

Historical Climatology: Northwest Lower Michigan



Michigan Climatic Division 3 Northwest Lower

Included counties: Antrim, Benzie, Charlevoix, Grand Traverse, Kalkaska, Leelanau, Manistee, Missaukee, Wexford

Geography

The terrain of Northwest Lower Michigan varies from rugged hills near the coast to agricultural cropland and forests near the center of the state. Fruit farms are abundant on the Leelanau and Old Mission Peninsulas of the Grand Traverse Bay.

Overview

The northern region of this climatic division 3 is strongly regulated by Lake Michigan and Grand Traverse Bay. The area experiences warm, cooler temperatures during the late spring and early summer, and warmer temperatures during the late fall and early winter. Ice build-up on Grand Traverse Bay accounts for larger temperature variations in the winter. The terrain is hilly and forested with sandy outwash plains and large moraines. There are many fruit orchards, farms, and vineyards on the Old Mission Peninsula and many of the hillsides along the east shore. Northern hardwood forests of aspen, oak, pine, and lowland conifer cover much of this division. Wetland ecosystems of bogs, fens, wet meadows, and swamps thrive. The lake effect moderates climate in the northern and coastal parts, but the interior northwest, as well as the interior northeast, experiences the greatest temperature extremes in Lower Michigan.

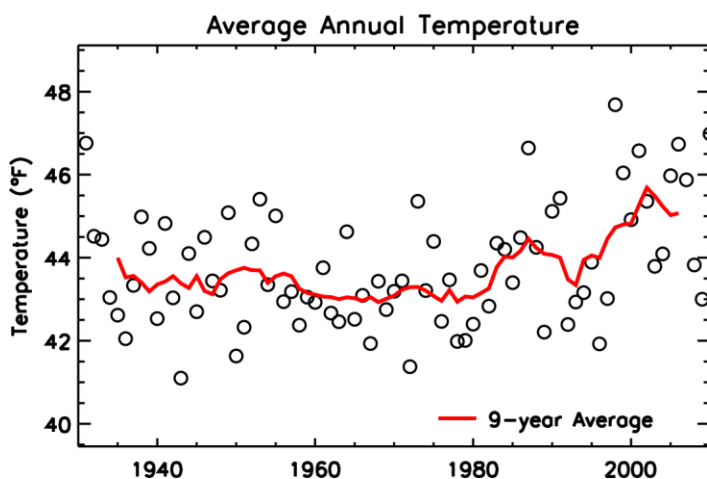
| | | |
|--|---------|---------|
| Mean Annual Temperature, 1981-2010 | 44.5°F | 6.9°C |
| Mean Annual Total Precipitation, 1981-2010 | 32.7 in | 83.1 cm |

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

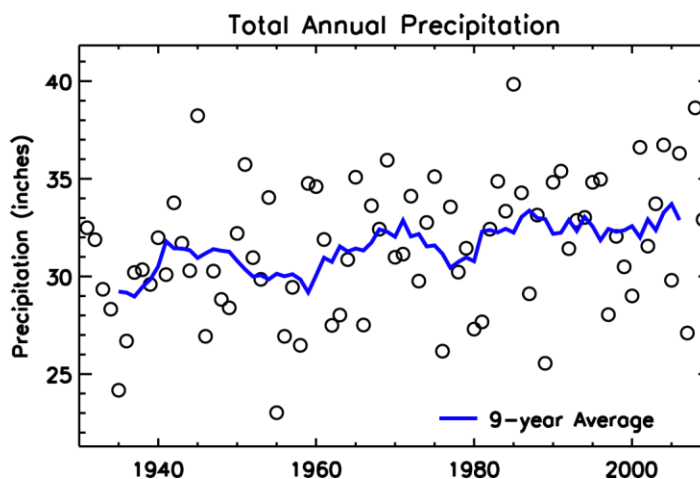
| | |
|---------------------------|-----|
| Annual | 1.3 |
| Winter, December-February | 2.4 |
| Spring, March-May | 1.6 |
| Summer, June-August | 0.9 |
| Fall, September-November | 0.4 |

