



APPENDIX F. MEETING DOCUMENTATION

This appendix contains all meeting documentation including agendas, presentation materials, meeting notes, and handouts from all meetings that occurred throughout the planning process. The last section (F.6) includes the names of stakeholders that were part of the Planning Process.

This section is organized as follows:

F.1 NJOEM Meetings

- A. NJOEM Kickoff Meeting (9/22/2022)
- B. NJOEM Plan Update Meeting (11/30/2022)
- C. NJOEM RL/SRL Meeting (6/13/2023)

F.2 State Hazard Mitigation Team (SHMT) Meetings

- A. SHMT Kick-off Meeting (1/24/2023)
- B. SHMT Meeting #2 (5/17/2023)

F.3 Hazard Mitigation Strategy Workshops

- A. Participant Kick-off Meeting & BAToolSM Program Training
- B. Hazard Mitigation Strategy Workshop #1 (6/14/2023)
- C. Hazard Mitigation Strategy Workshop #2 (6/20/2023)

F.4 Stakeholder Workshops

- A. Land Use & Economic Development (4/19/2023)
- B. Natural & Cultural Resources (4/20/2023)
- C. Housing & Social Services (4/24/2023)
- D. Transportation (4/25/2023)
- E. Healthcare Systems & Services
- F. Water Resources (5/3/2023)
- G. Open House (5/4/2023)
- H. Social Equity Listening Session (6/21/2023)

F.5 IAC Meeting (June 13, 2023)

F.6 List of Stakeholders



F.1-A NJOEM KICKOFF MEETING (9/22/2022)

State Hazard Mitigation Plan

NJOEM Kick-off Meeting

Agenda

September 22, 2022

Agenda:

- Update Priorities
 - Streamline future state and local plan updates through expansion of tools and guidance
 - Shift away from wishlist projects to strategies that reflect long-term agency goals and plans
 - Address new FEMA guidance to include equity and climate change and previous FEMA comments

- Key Preliminary Decisions
 - ToC/Plan structure
 - Delete or update state profile section?
 - Move Local Planning Coordination down
 - Remove Repetitive Loss Section?
 - Planning Process
 - SHMT or other?
 - Stakeholder outreach
 - Project Website/Web-based plan
 - Hazard Id and Risk Assessment
 - Changes to Hazards of Concern
 - Critical Facility & Infrastructure Inventory
 - Finalizing risk assessment methods

- Next Steps

- Project Schedule
 - List of Data Needs
 - Local guidance
 - Should mirror the state plan
 - Can we shift workload from local plans to state planning effort
 - Potential focus groups for RA/strategy
 - Secure Rutgers scope & timelines

Suggested Plan Structure:

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F.1-B NJOEM PLAN UPDATE MEETING (11/30/2022)

State Hazard Mitigation Plan

NJOEM Plan Update Meeting

Agenda

November 30, 2022

- Project Schedule
 - Meetings Schedule
 - State Hazard Mitigation Team Meetings
 - FEMA Updates
 - Plan Participant Workshops
 - Focus Groups
 - Deliverable Schedule

- Discussion
 - Focus Group Structure
 - Data Needs

- Next Steps
 - Send Rutgers Risk Assessment Data/Approach
 - Set SHMT Meeting
 - LBAM data request

State Hazard Mitigation Plan

NJOEM Plan Update Meeting

Meeting Minutes

November 30, 2022

Attendees:

- Chris Testa, NJOEM
- Dinan Amin, NJOEM
- Jordan Siegel, NJOEM
- Jessica Jahre, MBI
- Brittany Dremluk, MBI
- Carrie Martin, MBI

Meeting Minutes

Project Schedule

- Meetings Schedule
 - State Hazard Mitigation Team (SHMT) Meetings
 - State Four SHMT Meetings to take place over the course of the project. Meetings will occur in January, April, and July 2023.
 - State Agencies
 - The project team will not meet with state agencies until after the Risk Assessment is completed.
 - State Agencies will be responsible for updating their Mitigation Strategy and providing the status of past mitigation actions.
 - The project team will make state agencies aware of their critical areas at risk.
 - FEMA
 - The project team will meet with FEMA regularly over the course of the project.
 - Deliverable Schedule
 - Shared the schedule on the screen

Discussion

- Focus Group Structure
 - Experts on equity/Environmental Justice and climate change will be engaged across focus groups.
 - Five topical groups:
 - Land use and economic development
 - Transportation
 - Housing and social services
 - Water Resources
 - Natural and Cultural Resources

- Focus Groups will mostly be engaged after the Risk Assessment is completed, but project team will convene the Natural and Cultural Resources prior to inform the Risk Assessment. The project team will engage Patty Doer (MBI) on local Natural and Cultural Resources experts.
- The project team will meet with each focus group once.
- The project team must engage with FEMA-recommended stakeholders or demonstrate not in the plan.
- Add New Jersey American Planning Association to stakeholder list
- Risk Assessment
 - General Risk Assessment note: use data from New Jersey first, then federal-level data.
 - The project team will share the Risk Assessment with FEMA throughout its update.
 - The Risk Assessment will mention that NJ is actively creating sharper tools for risk assessment in the future. It was suggested that NJOEM will pilot new tools a county plan before implementing statewide.
 - Rutgers University (RU) is partner on project.
 - MBI will share the Risk Assessment Matrix with RU before convening the SHMT.
 - Data in the Risk Assessment should align with NJ Adapt. Question as to whether Total Water Level is an effective communication tool.
 - MBI may engage the State Climatologist on the Hazard Profiles as QC.
 - The project team will coordinate with DEP on sea-level rise and precipitation projections for NJ outside/before the SHMIT.
 - The previous Flood risk assessment included a comparison of NFIP statistics across Superstorm Sandy vs. Hurricane Irene
 - NJOEM wants to compare NFIP statistics across declared disasters.
 - The project team should contact John (Miller?) to access the FEMA PIVOT system to update with NFIP statistics for declared disasters.
 - NJOEM also want to compare properties inside/outside the SFHA vs. policies inside/outside the SFHA - important measure of risk.
 - How do we conceptualize hurricanes, nor'easters, tropical storms, coastal floodings, storm surge, etc.?
 - The "Flood" section of the Risk Assessment will be a big section with a lot of sub-sections.
 - Riverine Flooding
 - Coastal Flooding
 - Tidal Flooding/Nuisance Flooding
 - Urban/Stormwater Flooding
 - Rainfall events that exceed stormwater drainage capacity
 - Existing infrastructure is not handling storm events
 - Excessive rainfall events and its interaction with built environment
 - Add CSO communities, EJ/social vulnerability
 - Man-made hazards
 - Fishing failure and HABs (small section)
 - Crop failure - spotted lanternfly, emerald ash borer
 - Put Radon in geologic hazards. The State has radon programs that we can put in the Capability Assessment

- The project team will create a crosswalk of what sectors are impacted - key sectors at risk – for each hazard.
- The project team will also note which hazards particularly impact socially vulnerable populations.
- Cascading impacts are an evolving trend. The project team can walk through examples but don't need to be comprehensive.
- The state needs to demonstrate that it is working to address profiled hazards.
- Loss Avoidance Study – NJOEM would like it in the plan if possible.
 - Elevations - Anything elevated has NFIP policy.
 - DOBI has information on private insurance, people who were laid off during disaster. They may also have information on business disruption costs.
- Mitigation Strategy,
 - The project team will include the following table:
 - Rows: sample of projects from the previous mitigation plan
 - Columns:
 - Award amount
 - Money spent
 - Outcome
 - Program it was funded under
 - Disaster award vs. competitive funding
 - Administrative costs
- State Profile
 - Organize by Physical, Ecological, and Social/Economic to align with Risk Assessment
- Data Needs
 - MOD-IV
 - Building Footprints
 - Demographic Data
 - Ecological
 - Recreation value
 - Direct economic benefits
 - Talk to Katie Angarone (who just hired a new economist) and Becky Hill at DEP for New Jersey specific information.
 - While FEMA updated their ecosystem values this year, the plan will focus on NJ-based studies.
- Final Thoughts
 - The project team will prioritize using New Jersey-specific data.
 - The project team will prioritize FEMA requirements.
 - MBI can take lead on the Capability Assessment.
 - Capability Assessment and Mitigation Strategy should be different sections.
 - The project team will include infographics and make them available in graphics file so NJOEM can use them in presentations.
 - Add the SRL section to the project schedule so that it gets advanced/reviewed before August.

Next Steps

- Add NJOEM to the MS Teams site
- Set up meeting with Rutgers and Kick-off Meeting for SHMT

- Data Requests to Chris:
 - Request the LBAM data
 - Request FEMA data from John Miller
- Send updated project schedule to Chris
- Send updated outreach meeting coordination needs to Chris (focus groups)



F.1-C NJOEM RL/SRL MEETING (6/13/2023)

SHMP Plan Meeting

June 13, 2023

9:30am – 2:00pm

Attendance:

- Alison Miskiman, Tetra Tech
- Heather Apgar, Tetra Tech
- Chris Huch, Tetra Tech
- Jillian Stokley, NJOEM
- Chris Testa, NJOEM
- Brittany Dremluk, Michael Baker
- Daniel Gilkeson, Michael Baker

New RL/SRL priorities: NJOEM uses the following priorities when approaching HMGP grant opportunities and looking ahead at flood mitigation program. Here are organizing priorities:

1. Substantially Damaged, Severe Repetitive Loss Properties (FEMA insured)
 2. Substantially Damaged, Repetitive Loss Properties (FEMA insured)
 3. SD, NFIP Insured
 4. SD, Non-insured in SFHA
 5. SD, non-insured outside SFHA
 6. Severe Repetitive Loss Properties (FEMA insured)
 7. Repetitive Loss Properties (FEMA insured)
 8. Non-SD, (Non-FEMA Insured) * then becomes a HUD problem
- Big picture: What is the guiding logic behind strategies
 - Avoid perverse incentives – flood insurance, buyouts. “Not gonna get flood insurance because I know if it floods again I’ll get bought out”
 - Insurance penetration as a scoring mechanism? Ties to high ranking CRS towns
 - Add note: As part of the HMGP grant opportunity, explore appropriate FMA conditions for diverting FMA-qualified properties into a concurrent FMA round- opens up eligible properties and gets rid of match requirement. Where FMA is available NJOEM will maximize FMA and social vulnerability. E.g “at the time of an HMGP declared disaster NJOEM will evaluate FMA appropriate conditions for diverting FMA-qualified properties into concurrent FMA round”
 - Avoid primary versus secondary housing. Too politically thorny
 - Add note: homeowner insurance as a critical part of resiliency and allows state to better use funds. OEM recommends NFIP for all eligible homeowners. Non-FMIP insurance are NOT eligible for FMA.

- Add note: There is a concern there is an underreporting to NJOEM of SD during flood events.
- Eventually getting to a point where there is coordination on SD areas where the State does not invest in FEMA community lifelines (water, sewer, roads). Past a structural level and moving towards a community level.
- Discussion around who is responsible for maintaining the community.
 - For local plans start at new DEP regulatory line around 500 and town by town if property is declared SD what are your priorities? Will you go in and make significant investments to improve critical infrastructure- such as roads?
 - Balance between pain and quality of life- don't make it so great and safe that people are going to stay in places they shouldn't
 - Fixing the house is actually the cheap and easy part, but we are going to have to start declaring places as no investment zones. Not in the state or taxpayer's best interest
 - Add blanket statement that talks about perverse incentives and investment in infrastructure- importance of overall understanding of long-term risk
 - Importance of starting now- not work across purposes from a resources management standpoint
 - First decision- elevation vs acquisition. Decision making at the community level. Who is responsible for elevating supporting infrastructure. Armored resilient community vs managed retreat resilient community
- New Action: Full circle on acquiring properties and maximizing ecosystem services. Once we have acquired lands, the lands should function back to a functional floodplain
 - Mechanism? Use of private funds- creating a market Auction off land for wetland credits/resulting in flood mitigation and water quality (wetland credit system? Stream encroachment credit system?) – goal of Testa to make this part of OEM's policy. Wetland credits go into a resilience fund to restore the floodplain function. Grow ecosystem. Get rid of the roads, curbs, etc. of acquired areas. Must have a water quality benefit. This could be a pilot program. E.g. Whatcom County in WA
 - Incentive: End result of acquisition is a resilient block and use that for ecosystem. Tax credits for an ecosystem will be higher than the ratables. NJOEM will rebuild the house, but you are responsible for the roadways/community lifelines. Also helps with CRS credits.
 - *My question: who pays the towns for this wetlands tax credit?*
 - Create a hierarchy of critical facilities repair. Being mindful of uses.
- Hierarchy of systems for mitigation investments – State should look into creating a hierarchy (with preventing perverse incentives in mind)
 - Neighborhood transportation is at the bottom of that
 - CSOs?
- Calculating Avoided damages- e.g. Manville- properties mitigated that didn't flood in Ida. OEM needs to do a better job of that data tracking

Capabilities in the Severe Repetitive Loss

- NJOEM is the grant grantor, SHMP member, municipal partner
- Pick a date in time for RLs, SRLs, total claims, average claim amount, mitigated properties. Need to coordinate on risk assessment on numbers, tables, and graphics.
- My concern: worried about repetition between SRL section and risk assessment and capability assessment.
- Update “Natural Systems Protection” to Natural Systems Protection/Enhancement
- New action: Develop a GIS monitoring app? AI to see if structure has been built on a parcel using satellite data. Footprint data. NFIP data and elevation buyout data etc. needs to live in same ecosystem. Proposal for determining what’s elevated or not
- New FEMA guidelines 2022
 - Section #3 “intense” development and severe effects from climate change – NJ is the densest state per square mile.
 - State Profile:
 - Post-Covid economy, warehouses, return to work, change in land use, Post-sandy, gold coast (Hudson River, Jersey City), wind development

STAPLEE

- Tetra Tech will tweak the S in STAPLEE to ask if the action mitigates SVI population.
- Change “Other community objectives” to Community Lifeline.
- Lots of changes to the STAPLEE. Tetra Tech will send revised STAPLEE worksheet.

Changes to Mitigation Strategy

- Move mitigation actions to appendix. Just big actions in the main plan
- Local Plan will be following this HMP.
- Highlight successes per hazard

Plan Endorsement Plan

- OEM, Mayor, Floodplain Manager, Systems operators, CFO, Attorney, Engineer, Planner
- Link back to Risk Assessment. High hazard should link to who signs the Endorsement Form. If you have this factor, this person has to sign. e.g if you have SL or SRL properties Floodplain manager has to sign



F.2-A SHMT KICK-OFF MEETING (1/24/23)

Tropical Storm Ida Recovery and State Hazard Mitigation Plan

State Hazard Mitigation Team Meeting

Agenda

Tuesday, January 24, 2023, 11:00 a.m.

Location: Regional Operations Intelligence Center

Attendees:

- **New Jersey Office of Emergency Management**
- **Department of Environmental Protection**
- **Department of Community Affairs, Division of Disaster Recovery & Mitigation**
- **Governor's Office**
- **Michael Baker International**
- **Tetra Tech**

1. Introductions

2. Tropical Storm Ida Recovery Discussion:

- Blue Acres Buyouts and Elevations Strategy – Manville as an example
- Status of CDBG-DR Action Plan for \$228M and Additional \$149M Allocation

3. State Hazard Mitigation Plan Overview

4. Changes from 2019 Plan Update

- New FEMA requirements
- Risk assessment update
- BAToolSM Program

5. Review and Evaluate 2019 Plan

- HMP Goals
- Profiled Hazards

6. Project Schedule

- SHMT Meeting Schedule
- Deliverables and Timelines
- Stakeholder Outreach
 - State Agencies
 - Focus Groups

7. Risk Assessment & Mitigation Strategy Discussion

- Approach
- Data needs and status update

New Jersey State Hazard Mitigation Plan Update

State Hazard Mitigation Team (SHMT)
Kick-off Meeting

January 24, 2023

Image: Glen Rock, NJ

Michael Baker
INTERNATIONAL

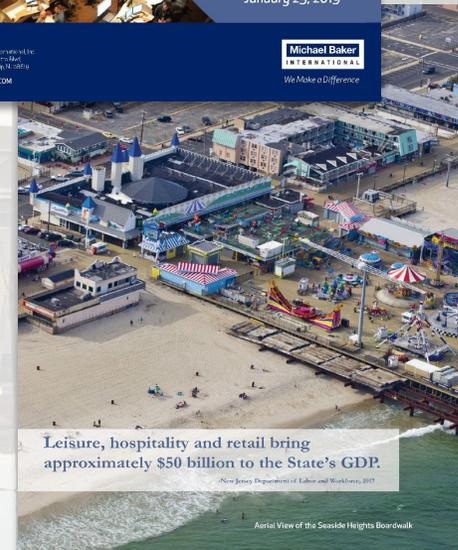
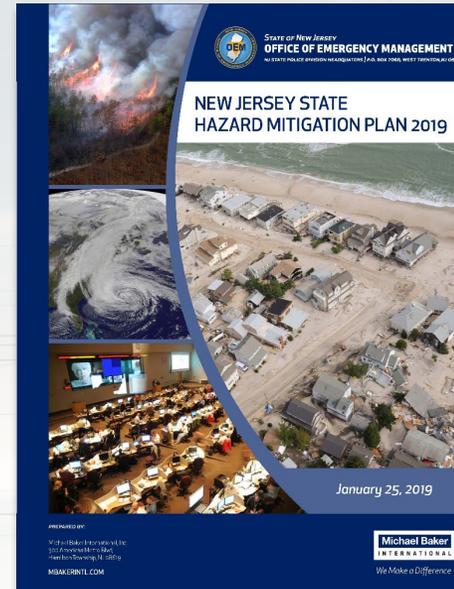


TETRA TECH



Agenda

- Introductions & Project Overview
- Changes from the 2019 Plan Update
- Review and Evaluate 2019 Plan
- Project Schedule
- Risk Assessment & Mitigation Strategy Discussion



EXECUTIVE SUMMARY 12

ECONOMIC CHARACTERISTICS

NEW JERSEY'S ECONOMY IS RELIANT ON MANY DIFFERENT INDUSTRIES. THE RETAIL TRADE INDUSTRY, TECHNICAL SERVICES INDUSTRY AND HEALTH CARE ARE THE BIGGEST INDUSTRIES IN THE STATE.

INDUSTRY IN NEW JERSEY

	Number of Establishments	Annual Payroll	Number of Employees
1. Retail Trade	315,000	\$286 million	5.6 million
2. Professional, Scientific & Technical Services	294,000	\$273 million	4.5 million
3. Health Care & Social Assistance	275,000	\$230 million	3.2 million

COASTAL TOURISM

180 MILES OF COASTLINE DRAW TOURISTS TO NEW JERSEY DURING THE SUMMER

\$50 BILLION IS BROUGHT TO NEW JERSEY'S GDP EACH YEAR THROUGH THE LEISURE, HOSPITALITY AND RETAIL INDUSTRY, WHICH IS SUPPORTED BY TOURISM

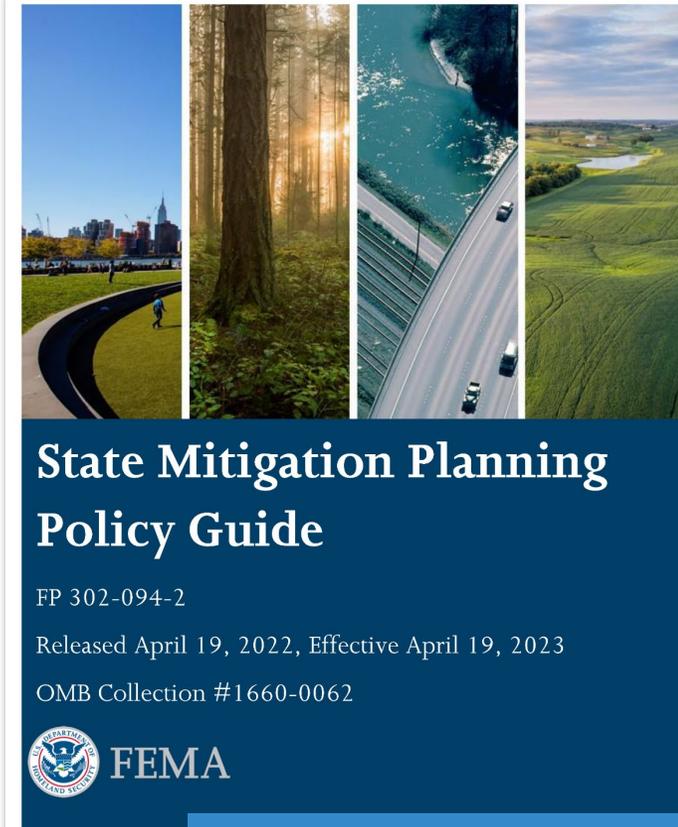
Introductions & Project Overview

- **Consultant Team**
 - Michael Baker International and Tetra Tech
- **State Hazard Mitigation Team (SHMT)**
 - Advisory committee to evaluate hazard mitigation initiatives based on current agency policies and programs.
- **SHMT Responsibilities**
 - Identify hazards, monitor changes in hazard vulnerability, and implement measures for reducing potential damage
 - Increase the public's awareness of the risk associated with known hazards and promote preparedness among residents of the State
 - Investigate and recommend cost-effective hazard mitigation strategies; review the strategies identified in the previous Plan and provide feedback on progress towards achieving the goals and completing the actions
 - Identify any new sources of best available data
 - Make sure our hazard mitigation practices are consistent across agencies
 - Review and provide input on draft materials such as tables, maps, chapters, and the full draft plan.

Changes from 2019 Plan Update

New FEMA Requirements

- **Equity and climate change impacts**
- **Outreach to a wider range of stakeholders**
 - Community lifelines
 - Climate change experts
 - Groups that support underserved communities
- **Capability Assessment must discuss**
 - Building code adoption and enforcement
 - Land use
 - National Flood Insurance Program administration
 - Flood risk mapping
- **Must link mitigation strategy to High Hazard Potential Dams and Fire Management Assistance Grants program**



New FEMA Guidance is effective
April 19, 2023

Changes from 2019 Plan Update

Risk Assessment Update

- **Three-Tiered Risk Assessment**
 - Built Environment
 - Population and Economy
 - Natural Environment
- **Change in Approach with Assets**
 - Previous plan focused on state-owned assets using LBAM data
 - This plan update includes state-owned assets and other public and privately-owned assets
 - Consistent with FEMA's updated policy
 - Based on seven FEMA's community lifelines and NJHAZ Adapt

FEMA's Community Lifelines

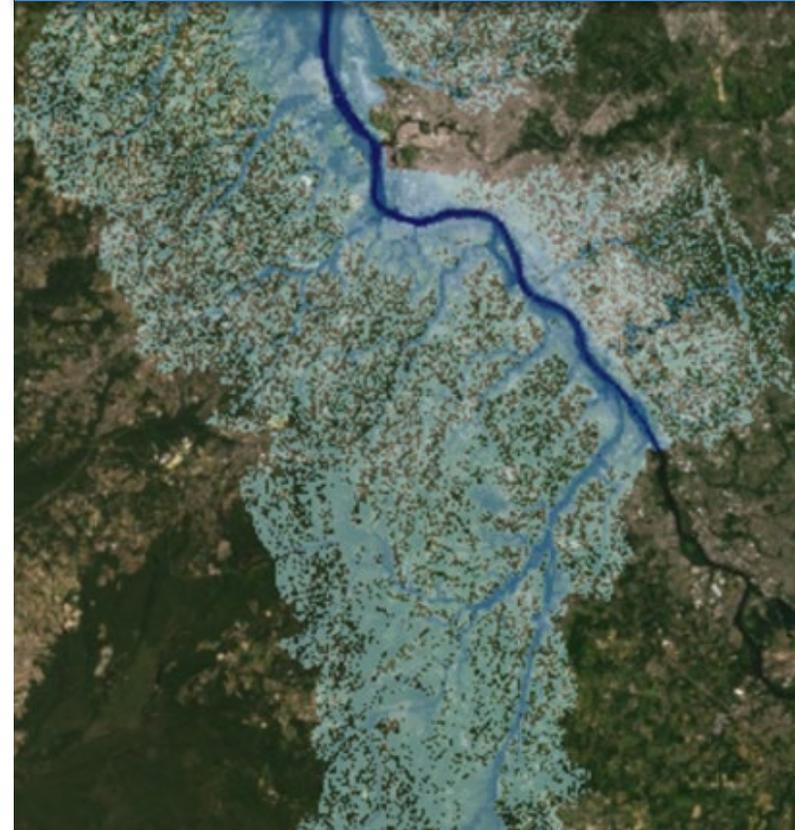


Changes from 2019 Plan Update

Risk Assessment Update

- **Specific Climate Projections for Flood Hazards**
 - **Current:**
 - FEMA's regulatory floodplain (coastal/non-coastal)
 - National Hurricane Center and Central Pacific Hurricane Center National Storm Surge Risk Maps - Version 3
 - **Future:**
 - Sea Level Rise (2, 3, and 5-feet)
 - Coastal Flood Hazard Area plus 3 and 5-feet
 - Regulatory floodplain plus 3-feet (consistent with the forthcoming Inland Flood Protection Rule)
 - Rutgers new floodplains based on future precipitation projections

The team will use Depth Grids to develop climate projections



Changes from 2019 Plan Update

BAToolSM Program

TETRA TECH BAToolSM – Mitigation Module My Profile

NJDEP POC Primary POC: Robert Van Fossen Alternate POC: Mitzi Kaiura Plan

Total: 29

Reporting Progress ?



Review Not Started: 29
Review In Progress: 0
Review Complete: 0

Total: 29

Action Status ?



No Progress: 29
In Progress: 0
Ongoing Capability: 0
Completed: 0
Discontinued: 0

[Add New Action](#)

Click [↗](#) to review and edit the action

Review	Action ID	Description	Review Status	Lead Agency	Last Updated / Reviewed
↗	2019-NJDEP-01	Install generators at state aquaculture/fishery facilities to ensure the continuous operation of critical equipment for the survival of fish used to stock New Jersey waterways.	Review Not Started	NJDEP	01/18/2023

NJDEP

[Prev Action](#) * Action ID: 2019-NJDEP-12 [Next Action](#)

Review of this Action has not started

[Add New Action](#)

> View Update History

Please review and update this action by following the steps below and updating any/all fields (as needed).

Step 1: Enter your name as the 'Reviewer' (then step 2 will be enabled for selection).

* Reviewer:

Step 2: Update the 'Action Status' field. Please continue to review and update all other fields, as needed.

* Action Status:

Previous Action Status:

Project/Action Status
Comments:

* Description of the Action:

Specific Problem Mitigated:

Goals and/or Objectives ?:

* Lead Agency: * Priority:

Review and Evaluate 2019 Plan

HMP Goals

1. Protect life
2. Protect property
3. Increase public preparedness and awareness
4. Develop and maintain an understanding of risks from hazards
5. Enhance State and local mitigation capabilities to reduce hazard vulnerabilities
6. Support continuity of operations pre-, during, and post-hazard events

Are there other Goals to consider?

Review and Evaluate 2019 Plan

Profiled Hazards

2019 State HMP Hazards	2024 State HMP Hazards
Natural Hazards	
Coastal Erosion (including enhanced discussion of beach protection) and Sea-Level Rise	Coastal Erosion (including enhanced discussion of beach protection)
Dam/Levee Failure	Dam/Levee Failure
Drought	Drought
Earthquakes	Earthquakes
Flood (riverine, coastal, storm surge, tsunami, and stormwater flooding caused by local drainage and high groundwater levels)	Extreme Temperature
Geological Hazards (landslide and subsidence/sinkholes)	Flood (riverine, coastal, storm surge, nuisance flooding caused by sea-level rise, and stormwater flooding caused by local drainage and high groundwater levels)
Hurricanes and Tropical Storms	Geological Hazards (landslide subsidence/sinkholes, radon exposure, and saltwater intrusion)
Nor'easters	Hurricanes , Nor'easters, Tropical Storms (wind only. Including enhanced discussion of power failure from hurricane winds)
Severe Weather (high winds, tornadoes, thunderstorms, hail, and extreme temperature)	Severe Weather (high winds, tornadoes, thunderstorms, and hail including enhanced discussion of power failure from high winds/tornados)
Severe Winter Weather (snow, blizzards, and ice storms)	Severe Winter Weather (snow, blizzards, and ice storms. Including enhanced discussion of power failure from severe winter weather)
Wildfire	Wildfire
Human-Caused Hazards	
Animal Disease	Animal Disease
Civil Unrest	Civil Unrest
Cyber Attack	Cyber Attack
Crop Failure	Crop Failure
Economic Collapse	Economic Collapse
Fishing Failure	Fishing Failure
-	Harmful Algal Blooms (HABs)
Hazardous Substances (fixed sites, in-transit, offshore)	Hazardous Substances (fixed sites, in-transit, offshore)
Nuclear Hazard	Nuclear Hazards
Pandemic (including disease outbreak)	Pandemic (COVID-19 and influenza)
Power Failure	Terrorism
Terrorism	-

Project Schedule

- March 2023 – Focus Group/Stakeholder Outreach
- April 2023 – SHMT Meeting #2 and Meetings with State Agencies
- July 2023 – SHMT Meeting #3
- August 2023 – Draft Plan to NJOEM
- November 2023 – Draft Plan to FEMA
- January 2024– Final Plan Submission to OEM/NJ
- April 2024– State Adoption and FEMA Approval

Stakeholder Outreach Plan

- Additional participants that represent climate change and equity
- **Facilitate Focus Groups to meet FEMA's new requirements:**
 - Land Use and Economic Development
 - Transportation
 - Housing and Social Services
 - Water Resources
 - Natural and Cultural Resources



Focus Group attendees will include nonprofits, private industries, academia, and quasi-government or other authorities.

Thank You!



F.2-B SHMT MEETING #2 (5/17/2023)

State Hazard Mitigation Plan

State Hazard Mitigation Team Meeting

Agenda

Date: May 17th, 11:00-12:00pm

Location: Microsoft Teams

- Welcome (*NJOEM*)
- Project Update
 - Risk Assessment Status (*Michael Baker*)
 - *Key takeaways
 - Capability Assessment Status (*Tetra Tech*)
 - Data collection
 - Stakeholder workshops
 - Local plan coordinator's workshop
 - Outreach and Engagement Workshop Overview (*Michael Baker*)
- Mitigation Strategy Update (*Tetra Tech*)
 - Overview of mitigation strategy
 - Updated goals and objectives
 - Types of actions to consider
 - Collection of actions from other agencies
 - Mitigation strategy workshops
 - Identification of new actions by the SHMT



New Jersey State Hazard Mitigation Plan Update

State Hazard Mitigation Team (SHMT)
Meeting #2

May 17, 2023 | 11:00 am – 12:00 pm
MS Teams

Michael Baker
INTERNATIONAL

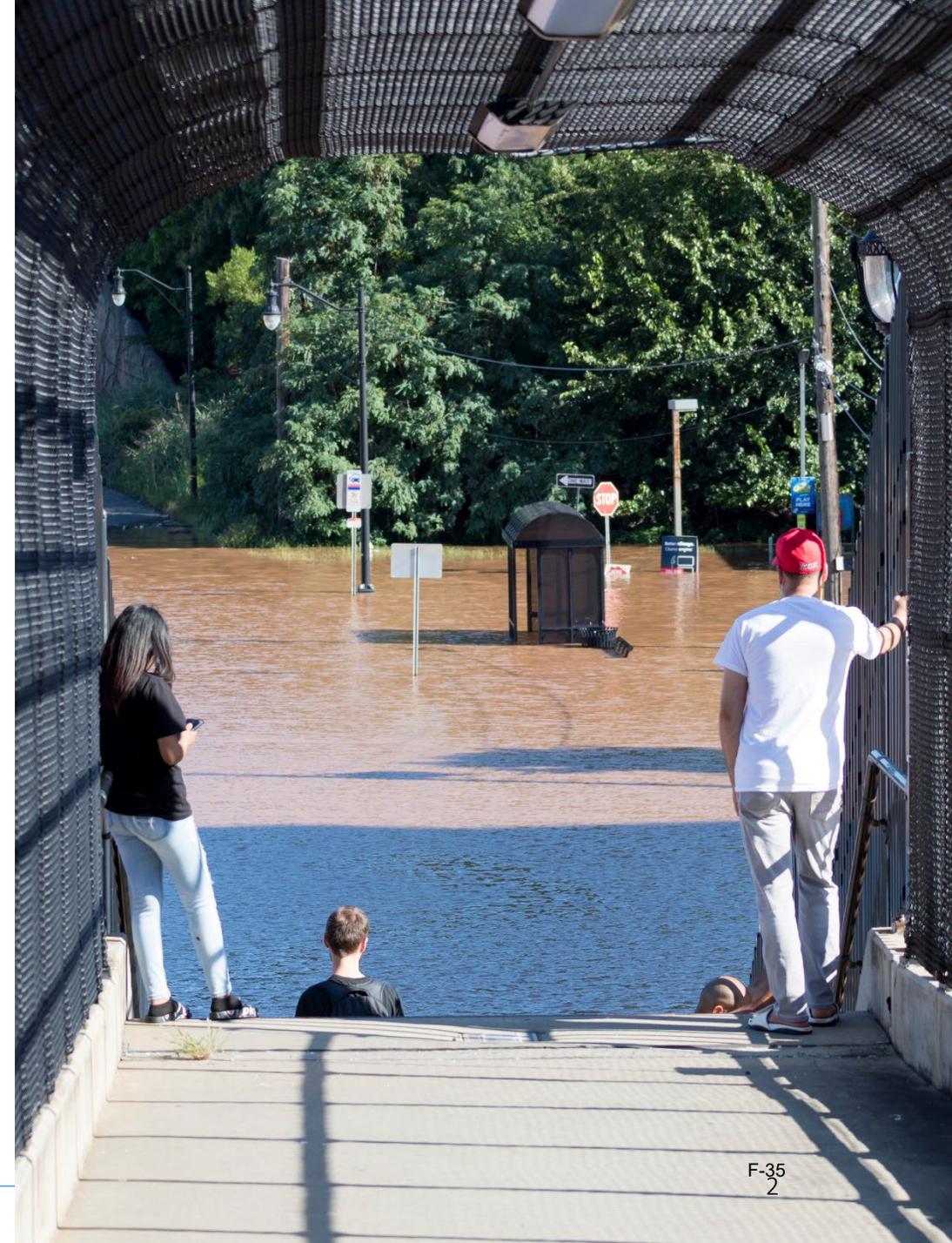


TETRA TECH



Agenda

- **Project Update**
 - Risk Assessment
 - Outreach and Engagement Workshop Overview
 - Capability Assessment
- **Mitigation Strategy Update**
 - Mitigation Strategy Overview
 - Collection of Actions from other Agencies
 - Discussion of New Actions



Project Update

Risk Assessment Key Takeaways

Healthcare Systems & Services

SFHA

- 8 hospitals
- 19 nursing homes
- 1 veterans health admin medical facility
- 125 EMS
- 12 federally qualified health centers

SFHA +3

- 3 additional hospitals
- 34 additional nursing homes
- 2 additional veterans health admin medical facilities
- 114 additional EMS
- 13 additional federally qualified health centers
- 1 hospice

54% of assets are in a high-risk nuclear or tornado zone



Nuclear 50 mi radius

- 44 hospitals
- 1 hospice
- 215 nursing homes
- 5 veterans health admin medical facilities
- 459 EMS
- 45 federally qualified health centers

Top Impacted Municipalities SFHA +3 (by asset count):



Additionally, there are 45 towns with 100% of health assets exposed to SFHA +3

Risk Assessment Key Takeaways

Transportation

Roadways At-Risk



Hazard Scenario	Miles of Roadway	Percent of Roadway
Statewide	41,988	100%
SFHA	4,944	12%
SFHA+3	8,682	21%
Coastal SFHA+5	4,499	11%
SLOSH1	2,335	6%
SLOSH2	3,512	8%
SLOSH3	4,855	12%
SLOSH4	6,417	15%
SLR2	376	1%
SLR3	910	2%
SLR5	1,937	5%

Risk Assessment Key Takeaways

Natural & Cultural Resources (cont.)

