

U. S. DEPARTMENT OF COMMERCE, WEATHER BUREAU
 IN COOPERATION WITH Michigan Weather Service
 CLIMATOGRAPHY OF THE UNITED STATES NO. 20 - 20

LATITUDE 46° 18'
 LONGITUDE 89° 05'
 ELEV. (GROUND) 1585

CLIMATOLOGICAL SUMMARY

STATION Watersmeet, Michigan

MEANS AND EXTREMES FOR PERIOD 1939 - 1964

Month	Temperature (°F)									** Mean degree days	Precipitation Totals (Inches)							Mean number of days					Month
	Means					Extremes					Mean	Greatest daily	Year	Snow, Sleet				Precip. .10 inch or more	Temperatures				
	Daily maximum	Daily minimum	Monthly	Record highest	Year	Record lowest	Year	Mean	Maximum monthly					Year	Greatest daily	Year	90° and above		32° and below	32° and below	0° and below		
																						Max.	
(a) JANUARY	26	26	26	26	1942	-46	1948	26	26	26	26	26	26	26	26	26	26	26	26	26	JANUARY		
FEBRUARY	22.1	2.2	12.2	55	1961+	-43	1951	1610	1.25	1.55	1950	14.9	46.5	1950	14.0	1950	4	0	26	31	13	FEBRUARY	
MARCH	36.3	9.8	23.1	79	1946	-40	1962	1280	1.60	1.50	1939	13.2	29.0	1943	13.0	1954	4	0	12	30	9	MARCH	
APRIL	52.0	26.1	39.1	87	1952	-10	1952	780	2.21	1.50	1960	5.6	16.7	1945	14.0	1945	5	0	2	23	1	APRIL	
MAY	66.1	37.2	51.7	93	1939	14	1947	410	4.03	2.15	1956	0.8	8.0	1960	8.0	1960	8	*	*	11	0	MAY	
JUNE	74.9	47.0	61.0	96	1963	21	1949	160	5.13	3.82	1946	0.0					9	1	0	2	0	JUNE	
JULY	78.9	51.1	65.0	97	1955+	29	1948	80	3.81	3.38	1942	0.0					7	1	0	*	0	JULY	
AUGUST	76.6	49.7	63.2	100	1947	27	1945	110	3.68	3.27	1941	0.0					7	1	0	1	0	AUGUST	
SEPTEMBER	67.2	42.5	54.9	91	1939+	9	1942	330	3.37	2.17	1959	0.2	2.0	1945	2.0	1945	8	*	0	8	0	SEPTEMBER	
OCTOBER	57.9	34.1	46.0	86	1947	11	1952+	580	2.14	2.75	1954	1.9	8.0	1954	8.0	1954	5	0	*	15	0	OCTOBER	
NOVEMBER	38.2	21.5	29.9	79	1950	-20	1942	1050	2.26	1.58	1948	14.9	38.5	1956	13.5	1942	6	0	10	26	2	NOVEMBER	
DECEMBER	25.9	8.4	17.2	57	1962	-33	1945	1390	1.35	2.74	1940	16.7	37.9	1964	15.0	1939	4	0	23	30	9	DECEMBER	
Year	51.9	27.6	39.8	100	AUG. 1947	-46	JAN. 1948	9260	31.94	3.82	JUNE 1946	81.4	46.5	JAN. 1950	15.0	DEC. 1939	70	3	93	203	46	Year	

(a) Average length of record, years.

+ Also on earlier dates, months, or years.

† Trace, an amount too small to measure.

* Less than one half.

** Base 65°F

CLIMATE OF WATERSMEET, MICHIGAN

Watersmeet is located in the interior of the western part of the Upper Peninsula, approximately forty miles from Lake Superior and about fifteen miles from the Wisconsin border. The terrain is rolling to hilly and mostly wooded, and very little farming is done.

