U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data,
and Information Service

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: KITT PEAK, AZ **COOP ID: 024675**

Climate Division: AZ 7 **NWS Call Sign:** **Elevation: 6,790 Feet** **Lat: 31˚58N** **Lon: 111˚36W**

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	49.2	33.4	41.3	71+	1994	5	48.5	1986	2	1979	31	34.0	1979	735	0	.0	.0	16.9	1.3	14.2	.0
Feb	51.3	34.3	42.8	75	1963	4	48.8	1995	5	1985	1	36.0	1998	622	0	.0	.0	17.0	.8	11.8	.0
Mar	54.7	36.5	45.6	78	1988	27	54.4	1972	9	1971	2	36.6	1973	603	2	.0	.0	22.1	.6	11.4	.0
Apr	62.4	41.3	51.9	88	1989	21	61.5	1989	15	1976	17	42.3	1975	407	14	.0	.0	26.7	.1	5.6	.0
May	70.7	48.7	59.7	90+	1984	29	67.7	2000	24	1969	5	53.7	1980	211	47	.0	.1	30.7	.0	.7	.0
Jun	80.4	58.7	69.6	98+	1990	27	74.5	1974	37+	1993	7	65.6	1991	28	164	.0	2.4	30.0	.0	.0	.0
Jul	80.6	60.7	70.7	98+	1995	30	74.8	1994	41	1969	23	66.3	1984	11	186	.0	2.1	31.0	.0	.0	.0
Aug	78.2	59.6	68.9	94	1977	7	72.7	1994	42+	1977	30	64.8	1971	11	131	.0	.5	31.0	.0	.0	.0
Sep	75.2	56.7	66.0	91	1979	8	70.4	1979	35	1986	24	61.0	1976	64	93	.0	@	30.0	.0	.0	.0
Oct	66.7	48.1	57.4	88	1980	3	63.1	1999	20	1971	30	49.5	1971	267	31	.0	.0	29.9	@	1.2	.0
Nov	56.5	39.3	47.9	87	1975	5	57.1	1999	12	2001	26	41.1	1972	514	2	.0	.0	23.3	.2	6.8	.0
Dec	49.9	34.4	42.2	72	1980	28	48.9	1980	6+	1987	25	36.2	1971	708	0	.0	.0	17.8	1.2	12.9	.0
Ann	64.7	46.0	55.3	98+	Jul 1995	30	74.8	Jul 1994	2	Jan 1979	31	34.0	Jan 1979	4181	670	.0	5.1	306.4	4.2	64.6	.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/normals/usnormals.html

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1960-2001

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

Issue Date: February 2004

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Precipitation (inches)

Precipitation Totals

Means/Medians(1)

Month	Mean	Median
Jan	1.89	1.43
Feb	1.62	1.48
Mar	1.94	1.29
Apr	.45	.26
May	.51	.22
Jun	.47	.00
Jul	4.64	3.95
Aug	4.69	4.29
Sep	2.20	1.86
Oct	1.96	.82
Nov	1.18	.94
Dec	2.40	1.39
Ann	23.95	22.16

Extremes

Month	Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year
Jan	4.15	1979	29	8.90	1979	.00+	1999
Feb	3.49	1965	7	4.69	1983	.00+	1989
Mar	2.52	1983	4	6.35	1983	.00+	1984
Apr	1.74	1965	10	2.38	1976	.00+	2000
May	1.45	1986	31	2.23	1978	.00+	2000
Jun	2.40	1967	26	3.63	2000	.00+	1998
Jul	3.46	1964	30	12.04	1990	1.09	1995
Aug	4.55	1992	24	11.33	1971	1.46	1990
Sep	3.71	1970	6	7.37	1984	.00+	1988
Oct	4.70	1983	2	8.41	1972	.00+	1999
Nov	2.55	1978	24	5.56	1978	.00+	1999
Dec	3.87	1965	23	10.96	1978	.00+	2000
Ann	4.70	Oct 1983	2	12.04	Jul 1990	.00+	Dec 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	4.7	3.7	1.2	.5
Feb	4.2	3.1	1.1	.5
Mar	4.3	3.2	1.4	.4
Apr	1.9	1.2	.3	@
May	1.8	1.3	.2	.1
Jun	1.4	.7	.2	.1
Jul	10.9	7.8	3.2	1.5
Aug	11.3	7.6	3.3	1.2
Sep	6.5	4.0	1.5	.5
Oct	3.8	2.8	1.3	.6
Nov	3.3	2.3	.9	.3
Dec	4.7	3.7	1.6	1.0
Ann	58.8	41.4	16.2	6.7

