

Local Climatological Data

Annual Summary With Comparative Data

1980



WILMINGTON, DELAWARE

Narrative Climatological Summary

Delaware is part of the Atlantic Coastal Plain consisting mainly of the flat low land with many marshes. Small streams and tidal estuaries comprise the drainage of the state. Wilmington, at the northern end of the state, marks the beginning of low rolling hills extending northward and northwestward into Pennsylvania. The Delaware River, the Delaware Bay, and the Atlantic Ocean are along the eastern boundary of the state. The broad Chesapeake Bay lies 35 miles, or less, to the west of the western boundary of nearly the entire state. These large water areas influence to a considerable extent the climate of the Wilmington, Delaware, region.

Summers are warm and humid and winters are usually mild. During the summer maximum temperatures are usually in the eighties. The maximum temperature reaches 100° on the average of one year in six. During the coldest part of the year, January, the normal daily average temperature is 32°. On the average, zero temperatures may be expected one year in four. Most of the winter precipitation falls as rain. Seasonal snowfall has been as little as 1 inch, and there has been a season with nearly 50 inches snowfall. Snow is frequently mixed with rain and sleet. Snow seldom remains on the ground more than a few days.

The average date for the last occurrence in spring of temperature as low as 32° is mid-April. The average date for the first occurrence in fall of temperature as low as 32° F. is late October. The average freeze-free period is approximately 200 days.

The proximity of large water areas and the inflow of southerly winds cause the relative humidity to be quite high all year. During the summer months the average relative humidity is approximately 75 percent. Fog is relatively frequent and may occur in any month. Light southeast winds blowing up the Delaware Bay favor the formation of fog. Light north-northeast winds bring in smoke from Philadelphia and from the heavy industry area located along the Delaware River north of Wilmington.

Rainfall distribution throughout the year is fairly uniform; however, the greatest amounts normally come during the summer months. Mostly, the summer rainfall comes in the form of thunderstorms. Moisture deficiencies for crops occur occasionally, but severe droughts are rare. During the fall, winter, and spring seasons, much of the rainfall comes as a result of storms forming over the southern states, or the south Atlantic and then moving northward along the Atlantic Coast. During the late summer and early fall, hurricanes occasionally cause heavy rainfall, but winds seldom reach hurricane force in Wilmington. Heavy rains occasionally cause minor flash flooding, but the streams and rivers of northern Delaware are not subject to major flooding. Strong easterly and southeasterly winds sometimes cause high tides in the Delaware Bay and the Delaware River, resulting in the flooding of lowlands and damage to bay front and river front properties.

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NATIONAL OCEANIC AND
ATMOSPHERIC ADMINISTRATION

ENVIRONMENTAL DATA AND
INFORMATION SERVICE

NATIONAL CLIMATIC CENTER
ASHEVILLE, N.C.

