Historical Climatology: Sault Ste. Marie, Michigan

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1981-2010 Temperature and Precipitation Summary

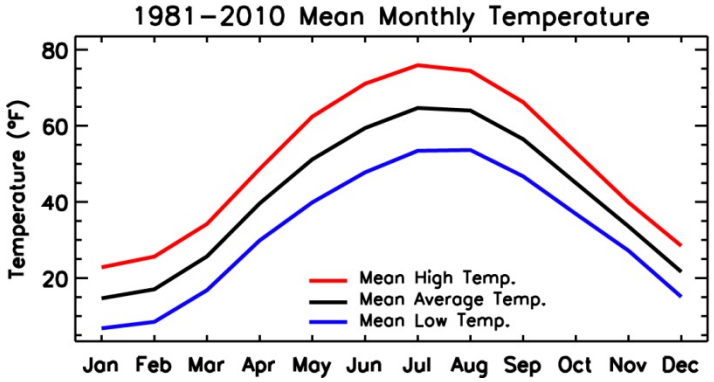
Mean Annual Temperature (°F)	41.2
Mean Annual Minimum Temperature (°F)	32.0
Mean Annual Maximum Temperature (°F)	50.4
Mean Number of Days per Year that exceed 90°F	1
Mean Number of Days per Year that fall below 32°F	163
Lowest Mean Annual Temperature (°F)	38.3
Highest Mean Annual Temperature (°F)	45.5
Mean Annual Total Precipitation (inches)	32.9
Lowest Mean Total Precipitation (inches)	22.4
Highest Mean Total Precipitation (inches)	45.9
Mean Number of Days/Year with > 0.1" Precip.	79
Mean Number of Days/Year with > 0.25" Precip.	43
Mean Number of Days/Year with > 0.5" Precip.	17
Mean Number of Days/Year with > 1" Precip.	4

Geography

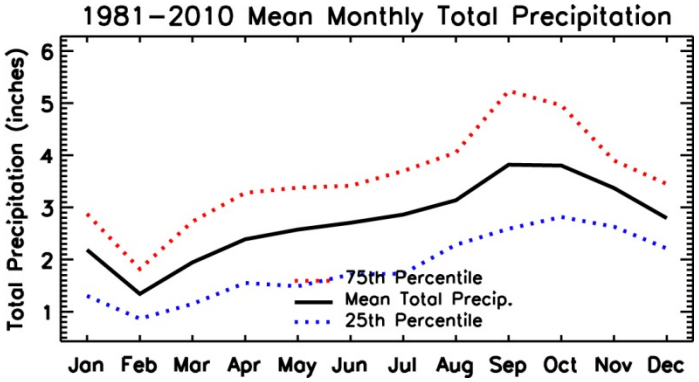
Sault Ste. Marie, Michigan is located on the St. Marys River across from Sault Ste. Marie, Ontario and between lake Superior and Lake Huron. As of the 2010 U.S. census, the population approximately 14,000. The surrounding terrain is hilly and wooded.

Overview

As is true for most of the Upper Peninsula of Michigan, Winters in Sault Ste. Marie tend to be long, cold, and snowy, and because of its northern latitude, it receives roughly 8 hours of sunlight per day during the winter. Its close proximity to Lake Huron and Lake Superior does, however, moderate temperatures. In comparison to continental locations at similar latitudes, the area typically experiences warm but cooler temperatures during the late spring and early summer, and warmer temperatures during the late fall and early winter. In the late winter, as ice builds up on Lake Superior, Sault Ste. Marie experiences larger temperature variations similar to those seen at inland locations. Diminished wind speeds or winds which do not traverse large unfrozen lakes often produce clearing skies and the colder temperatures expected at continental locations. Sault Ste. Marie is one of the snowiest places in Michigan. It attracted national media attention in December of 1995 when the annual total snowfall topped 209 inches (5.3 m), after 62 inches (1.6 m) fell during a continuous five-day snowstorm, and 28 inches (710 mm) fell in 24 hours. Its immediate region is also the cloudiest in Michigan's Upper Peninsula, having over 200 cloudy days a year.



Mean monthly high, average, and low temperatures for the period 1981-2010.