Cultural Assets (State-Owned)

SFHA

- 66 facilities
(2 Critical – Liberty Park CRRNJ Terminal, Wharton Forest Old Nature House)

SFHA +3

- 16 additional facilities (No critical)

SLR 2 ft

- 41 facilities
(1 Critical – Wharton Forest Old Nature House)

Cultural Assets (Non-State-Owned)

13% of assets in SFHA

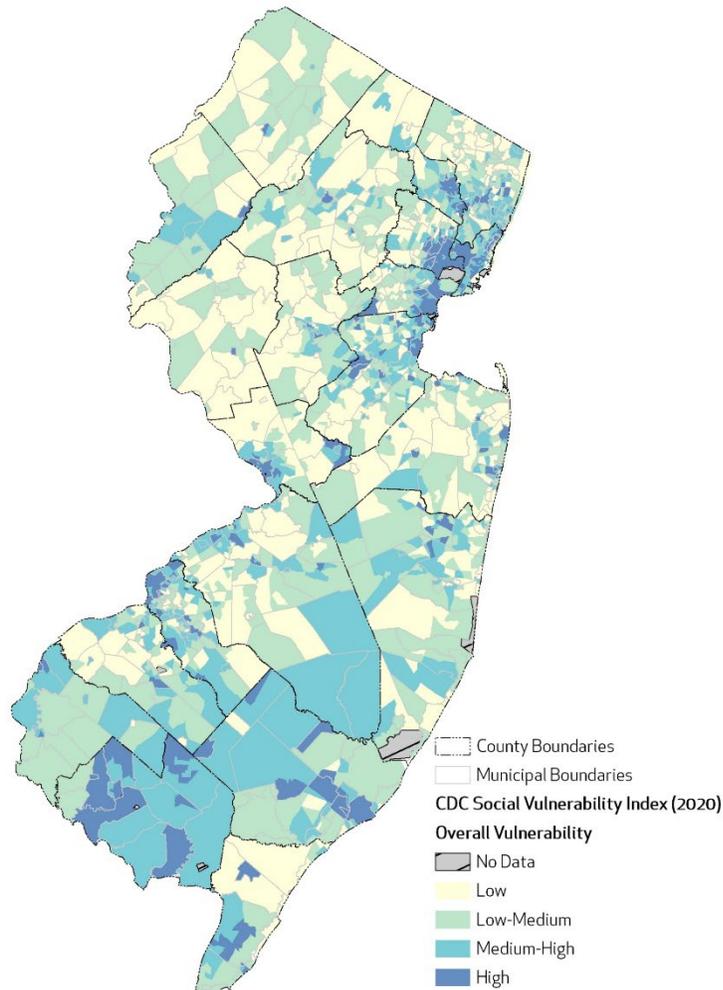
- 389 Places of Worship
- 12 Convention Centers/Fairgrounds
- 4 Major Sports Venues
- 18,413 Historic Properties

22% of assets in SFHA +3 (74% increase)

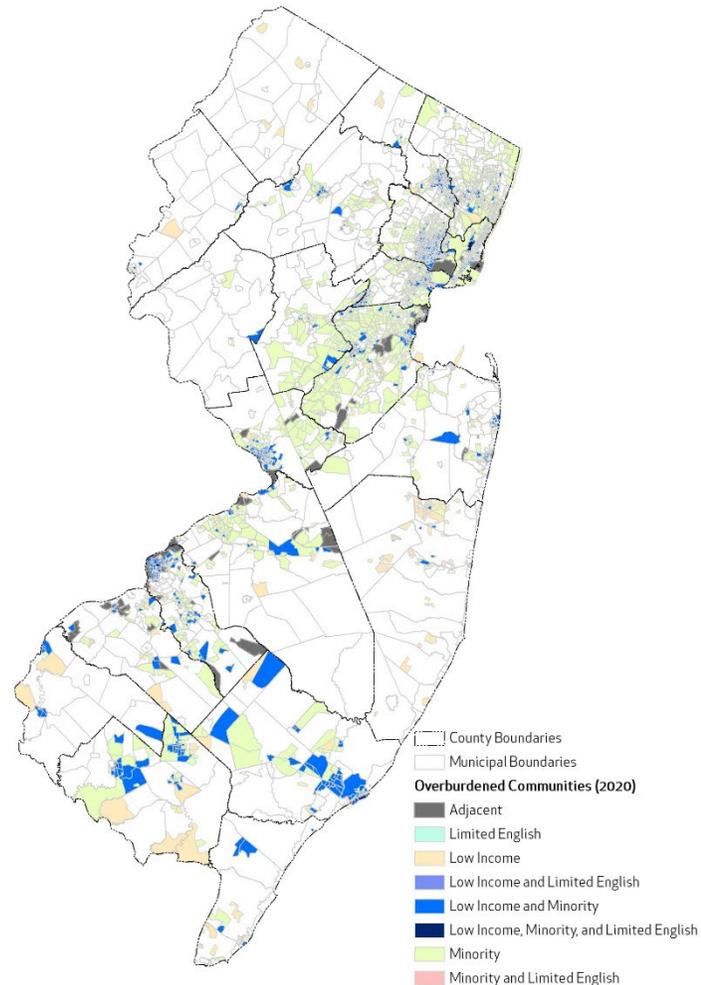
- 501 Places of Worship
- 6 Convention Centers/Fairgrounds
- 1 Major Sports Venue
- 13,359 Historic Properties

Socially-Vulnerable Populations

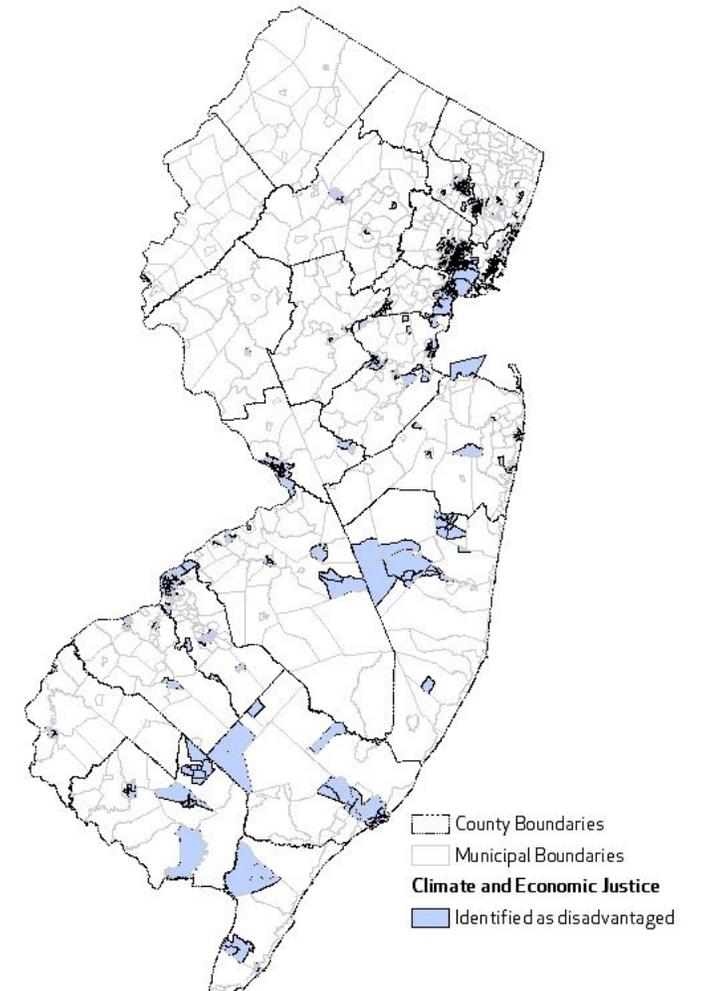
Centers for Disease Control and Prevention (CDC) Social Vulnerability Index (SVI) (2020)



Overburdened Communities under the New Jersey Environmental Justice Law (2020)



White House Climate and Economic Justice Screening Tool (CEJST) (2022)



Outreach and Engagement Workshop Overview

- **Coordination with State Agencies**
 - Meeting with each state agency to discuss risk assessment finding and to update their capabilities and mitigation actions
- **Workshops**
 - Seven Virtual Stakeholder Workshops via Zoom
 - Workshops ranged from 90 to 120 mins
 - Slide deck introduced the risk assessment, capability assessment, and mitigation strategy
 - Used Miro Board to virtually engage participants to complete their capabilities, problems, and solutions
 - Participation from 76 stakeholders
- **Social Equity**

Outreach Flyer

NEW JERSEY STATE HAZARD MITIGATION PLAN

VIRTUAL STAKEHOLDER WORKSHOPS
Join New Jersey Office of Emergency Management for a series of virtual stakeholder workshops on the impacts of hazards (flooding, wildfire, wind, etc.) on regional assets (listed below) in the state, and the capabilities and strategies to reduce risk.

LAND USE & ECONOMIC DEVELOPMENT April 19, 2023 @ 11:00 am - 1:00 pm EST Link to Register	HEALTHCARE SYSTEMS & SERVICES May 2, 2023 @ 1:00 - 3:00 pm EST Link to Register
NATURAL & CULTURAL RESOURCES April 20, 2023 @ 10:00 am - 12:00 pm EST Link to Register	WATER RESOURCES May 3, 2023 @ 10:00 am - 12:00 pm EST Link to Register
HOUSING & SOCIAL SERVICES April 24, 2023 @ 1:00 - 3:00 pm EST Link to Register	OPEN HOUSE May 4, 2023 @ 1:00 - 3:00 pm EST Link to Register
TRANSPORTATION April 25, 2023 @ 2:00 - 4:00 pm EST Link to Register	

Miro Board Engagement

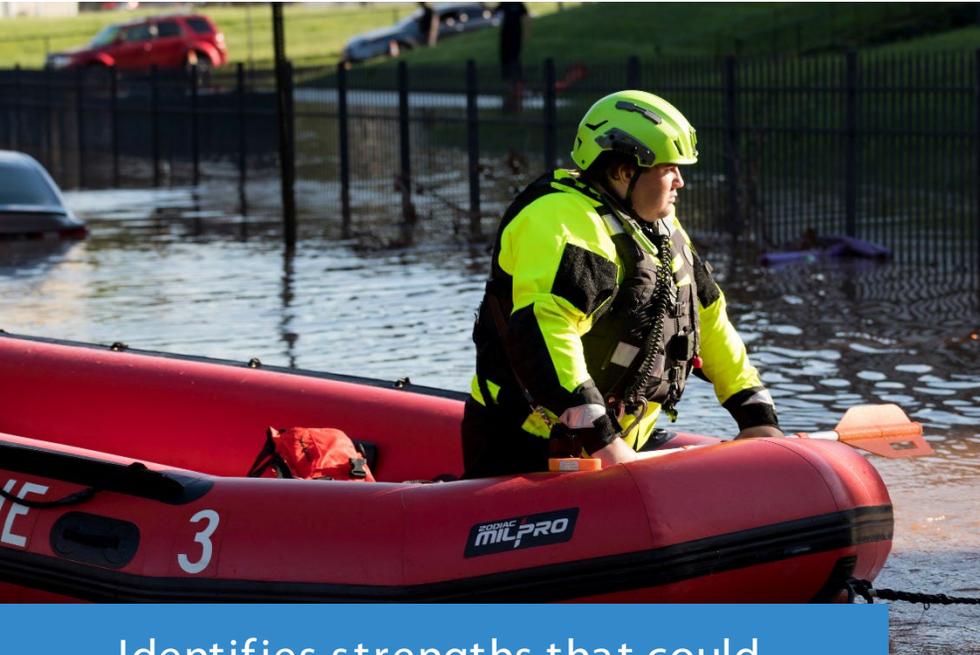
miro Natural/Cultural - RA

Land Use and Economic Development

1. How is your agency integrating climate change into your decision making?
2. How is your agency advancing equitable outcomes for socially vulnerable populations that face hazard risk?
3. What new capabilities/programs/plans/policies have emerged to support hazard mitigation and risk reduction in the last five years?
- 4.

The Miro board displays a grid of sticky notes in various colors (yellow, pink, green, blue) corresponding to the workshop topics listed in the flyer above.

Capability Assessment



Identifies strengths that could reduce losses and reduce risks in the community

- Identification of pre- and post-disaster capabilities in New Jersey at the federal, state, and local levels including:
 - Regulations and requirements
 - Plans
 - Programs
 - Staffing/technical resources
 - Funding
- Review of local hazard mitigation plans and programs
- Emerging capabilities
- New areas of focus include planning for climate change impacts and addressing social equity in mitigation planning

Stakeholder Workshops – Capability Assessment

Attendees were asked questions concerning:

- Planning for climate change
- Coordination with socially vulnerable populations
- Emerging capabilities and those mitigation capabilities not identified in the previous SHMP
- Obstacles and barriers to successful risk reduction.
- Problems and potential solutions for consideration in the mitigation strategy

Capability Assessment - Natural and Cultural Resources			
<p>1. How is your agency integrating climate change into your decision making? 2. How is your agency advancing equitable outcomes for socially vulnerable populations that face hazard risk? 3. What new capabilities/programs/plans/policies have emerged to support hazard mitigation and risk reduction in the last five years? 4. What obstacles/challenges have you encountered that have kept your organization/agency from advancing hazard risk reduction further?</p>			
<p>Name/Agency: Kevin McGowan, Department of Corrections 1. Climate change: 2. Socially vulnerable populations:</p>	<p>Name/Agency: Kevin McGowan, Department of Corrections 3. Emerging capabilities 4. Obstacles/barriers</p>	<p>Name/Agency: Vincenzo Ferriola, NJDEP 1. Climate change: 2. Socially vulnerable populations:</p>	<p>Name/Agency: Vincenzo Ferriola, NJDEP 3. Emerging capabilities 4. Obstacles/barriers</p>
<p>Name/Agency: Sujatha Girija, PSE&G 1. Climate change: 2. Socially vulnerable populations:</p>	<p>Name/Agency: Sujatha Girija, PSE&G 3. Emerging capabilities 4. Obstacles/barriers</p>	<p>Name/Agency: Ashlyn Spector, Rutgers University 1. Climate change: 2. Socially vulnerable populations:</p>	<p>Name/Agency: Ashlyn Spector, Rutgers University 3. Emerging capabilities 4. Obstacles/barriers</p>
<p>Name/Agency: Donna Rendino, Department of State 1. Climate change: Identification of cultural, historical and natural resources and part of our SHMP process, and to develop a method of protection for their safety. 2. Socially vulnerable populations: Promoting, locating housing in non-vulnerable areas; identification of vulnerable populations and encourage outreach in their communities for types and feedback.</p>	<p>Name/Agency: Donna Rendino, Department of State 3. Emerging capabilities incorporating mitigation factors in land use planning, recognition of and education to local elected officials and residents. Agree with adding green/pocket parks to urban areas 4. Obstacles/barriers cost and disbelievers</p>	<p>Name/Agency: Amy Hrabik, Delaware Valley Regional Planning Commission 1. Climate change: Use of our disaster change needs review, or evaluation, as an update or update to our existing or existing plan. Identify and address the needs of vulnerable populations. Identify and address the needs of vulnerable populations. Identify and address the needs of vulnerable populations. 2. Socially vulnerable populations: Identify and address the needs of vulnerable populations. Identify and address the needs of vulnerable populations. Identify and address the needs of vulnerable populations.</p>	<p>Name/Agency: Amy Hrabik, Delaware Valley Regional Planning Commission 3. Emerging capabilities 4. Obstacles/barriers</p>
<p>Name/Agency: Larry Fink, NJDEP Green Acres Program 1. Climate change: See my notes from previous meeting for all questions. 2. Socially vulnerable populations: New NJ Floodplain disclosure requirements should help avoid people who are often of lower income from continuing to purchase homes that have experienced or are susceptible to flooding.</p>	<p>Name/Agency: Larry Fink, NJDEP Green Acres Program 3. Emerging capabilities 4. Obstacles/barriers: There are several rules, regulations, and programs that encourage or facilitate build-out/growing and in floodplains and flood-prone areas. Category 1: Permitting municipal zoning. 2. Permitting state regulations/policies/guidelines. 3. Building elevation programs. We need to discourage continued occupancy and development in high-risk floodplains areas.</p>	<p>Name/Agency: Larry Fink, NJDEP 1. Climate change: 2. Socially vulnerable populations:</p>	<p>Name/Agency: Larry Fink, NJDEP 3. Emerging capabilities 4. Obstacles/barriers</p>
<p>Name/Agency: 1. Climate change: 2. Socially vulnerable populations:</p>	<p>Name/Agency: 3. Emerging capabilities 4. Obstacles/barriers</p>	<p>Name/Agency: 1. Climate change: 2. Socially vulnerable populations:</p>	<p>Name/Agency: 3. Emerging capabilities 4. Obstacles/barriers</p>

Additional Capability Assessment Data Collection

- An Open House was held which included breakout rooms for neighboring agencies and local HMP coordinators
- A full day in person session was held to meet with various NJDEP offices
- One-on-one calls and correspondence
- Surveys of state agencies and local HMP coordinators
- Capability spreadsheets were shared with various agencies to update capabilities identified in the previous SHMP

New Jersey State Hazard Mitigation Plan 2024 Update

Capability Assessment

As part of the 2024 NJ SHMP update, each organization/agency is requested to provide an update on capabilities that help reduce the state's risk to hazard events. Please answer the following questions to help us understand changes in your organization/agency's capabilities, and how climate change and equity are integrated into your organization as related to hazard mitigation.

1. Which organization/agency do you represent?

2. What obstacles/challenges have you encountered that have kept your organization/agency from advancing hazard risk reduction further?

3. What mitigation capabilities (i.e., staff, programs, policies, plans, operations, funding) and/or responsibilities have emerged for your agency/organization in the last 4-5 years?

4. Please share how your organization/agency integrates climate change into its operations/policies/programs, if at all.

5. How does your department help advance equitable outcomes for underserved populations? Please share how this is related to hazard risk reduction, if applicable.

Mitigation Strategy Update

Mitigation Strategy Overview

Updated Goals and Objectives

Red = Revised Goal/Objective

Goals	Objectives
Goal 1: Protect life	1.1: Improve warning and emergency communications systems 1.2: Effectively address hazard mitigation issues, laws, and regulations 1.4: Strengthen state and local planning, building codes, ordinances, and enforcement
Goal 2: Protect property	2.1: Protect critical facilities, buildings, infrastructure, and community lifelines 2.2: Reduce repetitive and severe repetitive losses 2.3: Implement hazard mitigation policies to protect environmental resources that serve a natural hazard mitigation function 2.4: Encourage cost-effective and environmentally-sound development and land use in low-risk areas 2.5 Mitigate High Hazard Potential Dams within the State 2.6 Promote a comprehensive community strategy to reduce flood risk in high-hazard areas
Goal 3: Increase public preparedness and awareness	3.1: Improve public awareness of hazards and the risks they pose 3.2: Improve hazard information databases, maps, and tools and increase accessibility to those resources 3.3: Enhance stakeholder education and training
Goal 4: Develop and maintain an understanding of increased risk from climate change	4.1: Review and incorporate updated hazard data into the State Hazard Mitigation Plan 4.2: Increase support for the development of local mitigation planning and projects 4.3: Incorporate new state and FEMA guidance, rules, and regulations into the appropriate plans 4.4: Update the Plan incorporating local and national best practices.
Goal 5: Enhance State and local mitigation capabilities to reduce hazard vulnerabilities	5.1: Integrate the State Hazard Mitigation Plan with other State and regional planning initiatives 5.2: Monitor the progress of on-going mitigation activities by State agencies 5.3: Provide current information, technical assistance, and incentives for mitigation planning and actions 5.4: Encourage the formation of partnerships to leverage and share mitigation resources 5.5: Incentivize best practices through mitigation planning
Goal 6: Support continuity of operations pre-, during, and post-hazard events	6.1: Increase continuity of operations of government, non-government, commerce, private sector, and infrastructure 6.2: Increase resiliency by facilitating rapid disaster response and recovery 6.3: Encourage planning and the implementation of alternative energy sources
Goal 7: Reduce the risk of natural hazards for socially vulnerable populations and underserved communities	7.1: Work with communities to identify the impacts of hazards on socially vulnerable populations 7.2 Ensure hazard mitigation planning includes and is responsive to the entire community 7.3 Direct resources to build capacity in lower-resourced communities

Mitigation Strategy Overview

Actions to Consider



Plans and regulations include government authorities, policies, or codes that encourage risk reduction, such as building codes and state planning regulations. This may also include planning studies.



Structure and infrastructure projects involve modifying existing structures and infrastructure or constructing new structures to reduce the impact of hazards.



Natural systems protection projects minimize losses while also preserving or restoring the function of natural systems.



Education and awareness programs include long-term, sustained programs to inform and educate citizens and stakeholders about hazards and mitigation options. This category could also include training.

Mitigation Strategy Update

- Update aspects of previous actions (BATool review)
- Problem **identification and description**
 - Describe the challenge/obstacle/impact
 - Which hazard(s) cause this problem?
 - Where is the problem occurring?
 - Who is the problem impacting?
 - Have there been past impacts?
 - How frequently does the problem occur?
- Solution **identification and description**
 - What are the options to solve or mitigate the problem?
 - Who is responsible for what aspects of the project?
 - What is the estimated cost?
 - What funding sources are available?



Mitigation Strategy Workshops

- June 14 and 20th
- In order to have mitigation actions included in the SHMP, agencies will need to either:
 - Attend one of the two workshops, or
 - Set up a call with the planning team.
- Participants should come prepared to provide detailed information on problems and solutions.

Quality Over Quantity!!

Discussion: Identification of New Actions by SHMT

State Hazard Mitigation Plan

State Hazard Mitigation Team (SHMT) Meeting #1

Meeting Notes

Date: **May 17, 2023**

Time: **11am – 12pm**

Location: **MS Teams**

Attendees

- Chris Testa, New Jersey Office of Emergency Management
- Dinan Amin, New Jersey Office of Emergency Management
- Courtney Wald-Wittkop, Department of Environmental Protection
- Luciana DiMaggio, Department of Community Affairs, Division of Disaster Recovery & Mitigation
- James Kelly, Governor’s Office
- Brittany Dremluk, Michael Baker International, Inc.
- Jessica Jahre, Michael Baker International, Inc.
- Chris Huch, Tetra Tech, Inc.
- Alison Miskiman, Tetra Tech, Inc.

1. Welcome

2. Project Update

- Risk Assessment Key Takeaways (Michael Baker)
- Outreach and Engagement Workshop Overview (Michael Baker)
- Capability Assessment Status (Tetra Tech)
 - Data collection
 - Stakeholder workshops
 - Local plan coordinator’s workshop

3. Mitigation Strategy

- Overview of mitigation strategy (Tetra Tech)
 - Updated goals and objectives (Michael Baker)
 - Types of actions to consider (Tetra Tech)
- Collection of actions from other agencies (Tetra Tech)
 - Mitigation strategy workshops

4. Open Discussion – Identification of new actions by the SHMT

- Jessica Jahre: What are DCA’s prioritizes for risk reduction action?
 - Luciana DiMaggio: Focus on socially vulnerability piece, haven’t spoken to new actions specifically
- Jessica Jahre: What would be helpful to provide to you prior to mitigation workshops so participants come to the meetings with ideas?

- Chris Testa: Wants to avoid “Dear Santa” list; the most cost-effective action is addressing the weak links and low hanging fruit and work the way up the chain. Actions that must occur to advance other mitigation actions. What’s the best use of funding?
- Courtney Wald-Wittkop: DEP deals with a lot of the technical problems, taking away the technical action, what else needs to be addressed? Taking away the nuts and bolts, what is the wish list if money wasn’t an option? Or taking away the prior boundaries?
- Jessica Jahre: Might be helpful to circulate a worksheet that could stimulate ideas before coming to the mitigation workshops.
- Luciana DiMaggio: What would help us is listening to discussions and how DCA can fit in.
- Jessica Jahre: Allowing agencies to fit in to other actions where gaps may exist
- Chris Testa: Encouraging the multi-agency to address problems is a great goal. How can your agency ____?
- Does SHMT have an overarching strategy to include in the plan, a pathway, to get where they all want to be?
 - Chris: Facilitating the best-informed conversations (well supported) with good information, good technology,
 - Courtney Wald-Wittkop: Shared data helps facilitate future action; **mutually beneficial tools** (i.e. acquisition database)
 - OEM is talking to BPU about using funds for broadband, where are the hazards and locating broadband in low-risk areas. Conversations around future investment and hazards.



F.3-A PARTICIPANT KICK-OFF MEETING & BATOOLSM PROGRAM TRAINING

New Jersey State Hazard Mitigation Plan Update

Participant Kick-off Meeting &
BAToolSM Program Training

Michael Baker
INTERNATIONAL



TETRA TECH

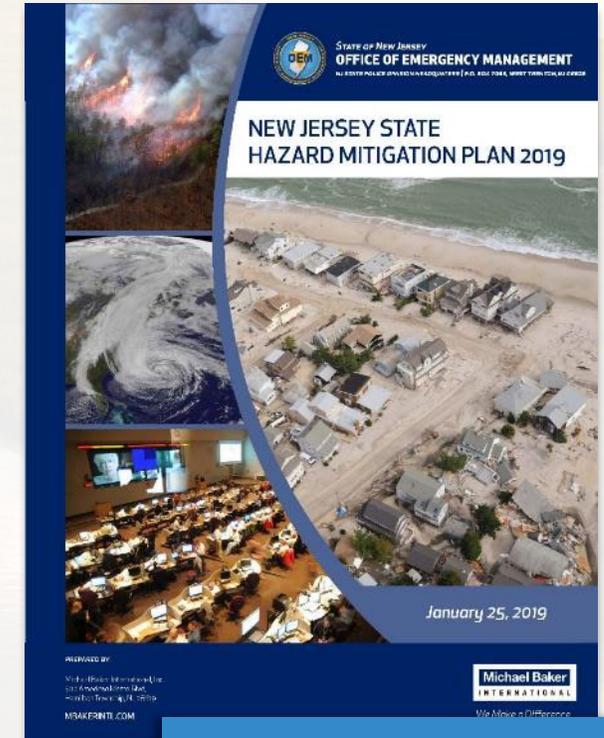
March 16, 2023



Agenda

- Introductions
- NJ SHMP Welcome and Overview – Dinan Amin, NJOEM
- NJ SHMP Planning Process and Schedule – Michael Baker, Intl.
 - Project Overview
 - Changes from 2019 Plan Update
 - Schedule
 - Upcoming Stakeholder Outreach
- Review 2019 Plan Mitigation Strategy – Tetra Tech, Inc.

****Login credentials were provided prior to the meeting***



2019 New Jersey State Hazard Mitigation Plan

Project Overview

- **State Hazard Mitigation Plan**

The State Hazard Mitigation Plan (SHMP) is the cornerstone to reducing New Jersey's vulnerability to disasters. It is the State's commitment to reducing risks and hazards and serves as a guide for State decision makers as they commit resources to reducing the effects of hazards. The State Hazard Mitigation Plan is prepared, administratively adopted, and approved by FEMA, enabling state and local governments to apply for and participate in the various FEMA-funded mitigation programs.

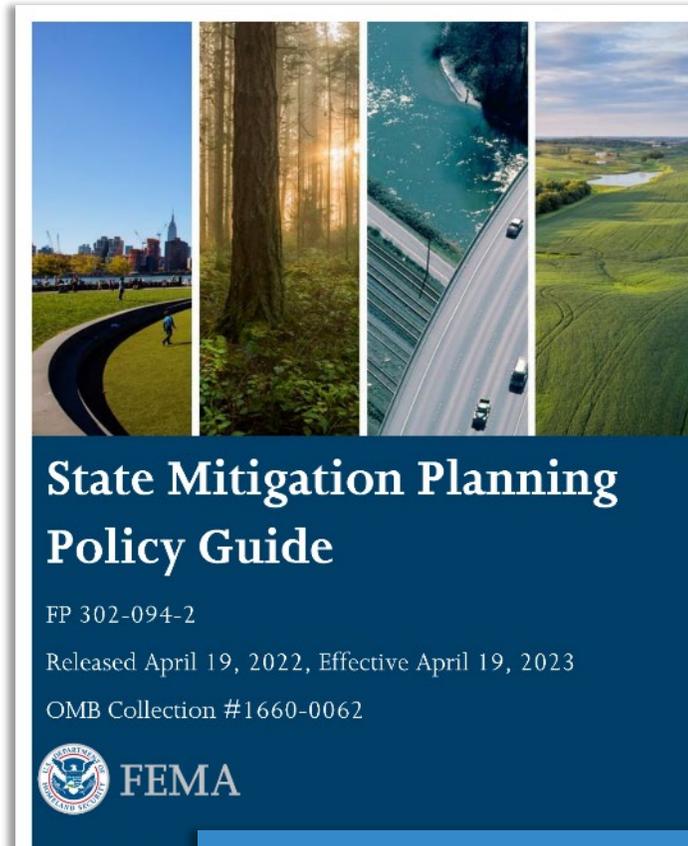
- **Participant Responsibilities**

- Identify hazard concerns/vulnerabilities in the state
- Reflect on risk assessment findings
- Identify any new sources of best available data
- Update existing and add new capabilities
- Update existing and add new mitigation actions

Changes from 2019 Plan Update

New FEMA Requirements

- **Equity and climate change impacts**
- **Outreach to a wider range of stakeholders**
 - Community lifelines
 - Climate change experts
 - Groups that support underserved communities
- **Capability Assessment must discuss**
 - Building code adoption and enforcement
 - Land use
 - National Flood Insurance Program administration
 - Flood risk mapping
- **Must link mitigation strategy to risk assessment**



New FEMA Guidance is effective
April 19, 2023

Changes from 2019 Plan Update

Risk Assessment Update

- **Three-Tiered Risk Assessment**
 - Built Environment
 - Population and Economy
 - Natural Environment
- **Change in Approach with Assets**
 - Previous plan focused on state-owned assets using LBAM data
 - This plan update includes state-owned assets and other public and privately-owned assets
 - Consistent with FEMA's updated policy
 - Based on seven FEMA's community lifelines and NJHAZ Adapt

FEMA's Community Lifelines



Project Schedule

- March 16, 2023: Participant Kick-off Meeting
- March 31, 2023: Deadline to Update Existing Actions in the BAToolSM Program
- April 2023: Stakeholder Workshops & Capability Assessment update
- May/June 2023: Virtual Mitigation Strategy Workshops & State Agency Meetings
- August 2023: Draft Plan Finalized
- Fall 2023: FEMA Review & Revisions
- April 2024: Final Plan Adopted



Stakeholder Outreach Plan

Virtual Stakeholder Workshops

	Date	Time
Healthcare Systems & Services	April 17, 2023	1:00 – 3:00 pm
Land Use & Economic Development	April 19, 2023	11:00 am – 1:00pm
Natural and Cultural Resources	April 20, 2023	10:00 am – 12:00 pm
Housing & Social Services	April 24, 2023	1:00 – 3:00 pm
Transportation	April 25, 2023	2:00 – 4:00 pm
Water Resources	May 3, 2023	10:00 am – 12:00 pm
Virtual Open House	May 4, 2023	1:00 – 3:00 pm



Workshops will cover the findings from the risk assessment and information on state capabilities and programs

Thank You!



F.3-B HAZARD MITIGATION STRATEGY WORKSHOP #1 (6/14/2023)



New Jersey State Hazard Mitigation Plan Update

Hazard Mitigation Strategy

Workshop #1

June 14, 2023 | 10:00 am – 11:30 am

Michael Baker
INTERNATIONAL



TETRA TECH

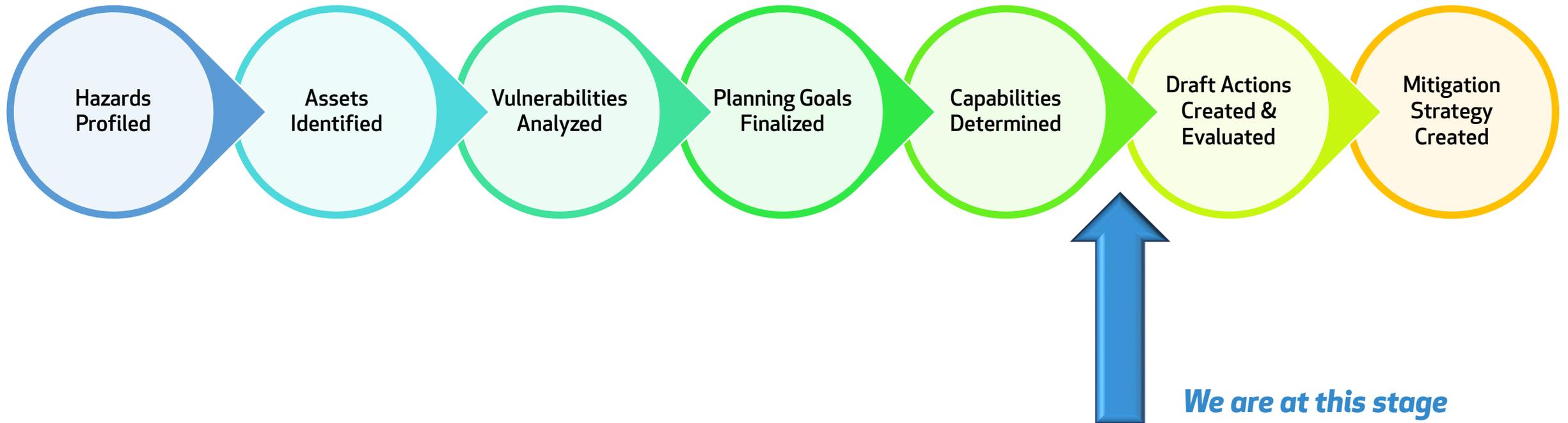


Welcome & Agenda

The background of the slide is a photograph of a city street at dusk or dawn. The sky is a warm, hazy orange. In the foreground, a white bus is partially visible, with a sign that says "DRIVE FOR US!" and "NJ TRANSIT". Above the bus, there are traffic lights and a "NO TURNING" sign. In the background, there are several multi-story buildings, including one with a prominent chimney. The overall scene is urban and atmospheric.

