

Climatology of the United States No. 20

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

Station: WASHINGTON STATE PARK, TX

1971-2000

COOP ID: 419491

Climate Division: TX 7

NWS Call Sign:

Elevation: 215 Feet Lat: 30°20N Lon: 96°09W

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	59.9	38.2	49.1	88	1971	31	54.9	1990	9	1982	11	39.9	1978	505	4	.0	.0	23.9	.5	9.2	.0
Feb	64.1	42.0	53.1	90	1996	23	59.3	1976	16+	1985	2	42.6	1978	345	11	.0	@	24.1	.4	4.9	.0
Mar	71.8	49.5	60.7	99	1946	30	65.8	1974	19	1980	2	54.3	1996	174	38	.0	.1	29.9	.0	1.6	.0
Apr	78.4	55.9	67.2	95	1963	10	72.2	1972	30	1987	3	61.8	1997	53	119	.0	.9	30.0	.0	.1	.0
May	85.4	64.3	74.9	101	1947	3	79.7	1996	42	1954	4	71.2	1976	5	309	.0	6.2	31.0	.0	.0	.0
Jun	91.5	70.4	81.0	104	1998	26	86.1	1998	52	1984	1	78.0	1995	0	478	.8	19.8	30.0	.0	.0	.0
Jul	95.6	72.1	83.9	108	1954	13	87.8	1998	56	1967	15	81.0	1989	0	585	5.2	27.3	31.0	.0	.0	.0
Aug	96.1	71.6	83.9	110+	1998	4	87.1	1985	55	1967	14	80.1	1992	0	583	6.0	27.7	31.0	.0	.0	.0
Sep	90.4	66.6	78.5	112+	2000	5	82.9	1980	43+	1983	22	73.3	1974	0	405	1.3	16.5	30.0	.0	.0	.0
Oct	81.9	56.5	69.2	100+	1938	2	71.9	1984	28	1993	31	61.1	1976	32	162	.0	3.6	30.9	.0	.1	.0
Nov	70.7	48.0	59.4	91	1955	3	66.1	1973	21+	1976	29	52.1	1976	221	51	.0	.0	28.9	@	1.9	.0
Dec	62.4	40.1	51.3	85+	1956	8	60.9	1984	3	1989	23	41.6	1989	436	9	.0	.0	25.9	.4	7.4	.0
Ann	79.0	56.3	67.7	112+	Sep 2000	5	87.8	Jul 1998	3	Dec 1989	23	39.9	Jan 1978	1771	2754	13.3	102.1	346.6	1.3	25.2	.0

+ 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: 1915-2001

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

Climatography 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: WASHINGTON STATE PARK, TX

COOP ID: 419491

Climate Division: TX 7

NWS Call Sign:

Elevation: 215 Feet

Lat: 30°20N

Lon: 96°09W

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	3.54	2.86	5.43	1965	22	11.32	1991	.00	1996	8.2	5.4	2.4	1.1	.40	.83	1.42	1.93	2.45	3.00	3.62	4.37	5.37	6.96	8.48
Feb	2.74	2.48	2.95	1992	4	8.79	1992	.21	1999	7.2	4.8	1.9	.8	.45	.69	1.08	1.46	1.85	2.27	2.75	3.34	4.12	5.40	6.62
Mar	3.13	2.56	5.70	1973	24	8.14	1983	.58	1978	8.4	5.1	1.8	.8	.67	.96	1.42	1.84	2.25	2.70	3.20	3.80	4.60	5.86	7.06
Apr	2.98	2.47	4.60	1968	9	6.94	1976	.14	1984	5.9	4.0	2.0	1.2	.42	.67	1.09	1.51	1.94	2.42	2.97	3.64	4.55	6.04	7.47
May	4.42	3.79	4.81	1946	19	8.32	2000	.30	1998	7.5	6.0	3.0	1.6	.97	1.38	2.03	2.61	3.20	3.83	4.53	5.37	6.48	8.25	9.92
Jun	4.42	4.00	6.43	1981	12	11.57	1993	.20	1990	7.0	5.1	2.5	1.4	.66	1.03	1.67	2.28	2.91	3.61	4.41	5.39	6.71	8.86	10.93
Jul	2.18	1.94	3.25	1954	30	5.84	1979	.00	1986	5.4	4.0	1.1	.5	.13	.34	.68	1.00	1.34	1.72	2.16	2.69	3.42	4.62	5.79
Aug	2.83	1.99	4.25	1983	8	10.47	1974	.23	1990	6.3	4.3	2.0	.7	.24	.44	.81	1.21	1.64	2.13	2.71	3.44	4.45	6.14	7.80
Sep	4.03	3.77	7.96	1970	2	8.64	1978	.99	1989	7.2	5.5	2.5	1.3	1.15	1.53	2.11	2.61	3.10	3.62	4.18	4.85	5.72	7.08	8.34
Oct	4.38	3.41	15.46	1994	17	22.05	1994	.45	1987	6.4	5.0	2.6	1.3	.45	.77	1.37	1.98	2.64	3.38	4.26	5.34	6.83	9.30	11.71
Nov	3.68	3.01	4.55	1987	25	10.21	2000	.50	1999	7.4	5.2	2.2	1.1	.68	1.01	1.55	2.05	2.56	3.11	3.73	4.49	5.49	7.10	8.63
Dec	3.30	3.22	3.85	1992	15	8.03	1991	.34	1989	7.7	5.2	2.4	1.1	.78	1.09	1.57	2.00	2.43	2.88	3.39	4.00	4.79	6.05	7.24
Ann	41.63	41.92	15.46	Oct 1994	17	22.05	Oct 1994	.00+	Jan 1996	84.6	59.6	26.4	12.9	27.97	30.56	33.90	36.46	38.76	40.98	43.29	45.86	48.99	53.55	57.53

