

Climatology of the United States

No. 20

1971-2000

Station: MANTEO AP, NC

COOP ID: 315303

Climate Division: NC 8

NWS Call Sign:

Elevation: 13 Feet

Lat: 35°55N

Lon: 75°42W

Temperature (°F)

Mean (1)				Extremes										Degree Days (1) Base Temp 65		Mean Number of Days (3)					
Month	Daily Max	Daily Min	Mean	Highest Daily(2)	Year	Day	Highest Month(1) Mean	Year	Lowest Daily(2)	Year	Day	Lowest Month(1) Mean	Year	Heating	Cooling	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
Jan	51.5	35.8	43.7	77	1974	28	54.0	1974	-2	1985	21	31.5	1977	661	0	.0	.0	19.2	.9	12.0	@
Feb	53.6	37.0	45.3	81	1977	26	54.5	1990	12	1996	5	34.5	1978	552	0	.0	.0	18.6	.5	10.2	.0
Mar	60.0	43.0	51.5	87	1985	31	57.0	1990	15	1978	2	46.9	1984	419	1	.0	.0	27.0	.1	4.0	.0
Apr	68.7	51.2	60.0	93	1990	27	64.0	1985	23	1984	22	55.2	1975	171	19	.0	.1	29.7	.0	.4	.0
May	75.8	59.5	67.7	95+	1996	20	71.3	1991	34	1966	11	62.8	1992	33	115	.0	.5	31.0	.0	.0	.0
Jun	82.5	68.2	75.4	96+	1998	27	79.0	1981	44	1972	12	71.6	1972	1	311	.0	4.0	30.0	.0	.1	.0
Jul	86.4	72.3	79.4	98+	1993	10	82.4	1987	45	1984	2	75.7	1984	0	445	.0	10.2	31.0	.0	.0	.0
Aug	85.1	71.6	78.4	100+	1980	1	81.6	1988	50	1985	3	75.1	1981	0	415	.1	7.3	31.0	.0	.0	.0
Sep	80.6	67.4	74.0	96+	1983	12	76.5	1977	46+	1991	30	70.4	1984	2	271	.0	1.5	30.0	.0	.0	.0
Oct	71.4	56.8	64.1	92	1986	4	70.0	1985	34+	1979	28	59.6	1974	112	84	.0	.1	31.0	.0	@	.0
Nov	63.4	48.1	55.8	84	1971	3	64.4	1985	25	1976	24	46.4	1976	299	21	.0	.0	28.5	.0	1.5	.0
Dec	55.3	40.0	47.7	81	1978	9	54.4	1971	17+	1989	22	40.0	1989	539	1	.0	.0	23.0	.2	7.9	.0
Ann	69.5	54.2	61.9	100+	Aug 1980	1	82.4	Jul 1987	-2	Jan 1985	21	31.5	Jan 1977	2789	1683	.1	23.7	330.0	1.7	36.1	@

+ Also occurred on an earlier date(s)

@ Denotes mean number of days greater than 0 but less than .05

Complete documentation available from: www.ncdc.noaa.gov/oa/climate/normal/usnormals.html

Issue Date: February 2004

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1966-2001

(3) Derived from 1971-2000 serially complete daily data

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of the United States
No. 20
1971-2000**

National Climatic Data Center
Federal Building
151 Patton Avenue
Asheville, North Carolina 28801
www.ncdc.noaa.gov

Station: MANTEO AP, NC

COOP ID: 315303

Climate Division: NC 8

NWS Call Sign:

Elevation: 13 Feet

Lat: 35°55N

Lon: 75°42W

Precipitation (inches)