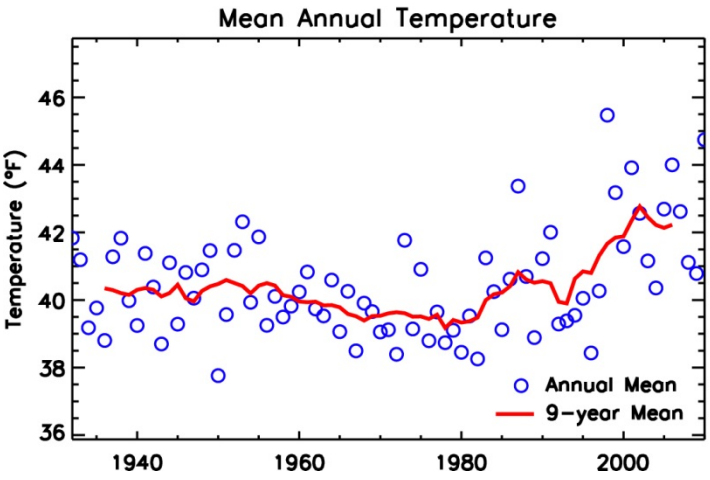
Mean monthly total precipitation with the 25th and 75th percentiles for the period 1981-2010.

Changes in Mean 1981-2010 Temperature from 1951-1980 (°F)

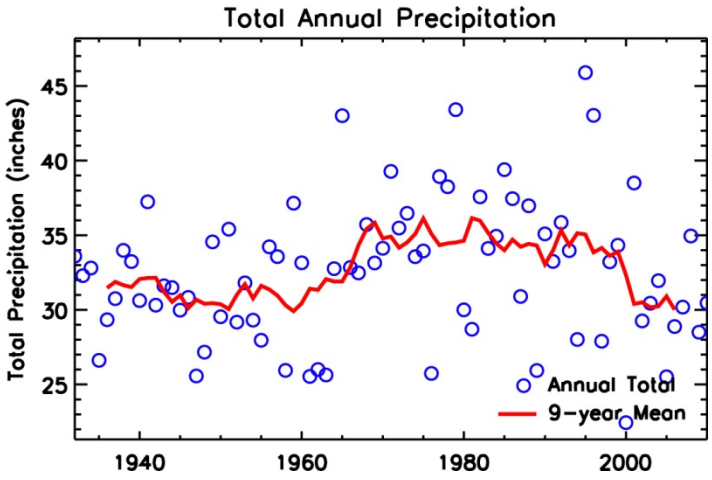
Annual	1.4
Winter, December-February	1.9
Spring, March-May	1.6
Summer, June-August	1.1
Fall, September-November	0.7

Change in Mean 1981-2010 Total Precipitation from 1951-1980 (%)

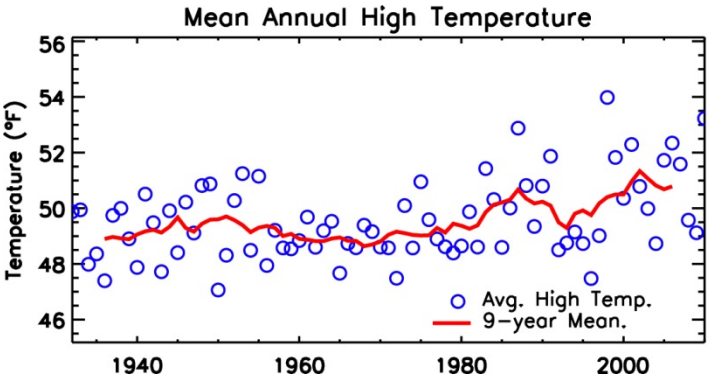
Annual	-1.7
Winter, December-February	0.0
Spring, March-May	-5.6
Summer, June-August	-10.4
Fall, September-November	10.0



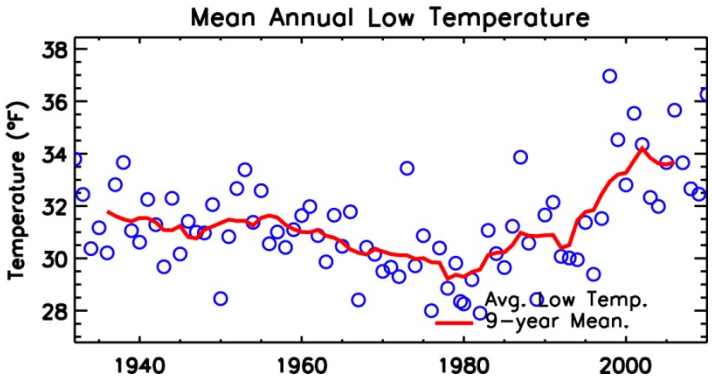
Mean annual temperatures from 1900 to 2010. An open circle represents the average temperature of a single year. The solid line represents the 9-year running mean.



