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: MALTA 4 ESE, ID **COOP ID: 105563**

Climate Division: ID 9 **NWS Call Sign:** **Elevation: 4,590 Feet** **Lat: 42˚18N** **Lon: 113˚18W**

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	36.0	16.9	26.5	60	1990	10	36.1	1998	-25	1984	18	14.3	1979	1196	0	.0	.0	2.5	8.5	28.9	3.3
Feb	42.3	21.6	32.0	71	1986	25	38.8	1995	-26	1985	4	21.3	1985	927	0	.0	.0	7.4	3.7	24.7	1.7
Mar	51.4	27.0	39.2	80	1986	28	45.6	1986	-4	1993	1	32.6	1985	800	0	.0	.0	19.0	.3	23.7	.1
Apr	60.7	31.9	46.3	86+	1994	21	52.8	1987	13+	2001	9	39.1	1975	561	0	.0	.0	26.5	@	15.6	.0
May	69.0	38.7	53.9	93	1983	28	59.4	1992	16	1972	1	49.5	1975	351	4	.0	.2	30.1	.0	5.6	.0
Jun	79.1	44.3	61.7	102+	1988	24	67.2	1988	26+	1979	8	56.8	1993	146	46	.3	4.8	30.0	.0	1.3	.0
Jul	87.6	49.9	68.8	111	1998	18	73.0	1985	31	1966	3	60.8	1993	35	150	1.3	16.7	31.0	.0	.1	.0
Aug	86.8	48.5	67.7	105	1996	11	71.9	1971	24	1965	31	62.8	1980	51	132	.8	15.3	31.0	.0	.3	.0
Sep	76.2	40.1	58.2	99	1990	11	64.4	1998	13	1965	18	52.9	1986	228	23	.0	3.4	29.9	.0	4.4	.0
Oct	63.5	32.0	47.8	90+	1996	10	54.7	1988	8	1996	21	43.1	1984	536	0	.0	.1	28.1	.1	15.2	.0
Nov	46.4	23.9	35.2	74+	1965	2	43.2	1995	-13	1993	25	26.5	2000	896	0	.0	.0	12.2	2.1	24.9	.7
Dec	37.0	16.7	26.9	68	1995	1	34.2	1977	-29	1990	22	16.8	1990	1183	0	.0	.0	3.2	7.5	29.1	3.0
Ann	61.3	32.6	47.0	111	Jul 1998	18	73.0	Jul 1985	-29	Dec 1990	22	14.3	Jan 1979	6910	355	2.4	40.5	250.9	22.2	173.8	8.8

\+ 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: 1963-2001

(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	.79	.62	.80	1980	14	3.05	1980	.01	1977
Feb	.64	.48	.64	1986	17	2.38	1986	.08+	1990
Mar	.98	.76	.92	1995	21	2.51	1983	.00	1994
Apr	1.11	.90	1.03	1975	25	2.70	1991	.00	1977
May	1.70	1.57	1.25	1975	4	4.17	1980	.00	1974
Jun	1.18	1.21	1.65	1986	25	3.01	1993	.05	1994
Jul	.92	.75	1.16+	1985	29	2.74	1982	.00	1990
Aug	.87	.90	1.85	1965	23	2.54	1979	.05	1996
Sep	.88	.63	1.43	1982	26	3.52	1982	.00+	1988
Oct	.79	.63	.92	2000	30	2.34	1972	.00+	1988
Nov	.75	.67	.79	1965	24	1.88	1973	.00+	1993
Dec	.65	.45	1.73	1964	23	2.29	1981	.00	1976
Ann	11.26	11.95	1.85	Aug 1965	23	4.17	May 1980	.00+	Mar 1994

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	7.5	2.7	.1	.0
Feb	5.9	2.7	.1	.0
Mar	6.6	3.4	.3	.0
Apr	6.7	3.8	.4	@
May	9.0	5.8	.5	.1
Jun	6.4	3.6	.6	@
Jul	4.7	2.8	.4	.1
Aug	4.5	2.8	.3	.0
Sep	4.4	2.9	.4	.1
Oct	4.8	2.8	.4	.0
Nov	6.4	3.2	@	.0
Dec	5.5	2.7	.1	.0
Ann	72.4	39.2	3.6	.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
These values were determined from the incomplete gamma distribution

Month	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	.04	.09	.18	.29	.41	.55	.73	.96	1.27	1.82	2.36
Feb	.09	.14	.24	.33	.42	.52	.64	.79	.98	1.31	1.62
Mar	.07	.16	.32	.46	.61	.78	.97	1.21	1.52	2.04	2.55
Apr	.19	.34	.53	.68	.83	.98	1.15	1.36	1.62	2.04	2.43
May	.22	.43	.72	.96	1.21	1.46	1.75	2.09	2.55	3.27	3.95
Jun	.18	.28	.46	.62	.79	.97	1.19	1.45	1.79	2.36	2.90
Jul	.03	.11	.24	.37	.52	.68	.88	1.13	1.48	2.06	2.62
Aug	.07	.13	.25	.37	.50	.65	.83	1.05	1.37	1.89	2.40
Sep	.00	.00	.13	.26	.41	.59	.80	1.08	1.46	2.11	2.76
Oct	.00	.00	.24	.38	.51	.65	.81	1.01	1.25	1.66	2.05
Nov	.00	.17	.32	.44	.55	.66	.79	.93	1.13	1.43	1.71
Dec	.01	.03	.09	.18	.28	.40	.56	.77	1.08	1.61	2.15
Ann	6.61	7.45	8.55	9.42	10.20	10.97	11.78	12.68	13.80	15.46	16.92

\+ 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: 1963-2001
(3) Derived from 1971-2000 serially complete daily data

