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: BOISE AIR TERMINAL, ID 1971-2000 COOP ID: 101022

Climate Division: ID 5 NWS Call Sign: BOI Elevation: 2,814 Feet Lat: 43°34N Lon: 116°14W

	Temperature (°F)																						
	Mea	n (1)						Extr	emes					Degree Base To	Days (1) emp 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	36.7	23.6	30.2	63	1953	9	38.9	1998	-17	1950	31	17.0	1979	1095	0	.0	.0	2.3	9.3	25.7	1.6		
Feb	44.5	28.8	36.7	71	1992	29	42.7	1992	-15	1989	5	23.8	1989	807	0	.0	.0	8.7	3.1	19.4	.5		
Mar	53.6	34.0	43.8	81	1978	29	49.6	1992	6	1971	1	36.6	1985	672	0	.0	.0	21.4	.2	15.1	.0		
Apr	61.7	39.4	50.6	92+	1987	27	56.8	1987	19	1968	13	45.0	1975	451	3	.0	.1	27.8	.0	7.3	.0		
May	70.7	46.6	58.6	98+	1986	30	65.2	1992	22	1982	5	54.9	1977	245	31	.0	1.4	30.8	.0	1.6	.0		
Jun	80.3	54.2	67.2	109	1940	19	73.0	1986	31+	1995	7	62.6	1984	71	122	.8	6.2	30.0	.0	.1	.0		
Jul	89.2	60.3	74.7	111	1960	19	79.2	1998	35	1986	5	66.0	1993	12	297	2.8	17.9	31.0	.0	.0	.0		
Aug	88.0	59.8	73.9	110	1961	4	79.5	1971	34+	1992	25	68.8	1980	15	275	1.9	16.7	31.0	.0	.0	.0		
Sep	77.2	51.2	64.2	102	1945	1	70.8	1990	23	1970	14	57.2	1985	110	74	.1	3.6	29.9	.0	.4	.0		
Oct	64.3	41.3	52.8	94+	1997	1	60.8	1988	11	1971	29	47.8	1984	398	5	.0	.1	29.1	.0	5.7	.0		
Nov	47.5	32.4	39.9	78	1999	6	46.9	1999	-3+	1985	26	28.5	1985	768	0	.0	.0	12.6	1.7	17.3	.1		
Dec	37.2	24.1	30.6	65	1964	22	39.1	1973	-25	1990	22	13.3	1985	1083	0	.0	.0	2.9	7.8	25.6	1.9		
Ann	62.6	41.3	51.9	111	Jul 1960	19	79.5	Aug 1971	-25	Dec 1990	22	13.3	Dec 1985	5727	807	5.6	46.0	257.5	22.1	118.2	4.1		

⁺ Also occurred on an earlier date(s)

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

Issue Date: February 2004 013-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: 1940-2001

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

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COOP ID: 101022

Station: BOISE AIR TERMINAL, ID

Climate Division: ID 5 NWS Call Sign: BOI Elevation: 2,814 Feet Lat: 43°34N Lon: 116°14W

