

# Climatology of the United States

No. 20

1971-2000

Station: ADEL, OR

COOP ID: 350036

Climate Division: OR 7

NWS Call Sign:

Elevation: 4,583 Feet Lat: 42° 11N

Lon: 119° 54W

## 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	41.7	20.1	30.9	64	1959	17	38.9	1986	-12	1971	4	24.2	1977	1058	0	.0	.0	5.8	3.9	27.3	.9
Feb	45.4	22.9	34.2	71	1986	27	40.9	1995	-24	1989	6	22.9	1989	864	0	.0	.0	10.0	1.7	23.5	.5
Mar	51.6	26.6	39.1	77	1966	30	45.8	1978	-4	1971	1	30.6	1971	802	0	.0	.0	18.5	.3	22.3	@
Apr	58.9	31.4	45.2	89	1981	30	52.4	1987	15	1972	22	37.3	1975	596	0	.0	.0	24.9	.0	17.2	@
May	67.9	38.2	53.1	98	1986	30	60.9	1992	18+	1968	13	46.4	1977	379	8	.0	.5	29.7	.0	4.8	.0
Jun	77.6	45.4	61.5	105	1985	18	67.1	1974	29	1966	4	57.4	1980	156	50	.2	3.5	30.0	.0	1.5	.0
Jul	86.8	51.0	68.9	107	1978	25	72.7	1994	34+	1986	5	62.5	1993	31	152	.7	12.6	31.0	.0	.0	.0
Aug	86.3	49.4	67.9	104+	1990	5	71.7	1971	31	1964	29	61.9	1976	46	136	.7	10.3	31.0	.0	@	.0
Sep	77.1	40.8	59.0	101	1987	1	64.1	1987	20+	1965	18	51.1	1985	224	41	.1	2.4	29.8	.0	7.0	.0
Oct	65.5	32.6	49.1	92+	1963	3	58.2	1988	6	1971	29	43.1	1984	497	3	.0	.1	28.3	@	12.0	.0
Nov	48.6	25.7	37.2	77+	1976	5	44.3	1999	2	1979	27	29.7	1994	835	0	.0	.0	14.4	.8	22.1	.1
Dec	41.7	20.7	31.2	67	1958	9	36.2	1980	-24	1990	22	20.8	1990	1048	0	.0	.0	7.0	4.0	27.1	1.0
Ann	62.4	33.7	48.1	107	Jul 1978	25	72.7	Jul 1994	-24+	Dec 1990	22	20.8	Dec 1990	6536	390	1.7	29.4	260.4	10.7	164.8	2.5

+ 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: 1956-2001

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

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# 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: ADEL, OR

COOP ID: 350036

Climate Division: OR 7

NWS Call Sign:

Elevation: 4,583 Feet Lat: 42°11N

Lon: 119°54W

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	.89	.86	1.18	1967	21	2.70	1980	.00+	1999	8.5	3.7	.4	.1	.00	.00	.14	.30	.47	.65	.86	1.13	1.49	2.07	2.65
Feb	.97	.76	1.65	1986	17	4.86	1986	.00+	1999	8.9	3.9	.4	.1	.00	.00	.26	.43	.59	.77	.98	1.23	1.56	2.10	2.62
Mar	.93	.75	1.01	1971	12	3.65	1983	.00+	1998	9.5	4.0	.5	@	.00	.00	.27	.44	.60	.76	.96	1.19	1.48	1.97	2.44
Apr	.93	.80	1.19	1978	1	3.23	1978	.00	1998	7.9	2.9	.2	.1	.05	.14	.28	.42	.57	.73	.92	1.15	1.46	1.99	2.49
May	.83	.71	1.04	1958	11	3.06	1971	.00+	1998	6.9	2.7	.3	.0	.00	.15	.31	.45	.57	.71	.86	1.04	1.28	1.66	2.02
Jun	.66	.50	1.67	1977	10	2.13	1987	.00	1986	5.1	1.9	.3	@	.02	.06	.15	.24	.35	.47	.62	.81	1.07	1.52	1.96
Jul	.38	.20	.98	1990	20	1.81	1987	.00+	1997	2.9	1.2	.2	.0	.00	.00	.00	.02	.09	.18	.30	.45	.67	1.07	1.46
Aug	.38	.10	.90+	1979	28	2.76	1979	.00+	2000	2.7	1.2	.1	.0	.00	.00	.00	.01	.05	.13	.25	.41	.66	1.12	1.59
Sep	.48	.33	1.17	1977	16	1.97	1971	.00+	1999	3.6	1.6	.2	@	.00	.00	.00	.05	.18	.30	.44	.62	.85	1.25	1.63
Oct	.63	.36	2.00	1992	31	2.48	2000	.00+	1995	5.4	2.0	.2	.1	.00	.00	.13	.23	.34	.47	.61	.79	1.03	1.44	1.84
Nov	1.14	1.01	.80	1970	28	3.32	1981	.14	1976	10.1	4.0	.2	.0	.13	.21	.37	.53	.70	.89	1.11	1.39	1.76	2.39	2.99
Dec	.96	.65	1.67	1964	23	3.09	1981	.00+	1998	9.3	4.5	.5	@	.00	.00	.20	.37	.53	.72	.94	1.21	1.57	2.17	2.76
Ann	9.18	9.54	2.00	Oct 1992	31	4.86	Feb 1986	.00+	Aug 2000	80.8	33.6	3.5	.4	4.16	4.98	6.10	7.02	7.87	8.73	9.65	10.70	12.02	14.02	15.83

