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NJ Climate Adaptation Alliance

Climate Change Policy in New Jersey: Overview of Statewide Policy Options and Recommendations

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Rutgers Climate Institute
September 27, 2017

Preparing New Jersey For Climate Change
"New Jersey Climate Adaptation Alliance"
njadapt.rutgers.edu

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New Jersey Climate Adaptation Alliance

The **New Jersey Climate Adaptation Alliance** was formed in response to a diverse group of stakeholders who came together on November 29, 2011 at Rutgers University to participate in the conference "Preparing NJ for Climate Change: A Workshop for Decision-Makers."

A changing climate and rising sea levels will have a devastating impact on New Jersey's economy, the health of our residents, the State's natural resources, and the extensive infrastructure system that delivers transportation services, energy and clean water to millions of New Jerseyans. The Alliance will focus on climate change preparedness in key impacted sectors (public health; watersheds, rivers and coastal communities; built infrastructure; agriculture; and natural resources) through:

- Conducting outreach and education of the general public and targeted sectoral leaders;
- Developing recommendations for state and local actions through collaboration with policymakers at the state, federal and local levels;
- Undertaking demonstration and pilot projects in partnership with the private sector, local

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WHAT'S NEW?

Conference Announcement
Creating the Healthiest Nation: Climate Changes Health annual meeting and expo hosted by the American Public Health Association will be held from November 4-8, 2017 in Atlanta, Georgia. Abstract deadline is February 20, 2017. More information here.

Job Opportunity
Associate Director position available at the Urban Coast Institute at Monmouth University. Application deadline **January 31, 2017**. More information here.

Regional Plan Association's New Study
The Regional Plan Association recently released a study, citing the work of the New Jersey Climate Adaptation Alliance, Under Water: How Sea Level Rise Threatens the Tri- State Region, which details the severe threats posed to parts of New York, New Jersey, and Connecticut metropolitan areas as a result of permanent sea level rise.

NJ Sea-Level Rise Reports
Read the October 2016 reports related to the New Jersey Climate Adaptation Alliance Science and Technical Advisory Panel on Sea-Level Rise and Coastal

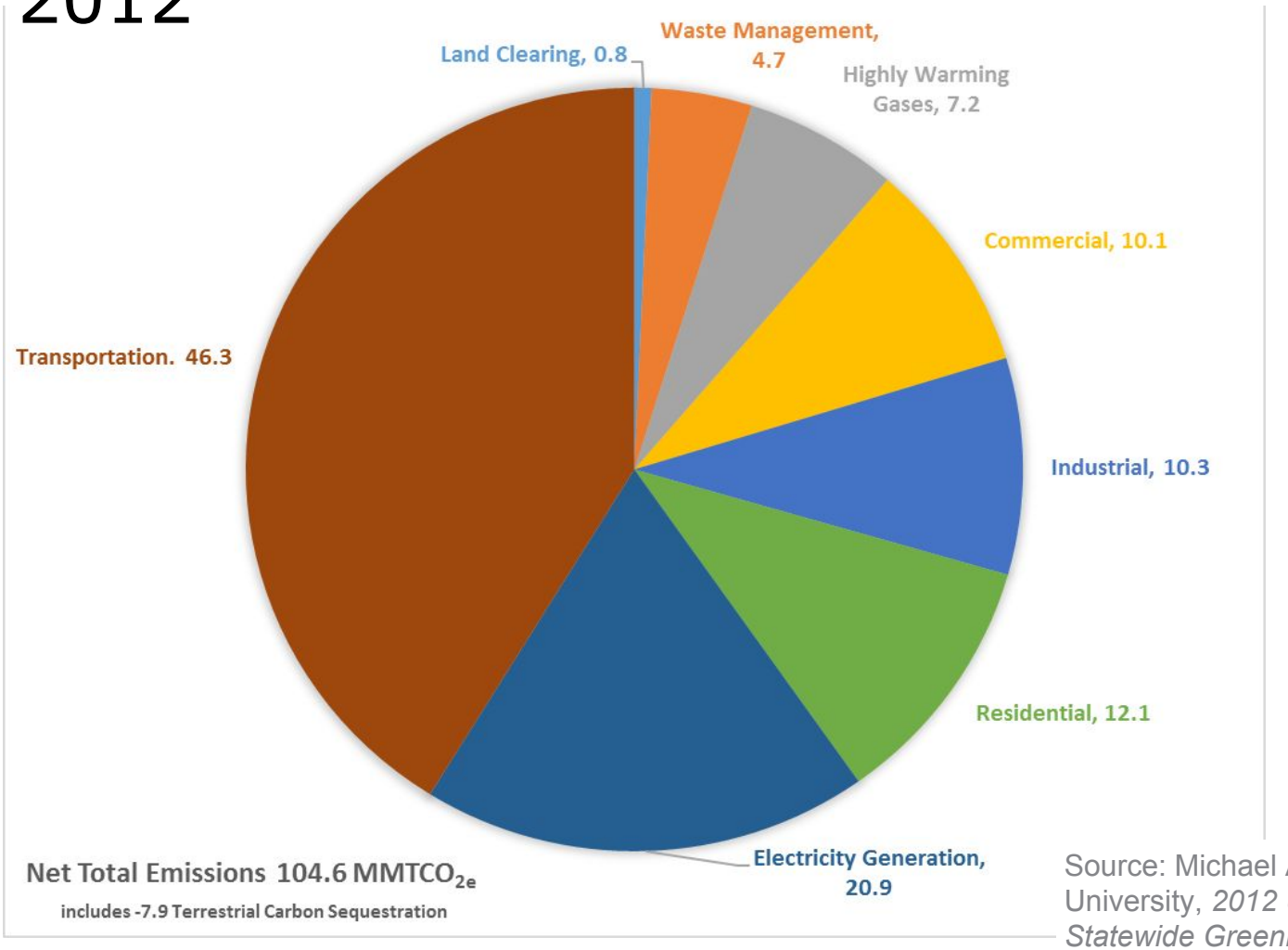
Adaptation: Adjustment in natural or human systems that are designed to reduce vulnerability to actual or expected changes in the climate. Includes measures that increase our ability to absorb, accommodate, recover from and respond to a changing climate.

