

Climatography of the United States

No. 20

1971-2000

Station: GAIL, TX

COOP ID: 413411

Climate Division: TX 2

NWS Call Sign:

Elevation: 2,530 Feet Lat: 32°46N

Lon: 101°28W

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	57.0	29.8	43.4	84+	2000	19	49.5	1998	3	1966	22	35.3	1979	669	0	.0	.0	22.6	1.6	17.3	.0
Feb	62.7	33.8	48.3	90	1916	11	56.3	1999	0	1985	2	39.4	1978	474	5	.0	.0	23.8	.9	11.3	@
Mar	71.3	41.2	56.3	98	1971	27	62.3	1974	9	1980	2	50.4	1987	281	10	.0	.7	29.8	.1	4.9	.0
Apr	79.5	49.2	64.4	101	1989	22	69.9	1972	24+	1914	11	57.3	1973	105	86	.1	3.9	29.7	.0	.6	.0
May	86.4	58.4	72.4	111	2000	24	80.2	1996	35	1970	1	68.1	1976	31	260	1.8	11.0	31.0	.0	.0	.0
Jun	92.1	65.7	78.9	116	1994	27	85.6	1998	45	1983	1	75.8	1987	1	418	4.1	19.5	30.0	.0	.0	.0
Jul	94.6	68.8	81.7	113	1989	2	87.3	1998	57+	1999	12	75.7	1976	0	518	5.5	25.7	31.0	.0	.0	.0
Aug	93.0	67.4	80.2	107	1978	18	84.3	1999	52	1966	24	73.7	1971	0	471	3.0	23.2	31.0	.0	.0	.0
Sep	86.4	60.8	73.6	106	2000	6	80.2	1998	36	1989	24	65.7	1974	15	273	.9	11.9	30.0	.0	.0	.0
Oct	78.1	51.2	64.7	103	2000	2	69.6	1979	21	1993	31	57.0	1976	91	80	.1	2.6	30.7	.0	.3	.0
Nov	66.2	39.1	52.7	91	1996	20	58.9	1973	8	1993	26	45.1	1976	383	12	.0	.1	27.1	.1	6.7	.0
Dec	58.5	31.6	45.1	84	1964	23	49.7	1977	-1	1989	23	35.2	1983	620	0	.0	.0	24.4	1.1	15.4	.1
Ann	77.2	49.8	63.5	116	Jun 1994	27	87.3	Jul 1998	-1	Dec 1989	23	35.2	Dec 1983	2670	2133	15.5	98.6	341.1	3.8	56.5	.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: 1897-2001

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

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No. 20 1971-2000

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

Station: GAIL, TX

COOP ID: 413411

Climate Division: TX 2

NWS Call Sign:

Elevation: 2,530 Feet Lat: 32°46N

Lon: 101°28W

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	.58	.44	3.10	1939	8	2.62	1983	.00+	1988	2.6	1.8	.3	.1	.00	.00	.11	.21	.31	.42	.56	.72	.95	1.32	1.69
Feb	.73	.40	2.90	1938	15	2.93	1997	.00+	1999	2.5	1.9	.4	.1	.00	.00	.09	.19	.32	.46	.65	.88	1.22	1.79	2.37
Mar	.66	.30	2.00	1916	31	2.85	1973	.00+	1997	2.1	1.5	.5	.1	.00	.00	.03	.14	.26	.40	.58	.81	1.13	1.68	2.25
Apr	1.20	.86	2.78	1990	18	4.90	1997	.00+	1991	3.3	2.4	.8	.1	.00	.07	.24	.42	.62	.85	1.13	1.48	1.96	2.78	3.60
May	2.80	2.10	4.50	1897	28	9.09	1992	.00	1996	5.3	4.2	2.1	.9	.17	.44	.88	1.29	1.72	2.20	2.76	3.45	4.38	5.92	7.40
Jun	2.81	2.66	3.35	1993	9	7.67	1982	.00	1994	4.8	4.0	2.0	.8	.31	.64	1.11	1.52	1.93	2.37	2.87	3.47	4.26	5.54	6.75
Jul	2.35	1.83	5.03	1976	3	9.42	1976	.00	1980	4.2	3.4	1.4	.8	.04	.17	.46	.78	1.16	1.60	2.14	2.84	3.83	5.51	7.20
Aug	2.52	2.15	3.70	1972	13	8.67	1971	.05	1983	5.0	4.0	1.9	.7	.14	.27	.58	.91	1.30	1.76	2.32	3.04	4.06	5.78	7.51
Sep	2.83	2.27	3.50	1963	16	11.38	1980	.00+	2000	4.7	3.8	1.7	1.1	.00	.00	.59	1.14	1.66	2.22	2.85	3.62	4.66	6.28	7.89
Oct	1.77	1.19	9.13	1960	17	5.80	2000	.00+	1992	3.7	3.2	1.3	.5	.00	.05	.25	.49	.78	1.13	1.56	2.12	2.92	4.31	5.71
Nov	.74	.60	1.90	1954	14	2.35	1984	.00+	1999	2.5	1.8	.5	.2	.00	.00	.05	.19	.33	.49	.69	.93	1.26	1.80	2.37
Dec	.69	.29	1.40	1980	8	3.58	1991	.00+	2000	2.1	1.5	.5	.1	.00	.00	.00	.03	.17	.33	.54	.82	1.21	1.90	2.58
Ann	19.68	20.46	9.13	Oct 1960	17	11.38	Sep 1980	.00+	Dec 2000	42.8	33.5	13.4	5.5	11.84	13.26	15.13	16.58	17.90	19.19	20.55	22.06	23.93	26.69	29.11