Because of its interior location, the lake influence is not as strong in the Watersmeet area as it is in many parts of Michigan's Upper Peninsula. However, snowfall is augmented by moisture picked up over Lake Superior and carried to the Watersmeet area by northwest to northeast winds. Snowfall is greater nearer Lake Superior but substantial amounts are received at Watersmeet.

The available weather data for the Watersmeet area show that the highest temperature ever recorded here is 100° on August 5, 1947. The lowest of record is 47° below zero on January 28, 1915. Temperatures reach the 90° mark on an average of three days a summer. At the other extreme, temperatures fall to zero or lower on an average of forty six days during the winter.

The coldest month of record is January, 1912, with a mean temperature of -7.2°, and the warmest month of record is August, 1947, with a mean temperature of 71.0°. The average dates of the last freezing temperature in the spring and the first freezing temperature in the fall are June 12th and August 6th respectively, leaving an average growing season of only 55 days.

Precipitation is heaviest during the summer season, 70% of the annual total occurring during the six months period April through September. Heaviest rainfall is in June with an average of 5.13 inches. The lowest monthly average is in February, an average of only 1.11 inches. The month of greatest rainfall was June, 1944, and 10.47 inches was measured during that month. The lowest recorded monthly amount is .17 inch in March, 1910. Hourly amounts of as much as 1.1 inches and 2 hourly amounts of as much as 1.4 inches may be expected to occur about once in two years. Twenty-four hour amounts of 3.5 inches and 4.5 inches may be expected to occur about once in 10 years and once in 50 years respectively.

Snowfall averages 81.4 inches annually with considerable variation from year to year. Seasonal totals have varied from 46 inches in 1948-49 to 109 inches 1959-60. Measurable amounts have fallen on nine months of the year, but the usual number is six to seven months. December has the heaviest average amount, 16.7 inches. The heaviest of record for a single day is 15.0 inches on December 19, 1939. The greatest amount measured in one month is 46.5 inches in January, 1950.

Cloudiness is greatest in the late fall and early winter, while sunshine percentage is highest in the spring and summer. Air passing over Lake Superior picks up considerable moisture and warmth during late fall and early winter when temperature contrasts of the air and water are greatest and increased cloudiness results when this air passes over the Upper Peninsula. All of Michigan has increased cloudiness from this action over Lake Superior and Lake Michigan during this period of the year.

Degree day data is provided as an index of heating requirements for buildings. For example; April averages 780 degree days and January, 1610 degree days, which means that during an average January fuel necessary for heating will be over twice that required for April. Degree days for a single day are obtained by subtracting the mean temperature from 65°. The need for heating of buildings is considered none or slight if a day has an average temperature of 65° or higher.