Image from grist.org

Image from Sunrun

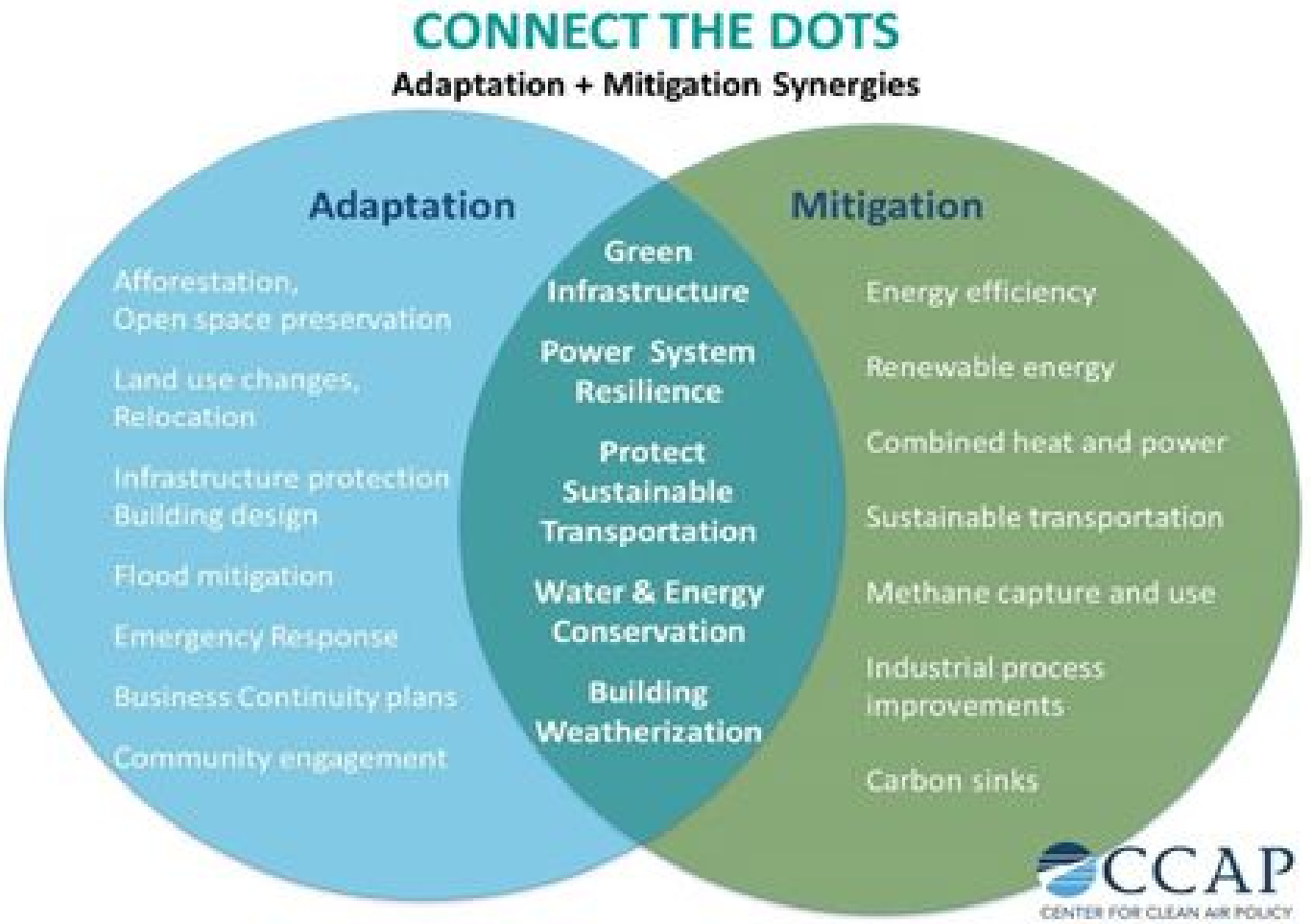
Mitigation: Human intervention that reduces the sources of greenhouse gas emissions or that enhances sinks that absorb emissions.

Estimated NJ Statewide GHG Emissions, 2012



Source: Michael Aucott et al., Rutgers University, *2012 Update to New Jersey's Statewide Greenhouse Gas Emission Inventory* (2015)

The Nexus of Mitigation and Adaptation



Credit: C. Brigham

Climate Adaptation Policy Recommendations

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NJ Climate Adaptation Alliance

March 2014

A Summary of Climate Change Impacts and Preparedness Opportunities for the Public Health Sector in New Jersey

