Historical Climatology: New York-Great Lakes

New York Climatic Division 9
Great Lakes

***Included counties**: Chautauqua, Erie, Niagara, Orleans, Genesee, Monroe, Wayne, Cayuga (partial), Oswego, Onondaga (partial), Jefferson (partial)*

Mean Annual Temperature, 1981-2010	47.4°F	8.5°C
Mean Annual Total Precipitation, 1981-2010	39.4 in	100.2 cm

Geography

The Great Lakes Climatic Division of New York stretches along the southern shores of Lake Erie, The Niagara River, and Lake Ontario. It includes a tremendously diverse landscape and several large population centers.

Overview

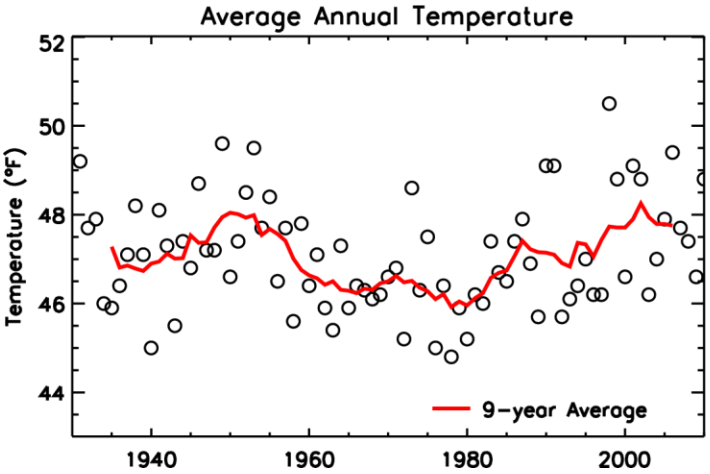
Aptly, the Great Lakes Climatic Division of New York experiences strong lake effects from Lake Erie and Lake Ontario. The area sees significant snowfall during the winter months. Snow covers the ground more often than not from late December into early March, and more than half of the annual snowfall comes from lake-effect precipitation. In the eastern portions of the division, when Lake Erie freezes over, typically in late January, lake-effect snowfall becomes rare. In areas more directly affected by Lake Ontario, lake effect precipitation continues throughout the winter months as Lake Ontario typically freezes over less completely. The central areas of the division experience sunny, dry and mild summers due to cool southwest breezes off the lakes. The lakes also stabilize convection and limit thunderstorm development through most of July. As lake temperatures warm into August and lose most of their stabilizing capacity, showers and humid days grow more likely.

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

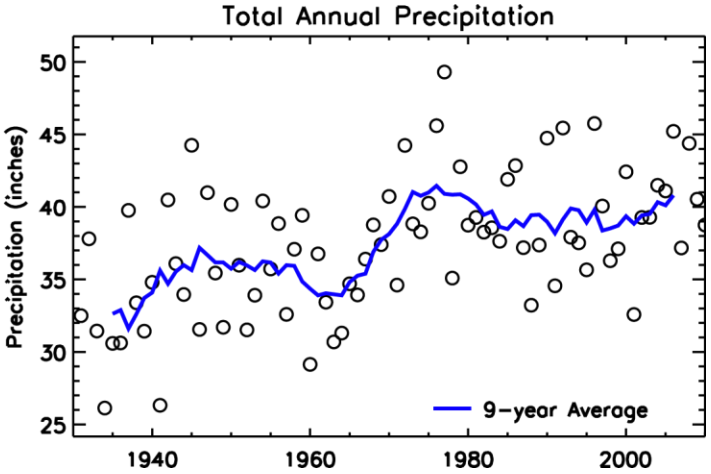
Annual	0.7
Winter, December-February	1.3
Spring, March-May	0.8
Summer, June-August	0.5
Fall, September-November	0.0

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

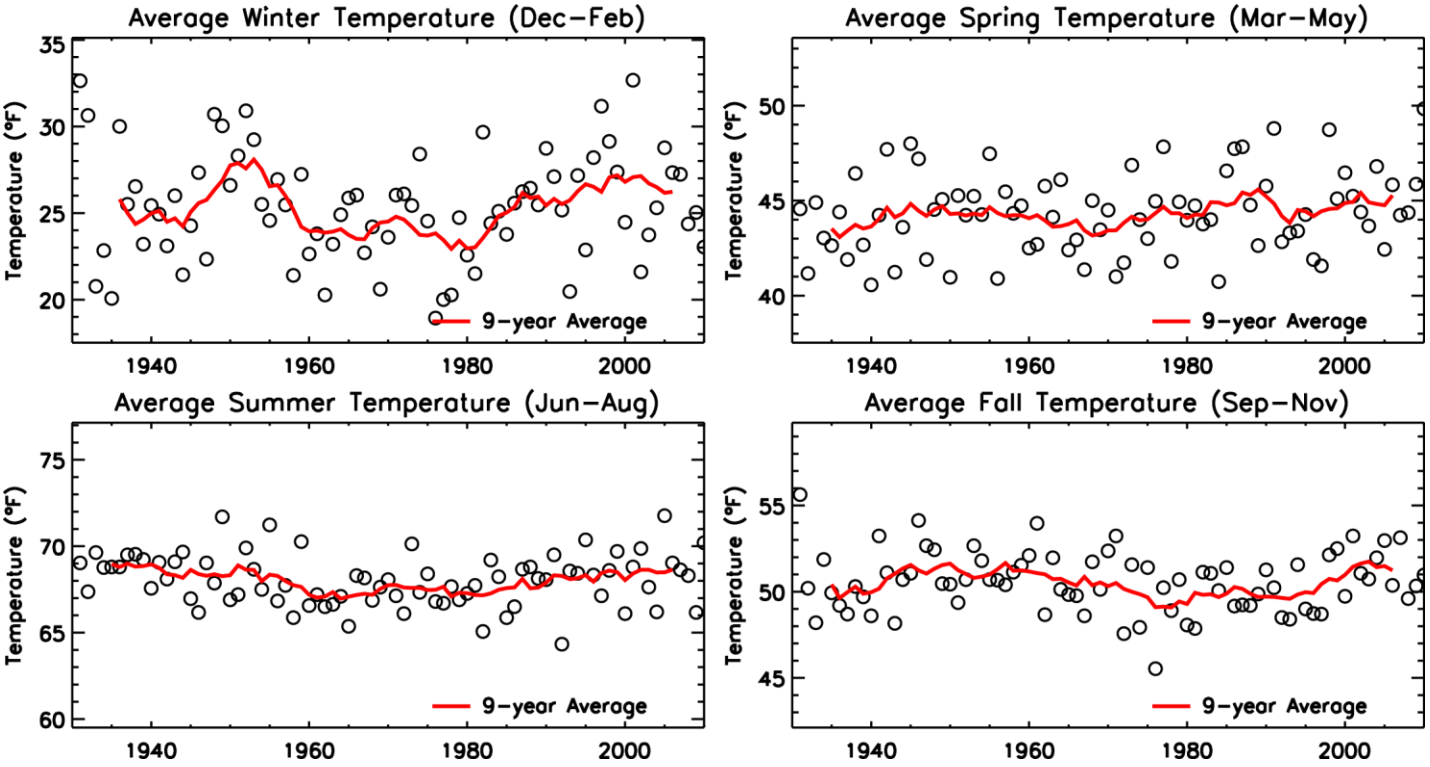
Annual	6.0
Winter, December-February	2.4
Spring, March-May	1.2
Summer, June-August	9.0
Fall, September-November	10.3