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Average Temperature (°F)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1939	15.2	9.2	20.7	34.7	54.8	61.9	66.5	64.3	56.5	43.2	31.7	24.9	40.4
1940	8.5	18.3	17.6	34.8	47.8	59.8	65.4	62.9	57.2	45.9	28.1	20.9	38.9
1941	15.3	16.1	19.7	46.0	57.5	63.2	66.5	61.7	58.7	44.5	31.6	24.5	42.1
1942	15.5	14.2	27.7	45.9	50.0	61.0	62.8	62.9	51.9	44.8	28.6	13.8	39.9
1943	7.0	16.2	17.7	35.1	49.9	63.7	67.3	62.6	49.0	42.8	24.8	18.8	37.9
1944	21.2	16.8	20.6	34.9	55.6	62.9	65.1	65.9	56.2	45.5	35.6	15.1	41.3
1945	6.9	15.1	34.9	40.2	45.6	55.8	62.9	62.3	54.9	41.8	28.2	13.1	38.5
1946	14.5	11.8	37.6	41.4	50.6	60.4	65.2	61.3	55.1	47.7	30.4	17.7	41.1
1947	16.2	12.3	20.3	34.9	46.1	57.9	65.2	71.0	57.2	54.6	25.8	19.5	40.1
1948	6.3	11.7	21.2	43.0	50.7	59.1	65.9	64.0	57.9	44.2	32.7	18.0	40.0
1949	15.4	13.9	22.1	43.5	53.6	65.3	67.6	63.6	53.2	48.5	29.2	15.2	40.9
1950	7.5	10.1	14.7	28.4	49.3	61.0	60.6	57.3	53.8	47.4	24.3	10.2	35.4
1951	8.1	11.1	18.5	34.2	56.6	57.4	63.0	59.5	52.0	43.4	19.0	15.4	36.5
1952	13.2	16.9	19.6	40.6	50.9	61.8	65.8	62.2	56.4	41.4	32.6	23.8	40.4
1953	17.6	16.6	28.2	35.9	52.7	62.7	64.9	65.6	56.3	50.7	35.4	21.5	42.3
1954	12.5	25.4	21.1	40.2	45.7	64.0	65.0	61.0	53.0	43.0	33.6	19.5	40.3
1955	12.4	14.4	21.2	47.3	56.0	60.9	70.5	68.0	55.3	46.1	25.0	12.2	40.8
1956	15.3	14.8	20.9	36.4	49.7	63.4	61.2	61.6	51.7	51.5	30.0	19.2	39.6
1957	5.9	14.7	23.4	40.4	50.8	60.8	67.4	61.8	52.2	43.8	29.3	17.8	39.0
1958	17.5	11.4	25.3	41.6	50.2	56.1	63.4	62.5	56.5	45.7	30.8	8.7	39.1
1959	5.8	9.7	24.2	39.4	57.0	63.1	65.2	67.3	56.5	41.1	21.9	24.8	39.7
1960	15.4	15.4	15.2	39.6	50.4	58.2	63.3	65.1	55.6	45.5	33.1	14.9	39.3
1961	10.8	20.7	29.3	37.1	49.0	60.8	64.5	63.9	56.0	48.1	30.4	16.7	40.6
1962	9.7	10.0	27.7	37.8	57.0	60.1	61.8	62.8	52.1	46.4	32.1	16.2	39.5
1963	2.6	6.0	27.4	41.9	49.8	62.5	66.5	61.6	56.2	54.8	35.8	11.4	39.7
1964	19.0	17.1	22.6	40.9	57.5	60.9	66.8	59.9	54.4	44.3	36.3	13.4	41.1

DATES OF FREEZING TEMPERATURES IN THE SPRING AND FALL (1939-1950)

Minimum Temperature	Spring			Fall		
	Earliest	Average	Latest	Earliest	Average	Latest
32° or lower	5/18/39	06/12	7/11/45	7/15/45	08/06	8/23/46
28° or lower	5/09/40	05/30	6/17/50	8/18/50	09/05	9/22/47
24° or lower	4/28/44	05/16	6/08/49	9/03/46	09/22	10/18/40
20° or lower	4/17/48	05/05	5/18/45	9/16/45	10/04	10/28/39
16° or lower	4/01/41	04/22	5/14/45	9/25/47	10/24	11/12/46*

* also on 11/12/41

Example in using table: The average date of the last temperature of 32° or colder in the spring is June 12th. The earliest date of this event in all springs of the 1939-1950 period was May 18, 1939. The latest date was July 11, 1945. In the fall, 32° or colder occurred for the first time as early as July 15th in 1945 and as late as August 23rd in 1946. The average date is August 6th.