+ 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: 1897-2001

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

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

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Station: GAIL, TX

COOP ID: 413411

Climate Division: TX 2

NWS Call Sign:

Elevation: 2,530 Feet

Lat: 32°46N

Lon: 101°28W

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	1985	12	3.0	1985	#	1971	4	#	1971	.1	.1	.0	.0	.0	.0	.0	.0	.0
Feb	.3	.0	0	0	5.0	1973	17	5.0	1973	0	0	0	0	0	.1	.1	.1	.1	.0	.0	.0	.0	.0
Mar	#	.0	0	0	#	1995	2	#+	1995	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Apr	#	.0	0	0	#	1980	12	#	1980	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	.2	.0	0	0	3.0	1976	13	3.0	1976	0	0	0	0	0	.1	.1	.1	.0	.0	.0	.0	.0	.0
Dec	.1	.0	0	0	1.0	1978	31	1.0	1978	0	0	0	0	0	.1	.1	.0	.0	.0	.0	.0	.0	.0
Ann	.8	.0	N/A	N/A	5.0	Feb 1973	17	5.0	Feb 1973	#	Jan 1971	4	#	Jan 1971	.4	.4	.2	.1	.0	.0	.0	.0	.0

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

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-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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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	4/18	4/14	4/11	4/09	4/07	4/05	4/03	3/31	3/28
32	4/14	4/08	4/03	3/31	3/27	3/23	3/19	3/15	3/09
28	4/05	3/29	3/24	3/20	3/16	3/12	3/08	3/03	2/25
24	3/27	3/16	3/09	3/03	2/25	2/19	2/13	2/06	1/27
20	3/15	3/05	2/25	2/19	2/13	2/08	2/01	1/25	1/15
16	3/01	2/20	2/13	2/07	2/01	1/26	1/20	1/12	12/31
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	10/10	10/17	10/21	10/25	10/29	11/02	11/05	11/10	11/16
32	10/26	10/31	11/03	11/06	11/08	11/11	11/14	11/17	11/22
28	11/02	11/08	11/12	11/16	11/20	11/23	11/27	12/02	12/08
24	11/10	11/17	11/22	11/27	12/01	12/05	12/09	12/14	12/22
20	11/13	11/23	11/30	12/06	12/11	12/17	12/23	12/29	1/08
16	11/29	12/10	12/18	12/25	1/01	1/07	1/15	1/25	2/12
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	225	218	213	208	204	200	195	190	183
32	248	240	235	230	226	221	217	211	204
28	276	267	260	254	248	242	236	229	220
24	312	301	292	285	278	271	264	255	244
20	336	322	313	306	299	292	285	277	265
16	>365	>365	352	340	330	322	314	304	292

* 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	669	474	281	105	31	1	0	0	15	91	383	620	2670
60	519	345	157	40	10	0	0	0	3	33	258	468	1833
57	433	275	101	19	4	0	0	0	0	15	194	381	1422
55	377	232	72	11	1	0	0	0	0	8	158	325	1184
50	252	145	25	0	0	0	0	0	0	2	85	202	711
32	18	7	0	0	0	0	0	0	0	0	1	7	33

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	373	462	751	971	1252	1407	1541	1494	1248	1013	620	411	11543
55	19	43	110	292	540	717	828	781	558	308	87	16	4299
57	13	30	78	240	481	657	766	719	498	253	64	10	3809
60	5	17	40	171	394	567	673	626	411	178	37	3	3122
65	0	5	10	86	260	418	518	471	273	80	12	0	2133
70	0	0	1	33	154	276	363	321	158	26	2	0	1334

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	206	310	522	739	1016	1177	1304	1265	1027	784	413	234	206	516	1038	1777	2793	3970	5274	6539	7566	8350	8763	8997
45	116	197	383	590	861	1027	1149	1110	877	630	282	132	116	313	696	1286	2147	3174	4323	5433	6310	6940	7222	7354
50	55	112	252	447	706	877	994	955	727	480	179	63	55	167	419	866	1572	2449	3443	4398	5125	5605	5784	5847
55	17	55	144	312	552	727	839	800	580	333	89	22	17	72	216	528	1080	1807	2646	3446	4026	4359	4448	4470
60	1	17	67	191	398	577	684	645	432	202	36	1	1	18	85	276	674	1251	1935	2580	3012	3214	3250	3251
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	158	224	347	481	657	777	859	838	678	501	268	169	158	382	729	1210	1867	2644	3503	4341	5019	5520	5788	5957

(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