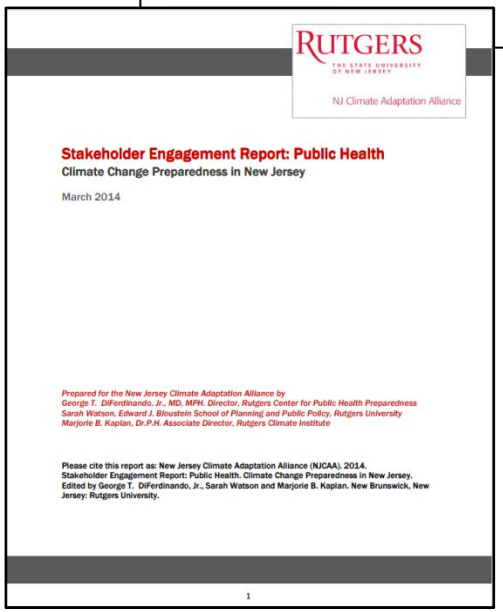
This report is one of a series of working briefs prepared by the New Jersey Climate Adaptation Alliance to provide background information on projected climate impacts for six major sectors in New Jersey, including agriculture, built infrastructure (utilities and transportation), coastal communities, natural resources, public health, and water resources. These working briefs present information to be used throughout the Alliance's deliberations to develop recommendations for state and local public policy that will enhance climate change preparedness and resilience in New Jersey. These briefs are living documents that are periodically updated. This document updates a prior version from January 2013. For more information about the Alliance and its activities, visit http://njadapt.rutgers.edu.

This report provides an assessment of public health-based perspectives on the topic of adaptation planning for climate change in New Jersey, including a description of health care facilities and services in the state, existing emergency response capacities and communications systems, and other applicable descriptive information. Current New Jersey efforts as well as current and planned adaptation practices and strategies in other states are presented as the basis for a series of recommendations to address additional needs as a starting point for discussion and prioritization of comprehensive adaptation planning for New Jersey.

Public Health Resources in New Jersey

New Jersey has a population of approximately 8.7 million people, with 14% of the population (1.1 million people) aged 65 and over, and 25% of the population (2.1 million people) aged 18 and under.[1] Seventeen percent of New Jersey residents have incomes below the Federal Poverty Level as measured by the U.S. Department of Health and Human Services' (HHS) poverty guidelines.[2] Insurance coverage levels in New Jersey are on par with the nation as a whole: 54% have health insurance through employers, 25% are covered through Medicare or Medicaid, 4% are covered by individual plans, and 16% of residents in the state are uninsured.[3]

Public health and treatment in New Jersey is provided by a range of acute and long-term care facilities and agencies, including hospitals, federally qualified health care centers (FQHCs), nursing homes and assisted living facilities, home health and hospice agencies, local health departments, Emergency Medical Services, the NJ Medical Reserve Corps, and the NJ Office of Emergency Management. Most facilities are licensed and regulated by the New Jersey Department of Health (DOH). There are 73 hospitals in New Jersey with a capacity of 2.4 beds per 1,000 people;[4] 362 certified nursing facilities with approximately 51,000 beds;[5] and 20 FQHCs.[6] According to a 2008 report by the New Jersey Commission on Rationalizing Health Care Resources, "overall average occupancy ratio of New Jersey hospitals is above the national average, but in every hospital market area of New Jersey it is still below the normative 80% to 85% range considered 'full occupancy'." The Commission concluded that hospitals in New Jersey are in poorer financial condition than those in other states: New Jersey hospitals perform worse than the national average on



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Stakeholder Engagement Report: Public Health

Climate Change Preparedness in New Jersey

March 2014

Prepared for the New Jersey Climate Adaptation Alliance by
George T. DiFerdinando, Jr., MD, MPH. Director, Rutgers Center for Public Health Preparedness
Sarah Watson, Edward J. Bloustein School of Planning and Public Policy, Rutgers University
Marjorie B. Kaplan, Dr.P.H. Associate Director, Rutgers Climate Institute

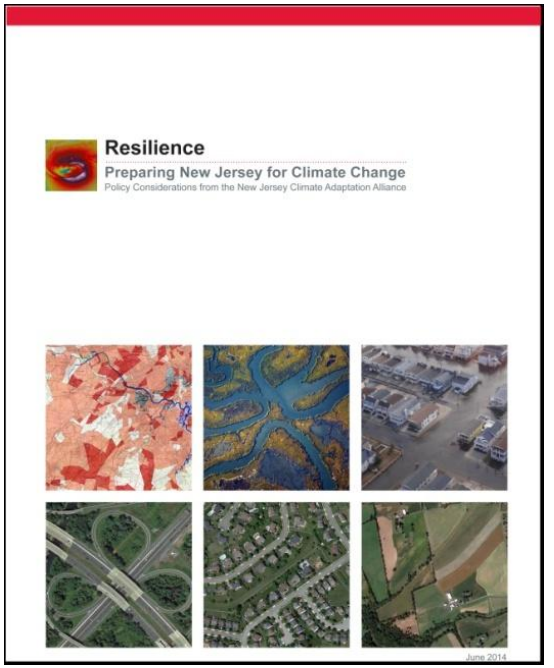
Please cite this report as: New Jersey Climate Adaptation Alliance (NJCAA). 2014. Stakeholder Engagement Report: Public Health. Climate Change Preparedness in New Jersey. Edited by George T. DiFerdinando, Jr., Sarah Watson and Marjorie B. Kaplan. New Brunswick, New Jersey: Rutgers University.

Resilience

Preparing New Jersey for Climate Change

A Gap Analysis from the New Jersey Climate Adaptation Alliance

December 2013



Resilience

Preparing New Jersey for Climate Change

Policy Considerations from the New Jersey Climate Adaptation Alliance

June 2014

Adaptation Policy Themes For NJ

1. Form partnerships with the science community to better understand changing climate projections for New Jersey.
2. Integrate that science into planning across sectors at the state level and consistently integrate those projections into planning at the regional, county and municipal levels.
3. Consider the impacts and the cost of climate change as part of state decision-making, investment of public monies into infrastructure and standard setting.
4. Set priorities to address the needs of populations and communities most vulnerable to changing climate conditions.
5. Promote policies that provide adaptation and mitigation benefits.
6. Integrate climate change efforts into existing programs and educate practitioners and decision-makers at all levels to build adaptation capacity.

