



# CLIMATOLOGICAL DATA

## MARYLAND AND DELAWARE

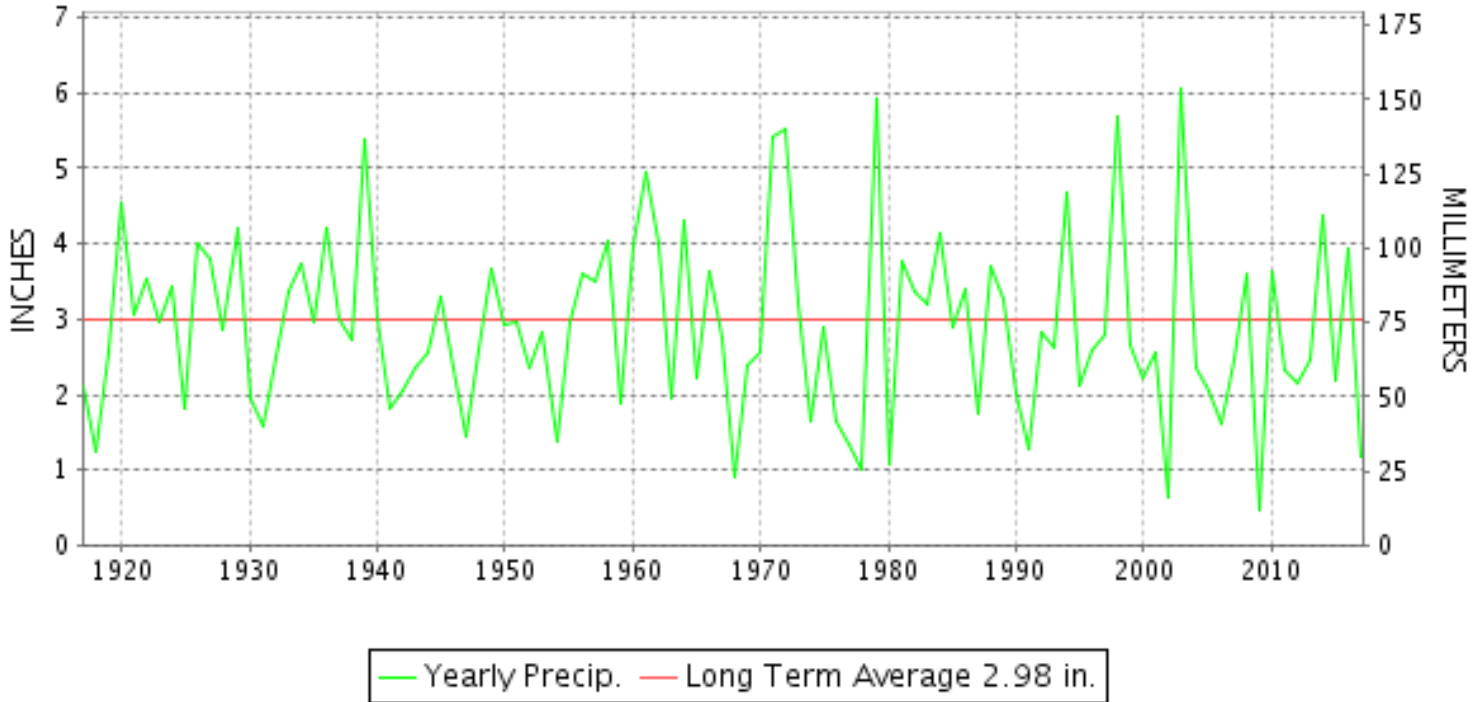
FEBRUARY 2017

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### FEBRUARY PRECIPITATION BY YEAR



#### TEMPERATURE AND PRECIPITATION EXTREMES

##### MARYLAND

HIGHEST TEMPERATURE	82	FEBRUARY 25	CUMBERLAND 2
LOWEST TEMPERATURE	6	FEBRUARY 06	SINES DEEP CREEK
GREATEST TOTAL PRECIPITATION	3.23		SINES DEEP CREEK
LEAST TOTAL PRECIPITATION	0.41		MECHANICSVILLE 5 NE
GREATEST 1 DAY PRECIPITATION	0.75	FEBRUARY 25	BALTIMORE-WASHINGTON INTL AP
GREATEST TOTAL SNOWFALL	13.4		SINES DEEP CREEK
GREATEST DEPTH OF SNOW OR ICE	8		OAKLAND 1 SE