Total Precipitation (Inches)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1939	2.26	1.20	2.11	1.32	3.68	8.04	1.85	3.36	2.82	1.91	0.18	1.62	30.35
1940	0.95	1.70	1.05	2.40	5.41	5.53	4.12	3.65	2.08	0.99	2.85	3.09	33.82
1941	0.83	1.30	1.40	1.55	3.74	1.72	1.96	8.51	5.05	3.98	1.35	1.85	33.24
1942	0.73	0.43	3.75	1.65	5.85	4.91	6.29	2.78	6.65	2.13	2.78	1.50	39.45
1943	0.82	1.01	3.00	1.78	2.71	8.27	1.14	3.07	1.66	2.16	2.49	0.18	28.29
1944	0.92	0.89	1.73	1.49	5.59	10.47	2.13	1.58	5.20	1.37	1.81	1.25	34.43
1945	0.86	2.33	1.56	4.01	5.25	3.02	4.54	5.51	3.70	2.21	3.73	1.64	38.36
1946	1.49	1.11	1.17	0.62	3.07	9.10	3.21	1.92	3.17	3.86	2.67	1.30	32.69
1947	0.63	0.74	0.68	3.70	3.15	4.89	1.00	2.03	3.10	0.69	1.81	0.57	22.99
1948	1.54	1.89	1.22	2.67	0.37	2.45	2.42	3.02	0.72	1.07	3.61	0.59	21.57
1949	2.52	0.56	1.33	0.62	4.71	5.90	5.17	2.82	2.38	2.99	2.88	0.89	32.77
1950	5.44	0.76	3.00	2.33	2.44	4.73	3.58	3.91	0.81	1.86	3.82	2.21	34.89
1951	0.73	2.02	2.89	3.82	3.72	4.81	7.27	6.57	4.96	3.71	1.36	0.96	42.82
1952	1.54	0.64	1.62	1.59	2.18	4.35	8.90	4.23	1.19	0.23	1.33	1.21	29.01
1953	1.24	3.47	1.88	2.46	3.24	7.43	6.54	3.43	2.46	0.69	1.49	2.45	36.78
1954	0.72	0.72	2.53	3.22	5.55	8.92	2.45	2.68	5.29	4.49	1.31	0.95	38.83
1955	0.95	0.41	2.21	2.41	3.68	1.08	5.91	3.11	1.07	3.20	2.23	1.89	28.15
1956	0.51	0.18	0.40	1.08	5.02	5.57	5.05	3.68	2.86	0.78	3.55	1.07	29.75
1957	1.24	1.33	0.37	1.64	1.89	3.42	3.11	3.95	4.98	1.10	3.44	0.69	27.16
1958	2.49	0.50	0.70	1.09	3.14	5.42	6.02	3.66	1.63	2.77	2.41	1.73	31.56
1959	0.66	0.85	1.32	1.75	2.98	4.62	3.08	4.07	8.95	3.48	1.23	1.55	34.54
1960	1.10	0.65	0.53	5.52	5.87	3.97	2.66	4.13	2.90	2.06	2.61	0.65	32.65
1961	0.32	1.28	2.12	2.73	3.92	3.91	2.82	4.09	4.00	3.55	2.69	1.16	29.39
1962	0.67	2.01	0.53	1.50	6.56	2.81	3.32	4.01	4.79	2.16	0.67	0.73	29.75
1963	0.47	0.54	1.20	1.54	3.82	6.01	1.95	2.81	1.90	1.37	1.32	0.82	23.76
1964	0.87	0.46	1.25	2.96	7.17	2.12	2.44	6.39	3.26	0.74	3.17	2.45	33.28

STATION HISTORY

This station was originally established in February, 1909 with only partial records until it was closed in 1918. Its location for this period is unknown. In 1938, the station was re-opened and was located 0.2 miles from the Watersmeet Post office. On July 1, 1939, the U.S. Forest Service took over the operation of the station. It was located 0.5 miles north of the Watersmeet Post office. In 1952, the station was moved to a location 5.0 miles northeast of the Watersmeet Post office and operation was taken over by the Watersmeet Fish Hatchery. On March 9, 1965, the station was moved to the residence of Mr. Barney Grosso, the new observer, 0.1 mile south of the Post office at Watersmeet and it is located there at the present time, (June, 1965).