Two Key Reports
Sea-Level Rise and Coastal Storms for NJ

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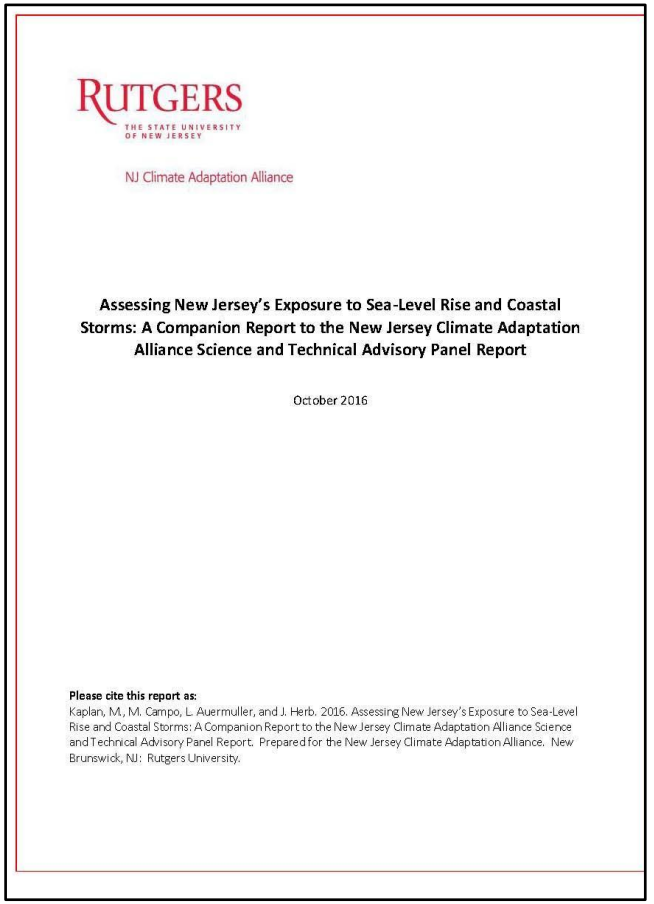
NJ Climate Adaptation Alliance

Assessing New Jersey's Exposure to Sea-Level Rise and Coastal Storms: Report of the New Jersey Climate Adaptation Alliance Science and Technical Advisory Panel

October 2016

Please cite this report as:
Kopp, R.E., A. Broccoli, B. Horton, D. Kreeger, R. Leichenko, J.A. Miller, J.K. Miller, P. Orton, A. Parris, D. Robinson, C.P. Weaver, M. Campo, M. Kaplan, M. Buchanan, J. Herb, L. Auermuller and C. Andrews. 2016. Assessing New Jersey's Exposure to Sea-Level Rise and Coastal Storms: Report of the New Jersey Climate Adaptation Alliance Science and Technical Advisory Panel. Prepared for the New Jersey Climate Adaptation Alliance. New Brunswick, New Jersey.

Science and Technical Advisory Panel Report



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Assessing New Jersey's Exposure to Sea-Level Rise and Coastal Storms: A Companion Report to the New Jersey Climate Adaptation Alliance Science and Technical Advisory Panel Report

October 2016

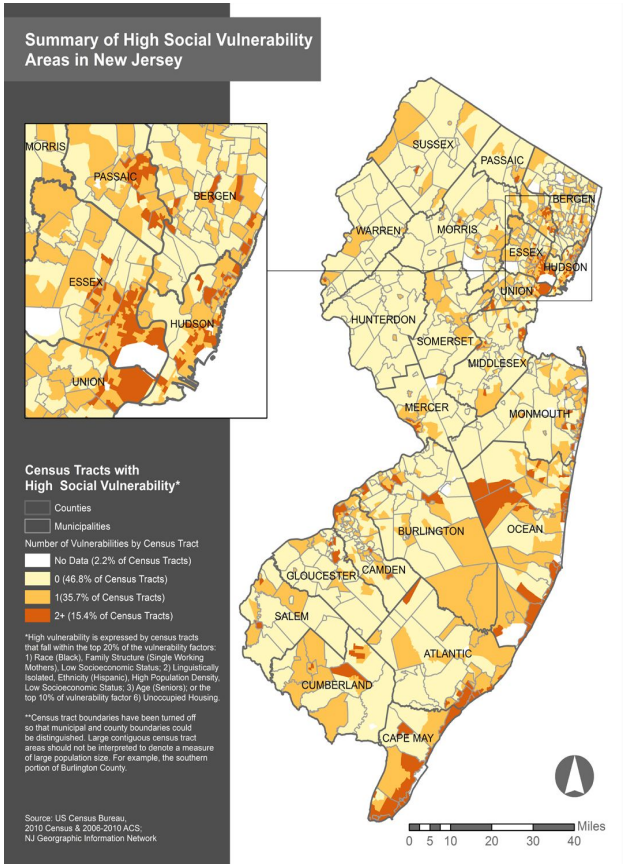
Please cite this report as:
Kaplan, M., M. Campo, L. Auermuller, and J. Herb. 2016. Assessing New Jersey's Exposure to Sea-Level Rise and Coastal Storms: A Companion Report to the New Jersey Climate Adaptation Alliance Science and Technical Advisory Panel Report. Prepared for the New Jersey Climate Adaptation Alliance. New Brunswick, NJ: Rutgers University.