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**DELAWARE**

HIGHEST TEMPERATURE	76
LOWEST TEMPERATURE	18
GREATEST TOTAL PRECIPITATION	1.47
LEAST TOTAL PRECIPITATION	1.09
GREATEST 1 DAY PRECIPITATION	0.52
GREATEST TOTAL SNOWFALL	2.1
GREATEST DEPTH OF SNOW OR ICE	T

FEBRUARY 25  
FEBRUARY 04+

FEBRUARY 09+

DOVER  
2 STATIONS  
WILMINGTON PORTER RSCH  
DOVER  
2 STATIONS  
WILMINGTON PORTER RSCH  
WILMINGTON NEW CASTLE CO AP



## 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										
MILLERS 4 NE	53.0	32.4	42.7	9.5	74	24+	13	04	618	0	0	1	18	0	1.51	-1.68	0.55	25	2.3	1	10	4	1	0
REISTERSTOWN 2 NW	53.2MF	30.2	41.7MF		74	26+	16	04	665E	0	0	1	19	0	0.81		0.35	13	M	0		3	0	0
SMITHSBURG 2NW	53.4M	30.7M	42.0M	9.4	75	25+	15	18	635E	0	0	1	15	0	M 1.23	-1.51	0.50	13+	1.0	0		3	2	0
--DIVISIONAL DATA-----> APPALACHIAN MOUNTAIN 07			42.3	8.3B											1.07	-1.85B								
CUMBERLAND 2	55.2	31.4	43.3	8.5	82	25	18	11+	603	2	0	1	17	0	1.78	-0.59	0.52	13	0.3	T	13	5	1	0
FROSTBURG 2	47.6	27.8	37.7	9.1	75	25	9	11	758	0	0	4	19	0	2.19	-0.93	0.55	13	4.6	3	10	6	1	0
SHARPSBURG 5 S	55.0	28.4	41.7	8.4	79	24	14	05	647	0	0	0	20	0	1.10	-1.46	0.47	26	0.3	T	16	3	0	0
WILLIAMSPORT															M				M					
--DIVISIONAL DATA-----> ALLEGHENY PLATEAU 08			40.9	8.8B											1.69	-0.93B								
OAKLAND 1 SE	49.9	28.9	39.4	11.6	75	25	8	11+	712	0	0	4	19	0	2.63	-0.57	0.57	09	12.3	8	01	7	1	0
SAVAGE RIVER DAM	49.2	29.1	39.2	9.3	73	25	15	05+	716	0	0	4	18	0	1.83	-0.60	0.67	13	T	T	16	6	1	0
SINES DEEP CREEK	45.4MF	24.4M	34.9MF		65	24	6	06	818E	0	0	3	16	0	A 3.23		0.57	08	M 13.4	6	09	5	2	0
--DIVISIONAL DATA----->  DELAWARE NORTHERN 01																								
WILMINGTON NEW CASTLE CO AP	53.6	32.5	43.1	8.0	73	24+	18	04	606	0	0	0	17	0	1.35	-1.33	0.52	09	1.1	T	09	4	1	0
WILMINGTON PORTER RSCH	50.3	30.5	40.4	5.8	71	24	18	10+	682	0	0	2	17	0	1.47	-1.52	0.52	09	2.1	0		5	1	0
--DIVISIONAL DATA-----> SOUTHERN 02			41.8	7.5B											1.41	-1.43B								
DOVER	56.0	35.6	45.8	7.8	76	25	20	10+	535	2	0	0	12	0	1.09	-1.98	0.48	25	0.0	0		3	0	0
--DIVISIONAL DATA----->			45.8	9.4B											1.09	-2.09B								