Mean annual precipitation totals from 1900 to 2010. An open circle represents the total precipitation for a single year. The solid line represents the 9-year running mean.



Mean annual high temperatures from 1900 to 2010. An open circle represents the average high temperature of a single year. The solid line represents the 9-year running mean.

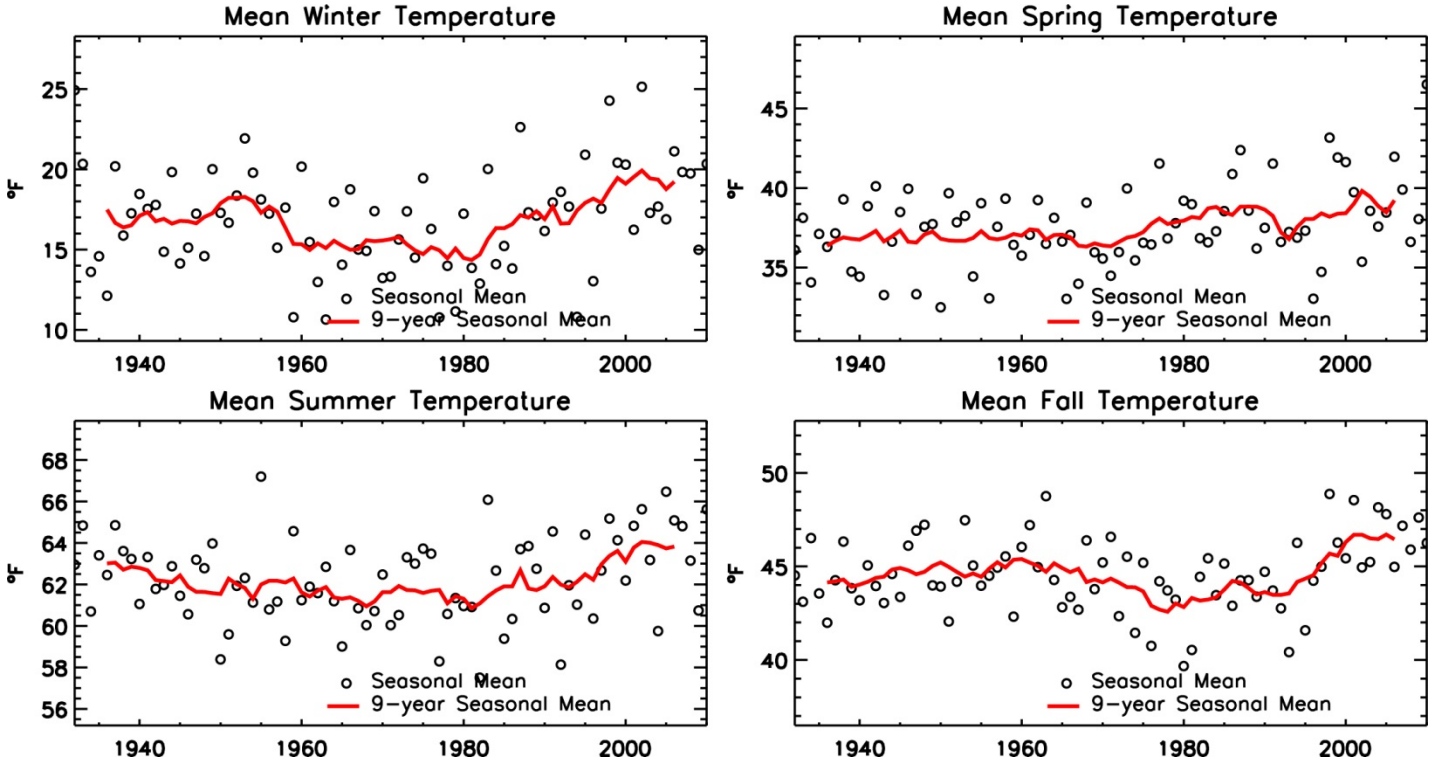


Mean annual low temperatures from 1900 to 2010. An open circle represents the average low temperature of a single year. The solid line represents the 9-year running mean.