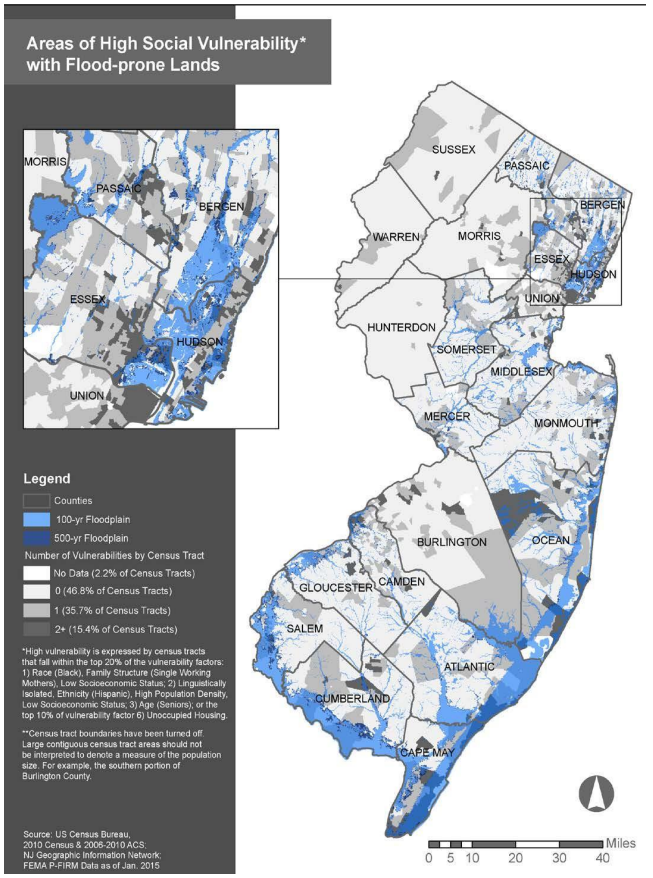
Companion Report

Water Supply Adaptation (2016)

- **Governance**: The past isn't the future; plan for change and adaptation
- **Hydrologic Change**: Complex interactions and more variability
- **Vulnerability of Water Infrastructure**: Systemic risk of systems
- **Risk Anticipation**: And avoidance
- **Water Conservation and Efficiency**: Reduce stress on uncertain supplies
- **Source Water Protection**: Changing temperature changes quality. Need integrated modeling for quantity and quality
- **Finances**: Incorporate climate change in capital projects to avoid spending twice (or more)

High Social Vulnerability and Flood Risk



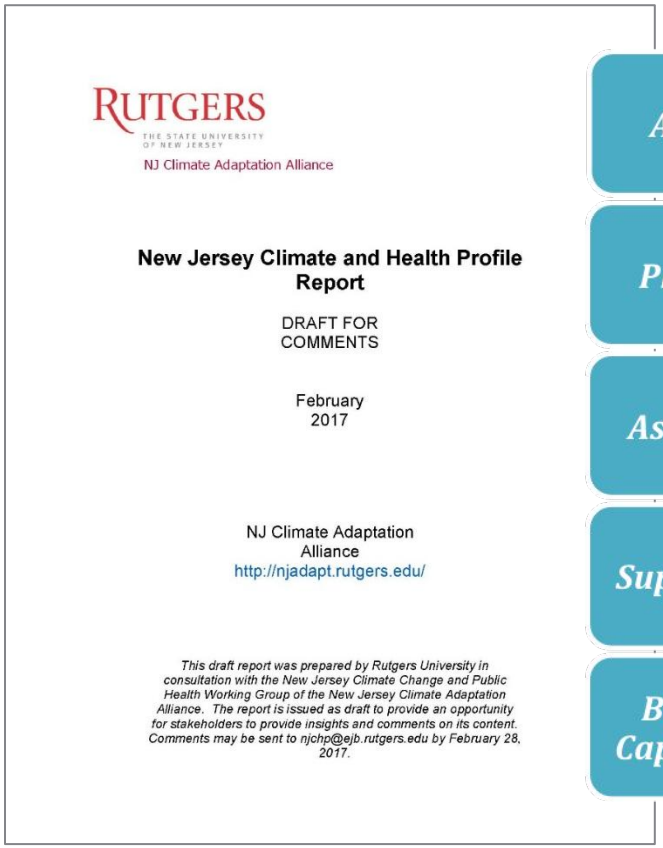


Factors Related to High Social Vulnerability

-race (black), family structure (single parent, female-headed), and low socioeconomic status
-linguistic isolation, ethnicity (Hispanic), high population density, and low socioeconomic status
-age (seniors)
-high percentages of unoccupied housing (Source: Pflicke et al. 2015)

Climate Change and Public Health Working Group

Mission: to work in partnership with New Jersey's public health community to help enhance the public health community's climate preparedness



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NJ Climate Adaptation Alliance

