



[Home](#) / NJ Climate Data



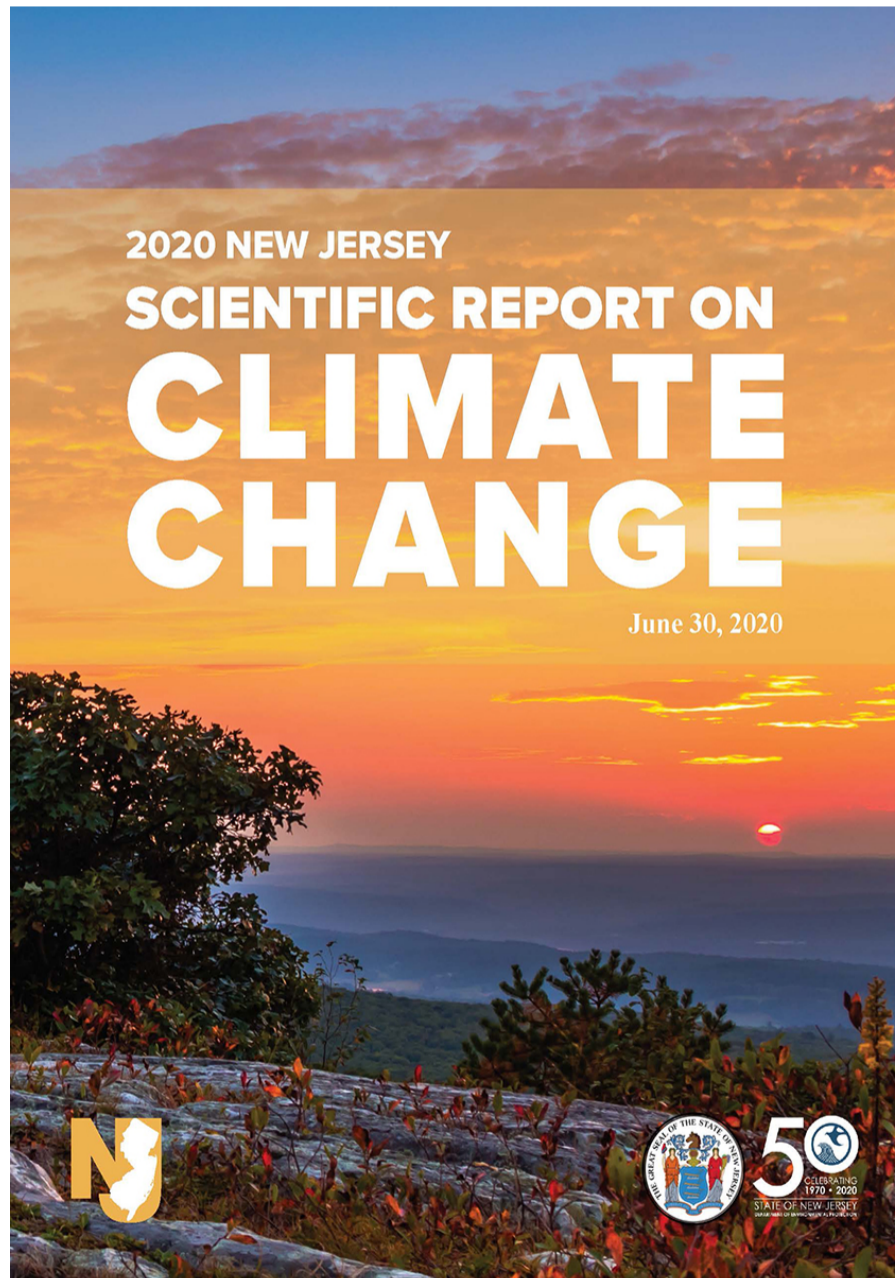
New Jersey Climate Data

Studies that focus on New Jersey and the Northeast region are vital to understanding the statewide impacts of climate change. This research will help to inform the state's policies to reduce greenhouse gases, improve resiliency and explore mitigation strategies. Click below to learn about the scientific indicators of Climate Change in New Jersey, statewide greenhouse gas emissions, and regional climate change research.

[2020 New Jersey Scientific Report on Climate Change](#)

DEP's first scientific report on climate change summarizes the current state of knowledge regarding the effects of climate change on New Jersey's environment to inform state and local decision-makers as they seek to understand and respond to the impacts of climate change. This report identifies and presents the best available science and existing data regarding the current and anticipated environmental effects of climate change globally, nationally, and regionally.

[Scientific Report on Climate Change at-a-glance](#)



[Executive Summary](#) >

[Introduction](#) >

[Greenhouse Gases](#) >

[Temperature](#) >

[Precipitation](#) >

[Sea-level Rise](#) >

[Ocean Acidification](#) >

[Resource and Ecosystem Impacts](#) >

[Research and Data Gaps](#) >

[Conclusion](#) >

[Human Health Addendum](#) >

[Human Health Addendum](#)

New Jersey produced a comprehensive report on the impacts of climate change on human health and communities by adding a human health addendum to its [2020 New Jersey Scientific Report on Climate Change](#). Understanding how these new environmental challenges will directly and indirectly affect New Jersey residents is essential to establishing strategies that can effectively and equitably protect and improve health outcomes throughout our State.