Average Temperature

Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Annual
1941	30.8	30.2	35.6	56.3	64.9	70.7	75.0	73.0	70.2	61.4	48.0	38.8	54.6
1942	31.6	30.7	43.8	54.8	65.6	71.4	75.4	72.6	67.9	57.4	46.2	31.3	54.0
1943	31.9	34.8	42.6	47.4	63.4	75.4	75.0	75.2	67.0	54.5	46.3	33.6	53.8
1944	34.4	34.2	38.9	50.0	67.3	71.7	75.8	74.7	71.2	55.2	45.6	31.6	54.2
1945	26.1	33.4	51.6	55.4	60.2	71.0	74.2	71.6	70.2	54.7	47.3	30.0	53.8
1946	34.2	35.0	50.4	50.2	61.6	67.4	73.4	69.6	68.4	59.1	47.8	37.4	54.5
1947	37.8	27.8	36.5	51.4	60.9	68.0	73.8	75.2	67.5	62.2	42.9	33.4	53.1
1948	25.5	31.0	43.4	51.0	61.4	70.6	75.7	73.6	66.8	54.2	49.4	36.3	53.2
1949	39.2	38.6	43.2	52.0	62.9	72.9	78.7	75.1	64.2	60.4	44.5	37.5	55.8
1950	42.7	33.6	37.6	48.3	60.1	69.7	74.0	72.5	63.4	57.6	45.0	32.4	53.1
1951	34.2	34.8	41.5	51.6	61.9	70.4	75.9	73.8	67.0	59.1	41.5	37.6	54.1
1952	37.0	37.6	40.5	54.6	61.0	73.4	78.4	74.3	67.4	52.4	45.5	37.4	55.0
1953	37.6	38.4	44.4	52.3	65.0	72.2	77.0	74.5	68.2	58.0	45.2	38.7	56.0
1954	31.3	40.4	41.5	55.6	60.6	72.0	76.2	72.9	66.3	59.6	43.8	35.1	54.8
1955	31.5	34.1	43.5	54.8	64.8	68.7	71.2	72.9	68.7	58.1	43.3	29.9	54.6
1956	31.8	37.5	39.6	49.9	59.9	71.7	73.4	73.4	64.6	56.3	45.2	41.3	53.7
1957	29.6	37.4	42.2	54.1	62.9	74.2	75.9	73.2	68.7	53.3	46.6	37.9	54.6
1958	30.8	27.3	39.0	53.4	60.7	67.4	76.5	73.0	65.8	55.4	45.8	28.6	52.0
1959	30.9	33.0	41.1	54.3	65.6	72.0	75.4	76.0	70.4	59.5	44.7	38.0	55.1
1960	35.1	35.9	42.8	56.4	60.6	71.0	73.1	74.9	68.0	55.3	45.9	28.4	53.1
1961	25.6	34.7	32.6	48.9	58.9	70.5	75.6	74.0	72.5	56.9	46.7	33.2	53.3
1962	31.2	31.3	41.2	52.2	64.2	71.5	72.6	72.9	63.6	56.7	42.5	34.3	52.5
1963	28.4	27.5	44.1	52.6	60.3	70.8	76.3	71.7	63.7	58.4	48.0	28.4	52.5
1964	33.2	31.6	43.1	49.4	64.3	72.1	75.3	71.5	67.2	52.8	47.6	37.3	53.8
1965	29.0	33.6	38.3	49.3	66.0	70.2	74.5	73.3	69.4	53.6	45.0	37.7	53.3
1966	29.3	31.9	42.9	47.9	60.3	72.5	77.2	74.8	65.3	53.6	46.6	34.8	53.1
1967	36.2	29.4	39.4	51.5	55.4	71.2	74.4	72.8	65.1	54.7	40.7	36.8	52.3
1968	29.0	30.1	44.3	55.5	62.8	70.4	76.7	77.1	69.3	59.2	47.0	34.2	54.3
1969	30.8	33.6	39.6	55.1	64.2	73.4	75.7	75.4	68.2	56.0	44.6	32.7	54.1
1970	24.5	33.5	38.9	51.9	64.8	71.7	76.6	76.7	72.1	60.4	48.5	35.9	54.6
1971	27.4	35.5	40.7	51.1	60.4	73.4	75.9	74.0	71.1	62.9	45.7	42.1	55.0
1972	31.1	32.6	41.3	50.0	62.5	68.6	76.9	75.5	69.6	53.5	45.2	41.6	54.0
1973	35.6	35.5	49.4	54.7	61.4	75.8	78.1	78.1	70.4	59.9	49.1	37.7	57.2
1974	29.0	30.1	44.3	55.5	62.8	70.4	76.7	77.1	69.3	59.2	47.0	34.2	54.3
1975	37.5	35.9	40.6	47.5	65.2	71.5	75.7	76.3	65.4	60.0	51.0	36.2	55.2
1976	27.7	41.2	46.5	54.7	59.9	72.4	74.2	73.7	66.9	52.5	40.4	31.0	53.4
1977	20.8	33.3	47.2	54.4	63.9	68.9	76.4	75.4	69.3	53.4	46.6	33.4	53.6
1978	27.2	22.8	37.6	50.3	60.9	70.6	73.4	77.1	66.7	54.1	46.8	37.2	52.0
1979	31.4	22.1	45.4	50.6	63.8	67.9	75.3	75.0	68.2	55.0	49.6	38.1	53.5
1980	32.4	29.9	40.0	54.6	64.9	68.9	77.7	71.3	58.8	43.3	33.1	54.1	
RECORD MEAN	32.4	32.9	42.0	52.2	62.7	71.3	76.0	74.3	68.0	56.6	45.6	35.2	54.1
MAX	40.1	41.2	51.4	62.7	73.3	81.5	85.6	83.7	77.7	66.5	54.3	42.9	63.4
MIN	24.6	24.6	32.6	41.6	52.0	61.0	66.3	64.8	58.2	46.7	36.9	27.4	44.7