New Jersey Climate and Health Profile Report

DRAFT FOR COMMENTS

February 2017

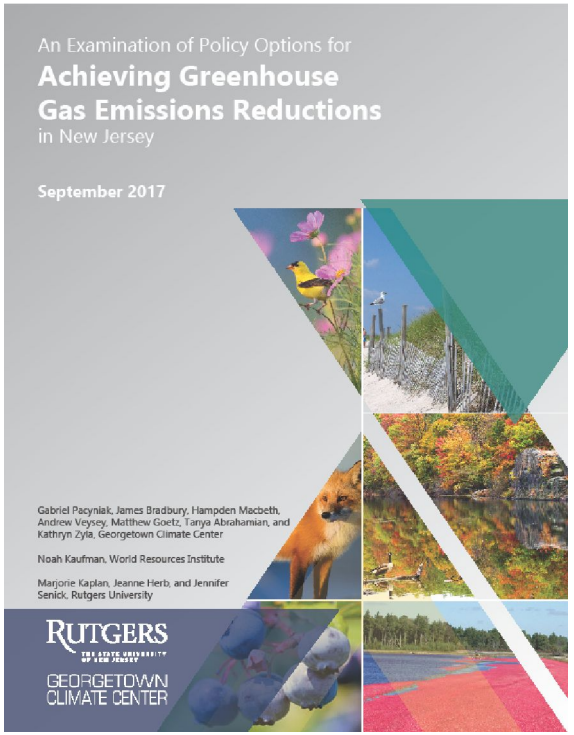
NJ Climate Adaptation Alliance
http://njadapt.rutgers.edu/

This draft report was prepared by Rutgers University in consultation with the New Jersey Climate Change and Public Health Working Group of the New Jersey Climate Adaptation Alliance. The report is issued as draft to provide an opportunity for stakeholders to provide insights and comments on its content. Comments may be sent to njchp@ejb.rutgers.edu by February 28, 2017.

Act	•Implement specific initiatives identified in consultation with public health community
Plan	•Integrate climate science and consideration of climate change impacts into existing public health planning, programs and decision making processes
Assess	•Assess disease burden as a result of a changing climate and identify vulnerable populations and appropriate interventions
Support	•Develop and assist in the deployment of tools and other resources to support local public health practitioners
Build Capacity	•Expand the ability of NJ's public health practitioners to undertake interventions to address public health-related climate change impacts

Policy Options to Reduce GHG Emissions in NJ

- Explores policy options to achieve legal limits on GHG emissions
  - Global Warming Response Act economy-wide limits: Reduce emissions to 1990 levels by 2020; and 80 percent below 2006 levels by 2050
- Examines critical issues to attain statewide limits:
  - Do the goals still reflect scientific consensus?
  - What is NJ's current emissions trend?
  - What NJ policies are available to address GHG emissions?
  - What mitigation policies in other states can NJ consider?
  - How can policies address the needs of populations and communities most impacted by climate change?



Findings

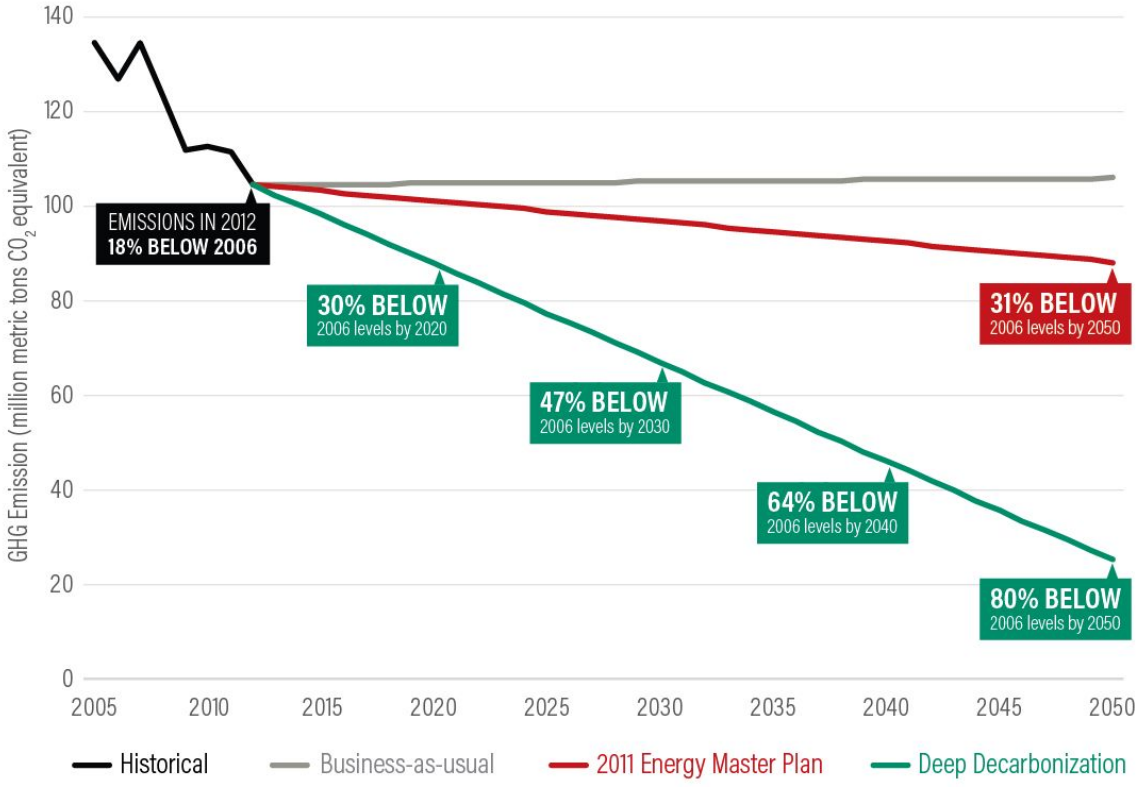
- Yes, NJ's statutory limit of 80% reduction of GHG emissions from 2006 levels by 2050 is still appropriate and reflects scientific consensus.

- There are innovative policies in other states that NJ can learn from and many of those policies deliver additional benefits.