- Connecting the Mitigation Strategy to the Risk Assessment
- 2024 NJ HMP Goals
- Purpose of the Mitigation Strategy & Potential Mitigation Actions
- Breakout Rooms – Mitigation Action Working Session

Connecting Mitigation Strategy to Risk Assessment



Connecting Mitigation Strategy to Risk Assessment

Natural Hazards Profiled

Coastal Erosion (including enhanced discussion of beach protection)

Dam/Levee Failure

Drought

Earthquakes

Extreme Temperature

Flood (*riverine, coastal, storm surge, nuisance flooding caused by sea-level rise, and stormwater flooding caused by local drainage and high groundwater levels*)

Geological Hazards (*landslide subsidence/sinkholes, radon exposure, and saltwater intrusion*)

Hurricanes, Nor'easters, Tropical Storms (*wind only. Including enhanced discussion of power failure from hurricane winds*)

Severe Weather (*high winds, tornadoes, thunderstorms, and hail including enhanced discussion of power failure from high winds/tornados*)

Severe Winter Weather (*snow, blizzards, and ice storms. Including enhanced discussion of power failure from severe winter weather*)

Wildfire

FEMA's Community Lifelines



2024 NJ SHMP Goals

1. Protect life
2. Protect property
3. Increase public preparedness and awareness
4. Develop and maintain an understanding of increased risk from climate change impacts to natural hazards
5. Enhance State and local mitigation capabilities to reduce hazard vulnerabilities
6. Support continuity of operations pre-, during, and post-hazard events
7. Reduce the risk of natural hazards for socially vulnerable populations and underserved communities

How do you Reduce Risk?

- **Manipulate the Hazard:**
 - Structural flood control
- **Reduce/Eliminate Exposure:**
 - Property acquisition
- **Reduce Vulnerability:**
 - Retrofit existing structures
- **Increase Capability:**
 - Preparation, technical assistance, planning, enforcement



What are We Focusing on for the Mitigation Strategy?



- **Stronger connection between the risk assessment, capability assessment, and the mitigation strategy**
- **More specific actions**
 - Specific projects, in specific locations, in a specific timeframe
- **Diverse actions**
 - A variety in the types of actions

FEMA Mitigation Action Types



Plans and regulations include government authorities, policies, or codes that encourage risk reduction, such as building codes and state planning regulations. This may also include planning studies.



Structure and infrastructure projects involve modifying existing structures and infrastructure or constructing new structures to reduce the impact of hazards.



Natural systems protection projects minimize losses while also preserving or restoring the function of natural systems.



Education and awareness programs include long-term, sustained programs to inform and educate citizens and stakeholders about hazards and mitigation options. This category could also include training.

Carryover Actions

- Each agency was asked to review and provide a status update of their assigned 2019 actions in the BAToolSM Program
- Actions identified as having no progress or as in progress were shared back to agencies for reference during this workshop
- This list of previous actions can be used to recall what actions are already part of your agency's contribution to the mitigation strategy to help identify potential gaps and prevent duplication of similar actions



Note: Completed actions and discontinued actions are not being carried over to the 2024 mitigation strategy. Actions noted as ongoing capabilities are being incorporated into the capability assessment.

Potential Actions from Stakeholder Workshops

- Attendees to the Stakeholder Workshops were asked to identify problems and potential solutions to be considered in the 2024 SHMP's mitigation strategy
- Appropriate mitigation actions have been shared with their associated lead agencies for consideration
 - Note: While the majority of these actions were self identified by representatives of the associated lead agencies, some actions have been identified by individuals that do not represent the respective lead agencies

1. How is your agency integrating climate change into your decision making? 2. How is your agency advancing equitable outcomes for socially vulnerable populations that face hazard risk? 3. What new capabilities/programs/plans/policies have emerged to support hazard mitigation and risk reduction in the last five years? 4. What obstacles/challenges have you encountered that have kept your organization/agency from advancing hazard risk reduction further?			
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Name/Agency: Sujatha Girija, PSE&G 1. Climate change: 2. Socially vulnerable populations:	Name/Agency: Sujatha Girija, PSE&G 3. Emerging capabilities 4. Obstacles/barriers	Name/Agency: Cheryl Rezendes, NJ Sports and Exposition Authority 1. Climate change: 2. Socially vulnerable populations:	Name/Agency: Cheryl Rezendes, NJ Sports and Exposition Authority 3. Emerging capabilities 4. Obstacles/barriers
Name/Agency: Sujatha Girija, PSE&G 1. Climate change: 2. Socially vulnerable populations:	Name/Agency: Sujatha Girija, PSE&G 3. Emerging capabilities 4. Obstacles/barriers	Name/Agency: Ashlyn Spector, Rutgers University 1. Climate change: 2. Socially vulnerable populations:	Name/Agency: Ashlyn Spector, Rutgers University 3. Emerging capabilities 4. Obstacles/barriers
Name/Agency: Donna Randoin, Department of State 1. Climate change: Identification of historic, historic and natural resources as part of our EE process, and to develop a method of protection for these assets. 2. Socially vulnerable populations: Prioritizing housing housing in, removal while aware identification of vulnerable populations and encourage outreach to their communities for input and feedback.	Name/Agency: Donna Randoin, Department of State 3. Emerging capabilities: incorporating mitigation factors in land use planning, recognition of and education to local elected officials and residents. Agree with adding green/pocket parks to urban areas. 4. Obstacles/barriers: cost and disbelievers.	Name/Agency: Amy Verdell, Delaware Valley Regional Planning Commission 1. Climate change: Part of our climate change work focus on research on various climate change impacts on the Delaware Valley region. We are currently conducting an assessment on the Delaware Valley region. We are currently conducting an assessment on the Delaware Valley region. We are currently conducting an assessment on the Delaware Valley region.	Name/Agency: Amy Verdell, Delaware Valley Regional Planning Commission 3. Emerging capabilities: We are currently conducting an assessment on the Delaware Valley region. We are currently conducting an assessment on the Delaware Valley region. We are currently conducting an assessment on the Delaware Valley region.
Name/Agency: Larry Fink, NJDEP Green Acres Program 1. Climate change: See response from previously's meeting for all 4 questions. 2. Socially vulnerable populations: New Jersey's floodplain disclosure requirements should help assist people who are often of lower socioeconomic status from continuing to purchase homes that have experienced or are susceptible to flooding.	Name/Agency: Larry Fink, NJDEP Green Acres Program 3. Emerging capabilities: New Jersey floodplain disclosure requirements - see #1. 4. Obstacles/barriers: There are several rules, regulations, and programs that impede or facilitate building/developing and in floodplains and flood-prone areas. Examples: 1. Permitting process, 2. Floodplain disclosure requirements, 3. Floodplain disclosure requirements, 4. Floodplain disclosure requirements.	Name/Agency: Larry Fink, NJDEP 1. Climate change: 2. Socially vulnerable populations:	Name/Agency: Larry Fink, NJDEP 3. Emerging capabilities 4. Obstacles/barriers
Name/Agency: Larry Fink, NJDEP 1. Climate change: 2. Socially vulnerable populations:	Name/Agency: Larry Fink, NJDEP 3. Emerging capabilities 4. Obstacles/barriers	Name/Agency: Larry Fink, NJDEP 1. Climate change: 2. Socially vulnerable populations:	Name/Agency: Larry Fink, NJDEP 3. Emerging capabilities 4. Obstacles/barriers

Potential Actions for Consideration

- Agencies have been sent spreadsheets with potential actions for consideration in the 2024 NJ SHMP
- The spreadsheets have potential actions organized in tabs if there are:
 - Carryover actions from the 2019 SHMP that are currently in progress or have no progress
 - Actions from the 2019 SHMP that have been **reassigned** to your agency by a different agency
 - Potential actions identified in the stakeholder workshops

Jurisdiction	Action ID	Action Description	Specific problem mitigated	Action Status
New Jersey Department of Environmental Protection	2019-NJLOM-01	2010 PSA 237 Continue NJDEP Green Acres, Blue Acres acquisition of repetitive loss and Severe repetitive loss structures.	Requested in local mitigation planning efforts to eliminate repetitive loss structure. Augments Federal funding to ensure that more structures will no longer be flooded thereby reducing repetitive loss claims.	In Progress
New Jersey Department of Environmental Protection	2019-NJDEP-01	Install generators at state aquaculture/fishery facilities to ensure the continuous operation of critical equipment for the survival of fish used to stock New Jersey waterways. Conduct hydraulic modeling and a feasibility study to understand water resources and infrastructure improvements across New Jersey. Expand current RiverWare models of raw water in Passaic/Hackensack and Raritan basins to include finished water distribution system. Determine interconnections needed to increase system resiliency during droughts.	Prevents loss of fish used to ensure New Jersey waterways are stocked. Advances the goal of mitigating losses from the identified fishing losses hazard.	In Progress
New Jersey Department of Environmental Protection	2019-NJDEP-02		Supports understanding of water infrastructure and impacts to drought and flood-related hazards. Supports understanding of risks from drought and flooding in relation to New Jersey's water resource management.	In Progress
New Jersey Department of Environmental Protection	2019-NJDEP-03	Conduct a study to investigate and refine estimates for total water loss and leakage that occurs throughout New Jersey's water resources.	Supports understanding of water infrastructure and impacts to drought and water supply resiliency. Supports understanding of risks from drought to water resiliency of New Jersey's water resource management.	In Progress
New Jersey Department of Environmental Protection	2019-NJDEP-04	Replacement or improvement of reservoirs deemed to be deficient.	To reduce risk and vulnerability to water infrastructure. Prevents potential flooding to life and property from deficient reservoirs.	In Progress
New Jersey Department of Environmental Protection	2019-NJDEP-05	Develop a tracking system/database for floodplain managers to upload information on substantially damaged properties, flood permits, elevation certificates, and other information.	Better data management to track flood-related data critical for the CRS programs. Supports continuity of operations for debris management and facilities rapid disaster recovery.	No Progress
			Partnership with the U.S. Army Corps of Engineers and Stockton University allow the State to leverage	

Navigation tabs: Carryover Actions | Reassigned Actions | Workshop Identified Actions | (+)

Note: If you did not receive a spreadsheet, your agency has not identified any potential actions at this point in the planning process

Submitting Proposed Actions for the 2024 SHMP

- A link to a Microsoft Form will be sent to all agencies that attend the Mitigation Strategy Workshops
- Agencies will need to submit one form per proposed action
- Each field in the form needs to be completed
- Be as detailed as possible!

The screenshot shows a Microsoft Form titled "State of New Jersey HMP - Mitigation Strategies". The form is in a light blue theme. At the top, there is a dark blue header with the title and a three-dot menu icon. Below the header, there is a paragraph of instructions: "Please use this form to submit your agency's potential mitigation strategies for the State's Hazard Mitigation Plan. One form is needed for each strategy/action. If you need assistance, please reach out to Chris Huch (chris.huch@tetrattech.com)." Below this is a bolded instruction: "Please submit all proposed mitigation actions by July 12th." The form contains several required fields, each with a red asterisk and a "Required" label. The fields are: 1. Name (with a text input field containing "Enter your answer"), 2. Department/Agency/Jurisdiction (with a text input field containing "Enter your answer"), 6. Description of the Solution (with a text area containing "Enter your answer"), 7. Socially Vulnerable Populations (with a text area containing "Enter your answer"), 8. Future Development (with a text area containing "Enter your answer"), and 9. Critical Facilities (with a text area containing "Enter your answer").

Proposed Action Fields

- **Name of the Action**
- **Lead Agency**
- **Hazard(s) of Concern**
- **Description of Problem/Challenge**
- **Description of Solution**
 - Socially Vulnerable Populations
 - Future Development
 - Critical Facilities
 - Capabilities
 - Climate Change
- **Benefits**
- **NJSHMP Goals Met**
- **Estimated Cost**
- **Potential Funding Sources**
 - Include federal and non-federal sources
- **Implementation Timeline**
 - Short Term (within 1 year)
 - Medium Term (2-3 years)
 - Long Term (4-5 years)

***BREAKOUT ROOMS – MITIGATION
ACTION WORKING SESSION***



F.3-C HAZARD MITIGATION STRATEGY WORKSHOP #2 (6/20/2023)



New Jersey State Hazard Mitigation Plan Update

Hazard Mitigation Strategy

Workshop #2

June 20, 2023 | 1:00 – 2:30 pm

Michael Baker
INTERNATIONAL



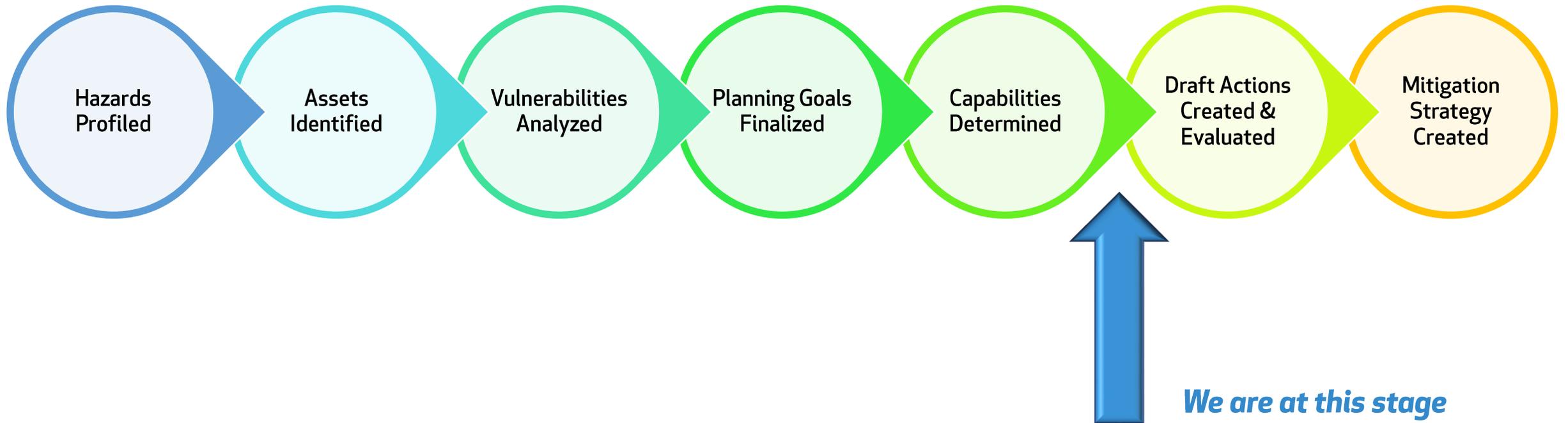
TETRA TECH



Welcome & Agenda

- Connecting the Mitigation Strategy to the Risk Assessment
- 2024 NJ HMP Goals
- Purpose of the Mitigation Strategy & Potential Mitigation Actions
- Breakout Rooms – Mitigation Action Working Session

Connecting Mitigation Strategy to Risk Assessment



Connecting Mitigation Strategy to Risk Assessment

Natural Hazards Profiled

Coastal Erosion (including enhanced discussion of beach protection)

Dam/Levee Failure

Drought

Earthquakes

Extreme Temperature

Flood (*riverine, coastal, storm surge, nuisance flooding caused by sea-level rise, and stormwater flooding caused by local drainage and high groundwater levels*)

Geological Hazards (*landslide subsidence/sinkholes, radon exposure, and saltwater intrusion*)

Hurricanes, Nor'easters, Tropical Storms (*wind only. Including enhanced discussion of power failure from hurricane winds*)

Severe Weather (*high winds, tornadoes, thunderstorms, and hail including enhanced discussion of power failure from high winds/tornados*)

Severe Winter Weather (*snow, blizzards, and ice storms. Including enhanced discussion of power failure from severe winter weather*)

Wildfire

FEMA's Community Lifelines



2024 NJ SHMP Goals

1. Protect life
2. Protect property
3. Increase public preparedness and awareness
4. Develop and maintain an understanding of increased risk from climate change impacts to natural hazards
5. Enhance State and local mitigation capabilities to reduce hazard vulnerabilities
6. Support continuity of operations pre-, during, and post-hazard events
7. Reduce the risk of natural hazards for socially vulnerable populations and underserved communities

How do you Reduce Risk?

- **Manipulate the Hazard:**
 - Structural flood control
- **Reduce/Eliminate Exposure:**
 - Property acquisition
- **Reduce Vulnerability:**
 - Retrofit existing structures
- **Increase Capability:**
 - Preparation, technical assistance, planning, enforcement



What are We Focusing on for the Mitigation Strategy?



- **Stronger connection between the risk assessment, capability assessment, and the mitigation strategy**
- **More specific actions**
 - Specific projects, in specific locations, in a specific timeframe
- **Diverse actions**
 - A variety in the types of actions

FEMA Mitigation Action Types



Plans and regulations include government authorities, policies, or codes that encourage risk reduction, such as building codes and state planning regulations. This may also include planning studies.



Structure and infrastructure projects involve modifying existing structures and infrastructure or constructing new structures to reduce the impact of hazards.



Natural systems protection projects minimize losses while also preserving or restoring the function of natural systems.



Education and awareness programs include long-term, sustained programs to inform and educate citizens and stakeholders about hazards and mitigation options. This category could also include training.

Carryover Actions

- Each agency was asked to review and provide a status update of their assigned 2019 actions in the BAToolSM Program
- Actions identified as having no progress or as in progress were shared back to agencies for reference during this workshop
- This list of previous actions can be used to recall what actions are already part of your agency's contribution to the mitigation strategy to help identify potential gaps and prevent duplication of similar actions



Note: Completed actions and discontinued actions are not being carried over to the 2024 mitigation strategy. Actions noted as ongoing capabilities are being incorporated into the capability assessment.

Potential Actions from Stakeholder Workshops

- Attendees to the Stakeholder Workshops were asked to identify problems and potential solutions to be considered in the 2024 SHMP's mitigation strategy
- Appropriate mitigation actions have been shared with their associated lead agencies for consideration
 - Note: While the majority of these actions were self identified by representatives of the associated lead agencies, some actions have been identified by individuals that do not represent the respective lead agencies*

1. How is your agency integrating climate change into your decision making? 2. How is your agency advancing equitable outcomes for socially vulnerable populations that face hazard risk? 3. What new capabilities/programs/plans/policies have emerged to support hazard mitigation and risk reduction in the last five years? 4. What obstacles/challenges have you encountered that have kept your organization/agency from advancing hazard risk reduction further?			
Name/Agency: Kevin McGowan, Department of Corrections 1. Climate change: 2. Socially vulnerable populations:	Name/Agency: Kevin McGowan, Department of Corrections 3. Emerging capabilities 4. Obstacles/barriers	Name/Agency: Vincenzo Ferriola, NJDEP 1. Climate change: 2. Socially vulnerable populations:	Name/Agency: Vincenzo Ferriola, NJDEP 3. Emerging capabilities 4. Obstacles/barriers
Name/Agency: Sujatha Girija, PSE&G 1. Climate change: 2. Socially vulnerable populations:	Name/Agency: Sujatha Girija, PSE&G 3. Emerging capabilities 4. Obstacles/barriers	Name/Agency: Cheryl Rezendes, NJ Sports and Exposition Authority 1. Climate change: 2. Socially vulnerable populations:	Name/Agency: Cheryl Rezendes, NJ Sports and Exposition Authority 3. Emerging capabilities 4. Obstacles/barriers
Name/Agency: Sujatha Girija, PSE&G 1. Climate change: 2. Socially vulnerable populations:	Name/Agency: Sujatha Girija, PSE&G 3. Emerging capabilities 4. Obstacles/barriers	Name/Agency: Ashlyn Spector, Rutgers University 1. Climate change: 2. Socially vulnerable populations:	Name/Agency: Ashlyn Spector, Rutgers University 3. Emerging capabilities 4. Obstacles/barriers
Name/Agency: Donna Wanders, Department of State 1. Climate change: Identification of assets, resources and natural resources as part of our ES process, and to develop a method of protection for these assets. 2. Socially vulnerable populations: Promoting, testing, testing in, internal wide area, identification of assets, resources and natural resources as part of our ES process, and to develop a method of protection for these assets.	Name/Agency: Donna Wanders, Department of State 3. Emerging capabilities: Incorporating mitigation factors in land use planning, recognition of and education to local elected officials and residents. Agree with adding greenways and parks to urban areas. 4. Obstacles/barriers: cost and disbursement.	Name/Agency: Amy Wehring, Delaware Valley Regional Planning Commission 1. Climate change: How is your agency integrating climate change into your decision making? 2. How is your agency advancing equitable outcomes for socially vulnerable populations that face hazard risk? 3. What new capabilities/programs/plans/policies have emerged to support hazard mitigation and risk reduction in the last five years? 4. What obstacles/challenges have you encountered that have kept your organization/agency from advancing hazard risk reduction further?	Name/Agency: Amy Wehring, Delaware Valley Regional Planning Commission 3. Emerging capabilities: How is your agency integrating climate change into your decision making? 4. Obstacles/barriers: How is your agency advancing equitable outcomes for socially vulnerable populations that face hazard risk?
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Jurisdiction	Action ID	Action Description	Specific problem mitigated	Action Status
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New Jersey Department of Environmental Protection	2019-NJDEP-05		Partnership with the U.S. Army Corps of Engineers and Stockton University allow the State to leverage	

Note: If you did not receive a spreadsheet, your agency has not identified any potential actions at this point in the planning process

Submitting Proposed Actions for the 2024 SHMP

- A link to a Microsoft Form will be sent to all agencies that attend the Mitigation Strategy Workshops
- Agencies will need to submit one form per proposed action
- Each field in the form needs to be completed
- Be as detailed as possible!

The screenshot shows a Microsoft Form titled "State of New Jersey HMP - Mitigation Strategies". The form includes a header with the title and a sub-header. Below the sub-header is a paragraph of instructions: "Please use this form to submit your agency's potential mitigation strategies for the State's Hazard Mitigation Plan. One form is needed for each strategy/action. If you need assistance, please reach out to Chris Huch (chris.huch@tetrattech.com)." Below this is a bolded instruction: "Please submit all proposed mitigation actions by July 12th." The form contains several required fields, each with a text input box and the placeholder text "Enter your answer". The fields are: 1. Name *, 2. Department/Agency/Jurisdiction, 6. Description of the Solution: * (with a sub-instruction: "Provide a detailed narrative of the solution. Describe any phases for the action and the lead and partner agencies."), 7. Socially Vulnerable Populations * (with a sub-instruction: "Does this action reduce risk for underserved communities and/or socially vulnerable populations? Which communities/populations? How?"), 8. Future Development * (with a sub-instruction: "Does this action reduce risk for areas under intense development pressures?"), and 9. Critical Facilities * (with a sub-instruction: "Does this action reduce risk for critical facilities/community lifelines? Which facilities? How?").

Proposed Action Fields

- **Name of the Action**
- **Lead Agency**
- **Hazard(s) of Concern**
- **Description of Problem/Challenge**
- **Description of Solution**
 - Socially Vulnerable Populations
 - Future Development
 - Critical Facilities
 - Capabilities
 - Climate Change
- **Benefits**
- **NJSHMP Goals Met**
- **Estimated Cost**
- **Potential Funding Sources**
 - Include federal and non-federal sources
- **Implementation Timeline**
 - Short Term (within 1 year)
 - Medium Term (2-3 years)
 - Long Term (4-5 years)

***BREAKOUT ROOMS – MITIGATION
ACTION WORKING SESSION***



Mitigation Strategy Worksheet

Mitigation Strategy Action Overview

The mitigation strategy serves as the long-term blueprint for reducing the potential losses identified in the risk assessment. For the 2024 SHMP, agencies should identify projects or activities that they are likely to pursue in the next five years that will either reduce damage or disruption from hazards OR build capabilities to reduce potential risk. Actions should include activities that you may seek FEMA funding for or seek funding from other sources. Any action that reduces risk should be considered for inclusion.

All proposed mitigation actions should achieve at least one of the following SHMP goals:

1. Protect life
2. Protect property
3. Increase public preparedness and awareness
4. Develop and maintain an understanding of increased risk from climate change impacts to natural hazards.
5. Enhance State and local mitigation capabilities to reduce hazard vulnerabilities
6. Support continuity of operations pre-, during, and post-hazard events
7. Reduce the risk of natural hazards for socially vulnerable populations and underserved communities

To achieve SHMP Goal 2 – Protect Property, include actions that reduce risk to state-owned assets or community lifelines of regional or state importance, consider assets your agency owns that may need to be mitigated against potential risk from natural hazards. If assets owned by your agency were identified by the risk assessment as potentially at-risk, they are attached to this worksheet. The project team will also share findings from the capability assessment and 2019 mitigation strategy for your consideration.

Types of activities to consider in the mitigation strategy:

- *Structure and infrastructure projects that modify existing buildings/infrastructure to reduce damage or disruption from future hazard events*
- *Natural/Green Infrastructure projects that meet one of the goals listed above*
- *Education and awareness programs*
- *Regulations, plans, and policies that reduce future risk*
- *Funding opportunities for local hazard mitigation efforts*
- *Technical assistance (pre- or post-disaster) to advance local hazard mitigation planning and/or hazard mitigation efforts*
- *Tool and data development related to hazard analysis, planning, or communication*

FEMA Resources of potential mitigation actions to consider:

- [Mitigation Action Portfolio \(2020\)](#)
- [Mitigation Ideas– A Resource for Reducing Risk to Natural Hazards \(2013\)](#)



Mitigation Action Template

As you prepare strategy actions, the following questions should be answered for each action. The Project Team is preparing an online form that you can use to submit your actions for the 2024 strategy. The questions below will help prepare you to submit the actions. A table should be filled out for each individual action your agency intends to submit in the strategy.

Action Details

Name of Mitigation Action/Initiative: *What is the name of the mitigation action/initiative?*

Responsible Agency: *Who is the lead agency to implement this action?*

Supporting Agencies/Project Partners: *What other programs/agencies/organizations will be involved in this project/activity?*

Description of Action: *Describe the mitigation action.*

Problem/Challenge: *What is the problem or challenge the action will mitigate?*

If your action supports the following considerations, please describe how in further detail:

- *Does this action reduce risk for underserved communities and/or socially vulnerable populations?*
- *Does this action reduce risk for areas under intense development pressures?*
- *Does this action reduce risk for critical facilities/community lifelines?*
- *Does this action consider future conditions associated with climate change?*
- *Does this action increase capabilities/capacity for risk reduction in the State? If yes, does it support pre- or post-disaster capabilities.*

HMP Goal(s): *Which of the SHMP goals does this action achieve?*

Targeted Timeline for Implementation: *How many months/years for implementation?*

Likely Funding Source(s): *Which type of grants could this action be eligible for?*

State of New Jersey HMP - Mitigation Strategies

Please use this form to submit your agency's potential mitigation strategies for the State's Hazard Mitigation Plan. One form is needed for each strategy/action. If you need assistance, please reach out to Chris Huch (chris.huch@tetrattech.com).

Please submit all proposed mitigation actions by July 12th.

* Required

1. Name *

Enter your answer

2. Department/Agency/Jurisdiction *

Enter your answer

3. Name of Mitigation Action *

Enter your answer

4. Description of the Problem/Challenge: *

Provide a detailed narrative of the problem. Describe the hazard you wish to mitigate, its impacts, past damages, loss of services, etc. Include information on if the problem/challenge impacts critical facilities, socially vulnerable populations, or underserved communities. Note if the problem or challenge is likely to worsen due to future development or climate change.

Enter your answer

5. Hazard(s) of Concern: *

Identify the hazard(s) being addressed with this action.

- Coastal Erosion
- Dam/Levee Failure
- Drought
- Earthquake
- Extreme Temperature
- Flood
- Geological Hazards
- Hurricane/Nor'Easter/Tropical Storm
- Severe Weather
- Severe Winter Weather
- Wildfire
- Animal Disease

- Civil Unrest
- Cyber Attack
- Crop Failure
- Economic Collapse
- Fishing Failure
- Harmful Algal Blooms
- Hazardous Substances
- Pandemics
- Power Failure
- Terrorism
- Other

6. Description of the Solution: *

Provide a detailed narrative of the solution. Describe any phases for the action and the lead and partner agencies.

Enter your answer

7. Socially Vulnerable Populations *

Does this action reduce risk for underserved communities and/or socially vulnerable populations? Which communities/populations? How?

Enter your answer

8. Future Development *

Does this action reduce risk for areas under intense development pressures?

Enter your answer

9. Critical Facilities *

Does this action reduce risk for critical facilities/community lifelines? Which facilities? How?

Enter your answer

10. Capabilities *

Does this action increase capabilities/capacity for risk reduction in the State? If yes, does it support pre- or post-disaster capabilities?

Enter your answer

11. Climate Change *

Does this action consider future conditions associated with climate change? How?

Enter your answer

12. Describe the Benefits *

Identify the benefits that implementation of this project will provide (e.g., reduced property damages, avoided road closures, strengthened continuity of operations, etc.). If dollar amounts are known, include them. If dollar amounts are unknown or are unquantifiable, describe the losses that will be avoided.

Enter your answer

13. NJSHMP Goals *

Which NJSHMP goal(s) does this action achieve? (select all that apply)

- 1. Protect life
- 2. Protect property
- 3. Increase public preparedness and awareness
- 4. Develop and maintain an understanding of increased risk from climate change impacts to natural hazards.
- 5. Enhance State and local mitigation capabilities to reduce hazard vulnerabilities
- 6. Support continuity of operations pre-, during, and post-hazard events
- 7. Reduce the risk of natural hazards for socially vulnerable populations and underserved communities

14. Estimated Cost: *

What is the estimated cost to implement and complete this project?

Enter your answer

15. Potential Funding Sources *

Identify multiple sources of potential funding. Consider annual agency budgets, state grants, and FEMA funding such as HMGP, FMA, and BRIC Grants, CDBG-DR funding, etc. For ideas, refer to: https://www.fema.gov/sites/default/files/documents/fema_mitigation-resource-guide.pdf

Enter your answer

16. Implementation Timeline *

What is the estimated timeframe for starting implementation of this project? Note: Actions that are not targeted to begin implementation within the next 5 years (the planning horizon for the SHMP) should not be included as proposed actions, but can be included as part of the discussion in the Mitigation Strategy section.

- Short Term (Within 1 year)
- Medium Term (2-3 years)
- Long Term (4-5 years)

You can print a copy of your answer after you submit

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AGENDA

SHMP VIRTUAL STAKEHOLDER WORKSHOPS

WORKSHOPS *(based on Community Lifelines):*

- Healthcare Systems & Services
- Land Use & Economic Development
- Natural & Cultural Resources
- Housing & Social Services
- Transportation
- Water Resources
- Open House *(Local, including shelters, energy/communications)*

AGENDA:

1. Introductions (5 mins)
2. Agenda/Housekeeping
3. Hazard Mitigation Planning Overview
 - a. Project Schedule
 - b. What is HMP
 - c. Why we do it (receive FEMA funding)
 - d. How we do it (outreach, risk assessment, capabilities, mitigation strategy)
4. Breakout Rooms (by Region) – Miro Board
 - a. Share risk findings
 - i. Categories (social, ecological, built environment)
 - ii. Changes in development, projected future growth, redevelopment areas
 - b. Discuss capabilities
 - c. Discuss potential mitigation actions
5. Next Steps
 - a. Survey
 - b. Additional stakeholders to reach out to

FACILITATION GUIDE SHMP VIRTUAL STAKEHOLDER WORKSHOPS

KEY MEETING DETAILS:

Meeting Objectives	<ul style="list-style-type: none"> • Coordinate with other state agencies and stakeholders in the following sectors to update the hazard mitigation plan document: <ul style="list-style-type: none"> ○ Emergency management (including Safety and Security, Hazardous Materials, and Food, Water, Shelter community lifelines) ○ Economic development ○ Land use and development ○ Housing ○ Health and social services ○ Infrastructure (including Energy, Communications, Transportation, and Food, Water, Shelter community lifelines); and ○ Natural and cultural resources. • Coordinate with agencies and organizations with climate change and climate adaptation expertise, state agencies with programs, policies, and assistance that support underserved communities, and other representatives serving these communities in the mitigation planning process
Desired Outcomes	Share high-level findings from the risk assessment and discuss capabilities and mitigation actions to reduce that risk
Meeting Details	<ul style="list-style-type: none"> • Healthcare Systems & Services April 17, 2023 @ 1:00 - 3:00 PM EST • Land Use & Economic Development April 19, 2023 @ 11:00 AM - 1:00 PM EST • Natural & Cultural Resources April 20, 2023 @ 10:00 AM - 12:00 PM EST • Housing & Social Services April 24, 2023 @ 1:00 - 3:00 PM EST • Transportation April 25, 2023 @ 2:00 - 4:00 PM EST • Water Resources May 3, 2023 @ 10:00 AM - 12:00 PM EST • Open House May 4, 2023 @ 1:00 - 3:00 PM EST
Logistics	<p><u>Project Team Coordination:</u></p> <ul style="list-style-type: none"> • If you have questions or concerns during the meeting, use the Teams Chat: [Name] • If you are in a breakout room and need immediate help, click the “Ask for Help” button on Zoom. Michael Baker/Tetra Tech will send help to your breakout room. <p><u>Breakout Rooms:</u></p> <ul style="list-style-type: none"> • Jessica Jahre is responsible for creating the breakout rooms and moving people from the lobby into their room • When someone is done in their current room, direct them back to the lobby using the “Leave Room”/”Leave Breakout Room” button on Zoom. From there, they will indicate where they would like to go next.



