Historical Climatology: East Tawas, Michigan

GLISA
GREAT LAKES INTEGRATED SCIENCES + ASSESSMENTS

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1981-2010 Temperature and Precipitation Summary

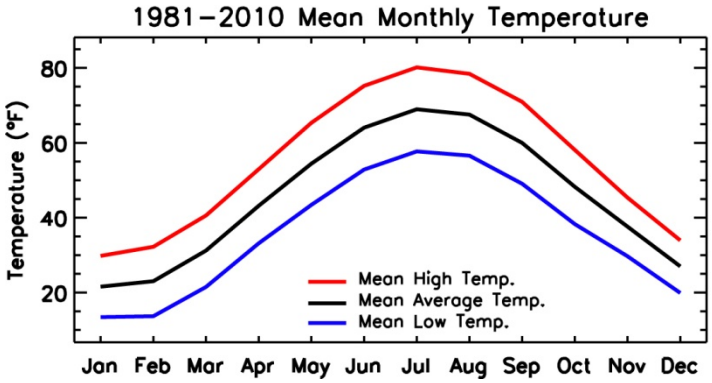
Mean Annual Temperature (°F)	45.7
Mean Annual Minimum Temperature (°F)	36.0
Mean Annual Maximum Temperature (°F)	55.5
Mean Number of Days per Year that exceed 90°F	4
Mean Number of Days per Year that fall below 32°F	146
Lowest Mean Annual Temperature (°F)	43.7
Highest Mean Annual Temperature (°F)	49.5
Mean Annual Total Precipitation (inches)	31.8
Lowest Mean Total Precipitation (inches)	24.7
Highest Mean Total Precipitation (inches)	37.8
Mean Number of Days/Year with > 0.1" Precip.	66
Mean Number of Days/Year with > 0.25" Precip.	41
Mean Number of Days/Year with > 0.5" Precip.	19
Mean Number of Days/Year with > 1" Precip.	5

Geography

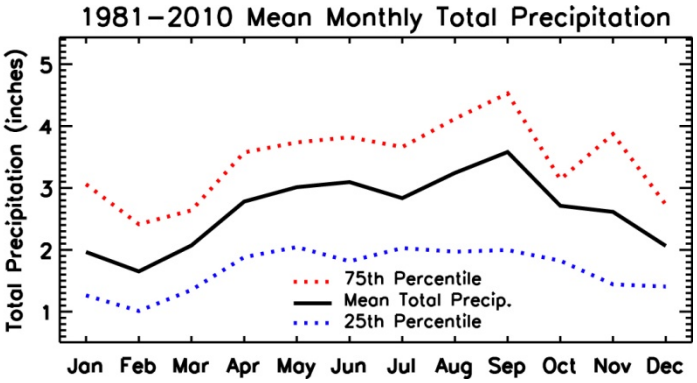
East Tawas is located in northeastern East Tawas County on the northwest shore of Lake Huron, about 15 miles southeast of the Straits of Mackinac. The surrounding terrain is level to gently undulating with large tracts of rather poor quality second growth forests. Soils are predominantly sand but often high in gravel content.

Overview

The effect of Lake Huron on East Tawas's climate is particularly strong during periods of easterly to northeasterly winds. Under these conditions, the long trajectory of the air over Lake Huron gives East Tawas cooler summer temperatures, while increased snow shower activity may accompany the milder fall and early winter temperatures. With light southwesterly winds, a lake breeze gives East Tawas cooler summer temperatures. In the late winter as ice builds up on the lakes, East Tawas is subjected to temperature variations which are more closely associated with interior 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. Because the day-to-day weather is controlled by the movement of pressure systems across the continent, this area seldom experiences prolonged periods of hot, humid weather in the summer or extreme cold during the winter. Precipitation is well-distributed throughout the growing season, but slightly more precipitation tends to fall during the autumn months.. Summer precipitation comes mainly from afternoon thunderstorms.