Precipitation Probabilities (1)

Probability that the monthly/annual precipitation will be equal to or less than the indicated amount

Monthly/Annual Precipitation vs Probability Levels

These values were determined from the incomplete gamma distribution

Month	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	.00	.00	.19	.49	.83	1.23	1.71	2.32	3.19	4.64	6.09
Feb	.00	.00	.21	.50	.79	1.13	1.53	2.03	2.72	3.86	4.99
Mar	.00	.00	.32	.63	.96	1.35	1.81	2.40	3.20	4.56	5.91
Apr	.00	.00	.00	.02	.10	.21	.35	.53	.80	1.27	1.74
May	.00	.00	.00	.00	.08	.22	.39	.61	.92	1.45	1.98
Jun	.00	.00	.00	.00	.00	.00	.05	.26	.68	1.55	2.52
Jul	1.37	1.81	2.47	3.04	3.60	4.18	4.81	5.56	6.54	8.06	9.47
Aug	1.53	1.98	2.63	3.19	3.73	4.28	4.89	5.60	6.51	7.93	9.24
Sep	.00	.25	.65	1.01	1.37	1.76	2.21	2.74	3.48	4.69	5.85
Oct	.00	.00	.04	.19	.45	.83	1.36	2.13	3.30	5.46	7.74
Nov	.00	.00	.16	.33	.53	.77	1.06	1.44	1.97	2.87	3.78
Dec	.00	.00	.13	.42	.82	1.32	1.96	2.82	4.07	6.26	8.51
Ann	12.97	14.87	17.43	19.45	21.30	23.14	25.07	27.26	29.97	34.02	37.61

+ 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: 1960-2001
(3) Derived from 1971-2000 serially complete daily data

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Snow (inches)

Snow Totals

Means/Medians (1)

Extremes (2)

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
Jan	3.9	2.0	#	#	15.0	1974	2	16.0	1974	15	1974	2	2	1988
Feb	4.6	.2	1	0	14.0	1979	5	20.0	1987	24	1979	5	4	1979
Mar	4.8	4.0	#	#	12.0	1975	12	21.0	1973	13	1973	14	3	1973
Apr	1.5	.0	#	0	7.0	1999	2	9.5	1976	8	1976	17	1	1976
May	.1	.0	#	0	2.0	1978	2	2.5	1978	3	1978	2	#+	1979
Jun	.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
Aug	.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
Oct	.4	.0	#	0	8.0	1996	27	8.0	1996	6	1996	27	#+	1996
Nov	1.2	.0	#	0	6.0	1971	16	13.0	1973	9	1991	30	#+	2000
Dec	2.2	.7	#	0	10.0	1985	12	10.0	1985	10	1985	12	4	1971
Ann	18.7	6.9	N/A	N/A	15.0	Jan 1974	2	21.0	Mar 1973	24	Feb 1979	5	4+	Feb 1979

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	1.4	1.0	.5	.2	.1
Feb	1.2	1.0	.6	.4	.1
Mar	1.5	1.1	.7	.2	@
Apr	.7	.6	.1	.1	.0
May	.1	@	.0	.0	.0
Jun	.0	.0	.0	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	.0	.0	.0	.0	.0
Oct	.1	.1	@	@	.0
Nov	.6	.4	.1	.1	.0
Dec	1.1	.7	.2	@	@
Ann	6.7	4.9	2.2	1.0	.2