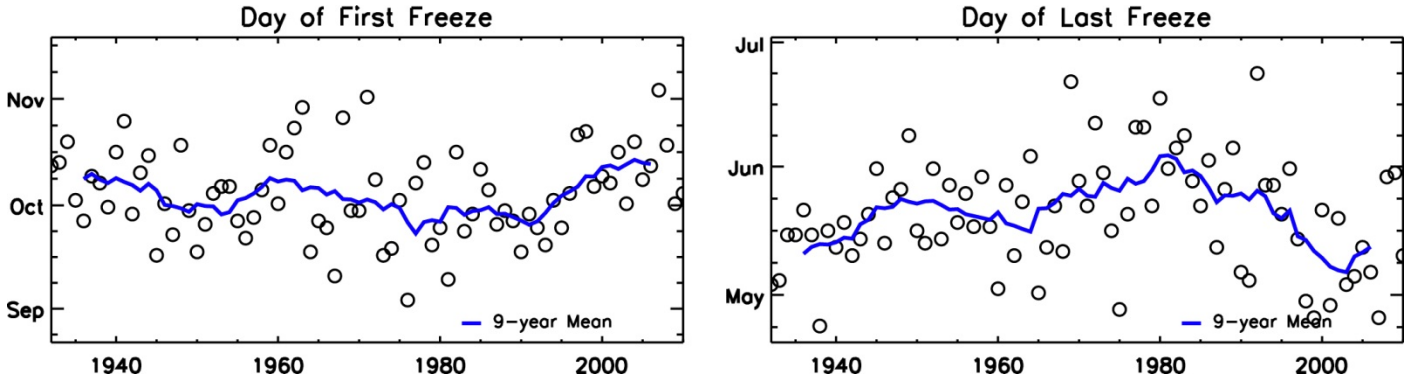
Unless otherwise stated, daily observations are used to calculate quantities in this document only if they satisfy a number of quality control tests and there is a high level of data coverage for the period in question. Nine-year running means are calculated for periods only when at least 5 of the 9 years are available. For more information on quality controls and data reliability requirements please see the *Historical Climatologies: Quality Control* document available on the GLISA website or email GLISA-info@umich.edu.

Many factors can influence long-term trends in precipitation and temperature. While human-caused climate change may be a major driver, other factors, such as natural variability, changes in nearby land use, urban heat-island effects, movement of the exact location of the observing station, and changes in measurement procedure can also play a role in climate trends over the station record.

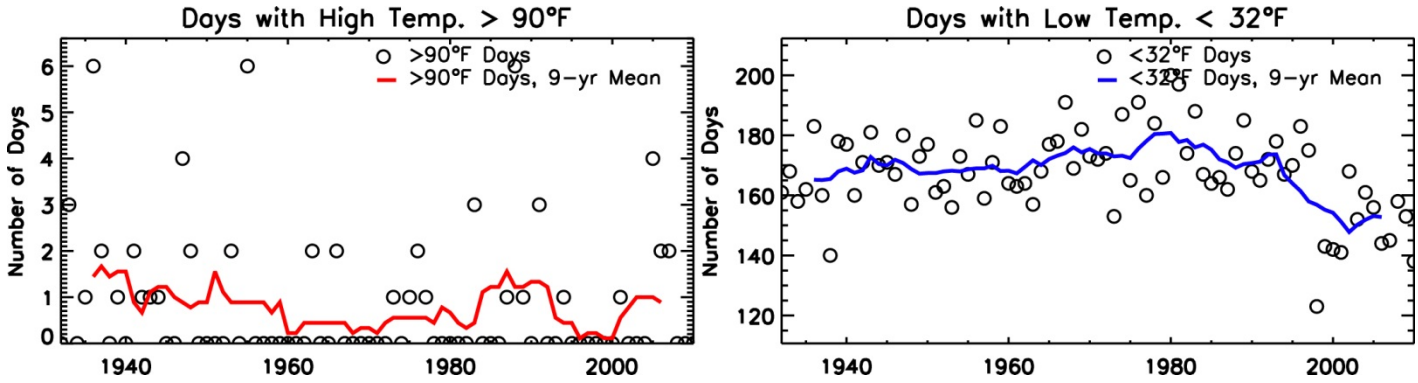
The measurements of a single station do not necessarily represent global or regional trends in temperature and precipitation. Each station records the conditions at a given place over time.



