

# Climatography of the United States

No. 20

1971-2000

Station: DUCHESNE, UT

COOP ID: 422253

Climate Division: UT 6

NWS Call Sign:

Elevation: 5,520 Feet Lat: 40° 10N

Lon: 110° 24W

## 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	31.5	7.8	19.7	61	1971	31	30.6	2000	-43	1937	9	5.7	1973	1405	0	.0	.0	.9	15.5	30.8	8.7
Feb	37.8	12.8	25.3	73	1986	25	35.8	1995	-40	1933	10	11.9	1973	1111	0	.0	.0	3.9	8.7	27.9	4.3
Mar	51.7	24.5	38.1	76	1966	30	46.3	1986	-16	1922	2	30.0	1984	835	0	.0	.0	18.5	.9	27.7	.2
Apr	62.4	32.0	47.2	83+	1910	27	53.9	1992	4	1945	3	40.2	1975	536	0	.0	.0	27.2	@	15.5	.0
May	71.8	39.5	55.7	93	1984	29	60.4	1992	0	1950	26	50.9	1975	296	6	.0	.1	30.9	.0	4.1	.0
Jun	81.9	47.5	64.7	99	1961	21	69.4	1988	25+	1923	1	59.4	1998	95	86	.0	5.3	30.0	.0	.2	.0
Jul	87.3	53.8	70.6	100	1985	5	73.0	1989	35+	1908	2	66.8	1993	5	177	@	11.9	31.0	.0	.0	.0
Aug	85.2	52.5	68.9	101	1970	4	71.3	1982	26	1908	31	65.8	1993	15	134	.0	6.6	31.0	.0	.0	.0
Sep	76.5	44.1	60.3	93+	1940	1	64.6	1990	16	1926	25	56.9	1971	158	17	.0	.7	30.0	.0	1.6	.0
Oct	63.5	33.8	48.7	85	1947	5	54.9	1988	4	1917	29	44.6	1984	507	0	.0	.0	28.9	.2	14.0	.0
Nov	45.7	21.9	33.8	73	1980	7	39.4	1995	-17	1931	24	27.0	2000	936	0	.0	.0	11.3	2.9	28.3	.3
Dec	34.4	11.4	22.9	61	1958	7	31.9	1980	-39	1919	9	14.5	1972	1306	0	.0	.0	1.3	12.2	30.8	4.6
Ann	60.8	31.8	46.3	101	Aug 1970	4	73.0	Jul 1989	-43	Jan 1937	9	5.7	Jan 1973	7205	420	@	24.6	244.9	40.4	180.9	18.1

+ 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](http://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: 1906-2001