F.4-A STAKEHOLDER WORKSHOP - LAND USE AND ECONOMIC DEVELOPMENT (4/19/2023)



New Jersey State Hazard Mitigation Plan Virtual Stakeholder Workshop



Land Use & Economic Development

April 19, 2023 | 11:00 am – 1:00pm

Michael Baker
INTERNATIONAL



TETRA TECH



Agenda

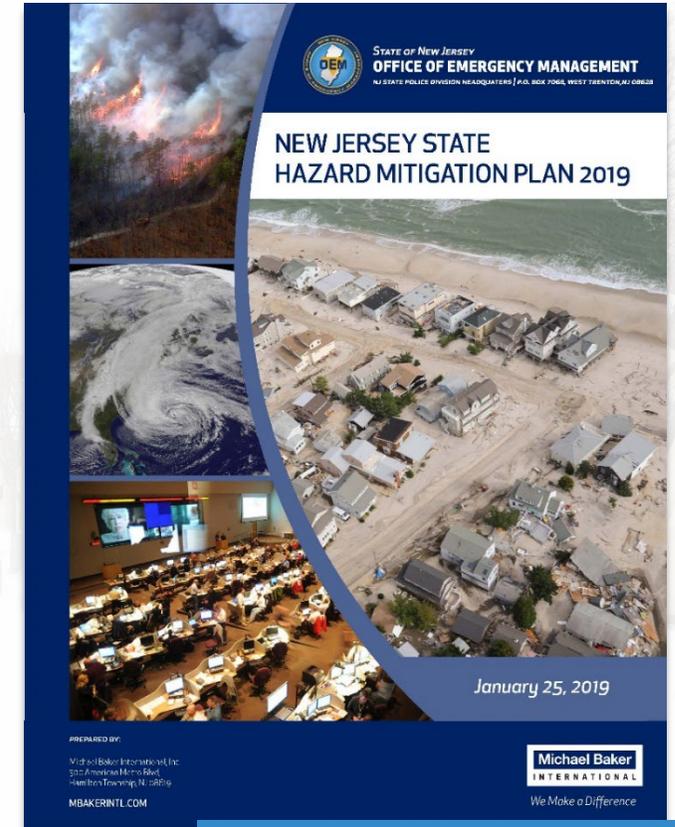
- **Introductions**
- **Hazard Mitigation Overview**
- **Project Schedule**
- **Planning Process**
- **Risk Assessment**
- **Capability Assessment**
- **Mitigation Strategy**



Hazard Mitigation Overview

Overview

- **What is Hazard Mitigation?**
 - Hazard mitigation is the effort to reduce loss of life and property by lessening the impact of disasters.
- **What is a Hazard Mitigation Plan?**
 - State, tribal, and local governments engage in hazard mitigation planning to identify risks and vulnerabilities associated with natural disasters and develop long-term strategies for protecting people and property from future hazard events.
 - Required by FEMA to receive funding
 - Updated every five years



Last New Jersey State HMP
was in 2019

Hazard Mitigation Overview

New FEMA Requirements

- **Equity and climate change impacts**
- **Outreach to a wider range of stakeholders**
 - Community lifelines
 - Climate change experts
 - Groups that support underserved communities
- **Capability Assessment must discuss**
 - Building code adoption and enforcement
 - Land use
 - National Flood Insurance Program administration
 - Flood risk mapping
- **Must link mitigation strategy to High Hazard Potential Dams and Fire Management Assistance Grants program**



**State Mitigation Planning
Policy Guide**

FP 302-094-2
Released April 19, 2022, Effective April 19, 2023
OMB Collection #1660-0062

 **FEMA**

New FEMA Guidance is effective
April 19, 2023

Project Schedule



Virtual Stakeholder Workshops
Through May 2023



Coordination with State Agencies
Through June 2023



Draft Plan to NJOEM
August 2023



Draft Plan to FEMA
October 2023



Final Plan Submission to OEM/ NJ
January 2024



State Adoption and FEMA Approval
April 2024



2024 State Hazard Mitigation Plan: Goals

1. **Protect life**
2. **Protect property**
3. **Increase public preparedness and awareness**
4. **Develop and maintain an understanding of increased risk from climate change**
5. **Enhance state and local mitigation capabilities to reduce hazard vulnerabilities**
6. **Support continuity of operations pre-, during, and post-hazard events**
7. **Reduce the risk of natural hazards for socially vulnerable populations and underserved communities**

Hazard Mitigation Overview

New Jersey State Hazard Mitigation: Hazards Profiled

Natural Hazards

Coastal Erosion (including enhanced discussion of beach protection)

Dam/Levee Failure

Drought

Earthquakes

Extreme Temperature

Flood (*riverine, coastal, storm surge, nuisance flooding caused by sea-level rise, and stormwater flooding caused by local drainage and high groundwater levels*)

Geological Hazards (*landslide subsidence/sinkholes, radon exposure, and saltwater intrusion*)

Hurricanes, Nor'easters, Tropical Storms (*wind only. Including enhanced discussion of power failure from hurricane winds*)

Severe Weather (*high winds, tornadoes, thunderstorms, and hail including enhanced discussion of power failure from high winds/tornados*)

Severe Winter Weather (*snow, blizzards, and ice storms. Including enhanced discussion of power failure from severe winter weather*)

Wildfire

Human-Caused Hazards

Animal Disease

Civil Unrest

Cyber Attack

Crop Failure

Economic Collapse

Fishing Failure

Harmful Algal Blooms (*HABs*)

Hazardous Substances (*fixed sites, in-transit, offshore*)

Nuclear Hazards

Pandemic (*COVID-19 and influenza*)

Terrorism

Risk Assessment

- **Three-Tiered Risk Assessment**

- Built Environment
- Population and Economy
- Natural Environment

- **Change in Approach with Assets**

- Previous plan focused on state-owned assets using LBAM data
- This plan update includes state-owned assets and other public and privately-owned assets
- Consistent with FEMA's updated policy
- Based on FEMA's seven community lifelines and NJHAZ Adapt

FEMA's Community Lifelines

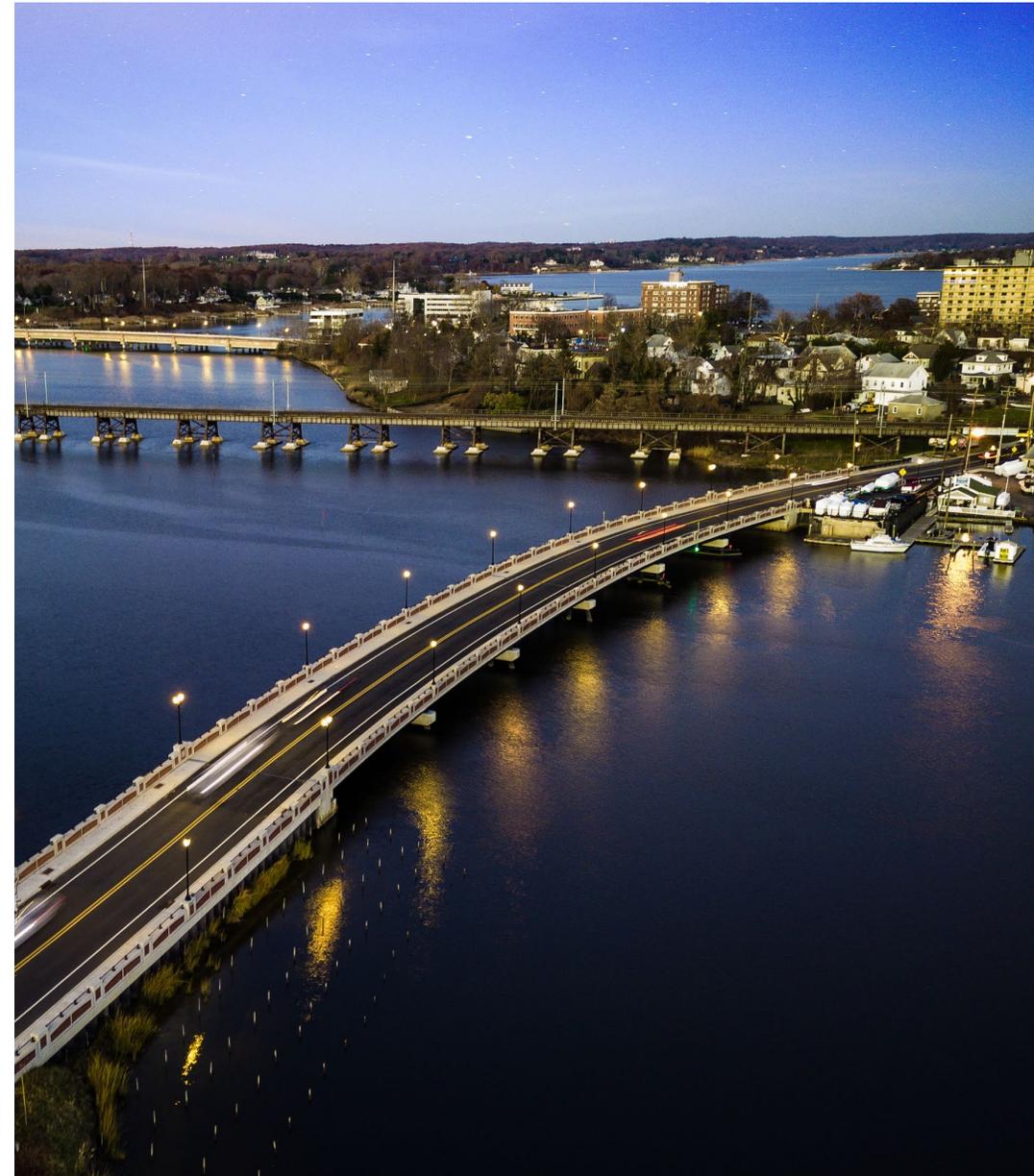


Risk Assessment

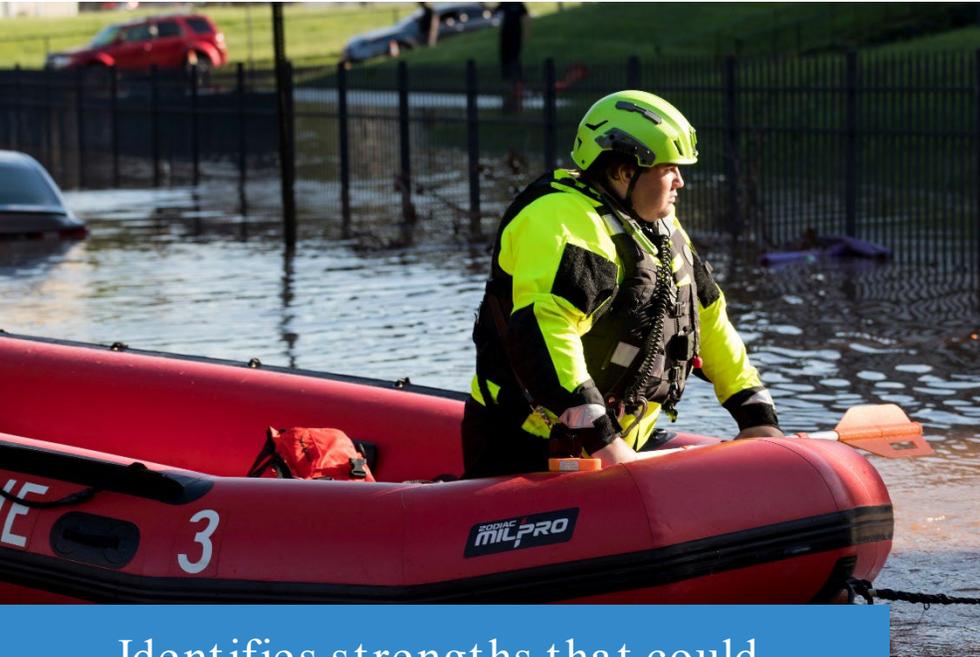
- **Requirements**

The plan must provide a summary of recent development and potential or projected development in hazard-prone areas based on state and local government risk assessments including, but not limited to the following:

1. Changes in land use and the built environment and projected future growth or re-development areas.
2. Changes in population demographics that may affect vulnerability to hazard events, including socially vulnerable and underserved communities
3. Changes to the vulnerability of state assets.
4. Changes in development that could impact jurisdictions most threatened by the identified hazards based on local risk assessments, including the potential impacts of climate change.



Capability Assessment



Identifies strengths that could reduce losses and reduce risks in the community

- Identification of pre- and post-disaster capabilities in New Jersey at the federal, state, and local levels including:
 - Regulations and requirements
 - Plans
 - Programs
 - Staffing/technical resources
 - Funding
- Review of local hazard mitigation plans and programs
- Emerging capabilities
- New areas of focus include planning for climate change impacts and addressing social equity in mitigation planning

Mitigation Strategy

- Mitigation Workshops will be held in May/June
- Highlight success stories
- Past accomplishments, current efforts, and proposed strategies will be included in the Mitigation Strategies section
- Actions that will support pre- and post-disaster mitigation can include:
 - Plans and Regulations
 - Structure and Infrastructure projects
 - Natural Systems Protection projects
 - Education and Awareness programs



Identifying Problems and Solutions

- **Problem identification and description**
 - Describe the challenge/obstacle/impact
 - Which hazard(s) cause this problem?
 - Where is the problem occurring?
 - Who is the problem impacting?
 - Have there been past impacts?
 - How frequently does the problem occur?
- **Solution identification and description**
 - What are the options to solve or mitigate the problem?
 - Who is responsible for what aspects of the project?

Example

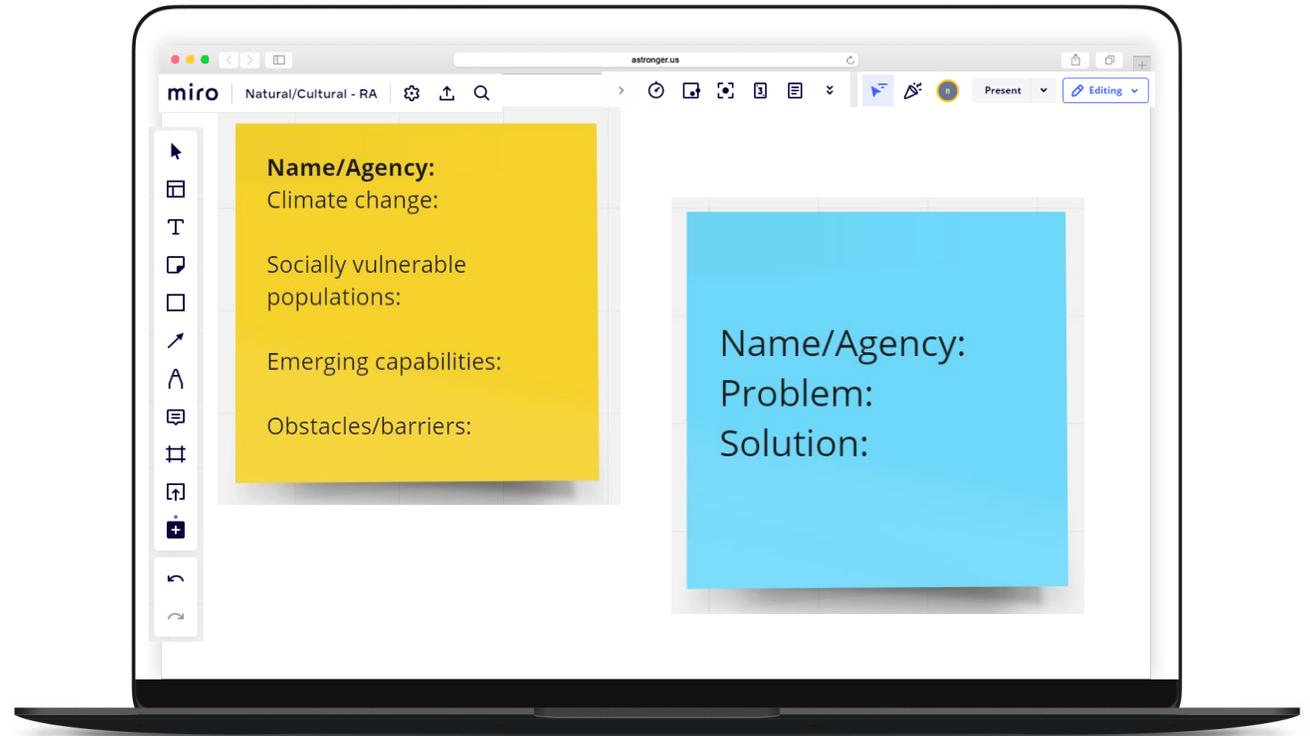
Name/Agency:

Problem:

Solution:

How to Use Miro Boards

- Follow the link provided in the chat to access the Miro board for each session
- Use the toolbar on the left of your screen to navigate the board
- Find the sticky note with your agency's name, click on the note, and use your cursor to type responses.
- Add additional sticky notes as needed, but always identify your name and agency



State Hazard Mitigation Plan

Land Use and Economic Development Virtual Stakeholder Workshop

Date: April 19, 2023

Time: 11am – 1pm

Location: Zoom

Attendees

Name	Organization
Nathaly Agosto Filion	Department of Environmental Protection
Nick Angarone, Chief Resilience Officer	Department of Environmental Protection
Vincenzo Ferriola	Department of Environmental Protection
Martha Sapp	Department of Environmental Protection
Kinney Clark	Historic Preservation Office
Donna Rendeiro	Department of State (Office for Planning Advocacy)
Lisa Auermuller	Rutgers University, Department of Marine and Coastal Sciences
Cheryl Rezendes	NJ Sports and Exposition Authority
Sara Sundell	NJ Sports and Exposition Authority
Sujatha Girija	PSE&G Emergency Preparedness Team
Ashlyn Spector	Rutgers University Bloustein School of Planning and Policy
Larry Fink	Department of Environmental Protection
Carrie Martin	Michael Baker International
Jessica Jahre	Michael Baker International
Jennifer Gutierrez	Michael Baker International
Alison Mikiman	Tetra Tech
Chris Huch	Tetra Tech
Jessica Stokes	Tetra Tech

1. Introductions

2. Hazard Mitigation Overview

- Michael Baker International described the purpose of the HMP and the new FEMA requirements based on the State Mitigation Planning Policy Guide (Effective April 19, 2023).
- Michael Baker International described the goals and the hazards profiled in the 2024 HMP update.

3. Project Schedule

- Michael Baker International described the project schedule, with State Adoption and FEMA Approval in April 2024.

4. Planning Process

5. Risk Assessment

- Michael Baker International explained the three-tiered approach to the risk assessment and the change in approach with assets.
- Michael Baker International explained the geospatial data and methods that were used in the risk assessment.
- Michael Baker International clarified that tornadoes are included under Severe Weather and that there will be an expanded discussion of tornadoes due to recent events.
- Michael Baker International noted that there is a requirement from FEMA to look at recent development and potential or projected development in hazard-prone areas based on state and local government risk assessments.
 - The project team is going to look at county-level plans and hold an Open House with county planner and offices of emergency management to collect information on project future growth.
- Rutgers University asked if future development means a build out analysis for the state.
 - Michael Baker International specified that this plan would focus on major developments rather than a full build out analysis.
 - Office of Planning Advocacy noted that the State is looking to create a standard build out analysis across State agencies.
- Office of Planning Advocacy is updating the State Plan. This will include population projections and an Infrastructure Needs assessment that can be included in future hazard mitigation plans.
 - The Department of Community Affairs also has data on Areas in Need of Redevelopment that they have approved.
 - In the future, the NJ League of Municipalities or the Department of Community Affairs could conduct a survey of its members to identify planned developments and land use and zoning changes over time for future hazard mitigation plans.
 - Office of Planning Advocacy has information on towns that are in Plan Endorsement, but that accounts for only about 50 or 60 towns statewide.
- The Department of Environmental Protection offered that it may be better to focus on municipalities in hazard-prone areas (particularly floodprone areas) rather than trying to collect land use and zoning information on all municipalities.

6. Capability Assessment

- Tetra Tech explained that the capability assessment includes the identification of pre- and post-disaster capabilities in NJ, a review of local HMPs, and emerging capabilities; new requirements

7. Mitigation Strategy

- Mitigation workshops will be held in May/June.
- Strategy will highlight success stories, past accomplishments, current efforts, and proposed strategies.
- Actions that will support pre- and post-disaster mitigation can include plans and regulations, structure and infrastructure projects, natural systems protection projects, education and awareness programs.

8. Identifying Problems and Solutions

- Tetra Tech explained how the project team is defining problem identification and solution identification.

9. Miro Board Exercise #1 - Capability Assessment

- **How is your agency integrating climate change into your decision making?**
 - Department of Environmental Protection is working on a Climate Action Plan.
 - Office of Planning Advocacy is including requirements for vulnerability assessment and resilience planning in Plan Endorsement. The agency is also addressing education and information to local officials and constituents for a better understanding of the risk and providing technical assistance in developing assessments and plans.
 - At the Department of Environmental Protection, five plans as of October will talk about future development in eighteen municipalities.
 - The Historic Preservation Office has 2019 flood guidelines.
 - The Historic Preservation Office and NJ Historic Trust have added resilience planning as fundable under grant programs.
- **How is your agency advancing equitable outcomes for socially vulnerable populations that face hazard risk?**
 - Office of Planning Advocacy is developing State Planning Commission policies and equity is an overarching factor. For example, they are now working on "equitable provision of affordable housing" (i.e., let's not put affordable housing in vulnerable areas, where there is infrastructure, etc.). Another example is that their warehouse guidance published last year addresses air quality in urban areas from idling trucks.
 - Rutgers University's NJ Adapt platform helps people understand where vulnerable populations are, through some of their newer tools with NJ Health Adapt, they are looking at what vulnerable populations are experiencing.
 - The New Jersey Sports and Exposition Authority has a program where people can sign up for text alerts based on real time water levels. They have sensors and tide gates and have active monitoring of that whole system.
- **What new capabilities/programs/plans/policies have emerged to support hazard mitigation and risk reduction in the last five years?**
 - Office of Planning Advocacy notes that the use of technology needs to play a big role going forward. If we had to face the pandemic even ten years ago, we would not have had the technology to maintain contact and continue working. The same can be said for businesses (small and large). Ten years ago, the economy would have ground to a halt. Now we can stay functioning.
 - Working at home even two days a week reduces greenhouse gases from commuting by 40%. That should be incorporated somewhere.
- **What obstacles/challenges have you encountered that have kept your organization/agency from advancing hazard risk reduction further?**
 - At the Historic Preservation Office, NJ Cultural Response is working on hazard mitigation planning for cultural assets including libraries and museums. They have an initiative to create cultural asset list and are working with the

Smithsonian Institute. The Smithsonian has returned their initial list and NJ is trying to figure out the next steps in the operation.

10. Miro Board Exercise #2 - Mitigation Strategy

- How many agencies have participated in county plans?
 - Rutgers University updated the Middlesex County HMP. A number of Rutgers representatives are involved in Steering Committee activities.
 - Office of Planning Advocacy is involved in local planning daily.
 - The project team mentioned that the update Local Mitigation Planning Policy Guide from FEMA has a stronger emphasis on stakeholder engagement, so more state involvement may be encouraged in the future.
- Office of Planning Advocacy noted the constraints of municipal budgets and emphasized that equipping the general public with empirical data on natural hazards could be helpful.
 - Office of Planning Advocacy also stressed the need to take a regional perspective on resilience action.
- Historic Preservation Office noted that as coastlines change, coastal archeological sites are lost or degraded.
 - Other states have implemented coastal archeological monitoring projects that we do not have in New Jersey. Historic Preservation Office is working on this data reconciliation.
- Department of Environmental Protection noted that while we can offer a suite of solutions, normal people don't have the technical knowledge to understand what the best options are.
 - Office of Planning Advocacy added that there is so much information out there, and a lot of technical information, so encouraged plain language educational materials.
 - Portal proliferation system – people may shut down due to information overload.
 - Department of Environmental Protection working on rolling out flood guidance but there are a lot of other risks out there.
 - One solution could be a first-stop resource.



**F.4-B STAKEHOLDER WORKSHOP - NATURAL & CULTURAL RESOURCES
(4/20/2023)**



New Jersey State Hazard Mitigation Plan Virtual Stakeholder Workshop



Natural & Cultural Resources

April 20, 2023 | 10:00 am – 12:00pm

Michael Baker
INTERNATIONAL



Workshop Agenda

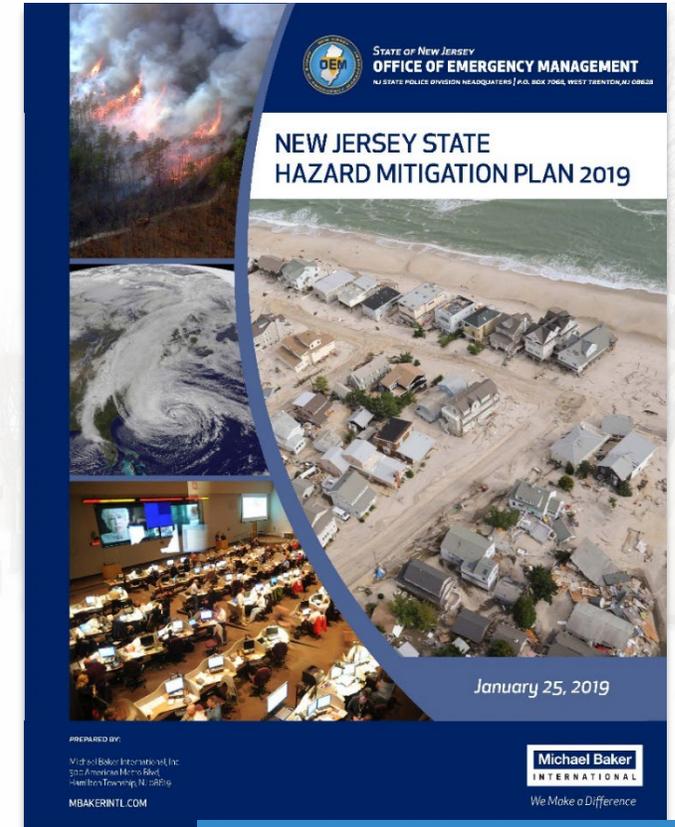
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Hazard Mitigation Overview

New Jersey State Hazard Mitigation: Goals

1. **Protect life**
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3. **Increase public preparedness and awareness**
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5. **Enhance State and local mitigation capabilities to reduce hazard vulnerabilities**
6. **Support continuity of operations pre-, during, and post-hazard events**
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Hazard Mitigation Overview

New Jersey State Hazard Mitigation: Hazards Profiled

Natural Hazards

Coastal Erosion (including enhanced discussion of beach protection)

Dam/Levee Failure

Drought

Earthquakes

Extreme Temperature

Flood (*riverine, coastal, storm surge, nuisance flooding caused by sea-level rise, and stormwater flooding caused by local drainage and high groundwater levels*)

Geological Hazards (*landslide subsidence/sinkholes, radon exposure, and saltwater intrusion*)

Hurricanes, Nor'easters, Tropical Storms (*wind only. Including enhanced discussion of power failure from hurricane winds*)

Severe Weather (*high winds, tornadoes, thunderstorms, and hail including enhanced discussion of power failure from high winds/tornados*)

Severe Winter Weather (*snow, blizzards, and ice storms. Including enhanced discussion of power failure from severe winter weather*)

Wildfire

Human-Caused Hazards

Animal Disease

Civil Unrest

Cyber Attack

Crop Failure

Economic Collapse

Fishing Failure

Harmful Algal Blooms (*HABs*)

Hazardous Substances (*fixed sites, in-transit, offshore*)

Nuclear Hazards

Pandemic (*COVID-19 and influenza*)

Terrorism

Risk Assessment

- **Three-Tiered Risk Assessment**

- Built Environment
- Population and Economy
- Natural Environment

- **Change in Approach with Assets**

- Previous plan focused on state-owned assets using LBAM data
- This plan update includes state-owned assets and other public and privately-owned assets
- Consistent with FEMA's updated policy
- Based on seven FEMA's community lifelines and NJHAZ Adapt

FEMA's Community Lifelines



Risk Assessment

• Vulnerability Assessment

- Used FEMA HAZUS-MH v. 6.0 software to perform probabilistic analyses to estimate losses (mean return period losses) for the *earthquake, flood, and wind* hazards
- Used geospatial data to analyze which assets are exposed to hazards with defined boundaries and scenarios for the following hazards:
 - Flood (see callout box)
 - Geological Hazards (landslide) – NJGWS Soil, Liquefaction and Landslide Susceptibility in New Jersey
 - Severe Weather (tornadoes) – density per 25 square miles of probable tornado touchdowns based on historic touchdown points *Source: NOAA*
 - Wildfire – wildfire hazard potential. *Source: Northeast-Midwest Wildfire Risk Assessment Portal*
 - Nuclear Hazards – 10-mile plume exposure zone and 50-mile ingestion exposure zone *Source: NJGIN*

- Special Flood Hazard Area (SFHA) – also known as the FEMA 1% annual chance (100-Year) flood scenario. Includes the most current FEMA-defined flood zones. *Source: FEMA*
- SFHA plus 3 feet - the extent of flooding if 3 feet were added above the water level of the current FEMA-defined flood zones. *Source: Rutgers University*
- Coastal Base Flood Elevation (BFE) plus 5 feet - also known as the tidal climate adjusted flood elevation for New Jersey. An approximate delineation resulting from an additional 5-foot flood water height added to the FEMA coastal SFHA. *Source: DEP*
- Sea-Level Rise (SLR) plus 2, 3, and 5 feet - potential sea level rise inundation above current Mean Higher High Water (MHHW). Three scenarios include 2 feet above MHHW, 3 feet above MHHW, and 5 feet above MHHW. *Source: Rutgers University*
- Storm Surge (Categories 1-4) - estimated storm surge heights resulting from historical, hypothetical, or predicted Category 1, Category 2, Category 3, and Category 4 hurricanes. *Source: NOAA*

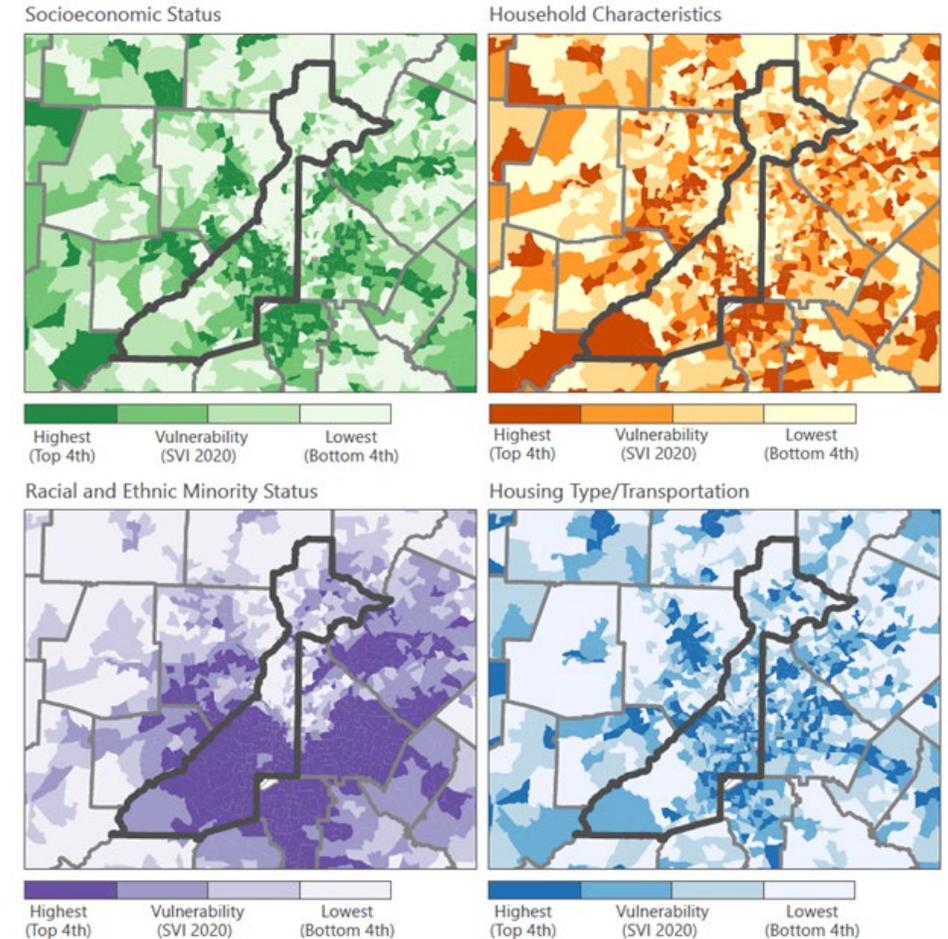
Risk Assessment

- **Vulnerability Assessment**

Asset types exposed to hazards with defined boundaries and scenarios:

- Communications Infrastructure
- Cultural Assets
- Energy Infrastructure
- Financial Institutions
- Food/Shelter Facilities
- HAZMAT Sites
- Health and Medical Facilities
- Safety and Security Facilities
- Transportation Infrastructure
- State-Owned and Leased Facilities
- General Building Stock
- Vulnerable Populations
- Natural Resources

CDC/ATSDR SVI Themes



Vulnerable populations were identified using the CDC Social Vulnerability Index, DEP Overburdened Communities under the New Jersey Environmental Justice Law, and the White House Climate and Economic Justice Screening Tool

Risk Assessment Findings

Natural Resources

Resource Type	Hazard Scenario(s)
<p>Beaches and Dunes <i>Source: DEP</i></p>	<ul style="list-style-type: none"> • FEMA 1% Annual Chance Flood Zone or Special Flood Hazard Area (SFHA) • SFHA + 3-feet • Sea Level Rise (SLR) of 2 feet • SLR of 3 feet • SLR 5 feet • Coastal Base Flood Elevation (BFE) + 5 feet • Storm Surge (Categories 1-4)
<p>Forest Dieback <i>Source: Rutgers</i></p>	<ul style="list-style-type: none"> • SLR 1 through 6 feet
<p>Marsh Retreat <i>Source: Rutgers</i></p>	<ul style="list-style-type: none"> • SLR 1-foot • SLR 2-foot • SLR 3-foot

Natural Resources

Beaches/Dunes – Flooding Impacts

Flood Hazard	Acres Impacted
SFHA	11,593
Storm Surge Category 1	5,869
Storm Surge Category 2	7,152
Storm Surge Category 3	7,840
Storm Surge Category 4	8,208
SLR 2 feet	3,653
SLR 3 feet	5,013
SLR 5 feet	5,690
SFHA + 3 feet	16,497
Coastal BFE + 5 feet	8,552

Natural Resources

Wetland Impacts

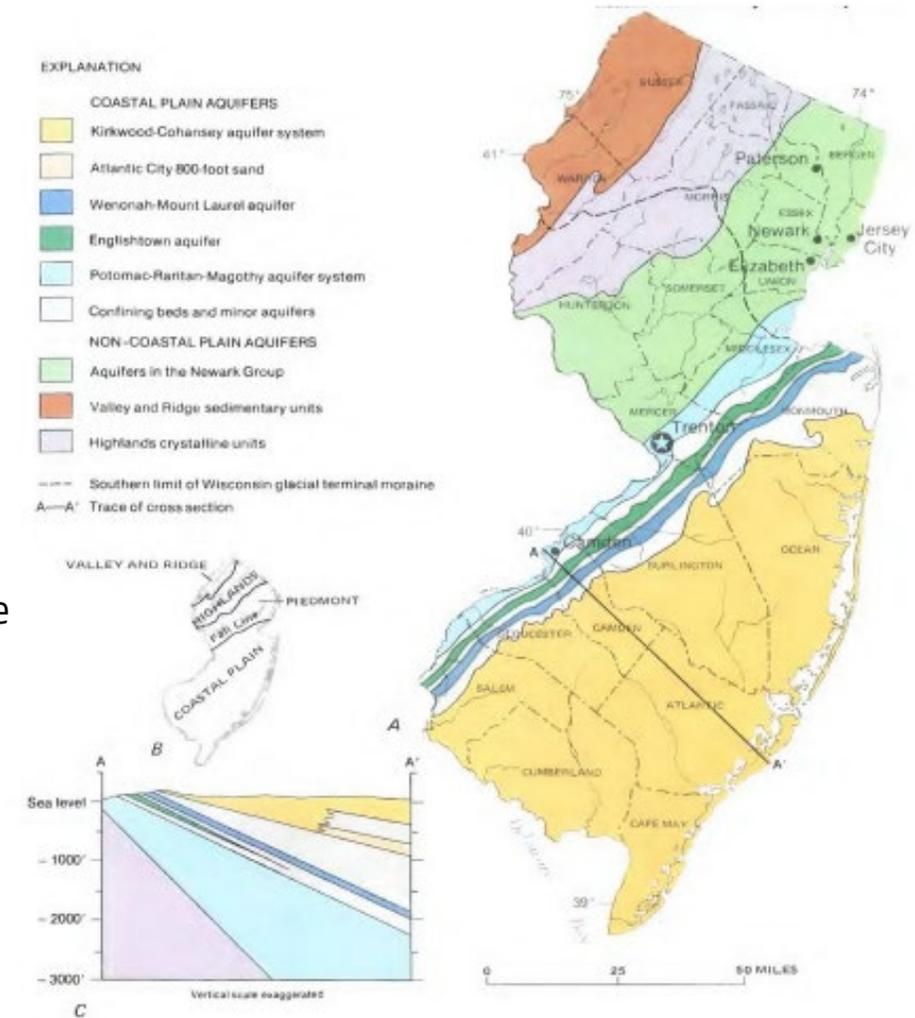
- Freshwater wetlands may be lost due to inundation with saltwater.
- Some New Jersey tidal wetlands may not gain elevation at a rate that equals the rate of sea-level rise and thus some are expected to be lost to increased rates of sea-level rise.
- Increased flooding and salinity are projected to lead to a loss of 92% of brackish marshes, 32% of tidal swamps, and 6% of tidal fresh marshes in the Delaware Estuary by 2100.