+ 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: 1915-2001

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

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

Climatography 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: WASHINGTON STATE PARK, TX

COOP ID: 419491

Climate Division: TX 7

NWS Call Sign:

Elevation: 215 Feet

Lat: 30°20N

Lon: 96°09W

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	.2	.0	#	0	2.0	1973	12	3.5	1973	2	1973	12	#	1973	.1	.1	.0	.0	.0	.1	.0	.0	.0
Feb	.1	.0	#	0	1.0	1973	9	1.0	1973	1	1973	9	#+	1989	.1	.1	.0	.0	.0	@	.0	.0	.0
Mar	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Apr	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.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	29	#	1976	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Dec	#	.0	0	0	#	1989	22	#	1989	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Ann	.3	.0	N/A	N/A	2.0	Jan 1973	12	3.5	Jan 1973	2	Jan 1973	12	#+	Feb 1989	.2	.2	.0	.0	.0	.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:

www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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

Station: WASHINGTON STATE PARK, TX

COOP ID: 419491

Climate Division: TX 7

NWS Call Sign:

Elevation: 215 Feet

Lat: 30°20N

Lon: 96°09W

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	4/12	4/03	3/28	3/23	3/18	3/13	3/07	3/01	2/21
32	3/26	3/19	3/13	3/08	3/04	2/27	2/22	2/17	2/09
28	3/14	3/05	2/26	2/20	2/15	2/09	2/03	1/27	1/15
24	2/25	2/13	2/05	1/28	1/21	1/13	1/02	12/15	0/00
20	2/07	1/28	1/20	1/12	1/01	0/00	0/00	0/00	0/00
16	1/20	1/09	12/28	0/00	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	10/31	11/05	11/09	11/12	11/16	11/19	11/24	11/30
32	11/03	11/10	11/15	11/20	11/24	11/28	12/03	12/08	12/15
28	11/15	11/23	11/29	12/04	12/08	12/13	12/18	12/24	1/03
24	11/29	12/07	12/14	12/20	12/25	12/31	1/08	1/22	0/00
20	12/18	12/30	1/09	1/20	2/03	0/00	0/00	0/00	0/00
16	12/28	1/09	1/22	0/00	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	269	258	251	245	239	233	226	219	209
32	298	286	278	271	264	258	251	243	231
28	337	319	310	303	296	290	283	275	265
24	>365	>365	>365	360	339	328	318	307	294
20	>365	>365	>365	>365	>365	>365	>365	346	331
16	>365	>365	>365	>365	>365	>365	>365	>365	>365

* 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

Complete documentation available from:

www.ncdc.noaa.gov/oa/climate/normal/usnormals.html

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

Station: WASHINGTON STATE PARK, TX

COOP ID: 419491

Climate Division: TX 7 NWS Call Sign: Elevation: 215 Feet Lat: 30° 20N Lon: 96° 09W

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	505	345	174	53	5	0	0	0	0	32	221	436	1771
60	365	226	85	14	0	0	0	0	0	8	131	299	1128
57	290	168	48	5	0	0	0	0	0	3	89	228	831
55	246	135	31	2	0	0	0	0	0	1	66	187	668
50	156	69	8	0	0	0	0	0	0	0	27	104	364
32	8	0	0	0	0	0	0	0	0	0	0	0	8

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	536	590	887	1056	1327	1468	1608	1606	1395	1153	820	596	13042
55	61	81	205	367	614	778	895	893	705	441	196	70	5306
57	43	58	160	310	552	718	833	831	645	381	159	49	4739
60	25	32	104	229	460	628	740	738	555	293	111	27	3942
65	4	11	38	119	309	478	585	583	405	162	51	9	2754
70	0	0	10	46	175	328	430	428	262	66	18	1	1764

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	320	406	651	821	1078	1227	1354	1353	1152	902	581	372	320	726	1377	2198	3276	4503	5857	7210	8362	9264	9845	10217
45	207	284	499	671	923	1077	1199	1198	1002	747	437	249	207	491	990	1661	2584	3661	4860	6058	7060	7807	8244	8493
50	119	181	362	524	768	927	1044	1043	852	592	312	146	119	300	662	1186	1954	2881	3925	4968	5820	6412	6724	6870
55	63	96	232	378	613	777	889	888	702	443	198	82	63	159	391	769	1382	2159	3048	3936	4638	5081	5279	5361
60	29	46	127	243	459	627	734	733	552	299	113	37	29	75	202	445	904	1531	2265	2998	3550	3849	3962	3999
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	202	250	406	538	743	845	902	899	777	599	364	230	202	452	858	1396	2139	2984	3886	4785	5562	6161	6525	6755

(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