										Pı	recipit	tation	(incl	nes)													
	Mo	ans/	P	recip	itatio	on Total	S			М	ean N	Numbo Pays (3		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													
		ans(1)				Extremes	5			D	aily Pre	cipitatio	n	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	1.39	1.36	1.13	1953	18	2.74	1997	.20	1985	11.3	4.9	.3	.0	.44	.57	.77	.93	1.10	1.26	1.45	1.66	1.94	2.37	2.76			
Feb	1.14	.99	.92	1951	4	3.70	1986	.18	1997	10.1	4.2	.2	.0	.29	.39	.56	.71	.85	1.00	1.17	1.37	1.64	2.05	2.44			
Mar	1.41	1.44	1.60	1981	20	3.46	1989	.17+	1994	10.3	5.1	.3	@	.30	.43	.64	.83	1.02	1.22	1.45	1.72	2.08	2.65	3.20			
Apr	1.27	1.36	1.27	1969	6	2.34	1978	.19	1977	8.6	4.2	.4	@	.35	.47	.65	.81	.97	1.13	1.31	1.52	1.80	2.23	2.64			
May	1.27	1.04	1.77	1990	29	4.40	1998	.00	1992	7.6	3.5	.5	@	.07	.20	.39	.58	.78	1.00	1.25	1.57	2.00	2.71	3.39			
Jun	.74	.58	1.91	1958	12	2.10	1993	.08	1989	5.1	2.3	.3	.1	.08	.14	.24	.35	.46	.58	.73	.91	1.16	1.56	1.96			
Jul	.39	.23	.94	1960	30	1.62	1982	.00+	1999	3.0	1.2	.1	.0	.00	.01	.04	.09	.15	.23	.33	.46	.64	.98	1.31			
Aug	.30	.16	1.61	1979	13	1.81	1979	.00+	1998	2.7	.8	.1	@	.00	.00	.01	.05	.10	.17	.25	.36	.52	.78	1.06			
Sep	.76	.62	1.73	1976	11	2.93	1986	.00+	1999	3.9	2.1	.3	@	.00	.00	.07	.19	.33	.49	.68	.93	1.28	1.87	2.46			
Oct	.76	.60	.90	2000	12	2.59	2000	.00+	1988	5.2	2.7	.2	.0	.00	.00	.23	.36	.49	.63	.78	.97	1.20	1.60	1.97			
Nov	1.38	1.19	.78	1971	26	3.36	1988	.14	1976	10.5	5.3	.2	.0	.36	.49	.69	.86	1.04	1.22	1.43	1.67	1.99	2.48	2.95			
Dec	1.38	1.15	1.03	1955	23	4.23	1983	.09	1976	11.4	4.6	.4	.0	.17	.28	.48	.67	.88	1.10	1.36	1.69	2.13	2.85	3.55			
Ann	12.19	12.06	1.91	Jun 1958	12	4.40	May 1998	.00+	Sep 1999	89.7	40.9	3.3	.1	8.30	9.04	10.00	10.73	11.38	12.01	12.66	13.39	14.28	15.56	16.69			

⁺ 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: 1940-2001

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

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COOP ID: 101022

Station: BOISE AIR TERMINAL, ID

Climate Division: ID 5 NWS Call Sign: BOI Elevation: 2,814 Feet Lat: 43°34N Lon: 116°14W

										Snov	w (incl	hes)													
						Sno	ow To	tals							Mean Number of Days (1)										
	Mean	s/Medi	ians (1))					Extre	mes (2)			ow Fa	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	5.0	4.2	1	0	5.4	1993	13	14.6	1993	12	1982	4	6+	1984	5.8	1.7	.3	@	.0	11.2	6.3	3.4	.4		
Feb	3.2	2.4	#	0	4.3	1995	13	10.4	1993	6+	1979	5	2	1984	3.6	1.1	.2	.0	.0	4.5	1.7	.2	.0		
Mar	1.3	.8	#	0	4.3	1974	7	5.7	1974	4	1974	8	#	2000	1.9	.4	@	.0	.0	.6	@	.0	.0		
Apr	.3	#	#	0	1.5	1975	7	2.6	1975	1+	1999	1	#	1999	.5	.2	.0	.0	.0	.1	.0	.0	.0		
May	.1	.0	#	0	.9	1975	3	.9	1975	0	0	0	#	2000	.1	.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	.1	.0	0	0	1.1	1991	29	2.7	1971	#	1971	31	0	0	.1	.1	.0	.0	.0	.0	.0	.0	.0		
Nov	2.9	2.0	#	0	4.7	1985	28	18.6	1985	11	1985	29	2	1985	2.6	1.2	.2	.0	.0	2.5	.5	.2	.1		
Dec	6.5	4.6	1	1	9.8	1996	20	26.2	1983	13+	1985	2	6	1985	5.6	2.3	.6	.1	.0	7.7	4.3	2.4	.2		
Ann	19.4	14.0	N/A	N/A	9.8	Dec 1996	20	26.2	Dec 1983	13+	Dec 1985	2	6+	Dec 1985	20.2	7.0	1.3	.1	.0	26.6	12.8	6.2	.7		