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

029-A

# 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: DUCHESNE, UT**

**COOP ID: 422253**

**Climate Division: UT 6**

**NWS Call Sign:**

**Elevation: 5,520 Feet Lat: 40°10N**

**Lon: 110°24W**

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	.51	.40	2.00	1937	1	1.76	1997	.11	1990	5.8	2.2	.1	.0	.09	.13	.21	.28	.35	.43	.52	.62	.77	1.00	1.22
Feb	.57	.54	1.00+	1927	18	1.46	1990	.01	1972	5.1	1.7	.1	.0	.05	.09	.17	.25	.33	.43	.55	.69	.89	1.22	1.54
Mar	.69	.73	1.10	1927	3	1.87	1993	.02	1971	4.8	2.0	.2	.0	.05	.10	.19	.28	.39	.51	.65	.83	1.08	1.50	1.92
Apr	.90	.68	1.08	1920	16	3.06	1986	.16	1977	6.5	2.9	.3	.0	.16	.24	.38	.50	.62	.76	.92	1.10	1.35	1.75	2.14
May	1.10	.91	1.72	1937	30	3.24	1987	.16	1984	8.0	3.2	.4	@	.22	.32	.48	.63	.78	.94	1.12	1.34	1.63	2.09	2.53
Jun	.68	.62	1.28	1941	7	2.16	1998	.01	1994	6.2	1.9	.2	@	.06	.10	.19	.28	.39	.50	.64	.82	1.07	1.48	1.88
Jul	1.00	1.04	1.08	1985	23	2.54	1987	.05	2000	6.6	2.4	.2	@	.12	.20	.34	.48	.62	.79	.98	1.22	1.55	2.09	2.61
Aug	1.19	.91	1.73	1995	23	4.61	1999	.07	1996	9.0	3.6	.4	.1	.11	.20	.36	.52	.70	.91	1.15	1.44	1.86	2.54	3.21
Sep	1.12	1.05	1.69	1909	1	3.89	1982	.01	1987	5.9	2.8	.6	@	.09	.17	.31	.47	.64	.83	1.06	1.36	1.76	2.44	3.11
Oct	.94	.67	1.65	1928	12	3.49	1981	.01	1999	6.2	3.0	.5	@	.05	.10	.20	.33	.47	.65	.86	1.13	1.52	2.18	2.85
Nov	.49	.39	1.30	1957	3	1.78	1983	.01	1999	5.2	1.7	.2	.0	.06	.09	.16	.23	.30	.38	.48	.59	.75	1.02	1.27
Dec	.54	.47	1.67	1951	30	2.57	1983	.05	1989	5.0	2.0	.1	@	.07	.12	.19	.27	.35	.44	.54	.66	.83	1.10	1.37
Ann	9.73	9.56	2.00	Jan 1937	1	4.61	Aug 1999	.01+	Nov 1999	74.3	29.4	3.3	.1	5.51	6.26	7.25	8.03	8.73	9.43	10.17	10.99	12.02	13.54	14.88

+ 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: 1906-2001

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

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)

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Station: DUCHESNE, UT

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Climate Division: UT 6

NWS Call Sign:

Elevation: 5,520 Feet

Lat: 40° 10N

Lon: 110° 24W

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	6.0	5.0	3	3	9.0	1996	25	21.0	1997	15	1988	19	10	1988	3.3	2.5	.8	.2	.0	11.9	7.9	4.7	.2
Feb	6.0	4.9	3	1	10.0	1989	3	20.9	1990	14	1993	19	11	1993	3.2	2.1	.6	.2	@	11.4	6.7	5.6	1.8
Mar	2.4	1.2	1	#	5.0	1988	16	9.5	1988	12	1993	5	4	1993	1.4	1.0	.3	.1	.0	2.2	1.5	.9	.0
Apr	1.8	.0	#	0	5.5	1997	24	18.9	1997	3	1972	13	#+	1999	.8	.5	.2	.1	.0	.1	.1	.0	.0
May	#	.0	0	0	#	1993	5	#+	1993	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Jun	#	.0	#	0	#	1998	17	#	1998	#	1998	17	#	1998	.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	#	2000	23	#+	2000	#+	2000	23	#+	2000	.0	.0	.0	.0	.0	.0	.0	.0	.0
Oct	1.4	.0	#	0	6.7	1971	29	11.3	1971	9	1971	29	1	1971	.6	.4	.1	.1	.0	.4	.2	.1	.0
Nov	2.2	.8	#	#	6.5	2000	10	10.5	1997	12	1983	25	3	1983	1.5	.9	.3	.2	.0	2.1	.9	.1	.0
Dec	5.9	5.2	2	1	9.0	1983	25	14.3	1972	15	1983	27	7	1983	3.8	2.3	.5	.1	.0	9.9	6.0	2.8	.0
Ann	25.7	17.1	N/A	N/A	10.0	Feb 1989	3	21.0	Jan 1997	15+	Jan 1988	19	11	Feb 1993	14.6	9.7	2.8	1.0	@	38.0	23.3	14.2	2.0