Heating Degree Days

WILMINGTON, DE

Season	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	Total
1960-61	0	0	18	297	565	1130	1215	843	687	486	203	6	5450
1961-62	0	0	36	250	553	976	1042	940	729	400	122	6	5054
1962-63	0	4	113	266	672	1072	1130	1044	641	370	180	10	5502
1963-64	0	3	104	199	502	1126	982	962	669	467	91	21	5128
1964-65	0	9	49	372	514	854	1108	873	816	467	63	27	5152
1965-66	0	12	40	349	593	839	1103	921	676	507	186	24	5250
1966-67	0	0	84	346	545	931	888	994	788	402	295	5	5250
1967-68	0	0	80	327	722	866	1139	994	626	319	171	6	5250
1968-69	0	0	7	205	532	949	1052	874	780	298	92	1	4790
1969-70	0	0	41	288	606	993	1250	876	803	389	95	1	5342
1970-71	0	0	25	175	487	895	1159	821	746	411	153	3	4875
1971-72	0	2	23	93	585	702	889	935	732	443	105	27	4536
1972-73	0	0	20	356	586	716	902	820	477	322	143	0	4342
1973-74	0	0	15	179	469	839	886	887	635	300	137	7	4354
1974-75	0	0	65	362	553	805	847	868	753	520	84	5	4802
1975-76	0	0	56	177	418	888	1149	681	567	341	178	31	4486
1976-77	0	4	44	387	734	1047	1361	884	546	333	107	32	5479
1977-78	0	1	31	353	550	975	1165	1179	842	433	191	17	5737
1978-79	6	0	60	337	542	854	1037	1197	605	424	89	28	5179
1979-80	4	7	31	318	458	827	1004	1009	768	307	83	35	4851
1980-81	0	0	20	322	645	985							

Cooling Degree Days

Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
1969	0	0	0	8	73	258	336	330	144	14	0	0	1162
1970	0	0	0	2	97	211	365	371	243	38	0	0	1328
1971	0	0	0	0	16	261	345	287	214	34	16	0	1173
1972	0	0	2	0	35	143	376	334	165	8	0	0	1063
1973	0	0	0	19	42	332	416	413	183	29	0	0	1434
1974	0	0	0	24	64	195	370	355	113	2	6	0	1109
1975	0	0	0	0	97	207	337	355	73	27	5	0	1101
1976	0	0	0	37	25	260	291	278	106	6	0	0	1003
1977	0	0	5	20	80	156	360	328	166	0	5	0	1120
1978	0	0	0	0	48	188	273	383	117	0	0	0	1016
1979	0	0	4	1	57	123	327	324	138	16	0	0	990
1980	0	0	0	83	159	400	417	214	10	0	0	0	1283

