

Hopewell Township Environmental Newsletter

A Publication of the Environmental Commission

Environmental Commission Members

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Jane Hankins - Vice Chair
Beth McClain - Secretary
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Land Use Board
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Meetings

The Hopewell Township Environmental Commission meets the second Wednesday of each month @ 7 PM except for November and December when meetings are held the first Wednesday of the month. The meetings are open to the public and all are welcome to attend.

Newsletters are available on the township website and the township Facebook page. Printed copies available in the municipal building.

Resources used for this newsletter include:

www.nj.gov/dep/climatechange/action.html

<https://education.nationalgeographic.org/resource/resouce-library-climate-change>

The Climate of New Jersey

New Jersey is located about halfway between the Equator and the North Pole, on the eastern coast of the United States. Its geographic location results in the State being influenced by wet, dry, hot, and cold airstreams, making for daily weather that is highly variable.

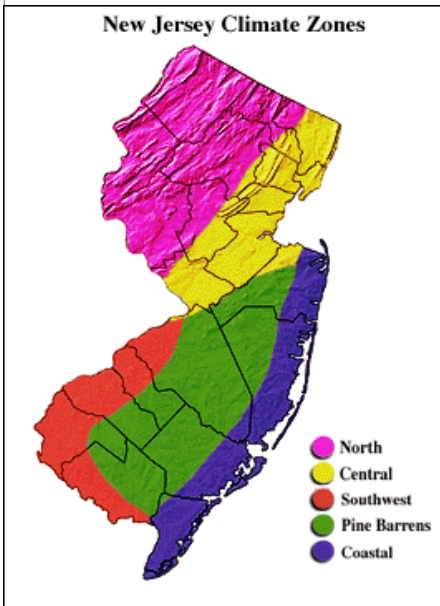
The Garden State is 166 miles long from north to south, and its greatest width is about 65 miles. While this may not seem too large, there is a marked difference in climate between Cape May in the south and the Kittatinny Mountains of northwestern New Jersey.

The dominant feature of the atmospheric circulation over North America, including New Jersey, is the broad, undulating flow from west to east across the middle latitudes of the continent. These "prevailing westerlies" shift north and south and vary in strength during the course of the year, exerting a major influence on the weather throughout the State.

Some general observations about the temperature and precipitation in New Jersey include:

- 1) Temperature differences between the northern and southern parts of the state are greatest in the winter and least in summer. All stations have registered readings of 100 degrees F or higher and have records of 0 degrees F or below.
- 2) Average number of freeze free days in the northern highlands is 163, 179 in the central and southern interior, and 217 along the seacoast.
- 3) Average annual precipitation ranges from about 40 inches along the southeast coast to 51 inches in north-central parts of the state. Many areas average between 43 and 47 inches.
- 4) Snow may fall from about October 15 to April 30 in the highlands and from about November 15 to April 15 in southern counties.
- 5) Most areas receive 25 to 30 thunderstorms per year, with fewer storms near the coast than farther inland. Approximately five tornadoes occur each year, and in general, they tend to be weak.
- 6) Measurable precipitation falls on approximately 120 days. Fall months are usually the driest with an average of eight days with measurable precipitation. Other seasons average between 9 and 12 days per month with measurable precipitation.

Although New Jersey is one of the smallest states in the Union, with a land area of 7,836 square miles, it has five distinct climate regions. The geology, distance from the Atlantic Ocean, and prevailing atmospheric flow patterns produce distinct variations in the daily weather between each of the five regions: Northern, Central, Pine Barrens, Southwest, and Coastal.



Cumberland County including Hopewell Township falls into the Southwest Zone

The Southwest Zone lies between sea level and approximately 100 feet above sea level. The close proximity to Delaware Bay adds a maritime influence to the climate of this region. The Southwest has the highest average daily temperatures in the state and without sandy soils, tends to have higher nighttime minimum temperatures than in the neighboring Pine Barrens.

This region receives less precipitation than the Northern and Central regions of the state as there are no orographic features and, it is farther away from the Great Lakes-St. Lawrence storm track. It is also far enough inland to be away from the heavier rains from some coastal storms, thus it receives less precipitation than the Coastal Zone.

Prevailing winds are from the southwest, except in winter when west to northwest winds dominate. High humidity and moderate temperatures prevail when winds flow from the south or east. The moderating effect of the water also allows for a longer growing season. Autumn frosts usually occur about four weeks later here than in the North and the last spring frosts are about four weeks earlier, giving this region the longest growing season in New Jersey.

Climate change poses a real, immediate, and growing threat to New Jersey’s future. The earth’s average temperature has risen by 1.5°F over the past century, and is projected to rise another 0.5 to 8.6°F over the next hundred years.

Climate change affects everyone. A warming climate brings changes that can affect our water supplies, agriculture, power and transportation systems, the natural environment, and even our own health and safety. Some of these changes are unavoidable, and although it’s difficult to predict the exact impacts of climate change, the climate we are accustomed to is no longer a reliable guide for what to expect in the future. However, scientists agree that there are ways to avoid the most dangerous climate impacts, and reduce the risks from a changing climate, that are both available and affordable. Our decisions today will shape the world our children and grandchildren will live in. For more information on what you can do to address climate change in New Jersey see NJDEP/Climate Change/Take Action @nj.gov

So What are Causes of Climate Change ?

By increasing the abundance of greenhouse gases in the atmosphere, human activities are amplifying Earth’s natural greenhouse effect. Virtually all climate scientists agree that this increase in heat-trapping gases is the main reason for the 1.8°F (1.0°C) rise in global average temperature since the late nineteenth century. Carbon dioxide, methane, nitrous oxide, ozone, and various chlorofluorocarbons are all human-emitted heat-trapping gases. Among these, carbon dioxide is of greatest concern to scientists because it exerts a larger overall warming influence than the other gases combined.

In the next newsletter of this series we will explore how humans are affecting climate change and what you can do to help alleviate the problem we are all facing.

For information on all five zones see David Ludlum’s New Jersey Weather Book, Rutgers University Press, New Brunswick, New Jersey, 1983, and also information from Climate of New Jersey, by the National Climatic Center, Asheville, North Carolina, June 1982. Each of these sources, plus our list of NJ Climate Publications, provide a considerable amount of information on New Jersey’s climate or refer to www.climate.rutgers.edu.



“Climate change is sometimes misunderstood as being about changes in the weather. In reality, it is about changes in our very way of life.” – Paul Polman