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: 024849

Lon: 111°36W

Station: LEES FERRY, AZ

Climate Division: AZ 2 NWS Call Sign:

Elevation: 3,210 Feet Lat: 36°52N Temperature (°F)

	Mea	n (1)						Extr	emes				Degree Base To	•		Mean	Numb	er of I	Days (3)	1	
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	48.5	27.1	37.8	73	1965	31	43.7	1981	3	1963	14	30.4	1973	843	0	.0	.0	15.1	.8	24.1	.0
Feb	56.5	31.8	44.2	82	1989	26	50.6	1986	6	1933	10	37.1	1979	583	0	.0	.0	23.0	.4	14.5	.0
Mar	66.5	38.6	52.6	91	1971	26	59.0	1989	15	1939	1	46.0	1984	398	11	.0	@	30.4	.0	5.1	.0
Apr	76.4	46.6	61.5	99+	1989	21	69.1	1989	24	1970	28	54.1	1975	166	61	.0	2.5	29.6	.0	1.6	.0
May	86.8	55.8	71.3	111+	2000	30	76.1	2000	34	1929	2	65.8	1975	25	220	1.3	12.1	31.0	.0	.1	.0
Jun	98.8	65.2	82.0	116	1990	26	88.2	1994	39	1995	2	78.1	1993	0	510	14.7	26.0	30.0	.0	.0	.0
Jul	103.0	71.6	87.3	115+	1989	7	90.5	1996	54	1970	23	84.4	1992	0	692	22.6	29.5	31.0	.0	.0	.0
Aug	99.9	69.8	84.9	112+	1994	5	88.7+	2000	52	1999	6	81.6	1975	0	616	16.9	29.1	31.0	.0	.0	.0
Sep	91.1	61.3	76.2	110	1990	11	79.5	1984	42	1978	21	71.4	1985	2	338	3.3	16.6	30.0	.0	.0	.0
Oct	76.6	48.2	62.4	99+	2000	3	68.5	1988	28+	1938	23	57.4	1982	146	66	.0	2.9	30.6	.0	1.0	.0
Nov	59.9	35.8	47.9	84	1950	8	53.0	1995	6	1938	23	44.0	2000	515	0	.0	.0	27.4	.0	11.3	.0
Dec	48.4	27.2	37.8	75	1955	23	45.3	1980	0+	1939	31	30.8	1990	844	0	.0	.0	16.7	.3	24.6	.1
Ann	76.0	48.3	62.2	116	Jun 1990	26	90.5	Jul 1996	0+	Dec 1939	31	30.4	Jan 1973	3522	2514	58.8	118.7	325.8	1.5	82.3	.1

⁺ Also occurred on an earlier date(s)

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

Issue Date: February 2004 050-A

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

⁽¹⁾ From the 1971-2000 Monthly Normals

⁽²⁾ Derived from station's available digital record: 1916-2001

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

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Climate Division: AZ 2 NWS Call Sign: Elevation: 3,210 Feet Lat: 36°52N Lon: 111°36W