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

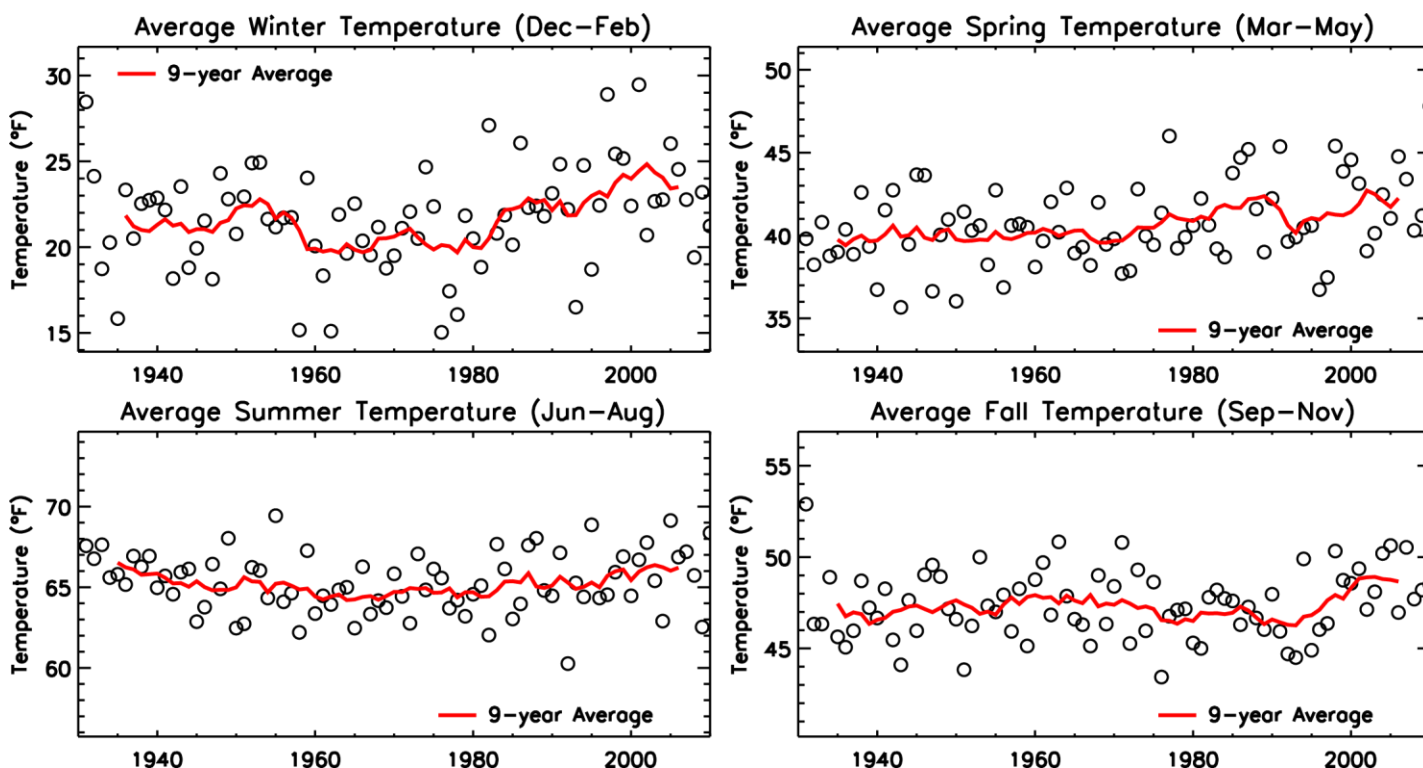
| | |
|---------------------------|------|
| Annual | 5.2 |
| Winter, December-February | 5.8 |
| Spring, March-May | 2.6 |
| Summer, June-August | 1.2 |
| Fall, September-November | 11.1 |