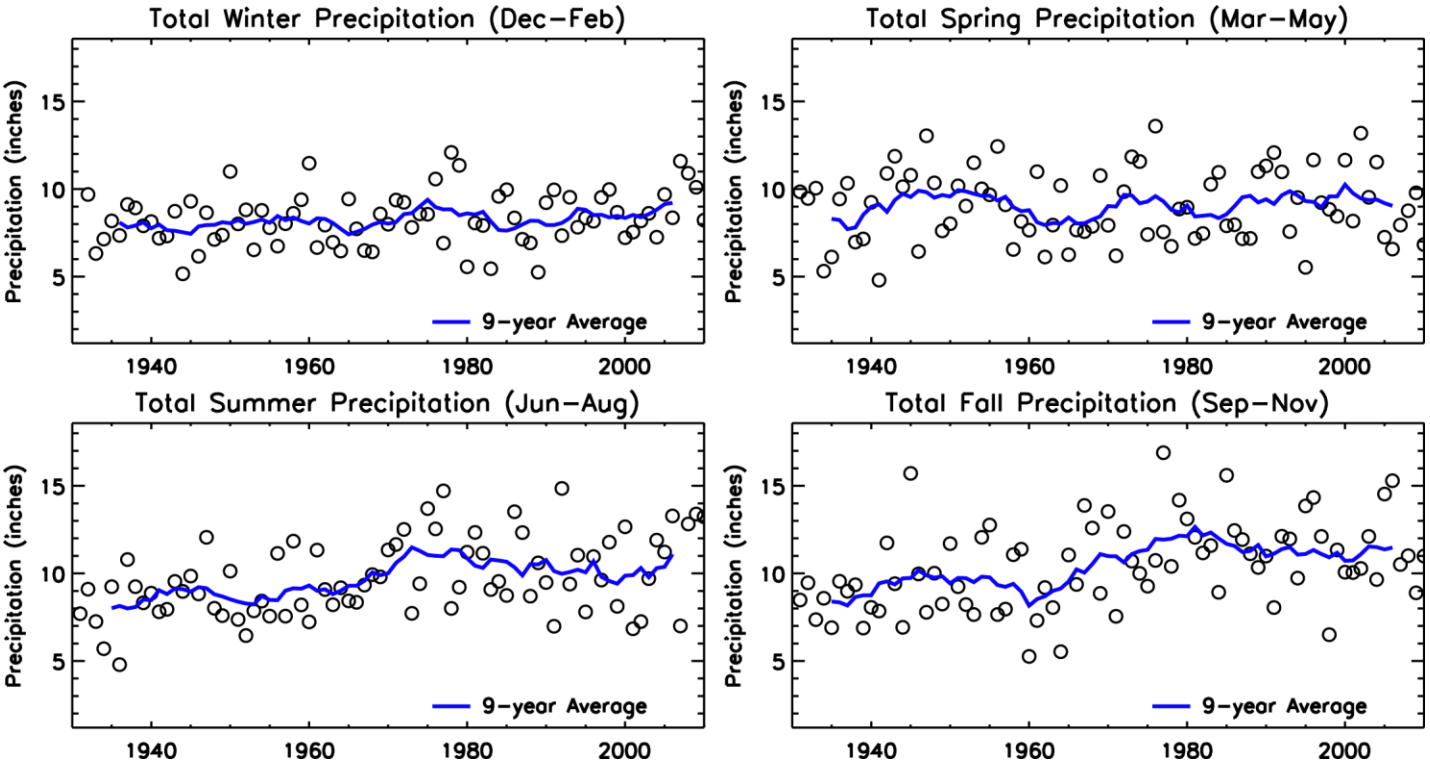
Mean annual temperatures from 1931 to 2011. An open circle represents the average temperature of a single year. The solid line represents the 9-year running mean.



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.