



CLIMATOLOGICAL DATA

MARYLAND AND DELAWARE

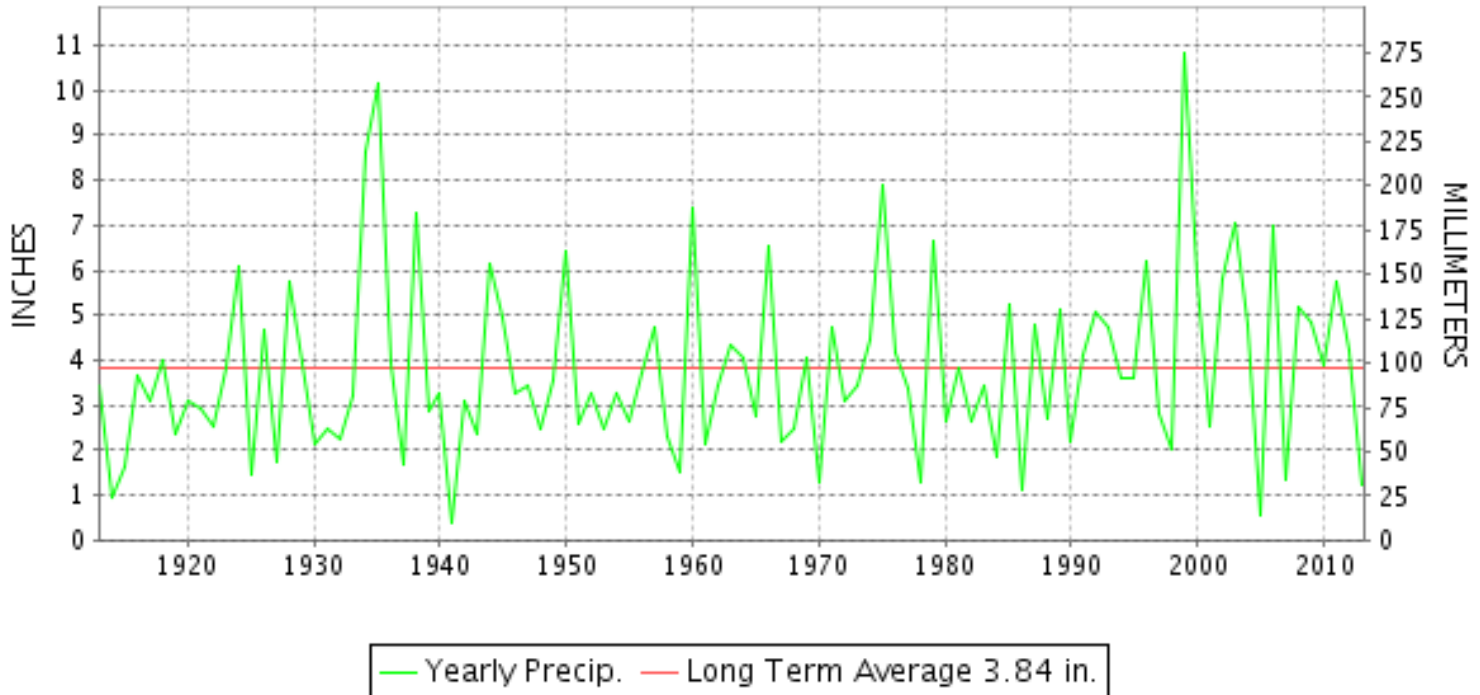
SEPTEMBER 2013

VOLUME 117 NUMBER 09

ISSN 0145-0549

GHCND Ver: 3.12-upd-2013122706

SEPTEMBER PRECIPITATION BY YEAR



TEMPERATURE AND PRECIPITATION EXTREMES

MARYLAND

HIGHEST TEMPERATURE	98	SEPTEMBER 11	MARYLAND SCIENCE CENTER
LOWEST TEMPERATURE	32	SEPTEMBER 24	SINES DEEP CREEK
GREATEST TOTAL PRECIPITATION	3.01		FROSTBURG 2
LEAST TOTAL PRECIPITATION	0.73		SHARPSBURG 5 S
GREATEST 1 DAY PRECIPITATION	2.22	SEPTEMBER 12	FROSTBURG 2

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Director
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National
Climatic Data Center
Asheville, North Carolina

DELAWARE

HIGHEST TEMPERATURE 93
LOWEST TEMPERATURE 42
GREATEST TOTAL PRECIPITATION 2.15
LEAST TOTAL PRECIPITATION 0.66
GREATEST 1 DAY PRECIPITATION 1.44