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>ALLEGHENY PLATEAU 08</b>																																			
OAKLAND 1 SE	2.63	0.09	0.20		0.05			0.42		0.57	0.25		0.27	0.35										0.02		0.07	0.25								
SAVAGE RIVER DAM	1.83							0.23	0.11	0.42	T		0.25	0.67													0.15				T				
SINES DEEP CREEK	A 3.23	0.03	0.25		*	*	0.00 <sub>a</sub>	0.20	0.57	0.50	0.15	*	*	0.95 <sub>a</sub>			0.05	0.03	*	*	0.00 <sub>a</sub>				0.05	*	*	0.45 <sub>a</sub>							
<b>DELAWARE</b>																																			
<b>NORTHERN 01</b>																																			
WILMINGTON NEW CASTLE CO AP	1.35							0.07		0.52			0.27			T																	0.11		
WILMINGTON PORTER RSCH	1.47							0.13		0.52			0.18	T									T		T		0.38				0.19				
<b>SOUTHERN 02</b>																																			
DOVER	1.09							T		0.43			0.17														0.48				0.01				

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			
<b>MARYLAND SOUTHERN EASTERN SHORE 01</b> ASSATEAGUE	VA	MAX MIN																																		M M
PRINCESS ANNE	17	MAX MIN	48 28	50 34	48 26			60 26	60 39	58 38	72 26	54 27			48 30	46 23	50 31	41 30	49 25			63 35	59 32	62 37	74 54	70 49			58 26	70 43				M M		
SALISBURY 2N	17	MAX MIN	51 24	50 37	50 28	37 23	50 29	60 25	66 42	71 57	66 33	52 22	52 35	66 43	64 37	46 25	51 36	46 31	49 24	67 32	69 48	65 42	58 33	61 40	74 55	75 54	77 54	68 35	59 29	71 45				M M		
SALISBURY FAA AP	24	MAX MIN	46 28	50 34	38 26	37 22	50 25	60 26	66 39	72 52	54 26	37 37	53 43	67 30	47 23	47 31	50 30	41 25	49 28	68 50	70 35	63 32	55 37	62 54	74 49	74 48	75 48	58 26	58 43	70 43				M M		
SNOW HILL 4 N	17	MAX MIN	49 23	52 29	48 20	40 18	51 21	58 21	67 35	73 36	69 28	54 17	54 29	69 37	63 26	47 18	49 29	48 26	51 19	71 24	70 47	69 36	61 26	63 33	75 48	76 45	73 44	67 31	59 22	71 41				M M		
<b>CENTRAL EASTERN SHORE 02</b> ROYAL OAK 2 SSW	17	MAX MIN	43 37	48 35	45 36	38 31	51 31	58 28	65 45	73 57	57 34	37 25	52 35	56 45	51 40	45 26	51 41	45 35	47 30	66 28	69 50	60 45	55 34	73 46	60 41	74 48	72 53	57 37	55 30	68 41				M M		