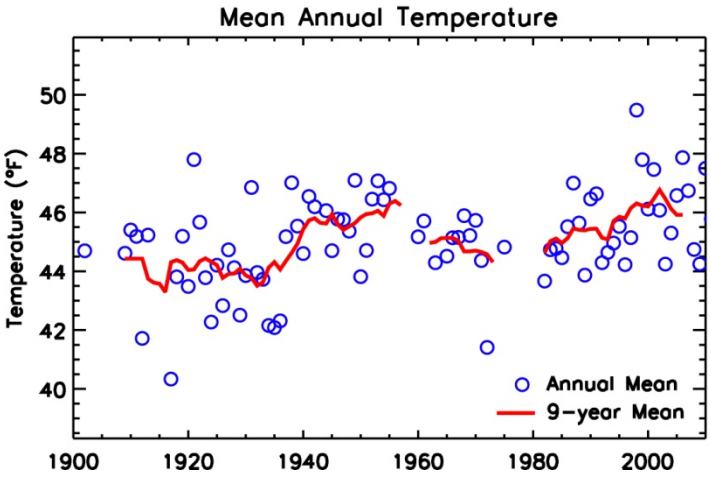


Mean monthly high, average, and low temperatures for the period 1981-2010.

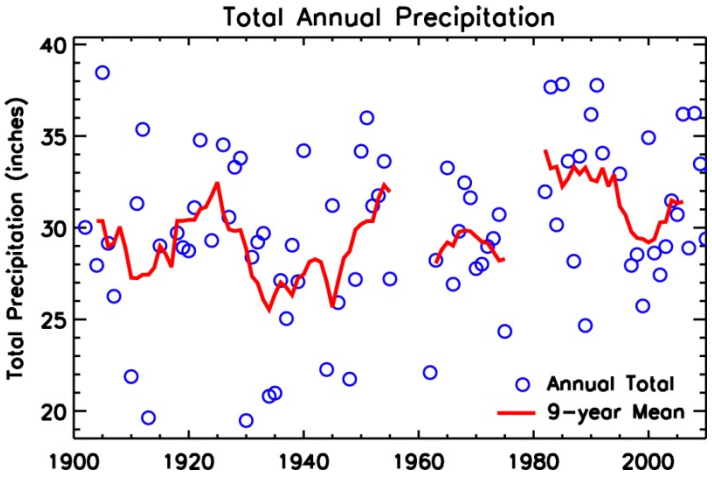


Mean monthly total precipitation with the 25th and 75th percentiles for the period 1981-2010.

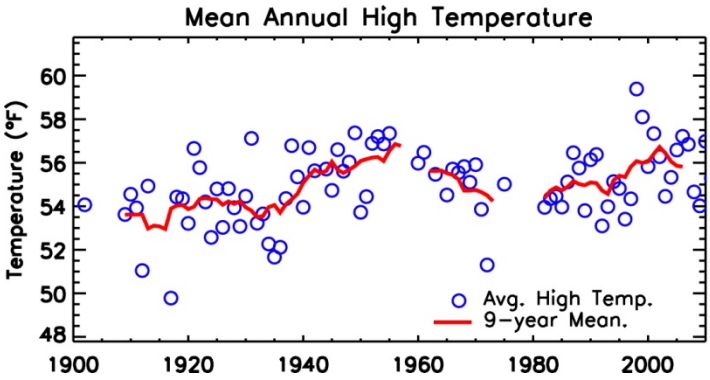
There is insufficient data coverage to provide information regarding changes in temperature and precipitation from the period 1951-1980 to the period 1981-2010. At least 25 years of reliable data out of a 30-year period are required to calculate climatological means.



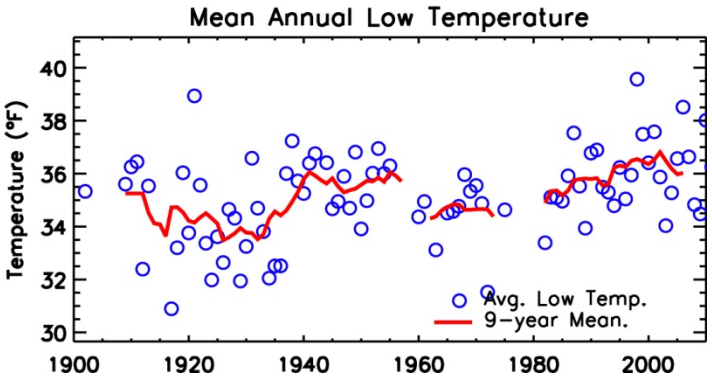
Mean annual temperatures from 1900 to 2010. An open circle represents the average temperature of a single year. The solid line represents the 9-year running mean.



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 percentage 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.