



Recommendations From the New Jersey Climate Adaptation Alliance

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Climate Change and Agriculture in NJ Workshop
4 March 2015

Preparing New Jersey For Climate Change

"New Jersey Climate Adaptation Alliance"

njadapt.rutgers.edu

The screenshot shows a web browser window displaying the homepage of the New Jersey Climate Adaptation Alliance. The browser's address bar shows the URL njadapt.rutgers.edu. The website features a red header with the Rutgers logo and the text "New Jersey Climate Adaptation Alliance". Below the header is a navigation menu with links: Home, About, Upcoming Events, Past Events, Resources, NJ Climate Impacts, RU Climate Institute, and Stay in Touch. The main content area includes a large photograph of people working in a field of red flowers. To the right of the photo is a "WHAT'S NEW?" section with two articles: "Leadership Training Institute Scholarships Available!" and "Metropolitan Waterfront Alliance's 2015 Waterfront Conference". At the bottom of the page, there is a section titled "New Jersey Climate Adaptation Alliance" with a paragraph about the alliance's formation and a paragraph about the impact of climate change.

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New Jersey Climate Adaptation Alliance

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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

WHAT'S NEW?

Leadership Training Institute Scholarships Available!
Scholarships available for Building One New Jersey and Together North Jersey's Leadership Institute, which takes place weekends in January and February. For more information about scholarships email [Miriam.salerno \(at\) ejb.rutgers.edu](mailto:Miriam.salerno@ejb.rutgers.edu). You can find the application [here](#).

Metropolitan Waterfront Alliance's 2015 Waterfront Conference
Propose a presentation, session, or panel discussion. Please [submit your proposal here](#). The deadline for submissions is Monday, January 12, 2015. For reference, the 2014 Waterfront Conference program may be viewed [here](#). Conference is on May 7, 2015.

Equitable Development Workshop
The Equitable Development Workshop is approved for 4.5 Certification

Working Brief: Agricultural Sector



NJ Climate Adaptation Alliance

March 2014

A Summary of Climate Change Impacts and Preparedness Opportunities for the Agricultural 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 agriculture-based perspectives, including farms, nurseries and fisheries, on the topic of adaptation planning for climate change in New Jersey. 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 which serve as a starting point for discussion and prioritization of comprehensive adaptation planning for New Jersey.

Agriculture in New Jersey

The agricultural community in New Jersey consists of farmers, service providers, regulators and other organizations responsible for growing crops, livestock, and nursery plantings. In addition, the agricultural community considered here will also include those entities involved in aquaculture (e.g. shellfish growing and harvesting) and commercial fishing. Additional agencies supporting agriculture in the state include those agencies that are responsible for the optimal use

and preservation of farmland. Each stakeholder group has a unique perspective on climate change adaptation and the policies that could be set forth to improve preparedness in New Jersey.

Traditional agricultural products in New Jersey include crops that are farmed for commercial sale, such as tomatoes sold at a farmer's market or grain sold to a feed mill. Farmers produce more than 100 different kinds of fruits and vegetables. New Jersey ranks among the top ten states for production of blueberries, cranberries, peaches, tomatoes, bell peppers, snap beans, cucumbers, spinach, and squash.¹ In 2012, 10,300 farms generated cash receipts totaling \$1.12 billion, with the nursery/greenhouse/sod industry generating cash receipts of \$453.6 million. Cash receipts for fruits and vegetables totaled \$428.8 million, followed by field crops with \$112.2 million. Equine brought in \$46 million, while the sale of poultry and eggs generated \$30.7 million. Dairy industry sales were valued at \$27.5 million.² In addition, growers produced hundreds of thousands of dollars of specialty crops, including the state's 46 vintners. Fish and seafood are also a valuable commodity adding another \$211.7million to the value of agriculture in New Jersey.³

