTL CLIM	0467	04	ANNE ARUNDEL	39 11	76 39W	101		24		H
BALTIMORE-WASHINGTON INTL AP R	0465	04	ANNE ARUNDEL	39 10	76 41W	156	24	24		HJ
BELTSVILLE	0700	04	PRINCE GEORGE'S	39 2	76 56W	145	08	08	08	GCH
BRIGHTON DAM	1125	06	MONTGOMERY	39 11	77 0W	330	08	08		H
CONOWINGO DAM	2060	06	HARFORD	39 39	76 11W	40	07	07		H
CUMBERLAND 2	2282	07	ALLEGANY	39 39	78 45W	730	07	07		H
CYLBURN	2308	06	BALTIMORE	39 21	76 39W	235	08	08		H
DALECARLIA RSVR	2325	04	DISTRICT OF COLUMBIA	38 56	77 7W	150	08	08		H
DAMASCUS 3 SSW	2336	06	MONTGOMERY	39 16	77 14W	700	22	22		H
EMMITSBURG 2 SE	2906	06	FREDERICK	39 41	77 17W	403	07	07		H
FROSTBURG 2	3415	07	ALLEGANY	39 40	78 56W	2170	07	07		H
MARYLAND SCI CTR R	5718	04	BALTIMORE (CITY)	39 17	76 37W	20	24	24		H
MECHANICSVILLE 5 NE	5865	03	ST. MARY'S	38 28	76 42W	100	07	07		H
MILLERS 4 NE	5934	06	CARROLL	39 43	76 48W	860	18	18		CH
NATL ARBORETUM DC	6350	04	DISTRICT OF COLUMBIA	38 55	76 58W	50	08	08		H
OAKLAND 1 SE	6620	08	GARRETT	39 25	79 24W	2420	07	07		H
OXON HILL	6800	04	PRINCE GEORGE'S	38 48	76 60W	186	07	07		H
PRINCESS ANNE	7330	01	SOMERSET	38 13	75 41W	20	17	17		H
REISTERSTOWN 2 NW	7580	06	BALTIMORE	39 30	76 50W	737	08	08		H
ROYAL OAK 2 SSW	7806	02	TALBOT	38 43	76 11W	10	17	17		H
SALISBURY 2N	8004	01	WICOMICO	38 24	75 36W	20	17	17		H
SALISBURY FAA AP //R	8005	01	WICOMICO	38 20	75 31W	47	24	24		H
SAVAGE RIVER DAM	8065	08	GARRETT	39 31	79 8W	1495	08	08	08	CH
SHARPSBURG 5 S	8207	07	WASHINGTON	39 24	77 43W	500	07	07		H
SINES DEEP CREEK	8315	08	GARRETT	39 31	79 25W	2040	07	07		H
SMITHSBURG 2NW	8371	06	WASHINGTON	39 40	77 35W	670	08	08		H
SNOW HILL 4 N	8380	01	WORCESTER	38 14	75 23W	30	17	17		H
SOLOMONS	8405	03	CALVERT	38 19	76 27W	12	08	08		H
STEVENSVILLE 2SW	8557	05	QUEEN ANNE'S	38 58	76 20W	10	07	07		H
SUDLERSVILLE 1S	8657	05	QUEEN ANNE'S	39 10	75 51W	100		20		H
WILLIAMSPORT	9570	07	WASHINGTON	39 37	77 51W	360		06		H
DELAWARE										
DOVER //	2730	02	KENT	39 9	75 30W	30	16	16		H
WILMINGTON NEW CASTLE CO AP R	9595	01	NEW CASTLE	39 40	75 36W	79	24	24		HJ
WILMINGTON PORTER RSCH	9605	01	NEW CASTLE	39 46	75 32W	270	24	24		H

# REFERENCE NOTES

**STATION NAMES:** Name of the city, town or locality. Figures and letters following the station names indicate the distance in miles and direction from the post office or town community center.

**DIVISIONS:** Areas within a state of similar climatological characteristics. Division averages are calculated using data from stations that record temperature and/or precipitation. Station Precipitation totals flagged with an 'F' or 'M' are excluded from the Divisional Average calculations of precipitation. Stations with monthly Temperature averages flagged with an 'F' or 'M' are included in the Divisional Average if there are no more than 9 flagged or missing daily values in the month, else they are excluded from the divisional average for temperature.

**NORMALS:** The average value of the meteorological element over a time period. Effective 1 January 2012, the averaging period for station departures is 1981 to 2010. The normals for National Weather Service localities have been adjusted so as to be representative for the current observation site.

The January 2011 through December 2015 publications incorrectly state the computation of divisional departures. Climate Division departures have been, and continue to be, computed from 1971-2000 Normals, not 1981-2010 as stated. Station departures are accurately described as departures from 1981-2010.

**MONTHLY DEGREE DAY TOTALS:** One heating (cooling) degree day is accumulated for each whole degree that the daily mean temperature is below (above) 65 degrees Fahrenheit.

**PRECIPITATION:** Values shown in hundredths of inches are water equivalent totals, i.e., total of liquid and melted frozen precipitation. In the "Monthly Summarized Data" table the total snow and sleet values shown in tenths of inches are unmelted amounts. The max depth on ground values of snow and sleet shown in whole inches are cumulative unmelted amounts. The number of days with .10, .50, 1.00 or more refers to water equivalents.

**PRECIPITATION QUALITY CONTROL:** The NCEI quality control process may flag precipitation data that are spatially inconsistent, exceed climatological limits, or are inconsistent with prevailing weather patterns.

**TEMPERATURE:** Original temperature values are given in the "Daily Temperature" table. Summary temperature information (averages, departures, extremes, monthly degree day totals) is based on the values labeled MAX/MIN.