	Precipitation Totals									Mean Number of Days (3)				Precipitation Probabilities (1) Probability that the monthly/annual precipitation will be equal to or less than the indicated amount											
	Means/ Medians(1)		Extremes							Daily Precipitation				Monthly/Annual Precipitation vs Probability Levels These values were determined from the incomplete gamma distribution											
Month	Mean	Med- ian	Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95	
Jan	4.67	4.19	4.27	1978	20	9.69	1978	1.33	1981	11.4	8.0	3.5	1.3	1.92	2.35	2.95	3.44	3.91	4.38	4.89	5.48	6.22	7.35	8.38	
Feb	3.22	2.56	5.86	1970	3	7.64	1983	.55	1991	8.8	5.6	2.4	.8	.88	1.19	1.65	2.06	2.46	2.87	3.33	3.88	4.59	5.71	6.75	
Mar	4.62	3.86	4.61	1998	19	9.42	1989	1.58	2000	10.1	6.7	3.3	1.3	1.59	2.03	2.67	3.20	3.72	4.24	4.82	5.49	6.35	7.69	8.91	
Apr	3.13	2.85	2.90	1971	6	8.55	1983	.75	1986	8.7	5.4	2.2	.7	.76	1.06	1.51	1.92	2.32	2.75	3.22	3.78	4.52	5.69	6.79	
May	4.21	4.05	3.92	1977	25	9.32	1979	.16	1986	10.1	6.9	2.5	1.0	1.11	1.51	2.12	2.65	3.18	3.73	4.35	5.08	6.03	7.53	8.94	
Jun	4.77	4.76	4.22	1995	6	9.62	1996	.88	1984	8.6	6.8	3.1	1.3	1.59	2.04	2.70	3.27	3.81	4.36	4.97	5.69	6.60	8.02	9.33	
Jul	5.25	4.83	3.95	1976	10	9.97	1985	.51	1995	11.0	7.4	3.5	1.6	1.37	1.86	2.62	3.30	3.96	4.65	5.42	6.34	7.54	9.42	11.18	
Aug	5.64	4.96	4.29	1976	9	16.05	1986	2.31	1972	10.9	7.7	3.8	1.6	2.08	2.61	3.37	4.00	4.61	5.23	5.90	6.68	7.68	9.21	10.62	
Sep	4.93	4.68	5.02	1976	16	10.39	1999	.38	1990	8.0	5.9	2.8	1.5	.92	1.36	2.08	2.75	3.43	4.16	5.00	6.00	7.34	9.49	11.54	
Oct	4.10	3.56	4.93	1972	28	14.54	1971	.40	2000	7.3	5.2	2.2	1.4	.61	.95	1.54	2.11	2.70	3.35	4.10	5.01	6.24	8.23	10.15	
Nov	3.40	3.14	3.02	1968	10	11.05	1985	.35	1973	8.4	5.3	2.5	1.2	.72	1.04	1.53	1.99	2.44	2.93	3.47	4.13	4.99	6.37	7.67	
Dec	3.67	3.89	2.00	1966	13	6.98	1983	.33	1988	9.4	6.1	2.8	.9	.97	1.32	1.85	2.32	2.78	3.26	3.80	4.43	5.26	6.56	7.78	
Ann	51.61	52.42	5.86	Feb 1970	3	16.05	Aug 1986	.16	May 1986	112.7	77.0	34.6	14.6	38.56	41.13	44.40	46.87	49.04	51.14	53.29	55.66	58.52	62.64	66.19	

+ Also occurred on an earlier date(s)

Denotes amounts of a trace

@ Denotes mean number of days greater than 0 but less than .05

** Statistics not computed because less than six years out of thirty had measurable precipitation

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1966-2001

(3) Derived from 1971-2000 serially complete daily data

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Snow (inches)																							
Snow Totals															Mean Number of Days (1)								
Means/Medians (1)					Extremes (2)										Snow Fall >= Thresholds					Snow Depth >= Thresholds			
Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median	Highest Daily Snow Fall	Year	Day	Highest Monthly Snow Fall	Year	Highest Daily Snow Depth	Year	Day	Highest Monthly Mean Snow Depth	Year	0.1	1.0	3.0	5.0	10.0	1	3	5	10
Jan	.1	.0	#	0	1.0	1973	8	1.0	1973	1	1973	8	#	1973	.1	.1	.0	.0	.0	.1	.0	.0	.0
Feb	.9	.0	0	0	10.0	1980	6	10.5	1980	0	0	0	0	0	.3	.2	.1	.1	.1	.0	.0	.0	.0
Mar	#	.0	0	0	#	1975	2	#+	1975	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Apr	.0	.0	0	0	.3	1989	11	.3	1989	0	0	0	0	0	.1	.0	.0	.0	.0	.0	.0	.0	.0
May	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Jun	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Jul	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Aug	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Sep	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Oct	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	#	.0	0	0	#	1976	8	#	1976	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Dec	.1	.0	0	0	2.0	1989	23	2.0	1989	0	0	0	0	0	.1	.1	.0	.0	.0	.0	.0	.0	.0
Ann	1.1	.0	N/A	N/A	10.0	Feb 1980	6	10.5	Feb 1980	1	Jan 1973	8	#	Jan 1973	.6	.4	.1	.1	.1	.1	.0	.0	.0