Farms in New Jersey cover 800,000 acres in fertile areas such as the Wallkill and Delaware Valleys, the Highlands region, and the Pinelands bogs. Agricultural practices are governed by a number of state agencies in New Jersey. The New Jersey Department of Agriculture's (NJDA) Division of Agricultural and Natural Resources (DANR) is responsible for a variety of services and programs for agriculture and related agribusinesses. The DANR also coordinates between various state and federal agencies and provides assistance in the development of policy positions on land use planning issues on the State Planning Commission. It administers programs to conserve soil, water and related natural resources

¹ NJDA (2012)
² NJDA (2012)
³ NJDA (2012)

New Jersey Climate Adaptation Alliance

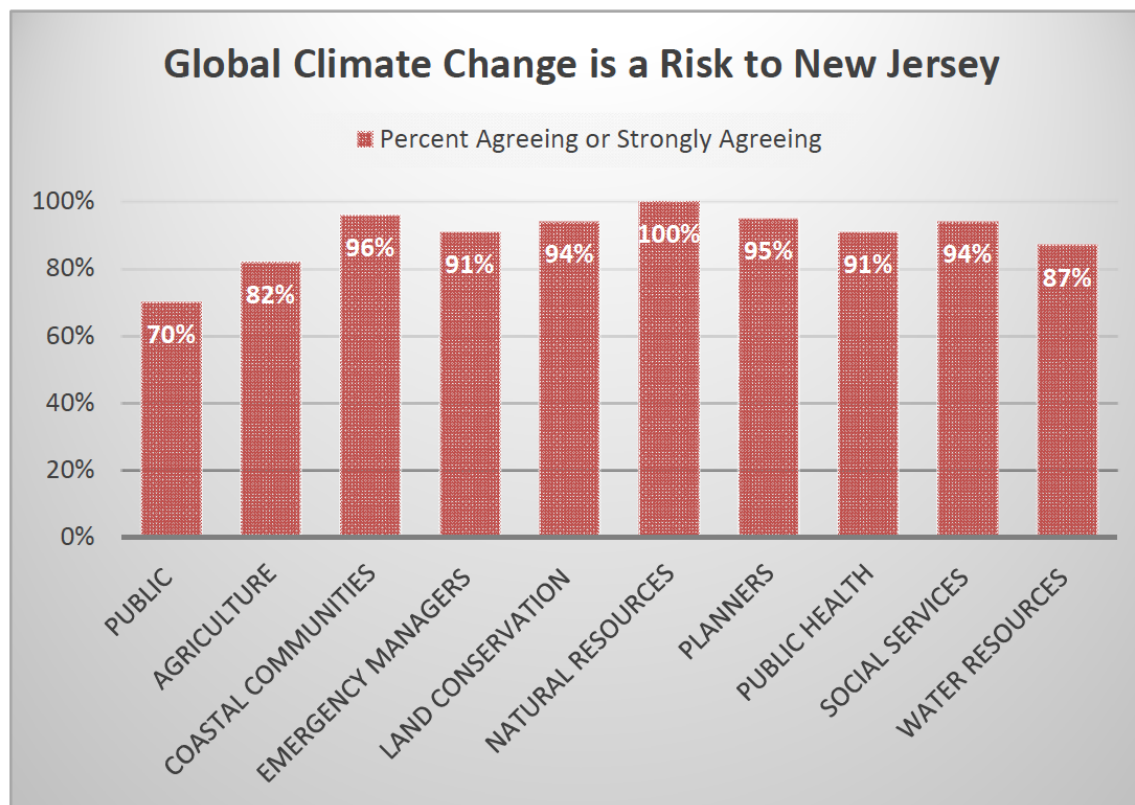
- Stakeholder Engagement Report: Agriculture
- Gap Analysis
- Policy Considerations
- Implementation



Ag Stakeholder Engagement

- Stakeholder engagement process initiated Fall 2012
- Surveys, focus groups, interviews that are helping to inform a public policy process.
- Agricultural stakeholders: NJ Farm Bureau; Northeast Organic Farming Association- NJ; Extension agents and Extension Specialists; Conservation Land Rally participants; USDA-NRCS NJ District Office; reps of NJ State Board of Ag and State Dept of Ag.
- Commercial fishermen and shellfishermen and Forestry information overlapped, and thus coordinated with and captured thru natural resource stakeholder engagement.