										Pı	recipi	tation	(incl	nes)										
	Me	ons/	P	recip	itatio	on Total	s			М	ean N	Numbo Pays (3		Proba	ability th		nonthly/	annual j	precipita ated am		ll be equ		less tha	ın the
	Medi					Extremes	s			D	aily Pre	cipitatio	n		Th		•		-	incomplet	•		ion	
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	.54	.40	.71	1938	23	2.55	1993	.00+	1976	4.4	1.4	.1	.0	.00	.00	.07	.14	.23	.34	.48	.65	.90	1.32	1.75
Feb	.45	.39	1.40	1948	23	1.57	1980	.00+	1990	4.2	1.7	.1	.0	.00	.00	.10	.17	.25	.34	.44	.57	.74	1.02	1.30
Mar	.65	.52	1.50	2000	21	2.70	2000	.00+	1984	5.2	1.7	.2	@	.00	.00	.08	.17	.28	.41	.58	.79	1.08	1.59	2.10
Apr	.44	.29	1.49	1980	30	2.33	1988	.00+	2000	3.1	1.2	.2	@	.00	.00	.03	.11	.19	.29	.41	.55	.76	1.09	1.44
May	.34	.28	1.07	1934	29	1.40	1992	.00+	2000	3.3	1.5	.1	.0	.00	.00	.06	.14	.21	.28	.35	.44	.56	.74	.94
Jun	.13	.03	.77	1957	10	2.00	1972	.00+	1995	1.2	.3	.0	.0	.00	.00	.00	.00	.00	.02	.06	.12	.22	.40	.60
Jul	.93	.94	1.56	1953	15	2.89	1973	.00+	1993	3.8	2.2	.4	.1	.00	.13	.30	.45	.60	.76	.94	1.16	1.45	1.92	2.37
Aug	.90	.82	2.06	1934	28	2.26	1982	.00	1976	5.8	2.5	.6	.1	.07	.16	.31	.44	.58	.73	.90	1.11	1.39	1.85	2.29
Sep	.50	.44	1.05	1925	18	1.55	1980	.00	1979	5.2	2.2	.1	.0	.02	.06	.13	.20	.28	.37	.48	.61	.80	1.11	1.41
Oct	.80	.60	1.40	1946	6	3.86	2000	.00+	1999	3.7	1.9	.5	.1	.00	.00	.00	.22	.39	.57	.78	1.03	1.37	1.93	2.47
Nov	.50	.41	.88+	1979	8	2.79	1978	.00+	1999	3.1	1.4	.3	.0	.00	.00	.04	.12	.21	.31	.44	.61	.84	1.24	1.64
Dec	.37	.22	.80	1979	26	1.13	1991	.00+	1989	3.7	1.1	.1	.0	.00	.00	.01	.05	.10	.18	.29	.43	.64	1.01	1.40
Ann	6.55	6.65	2.06	Aug 1934	28	3.86	Oct 2000	.00+	May 2000	46.7	19.1	2.7	.3	3.60	4.12	4.80	5.35	5.84	6.33	6.84	7.43	8.15	9.22	10.17

⁺ 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: 1916-2001

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Station: LEES FERRY, AZ

Climate Division: AZ 2 NWS Call Sign:

Elevation: 3,210 Feet Lat: 36°52N Lon: 111°36W

		Fall Depth Depth Spay Year Day Monthly Year Day Year Day Mean Year																						
		Snow Snow Snow Snow Daily Highest Monthly Daily Monthly															Mea	n Nu	mber	of Day	ys (1)			
	Mean	s/Medi	ans (1))					Extre	mes (2)							ow Fa				Snow Depth >= Thresholds			
Month	Snow Fall Mean	Fall	Depth	Depth	Daily Snow	Year	Day	Monthly Snow	Year	Daily Snow	Year	Day	Monthly Mean Snow	Year	0.1	1.0	3.0	5.0	10.0	1	3	5	10	
Jan	.1	.0	#	0	1.0	1973	9	1.0	1973	4	1974	5	#+	1993	.1	.1	.0	.0	.0	@	.0	.0	.0	
Feb	.3	.0	#	0	2.0	1989	5	4.0	1989	2	1990	19	#+	1990	.1	.1	.0	.0	.0	@	.0	.0	.0	
Mar	#	.0	0	0	#	1971	1	#	1971	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	.1	.0	#	0	1.8	1994	19	1.8	1994	2	1994	19	#	1994	.1	.1	.0	.0	.0	@	.0	.0	.0	
Dec	.4	.0	#	0	2.3	1992	13	5.9	1992	3	1992	28	#+	1992	.4	.2	.0	.0	.0	.0	.0	.0	.0	
Ann	.9	.0	N/A	N/A	2.3	Dec 1992	13	5.9	Dec 1992	4	Jan 1974	5	#+	Nov 1994	.7	.5	.0	.0	.0	@	.0	.0	.0	

⁺ 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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COOP ID: 024849

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Climate Division: AZ 2 NWS Call Sign:

Elevation: 3,210 Feet Lat: 36°52N Lon: 111°36W

				Freez	e Data										
			Spri	ng Freeze D	ates (Month/	(Day)									
Tomp (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	5/05	4/26	4/20	4/14	4/09	4/04	3/30	3/23	3/14						
32	4/23	4/12	4/04	3/29	3/22	3/16	3/09	3/01	2/19						
28	4/11	3/30	3/21	3/13	3/06	2/27	2/19	2/10	1/29						
24	3/16	3/06	2/27	2/20	2/15	2/09	2/03	1/27	1/17						
20	2/20	2/10	2/02	1/27	1/21	1/14	1/07	12/28	0/00						
16	2/10	1/29	1/19	1/10	12/29	0/00	0/00	0/00	0/00						
			Fal	ll Freeze Da	tes (Month/D	Day)			•						
T (E)	Fall Freeze Dates (Month/Day) Probability of earlier date in fall (beginning Aug 1) than indicated(*) Probability of earlier date in fall (beginning Aug 1) than indicated(*)														
1emp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90						
36	10/14	10/19	10/23	10/27	10/30	11/02	11/05	11/09	11/14						
32	10/23	10/28	11/01	11/04	11/07	11/10	11/14	11/17	11/23						
28	11/02	11/08	11/12	11/15	11/19	11/22	11/25	11/30	12/05						
24	11/10	11/18	11/23	11/27	12/02	12/06	12/10	12/16	12/23						
20	11/29	12/07	12/13	12/18	12/24	12/29	1/05	1/15	0/00						
16	12/12	12/21	12/28	1/05	1/16	0/00	0/00	0/00	0/00						
				Freeze F	ree Period	•	•		•						
Tomas (F)			Probability	of longer th	an indicated	freeze free p	eriod (Days))							
Temp (F)	.10	.20	.30	.40	.50	.60	.70	.80	.90						
36	237	225	217	209	203	196	189	180	169						
32	269	255	245	237	229	221	213	203	189						
28	301	286	275	265	257	248	238	227	212						
24	329	314	304	295	288	280	272	263	250						
20	>365	>365	>365	>365	343	329	316	304	288						
16	>365	>365	>365	>365	>365	>365	354	331	313						

^{*} 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.

Complete documentation available from:

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	Degree Days to Selected Base Temperatures (°F)														
Base						Heatin	g Degree l	Days (1)							
Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann		
65	843	583	398	166	25	0	0	0	2	146	515	844	3522		
60	688	444	266	87	5	0	0	0	0	69	368	689	2616		
57	595	363	199	53	2	0	0	0	0	39	285	596	2132		
55	533	311	161	36	1	0	0	0	0	25	233	534	1834		
50	387	192	83	12	0	0	0	0	0	6	125	390	1195		
32	41	4	0	0	0	0	0	0	0	0	1	47	93		

Base						Coolin	g Degree l	Days (1)					
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	222	345	637	885	1218	1500	1715	1639	1326	943	476	226	11132
55	0	7	85	231	505	810	1002	926	636	255	18	0	4475
57	0	4	61	188	445	750	940	864	576	207	9	0	4044
60	0	1	35	132	355	660	847	771	486	144	3	0	3434
65	0	0	11	61	220	510	692	616	338	66	0	0	2514
70	0	0	3	21	114	365	537	461	201	23	0	0	1725

										Gro	wing l	Degre	e Uni	ts (2)										
Base					Growing	g Degree	Units (N	Ionthly)					Growing Degree Units (Accumulated Monthly)											
	Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov D 0 48 170 411 633 950 1244 1451 1367 1049 684 246													Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	48 170 411 633 950 1244 1451 1367 1049 684 246												48	218	629	1262	2212	3456	4907	6274	7323	8007	8253	8307
45													11	88	353	844	1639	2733	4029	5241	6140	6672	6806	6815
50	0	23	142	351	641	944	1141	1057	749	385	53	0	0	23	165	516	1157	2101	3242	4299	5048	5433	5486	5486
55	0	3	58	225	487	794	986	902	599	251	15	0	0	3	61	286	773	1567	2553	3455	4054	4305	4320	4320
60	0	0	16	123	342	644	831	747	452	137	0	0	0	0	16	139	481	1125	1956	2703	3155	3292	3292	3292
Base	Growing Degree Units for Corn (Monthly)													Gr	owing D	egree Un	its for C	orn (Acc	umulate	d Month	ly)			
50/86	0/86 41 121 273 409 602 756 888 850 664 427 165 4												41	162	435	844	1446	2202	3090	3940	4604	5031	5196	5237

(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

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