Source: NJDEP, NJ Scientific Report on Climate Change

Natural Resources

Aquifer Impacts

- Increased sea levels may also threaten coastal groundwater quality as the interface between fresh groundwater and saline groundwater will likely move inland, posing a specific threat to the Kirkwood-Cohansey Aquifer (Fiore et al. 2018).
- Climate change is anticipated to influence the volume of groundwater by lengthening the growing season thus growing the demand for irrigation.
- Potential for contamination from the mobilization of microbial pathogens, pesticides, and fertilizers rich in nitrogen and phosphorus from agricultural fields (Hamilton and Helsel 1995, USGS 2012) following heavy rains.
- Increased periods of wet and dry conditions, have the potential to influence the release and mobilization of contaminants, including arsenic (Bondu et al. 2016, Levitt et al. 2019) in the bedrock region of the state.
- Reductions to groundwater recharge, due to increased rates of evapotranspiration or drought conditions, can greatly influence surface water flows since a significant proportion of baseflow can come from groundwater discharging to the stream. In New Jersey, this a particular concern especially in the Pinelands region where groundwater can constitute over 80% of annual flows (Rhodehamel 1998).



Natural Resources

Forest Impacts

Major Forests/ Regions

- NJ Highlands Region – Over half of the region is forested. The region is a source of water for 70% of the state
- NJ Pinelands region – (Contains the Wharton, Brendan T. Byrne, Penn, and Bass River state forests).
- Stokes State Forest
- Delaware Water Gap National Recreation Area
- Worthington State Forest

Potential Threats to Forests

- Wildfire seasons could be lengthened, and the frequency of large fires increased due to the hot, dry periods that will result from increased temperatures.
- A warmer climate allows insect pests to mature faster, achieve more generations per year, and move into new habitats that no longer have a winter season cold enough to be lethal. The effect of warming on native insect species is expected to be even more dramatic as these species will disperse into forests that have not before experienced the pressure of these pests (Olatinwo et al. 2014).

Source: NJDEP, NJ Scientific Report on Climate Change

Natural Resources

Agriculture Impacts

- Changes in temperature, precipitation, carbon dioxide (CO₂) concentrations, and amount of water that is available change the productivity of crops and livestock and their exposure to insects, disease, and weeds.
- Rising temperatures will lengthen the growing season leading to greater stress on water sources.
- There may be some economic gains from a longer growing season, however, as temperatures continue to rise above the optimal conditions of even the heat-tolerant crop varieties, those gains will be lost (NJ Climate Adaptation Alliance 2014).
- New Jersey may become unsuitable for specialty crops like blueberries and cranberries in the future as higher temperatures reduce necessary winter-chills.
- Insects and pathogens are also both expected to expand their ranges northward as temperatures continue to rise.

Source: NJDEP, NJ Scientific Report on Climate Change

Natural Resources

Shellfish Impacts

- New Jersey is at increased risk to the effects of ocean acidification due to its economic dependence on shellfish harvests and vulnerability to discharge from rivers (NRDC 2015).
- Freshwater inputs from poorly buffered rivers include but are not limited to the Delaware and coastal drainages of the Pinelands region.
- In the United States, southern New Jersey Counties rank second in economic dependence on shelled mollusks.
- Ocean acidification creates reduced calcifying conditions which inhibits bivalves, crabs, and other shellfish from depositing shells and alters the success of hatching and physiological development.

Source: NJDEP, NJ Scientific Report on Climate Change

Natural Resources

Impacts from Drought and Heat on Other Natural Assets

- Freshwater fish, like brook trout, that need cold-water habitats are expected to lose habitat as water temperatures increase due to climate change.
- Reptiles with temperature-dependent sex determination could experience changes in sex ratios as New Jersey temperatures increase.
- Increased drought frequency and intensity will decrease the availability of vernal ponds.
- As temperatures increase, environmental conditions in New Jersey estuaries may improve for invasive species like the clinging jellyfish.

Source: NJDEP, NJ Scientific Report on Climate Change

Cultural Resources

Asset Type	Hazard Scenarios
State-Owned Facilities <i>Source: LBAM</i>	<ul style="list-style-type: none">• SFHA• SFHA + 3 feet• SLR 2 feet• SLR 3 feet• SLR 5 feet• Coastal BFE + 5 feet• Storm Surge Categories 1-4• Tornado Risk Areas• Landslide Class C Hazard Areas• Nuclear (10 and 50-mile buffer zone)• Wildfire
Non-State-Owned Facilities	
<ul style="list-style-type: none">• Places of Worship <i>Source: HIFLD</i>• Fairgrounds and Convention Centers <i>Source: HIFLD</i>• Major Sport Venues <i>Source: HIFLD</i>• Historic Properties <i>Source: DEP</i>• Scenic Byways <i>Source DOT</i>	

Cultural Resources Key Findings

Non-State-Owned Cultural Assets: Inland Flood

- **13% of assets in SFHA**
 - 389 Places of Worship
 - 12 Convention Centers/Fairgrounds
 - 4 Major Sports Venues
 - 18,413 Historic Properties

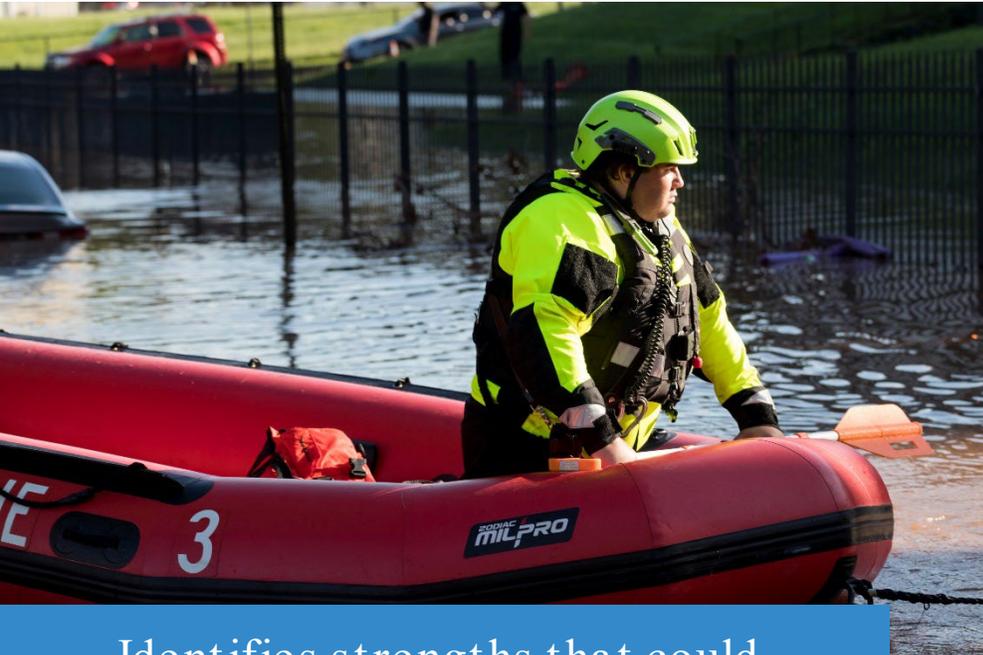
- **22% of assets in SFHA +3 (74% increase)**
 - 501 Places of Worship
 - 6 Convention Centers/Fairgrounds
 - 1 Major Sports Venue
 - 13,359 Historic Properties

Cultural Resources Key Findings

State-Owned Cultural Assets

- **SFHA**
 - 66 facilities (2 Critical – Liberty Park CRRNJ Terminal, Wharton Forest Old Nature House)
- **SFHA +3**
 - 16 additional facilities (No critical)
- **SLR 2 ft**
 - 41 facilities (1 Critical – Wharton Forest Old Nature House)

Capability Assessment



Identifies strengths that could reduce losses and reduce risks in the community

- Identification of pre- and post-disaster capabilities in New Jersey at the federal, state, and local levels including:
 - Regulations and requirements
 - Plans
 - Programs
 - Staffing/technical resources
 - Funding
- Review of local hazard mitigation plans and programs
- Emerging Capabilities
- New areas of focus include planning for climate change impacts and addressing social equity in mitigation planning

Mitigation Strategy

- Mitigation Workshops will be held in May/June
- Highlight success stories
- Past accomplishments, current efforts, and proposed strategies will be included in the Mitigation Strategies section
- Actions that will support pre- and post-disaster mitigation can include:
 - Plans and Regulations
 - Structure and Infrastructure projects
 - Natural Systems Protection projects
 - Education and Awareness programs



Identifying Problems and Solutions

- **Problem identification and description**

- Describe the challenge/obstacle/impact
- Which hazard(s) cause this problem?
- Where is the problem occurring?
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- Have there been past impacts?
- How frequently does the problem occur?

- **Solution identification and description**

- What are the options to solve or mitigate the problem?
- Who is responsible for what aspects of the project?

Name/Agency:

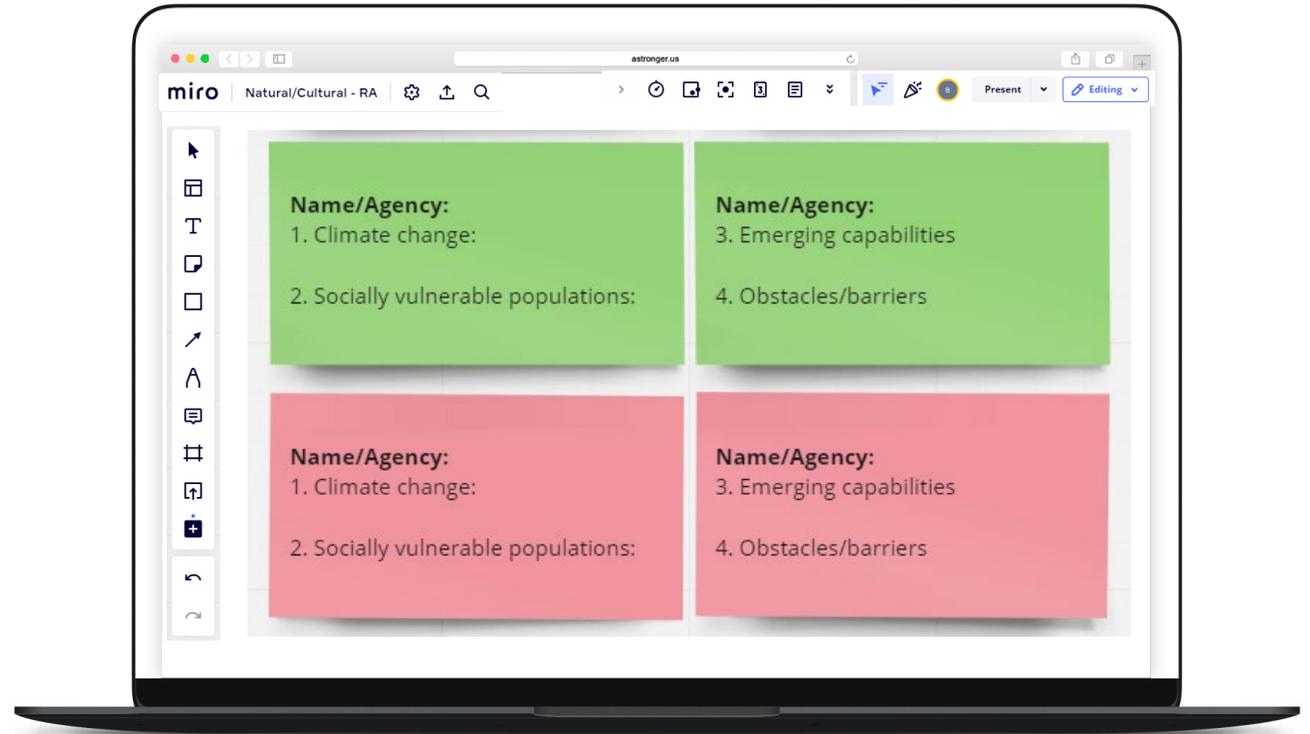
- 1. Problem:
- 2. Problem:
- 3. Problem:

Name/Agency:

- 1. Solution:
- 2. Solution:
- 3. Solution:

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- Find the sticky note with your name and agency, double click on the note, and use your cursor to type responses.
- Add additional sticky notes as needed, but always identify your name and agency



State Hazard Mitigation Plan

Natural and Cultural Resources Virtual Stakeholder Workshop

Date: **April 20, 2023**

Time: **10am – 12pm**

Location: **Zoom**

Attendees

Name	Organization
Donna Rendeiro	Department of State (Office for Planning Advocacy)
Cheryl Rezendes	NJ Sports and Exposition Authority
Sujatha Girija	PSE&G Emergency Preparedness Team
Amy Verbofsky	Delaware Valley Regional Planning Commission (DVRPC)
Kate Marcopul	New Jersey Historic Preservation Office
Larry Fink	Department of Environmental Protection
Martha Sapp	Department of Environmental Protection
Chris Testa	Office of Emergency Management
Carrie Martin	Michael Baker International
Jessica Jahre	Michael Baker International
Jennifer Gutierrez	Michael Baker International
Alison Mikiman	Tetra Tech
Chris Huch	Tetra Tech
Jessica Stokes	Tetra Tech

1. Introductions

2. Hazard Mitigation Overview

- Michael Baker International described the purpose of the HMP and the new FEMA requirements based on the State Mitigation Planning Policy Guide (Effective April 19, 2023).
- Michael Baker International described the goals and the hazards profiled in the 2024 HMP update.

3. Project Schedule

- Michael Baker International described the project schedule, with State Adoption and FEMA Approval in April 2024.

4. Planning Process

5. Risk Assessment

- Michael Baker International explained the three-tiered approach to the risk assessment and the change in approach with assets.
- Michael Baker International explained the geospatial data and methods that were used in the risk assessment.

6. Risk Assessment Findings

- Michael Baker International gave an overview of the risk assessment findings for the beaches and dunes impacted by flooding, wetland impacts, aquifer impacts, forest impacts, and agriculture impacts.
 - Explained that this is the first time that the risk assessment has grappled with impacts to natural resources due to hazards and the anthropogenic focus of the plan.
- Explained the impacts from drought and heat on other natural assets.
- Asked attendees to connect the project team with additional contacts.
- Explained cultural resources key findings:
 - Noted a 74% increase across all assets with SFHA +3
- State-owned cultural assets at risk include:
 - Liberty Park Terminal, Wharton Forest Old Nature House impacted by SFHA
 - Wharton Forest Old Nature House impacted by SLR +2

7. Capability Assessment

- Tetra Tech explained that the capability assessment includes the identification of pre- and post-disaster capabilities in NJ, a review of local HMPs, and emerging capabilities; new requirements

8. Mitigation Strategy

- Mitigation workshops will be held in May/June.
- Strategy will highlight success stories, past accomplishments, current efforts, and proposed strategies.
- Actions that will support pre- and post-disaster mitigation can include plans and regulations, structure and infrastructure projects, natural systems protection projects, education and awareness programs.

9. Identifying Problems and Solutions

- Tetra Tech explained how the project team is defining problem identification and solution identification.

10. Miro Board Exercise #1 - Capability Assessment

- **How is your agency integrating climate change into your decision making?**
 - DVRPC has convened a Climate Adaptation Forum and created Transportation Improvement Program (TIP) evaluation criteria related to climate change.
 - The agency anticipates future federal transportation dollars will be released specifically to combat climate change.
 - Funding for climate change project is available via the Infrastructure Investment and Jobs Act.
 - Office of Emergency Management noted that agencies can identify potential capabilities.
 - Department of Environmental Protection - Green Acres Program provides funding for park development. They also have a lot of questions about what municipalities can or cannot do for flood management.

- Green Acres Program is broadening their rules add things that watershed benefits but at the same time does not reduce the amount of parkland available for public recreation.
 - Office of Planning Advocacy noted that education on statewide assets at risk is the first step.
 - Green Acres Program made projects ineligible for funding if they remove mature trees to combat Urban Heat Island Effect.
- **How is your agency advancing equitable outcomes for socially vulnerable populations that face hazard risk?**
 - DVRPC noted that projects using federal transportation funds have to follow the Civil Rights Act.
 - DVRPC have mapped social components of equity for the region.
 - The agency focuses staff time and resource on communities that may not have resources in house.
 - The agency has obtained trail funding for communities, and equity plays into where transportation funding is allocated.
 - Historic Preservation Office noted that New Jersey has both state-recognized tribes and that there are tribal nations that have ancestral ties to New Jersey.
 - She understands that those folks have concerns about archeological sites and landscapes with cultural significance in New Jersey.
 - Historic Preservation Office has expanded outreach to tribal nations to make sure they are taken into account.
- **What obstacles/challenges have you encountered that have kept your organization/agency from advancing hazard risk reduction further?**
 - Green Acres Program noted that New Jersey has had an ongoing issue with people who live in floodprone communities selling homes to unwary buyers.
 - The new New Jersey real estate disclosure requirement helps address this.
 - The disclosure request helps with the floodplain buyout program because it helps the Green Acres program identify homeowners who have experienced a flood event and let them know about the buyout program.
 - The property will then be demolished and removed and converted to natural floodplain.
 - Historic Preservation Office recognizes a data gap
 - Tribal nations don't want us to include data because they want to maintain confidentiality.
 - It's difficult to consider tribal assets in resilience planning while maintaining confidentiality.
 - Many communities in the Delaware Valley region are first ring suburbs without have a lot of room for growth.
 - These communities want to have waterfront development for tax dollars.
 - Office of Planning Advocacy noted the need to distinguish between new development and redevelopment.

- There is a need to work with communities to create more resilient redevelopment.
- In areas with aging buildings, the State should determine how to work with them to redevelop with good mitigation practices.
- Green Acres Program noted that there are historically contaminated sites throughout the state.
 - Municipalities have to find areas of concern and Green Acres will hold funding until the land is cleaned. This is a greater problem in the cities.
 - Overburdened communities have so many more stressors and try to mitigate with urban greening, but this is hard because of their industrial past.
- Green Acres Program also wonders if they should continue to fund boat ramps; while waterfront parks are the most enjoyed recreation areas, this forces applicants to conduct future planning. We can't stop improving even though we know what's going to happen.
- Donna – in that same vein, what we created is working waterfront nodes; if you have a business

11. Miro Board Exercise #2 - Mitigation Strategy

- Amy – a lot of municipalities have a lot to juggle; hard to have people with many different hats thinking about longer term issues
- Kate- DVRPC has engineers on staff that help with trails in PA but funded by PennDOT so can't do it on the NJ side; to have staff here and help NJ municipalities would be helpful
- Donna – there should be funding source...maybe done at the county level where they look at mitigation and resilience plan...different types of requirements, flexibility; so many different scenarios out there that don't fit funding opportunities
- Kate – many an overarching problem is a lack of staff capacity; don't think im alone in thinking that agencies have their own responsibilities and doesn't include hazard planning and resilience that need more than part time staff – get full time staff to handle issues (lack of capacity on state level)
- Donna – reporting requirements can take a full person, let alone the implementing of project
- Martha – educating applicants – would be great to go to cities and help; want to do it but don't have capacity
- Larry – most of my comments have focused on flooding; I used to work with highlands (warren, Sussex) – frustrated that we don't have staff capacity to reach out to homeowners and go prospecting for land acquisition and preservation; always looking for aquifer recharge areas, groundwater protection – cookie cutter/piecemeal but we really want contiguous land and greenways



F.4-C STAKEHOLDER WORKSHOP – HOUSING & SOCIAL SERVICES (4/24/2023)



New Jersey State Hazard Mitigation Plan Virtual Stakeholder Workshop



Housing & Social Services

April 24, 2023 | 1:00 pm – 3:00pm

Michael Baker
INTERNATIONAL



Workshop Agenda

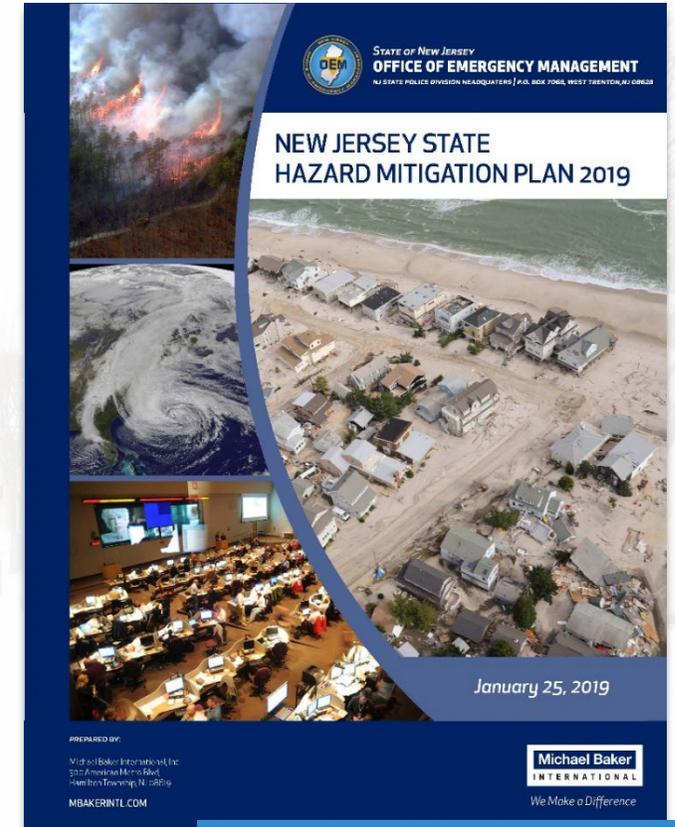
- Introduction
- Hazard Mitigation Overview
- Project Schedule
- Planning Process
- Risk Assessment
- Capability Assessment
- Mitigation Strategy



Hazard Mitigation Overview

Overview

- **What is Hazard Mitigation?**
 - Hazard mitigation is the effort to reduce loss of life and property by lessening the impact of disasters.
- **What is a Hazard Mitigation Plan?**
 - State, tribal, and local governments engage in hazard mitigation planning to **identify risks and vulnerabilities** associated with natural disasters and **develop long-term strategies** for protecting people and property from future hazard events.
 - Required by FEMA to receive funding
 - Updated every five years



Last New Jersey State HMP
was in 2019

Hazard Mitigation Overview

New FEMA Requirements

- **Equity and climate change impacts**
- **Outreach to a wider range of stakeholders**
 - Community lifelines
 - Climate change experts
 - Groups that support underserved communities
- **Capability Assessment must discuss**
 - Building code adoption and enforcement
 - Land use
 - National Flood Insurance Program administration
 - Flood risk mapping
- **Must link mitigation strategy to High Hazard Potential Dams and Fire Management Assistance Grants program**



**State Mitigation Planning
Policy Guide**

FP 302-094-2
Released April 19, 2022, Effective April 19, 2023
OMB Collection #1660-0062

 **FEMA**

New FEMA Guidance is effective
April 19, 2023

Project Schedule



Virtual Stakeholder Workshops
Through May 2023



Coordination with State Agencies
Through June 2023



Draft Plan to NJOEM
August 2023



Draft Plan to FEMA
October 2023



Final Plan Submission to OEM/ NJ
January 2024



State Adoption and FEMA Approval
April 2024



Hazard Mitigation Overview

New Jersey State Hazard Mitigation: Goals

1. **Protect life**
2. **Protect property**
3. **Increase public preparedness and awareness**
4. **Develop and maintain an understanding of increased risk from climate change**
5. **Enhance State and local mitigation capabilities to reduce hazard vulnerabilities**
6. **Support continuity of operations pre-, during, and post-hazard events**
7. **Reduce the risk of natural hazards for socially vulnerable populations and underserved communities**

Hazard Mitigation Overview

New Jersey State Hazard Mitigation: Hazards Profiled

Natural Hazards

Coastal Erosion (including enhanced discussion of beach protection)

Dam/Levee Failure

Drought

Earthquakes

Extreme Temperature

Flood (*riverine, coastal, storm surge, nuisance flooding caused by sea-level rise, and stormwater flooding caused by local drainage and high groundwater levels*)

Geological Hazards (*landslide subsidence/sinkholes, radon exposure, and saltwater intrusion*)

Hurricanes, Nor'easters, Tropical Storms (*wind only. Including enhanced discussion of power failure from hurricane winds*)

Severe Weather (*high winds, tornadoes, thunderstorms, and hail including enhanced discussion of power failure from high winds/tornados*)

Severe Winter Weather (*snow, blizzards, and ice storms. Including enhanced discussion of power failure from severe winter weather*)

Wildfire

Human-Caused Hazards

Animal Disease

Civil Unrest

Cyber Attack

Crop Failure

Economic Collapse

Fishing Failure

Harmful Algal Blooms (*HABs*)

Hazardous Substances (*fixed sites, in-transit, offshore*)

Nuclear Hazards

Pandemic (*COVID-19 and influenza*)

Terrorism

Risk Assessment

- **Three-Tiered Risk Assessment**

- Built Environment
- Population and Economy
- Natural Environment

- **Change in Approach with Assets**

- Previous plan focused on state-owned assets using LBAM data
- This plan update includes state-owned assets and other public and privately-owned assets
- Consistent with FEMA's updated policy
- Based on seven FEMA's community lifelines and NJHAZ Adapt

FEMA's Community Lifelines



Risk Assessment

• Vulnerability Assessment

- Used FEMA HAZUS-MH v. 6.0 software to perform probabilistic analyses to estimate losses (mean return period losses) for the earthquake, flood, and wind hazards
- Used geospatial data to analyze which assets are exposed to hazards with defined boundaries and scenarios for the following hazards:
 - **Flood (see callout box)**
 - **Geological Hazards (landslide)** – NJGWS Soil, Liquefaction and Landslide Susceptibility in New Jersey
 - **Severe Weather (tornadoes)** – density per 25 square miles of probable tornado touchdowns based on historic touchdown points *Source: NOAA*
 - **Wildfire** – wildfire hazard potential. *Source: Northeast-Midwest Wildfire Risk Assessment Portal*
 - **Nuclear Hazards** – 10-mile plume exposure zone and 50-mile ingestion exposure zone *Source: NJGIN*

- **Special Flood Hazard Area (SFHA)** – also known as the FEMA 1% annual chance (100-Year) flood scenario. Includes the most current FEMA-defined flood zones. *Source: FEMA*
- **SFHA plus 3 feet**- the extent of flooding if 3 feet were added above the water level of the current FEMA-defined flood zones. *Source: Rutgers University*
- **Coastal Base Flood Elevation (BFE) plus 5 feet** - also known as the tidal climate adjusted flood elevation for New Jersey. An approximate delineation resulting from an additional 5-foot flood water height added to the FEMA coastal SFHA. *Source: DEP*
- **Sea-Level Rise (SLR) plus 2, 3, and 5 feet** - potential sea level rise inundation above current Mean Higher High Water (MHHW). Three scenarios include 2 feet above MHHW, 3 feet above MHHW, and 5 feet above MHHW. *Source: Rutgers University*
- **Storm Surge (Categories 1-4)** - estimated storm surge heights resulting from historical, hypothetical, or predicted Category 1, Category 2, Category 3, and Category 4 hurricanes. *Source: NOAA*

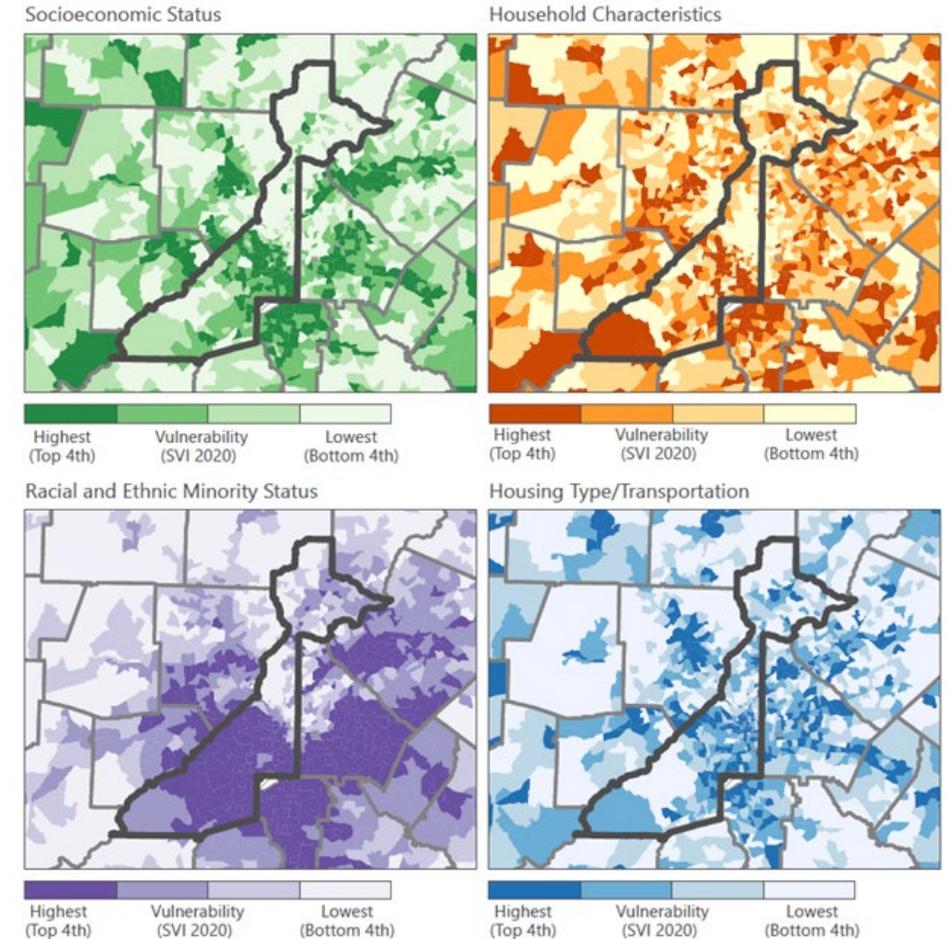
Risk Assessment

- **Vulnerability Assessment**

Asset types exposed to hazards with defined boundaries and scenarios:

- Communications Infrastructure
- Cultural Assets
- Energy Infrastructure
- Financial Institutions
- Food/Shelter Facilities
- HAZMAT Sites
- Health and Medical Facilities
- Safety and Security Facilities
- Transportation Infrastructure
- State-Owned and Leased Facilities
- General Building Stock
- Vulnerable Populations
- Natural Resources

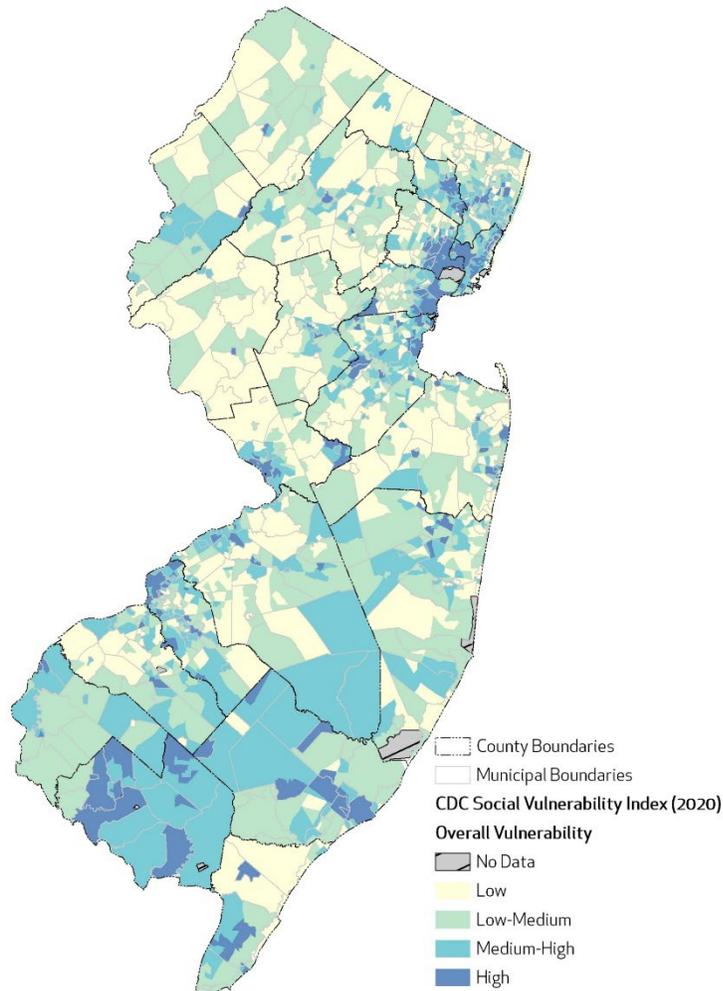
CDC/ATSDR SVI Themes



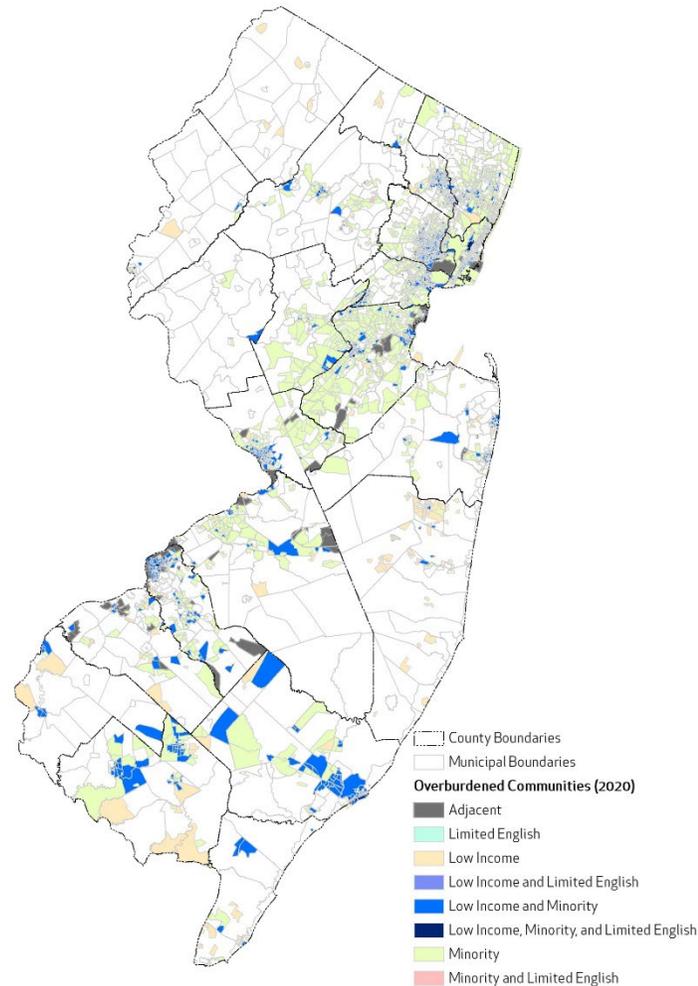
Vulnerable populations were identified using the CDC Social Vulnerability Index, DEP Overburdened Communities under the New Jersey Environmental Justice Law, and the White House Climate and Economic Justice Screening Tool

