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

COOP ID: 426414

Station: OGDEN SUGAR FACTORY, UT

Climate Division: UT 3 NWS Call Sign: Elevation: 4,280 Feet Lat: 41°14N Lon: 112°02W

									r	Гетр	eratur	re (°F)									
	Mea	n (1)						Extr	emes					Degree Base To	Days (1) emp 65		Mean	Numb	er of I	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	36.6	18.6	27.6	60	1953	12	35.9	1994	-26	1937	21	19.1	1985	1160	0	.0	.0	1.7	10.5	28.7	2.1
Feb	43.5	23.2	33.4	68	1950	26	42.2	1995	-21	1933	9	22.2	1984	887	0	.0	.0	7.2	3.8	23.6	.7
Mar	53.5	31.1	42.3	78	1943	28	48.2	1986	4+	1945	6	35.6	1976	703	0	.0	.0	19.7	.5	18.2	.0
Apr	62.9	37.3	50.1	87	1994	21	57.2	1992	5	1936	2	43.9	1975	452	5	.0	.0	26.6	.0	8.2	.0
May	72.4	45.2	58.8	96	2001	25	64.3	1992	25+	1946	1	53.2	1975	222	29	.0	.1	30.5	.0	1.1	.0
Jun	83.6	53.4	68.5	103	2001	22	74.0	1986	32	1954	2	62.4	1998	55	160	.3	8.7	30.0	.0	.0	.0
Jul	92.1	59.6	75.9	106+	1931	21	79.6	2000	39+	1945	3	66.4	1993	6	341	2.0	22.5	31.0	.0	.0	.0
Aug	90.6	57.9	74.3	104+	1994	4	78.2	1994	35+	1943	31	71.1+	1993	4	289	.9	19.2	31.0	.0	.0	.0
Sep	79.9	48.4	64.2	100	1995	1	69.6	1990	28+	1965	18	59.0	1971	108	82	@	3.9	29.9	.0	.5	.0
Oct	66.2	38.0	52.1	95	2001	1	59.2	1988	18	1991	31	47.0	1984	402	3	.0	.0	28.7	@	6.0	.0
Nov	49.3	28.0	38.7	75+	1958	9	46.0	1999	-14	1955	16	31.6	1994	790	0	.0	.0	14.4	1.4	21.6	.1
Dec	38.4	20.2	29.3	64	1995	1	36.9	1977	-18	1990	24	20.0	1990	1107	0	.0	.0	2.8	7.4	28.4	1.0
Ann	64.1	38.4	51.3	106+	Jul 1931	21	79.6	Jul 2000	-26	Jan 1937	21	19.1	Jan 1985	5896	909	3.2	54.4	253.5	23.6	136.3	3.9

⁺ Also occurred on an earlier date(s)

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

Issue Date: February 2004 079-A

- (1) From the 1971-2000 Monthly Normals
- (2) Derived from station's available digital record: 1928-2001
- (3) Derived from 1971-2000 serially complete daily data