<b>LOWER SOUTHERN 03</b> MECHANICSVILLE 5 NE	07	MAX MIN	53 25	44 30	50 30	39 20	39 20	53 27	60 27	72 56	72 36	38 19	41 20	55 41	63 36	46 25	49 26	52 30	41 21	51 24	70 29	70 41	64 36	55 36	61 45	76 51	75 53	78 33	48 28	54 28				M M		
SOLOMONS	08	MAX MIN	46 36	50 34	37 26		52 32	58 37	71 55	69 36	38 23			57 29	57 29	47 32	40 28			67 33	60 38	58 42	75 47	69 35	54 44	67 49								M M		
<b>UPPER SOUTHERN 04</b> BALTIMORE-WASHINGTON INTL AP	24	MAX MIN	49 29	50 33	37 27	38 17	51 28	61 25	72 37	72 51	51 24	36 20	53 29	50 41	44 27	46 25	54 28	40 25	51 20	71 27	71 49	64 37	54 35	62 43	77 45	74 46	75 43	46 28	56 24	65 40				M M		
BELTSVILLE	08	MAX MIN	54 29	51 31	48 30	36 18	38 20	51 27	60 30	71 48	69 34	35 21	37 23	51 34	51 34	43 26	45 32	52 30	38 31	52 27	69 31	69 38	64 37	57 40	63 46	75 48	75 52	75 33	47 26	53 31				M M		
DALECARLIA RSVR	08	MAX MIN	41 30	50 34	48 31	36 22	39 24	53 28	62 31	62 44	70 34	35 21	37 23	47 34	53 34	47 26	46 30	51 23	39 26	52 33	72 33	69 39	65 39	58 40	63 49	77 51	77 57	76 33	48 28						M M	
MARYLAND SCI CTR	24	MAX MIN	51 39	49 37	38 30	39 25	50 31	55 37	72 43	71 52	52 26	38 24	55 36	50 44	46 36	48 32	54 35	39 32	50 28	72 35	71 55	62 48	53 40	58 45	72 50	73 52	73 45	47 37	57 36	63 47				M M		
NATL ARBORETUM DC	08	MAX MIN	56 31	50 34	49 32	38 22	41 27	53 31	62 51	73 62	73 38	42 23	24 24		54 36	46 26	48 33	54 33	42 25	53 26	70 41	71 69	59 59	64 64	76 76	76 76	49 49	55 55						M M		
OXON HILL	07	MAX MIN	53 31	48 36	49 33	39 23	39 24	53 31	62 30	72 53	71 39	40 22	41 23	52 40	54 35	45 27	46 31	52 31	40 28	70 35	70 40	57 37	62 44	77 52	76 54	76 33	49 31	54 35							M M	
<b>NORTHERN EASTERN SHORE 05</b> STEVENSVILLE 2SW	07	MAX MIN	52 31	45 36	46 34	37 25	38 27	50 32	54 31	63 48	68 37	38 23	42 23	53 42	50 36	42 30	44 30	53 32	39 29	46 29	63 31	69 46	58 37	54 37	58 43	71 48	72 52	72 35	46 32	54 34				M M		
<b>NORTHERN CENTRAL 06</b> ABERDEEN PHILLIPS FLD	07	MAX MIN	47 29	47 35	46 29	36 20	37 20	45 29	56 32	67 41	70 33	36 20	36 20	53 34	43 35	41 24	45 26	51 28	38 24	47 24	63 28	71 38	59 36	52 36	58 40	72 46	74 46	74 34	44 27	54 27				M M		