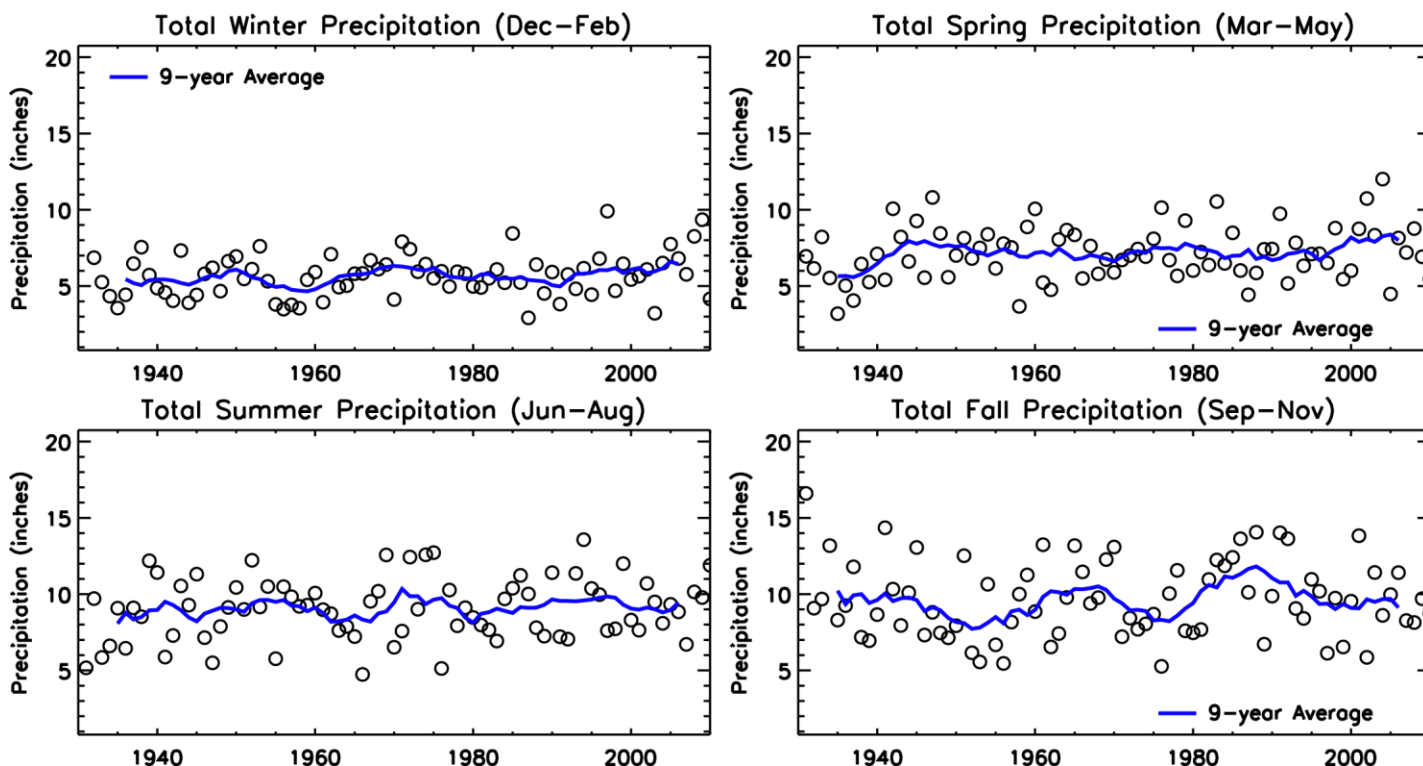
Mean annual temperatures from 1931 to 2011. An open circle represents the average temperature of a single year. The solid line represents the 9-year running mean.



Annual precipitation totals from 1931 to 2011. An open circle represents the total precipitation for a single year. The solid line represents the 9-year running mean.



Mean seasonal temperatures from 1931 to 2011. An open circle represents the average seasonal temperature of a single year. The solid line is the 9-year running mean. Winter values include data from the December of the previous year.



Total seasonal precipitation from 1931 to 2011. 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. Winter values include data from the December of the previous year.