SEPTEMBER 11
SEPTEMBER 18

SEPTEMBER 21

DOVER
WILMINGTON NEW CASTLE CO AP
WILMINGTON PORTER RES
DOVER
WILMINGTON NEW CASTLE CO AP

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					
MARYLAND																																					
SOUTHERN																																					
EASTERN SHORE 01																																					
ASSATEAGUE	M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
PRINCESS ANNE	M	-	-	-	-	-	-	-	-	-	-	0.80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
SALISBURY 2N	M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
SALISBURY FAA AP	0.77								T			0.32	T			T						0.43	0.02														
SNOW HILL 4 N	M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
CENTRAL																																					
EASTERN SHORE 02																																					
ROYAL OAK 2 SSW	2.43		T									0.07	1.46			0.02						T	0.88														
LOWER SOUTHERN 03																																					
MECHANICSVILLE 5 NE	0.89		0.08										0.12				0.02						0.67														
SOLOMONS	A 1.15											*	0.29 _a	*	*	0.00 _a						*	*	0.86 _a		T											
UPPER SOUTHERN 04																																					
BALTIMORE WASH INTL AP	1.65	T	0.01	T					0.01			0.65	T			0.03						0.95								T							
BELTSVILLE	1.94		0.10										0.70				0.03							1.11													
DALECARLIA RSVR	2.01		0.10	0.01									0.44						0.03					1.43													
LAUREL 3 W	1.73	0.05							0.07			0.47				0.06			0.03			0.96				0.06	0.06										
MARYLAND SCIENCE CENTER	1.67											0.38										1.29															
NATL ARBORETUM DC	1.65		0.11										0.37				0.02						1.15														
OXON HILL	1.38		0.15						T				0.18				0.05						1.00														
UPPER MARLBORO 3 NNW	2.73			0.07									1.75				0.02		T			0.87			0.02												
NORTHERN CENTRAL 06																																					
ABERDEEN PHILLIPS FLD	2.32												0.12				0.02						2.18														
BRIGHTON DAM	A 0.92			0.02							*	0.00 _a	0.25			*	0.04 _a						0.61														
CONOWINGO DAM	1.14												0.10										1.04														
CYLBURN	1.57												0.61				0.02						0.94														
DAMASCUS 3 SSW	1.36	0.23							0.01			0.38	T			0.08						0.62	0.04														
EMMITSBURG 2 SE	1.17		0.11						0.01				0.04			0.04	0.16						0.81														
FREDERICK 2 NNE	M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MILLERS 4 NE	1.58	T	T									0.64	T			0.14						0.16	0.64														
SMITHSBURG 2NW	M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
WESTMINSTER	M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
APPALACHIAN																																					
MOUNTAIN 07																																					
CUMBERLAND 2	0.79			0.02					0.09				0.03	0.03	0.01		0.03						0.58														
FROSTBURG 2	3.01			0.01					0.06		T		2.22	0.14		0.16	0.02					0.40															
SHARPSBURG 5 S	A 0.73	*	*	0.04 _a									T	T			*	*	*	*	*	*	0.69 _a														
WILLIAMSPORT	2.15		0.80						0.12				0.13				0.20					0.88	0.02														
ALLEGHENY PLATEAU 08																																					
OAKLAND 1 SE	0.83												0.30	0.08	0.01	0.21	0.02					0.01		0.20													

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	
SAVAGE RIVER DAM	M	-	0.04	T			-					-	-			0.05	-	-	-	-		0.37	-		-	-	-						
SINES DEEP CREEK	M 1.22			0.03								0.06	0.25			0.15	0.08					0.65	-										
DELAWARE																																	
NORTHERN 01																																	
WILMINGTON NEW CASTLE CO AP	1.92		0.41						T			0.04	T			0.01						1.44	0.02										
WILMINGTON PORTER RES	2.15		0.50									0.15	T			0.04						1.16	0.30										
SOUTHERN 02																																	
DOVER	0.66												0.31			T							0.35										