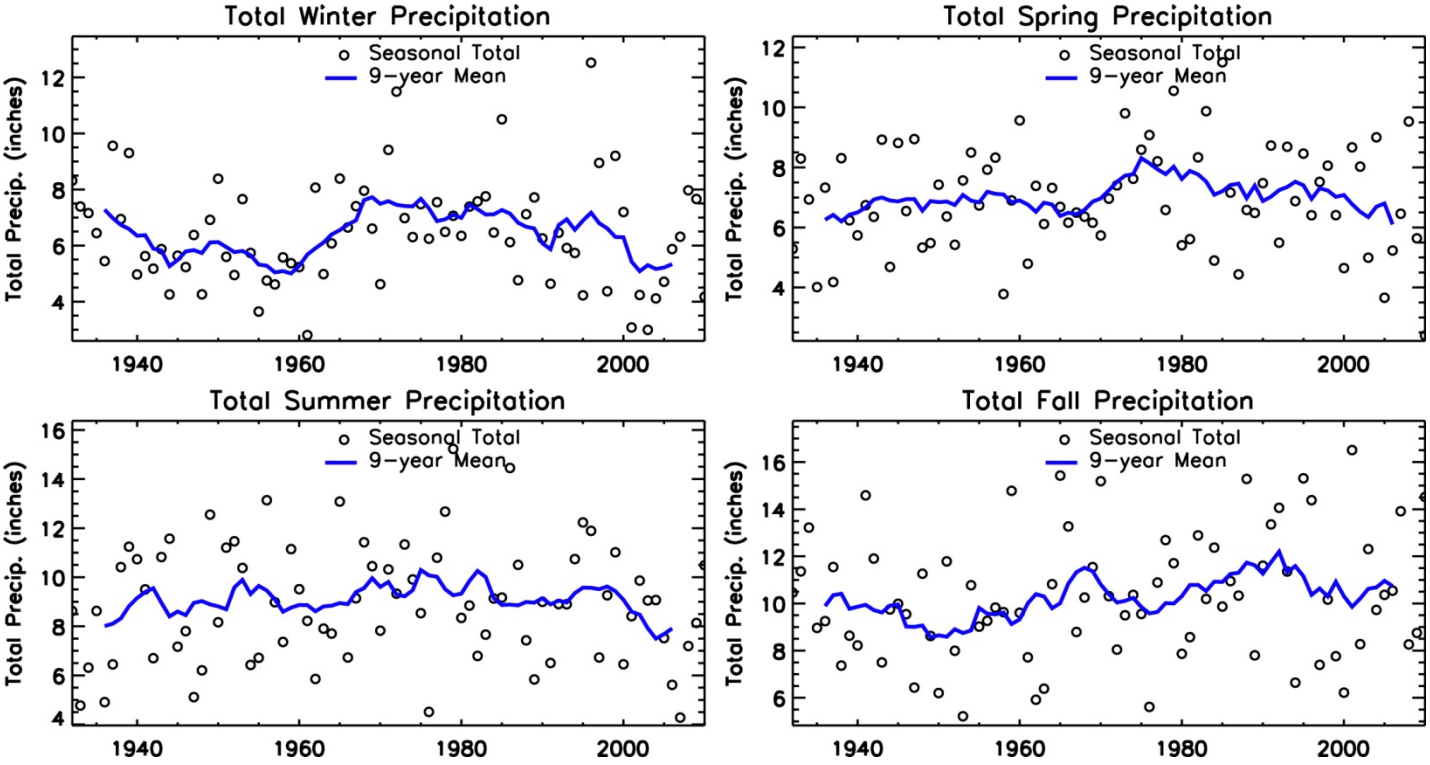
Mean seasonal temperatures from 1900 to 2010. An open circle represents the average seasonal temperature of a single year. The solid line is the 9-year running mean.



