

Name \_\_\_\_\_

## New York's Diverse Climate: From Lakes to Mountains

### Open-Ended Response Answer Key

1. New York City has a coastal climate characterized by mild winters and warm, humid summers. Albany, on the other hand, experiences a continental climate with colder winters and lower humidity during the summer. New York City's average winter temperature hovers around freezing, while Albany regularly drops below freezing in the winter. Precipitation patterns also differ, with New York City receiving more rainfall.
2. Microclimates in New York State result from the state's diverse topography. For example, the Niagara Falls region has a unique microclimate due to the presence of the falls, which creates mist and cooler temperatures even in the summer. These microclimates can impact local weather and vegetation, making them of ecological and environmental significance.
3. Climate change is affecting New York State with rising temperatures, altered precipitation patterns, and more frequent extreme weather events. The state is taking measures to address these changes, including efforts to reduce greenhouse gas emissions, improve resilience to extreme weather, and protect vulnerable communities.
4. The Great Lakes influence the climate of cities like Buffalo and Rochester, especially during the winter months. When cold air from Canada passes over the warmer waters of the lakes, it picks up moisture and results in heavy lake effect snowfall on the downwind side of the lakes. Buffalo and Rochester are particularly prone to this phenomenon, leading to significant snowfall totals during the winter.