Precipitation

Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Annual	
1941	3.17	1.88	1.99	2.90	1.42	3.61	5.66	3.21	0.73	1.94	2.91	3.78	33.20	
1942	2.89	2.67	5.60	1.12	2.49	2.41	9.05	9.58	2.14	3.98	3.08	4.37	49.34	
1943	2.73	1.68	2.76	3.56	6.18	4.05	3.87	1.12	0.45	6.20	3.54	1.45	37.79	
1944	3.39	2.00	6.02	5.20	2.31	5.06	1.31	3.53	6.58	2.14	4.60	3.35	45.49	
1945	4.27	3.15	2.73	4.32	5.17	4.80	9.94	10.67	4.41	1.85	5.70	4.04	61.05	
1946	1.76	1.95	3.29	1.88	7.12	6.42	4.76	6.26	3.91	2.11	1.38	2.25	43.09	
1947	3.72	1.47	2.39	6.20	7.24	4.27	2.99	2.31	2.19	2.23	8.11	1.80	44.92	
1948	4.05	2.66	3.76	3.07	7.35	5.25	1.15	4.58	1.87	1.25	4.82	5.25	45.06	
1949	5.55	4.14	3.00	6.87	6.18	4.10	0.98	6.16	3.55	3.06	3.63	1.15	2.90	40.97
1950	1.97	3.11	4.74	1.81	5.32	2.45	4.35	3.05	7.06	2.46	4.22	1.95	40.49	
1951	3.64	2.96	3.76	2.56	3.56	4.27	3.84	3.23	1.16	3.17	7.32	5.79	45.26	
1952	5.09	2.73	5.35	5.57	4.61	2.52	7.40	3.09	3.12	0.66	5.40	3.61	48.95	
1953	5.14	2.69	5.72	4.76	5.39	2.52	3.21	1.89	3.64	3.87	2.19	4.13	45.15	
1954	1.71	1.82	4.03	2.84	2.38	0.44	1.93	5.82	3.39	2.08	4.14	3.14	33.72	
1955	0.59	2.93	4.86	2.55	1.18	6.34	0.16	12.09	2.27	2.62	1.36	0.19	37.14	
1956	2.61	4.21	5.18	2.80	2.12	3.58	7.39	3.58	2.77	3.58	5.94	4.09	47.85	
1957	2.30	3.76	2.64	3.73	2.36	3.45	1.33	2.61	6.55	2.51	3.11	4.74	39.09	

STATION LOCATION

WILMINGTON, DELAWARE

Location	Occupied from	Occupied to	Airline distance and direction from previous location	Latitude North	Longitude West	Elevation above										* Type M = AMOS T = AUTOB	Remarks	
						Sea level	Ground											Hygrothermometer
							Ground at temperature site	Wind instruments	Extreme thermometers	Psychrometer	Sunshine Switch	Tipping bucket rain gage	Weighing rain gage	6" rain gage	Automatic Observing Equipment *			
COOPERATIVE																		
Wilmington, Delaware 6th and King Streets	4- 1-94	7-12-16		39° 45'	75° 33'	86										Ordinary thermometer exposed outside N window; Sept. '09 max. and min. in use, exposure of thermometers poor.		
Porter Reservoir Wilmington, Delaware 1.9 miles NNE of P. O.	3- 1-12	Present		39° 46'	75° 33'	260		3'								Home made shelter in use; C. R. shelter September 1936, good exposure over sod. Precipitation record began 7-12-12.		
Wilmington, Delaware 10th and King Streets 1 block S of P. O.	7-12-16	10-31-58	1.9 mi. SSW	39° 45'	75° 33'	99										Precipitation only most of time.		
AIRPORT																		
Bellanca Field New Castle, Delaware 6.1 miles SSW Wilmington Post Office	4-20-31	6- 7-34		39° 40'	75° 36'													
DuPont Airport Wilmington Delaware 3 miles WNW Wilmington Post Office	4-27-42	12- 8-42	6.8 mi. N	39° 46'	75° 36'													
New Castle County Airport Tower, Wilmington, Delaware, 5.6 miles SW of Post Office	5-19-47	11- 6-47	5.6 mi. SSW	39° 40'	75° 36'		75									Airway Observation by County Tower employees.		
New Castle County Airport, Admn. Bldg.	11- 7-47	12- 5-47	125 yds. SW	39° 40'	75° 36'	73	75	5	5						3	Wind instruments of previous location used.		
New Castle County Airport, Terminal Bldg.	12- 5-47	7-16-56	150 ft. NE	39° 40'	75° 36'	73	34	5	5						4	Exposure of instruments good.		
New Terminal Building New Castle County AP *	7-16-56	Present	7/8 mi. SE	39° 40'	75° 36'	b74	20	s5	s5	NA	NA	5	4	a4	NA	Exposure of instruments excellent. * Name changed to Greater Wilmington Airport in May 1961. a - Commissioned 1,000 feet from thermometer site 4-11-67. b - 78 feet to 4-11-67. s - Standby after 4-11-67.		

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Daniel B. Mitchell
Director, National Climatic Center

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