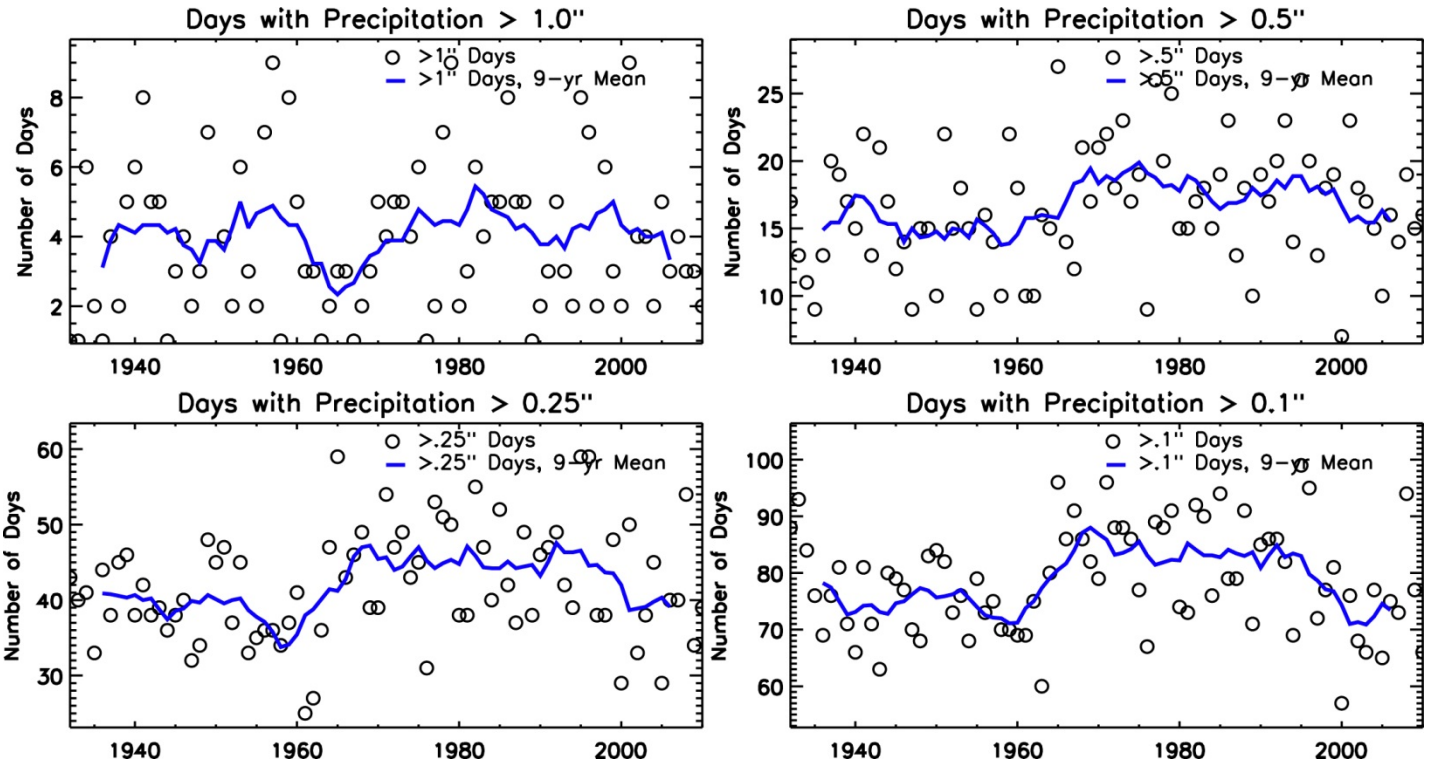
Open circles represent the first (left) and last (right) winter freeze of the year (daily low temperature < 32°F) from 1900-2010. The solid line is the 9-year running mean.



Open circles represent the number of days per year in which the daily high temperature exceeded 90°F (left) and where the daily low temperature dropped below 32°F (right) in a single year. The solid line is the 9-year running mean.



Mean total precipitation by season from 1900 to 2010. An open circle represents the total seasonal precipitation for a single year. The solid line represents the 9-year running mean of the total seasonal precipitation.



Number of days per year that exceeded the indicated daily precipitation totals. The solid line represents the 9-year running mean. Days that exceeded a higher threshold are included in days exceeding lower thresholds.