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	2.0	.9	.4	.1
Feb	1.6	1.0	.7	.2
Mar	2.5	1.3	.6	.2
Apr	.6	.2	.2	.0
May	.0	.0	.0	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	@	@	@	.0
Nov	.4	.2	.1	.0
Dec	1.0	.3	.2	@
Ann	8.1	3.9	2.2	.5

+ 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

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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	5/28	5/21	5/16	5/12	5/08	5/04	4/30	4/25	4/18
32	5/13	5/06	5/01	4/27	4/23	4/19	4/15	4/10	4/03
28	4/30	4/24	4/19	4/14	4/11	4/07	4/02	3/28	3/22
24	4/24	4/12	4/03	3/27	3/20	3/13	3/05	2/24	2/12
20	4/04	3/19	3/08	2/26	2/16	2/06	1/25	1/09	0/00
16	3/07	2/18	2/04	1/21	1/01	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	10/08	10/14	10/19	10/23	10/26	10/30	11/03	11/08	11/14
32	10/19	10/25	10/30	11/03	11/06	11/10	11/14	11/18	11/25
28	10/27	11/02	11/06	11/10	11/14	11/18	11/21	11/26	12/02
24	11/06	11/14	11/19	11/24	11/29	12/03	12/08	12/14	12/22
20	11/16	11/26	12/03	12/09	12/16	12/22	12/30	1/11	0/00
16	12/10	12/27	1/11	1/27	2/23	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	199	189	182	176	171	165	159	152	143
32	218	210	205	201	196	192	188	182	175
28	243	234	227	222	217	212	206	200	191
24	292	279	269	261	253	246	238	228	215
20	>365	>365	335	314	300	288	276	263	245
16	>365	>365	>365	>365	>365	>365	362	323	294

***** 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)

Heating Degree Days (1)

Base Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	735	622	603	407	211	28	11	11	64	267	514	708	4181
60	580	482	458	280	119	6	0	0	19	161	373	553	3031
57	487	400	375	216	78	2	0	0	8	111	294	463	2434
55	431	348	322	179	56	1	0	0	4	84	246	406	2077
50	290	224	211	102	20	0	0	0	0	35	146	269	1297
32	17	9	13	2	0	0	0	0	0	0	3	15	59

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	305	310	436	598	858	1126	1199	1143	1018	786	481	330	8590
55	6	6	32	85	201	437	486	430	332	157	34	8	2214
57	0	2	22	62	161	378	424	368	276	122	22	3	1840
60	0	0	12	37	109	292	331	275	197	79	11	0	1343
65	0	0	2	14	47	164	186	131	93	31	2	0	670
70	0	0	0	3	15	72	78	36	28	9	0	0	241

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	131	151	225	383	616	896	963	904	788	556	276	147	131	282	507	890	1506	2402	3365	4269	5057	5613	5889	6036
45	55	74	127	255	463	746	808	749	638	408	161	66	55	129	256	511	974	1720	2528	3277	3915	4323	4484	4550
50	16	25	59	148	319	596	653	594	488	273	76	16	16	41	100	248	567	1163	1816	2410	2898	3171	3247	3263
55	1	0	19	65	189	447	498	439	339	154	21	0	1	1	20	85	274	721	1219	1658	1997	2151	2172	2172
60	0	0	0	23	86	303	344	285	200	69	2	0	0	0	0	23	109	412	756	1041	1241	1310	1312	1312
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	65	76	125	219	364	595	640	592	491	310	137	68	65	141	266	485	849	1444	2084	2676	3167	3477	3614	3682

(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

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

c. Snow Tables
   1. Snow Climatology
   2. Cooperative Summary of the Day

d. Freeze Data Table
   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