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

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										Pı	recipi	tation	(incl	nes)											
			P	recip	itatio	on Total	s			M	ean N	lumbo ays (3	_	Proba	bility th		nonthly/	annual j indic	precipita ated am	ount	ll be equ		less tha	n the	
	Mea Medi					Extremes	i			D	aily Pre	cipitatio	n	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	1.72	1.41	1.50	1982	21	5.10	1996	.13	1994	7.9	5.0	1.0	.2	.30	.45	.70	.93	1.18	1.44	1.73	2.10	2.58	3.36	4.10	
Feb	1.54	1.33	2.10	1976	9	6.13	1998	.00	1997	6.3	3.8	.9	.1	.07	.20	.43	.66	.90	1.17	1.50	1.90	2.45	3.36	4.25	
Mar	1.95	1.87	1.87	1949	23	5.10	1975	.10	1974	7.5	4.7	1.3	.2	.35	.52	.80	1.07	1.34	1.64	1.97	2.38	2.92	3.80	4.63	
Apr	1.98	1.62	1.55	1957	22	5.62	1986	.13	1992	7.0	4.6	1.2	.1	.27	.43	.72	.99	1.28	1.60	1.97	2.42	3.04	4.04	5.01	
May	2.23	1.82	1.65	1949	17	5.46	1977	.00	1976	7.0	5.0	1.4	.3	.22	.48	.85	1.18	1.51	1.86	2.27	2.75	3.40	4.45	5.45	
Jun	1.27	1.00	1.83	1970	10	4.07	1998	.00+	1996	3.6	2.2	1.0	.2	.00	.00	.10	.28	.50	.76	1.09	1.53	2.15	3.21	4.29	
Jul	.62	.47	1.28	1987	21	1.65	1973	.00+	1993	2.4	1.7	.5	.1	.00	.00	.06	.15	.26	.39	.55	.76	1.05	1.54	2.03	
Aug	.83	.61	1.97	1951	4	3.30	1997	.00	1996	2.8	1.7	.6	.1	.02	.08	.19	.31	.44	.59	.78	1.01	1.34	1.89	2.44	
Sep	1.41	.93	2.59	1961	18	5.51	1982	.00+	1987	4.1	3.1	.8	.1	.00	.04	.19	.38	.61	.89	1.24	1.69	2.33	3.45	4.58	
Oct	1.91	1.92	1.89	1994	18	5.15	1994	.00	1999	5.7	3.7	1.4	.4	.07	.22	.49	.77	1.07	1.42	1.83	2.35	3.06	4.25	5.43	
Nov	1.59	1.57	1.45	1954	12	3.59	1994	.04	1976	6.4	4.3	1.0	.1	.29	.44	.67	.88	1.10	1.34	1.61	1.94	2.37	3.06	3.73	
Dec	1.37	1.07	1.50	1981	19	5.37	1983	.03	1986	6.6	3.8	.6	.1	.10	.19	.37	.56	.77	1.01	1.30	1.67	2.17	3.03	3.87	
Ann	18.42	18.49	2.59	Sep 1961	18	6.13	Feb 1998	.00+	Oct 1999	67.3	43.6	11.7	2.0	10.59	11.98	13.83	15.29	16.61	17.91	19.27	20.81	22.71	25.53	28.02	

⁺ Also occurred on an earlier date(s)

Complete documentation available from:

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

[#] 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: 1928-2001

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

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Climate Division: UT 3 NWS Call Sign: Elevation: 4,280 Feet Lat: 41°14N Lon: 112°02W

										Snov	v (incl	nes)											
						Sno	ow To	tals									Mea	n Nui	nber	of Da	ys (1)		
	Mean	s/Medi	ans (1)	1					Extre	mes (2)							ow Fa					Depth esholo	
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	7.6	6.5	2	#	9.0	1981	31	18.0	1981	12	1984	24	11	1984	3.4	2.7	1.3	.4	.0	-9.9	-9.9	-9.9	-9.9
Feb	6.2	5.0	2	#	8.0	1993	20	19.5	1976	12	1984	10	11	1984	1.7	1.4	.8	.5	.0	-9.9	-9.9	-9.9	-9.9
Mar	3.0	.5	0	0	5.0	1976	1	19.5	1976	7	1976	3	2	1976	.8	.8	.4	.1	.0	-9.9	-9.9	-9.9	-9.9
Apr	.3	.0	#	0	4.0	1975	17	4.0	1975	4	1974	10	#+	1982	.1	.1	.1	.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	#	1984	15	#	1984	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	2.8	.0	#	0	12.0	1992	22	25.0	1983	8	1985	18	2	1985	.6	.5	.5	.3	.1	-9.9	-9.9	-9.9	-9.9
Dec	6.0	2.5	1	0	13.0	1983	26	31.5	1983	16	1983	27	9	1983	1.6	1.5	.6	.3	.1	-9.9	-9.9	-9.9	-9.9
Ann	25.9	14.5	N/A	N/A	13.0	Dec 1983	26	31.5	Dec 1983	16	Dec 1983	27	11+	Feb 1984	8.2	7.0	3.7	1.6	.2	-9.9	-9.9	-9.9	-9.9

