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: INDIANAPOLIS INTL AP, IN **COOP ID: 124259**

Climate Division: IN 5 **NWS Call Sign: IND** **Elevation: 792 Feet** **Lat: 39˚43N** **Lon: 86˚16W**

Temperature (˚F)

Month	Mean (1)			Extremes										Degree Days (1) Base Temp 65		Mean Number of Days (3)					
	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	34.5	18.5	26.5	71	1950	25	37.3	1990	-27	1994	19	10.0	1977	1192	0	.0	.0	3.5	13.1	27.1	3.5
Feb	39.9	22.5	31.2	76	2000	25	40.8	1998	-21	1982	10	17.5	1978	957	0	.0	.0	6.5	8.3	22.0	2.0
Mar	51.4	32.0	41.7	85	1981	31	49.0	1973	-7	1980	2	32.6	1984	724	2	.0	.0	16.4	1.7	16.4	.1
Apr	62.9	41.2	52.0	89	1970	30	57.1	1981	18+	1950	13	47.9	1983	394	10	.0	.0	26.3	@	5.2	.0
May	73.5	51.8	62.6	93+	1965	25	70.3	1977	28	1966	10	56.7	1997	141	69	.0	.4	30.9	.0	.2	.0
Jun	82.1	61.3	71.7	102+	1954	26	75.3	1971	37	1992	22	67.5	1982	16	221	@	3.3	30.0	.0	.0	.0
Jul	85.6	65.2	75.4	104	1954	14	79.4	1983	48+	1968	4	72.0	1971	2	331	.1	7.3	31.0	.0	.0	.0
Aug	83.7	63.3	73.5	102	1988	16	79.8	1983	41	1965	29	69.5	1992	4	272	@	4.7	31.0	.0	.0	.0
Sep	77.4	55.2	66.3	100+	1953	1	71.4	1998	32	1993	30	60.3	1974	77	122	.0	1.8	30.0	.0	@	.0
Oct	65.6	43.6	54.6	90+	1951	4	61.7	1971	20+	1962	26	48.2	1988	335	14	.0	.0	29.3	.0	4.0	.0
Nov	51.6	34.1	42.9	81	1950	1	48.8	1999	-2+	1950	25	34.5	1976	659	1	.0	.0	16.3	.9	13.9	.0
Dec	39.2	24.0	31.6	74	1982	2	40.0	1982	-23	1989	22	18.8	1989	1020	0	.0	.0	5.9	7.8	24.3	1.4
Ann	62.3	42.7	52.5	104	Jul 1954	14	79.8	Aug 1983	-27	Jan 1994	19	10.0	Jan 1977	5521	1042	.1	17.5	257.1	31.8	113.1	7.0

\+ 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: 1948-2001

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

Issue Date: February 2004

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Precipitation (inches)

Precipitation Totals

Month	Means/ Medians(1) Mean	Means/ Medians(1) Median	Extremes Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year
Jan	2.48	2.17	2.82	1950	3	6.35	1999	.36	1981
Feb	2.41	2.45	2.49	1977	26	5.35	1971	.36	1978
Mar	3.44	3.53	3.00	1963	4	6.41	1991	.92	1994
Apr	3.61	3.78	2.56	1961	25	7.02	1996	.98	1976
May	4.36	4.30	3.13	1968	23	9.23	1981	1.06	1988
Jun	4.13	4.02	3.80	1963	7	10.26	1998	.36	1988
Jul	4.42	4.02	5.09	1987	1	11.79	1992	.55	1997
Aug	3.82	3.41	4.46	1976	6	8.34	1980	.86	1987
Sep	2.88	2.38	2.93	1989	14	8.06	1989	.36	1979
Oct	2.76	2.48	3.88	1959	10	7.84	1986	.86	1994
Nov	3.61	3.12	4.15	1993	14	8.50	1985	.69	1999
Dec	3.03	2.76	2.12	1971	14	7.72	1990	.45	1976
Ann	40.95	40.89	5.09	Jul 1987	1	11.79	Jul 1992	.36+	Jun 1988

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	13.1	6.2	1.5	.3
Feb	10.7	5.1	1.5	.4
Mar	13.1	7.4	2.1	.5
Apr	12.6	7.5	2.6	.7
May	12.0	8.1	3.1	1.2
Jun	10.4	6.9	2.9	1.1
Jul	9.8	6.6	3.0	1.3
Aug	9.4	6.0	2.8	1.2
Sep	8.1	4.8	2.0	.7
Oct	8.8	5.1	1.8	.6
Nov	10.9	6.5	2.4	1.0
Dec	12.6	6.5	2.0	.5
Ann	131.5	76.7	27.7	9.5

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	.66	.89	1.25	1.57	1.88	2.20	2.57	3.00	3.56	4.44	5.27
Feb	.65	.87	1.22	1.53	1.83	2.15	2.50	2.91	3.45	4.30	5.09
Mar	1.34	1.66	2.11	2.49	2.84	3.21	3.60	4.05	4.63	5.51	6.31
Apr	1.49	1.82	2.28	2.67	3.03	3.39	3.79	4.24	4.82	5.70	6.49
May	1.28	1.69	2.31	2.85	3.37	3.92	4.52	5.23	6.15	7.58	8.92
Jun	1.23	1.62	2.21	2.72	3.21	3.72	4.29	4.95	5.81	7.16	8.40
Jul	1.03	1.44	2.09	2.67	3.25	3.86	4.54	5.36	6.43	8.13	9.73
Aug	.93	1.28	1.84	2.34	2.83	3.35	3.93	4.62	5.53	6.96	8.31
Sep	.46	.71	1.13	1.53	1.94	2.38	2.89	3.52	4.35	5.71	7.00
Oct	.91	1.18	1.56	1.88	2.20	2.52	2.87	3.29	3.82	4.64	5.40
Nov	.92	1.26	1.79	2.25	2.71	3.19	3.73	4.37	5.20	6.52	7.75
Dec	.83	1.12	1.55	1.94	2.31	2.70	3.14	3.65	4.32	5.38	6.36
Ann	30.55	32.60	35.21	37.17	38.91	40.58	42.30	44.19	46.47	49.77	52.60