- NJ has several statutes and programs that address GHG emissions and promote clean energy and energy efficiency.

New Jersey Emissions Pathways

NJ met its 2020 limit in 2008 but does not have a long term vision to reduce emissions 75% to meet its 2050 limit.



Data from NJ Department of Environmental Protection

Categories of Policy Options

1. Mid-term and long-term economy wide planning
   - Example: Interim GHG emissions limit (2030) [CA, CO, DE, DC, MD, MN, NH, NY, RI, VT, WA]

2. Standard setting with opportunities for innovation and development
   - Example: Energy Efficiency Portfolio Standard. [CA, MD, IL]

3. Multi-state approaches
   - Example: ZEV MOU [CA, CT, MA, MD, NY, OR, RI, VT]

4. Climate Change Considerations in Rulemaking and Planning
   - Example: Social Cost of Carbon incorporation into regulatory and planning functions [CA, CO, IL, MN NY]

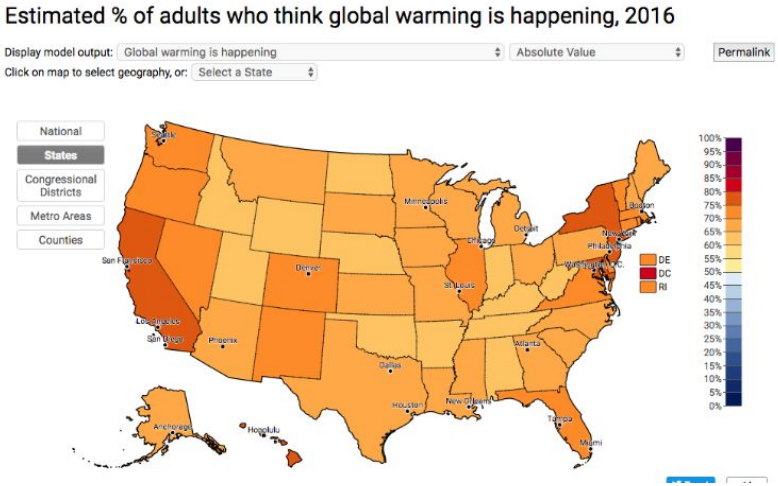
5. Strategies to address equity for populations especially vulnerable to climate change and communities that are disproportionately burdened by environmental pollution
   - Example: Establish a more formal EJ policy and create programs that target benefits to EJ communities [CA, NY, MN]

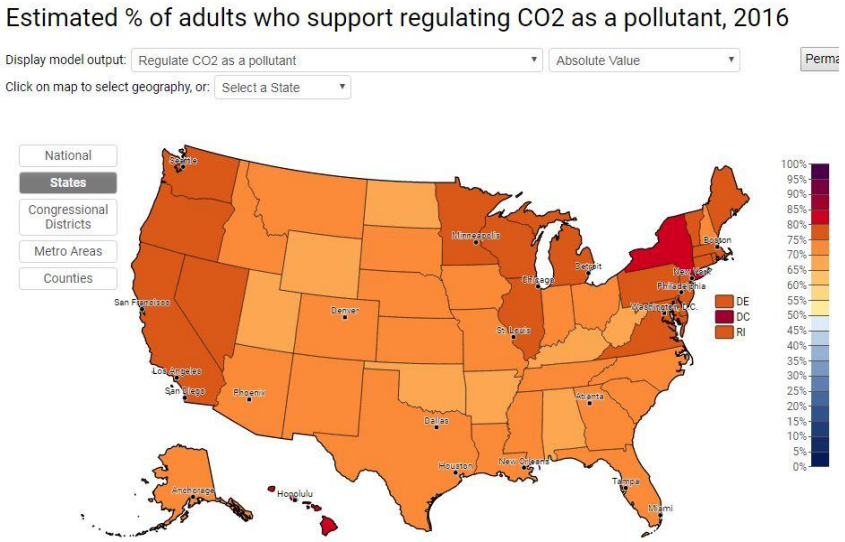
New Authorities

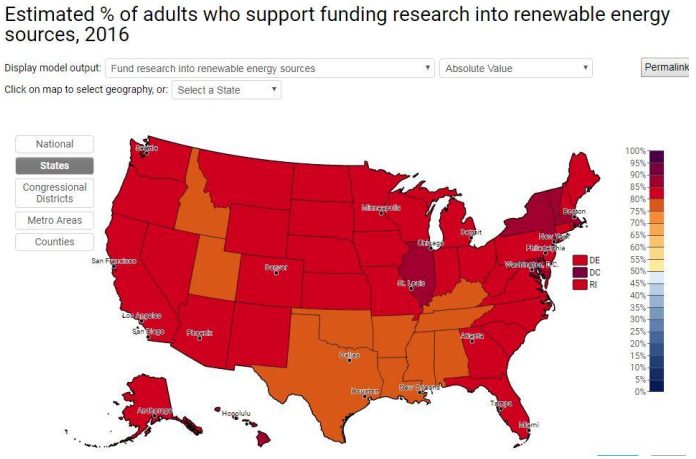
New initiatives through statutory authority