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		
BRIGHTON DAM	08	MAX	83	88	87	80	80	81	73	78	84		88	89	86	75	67		70	70	68	75	76	73	69	69	70	73	72	72	71	70		76.3	
		MIN	68	68	67	55	54	53	47	51	57		68	68	63	49	45		47	43	45	51	51	55	48	41	41	47	51	51	52	45		52.9	
CONOWINGO DAM	07	MAX	86	85	85	80	79	79	72	76	81	74	85	86	84	74	65	76	70	65	67	72	75	76	68	64	68	71	69	69	71	71		74.8	
		MIN	68	68	71	59	57	54	49	50	54	55	69	71	65	56	45	45	48	44	43	45	51	55	53	44	46	46	50	53	51	50		53.8	
CYLBURN	08	MAX	89	88	87	81	80	80	74	79	83	76	89	91	86	73	65	73	70	64	67	74	76	76	66	62	68	71	71	68	68	70		75.5	
		MIN	70	72	72	60	61	54	52	53	58	71	71	72	64	52	46	57	47	45	47	47	52	52	49	44	45	48	52	55	51	50		55.6	
DAMASCUS 3 SSW	22	MAX	88	86	80	79	78	72	79	81	76	89	91	88	74	66	72	68	65	68	74	74	71	66	63	68	72	72	66	66	70	72		74.5	
		MIN	66	67	67	54	57	52	51	61	56	69	71	68	59	47	46	56	44	43	50	55	59	52	49	43	46	51	52	52	47	49		54.6	
EMMITSBURG 2 SE	07	MAX	89	90	88	82	82	82	73	80	84	77	91	95	91	77	69	76	72	65	70	76	80	72	72	64	70	74	73	71	69	72		77.5	
		MIN	67	69	69	54	53	52	45	46	57	57	57	69	64	48	39	40	43	38	37	42	50	54	52	38	37	40	47	52	41	41		49.9	
FREDERICK 2 NNE	07	MAX																																	M
		MIN																																	M
MILLERS 4 NE	18	MAX	87	87	85	79	78	75	79	81	76	89	92	88	74	66	73	72	68	69	75	78	73	68	64	70	73	74	72	69	72	73		76.0	
		MIN	66	67	67	52	56	48	45	59	51	65	69	66	61	48	42	56	41	40	42	49	55	53	48	40	41	45	50	49	44	47		52.1	
SMITHSBURG 2NW	08	MAX																																	M
		MIN																																	M
WESTMINSTER	07	MAX																																	M
		MIN																																	M
APPALACHIAN MOUNTAIN 07																																			
CUMBERLAND 2	18	MAX	88	88	89	82	85	81	76	84	84	76	92	88	91	77	71	78	74	73	73	78	86	72	71	70	74	73	78	77	69	78		79.2	
		MIN	66	67	64	50	54	49	48	50	62	61	62	69	62	49	43	43	52	41	42	54	57	52	52	39	40	45	47	50	47	47		52.1	
FROSTBURG 2	07	MAX	80	81	81	72	75	72	70	76	78	70	84	86	81	65	60	72	63	64	64	71	74	65	61	57	67	63	71	70	62	67		70.7	
		MIN	65	65	60	49	49	44	44	47	57	56	62	64	54	43	41	42	47	40	40	52	55	48	45	38	38	44	46	46	45	46		49.1	
SHARPSBURG 5 S	07	MAX	88	89	90	82	82	80	74	81	85	78	93	94	93	76	67	77	71	69	71	78	81	69	71	65	72	75	75	72	68	74		78.0	
		MIN	66	66	65	51	51	46	46	46	55	57	65	67	63	42	42	42	43	40	39	45	52	52	47	39	38	42	44	50	44	43		49.6	
WILLIAMSPORT	06	MAX	88	87	90	81	82	79	74	81	83	76	92	91	90	73	69	76	71	67	72	77	80	72	69	67	67	75	74	73	69	73		77.3	
		MIN	72	68	68	60	56	57	50	48	61	57	64	69	68	54	47	46	56	48	42	48	54	56	52	44	44	45	50	50	50	48		54.4	
ALLEGHENY PLATEAU 08																																			
OAKLAND 1 SE	07	MAX	81	79	81	73	75	73	72	76	80	79	83	86	81	65	65	70	63	61	67	73	76	70	62	60	71	67	72	88 ^s	64	68		72.2	
		MIN	60	63	59	48	53	41	42	42	42	57	62	63	54	44	37	39	45	37	38	50	56	56	37	33	33	41	38	38	41	41		46.3	
SAVAGE RIVER DAM	08	MAX		79	82	74	78		70	77	82	72	83			70	64	73					76	71		58								M	
		MIN	64	61	52	52		45	47	60	60	60			45	41	41					56	50		38									M	
SINES DEEP CREEK	07	MAX	79	77	79	71	73	71	71	73	78	78	81	82	78	65	59	70	61	67	70	72	67		54	77	68	70	68	65	69		70.8		
		MIN	57	61	58	48	49	42	41	42	55	56	60	61	55	44	37	37	46	37	37	51	54	47		32	33	36	40	39	40	41		46.1	
DELAWARE NORTHERN 01																																			
WILMINGTON NEW CASTLE CO AP	24	MAX	87	84	83	81	82	75	79	86	76	88	91	89	79	68	74	74	67	70	75	77	79	72	68	72	76	75	73	74	74	73		77.4	
		MIN	73	70	64	59	57	52	48	60	54	70	73	71	58	48	44	57	48	42	48	52	52	47	44	46	49	58	52	50	47		54.8		
WILMINGTON PORTER RES	24	MAX	87	81	81	78	79	79	79	82	82	87		89	75	75	73	70	63	69	74	77	79	68	64	68	71	72	68	70	70	71		75.2	
		MIN	72	69	66	60	61	54	52	63	56	67	75	69	61	51	48	59	47	46	51	54	56	55	48	45	50	52	57	56	53	51		56.8	