[New Jersey-Specific Urban Heat Island \(UHI\) Mapping Resource](#)

The Urban Heat Island (UHI) Effect is a known phenomenon where urbanized areas (such as cities) are disproportionately hotter compared to rural areas. Causes for the UHI effect include lack of vegetation and water bodies, an abundance of hard and dry surfaces that can absorb and retain sunlight such as buildings and sidewalks, and heat generated through human activities (such as driving vehicles, using equipment or tools). In addition, humid and densely populated areas often experience the greatest difference in temperatures between urban and non-urban places. To identify these UHI areas throughout New Jersey, NJDEP used Landsat 8 and 9 satellite imagery provided by the United States Geological Survey (USGS), and developed a [web application](#) to visualize land surface temperature (LST) values for New Jersey from the summer of 2022. This web app allows users to view the surface temperature values within specific areas of interest (address, municipality, county) at a resolution of approximately 1002 ft, and land surface temperature within and surrounding New Jersey's designated overburdened communities OBCs.

[New Jersey-Specific Studies Show Rainfall Intensity to Increase](#)



The NJDEP has released two studies by the Northeast Regional Climate Center, a National Oceanic and Atmospheric Administration (NOAA) partner, confirming increases in precipitation across New Jersey over the last 20 years, and projecting further increases in precipitation intensity through the end of this century due to climate change.

The studies, links below, are fill in 20 years of climate data gaps and provide rainfall projections through mid and late century. These studies are authored by Dr. Arthur DeGaetano, director of the Northeast Regional Climate Center and professor of Earth and Atmospheric Sciences at Cornell University, and are peer-reviewed by DEP's Science Advisory Board.

To visual how New Jersey will be impacted by the increases in frequency and intensity of extreme precipitation events that are expected throughout the century, check out the [New Jersey Extreme Precipitation Projection Tool](#). The tool allows users to zoom in to

local areas and view a depiction of the likely precipitation depth that would occur with various storm scenarios. Users can view a range of rainfall depths, and select options for frequencies, emission scenarios, and time periods. The tool also allows users to compare this projection with the values currently published in the NOAA Atlas 14 reference report.

Projected Changes in Extreme Rainfall in New Jersey based on an Ensemble of Downscaled Climate Model Projections (2021)

[Report](#) | [Fact Sheet](#) | [Supplemental Data Tables](#)
[Science Advisory Board Peer Review Comments](#)

Changes in Hourly and Daily Extreme Rainfall Amounts in NJ since the Publication of NOAA Atlas 14 Volume (2021)

[Report](#) | [Fact Sheet](#) | [Science Advisory Board Peer Review Comments](#)

Examining Precipitation Across the Garden State From 1900 to 2020 (2022)

[Report](#) | [Fact Sheet](#)

[Press Release: New Jersey-Specific Studies Confirm Rainfall Is Intensifying Because of Climate Change](#)

The New Jersey Department of Environmental Protection has released two studies by the Northeast Regional Climate Center, a National Oceanic and Atmospheric Administration (NOAA) partner, confirming increases in precipitation across New Jersey over the last 20 years, and projecting further increases in precipitation intensity through the end of this century due to climate change, Environmental Protection Commissioner Shawn M. LaTourette announced today.

[Read more...](#)

[Press Release: During Earth Week, Murphy Administration Launches Extreme Precipitation Projection Tool to Help State Better Prepare for Climate Change](#)

As part of its commitment to making the state more resilient to the impacts of climate change, the New Jersey Department of Environmental Protection today launched an online tool that will help planners, local governments, developers and residents better understand that extreme precipitation events are increasing, as confirmed by recent studies by the Northeast Regional Climate Center. Improved understanding will help decision-makers and the public take informed actions necessary to adapt to a changing climate.

[Read more...](#)

[Indicators of Climate Change in New Jersey](#)



[New Jersey Greenhouse Gas Emissions Inventory](#)

[Regional Climate Change Research](#)



[Tools & Resources](#)



Climate Change

[Home](#)
[Climate Basics](#)
[NJ Climate Data](#)
[Take Action](#)
[Climate Resilience for NJ](#)
[NJ CERAP](#)
[Contact](#)
[Sitemap](#)



Environmental Protection

Commissioner Shawn M. LaTourette

[DEP Home](#)

[News Releases](#)

[About DEP](#)

[Topics](#)

[Programs/Units](#)

[DEP Online](#)

[Contact Us](#)

Statewide

[Governor Phil Murphy](#)

[Lt. Governor Sheila Oliver](#)

[NJ Home](#)

[Services A to Z](#)

[Departments/Agencies](#)

[FAQs](#)

[Contact Us](#)

[Privacy Notice](#)

[Legal Statement & Disclaimers](#)

[Accessibility Statement](#)



Copyright © State of New Jersey, 1996-2023

Department of Environmental Protection

P. O. Box 402

Trenton, NJ 08625

609-777-3373

Last Update: May 4, 2023