+ 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

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Snow (inches)

Snow Totals

Means/Medians (1)

Extremes (2)

Mean Number of Days (1)

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	8.9	6.8	2	1	10.3	1978	26	30.6	1978	20+	1978	28	6+	1978	7.7	2.7	.8	.4	@	11.3	6.3	3.9	.5
Feb	6.1	3.9	1	1	7.1	1979	25	18.0	1979	15+	1978	2	9	1979	5.5	1.9	.5	.2	.0	8.3	5.0	3.4	1.1
Mar	3.1	2.2	#	0	9.5	1996	19	12.5	1996	8	1984	1	2+	1984	2.9	.9	.2	.1	.0	2.5	1.2	.4	.0
Apr	.4	.0	#	0	1.9	1974	8	3.3	1982	1+	1994	7	#	1994	.8	.1	.0	.0	.0	.1	.0	.0	.0
May	.0	.0	#	0	.2	1989	6	.2	1989	0	0	0	#	2000	.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	.4	.0	#	0	7.5	1989	19	9.3	1989	2	1989	19	#	1993	.2	.1	@	@	.0	.1	.0	.0	.0
Nov	1.3	.5	#	0	3.8	1974	30	5.8	1997	4	1997	16	1	1997	1.9	.5	.1	.0	.0	.7	.1	.0	.0
Dec	6.5	3.7	1	0	9.7	1973	30	27.5	1973	13	1973	20	3	2000	5.7	1.9	.5	.3	.0	5.8	2.7	1.7	.1
Ann	26.7	17.1	N/A	N/A	10.3	Jan 1978	26	30.6	Jan 1978	20+	Jan 1978	28	9	Feb 1979	24.7	8.1	2.1	1.0	@	28.8	15.3	9.4	1.7

+ 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	5/12	5/08	5/04	5/02	4/29	4/26	4/23	4/20	4/15
32	5/04	4/28	4/24	4/21	4/17	4/14	4/11	4/07	4/01
28	4/20	4/15	4/12	4/09	4/06	4/04	4/01	3/28	3/24
24	4/12	4/07	4/04	4/01	3/29	3/26	3/23	3/20	3/15
20	4/01	3/27	3/23	3/20	3/17	3/14	3/11	3/07	3/02
16	3/17	3/11	3/06	3/02	2/26	2/23	2/19	2/14	2/07

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	9/25	9/29	10/02	10/04	10/07	10/09	10/12	10/15	10/19
32	10/02	10/07	10/11	10/14	10/16	10/19	10/22	10/26	10/31
28	10/13	10/19	10/23	10/26	10/30	11/02	11/06	11/10	11/15
24	10/22	10/28	11/01	11/04	11/08	11/11	11/14	11/18	11/24
20	11/03	11/10	11/15	11/19	11/23	11/28	12/02	12/07	12/14
16	11/13	11/20	11/26	11/30	12/04	12/08	12/12	12/18	12/25

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	178	172	167	164	160	157	153	148	142
32	203	195	190	185	181	177	173	167	160
28	226	219	214	210	206	201	197	192	185
24	244	237	231	227	223	219	214	209	202
20	279	269	262	256	251	246	240	233	223
16	305	296	290	285	280	275	269	263	255

***** 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)

Base — Heating Degree Days (1)

Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	1192	957	724	394	141	16	2	4	77	335	659	1020	5521
60	1039	806	567	254	84	2	0	0	25	218	516	880	4391
57	946	725	482	182	51	1	0	0	11	158	429	792	3777
55	884	673	425	140	35	0	0	0	6	124	375	734	3396
50	741	543	293	61	12	0	0	0	1	60	249	590	2550
32	291	180	36	0	0	0	0	0	0	0	19	196	722

Base — Cooling Degree Days (1)

Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	78	128	337	606	954	1195	1350	1292	1034	705	346	134	8159
55	1	1	23	77	263	505	637	579	352	108	21	3	2570
57	0	1	16	56	214	446	575	517	298	80	14	2	2219
60	0	0	8	32	150	358	482	424	224	47	7	1	1733
65	0	0	2	10	69	221	331	272	122	14	1	0	1042
70	0	0	0	1	24	107	184	139	51	2	0	0	508

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	28	51	170	386	714	964	1110	1052	801	468	178	50	28	79	249	635	1349	2313	3423	4475	5276	5744	5922	5972
45	7	20	100	257	559	814	955	897	651	327	106	23	7	27	127	384	943	1757	2712	3609	4260	4587	4693	4716
50	1	6	55	154	406	664	800	742	503	207	52	8	1	7	62	216	622	1286	2086	2828	3331	3538	3590	3598
55	0	0	26	80	269	514	645	587	361	114	21	2	0	0	26	106	375	889	1534	2121	2482	2596	2617	2619
60	0	0	7	34	157	366	490	432	231	51	5	0	0	0	7	41	198	564	1054	1486	1717	1768	1773	1773
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	6	32	103	225	446	653	769	726	521	278	96	27	6	38	141	366	812	1465	2234	2960	3481	3759	3855	3882

(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:
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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