Complete documentation available from:
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Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	5.3	5.5	2	1
Feb	2.4	1.0	1	1
Mar	1.4	.0	#	0
Apr	.6	.0	#	0
May	.5	.0	0	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	#	0
Sep	#	.0	0	0
Oct	.1	.0	#	0
Nov	2.6	.0	1	0
Dec	2.7	.0	2	1
Ann	15.6	6.5	N/A	N/A

Extremes (2)

Month	Highest Daily Snow Fall	Year	Day	Highest Monthly Snow Fall	Year	Highest Daily Snow Depth	Year	Day	Highest Monthly Mean Snow Depth	Year
Jan	7.0	1993	11	13.9	1993	19	1993	13	9	1993
Feb	5.0	1977	24	11.5	1993	13	1993	28	8	1984
Mar	6.0	1985	2	10.0	1973	13	1993	1	2	1993
Apr	5.0	1975	26	9.5	1975	3	1973	1	#+	1999
May	7.0	1975	4	7.0	1975	0	0	0	0	0
Jun	.0	0	0	.0	0	0	0	0	0	0
Jul	.0	0	0	.0	0	0	0	0	0	0
Aug	.0	0	0	.0	0	#	1995	18	#	1995
Sep	#	1971	28	#	1971	0	0	0	0	0
Oct	2.0	1995	22	2.0	1995	4	2000	30	#+	2000
Nov	5.0	1979	26	11.5	1975	17	1985	17	8	1985
Dec	5.0	1978	17	20.0	1983	13+	1996	23	8	1992
Ann	7.0+	Jan 1993	11	20.0	Dec 1983	19	Jan 1993	13	9	Jan 1993

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	2.3	1.6	.4	.2	.0
Feb	1.3	.9	.3	.1	.0
Mar	.8	.6	.3	.2	.0
Apr	.2	.2	.2	@	.0
May	.1	.1	.1	@	.0
Jun	.0	.0	.0	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	.0	.0	.0	.0	.0
Oct	@	@	.0	.0	.0
Nov	.9	.8	.4	.1	.0
Dec	1.6	1.4	.3	.1	.0
Ann	7.2	5.6	2.0	.7	.0

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	5.7	4.4	4.0	.7
Feb	5.4	3.8	2.5	.5
Mar	2.3	1.7	.9	.2
Apr	@	@	.0	.0
May	.0	.0	.0	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	.0	.0	.0	.0
Nov	1.6	.8	.2	.0
Dec	1.2	.6	.4	.0
Ann	16.2	11.3	8.0	1.4

+ 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

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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	7/10	7/05	7/01	6/28	6/24	6/21	6/18	6/14	6/09
32	7/01	6/24	6/19	6/15	6/12	6/08	6/04	5/30	5/23
28	6/05	5/29	5/24	5/20	5/16	5/12	5/07	5/02	4/26
24	5/13	5/07	5/03	4/30	4/26	4/23	4/20	4/16	4/10
20	5/07	4/29	4/23	4/18	4/13	4/08	4/03	3/28	3/20
16	4/18	4/08	4/01	3/26	3/21	3/15	3/09	3/02	2/21

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	8/15	8/20	8/24	8/27	8/30	9/02	9/06	9/10	9/15
32	8/29	9/03	9/07	9/10	9/13	9/16	9/19	9/23	9/29
28	9/08	9/13	9/17	9/20	9/24	9/27	9/30	10/04	10/09
24	9/18	9/24	9/28	10/02	10/05	10/09	10/12	10/16	10/22
20	9/29	10/05	10/09	10/12	10/16	10/19	10/23	10/27	11/01
16	10/11	10/18	10/23	10/27	10/31	11/04	11/08	11/13	11/20

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	92	83	77	71	66	61	56	50	41
32	117	109	103	98	93	88	83	77	69
28	156	147	141	135	130	125	120	113	104
24	185	177	171	166	161	157	152	146	138
20	216	206	198	191	185	179	172	164	153
16	259	247	238	231	224	217	209	201	189

***** 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)

Heating Degree Days (1)

Base Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	1196	927	800	561	351	146	35	51	228	536	896	1183	6910
60	1041	787	645	416	215	65	8	14	122	382	746	1028	5469
57	948	703	552	334	148	34	2	5	75	293	656	935	4685
55	886	647	490	281	111	20	0	2	51	239	596	873	4196
50	734	515	345	170	44	4	0	0	14	123	455	718	3122
32	268	140	27	4	0	0	0	0	0	1	89	240	769

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	95	138	250	433	676	891	1139	1104	785	488	182	80	6261
55	0	0	1	20	74	220	426	393	146	13	0	0	1293
57	0	0	0	13	49	174	365	333	110	6	0	0	1050
60	0	0	0	5	23	115	278	250	67	2	0	0	740
65	0	0	0	0	4	46	150	132	23	0	0	0	355
70	0	0	0	0	0	12	64	53	5	0	0	0	134

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	3	22	88	228	447	674	920	887	579	292	56	8	3	25	113	341	788	1462	2382	3269	3848	4140	4196	4204
45	0	3	31	125	304	524	765	732	432	167	17	0	0	3	34	159	463	987	1752	2484	2916	3083	3100	3100
50	0	0	3	50	176	377	610	577	296	78	0	0	0	0	3	53	229	606	1216	1793	2089	2167	2167	2167
55	0	0	0	18	82	241	455	424	170	24	0	0	0	0	0	18	100	341	796	1220	1390	1414	1414	1414
60	0	0	0	2	28	128	304	276	77	3	0	0	0	0	0	2	30	158	462	738	815	818	818	818
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	0	23	82	188	315	447	576	568	418	247	54	6	0	23	105	293	608	1055	1631	2199	2617	2864	2918	2924

(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