MARYLAND AND DELAWARE  
201702

# 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  
201702

## 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 SOUTHERN EASTERN SHORE 01</b>																																
ASSATEAGUE																																
PRINCESS ANNE																																
SALISBURY 2N																																
SALISBURY FAA AP		-																														
SNOW HILL 4 N																																
<b>CENTRAL EASTERN SHORE 02</b>																																
ROYAL OAK 2 SSW									T							T																
<b>LOWER SOUTHERN 03</b>																																
SOLOMONS									T																							
<b>UPPER SOUTHERN 04</b>																																
BALTIMORE-WASHINGTON INTL AP									T							T										T						
BALTIMORE WASHINGTON INTL CLIM	-	-	-	-	-	-	-	-	T	-	-	-	-	-	-	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BELTSVILLE																																
DALECARLIA RSVR																																
MARYLAND SCI CTR																																
NATL ARBORETUM DC									T	T																						
OXON HILL																																
<b>NORTHERN EASTERN SHORE 05</b>																																
SUDLERSVILLE 1S									T																							
<b>NORTHERN CENTRAL 06</b>																																
ABERDEEN PHILLIPS FLD									T	0.1																						
BRIGHTON DAM									T	T																						

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)

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	
CONOWINGO DAM	WTR EQUIV		-	-	-					-	-	-				-	-	-	-					-	-	-							
	SNOWFALL																																
CYLBURN	SNOWFALL	-																															
	SN ON GND	-																															
DAMASCUS 3 SSW	SNOWFALL									0.7			0.1			T																	
	SN ON GND									T	T																						
EMMITSBURG 2 SE	SNOWFALL	T								1.5								T															
	SN ON GND																																
MILLERS 4 NE	WTR EQUIV									2.3				T			T										T						
	SNOWFALL									1	1																						
REISTERSTOWN 2 NW	SNOWFALL	-	-	-						0.2	0.1																						
	SN ON GND	-	-	-						0.1	-																						
SMITHSBURG 2NW	SNOWFALL									1.0																							
	SN ON GND																																
<b>APPALACHIAN MOUNTAIN 07</b>																																	
CUMBERLAND 2	SNOWFALL	T								T	T			T			0.3	T															
	SN ON GND									T	T			T																			
FROSTBURG 2	SNOWFALL	0.4	0.4		T					1.9	1.3			0.1			0.5	T															
	SN ON GND	3	3	3	3	2	1			2	3	1		T			1	T															
SHARPSBURG 5 S	SNOWFALL									0.3	T						T	T															
	SN ON GND									T							T	T															
<b>WILLIAMSPORT ALLEGHENY PLATEAU 08</b>																																	
OAKLAND 1 SE	SNOWFALL	0.1	2.5		1.0					2.1	5.0						1.6																
	SN ON GND	8	6		1					2	7						1																
SAVAGE RIVER DAM	SNOWFALL										T						T																
	SN ON GND	T									T						T																
SINES DEEP CREEK	SNOWFALL	0.1	3.0		-	-				6.0	2.2	-	-			2.0	0.1	-	-							-	-						
	SN ON GND	5	6	4	-	-	2	2		6	3	-	-			2	1	-	-							-	-						
<b>DELAWARE NORTHERN 01</b>																																	
WILMINGTON NEW CASTLE CO AP	SNOWFALL									1.1																							
	SN ON GND									T																							
WILMINGTON PORTER RSCH	SNOWFALL									2.1																							
	SN ON GND									-	-																						

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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	M
	EVAP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	M
	MAX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	M
	MIN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	M
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
ASSATEAGUE	0335	01	WORCESTER	38 4	75 13W	10	VAR	VAR		H
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 47	76 60W	120	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	N = failed naught check
D = failed duplicate check	O = failed climatological outlier check
G = failed gap check	R = failed lagged range check
I = failed internal consistency check	S = failed spatial consistency check
K = failed streak/frequent-value check	T = failed temporal consistency check
L = failed check on length of multiday period	W = temperature too warm for snow
M = failed megaconsistency check	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).

**These and other publications are available from the National Centers for Environmental Information**

### **Hourly Precipitation Data**

This publication contains hourly precipitation amounts obtained from recording rain gages located at National Weather Service, Federal Aviation Administration, and cooperative observer stations. Published data are displayed in inches and tenths or inches and hundredths at local standard time. HPD includes maximum precipitation for nine (9) time periods from 15 minutes to 24 hours, for selected stations.

### **Climatological Data**

Monthly editions contain station daily maximum and minimum temperatures and precipitation. Some Stations provide daily snowfall, snow depth, evaporation, and soil temperature data. Each edition also contains monthly summaries for heating and cooling degree days (65 degree F base). The July issue contains a recap of monthly heating degree days and snow data for the preceding July through June.

The Annual issue contains monthly and annual averages of temperature, precipitation, temperature extremes, freeze data, soil temperatures, evaporation, and a recap of monthly cooling degree days.

### **Storm Data**

Monthly issues contain a chronological listing, by states, of occurrences of storms and unusual weather phenomena. Reports contain information on storm paths, deaths, injuries, and property damage. An "Outstanding storms of the month" section highlights severe weather events with photographs, illustrations, and narratives. The December issue includes annual tornado, lightning, flash flood, and tropical cyclone summaries.

### **Monthly Climatic Data for the World**

This publication contains monthly means for temperature, pressure, precipitation, vapor pressure, and sunshine for approximately 2,000 surface data collection stations worldwide and monthly mean upper air temperatures, dew point depressions, and wind velocities for approximately 500 observing sites.

### **Local Climatological Data**

LCD publications summarize temperature, relative humidity, precipitation, cloudiness, wind speed and direction observations for several hundred cities in the U.S. and its territories. Each monthly publication also contains 3 hourly weather observations for that month and a hourly summary of precipitation. Annual LCD publications contain a summary of the past calendar year as well as historical averages and extremes.

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