**WIND:** (As shown in the "Evaporation and Wind" table) the total wind movement in miles over the evaporation pan as determined by an anemometer recorder located 6-8 inches above the pan.

## SYMBOLS AND LETTERS USED IN THE STATION INDEX TABLE

C Station is equipped with recording rain gage (R) but values in this bulletin are from a non-recording rain gage unless indicated by an R.

G Observations appear in the "Soil Temperatures" table.

H Observations appear in the "Snowfall and Snow on the Ground" table.

J Station also published as a Local Climatological Data publication.

VAR Observation time varies.

SR / SS Observation time near sunrise / Observation time near sunset, respectively.

## SYMBOLS AND LETTERS USED IN THE DATA TABLES

(DAILY DATA ARE FOR THE 24 HOURS IMMEDIATELY PRECEDING OBSERVATION TIME.)

BLANK Entries in the "Monthly Summarized Data" table indicate no record.

BLANK Entries in the "Daily Precipitation" and "Snowfall and Snow on the Ground" tables indicate zero.

BLANK Entries in the "Daily Temperature" table indicate a missing record

- No record. Data not recorded or not received in time for publication.

+ Precipitation or temperature extremes occurred on one or more previous dates during the month.

\* Rain gage not read. Precipitation is included in the amount following the asterisks.

Time distribution may not be known. A \* preceding the monthly total indicates precipitation amount is being carried forward to next month's total, and may include amounts from the previous month(s).

a As a subscript, indicates accumulated total.

A Amount of precipitation is the total of observer's entries for the current month. It may include precipitation that occurred during the previous month. Refer to earlier bulletin to determine date of last

reading. (Hawaii stations)

B Divisional Departure from normals are computed using 1971-2000 normals.

E Normalized HDD/CDD Calculation. E is appended to the HDD/CDD Calculation when 1-9 individual daily TMAX and/or TMIN values are missing and a Normalized HDD/CDD Calculation is provided. M appears alone if 10 or more daily values are missing.

F Monthly calculation flagged value. F is appended to average and/or total values computed which exclude one or more daily data values that have been flagged by the GHCN-Daily Dataset

M Insufficient or partial data. M is appended to average and/or total values computed with 1-9 daily values missing. M appears alone if 10 or more daily values are missing, (8 or more for wind and evaporation).

N Indicates snow fall or Snowdepth totals are computed with one or more missing days.

R Amounts from recording rain gage.

T Trace. An amount too small to measure.

**SEASONAL TABLES:** Monthly and seasonal snowfall and heating degree days for the 12 months ending with the June data are published in the July issue of this bulletin. Cooling degree days for the calendar year are published in the "Climatological Data Annual Summary."

Information concerning the history of changes in locations, exposure, etc. of substations is kept on file at the National Centers for Environmental Information. Historical information of regular National Weather Service Offices may be obtained from the "Local Climatological Data" annual publication. The contents of this publication may be reprinted or otherwise used freely, with proper credit to the National Centers For Environmental Information. The data are also available digitally.

Effective with the January 2011 Data-Month, COOP Observer Names are no longer included in the Monthly and Annual Climatological Data Publications. This information is not published to ensure the privacy of personal information pursuant to Section 208 of the E-Government Act of 2002 (44 USC 3601).

As of the 2011 Data-Year, Station and Climate Division Maps are no longer being included in the CD Publications. NCEI's Products Branch provides updated Station Maps for various data networks via the Historical Observing Metadata Repository: <http://www.ncdc.noaa.gov/homr>.

The GHCN-Daily Quality Control Flags shown below are displayed as superscripts with the data. For more information on Global Historical Climatology Network - Daily and flags, see: <http://www.ncdc.noaa.gov/oa/climate/ghcn-daily/> and Comprehensive Automated Quality Assurance of Daily Surface Observations. Durre, Imke, Matthew J. Menne, Byron E. Gleason, Tamara G. Houston, Russell S. Vose, 2010: J. Appl. Meteor. Climatol., 49, 16151633. doi: 10.1175/2010JAMC2375.1

Blank = Passed All checks

D = failed duplicate check

G = failed gap check

I = failed internal consistency check

K = failed streak/frequent-value check

L = failed check on length of multiday period

M = failed megaconsistency check

N = failed naught check

O = failed climatological outlier check

R = failed lagged range check

S = failed spatial consistency check

T = failed temporal consistency check

W = temperature too warm for snow

X = failed bounds check

Z = flagged as a result of an official Datzilla investigation

Beginning with the January 2013 CD Publication, monthly mean temperature calculations have changed to the National Data Stewardship Team standard. Monthly maximum and minimum temperatures are not rounded until after the monthly mean temperature is calculated. This is the most accurate outcome, but may be slightly different from the mean derived from rounded monthly maximum and minimum.

The climate division temperature and precipitation values in this publication are based on simple averages from the current set of NWS-Designated Open and Published COOP and First Order Sites within each division. These values differ from those found in NCEI's nClimDiv product. Beginning in February 2014, the nClimDiv product is used by NCEI's Monitoring Branch and in its monthly climate reports. For more details on nClimDiv, please go to <http://www.ncdc.noaa.gov/monitoring-references/maps/us-climate-divisions.php>.

Effective January 2016, Alaska's Climate Divisions are updated to reflect the 13 climate divisional boundaries established by University of Alaska-Fairbanks, NWS, NCEI, Oregon State University, and University of Nebraska-Lincoln. For more details regarding the updated Alaska Climate Divisions, see: <http://journals.ametsoc.org/doi/pdf/10.1175/JAMC-D-11-0168.1> (Bienek et al., 2012).

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