Socially-Vulnerable Populations

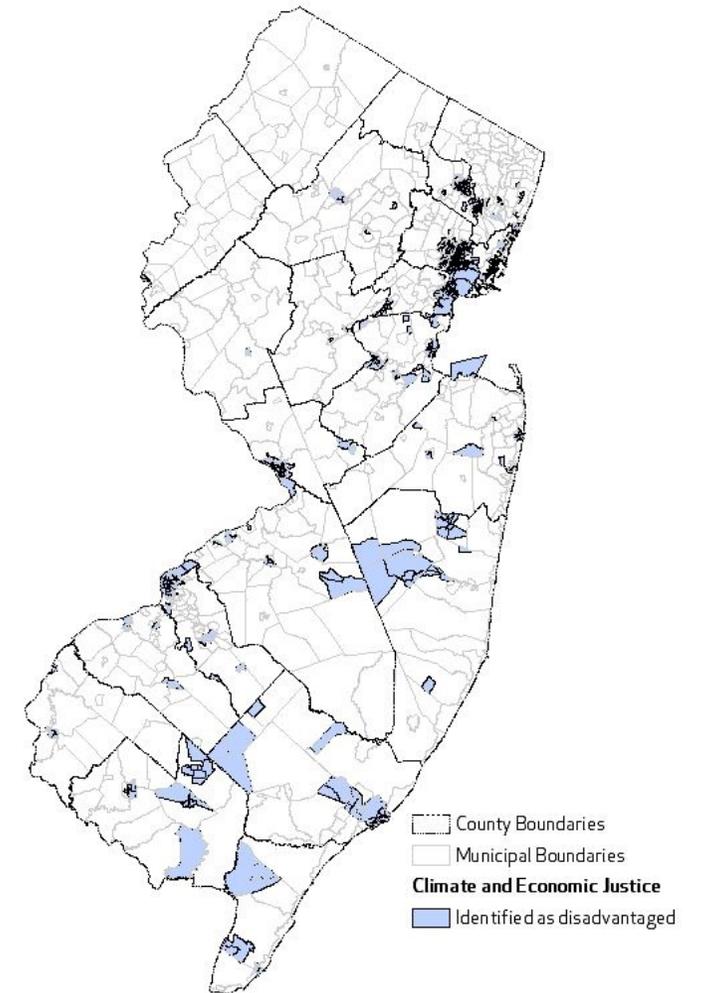
Centers for Disease Control and Prevention (CDC) Social Vulnerability Index (SVI) (2020)



Overburdened Communities under the New Jersey Environmental Justice Law (2020)



White House Climate and Economic Justice Screening Tool (CEJST) (2022)



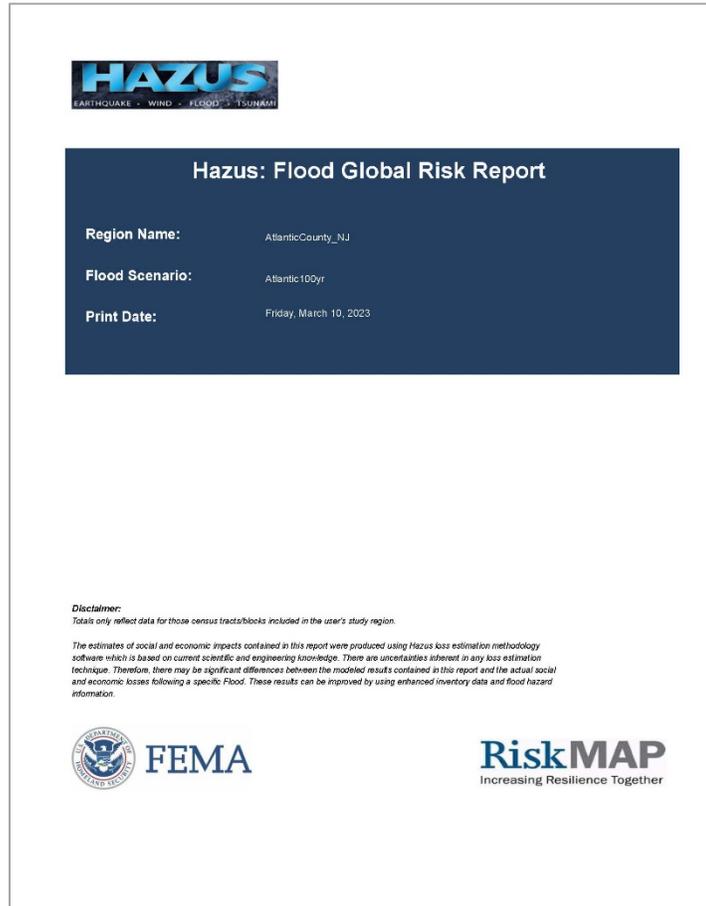
Risk Assessment Findings

Housing and Social Services: Assets

Asset Type	Hazard Scenarios
State-Owned Facilities <i>Source: LBAM</i>	<ul style="list-style-type: none">• SFHA• SFHA + 3 feet• SLR 2 feet• SLR 3 feet• SLR 5 feet
Non-State-Owned Facilities	
<ul style="list-style-type: none">• American Red Cross Chapter Facilities <i>Source: HIFLD</i>• National Shelter System Facilities <i>Source: HIFLD</i>• Public Housing <i>Source: HUD</i>	<ul style="list-style-type: none">• Coastal BFE + 5 feet• Storm Surge Categories 1-4• Tornado Risk Areas• Landslide Class C Hazard Areas• Nuclear (10 and 50-mile buffer zone)• Wildfire

Housing and Social Services: Key Findings

Replacement value of residential buildings at risk



Source: HAZUS

\$295,976,297,000

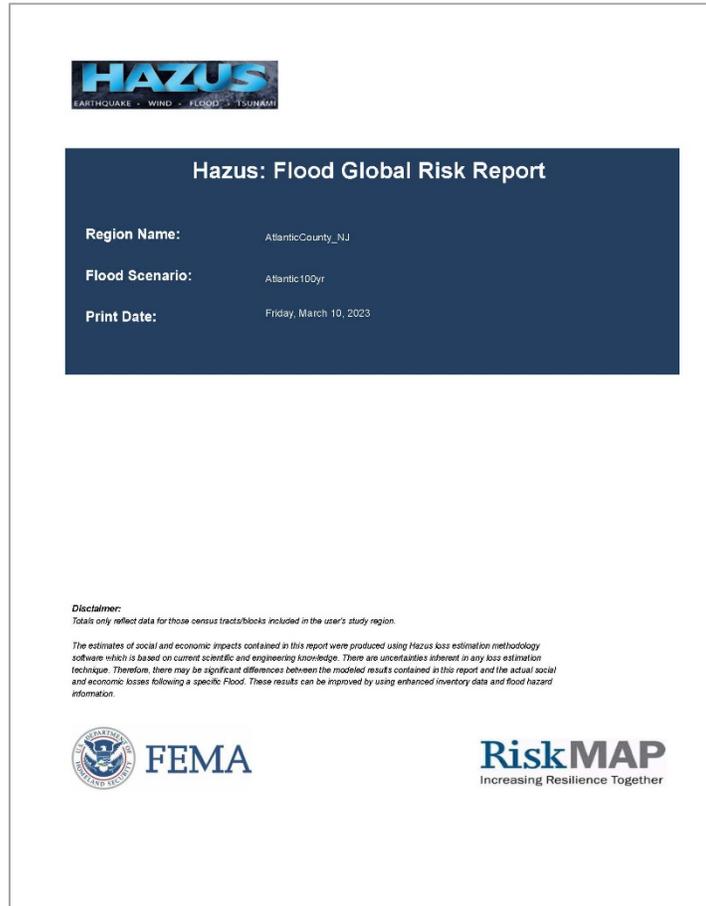
In the SFHA

\$67,745,420,000

Additional with SLR 2 ft

Housing and Social Services: Key Findings

Displaced population and shelter requirements



Source: HAZUS

- **People displaced**
 - 489,740 in the SFHA
 - 46,463 additional with SLR 2 ft
- **People requiring temporary public shelter**
 - 49,538 in the SFHA
 - 9,681 additional with SLR 2 ft

Housing and Social Services: Key Findings

Non-State-Owned Housing and Social Services Assets

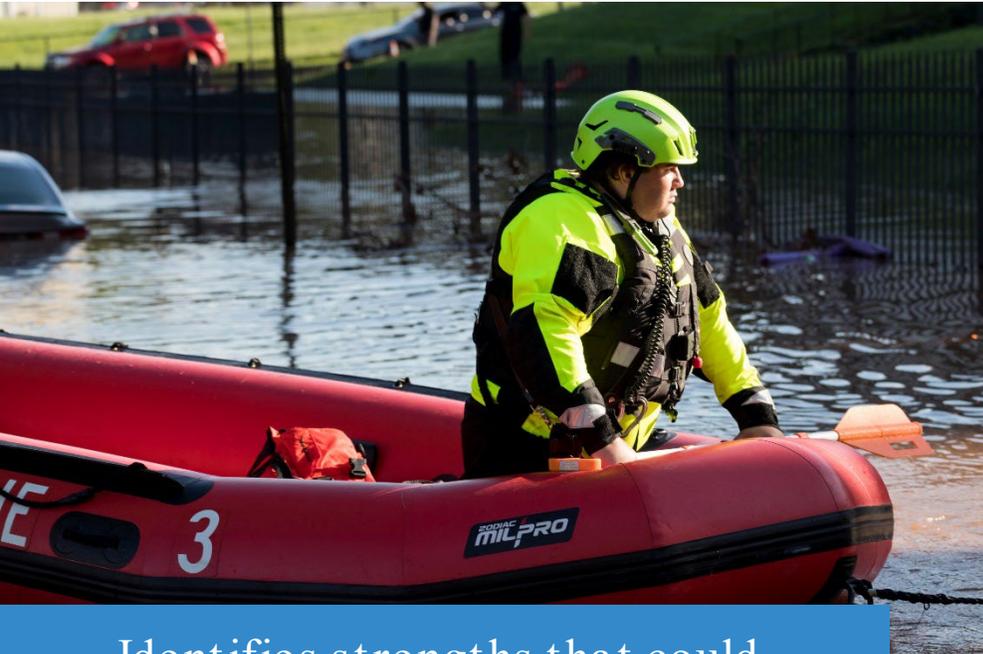
- 1 American Red Cross Chapter facility in the SFHA (Salem County Chapter)
- 156 National Shelter System Facilities in the SFHA
 - Atlantic City (Atlantic) has the largest number of facilities in the SFHA (8)
 - Bergen County has the largest number of facilities in the SFHA by county (15)
- 392 out of 3,011 (13%) of public housing buildings in NJ are within the SFHA
 - 100% of public housing is in the SFHA in the following municipalities:
 - Atlantic City (Atlantic)
 - Burlington (Burlington)
 - Dover (Morris)
 - Hoboken (Hudson)
 - Ocean City (Cape May)
 - South Amboy (Middlesex)
 - Wildwood (Cape May)
 - Atlantic City has the largest number of buildings in the SFHA (187 buildings)

Housing and Social Services: Key Findings

State-Owned Housing and Social Services Assets

- SFHA
 - 1 regional day school
 - 1 convalescent hospital
 - Other
 - 57 cabins and cottages (guest cottages) in State-owned preserved land
 - 1 dormitory (residence hall) at a Wildlife Management Area
 - 60 single-family residences and guest houses in State-owned preserved land
- SFHA +3
 - 2 group care homes (special needs housing)
 - 4 additional regional day schools
 - Other
 - 9 additional cabins and cottages (guest cottages)
 - 1 additional dormitory (residence hall)
 - 9 additional single-family residences and guest houses

Capability Assessment



Identifies strengths that could reduce losses and reduce risks in the community

- Identification of pre- and post-disaster capabilities in New Jersey at the federal, state, and local levels including:
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 - Programs
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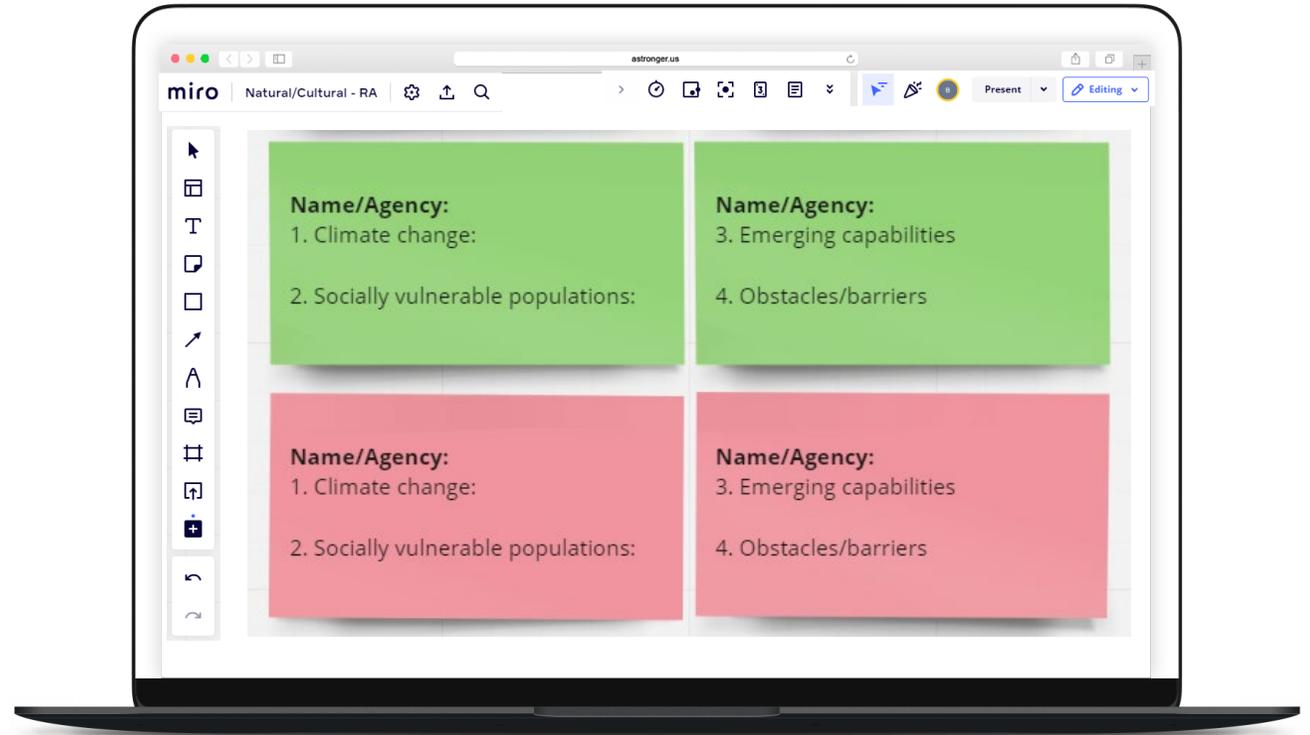
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State Hazard Mitigation Plan

Housing and Social Services Virtual Stakeholder Workshop

Date: April 24, 2023

Time: 1apm – 3pm

Location: Zoom

Attendees

Name	Organization
Carrie Martin	Michael Baker International
Jessica Jahre	Michael Baker International
Jennifer Gutierrez	Michael Baker International
Alison Mikiman	Tetra Tech
Chris Huch	Tetra Tech
Jessica Stokes	Tetra Tech
Bridget Neary	Monmouth County Division of Planning
Courtney Wald-Wittkop	Department of Environmental Protection (DEP)
Peter Bilton	North Jersey Transportation Planning Authority (NJTPA)
Taylor Waymire	South Jersey Transportation Planning Organization (SJTPO)
Donna Rendeiro	Department of State (Office for Planning Advocacy)
Ashlyn Spector	Rutgers University
Chris Testa	New Jersey Office of Emergency Management (NJOEM)
Luciana DiMaggio	Department of Community Affairs (DCA)

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- Michael Baker International explained the three-tiered approach to the risk assessment and the change in approach with assets.
- Michael Baker International explained the geospatial data and methods that were used in the risk assessment.

6. Risk Assessment Findings

- Michael Baker International gave an overview of the risk assessment findings for state owned facilities, American Red Cross Chapter Facilities...
- Looked at residential buildings
 - Significant value of housing within the SFHA in NJ
- People displaced and requiring temporary shelter in HAZUS
- 13% of public housing in NJ in SFHA
- State-owned assets
 - SFHA vs. SFHA+3
 - SFHA +3 looks at future vulnerability with more intense precipitation

7. Capability Assessment

- Tetra Tech explained that the capability assessment includes the identification of pre- and post-disaster capabilities in NJ, a review of local HMPs, and emerging capabilities; new requirements

8. Mitigation Strategy

- Mitigation workshops will be held in May/June.
- Strategy will highlight success stories, past accomplishments, current efforts, and proposed strategies.
- Actions that will support pre- and post-disaster mitigation can include plans and regulations, structure and infrastructure projects, natural systems protection projects, education and awareness programs.

9. Identifying Problems and Solutions

- Tetra Tech explained how the project team is defining problem identification and solution identification.

10. Miro Board Exercise #1 - Capability Assessment

- **How is your agency integrating climate change into your decision making?**
 - Courtney – ...there are clear points for properties that are at risk. Also giving ranking points to properties that fall within SLR and increased inland flood areas to capture future risk as well.
- **How is your agency advancing equitable outcomes for socially vulnerable populations that face hazard risk?**
 - Courtney – in sandy, we realized it was important that people had title to property, didn't address relocation. Assumed they wouldn't accept...not about getting clear title...in some locations it may be renting.. what is necessary so populations can relocate...limited English proficiency and age in buyout areas
 - Donna – there was a number of circumstances where alt housing was offered to displaced residents – if they were in NE NJ and alternative housing was in SW NJ...offering them chance to relocate closer, but there may not be enough housing...need enough to housing...issues in Elizabeth...one affordable housing area was devastated....property owner had other properties but couldn't relocate
 - Peter – many of orgs that provide transportation – funded through federal grants to NJT...to my knowledge, hazard response is not integrated into funding right now...its an emergency response...county worked with EasyRide for ongoing

need for transportation for displaced residents...the cost of transportation...needing to travel to alt housing and cost to agencies...continue to be a challenge

- **What new capabilities/programs/plans/policies have emerged to support hazard mitigation and risk reduction in the last five years?**
 - Donna – a lot has to do with towns who won't zone for workforce housing or affordable housing because they don't think its part of community character...when you talk about existing housing, its better to work with those groups...work on existing structures to make them less vulnerable...also work with ones that are already there to make them more resilience...if you chance, most local officials think density is a bad word...LU is in hands to local government, if we're talking about large-scale retreat, NJ is first state to run out of developable land...one of the things in State Plan is real vacant land analysis to see what's developable and what's developable with existing zoning...have to make sure there's a place to put these people. Don't think theres enough developable land and local interest
 - Donna – one could argue that the entire state is at risk, can't always be protected, knowing what's available inland...what do you do with the businesses
 - Courtney...
 - Donna - ...adding things like flood risk and why its important...

- **What obstacles/challenges have you encountered that have kept your organization/agency from advancing hazard risk reduction further?**

11. Miro Board Exercise #2 - Mitigation Strategy

- Courtney – ...if there's water nearby, might want flood insurance...be prepared for a rainy day...let's arm ourselves for flood insurance...one of the...Monmouth county did a good job letting people know about where the water was...in the back of our minds...it reminds people of what could be...some is general awareness of what could happen...maybe we need to think about how to market risk...people think risk is where...
- Donna – and that works for the coast, but it doesn't work for the inland communities that are now at risk
- Bridget - Love Courtney's idea about marketing and the visuals. We are discussing building on HWM signs and showing what used to be there through photos, projections, etc.
- Donna – one quick thing...the next sandy isn't gonna hit...everything is at risk because we don't know when the next event is going to hit
- Courtney – if I had a dollar if...young homeowners just wanted a house, came from other areas and didn't know, just wanted a yard, last owner never really indicate level of risk or exposure
- Donna-housing counseling – check your flood maps
- Jessica – as we were trying to build out COAH
 - Donna – when AH was taken to the courts, we lost planning and good planning...put Fair Share as the mediator...if muni makes agreement with Fiar Share, they are protected from builders' remedy...many of the parcels are in places where DEP will not permit..what you end up having is a list of units that can never get built...the problem is fair share expires in 2025 and no one really

knows what's gonna happen...would say it needs to come back to admin because courts don't know how to do lu planning...get them built

- Other problem is that many of the HUD/Section 8 bldgs have 30 year deed restrictions, have no central database of how many affordable units are in services atm (as opposed to approved/funded/etc.) don't know how many there are in vulnerable areas...massive effort to figure that out...need to know what's actually out there...conversations are being held at administration level – needs to be held



F.4-D STAKEHOLDER WORKSHOP - TRANSPORTATION (4/25/2023)



New Jersey State Hazard Mitigation Plan Virtual Stakeholder Workshop



Transportation

April 25, 2023 | 2:00 – 4:00pm

Michael Baker
INTERNATIONAL



Workshop Agenda

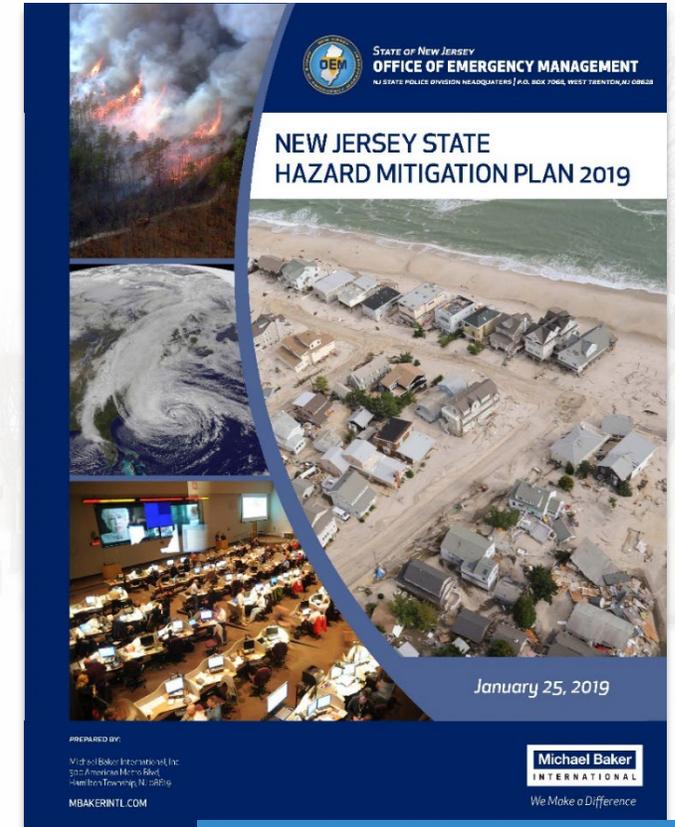
- Introduction
- Hazard Mitigation Overview
- Project Schedule
- Planning Process
- Risk Assessment
- Capability Assessment
- Mitigation Strategy



Hazard Mitigation Overview

Overview

- **What is Hazard Mitigation?**
 - Hazard mitigation is the effort to reduce loss of life and property by lessening the impact of disasters.
- **What is a Hazard Mitigation Plan?**
 - State, tribal, and local governments engage in hazard mitigation planning to identify risks and vulnerabilities associated with natural disasters and develop long-term strategies for protecting people and property from future hazard events.
 - Required by FEMA to receive funding
 - Updated every five years



Last New Jersey State HMP
was in 2019

Hazard Mitigation Overview

New FEMA Requirements

- **Equity and climate change impacts**
- **Outreach to a wider range of stakeholders**
 - Community lifelines
 - Climate change experts
 - Groups that support underserved communities
- **Capability Assessment must discuss**
 - Building code adoption and enforcement
 - Land use
 - National Flood Insurance Program administration
 - Flood risk mapping
- **Must link mitigation strategy to High Hazard Potential Dams and Fire Management Assistance Grants program**



**State Mitigation Planning
Policy Guide**

FP 302-094-2
Released April 19, 2022, Effective April 19, 2023
OMB Collection #1660-0062

 **FEMA**

New FEMA Guidance is effective
April 19, 2023

Project Schedule



Virtual Stakeholder Workshops
Through May 2023



Coordination with State Agencies
Through June 2023



Draft Plan to NJOEM
August 2023



Draft Plan to FEMA
October 2023



Final Plan Submission to OEM/ NJ
January 2024



State Adoption and FEMA Approval
April 2024



Hazard Mitigation Overview

New Jersey State Hazard Mitigation: Goals

1. **Protect life**
2. **Protect property**
3. **Increase public preparedness and awareness**
4. **Develop and maintain an understanding of increased risk from climate change**
5. **Enhance State and local mitigation capabilities to reduce hazard vulnerabilities**
6. **Support continuity of operations pre-, during, and post-hazard events**
7. **Reduce the risk of natural hazards for socially vulnerable populations and underserved communities**

Hazard Mitigation Overview

New Jersey State Hazard Mitigation: Hazards Profiled

Natural Hazards

Coastal Erosion (including enhanced discussion of beach protection)

Dam/Levee Failure

Drought

Earthquakes

Extreme Temperature

Flood (*riverine, coastal, storm surge, nuisance flooding caused by sea-level rise, and stormwater flooding caused by local drainage and high groundwater levels*)

Geological Hazards (*landslide subsidence/sinkholes, radon exposure, and saltwater intrusion*)

Hurricanes, Nor'easters, Tropical Storms (*wind only. Including enhanced discussion of power failure from hurricane winds*)

Severe Weather (*high winds, tornadoes, thunderstorms, and hail including enhanced discussion of power failure from high winds/tornados*)

Severe Winter Weather (*snow, blizzards, and ice storms. Including enhanced discussion of power failure from severe winter weather*)

Wildfire

Human-Caused Hazards

Animal Disease

Civil Unrest

Cyber Attack

Crop Failure

Economic Collapse

Fishing Failure

Harmful Algal Blooms (*HABs*)

Hazardous Substances (*fixed sites, in-transit, offshore*)

Nuclear Hazards

Pandemic (*COVID-19 and influenza*)

Terrorism

Risk Assessment

- **Three-Tiered Risk Assessment**

- Built Environment
- Population and Economy
- Natural Environment

- **Change in Approach with Assets**

- Previous plan focused on state-owned assets using LBAM data
- This plan update includes state-owned assets and other public and privately-owned assets
- Consistent with FEMA's updated policy
- Based on seven FEMA's community lifelines and NJHAZ Adapt

FEMA's Community Lifelines



Risk Assessment

• Vulnerability Assessment

- Used FEMA HAZUS-MH v. 6.0 software to perform probabilistic analyses to estimate losses (mean return period losses) for the *earthquake, flood, and wind* hazards
- Used geospatial data to analyze which assets are exposed to hazards with defined boundaries and scenarios for the following hazards:
 - Flood (see callout box)
 - Geological Hazards (landslide) – NJGWS Soil, Liquefaction and Landslide Susceptibility in New Jersey
 - Severe Weather (tornadoes) – density per 25 square miles of probable tornado touchdowns based on historic touchdown points *Source: NOAA*
 - Wildfire – wildfire hazard potential. *Source: Northeast-Midwest Wildfire Risk Assessment Portal*
 - Nuclear Hazards – 10-mile plume exposure zone and 50-mile ingestion exposure zone *Source: NJGIN*

- Special Flood Hazard Area (SFHA) – also known as the FEMA 1% annual chance (100-Year) flood scenario. Includes the most current FEMA-defined flood zones. *Source: FEMA*
- SFHA plus 3 feet - the extent of flooding if 3 feet were added above the water level of the current FEMA-defined flood zones. *Source: Rutgers University*
- Coastal Base Flood Elevation (BFE) plus 5 feet - also known as the tidal climate adjusted flood elevation for New Jersey. An approximate delineation resulting from an additional 5-foot flood water height added to the FEMA coastal SFHA. *Source: DEP*
- Sea-Level Rise (SLR) plus 2, 3, and 5 feet - potential sea level rise inundation above current Mean Higher High Water (MHHW). Three scenarios include 2 feet above MHHW, 3 feet above MHHW, and 5 feet above MHHW. *Source: Rutgers University*
- Storm Surge (Categories 1-4) - estimated storm surge heights resulting from historical, hypothetical, or predicted Category 1, Category 2, Category 3, and Category 4 hurricanes. *Source: NOAA*

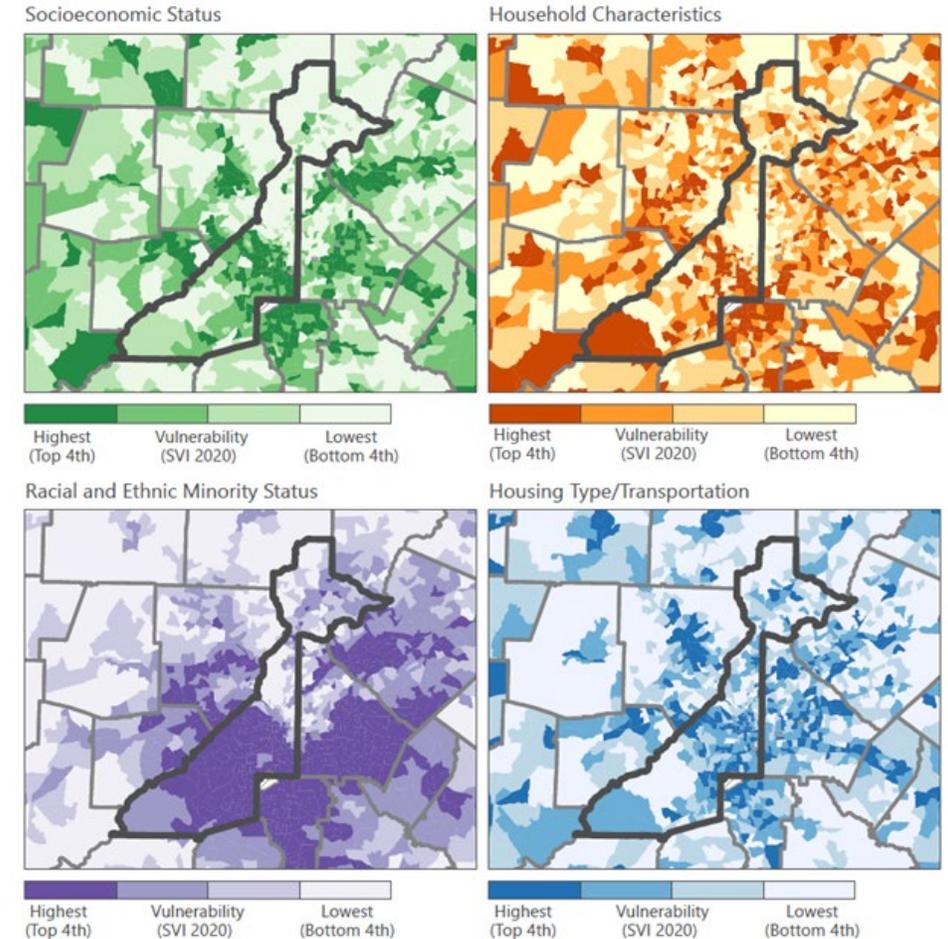
Risk Assessment

- **Vulnerability Assessment**

Asset types exposed to hazards with defined boundaries and scenarios:

- Communications Infrastructure
- Cultural Assets
- Energy Infrastructure
- Financial Institutions
- Food/Shelter Facilities
- HAZMAT Sites
- Health and Medical Facilities
- Safety and Security Facilities
- Transportation Infrastructure
- State-Owned and Leased Facilities
- General Building Stock
- Vulnerable Populations
- Natural Resources

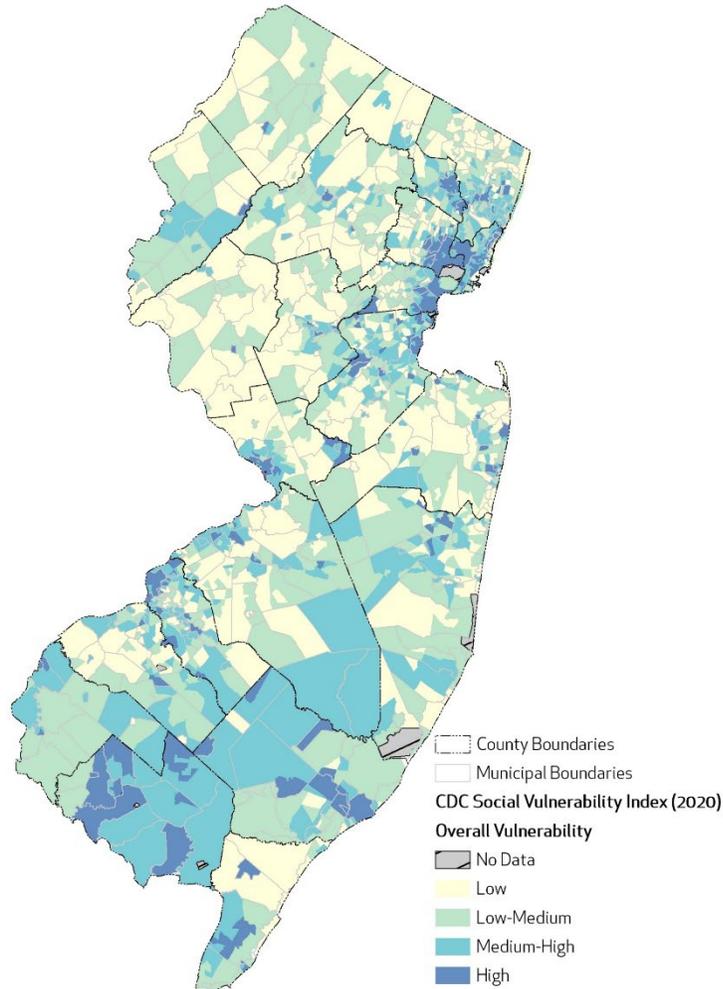
CDC/ATSDR SVI Themes



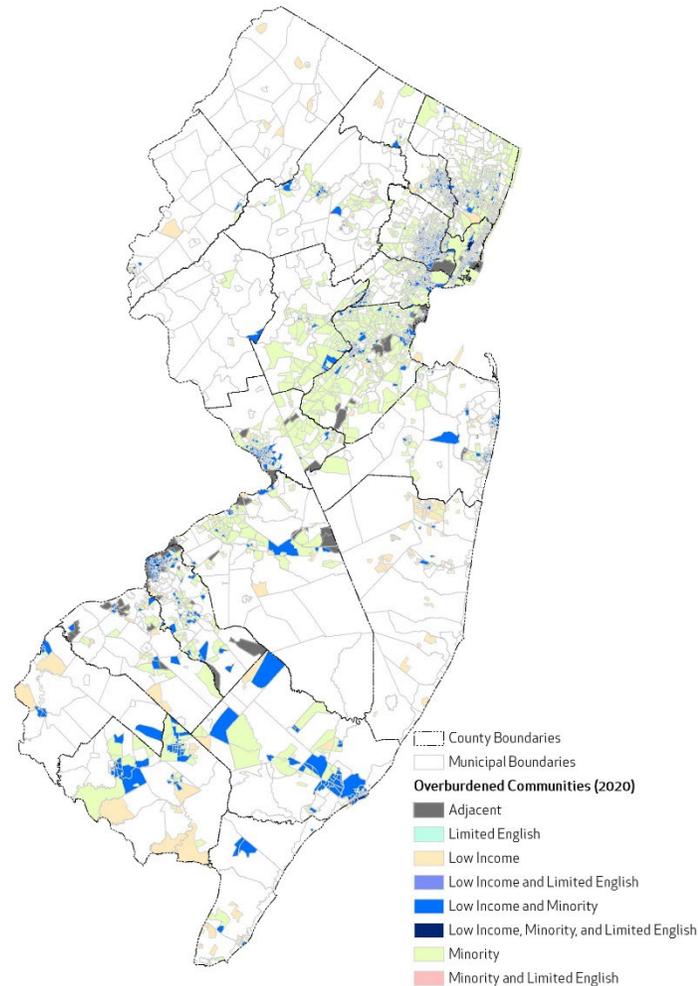
Vulnerable populations were identified using the CDC Social Vulnerability Index, DEP Overburdened Communities under the New Jersey Environmental Justice Law, and the White House Climate and Economic Justice Screening Tool