+ Also occurred on an earlier date(s) #Denotes trace amounts

@ Denotes mean number of days greater than 0 but less than .05

-9/-9.9 represents missing values

Annual statistics for Mean/Median snow depths are not appropriate

(1) Derived from Snow Climatology and 1971-2000 daily data

(2) Derived from 1971-2000 daily data

Complete documentation available from:

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Lat: 35° 55N

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Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (thru Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/16	5/04	4/25	4/18	4/11	4/04	3/27	3/18	3/06
32	5/10	4/27	4/17	4/09	4/02	3/25	3/17	3/07	2/22
28	4/30	4/14	4/03	3/25	3/16	3/07	2/25	2/14	1/29
24	3/15	3/04	2/24	2/17	2/10	2/03	1/27	1/18	1/05
20	2/18	2/10	2/04	1/29	1/23	1/16	1/03	0/00	0/00
16	2/10	1/31	1/22	1/11	0/00	0/00	0/00	0/00	0/00
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	10/25	11/02	11/07	11/11	11/16	11/20	11/24	11/29	12/07
32	11/05	11/13	11/18	11/23	11/28	12/02	12/07	12/13	12/20
28	11/22	11/30	12/06	12/11	12/16	12/21	12/26	1/01	1/09
24	12/11	12/19	12/25	12/30	1/04	1/09	1/14	1/20	1/30
20	12/21	12/31	1/07	1/14	1/21	1/31	0/00	0/00	0/00
16	1/04	1/14	1/23	2/04	0/00	0/00	0/00	0/00	0/00
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	266	250	238	228	218	209	199	187	170
32	292	274	261	250	239	229	218	205	186
28	327	309	296	285	275	264	253	240	222
24	>365	>365	345	331	322	313	305	297	285
20	>365	>365	>365	>365	>365	>365	349	336	322
16	>365	>365	>365	>365	>365	>365	>365	>365	344

* Probability of observing a temperature as cold, or colder, later in the spring or earlier in the fall than the indicated date.

0/00 Indicates that the probability of occurrence of threshold temperature is less than the indicated probability.

Derived from 1971-2000 serially complete daily data

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Degree Days to Selected Base Temperatures (°F)													
Base	Heating Degree Days (1)												
Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	661	552	419	171	33	1	0	0	2	112	299	539	2789
60	520	421	276	75	5	0	0	0	0	49	187	396	1929
57	436	344	200	38	1	0	0	0	0	26	133	314	1492
55	383	296	156	22	0	0	0	0	0	16	103	264	1240
50	266	192	74	4	0	0	0	0	0	4	45	162	747
32	30	12	0	0	0	0	0	0	0	0	0	6	48

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	392	384	605	838	1105	1299	1468	1438	1260	995	712	491	10987
55	32	23	48	170	392	609	755	725	570	298	124	36	3782
57	23	16	29	126	331	549	693	663	510	246	95	24	3305
60	14	9	13	73	242	459	600	570	420	176	58	13	2647
65	0	0	1	19	115	311	445	415	271	84	21	1	1683
70	0	0	0	2	36	175	290	260	134	28	6	0	931