MARYLAND AND DELAWARE
201309

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	
SOUTHERN 02 DOVER	16	MAX MIN	88 73	86 73	83 67	82 61	82 64	80 56	76 51	86 64	76 59	89 68	93 73	91 73	80 67	77 52	74 46	72 57	71 50	71 45	78 48	76 54	80 52	72 52	67 50	71 46	75 48	75 53	74 55	74 54	71 52	76 50	78.2 57.1	

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
MARYLAND SOUTHERN EASTERN SHORE 01 ASSATEAGUE PRINCESS ANNE SALISBURY 2N SALISBURY FAA AP SNOW HILL 4 N	SNOWFALL																															
	SNOWFALL																															
	SNOWFALL																															
	SN ON GND																															
	SNOWFALL																															
DELAWARE NORTHERN 01 WILMINGTON NEW CASTLE CO AP WILMINGTON PORTER RES	SNOWFALL																															
	SN ON GND																															
	SNOWFALL																															
	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	65	33	40	64	32	75	29	38	69	63	44	57	48	94	42	36	60	32	23	30	40	76	54	40	32	16	18	20	20	18	1308	
	EVAP	0.21	0.23	0.20	0.28	0.22	0.28	0.18	0.17	0.25	0.12	0.20	0.23	0.24	0.26	0.17	0.18	0.13	0.16	0.16	0.15	0.18	0.12	0.18	0.14	0.16	0.13	0.13	0.10	0.11	0.11	5.38	
	MAX	92	92	89	83	84	81	80	82	83	79	91	91	86	76	74	77	70	65	70	75	82	71	72	70	72	74	75	73	70	74	78.3	
	MIN	68	69	70	57	58	53	53	53	58	57	69	69	64	50	50	50	50	47	47	50	55	57	51	46	46	49	53	54	52	50	55.2	
UPPER MARLBORO 3 NNW	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 hundredths 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 WASH 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	CH
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	18	18		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
FREDERICK 2 NNE	3353	06	FREDERICK	39 26	77 24W	280	07	07		H
FROSTBURG 2	3415	07	ALLEGANY	39 40	78 56W	2170	07	07		H
LAUREL 3 W	5111	04	PRINCE GEORGE'S	39 5	76 54W	400	24	24		H
MARYLAND SCIENCE CENTER 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	07	07		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	08	08		H
PRINCESS ANNE	7330	01	SOMERSET	38 13	75 41W	20	17	17		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	8005	01	WICOMICO	38 20	75 31W	48	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
UPPER MARLBORO 3 NNW	9070	04	PRINCE GEORGE'S	38 51	76 46W	130	08	08	08	H
WESTMINSTER	9440	06	CARROLL	39 34	76 59W	750	07	07		H
WILLIAMSPORT	9570	07	WASHINGTON	39 37	77 51W	360	06	06		H
DELAWARE										
DOVER	2730	02	KENT	39 15	75 31W	30	16	16		H
WILMINGTON NEW CASTLE CO AP R	9595	01	NEW CASTLE	39 40	75 36W	79	24	24		HJ
WILMINGTON PORTER RES	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 is 1981 to 2010. The normals for National Weather Service localities have been adjusted so as to be representative for the current observation site.

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 NCDC 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 Observation time near sunrise.

SS Observation time near sunset.

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 Climatic Data Center. 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 Climatic Data Center. 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. NCDC's Product Development 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, 1615-1633. 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.

Processing Updates and Errata: The 2011 CD Publications were reproduced in May 2013. This update included the addition of late reports and corrections based on additional investigations of reported data issues through NCDC's Datzilla system. In addition, divisional averages for precipitation were recalculated using the method described in DIVISIONS above. Previous editions of the 2011 Publications included all precipitation stations regardless of missing data in the calculation of divisional averages. HDD/CDD values were recalculated to match the legacy method of calculation (truncation of monthly HDD/CDD values instead of rounding).

These and other publications are available from the National Climatic Data Center

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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NCDC now offers free online access to the *Climatological Data* publication.
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