Summary of Survey Results Across Sectors



Additional Poll Results

	Public Poll (875)	Agriculture (55)	Coastal (119)	Emergency Managers (51)	Land Conservation (25)	Natural Resources (28)	Planners (138)	Public Health (22)	Social Services (74)	Water Resources (85)
A. Global climate change is not occurring. <i>(Showing % disagreeing with this statement)</i>	70%	78%	84%	73%	89%	96%	89%	68%	83%	75%
B. Global climate change is mostly caused by human activity.	64%	64%	67%	60%	89%	78%	79%	50%	81%	52%
C. Global climate change is a risk to New Jersey.	70%	82%	96%	91%	94%	100%	95%	91%	94%	87%
D. Global climate change is a risk to me, my family, and my friends.	64%	67%	83%	82%	91%	92%	86%	77%	90%	69%
E. The international scientific community understands the science behind global climate change.	64%	55%	64%	58%	80%	78%	77%	64%	64%	50%
F. I trust the scientific community to truthfully report their findings related to climate change.	54%	56%	68%	64%	86%	85%	76%	68%	66%	56%
G. Our state and local officials understand the implications of global climate change for my region.	41%	7%	15%	38%	11%	4%	23%	10%	23%	11%

Recommendations Specific to Agriculture

- Assess vulnerability of NJ agricultural land/resources to climate change
 - Flood exposure
 - Suite of adaptation measures
 - Consider method for site specific ag assets at risk
 - Consider potential for increased invasive spp/pests
 - Opportunity for incentives/benefits for property owners whose farmland preservation efforts promotes wetlands migration for resiliency
- Assess farmland preservation strategies and coordinated agricultural floodplain and wetland easement purchases for ag locations that may be vulnerable to sea level rise or flooding from climate change.

Ag Recommendations

- Develop long-term sustained education and outreach curriculum for the agriculture community on cc impacts and management practices
- Develop innovative approaches thru private-public partnerships
 - markets for ag practices w/ climate benefits (C seq; temp mit in streams thru vegetative planting)
 - Seed mix guidance in cover crop standards based on field experiences
 - Peer to peer demonstration (no till ag; drought or pest-resistant crops; crop rotation)
 - Soil health focus group to develop soil health guidance

Ag Recommendations

- Research Needs
 - impacts of climate change to recreational and commercial salt and freshwater fisheries
 - Modeling specific regional climate impacts to NJ
 - Climate change, flooding and spread of contaminated sediment
 - Assess current vector and disease surveillance programs with respect to impacts to human health and ag resources

Ag Recommendations

- Ag Extension would benefit from focused and enhanced effort to address climate change impacts including:
 - Management of higher amplitude storm flows through a renewed emphasis on farm pond technical and engineering design from USDA NRCS
 - Review/Update engineering and design standards for conservation practices (e.g., erosion control of grassed waterways)
 - Enhancement of BMPs to incorporate climate change scenarios to improve reduction of stormwater runoff and increase soil health measures to reduce drought stress;

Ag Extension Recommendation (cont)

- Development of opportunities for climate resilient crops; adaptive plant, agricultural species and varieties; appropriate forest successional species; genetically adapted shellfish species.
- Develop agricultural practices to address climate impacts including alternative methods for cover crop establishment; innovative and cost effective water and irrigation systems management and design; low cost weed, pesticide and vector control; design criteria for livestock protection structures and worker comfort and safety practices.

Moving Ahead

- NE Climate and Ag Hub
- Soil Health Focus Group
- Developing Fact Sheets
- Center For Resilient Landscapes Initiative
- Establish an Agriculture and Climate Working Group

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