+ 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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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	6/19	6/13	6/09	6/06	6/02	5/30	5/26	5/22	5/16
32	6/04	5/29	5/24	5/20	5/16	5/12	5/08	5/03	4/26
28	5/18	5/13	5/09	5/06	5/03	4/30	4/27	4/23	4/18
24	4/29	4/24	4/20	4/17	4/14	4/11	4/08	4/05	3/31
20	4/24	4/16	4/11	4/06	4/02	3/29	3/24	3/19	3/11
16	4/11	4/02	3/27	3/22	3/18	3/13	3/08	3/02	2/21
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	9/01	9/07	9/11	9/14	9/17	9/20	9/23	9/27	10/02
32	9/18	9/21	9/24	9/26	9/28	9/30	10/02	10/05	10/08
28	9/23	9/29	10/03	10/06	10/10	10/13	10/16	10/21	10/26
24	10/04	10/09	10/14	10/17	10/20	10/24	10/27	11/01	11/06
20	10/22	10/25	10/28	10/30	11/01	11/03	11/05	11/08	11/11
16	10/25	10/30	11/03	11/06	11/08	11/11	11/14	11/17	11/22
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	128	120	115	110	106	102	97	92	84
32	156	149	143	139	134	130	125	120	113
28	180	173	168	163	159	155	150	145	137
24	213	204	198	193	188	184	179	173	164
20	240	231	224	218	213	207	201	194	185
16	265	254	247	241	235	229	223	216	206

\* 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](http://www.ncdc.noaa.gov/oa/climate/normal/usnormals.html)

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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	1405	1111	835	536	296	95	5	15	158	507	936	1306	7205
60	1250	971	680	394	167	36	0	1	62	355	786	1151	5853
57	1157	887	588	314	107	16	0	0	28	268	696	1058	5119
55	1095	831	530	264	75	9	0	0	15	215	636	996	4666
50	950	704	389	160	24	1	0	0	2	107	487	841	3665
32	465	299	64	5	0	0	0	0	0	1	83	328	1245

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	83	112	252	460	733	981	1195	1142	849	516	138	46	6507
55	1	0	5	28	95	300	482	429	173	18	0	0	1531
57	0	0	1	18	64	247	420	367	127	8	0	0	1252
60	0	0	0	9	32	177	327	275	70	2	0	0	892
65	0	0	0	0	6	86	177	134	17	0	0	0	420
70	0	0	0	0	1	30	60	38	2	0	0	0	131

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	0	6	71	247	500	756	961	899	616	280	23	0	0	6	77	324	824	1580	2541	3440	4056	4336	4359	4359
45	0	0	21	132	349	606	806	744	466	159	4	0	0	0	21	153	502	1108	1914	2658	3124	3283	3287	3287
50	0	0	0	55	212	458	651	589	320	64	0	0	0	0	0	55	267	725	1376	1965	2285	2349	2349	2349
55	0	0	0	18	102	312	496	434	191	19	0	0	0	0	0	18	120	432	928	1362	1553	1572	1572	1572
60	0	0	0	1	31	181	342	280	81	0	0	0	0	0	0	1	32	213	555	835	916	916	916	916
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	10	79	200	349	489	613	581	411	226	36	0	0	10	89	289	638	1127	1740	2321	2732	2958	2994	2994

(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](http://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](http://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"><li>a. Temperature/ Precipitation Tables<ol style="list-style-type: none"><li>1. 1971-2000 Monthly Normals</li><li>2. Cooperative Summary of the Day</li><li>3. National Weather Service station records</li><li>4. 1971-2000 serially complete daily data</li></ol></li><li>b. Degree Day Table<ol style="list-style-type: none"><li>1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals</li><li>2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data</li></ol></li></ol> | <ol style="list-style-type: none"><li>c. Snow Tables<ol style="list-style-type: none"><li>1. Snow Climatology</li><li>2. Cooperative Summary of the Day</li></ol></li><li>d. Freeze Data Table<br/>1971-2000 serially complete daily data</li></ol> |
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## References

U.S. Climate Normals 1971-2000, [www.ncdc.noaa.gov/normal.html](http://www.ncdc.noaa.gov/normal.html)  
U.S. Climate Normals 1971-2000-Products Clim20, [www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html)  
Snow Climatology Project Description, [www.ncdc.noaa.gov/oa/climate/monitoring/snowclim/mainpage.html](http://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](http://www1.ncdc.noaa.gov/pub/data/special/serialcomplete_jam_0900.pdf)