

Climatography of the United States

No. 20

National Climatic Data Center
Federal Building
151 Patton Avenue
Asheville, North Carolina 28801
www.ncdc.noaa.gov

Station: SALEM, IN

1971-2000

COOP ID: 127755

Climate Division: IN 8

NWS Call Sign:

Elevation: 800 Feet

Lat: 38° 37N

Lon: 86° 05W

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	39.2	21.4	30.3	72	1950	25	40.6	1990	-29	1994	19	14.3	1977	1076	0	.0	.0	6.3	8.2	25.2	2.1
Feb	45.6	24.5	35.1	78	1972	29	42.8	2000	-32	1951	2	19.3	1978	838	0	.0	.0	10.4	5.0	20.4	1.5
Mar	56.2	33.1	44.7	84	1981	31	52.6	1973	-11	1960	6	37.7	1978	630	0	.0	.0	22.2	.7	15.3	.1
Apr	66.8	41.7	54.3	88+	1962	30	60.1	1981	17	1982	7	49.8	1982	329	5	.0	.0	28.5	.0	5.9	.0
May	75.8	51.3	63.6	98	1962	18	69.8	1991	27	1966	10	59.4	1971	134	89	.0	.2	31.0	.0	.4	.0
Jun	83.6	60.1	71.9	102+	1952	27	75.2	1971	36	1966	1	67.8	1974	9	214	@	3.7	30.0	.0	.0	.0
Jul	87.1	64.3	75.7	105	1954	14	79.3+	1999	45	1968	4	72.2	1984	0	331	.3	8.4	31.0	.0	.0	.0
Aug	85.7	62.4	74.1	101+	1951	15	79.1	1983	40	1986	29	69.8	1992	4	284	.1	7.3	31.0	.0	.0	.0
Sep	79.4	55.2	67.3	104	1954	6	72.0	1998	31	1993	30	62.4	1974	55	123	.0	1.7	30.0	.0	.1	.0
Oct	68.4	43.7	56.1	94	1953	1	62.7	1971	18	1981	24	49.0	1988	298	21	.0	.0	30.5	.0	4.7	.0
Nov	55.2	35.6	45.4	83	1950	1	51.5	1999	-3+	1950	25	36.6	1976	589	0	.0	.0	20.0	.2	11.5	.0
Dec	43.7	26.2	35.0	75	1982	2	43.7	1982	-13+	1983	25	21.2	1989	932	0	.0	.0	9.3	4.4	21.4	.9
Ann	65.6	43.3	54.5	105	Jul 1954	14	79.3+	Jul 1999	-32	Feb 1951	2	14.3	Jan 1977	4894	1067	.4	21.3	280.2	18.5	104.9	4.6

+ 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

Issue Date: February 2004

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1948-2001

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

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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	3.33	3.15	4.08	1959	21	9.48	1982	.57	1981	11.0	6.6	2.2	.7	.85	1.17	1.65	2.08	2.50	2.94	3.43	4.02	4.78	5.99	7.12
Feb	3.19	2.78	3.50	2000	18	7.54	2000	.54	1978	10.4	6.6	1.9	.7	.77	1.07	1.53	1.95	2.36	2.79	3.28	3.86	4.61	5.81	6.94
Mar	4.29	4.00	5.38	1964	9	9.02	1989	1.66	1987	12.6	8.1	3.2	1.0	1.52	1.92	2.51	3.00	3.47	3.95	4.48	5.09	5.88	7.09	8.20
Apr	4.59	4.45	4.95	1996	29	11.58	1996	1.18	1985	12.8	8.5	2.9	1.2	1.44	1.87	2.52	3.07	3.61	4.17	4.78	5.49	6.41	7.85	9.18
May	4.86	4.28	3.80	1995	25	11.62	1995	.97	1988	12.1	8.8	3.4	1.2	1.48	1.94	2.63	3.22	3.80	4.40	5.06	5.83	6.83	8.39	9.84
Jun	3.93	4.08	4.21	1964	18	7.77	1985	.46	1988	10.6	6.8	2.7	.9	1.24	1.61	2.16	2.64	3.09	3.57	4.09	4.70	5.48	6.71	7.84
Jul	4.39	4.01	7.20	1988	20	11.16	1988	1.18	1983	10.0	6.8	2.8	1.3	1.42	1.84	2.45	2.98	3.48	4.01	4.58	5.25	6.11	7.45	8.69
Aug	3.97	3.38	3.59	1949	15	8.26	1974	.56	1987	9.0	6.3	2.2	1.0	1.06	1.44	2.01	2.52	3.01	3.53	4.10	4.78	5.67	7.06	8.37
Sep	3.06	3.20	3.50	1991	4	7.23	1996	.36	1998	8.1	5.5	1.9	.7	.64	.92	1.36	1.77	2.19	2.63	3.12	3.72	4.51	5.77	6.96
Oct	2.87	2.60	2.85	1955	6	9.13	1983	.40	2000	7.2	4.3	1.6	.5	.70	.97	1.39	1.76	2.13	2.52	2.96	3.47	4.15	5.22	6.23
Nov	3.90	3.74	2.84	1948	19	7.81	1979	.90	1976	9.3	6.3	2.5	1.1	1.42	1.78	2.31	2.75	3.17	3.61	4.08	4.62	5.32	6.39	7.38
Dec	3.69	3.69	2.58	1948	15	6.57	1978	.65	1976	11.7	6.6	2.6	.9	1.32	1.67	2.17	2.59	2.99	3.40	3.85	4.38	5.04	6.08	7.02
Ann	46.07	46.39	7.20	Jul 1988	20	11.62	May 1995	.36	Sep 1998	124.8	81.2	29.9	11.2	33.49	35.95	39.08	41.45	43.54	45.57	47.66	49.96	52.74	56.77	60.25