⁺ 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: 101022

Lon: 116°14W

Lat: 43°34N

Station: BOISE AIR TERMINAL, ID

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Freeze Data Spring Freeze Dates (Month/Day) Probability of later date in spring (thru Jul 31) than indicated(*) Temp (F) .10 .20 .30 .40 .60 .70 .80 .90 36 6/18 6/10 6/05 5/31 5/26 5/22 5/17 5/11 5/04 32 5/30 5/23 5/18 5/14 5/10 5/07 5/02 4/28 4/21 28 5/13 5/06 5/02 4/28 4/24 4/20 4/17 4/12 4/06 2/26 24 4/29 4/19 4/11 4/04 3/29 3/23 3/16 3/08 20 3/25 3/14 3/06 2/27 2/21 2/15 2/08 1/31 1/20 2/20 2/08 16 3/01 2/13 2/03 1/28 1/23 1/16 1/05 Fall Freeze Dates (Month/Day) Probability of earlier date in fall (beginning Aug 1) than indicated(*) Temp (F) .20 .30 .40 .50 .70 .10 .60 .80 .90 36 9/07 9/12 9/16 9/19 9/22 9/25 9/29 10/02 10/08 32 9/20 9/26 9/29 10/03 10/06 10/09 10/12 10/16 10/21 28 10/02 10/07 10/11 10/15 10/18 10/21 10/25 10/29 11/04 24 10/13 10/19 10/23 10/27 10/31 11/03 11/07 11/12 11/18 20 10/23 10/31 11/06 11/11 11/16 11/21 11/26 12/02 12/10 11/25 11/30 12/05 12/17 12/27 16 11/06 11/14 11/20 12/10 Freeze Free Period **Probability of longer than indicated freeze free period (Days)** Temp (F) .10 .20 .30 .40 .50 .60 .70 .80 .90 149 139 131 124 118 112 98 87 36 106 32 175 165 159 153 147 142 136 130 120 28 205 195 188 182 176 171 157 148 165 24 249 237 229 222 215 209 202 193 182 314 276 267 237 20 298 286 258 248 221 333 16 >365 319 308 299 291 282 272 258

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 do

Complete documentation available from:

Elevation: 2,814 Feet

^{*} Probability of observing a temperature as cold, or colder, later in the spring or earlier in the fall than the indicated date.

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	Degree Days to Selected Base Temperatures (°F)														
Base						Heatin	g Degree 1	Days (1)							
Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann		
65	1095	807	672	451	245	71	12	15	110	398	768	1083	5727		
60	925	653	503	297	120	22	1	2	55	240	602	910	4330		
57	832	570	412	222	75	10	0	0	29	168	517	817	3652		
55	775	520	355	178	51	5	0	0	18	126	462	760	3250		
50	631	391	218	91	16	0	0	0	4	52	329	616	2348		
32	217	78	6	0	0	0	0	0	0	0	48	205	554		

Base	Cooling Degree Days (1)														
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann		
32	85	174	353	537	801	1029	1295	1270	939	620	245	89	7437		
55	0	0	3	38	151	345	582	557	271	60	2	0	2009		
57	0	0	1	26	116	291	520	496	223	41	1	0	1715		
60	0	0	0	13	74	217	428	405	158	20	0	0	1315		
65	0	0	0	3	31	122	297	275	74	5	0	0	807		
70	0	0	0	0	8	52	158	141	26	1	0	0	386		

	Growing Degree U																												
Base		Growing Degree Units (Monthly)														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	12	53	148	310	565	798	1056	1032	707	389	91	22	12	65	213	523	1088	1886	2942	3974	4681	5070	5161	5183					
45	0	12	65	185	413	648	901	877	557	253	39	2	0	12	77	262	675	1323	2224	3101	3658	3911	3950	3952					
50	0	1	18	92	268	498	746	722	412	140	10	0	0	1	19	111	379	877	1623	2345	2757	2897	2907	2907					
55	0	0	2	43	160	352	591	567	277	64	0	0	0	0	2	45	205	557	1148	1715	1992	2056	2056	2056					
60	0	0	0	14	79	225	438	414	165	20	0	0	0	0	0	14	93	318	756	1170	1335	1355	1355	1355					
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)																
50/86	36 0 27 94 193 349 496 663 654 444 245 47											3	0	27	121	314	663	1159	1822	2476	2920	3165	3212	3215					

(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