Socially-Vulnerable Populations

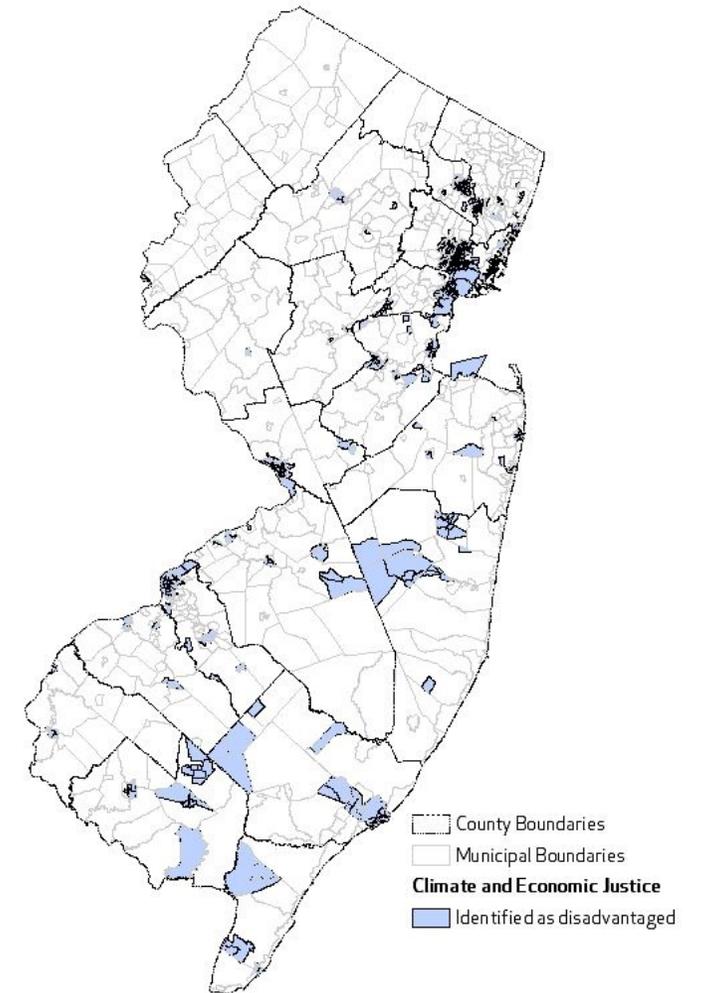
Centers for Disease Control and Prevention (CDC) Social Vulnerability Index (SVI) (2020)



Overburdened Communities under the New Jersey Environmental Justice Law (2020)



White House Climate and Economic Justice Screening Tool (CEJST) (2022)



Risk Assessment Findings

Transportation: Assets

Asset Type	Hazard Scenarios
<ul style="list-style-type: none">• Airport Facilities (<i>USDOT</i>)• Bridges & Tunnels (<i>HAZUS v. 6.0; USDOT</i>)• Bus Terminals (<i>NJ Transit</i>)• Evacuation Routes (<i>HIFLD</i>)• Ferry Terminals (<i>HIFLD</i>)• Intermodal Facilities – Air, Marine, Rail (<i>USDOT</i>)• Light Rail Facilities (<i>HAZUS v. 6.0</i>)• NJDOT Facilities (<i>LBAM</i>)• Port Facilities (<i>DVRPC; HAZUS v. 6.0; PANYNJ</i>)• Railway Facilities (<i>HAZUS v. 6.0; NJ Transit</i>)• Roadways (<i>NJDOT</i>)	<ul style="list-style-type: none">• SFHA• SFHA + 3 feet• SLR 2 feet• SLR 3 feet• SLR 5 feet• Coastal BFE + 5 feet• Storm Surge Categories 1-4• Tornado Risk Areas• Landslide Class C Hazard Areas• Nuclear (10 and 50-mile buffer zone)• Wildfire

Transportation: Key Findings

Roadways At-Risk



Hazard Scenario	Miles of Roadway	Percent of Roadway
Statewide	41,988	100%
SFHA	4,944	12%
SFHA+3	8,682	21%
Coastal SFHA+5	4,499	11%
SLOSH 1	2,335	6%
SLOSH 2	3,512	8%
SLOSH 3	4,855	12%
SLOSH 4	6,417	15%
SLR 2	376	1%
SLR 3	910	2%
SLR 5	1,937	5%

Transportation: Key Findings

Transportation Assets

SHFA

539 facilities: 43%

Asset Type	Number of Facilities At Risk
Airport Facilities	56
Bus Terminals	11
Port Facilities	405
Ferry Terminals	19
Intermodal Air	0
Intermodal Marine	2
Intermodal Rail	6
Light Rail Facilities	17
Railway Facilities	23
Total	539

SFHA + 3 Feet

748 facilities: 60%

Asset Type	Number of Facilities At Risk
Airport Facilities	81
Bus Terminals	13
Port Facilities	527
Ferry Terminals	21
Intermodal Air	8
Intermodal Marine	4
Intermodal Rail	11
Light Rail Facilities	28
Railway Facilities	55
Total	748

Transportation: Key Findings

Evacuation Routes

SFHA

1,967.7 miles: 69%

Asset Type	Miles
Federal Highway	319.5
Interstate Highway	74.9
State Highway	848.9
Street	729.3
Total	1,967.7

SFHA + 3 feet

2,311 miles: 81%

Asset Type	Miles
Federal Highway	410
Interstate Highway	109.3
State Highway	1003.2
Street	788.4
Total	2,311

Transportation: Key Findings

Storm Surge – Category 1

Transportation Assets

434 facilities: 35%

Asset Type	Number of Facilities At Risk
Airport Facilities	27
Bus Terminals	4
Port Facilities	357
Ferry Terminals	0
Intermodal Air	6
Intermodal Marine	3
Intermodal Rail	7
Light Rail Facilities	15
Railway Facilities	15
Total	434

Evacuation Routes

824.7 miles: 29%

Asset Type	Miles
Federal Highway	102.5
Interstate Highway	38.6
State Highway	344.4
Street	339.1
Total	824.7

Transportation: Key Findings

Storm Surge – Category 4

Transportation Assets

582 facilities: 47%

Asset Type	Number of Facilities At Risk
Airport Facilities	58
Bus Terminals	9
Port Facilities	406
Ferry Terminals	1
Intermodal Air	11
Intermodal Marine	3
Intermodal Rail	10
Light Rail Facilities	32
Railway Facilities	52
Total	582

Evacuation Routes

1,449.8 miles: 51%

Asset Type	Miles
Federal Highway	197.2
Interstate Highway	81.6
State Highway	618.2
Street	553.0
Total	1,449.8

Transportation: Key Findings

Sea-Level Rise – 2 Feet

Transportation Assets

151 facilities: 12%

Asset Type	Number of Facilities At Risk
Airport Facilities	17
Bus Terminals	1
Port Facilities	124
Ferry Terminals	4
Intermodal Air	0
Intermodal Marine	0
Intermodal Rail	1
Light Rail Facilities	2
Railway Facilities	2
Total	151

Evacuation Routes

349.6 miles: 12%

Asset Type	Miles
Federal Highway	40.3
Interstate Highway	16.7
State Highway	102.3
Street	190.3
Total	349.6

Transportation: Key Findings

Tornado

Transportation Assets

821 facilities: 66%

Asset Type	Number of Facilities At Risk
Airport Facilities	149
Bus Terminals	12
Port Facilities	449
Ferry Terminals	3
Intermodal Air	11
Intermodal Marine	2
Intermodal Rail	7
Light Rail Facilities	45
Railway Facilities	143
Total	821

Evacuation Routes

1,092.9 miles: 38%

Asset Type	Miles
Federal Highway	209.9
Interstate Highway	97.3
State Highway	484.8
Street	300.8
Total	1,092.9

Transportation: Key Findings

Nuclear – 10 Mile Radius

Transportation Assets

5 facilities: <1%

Asset Type	Number of Facilities At Risk
Airport Facilities	3
Bus Terminals	0
Port Facilities	2
Ferry Terminals	0
Intermodal Air	0
Intermodal Marine	0
Intermodal Rail	0
Light Rail Facilities	0
Railway Facilities	0
Total	5

Evacuation Routes

18.7 miles: 1%

Asset Type	Miles
Federal Highway	0
Interstate Highway	0
State Highway	0.2
Street	18.5
Total	18.7

Transportation: Key Findings

Nuclear – 50 Mile Radius

Transportation Assets

377 facilities: 30%

Asset Type	Number of Facilities At Risk
Airport Facilities	98
Bus Terminals	14
Port Facilities	135
Ferry Terminals	8
Intermodal Air	0
Intermodal Marine	1
Intermodal Rail	6
Light Rail Facilities	26
Railway Facilities	89
Total	377

Evacuation Routes

1,054.1 miles: 37%

Asset Type	Miles
Federal Highway	193.9
Interstate Highway	69.5
State Highway	467.1
Street	323.7
Total	1,054.1

Transportation: Key Findings

Landslide – Northeastern NJ

Transportation Assets

2 facilities: <1%

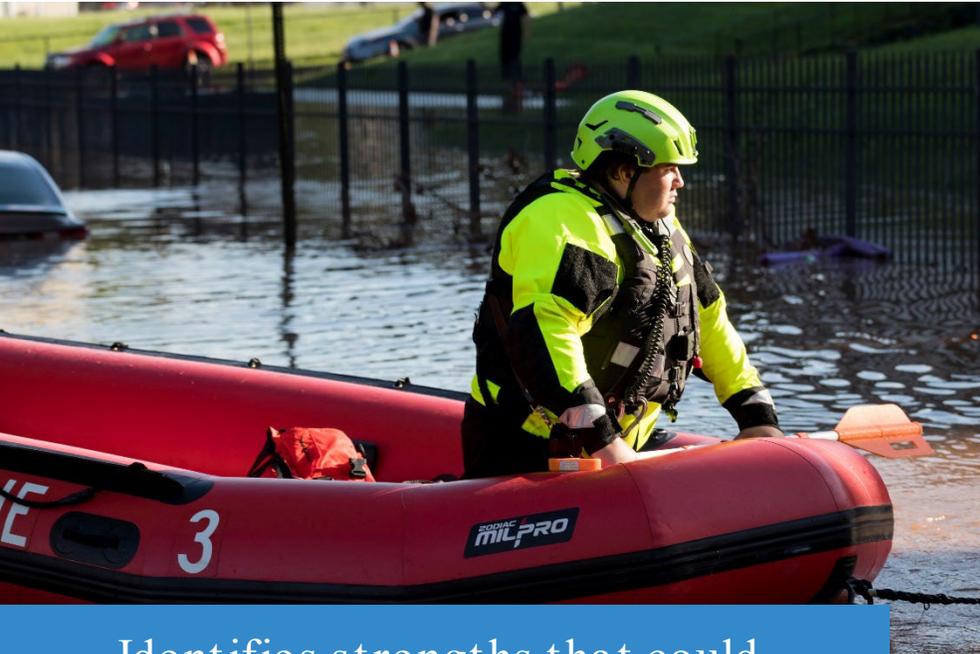
Asset Type	Number of Facilities At Risk
Airport Facilities	0
Bus Terminals	0
Port Facilities	1
Ferry Terminals	0
Intermodal Air	0
Intermodal Marine	0
Intermodal Rail	0
Light Rail Facilities	1
Railway Facilities	0
Total	2

Evacuation Routes

6.2 miles: <1%

Asset Type	Miles
Federal Highway	0
Interstate Highway	0
State Highway	6.2
Street	0
Total	6.2

Capability Assessment



Identifies strengths that could reduce losses and reduce risks in the community

- Identification of pre- and post-disaster capabilities in New Jersey at the federal, state, and local levels including:
 - Regulations and requirements
 - Plans
 - Programs
 - Staffing/technical resources
 - Funding
- Review of local hazard mitigation plans and programs
- Emerging Capabilities
- New areas of focus include planning for climate change impacts and addressing social equity in mitigation planning

Mitigation Strategy

- Mitigation Workshops will be held in May/June
- Highlight success stories
- Past accomplishments, current efforts, and proposed strategies will be included in the Mitigation Strategies section
- Actions that will support pre- and post-disaster mitigation can include:
 - Plans and Regulations
 - Structure and Infrastructure projects
 - Natural Systems Protection projects
 - Education and Awareness programs



Identifying Problems and Solutions

- **Problem identification and description**

- Describe the challenge/obstacle/impact
- Which hazard(s) cause this problem?
- Where is the problem occurring?
- Who is the problem impacting?
- Have there been past impacts?
- How frequently does the problem occur?

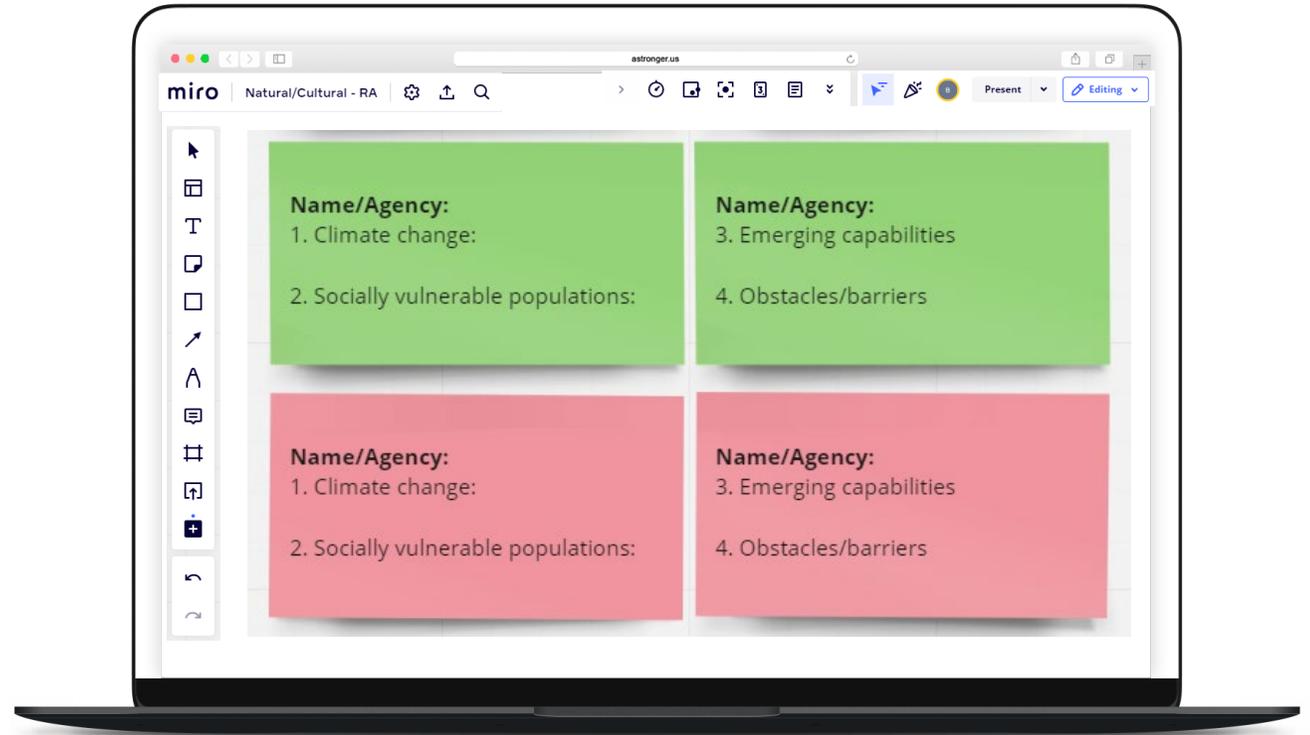
- **Solution identification and description**

- What are the options to solve or mitigate the problem?
- Who is responsible for what aspects of the project?

Name/Agency: 1. Problem: 2. Problem: 3. Problem:	Name/Agency: 1. Solution: 2. Solution: 3. Solution:
--	---

How to Use Miro Boards

- Follow the link provided in the chat to access the Miro board for each session
- Use the toolbar on the left of your screen to navigate the board
- Find the sticky note with your name and agency, double click on the note, and use your cursor to type responses.
- Add additional sticky notes as needed, but always identify your name and agency



State Hazard Mitigation Plan

Transportation Virtual Stakeholder Workshop

Date: April 25, 2023

Time: 2pm – 4pm

Location: Zoom

Attendees

Name	Organization
Jim Hess	AECOM
Donna Rendeiro	Department of State (Office for Planning Advocacy)
Josh Nessonson	New Jersey Infrastructure Bank
Christine Ambika Mehta	New Jersey Infrastructure Bank
Melinda Roslon	New Jersey Infrastructure Bank
David Zimmer	New Jersey Infrastructure Bank
George Rolon	New Jersey Infrastructure Bank
Judy Karp	New Jersey Infrastructure Bank
Joseph Livingston	New Jersey Turnpike Authority
Ben Snyder	New Jersey Turnpike Authority
Cheryl Rezendes	NJ Sports and Exposition Authority
Zenon Tech-Czarny	North Jersey Transportation Planning Authority
Chris Testa	Office of Emergency Management
Josh DeFlorio	Port Authority of New York/ New Jersey
Ashlyn Spector	Rutgers University
Carrie Martin	Michael Baker International
Jessica Jahre	Michael Baker International
Brittany Dremluk	Michael Baker International
Alison Mikiman	Tetra Tech
Chris Huch	Tetra Tech
Jessica Stokes	Tetra Tech

1. Introductions

2. Hazard Mitigation Overview

- Michael Baker International described the purpose of the HMP and the new FEMA requirements based on the State Mitigation Planning Policy Guide (Effective April 19, 2023).
- Michael Baker International described the goals and the hazards profiled in the 2024 HMP update.

3. Project Schedule

- Michael Baker International described the project schedule, with State Adoption and FEMA Approval in April 2024.

4. Planning Process

5. Risk Assessment

- Michael Baker International explained the three-tiered approach to the risk assessment and the change in approach with assets.
- Michael Baker International explained the geospatial data and methods that were used in the risk assessment.

6. Risk Assessment Findings

- Michael Baker International gave an overview of the risk assessment findings for transportation facilities
- Caveated limitations of point and line data rather than elevation data
- Explained the inundation of roadways
- Explained which assets were vulnerable to SFHA, SFHA +3, Storm Surge – Category 1, Storm Surge Category 4, Sea-Level Rise – 2 Feet, Tornado, Nuclear, and Landslide

7. Capability Assessment

- Tetra Tech explained that the capability assessment includes the identification of pre- and post-disaster capabilities in NJ, a review of local HMPs, and emerging capabilities; new requirements

8. Mitigation Strategy

- Mitigation workshops will be held in May/June.
- Strategy will highlight success stories, past accomplishments, current efforts, and proposed strategies.
- Actions that will support pre- and post-disaster mitigation can include plans and regulations, structure and infrastructure projects, natural systems protection projects, education and awareness programs.

9. Identifying Problems and Solutions

- Tetra Tech explained how the project team is defining problem identification and solution identification.

10. Miro Board Exercise #1 - Capability Assessment

- **How is your agency integrating climate change into your decision making?**
 - Donna – NJOPA Require PE municipalities to do resilience assessment...a lot had to go to those that are going to knock on
- **How is your agency advancing equitable outcomes for socially vulnerable populations that face hazard risk?**
 - Donna – A lot of them know it intuitively, how to do outreach, less disenfranchised if you go to them; how do you make sure housing is built in the right place; a lot of municipalities that don't want vulnerable populations to be housed in centers; spend a lot of time with municipalities telling them that's what they want to do
 - David – It really pertains to some new loans...anything that we finance, a requirement of loan is to keep the asset in good working order...modifying assets on the coast, will that be underwater in 30-years? If it isn't, houses may disappear, which...
 - Cheryl – It is a brief section on resilience...we are redoing our district regulations and working on transportation regs and hopefully we can add things to move us along

- Zenon – We have a Climate and Resilience program as part of our work here...one of the projects is impacts of extreme weather events, studying where damage has occurred, that info will go into long-range transportation, looking into IJJA for additional studies...looking at SVP as part of research, esp the populations in urbanized areas such as Newark and Paterson
- When is the next long-term plan – in 3 years
- Chris Huch– as we look forward, we look at what will get started in the next 5 years... curious about evacuation planning and evacuation response and how SVP are involved?
- Joe Livingston – we are developing resilience program and have drafted resilience plan with a prospective look to analyze hazards, most critically...working with consultant partners to make screening tool..conducting vulnerability pilot studies.then look to incorporate screening tool in project development and include in SOW that they need to do drilled down vulnerability assessment, on other side, prepping sustainability plan and looking at carbon footprint, installing EV chargers and doing a pilot program with PV, working with IAC to contribute to extreme heat plan
 - Interact with communities that are socially vulnerable, work with government entities
- Donna – when we talk about OBC and SVP, many of them don't have access to cars, when talking about evacuation, include public transit (bus, train) seniors cant do that, have evacuation plans that include public transit
- **What new capabilities/programs/plans/policies have emerged to support hazard mitigation and risk reduction in the last five years?**
 - David Zimmer – have a transportation bank, couple of new programs...for disadvantaged communities (EJ communities) program with \$10m for EJ communities that received competitive grants from Federal government, 0% financing for the match; very cheap funds, never have to pay interest on it; doesn't have to go with resilience but has to do with SVP and transportation – DOT working with I-Bank
 - Donna – about to engage on State Plan update, as part of update, complete Infrastructure Needs Assessments – pull from other state agencies to see if there are any opportunities and see where we can as a state fill those gaps; we are not reinventing the wheel, reaching out to non-State agencies like MPOs that might have info and capabilities analyses...part 1 is including the environment, transportation and energy, part ii will include public health, education, etc. as part of that, we should be able to ID climate change and equity issues
 - Zenon – Passaic River Basin Climate Resilience Planning Study (2019) looks at ways to plan and has shared that with subregions
- **What obstacles/challenges have you encountered that have kept your organization/agency from advancing hazard risk reduction further?**
 - Zenon – one of the challenges is not continuing the conversation...not sure how much has gone into implementing the strategies...limited communications with State partners
 - David – we really get State or Federal funds, and we make the construction possible, designs are dependent on the engineers, take the plans off the shelf, doing the same thing – wash, rinse, repeat. Climate change is a newer issue that requires out-of-the-box thinking. We don't see that on the 100 projects that we finance every

year. Because we don't control designs, we can't make regulations for the design. Take the folks who are responsible for planning and design and look at more innovative ideas.

- Joe Livingston – based on our other work with DEP, we are asked to use the same data (Rutgers data) – that's inherent with a specific risk profile, that's a convo if that's an appropriate level or risk to plan for, and what time frame, the roadway's lifecycle is infinite, so I'm looking at when that hazard will come into play
- Chris Testa – when you guys are looking at high value assets, what to look at substantial resilience gains, we defer to experts, higher lifecycle = higher level of protection, Chris questions bring replacement after Sandy, may have community that may or may not be there in 50 years...delicate balance there
- Joe Livingston – regional focus, community has to make decision
- Chris Testa – I'm a big proponent of having skin in the game, not looking for people to come in and save the day, don't look to State or Feds to come bail us out

11. Miro Board Exercise #2 - Mitigation Strategy

- Donna – its not only about rail, not only from the perspective of dealing with immediate hazards, for folks that need those kinds of facilities; to have a resilience public transportation system that can be used in times of hazards to get people out of harm's way, need to be part of the solution
- Donna – how do people know when the last bus is; need to be communicated, people needs to know, a lot of evacuation routes underwater, or how do we address it, can't raise road without raising the roads; can't raise anything, what's the Plan B that the evacuation routes are flooded
- Joe Livingston – we are comparing whats today to 2050 and 2100 and trying to find out what's the best time
- Donna – EV infrastructure need to be ramped up. Range issues are the problem. Great that we have EV incentives, but need to get the level we need.
- Chris Huch – loss of power, make sure that gas stations can function, what happens to people with EVs, is that going to be a new area of concern? New concerns...
- Donna – we should work towards burying all the utility lines
- David Zimmer – EVs – in urban areas, all your cars are green and the parking structures...need to talk about

SHMP 2024 STAKEHOLDER WORKSHOP: HEALTHCARE SYSTEMS & SERVICES

AGENDA

Additional Stakeholders:

- DoH
- Department of Human Services
- New Jersey Public Health Association
- Norwescap
- Health Coalition of Passaic County
- Sustainable Jersey
- New Jersey Health Initiatives (Robert Wood Johnson)
- Shore Memorial Hospital in Somers Point
- CRDA in Atlantic City
- New Carsun Hills in Edison
- Jersey City Medical Center
- Chilton Medical Center in Morristown
- Kessler Institute in Saddle Brook
- Palisades Medical Center in North Bergen
- Care Point Health in Hoboken
- Atlanticare in Atlantic City
- Atlantic City Medical Center
- State nursing home liaison

Introductions

Potential Questions (Miro board? – or the word cloud website?)

1. Which hazards are you most concerned about/most vulnerable to?
2. Are these the right assets?
3. Impacts to socially vulnerable populations
4. What has been your experience with hazards? Do you ever collaborate with emergency management or hazards experts?

Risk Findings:

- FEMA National Risk Index
- Wind – hurricane and tornado
- Flood/Storm Surge/sea level rise maps
 - Assets within the BFE +3, BFE +5
 - Assets within SLR 2 ft, 3ft, 5ft
- Wildfire maps
- Extreme temperatures
- Power failure is part of each hazard



F.4-E. STAKEHOLDER WORKSHOP HEALTHCARE SYSTEMS & SERVICES



New Jersey State Hazard Mitigation Plan Virtual Stakeholder Workshop



Healthcare Systems & Services

May 2, 2023 | 1:00 pm – 3:00pm

Michael Baker
INTERNATIONAL



Workshop Agenda

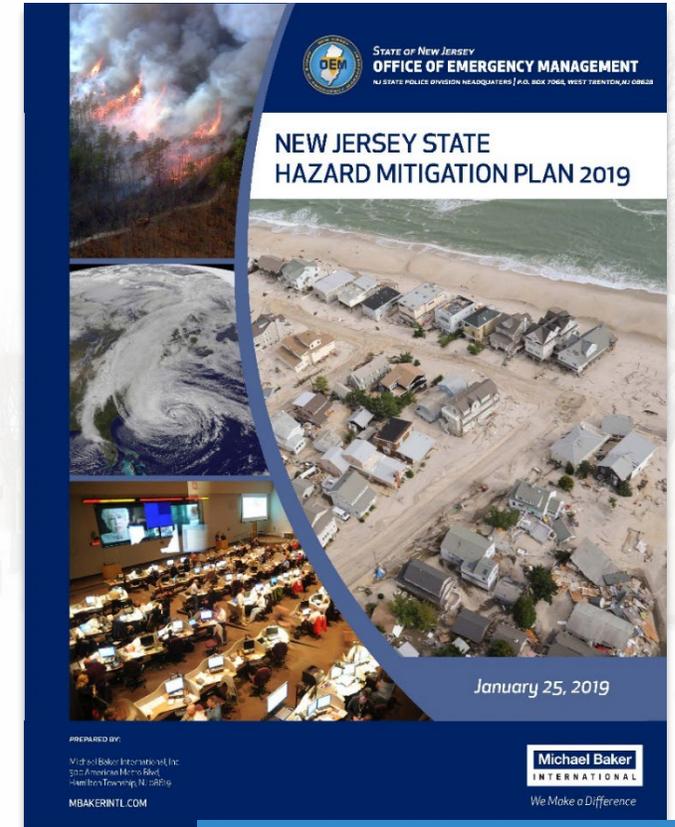
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OMB Collection #1660-0062

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Dam/Levee Failure

Drought

Earthquakes

Extreme Temperature

Flood (*riverine, coastal, storm surge, nuisance flooding caused by sea-level rise, and stormwater flooding caused by local drainage and high groundwater levels*)

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Risk Assessment

- **Three-Tiered Risk Assessment**

- Built Environment
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FEMA's Community Lifelines



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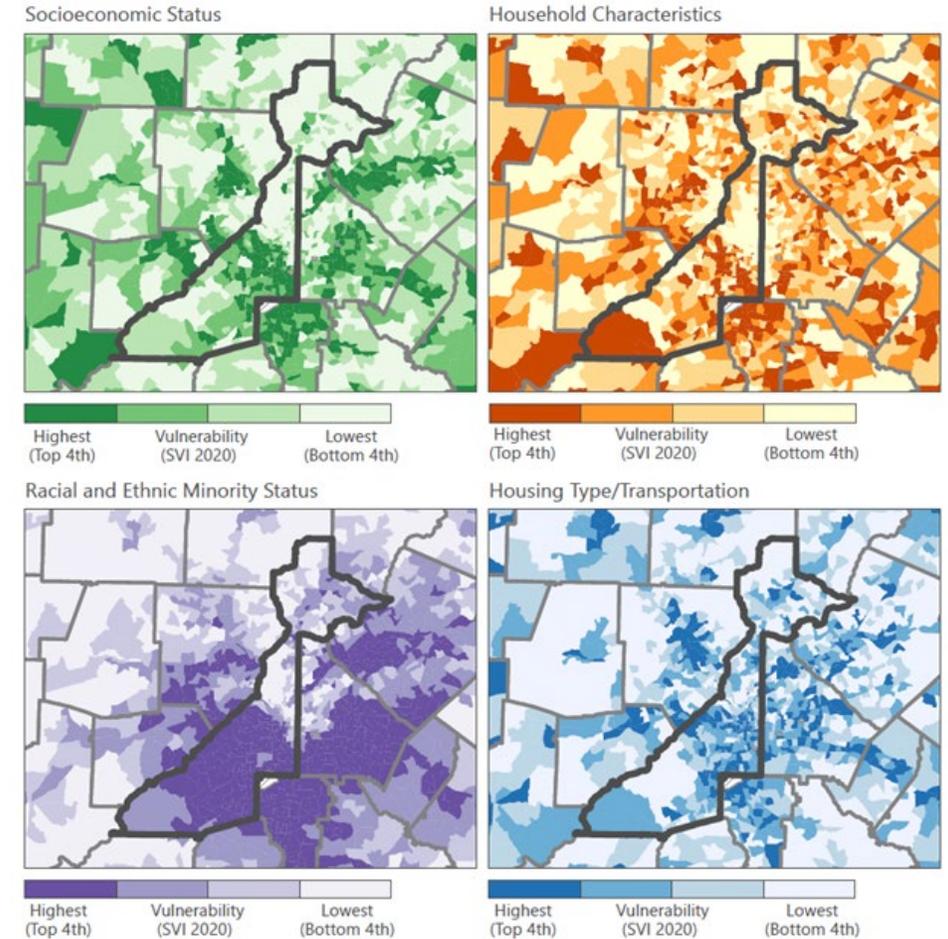
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- Vulnerable Populations
- Natural Resources

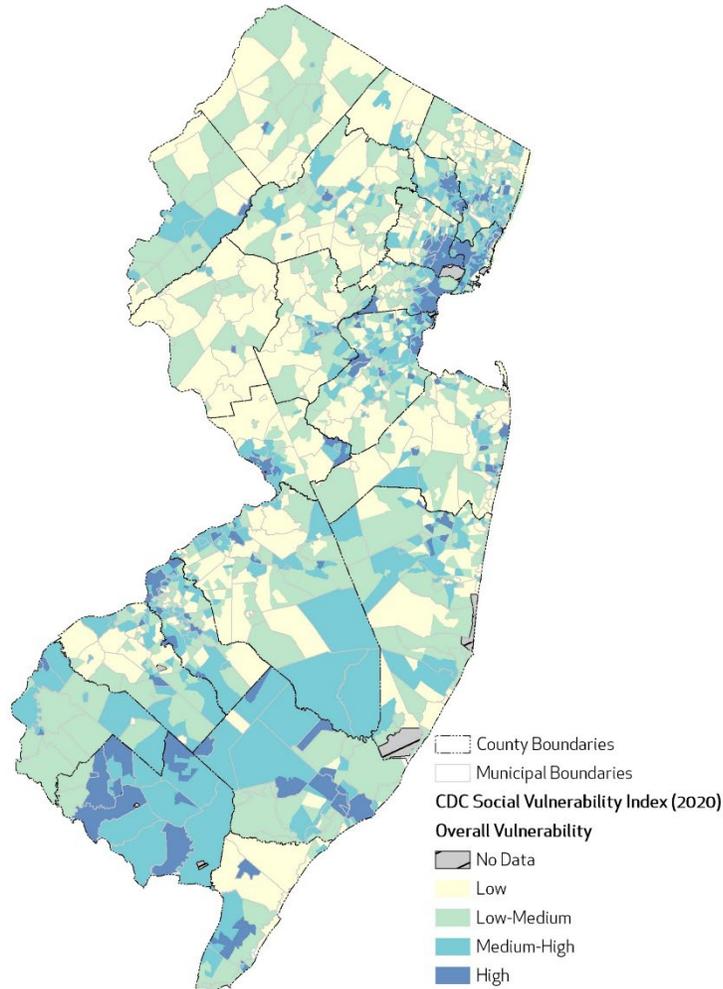
CDC/ATSDR SVI Themes



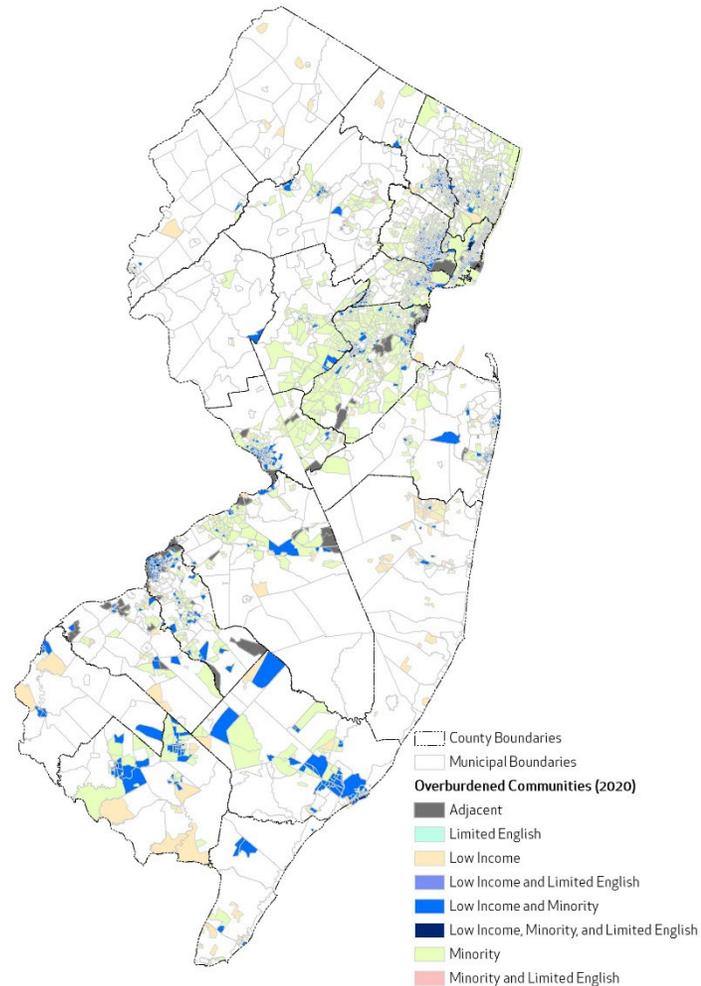
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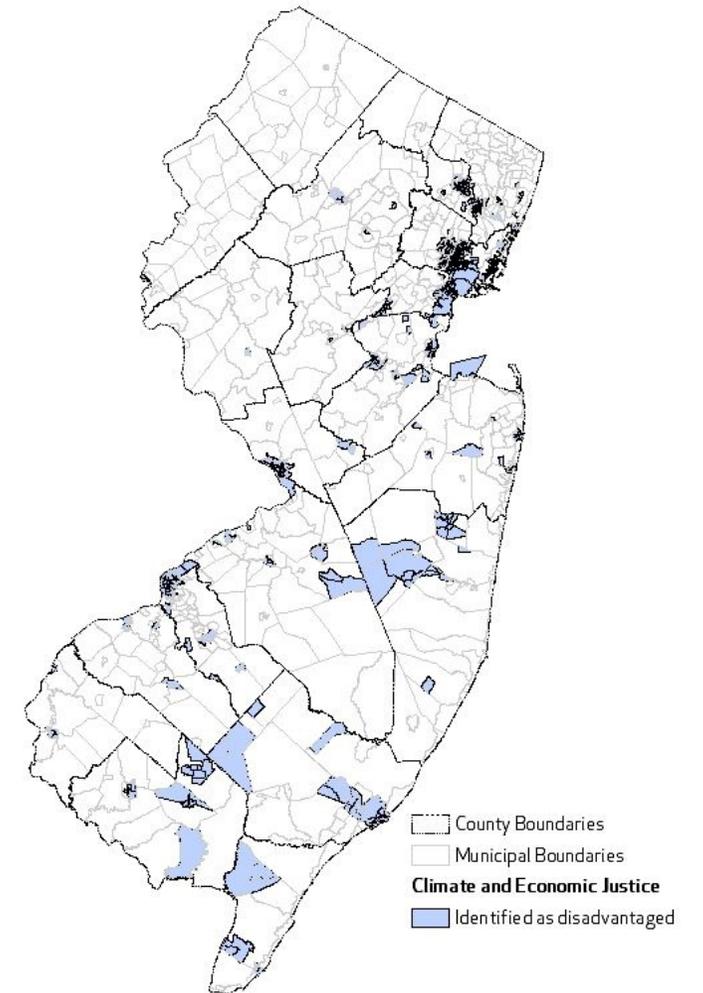
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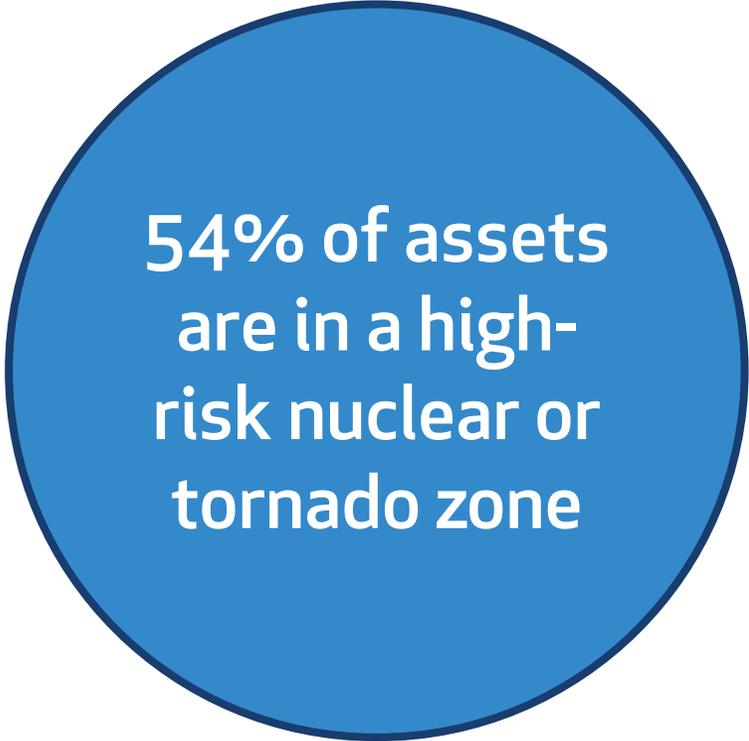
Risk Assessment Findings