+ 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: 1948-2001

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

Complete documentation available from:
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NWS Call Sign:

Elevation: 800 Feet

Lat: 38°37N

Lon: 86°05W

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	5.8	3.0	1	#	9.0	1978	17	23.5	1978	20	1978	31	10	1978	3.4	2.0	.6	.2	.0	6.8	3.7	2.2	.9
Feb	5.3	3.1	2	#	8.0	1971	13	18.5	1971	20	1978	8	17	1978	3.5	1.7	.5	.3	.0	6.3	4.3	3.6	1.1
Mar	2.9	1.0	#	#	7.0	1996	20	13.0	1996	19	1978	7	6	1978	1.7	.9	.4	.2	.0	1.3	.9	.6	.4
Apr	.2	.0	#	0	1.5	1973	10	2.0	1973	#+	1992	2	#+	1992	.2	.1	.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	.2	.0	#	0	3.1	1993	30	3.1	1993	2	1993	30	#	1993	.1	.1	@	.0	.0	@	.0	.0	.0
Nov	.6	.0	#	0	2.5	1971	6	4.5	1971	3	1971	7	#+	1997	.6	.3	.0	.0	.0	.3	.1	.0	.0
Dec	1.9	1.0	#	#	5.0	1981	21	9.5	1981	10	1990	24	2	2000	1.8	.9	.1	@	.0	2.1	.3	.1	.0
Ann	16.9	8.1	N/A	N/A	9.0	Jan 1978	17	23.5	Jan 1978	20+	Feb 1978	8	17	Feb 1978	11.3	6.0	1.6	.7	.0	16.8	9.3	6.5	2.4

+ 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	5/15	5/11	5/08	5/05	5/03	5/01	4/28	4/25	4/21
32	5/10	5/05	5/01	4/28	4/25	4/22	4/19	4/15	4/10
28	4/24	4/20	4/17	4/14	4/12	4/09	4/06	4/03	3/30
24	4/13	4/08	4/04	4/01	3/30	3/27	3/24	3/21	3/16
20	4/05	3/31	3/27	3/24	3/21	3/18	3/14	3/10	3/05
16	3/21	3/15	3/10	3/07	3/03	2/28	2/24	2/19	2/13
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	9/24	9/27	9/30	10/02	10/03	10/05	10/07	10/09	10/13
32	10/01	10/04	10/07	10/09	10/11	10/13	10/15	10/18	10/21
28	10/08	10/14	10/18	10/22	10/26	10/29	11/02	11/06	11/12
24	10/19	10/24	10/28	11/01	11/04	11/08	11/11	11/15	11/21
20	10/29	11/05	11/11	11/15	11/19	11/23	11/28	12/03	12/10
16	11/14	11/20	11/25	11/29	12/03	12/07	12/11	12/16	12/23
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	165	161	158	155	153	150	147	144	140
32	185	179	175	172	168	165	161	157	151
28	215	208	204	200	196	192	188	184	177
24	242	234	228	223	219	214	210	204	196
20	270	261	254	248	243	237	232	225	216
16	299	291	285	279	275	270	265	258	250

* 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: 800 Feet Lat: 38°37N Lon: 86°05W

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	1076	838	630	329	134	9	0	4	55	298	589	932	4894
60	921	699	483	199	64	1	0	0	17	182	442	777	3785
57	832	622	398	135	36	0	0	0	7	127	360	693	3210
55	776	569	344	99	23	0	0	0	3	96	307	634	2851
50	631	442	227	37	6	0	0	0	0	41	192	493	2069
32	226	118	20	0	0	0	0	0	0	0	9	135	508

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	173	204	413	666	978	1195	1354	1303	1058	746	411	226	8727
55	11	11	24	76	288	505	641	590	371	129	18	12	2676
57	4	8	16	51	239	445	579	528	314	98	11	9	2302
60	0	0	8	25	174	356	486	435	234	60	3	0	1781
65	0	0	0	5	89	214	331	284	123	21	0	0	1067
70	0	0	0	1	35	96	184	151	48	5	0	0	520

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	44	80	223	448	748	971	1119	1076	837	518	226	77	44	124	347	795	1543	2514	3633	4709	5546	6064	6290	6367
45	21	42	130	311	593	821	964	921	687	368	132	38	21	63	193	504	1097	1918	2882	3803	4490	4858	4990	5028
50	4	14	72	195	440	671	809	766	537	242	68	16	4	18	90	285	725	1396	2205	2971	3508	3750	3818	3834
55	0	5	36	109	295	521	654	611	392	132	28	4	0	5	41	150	445	966	1620	2231	2623	2755	2783	2787
60	0	0	10	45	174	374	499	456	258	60	4	0	0	0	10	55	229	603	1102	1558	1816	1876	1880	1880
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	25	50	141	283	483	665	772	740	552	333	133	38	25	75	216	499	982	1647	2419	3159	3711	4044	4177	4215

(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/normal/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
- 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">a. Temperature/ Precipitation Tables<ol style="list-style-type: none">1. 1971-2000 Monthly Normals2. Cooperative Summary of the Day3. National Weather Service station records4. 1971-2000 serially complete daily datab. Degree Day Table<ol style="list-style-type: none">1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data | <ol style="list-style-type: none">c. Snow Tables<ol style="list-style-type: none">1. Snow Climatology2. Cooperative Summary of the Dayd. Freeze Data Table
1971-2000 serially complete daily data |
|---|---|

References

U.S. Climate Normals 1971-2000, www.ncdc.noaa.gov/normal.html
U.S. Climate Normals 1971-2000-Products Clim20, www.ncdc.noaa.gov/oa/climate/normal/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