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

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

[@] 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

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				Freez	e Data				
			Spri	ng Freeze D	ates (Month/	Day)			
Temp (F)		P	robability of	later date i	n spring (thr	u Jul 31) tha	n indicated(*)	
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	5/31	5/26	5/22	5/19	5/16	5/13	5/09	5/06	4/30
32	5/20	5/15	5/11	5/08	5/06	5/03	4/30	4/26	4/21
28	5/06	4/27	4/21	4/16	4/11	4/06	3/31	3/25	3/16
24	4/15	4/07	4/01	3/27	3/22	3/17	3/12	3/06	2/26
20	4/05	3/28	3/23	3/18	3/13	3/09	3/04	2/26	2/18
16	3/17	3/09	3/04	2/27	2/22	2/18	2/13	2/08	1/31
•			Fal	l Freeze Da	tes (Month/D	ay)	•	•	-
To (E)		Pro	bability of ea	arlier date i	n fall (beginn	ing Aug 1) t	han indicate	d(*)	
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	9/17	9/20	9/23	9/25	9/27	9/29	10/01	10/04	10/07
32	9/23	9/29	10/03	10/07	10/11	10/14	10/18	10/22	10/28
28	10/13	10/17	10/20	10/23	10/25	10/27	10/30	11/02	11/06
24	10/23	10/28	10/31	11/03	11/06	11/08	11/11	11/14	11/19
20	11/03	11/08	11/12	11/15	11/18	11/21	11/24	11/27	12/02
16	11/14	11/19	11/23	11/26	11/29	12/02	12/06	12/10	12/15
•			•	Freeze F	ree Period	•	•	•	-
Tomp (F)			Probability	of longer th	an indicated	freeze free p	eriod (Days)		
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	152	146	141	137	134	130	126	121	115
32	183	174	168	162	157	152	147	140	131
28	225	216	208	202	197	191	185	178	168
24	255	246	239	233	228	222	216	210	200
20	277	267	260	254	249	243	237	230	221
16	308	298	291	285	279	274	268	260	251

^{*} 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.

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				Deg	ree Days t	o Selected	Base Tem	peratures	(°F)				
Base						Heatin	g Degree l	Days (1)					
Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	1160	887	703	452	222	55	6	4	108	402	790	1107	5896
60	1005	747	549	316	119	17	0	0	45	260	640	952	4650
57	912	663	462	242	75	7	0	0	23	186	551	859	3980
55	850	611	404	200	52	4	0	0	13	143	493	797	3567
50	701	481	272	113	16	0	0	0	2	64	355	642	2646
32	247	131	22	1	0	0	0	0	0	0	44	175	620

Base						Coolin	g Degree l	Days (1)					
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	110	168	342	544	831	1096	1358	1309	964	624	244	91	7681
55	0	5	11	53	169	409	645	596	287	54	3	0	2232
57	0	0	7	35	130	353	583	534	236	35	1	0	1914
60	0	0	1	19	82	273	491	441	169	15	0	0	1491
65	0	0	0	5	29	160	341	289	82	3	0	0	909
70	0	0	0	0	7	79	206	155	30	0	0	0	477

									Base Growing Degree Units (Monthly) Growing Degree Units (Accumulated Monthly)															
Base					Growin	g Degree	Units (M	(Ionthly)					Growing Degree Units (Accumulated Monthly)											
	Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec													Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	2	38	143	319	593	861	1122	1068	732	392	83	11	2	40	183	502	1095	1956	3078	4146	4878	5270	5353	5364
45												2	0	6	69	266	708	1419	2386	3299	3881	4137	4165	4167
50												0	0	0	16	120	419	980	1792	2550	2985	3126	3132	3132
55	0	0	0	44	179	414	657	603	297	59	0	0	0	0	0	44	223	637	1294	1897	2194	2253	2253	2253
60	0	0	0	16	88	280	502	449	178	14	0	0	0	0	0	16	104	384	886	1335	1513	1527	1527	1527
Base	Growing Degree Units for Corn (Monthly)												•	Gr	owing D	egree Ur	its for C	orn (Acc	umulate	d Month	ly)			
50/86	50/86 0 20 98 206 373 547 706 682 471 265 62 5											5	0	20	118	324	697	1244	1950	2632	3103	3368	3430	3435

(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.

Compete documentation for the 1971-2000 Normals is available on the internet from:

www.ncdc.noaa.gov/oa/climate/normals/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 are 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.

- a. Temperature/ Precipitation Tables
 - 1. 1971-2000 Monthly Normals
 - 2. Cooperative Summary of the Day
 - 3. National Weather Service station records
 - 4. 1971-2000 serially complete daily data

- c. Snow Tables
 - 1. Snow Climatology
 - 2. Cooperative Summary of the Day
- d. Freeze Data Table

1971-2000 serially complete daily data

- b. Degree Day Table
 - 1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals
 - 2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data

References

U.S. Climate Normals 1971-2000, www.ncdc.noaa.gov/normals.html

U.S. Climate Normals 1971-2000-Products Clim20, www.ncdc.noaa.gov/oa/climate/normals/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