Growing Degree Units (2)																								
Base	Growing Degree Units (Monthly)												Growing Degree Units (Accumulated Monthly)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	189	209	375	610	872	1071	1238	1209	1032	760	480	269	189	398	773	1383	2255	3326	4564	5773	6805	7565	8045	8314
45	102	115	240	460	717	921	1083	1054	882	605	339	156	102	217	457	917	1634	2555	3638	4692	5574	6179	6518	6674
50	42	54	135	318	562	771	928	899	732	450	216	74	42	96	231	549	1111	1882	2810	3709	4441	4891	5107	5181
55	10	19	61	191	407	621	773	744	582	301	118	32	10	29	90	281	688	1309	2082	2826	3408	3709	3827	3859
60	0	0	22	99	264	471	618	589	432	167	49	6	0	0	22	121	385	856	1474	2063	2495	2662	2711	2717
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	91	110	201	353	566	756	885	870	722	464	260	131	91	201	402	755	1321	2077	2962	3832	4554	5018	5278	5409

(1) Derived from the 1971-2000 Monthly Normals

(2) Derived from 1971-2000 serially complete daily data

Note: For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

Notes

- a. The monthly means are simple arithmetic averages computed by summing the monthly values for the period 1971-2000 and dividing by thirty. Prior to averaging, the data are adjusted if necessary to compensate for data quality issues, station moves or changes in station reporting practices. Missing months are replaced by estimates based on neighboring stations.
- b. The median is defined as the middle value in an ordered set of values. The median is being provided for the snow and precipitation elements because the mean can be a misleading value for precipitation normals.
- c. Only observed validated values were used to select the extreme daily values.
- d. Extreme monthly temperature/precipitation means were selected from the monthly normals data.
Monthly snow extremes were calculated from daily values quality controlled to be consistent with the Snow Climatology.
- e. Degree Days were derived using the same techniques as the 1971-2000 normals.
Complete documentation for the 1971-2000 Normals is available on the internet from:
www.ncdc.noaa.gov/oa/climate/normal/usnormals.html
- f. Mean "number of days statistics" for temperature and precipitation were calculated from a serially complete daily data set.
Documentation of the serially complete data set is available from the link below:
- g. Snowfall and snow depth statistics were derived from the Snow Climatology.
Documentation for the Snow Climatology project is available from the link under references.

Data Sources for Tables

Several different data sources were used to create the Clim20 climate summaries. In some cases the daily extremes appear inconsistent with the monthly extremes and or the mean number of days statistics. For example, a high daily extreme value may not be reflected in the highest monthly value or the mean number of days threshold that is less than and equal to the extreme value. Some of these difference are caused by different periods of record. Daily extremes are derived from the station's entire period of record while the serial data and normals data were for the 1971-2000 period. Therefore extremes observed before 1971 would not be included in the 1971-2000 normals or the 1971-2000 serial daily data set. Inconsistencies can also occur when monthly values are adjusted to reflect the current observing conditions or were replaced during the 1971-2000 Monthly Normals processing and are not reconciled with the Summary of the Day data.

- | | |
|---|---|
| <ol style="list-style-type: none">a. Temperature/ Precipitation Tables<ol style="list-style-type: none">1. 1971-2000 Monthly Normals2. Cooperative Summary of the Day3. National Weather Service station records4. 1971-2000 serially complete daily datab. Degree Day Table<ol style="list-style-type: none">1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data | <ol style="list-style-type: none">c. Snow Tables<ol style="list-style-type: none">1. Snow Climatology2. Cooperative Summary of the Dayd. Freeze Data Table
1971-2000 serially complete daily data |
|---|---|

References

U.S. Climate Normals 1971-2000, www.ncdc.noaa.gov/normal.html
U.S. Climate Normals 1971-2000-Products Clim20, www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html
Snow Climatology Project Description, www.ncdc.noaa.gov/oa/climate/monitoring/snowclim/mainpage.html
Eischeid, J. K., P. Pasteris, H. F. Diaz, M. Plantico, and N. Lott, 2000: Creating a serially complete, national daily time series of temperature and precipitation for the Western United States. J. Appl. Meteorol., 39, 1580-1591,
www1.ncdc.noaa.gov/pub/data/special/serialcomplete_jam_0900.pdf