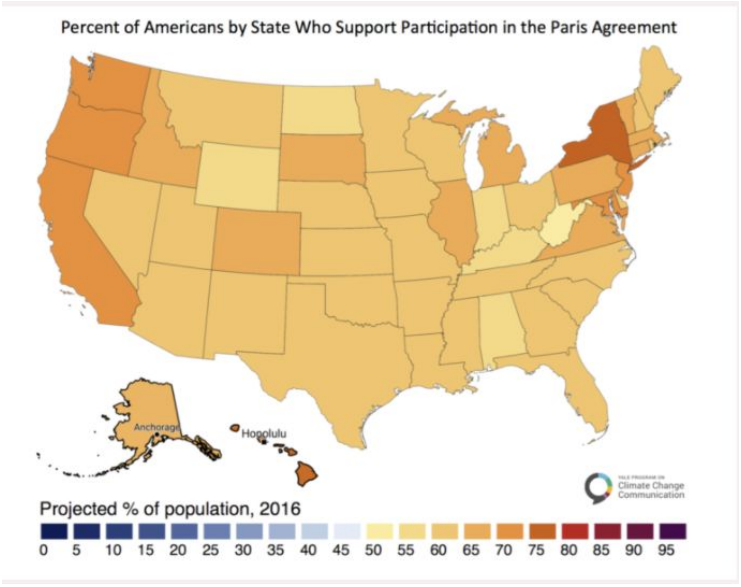
- Example: Economy-wide carbon pricing such as legislation under consideration in MA to return revenues to households and some reinvestment into GHG emissions reduction and community resiliency

Opinions About Climate Change



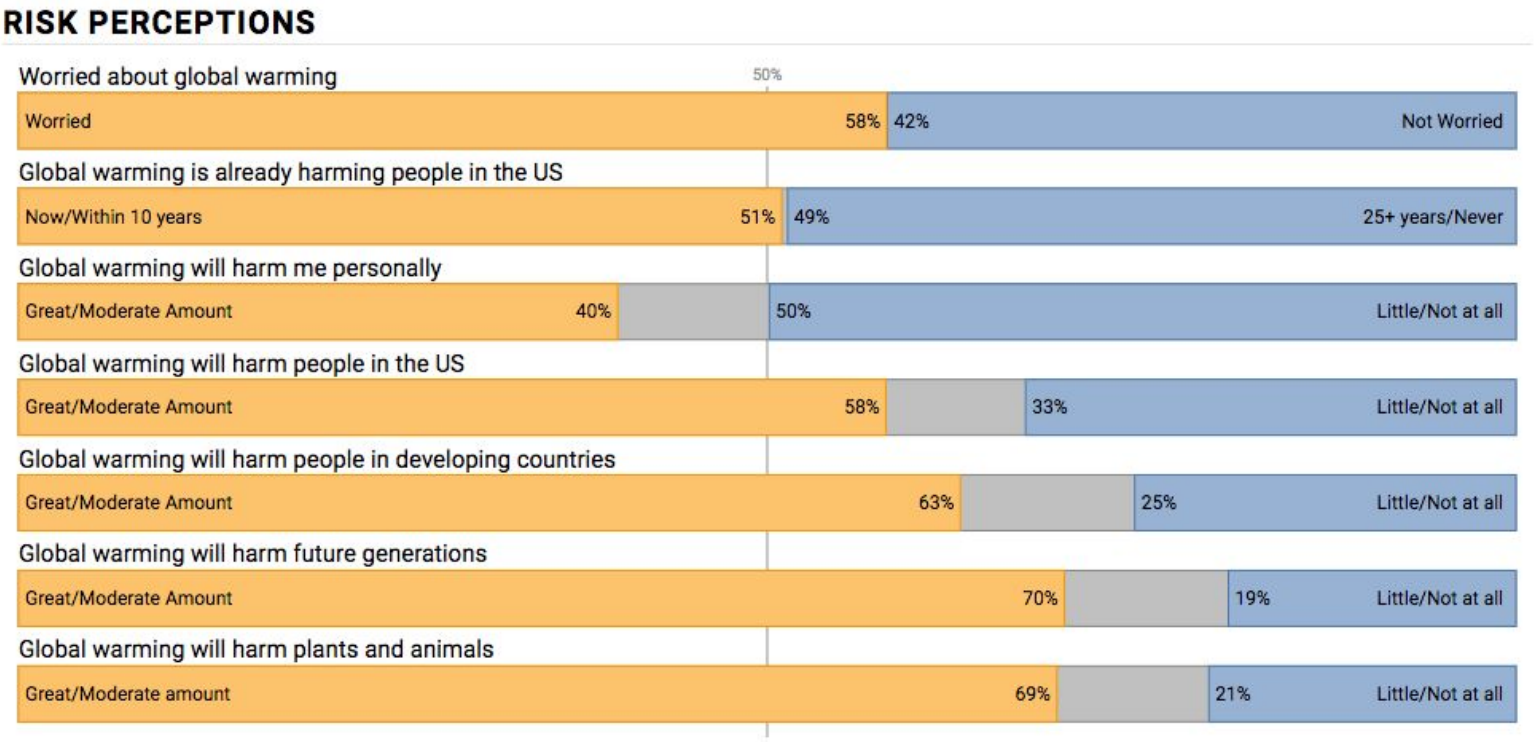






Sources: Marlon et al. 2016 Yale Climate Change Opinion Maps – 2016 and Marlon et al. 2017

Risk Perception



Source: Marlon et al. 2016 Yale Climate Change Opinion Maps - 2016

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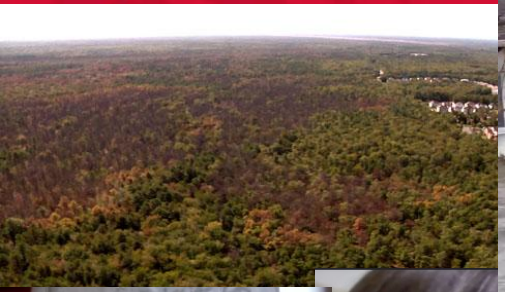


PUBLIC WORKSHOPS
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