+ 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: 1956-2001

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

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

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[www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)

Station: ADEL, OR

COOP ID: 350036

Climate Division: OR 7

NWS Call Sign:

Elevation: 4,583 Feet

Lat: 42° 11N

Lon: 119° 54W

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	4.2	2.8	1	#	5.5	1977	2	10.5	1979	7	1977	3	3	1977	2.1	1.5	.4	.1	.0	5.1	2.8	.3	.0
Feb	4.2	1.8	#	#	8.0	1976	29	21.1	1979	8	1972	25	4	1975	2.4	1.6	.6	.3	.0	2.8	1.0	.3	.0
Mar	2.6	.5	#	#	9.0	1971	12	12.0	1974	8	1971	13	2	1971	1.3	.9	.3	.1	.0	1.6	.9	.3	.0
Apr	1.1	.0	#	#	3.5	1980	6	5.0	1972	3	1999	6	#+	1999	.5	.5	.1	.0	.0	.2	.0	.0	.0
May	.6	.0	#	0	3.0	1974	17	5.0	1974	1	1977	5	#	1977	.4	.4	@	.0	.0	@	.0	.0	.0
Jun	#	.0	0	0	#	1973	17	#+	1973	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	.1	.0	#	0	1.0	1971	27	2.0	1971	#	1990	23	#	1990	.1	.1	.0	.0	.0	.0	.0	.0	.0
Oct	.3	.0	#	0	3.0	1975	27	3.2	1975	2	1975	27	#+	1991	.3	.2	@	.0	.0	.2	.0	.0	.0
Nov	2.5	2.0	#	#	5.0	1978	21	10.8	1979	9	1979	27	1	1979	1.3	1.0	.2	.1	.0	1.4	.4	.1	.0
Dec	3.9	2.0	#	#	5.8	1979	24	14.5	1971	8	1979	24	2	1972	2.1	1.6	.3	.1	.0	3.0	1.2	.3	.0
Ann	19.5	9.1	N/A	N/A	9.0	Mar 1971	12	21.1	Feb 1979	9	Nov 1979	27	4	Feb 1975	10.5	7.8	1.9	.7	.0	14.3	6.3	1.3	.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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**NWS Call Sign:**

**Elevation: 4,583 Feet**

**Lat: 42° 11N**

**Lon: 119° 54W**

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	7/07	7/01	6/26	6/22	6/19	6/15	6/11	6/07	5/31
32	6/27	6/20	6/15	6/10	6/06	6/02	5/29	5/24	5/17
28	6/05	5/28	5/22	5/16	5/11	5/07	5/01	4/25	4/17
24	5/13	5/04	4/28	4/23	4/18	4/13	4/08	4/02	3/24
20	4/30	4/19	4/10	4/03	3/28	3/22	3/15	3/06	2/23
16	4/15	4/03	3/26	3/19	3/12	3/06	2/26	2/18	2/06
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	8/20	8/27	9/01	9/05	9/08	9/12	9/16	9/21	9/27
32	8/29	9/05	9/09	9/13	9/17	9/20	9/24	9/29	10/05
28	9/03	9/12	9/18	9/24	9/29	10/04	10/09	10/16	10/25
24	9/17	9/26	10/04	10/10	10/15	10/21	10/27	11/03	11/13
20	10/10	10/17	10/23	10/27	11/01	11/05	11/10	11/15	11/23
16	10/29	11/05	11/10	11/14	11/18	11/22	11/26	12/01	12/08
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	113	102	94	87	81	74	68	60	48
32	137	125	116	109	102	95	88	79	67
28	182	167	157	148	140	131	122	112	97
24	223	208	197	188	180	171	162	152	137
20	258	244	234	225	217	209	200	190	176
16	295	280	268	259	250	241	232	220	205

\* 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:

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**Elevation: 4,583 Feet    Lat: 42° 11N    Lon: 119° 54W**

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	1058	864	802	596	379	156	31	46	224	497	835	1048	6536
60	903	724	647	451	246	75	6	12	129	352	685	893	5123
57	810	640	555	368	179	42	1	5	86	273	596	800	4355
55	748	584	495	314	141	27	0	2	63	225	537	738	3874
50	593	449	351	197	68	7	0	0	24	126	396	583	2794
32	141	83	33	8	0	0	0	0	0	2	56	134	457

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	106	143	253	402	652	885	1144	1113	808	531	210	108	6355
55	0	0	2	18	81	221	432	402	181	41	2	0	1380
57	0	0	0	11	56	177	371	342	144	27	0	0	1128
60	0	0	0	4	30	119	282	257	97	13	0	0	802
65	0	0	0	0	8	50	152	136	41	3	0	0	390
70	0	0	0	0	1	15	63	54	14	0	0	0	147

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	19	42	98	203	449	631	909	877	569	334	80	19	19	61	159	362	811	1442	2351	3228	3797	4131	4211	4230
45	0	8	37	109	309	482	754	722	427	203	26	0	0	8	45	154	463	945	1699	2421	2848	3051	3077	3077
50	0	0	8	49	185	337	599	567	292	106	5	0	0	0	8	57	242	579	1178	1745	2037	2143	2148	2148
55	0	0	0	11	94	214	446	413	175	43	0	0	0	0	0	11	105	319	765	1178	1353	1396	1396	1396
60	0	0	0	0	41	112	297	268	84	11	0	0	0	0	0	0	41	153	450	718	802	813	813	813
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	11	36	82	165	301	415	574	561	421	259	64	14	11	47	129	294	595	1010	1584	2145	2566	2825	2889	2903

(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)