Healthcare Systems & Services: Assets

Asset Type	Hazard Scenarios
State-Owned Facilities <i>Source: LBAM</i>	<ul style="list-style-type: none">• SFHA• SFHA + 3 feet• SLR 2 feet• SLR 3 feet• SLR 5 feet• Coastal BFE + 5 feet• Storm Surge Categories 1-4• Tornado Risk Areas• Landslide Class C Hazard Areas• Nuclear (10 and 50-mile buffer zone)• Wildfire
Non-State-Owned Facilities	
<ul style="list-style-type: none">• Hospitals• Hospice• Nursing homes• Veterans health admin medical facilities• EMS• Federally qualified health centers	

Healthcare Systems & Services: Key Findings

Non-State-Owned Assets



54% of assets
are in a high-
risk nuclear or
tornado zone

- **Nuclear 50 mi radius**
 - 44 hospitals
 - 1 hospice
 - 215 nursing homes
 - 5 veterans health admin medical facilities
 - 459 EMS
 - 45 federally qualified health centers
- **Tornado**
 - 84 hospitals
 - 2 hospice
 - 326 nursing homes
 - 2 veterans health admin facilities
 - 56 federally qualified health centers

Healthcare Systems & Services: Key Findings

Non-State-Owned Assets

SFHA

- 8 hospitals
- 19 nursing homes
- 1 veterans health admin medical facility
- 125 EMS
- 12 federally qualified health centers

SFHA +3

- 3 additional hospitals
- 34 additional nursing homes
- 2 additional veterans health admin medical facilities
- 114 additional EMS
- 13 additional federally qualified health centers
- 1 hospice

Healthcare Systems & Services: Key Findings

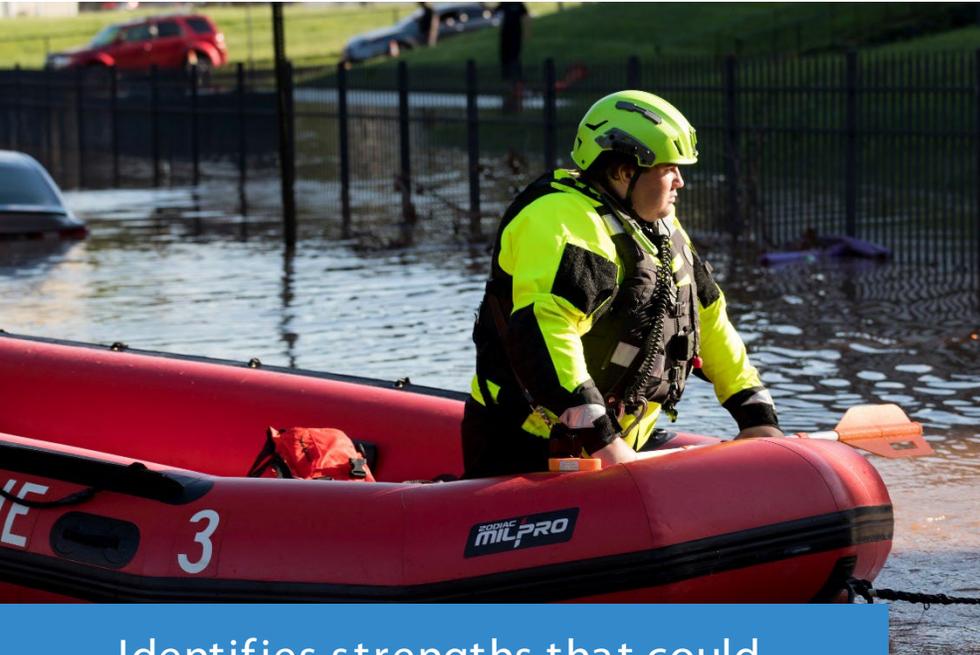
Top Impacted Municipalities SFHA +3

By asset count:



Additionally, there are 45 towns with 100% of health assets exposed to SFHA +3

Capability Assessment



Identifies strengths that could reduce losses and reduce risks in the community

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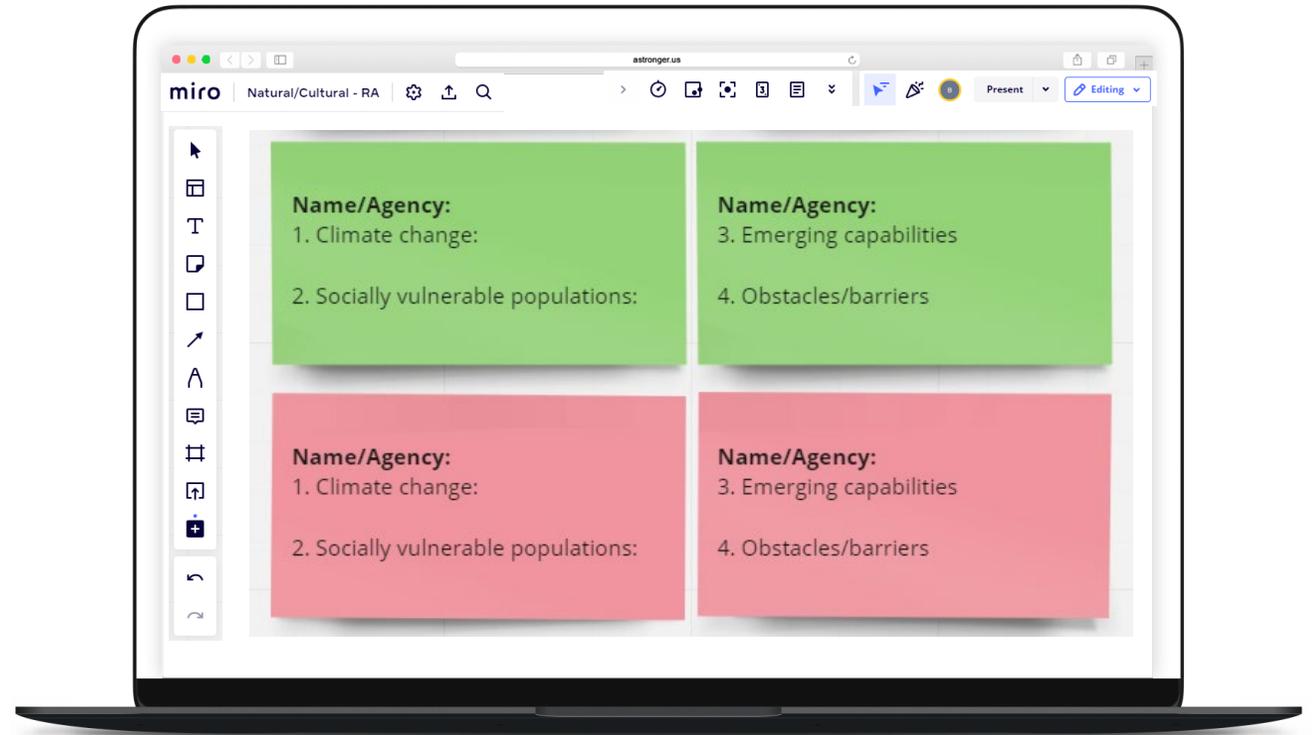
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New Jersey State Hazard Mitigation Plan Virtual Stakeholder Workshop

**This workshop has ended. For more
information, contact Jessica Jahre:
Jessica.Jahre@mbakerintl.com**

Michael Baker
INTERNATIONAL



TETRA TECH





F.4-F STAKEHOLDER WORKSHOP - WATER RESOURCES (5/3/2023)



New Jersey State Hazard Mitigation Plan Virtual Stakeholder Workshop



Water Resources

May 3, 2023 | 10:00 am – 12:00pm

Michael Baker
INTERNATIONAL



TETRA TECH



Workshop Agenda

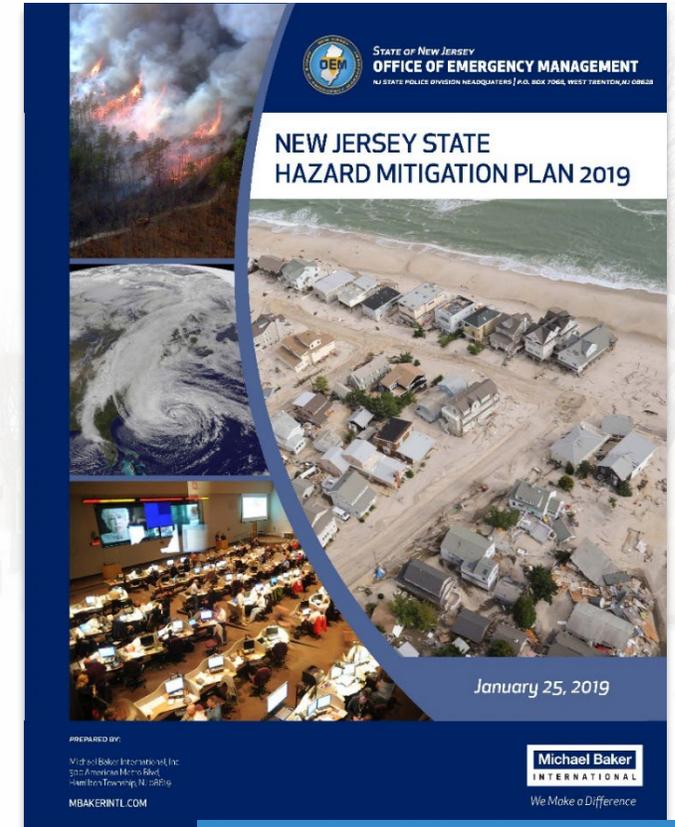
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- Capability Assessment
- Mitigation Strategy



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New Jersey State Hazard Mitigation: Hazards Profiled

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Coastal Erosion (including enhanced discussion of beach protection)

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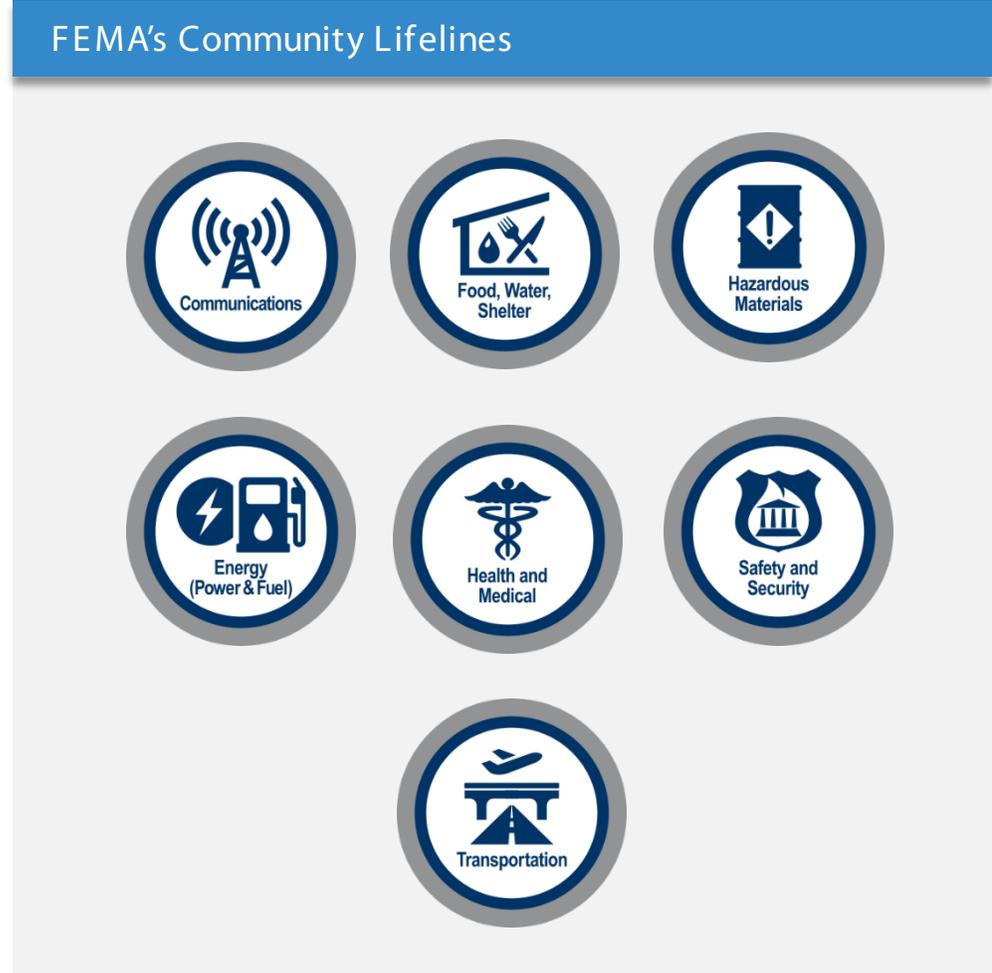
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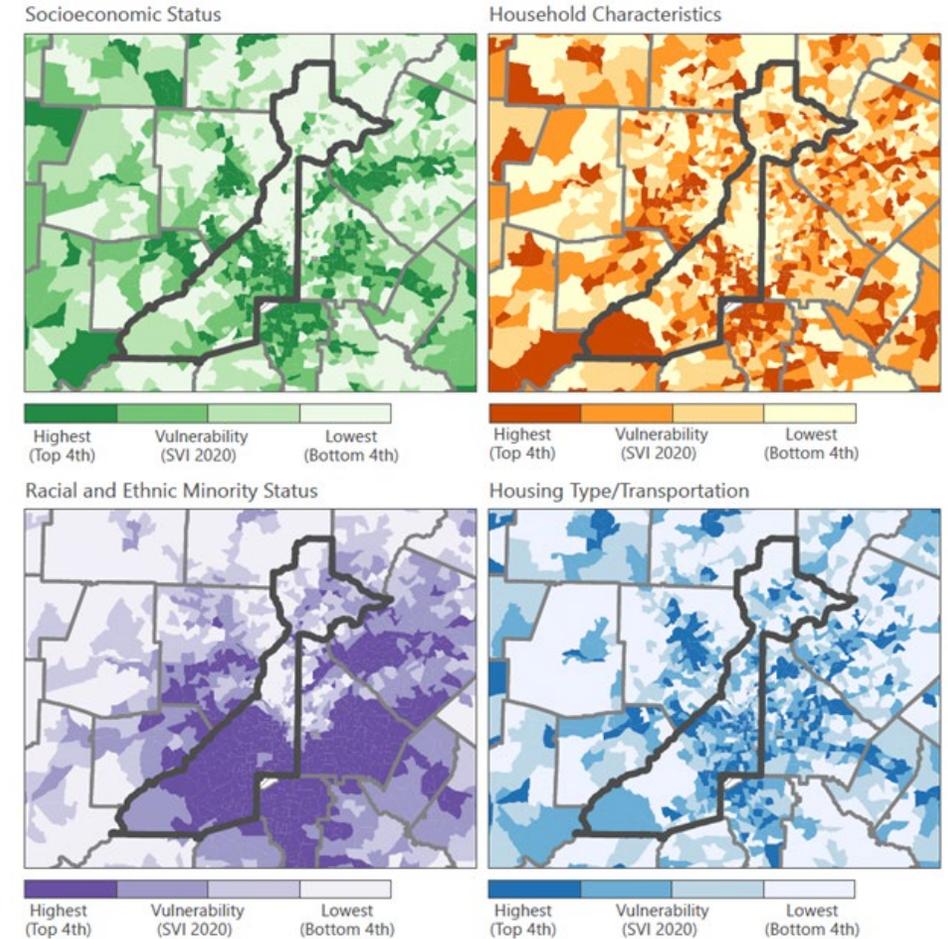
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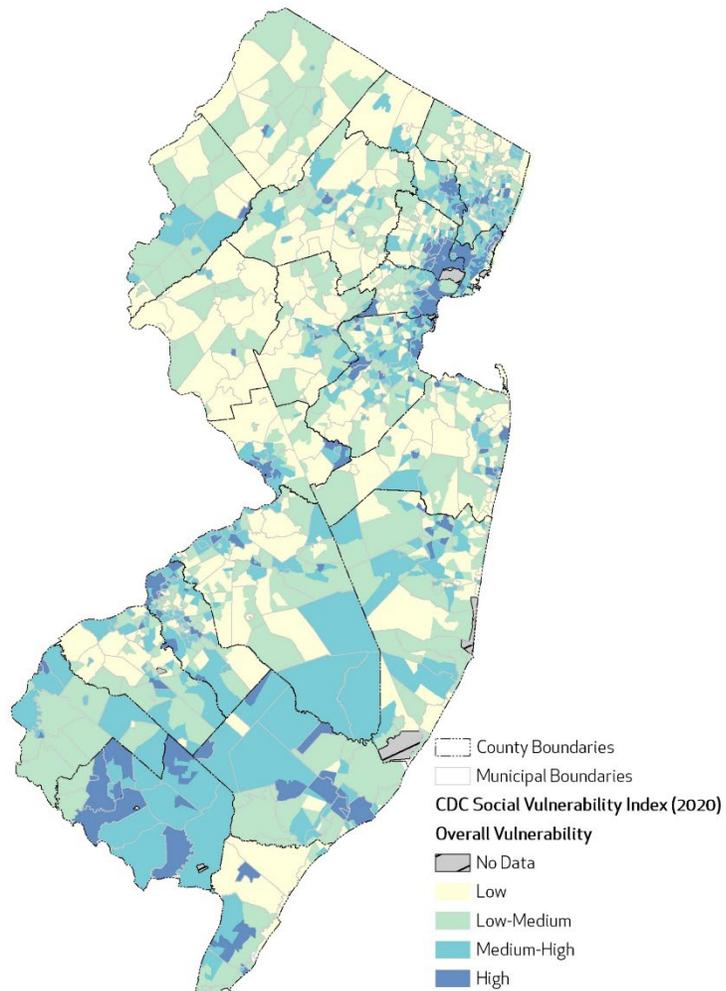
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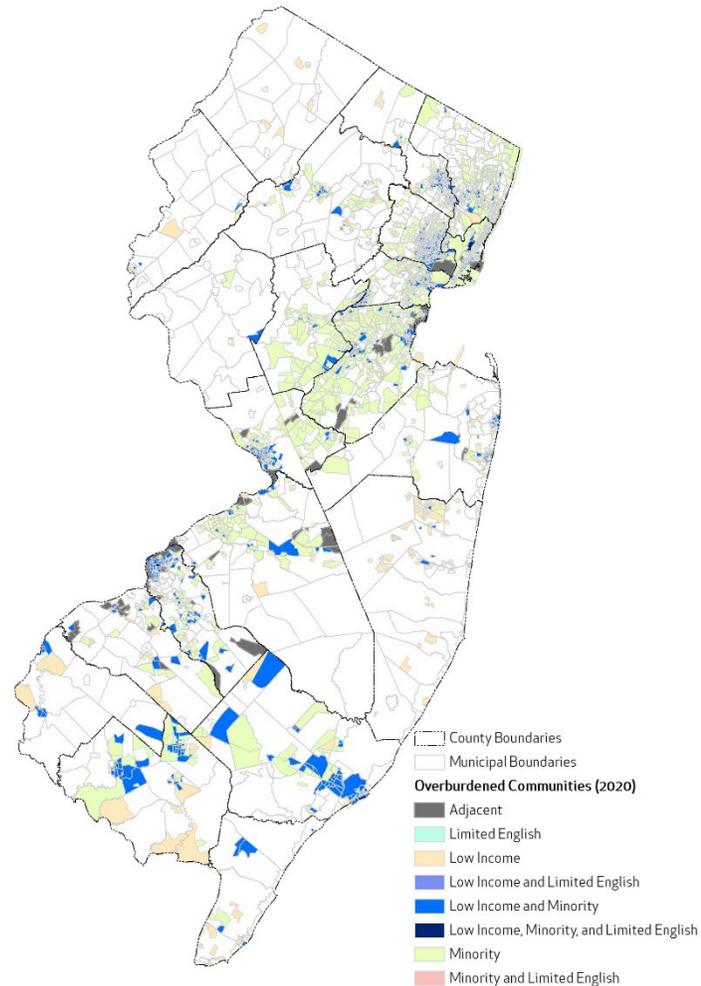
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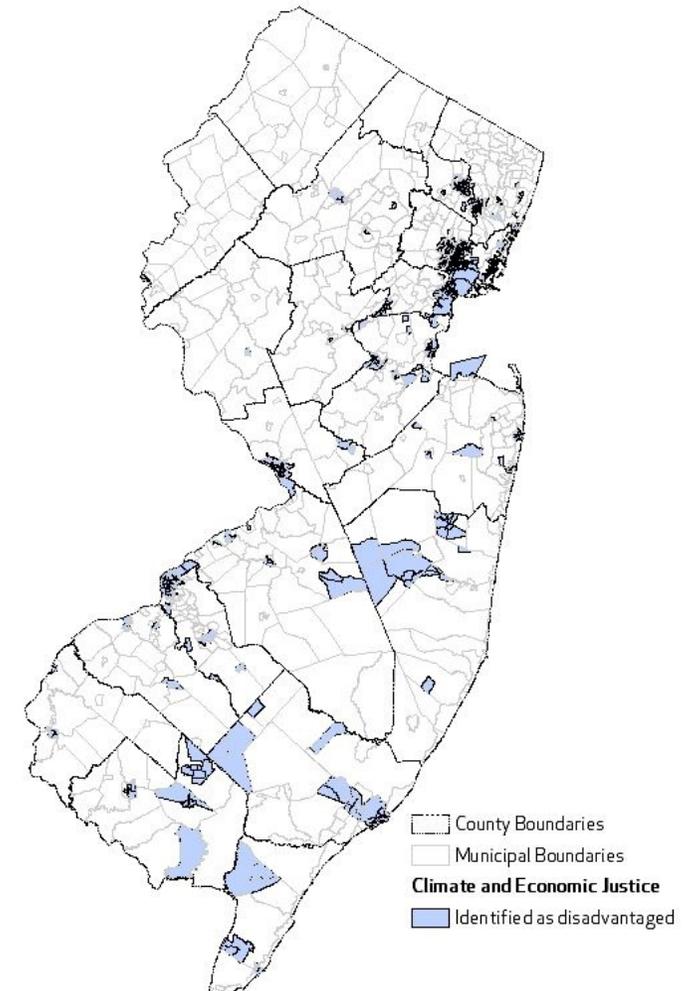
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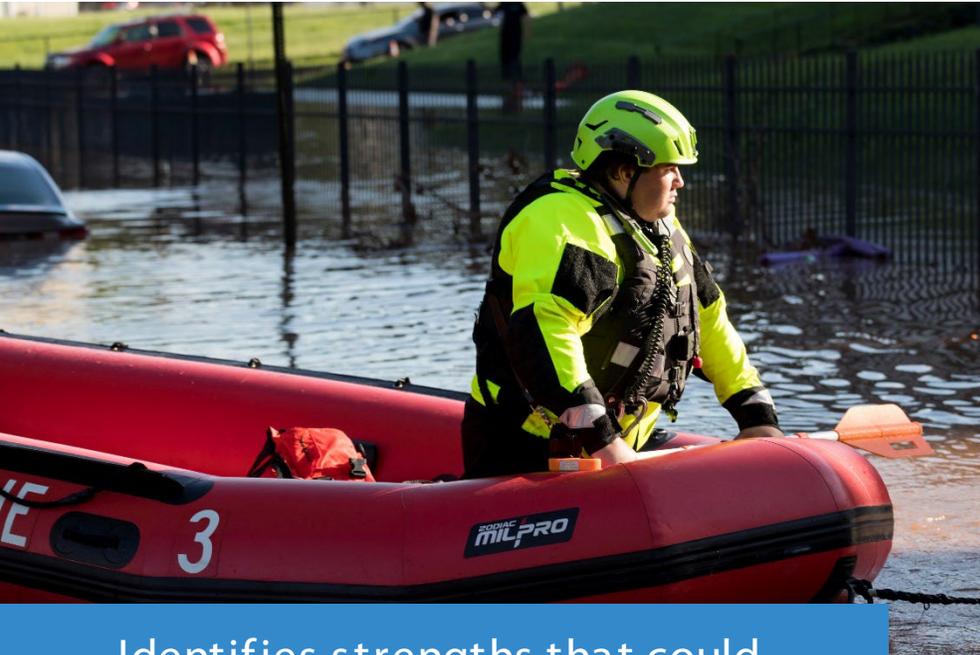
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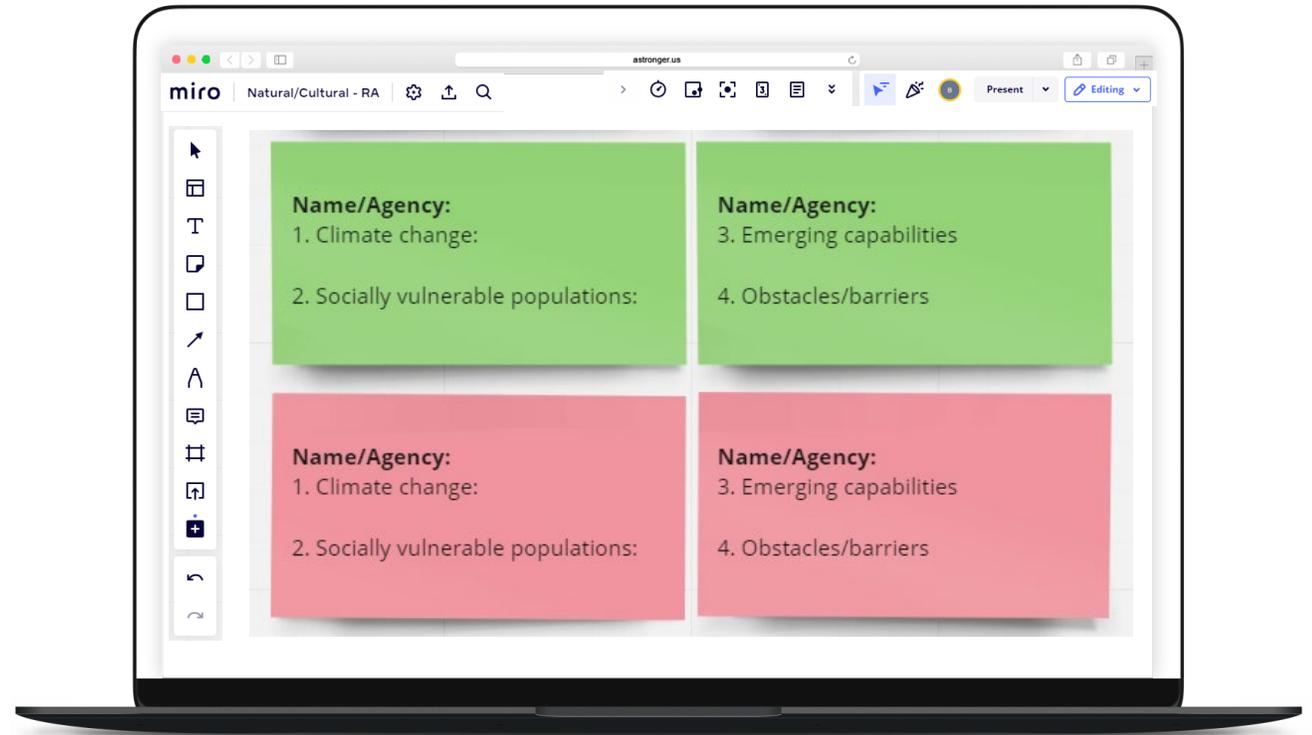
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F.4-G. STAKEHOLDER WORKSHOP - OPEN HOUSE (5/4/2023)



New Jersey State Hazard Mitigation Plan Virtual Stakeholder Workshop



Open House

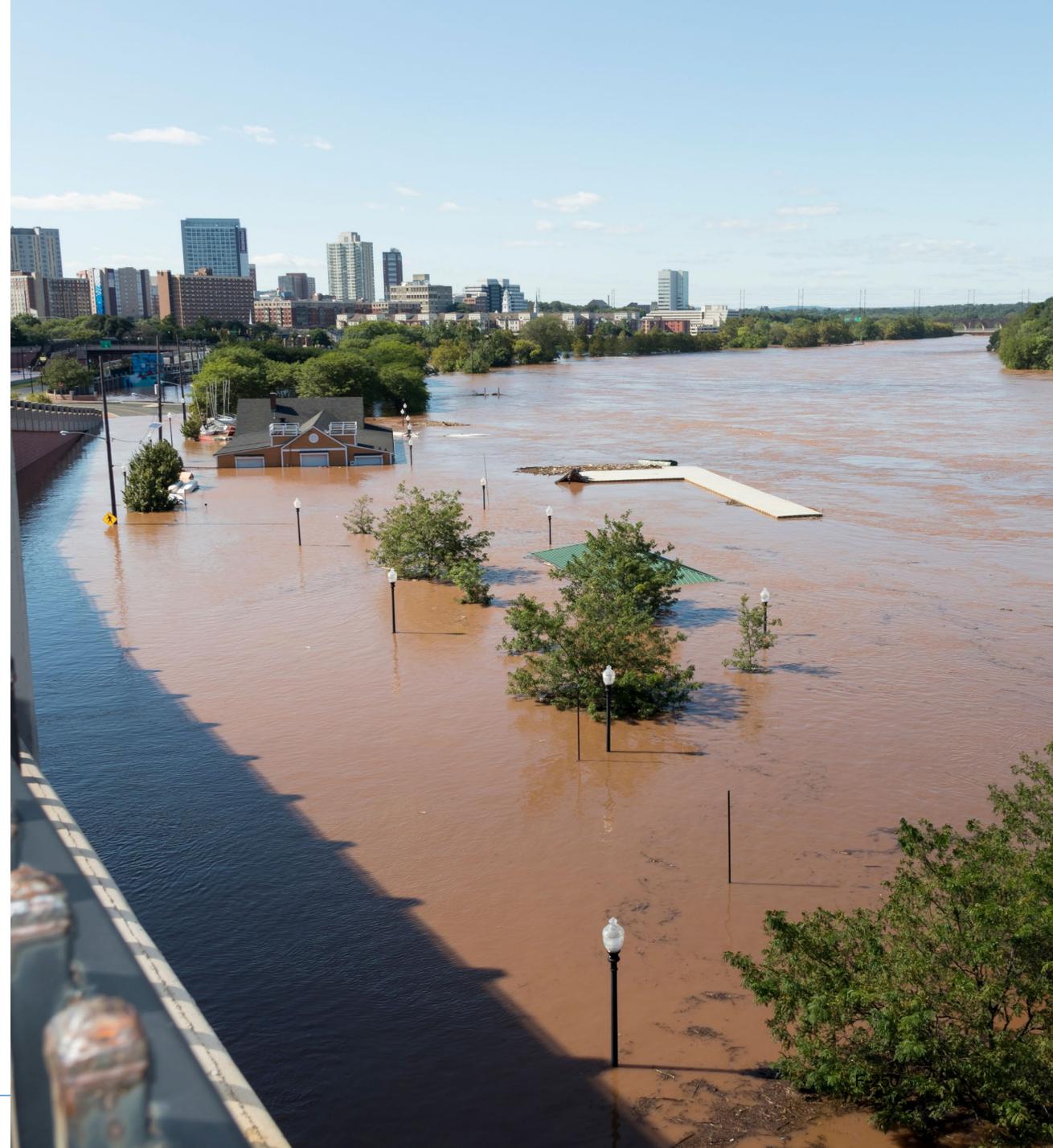
May 4, 2023 | 1:00 – 3:00pm

Michael Baker
INTERNATIONAL



Workshop Agenda

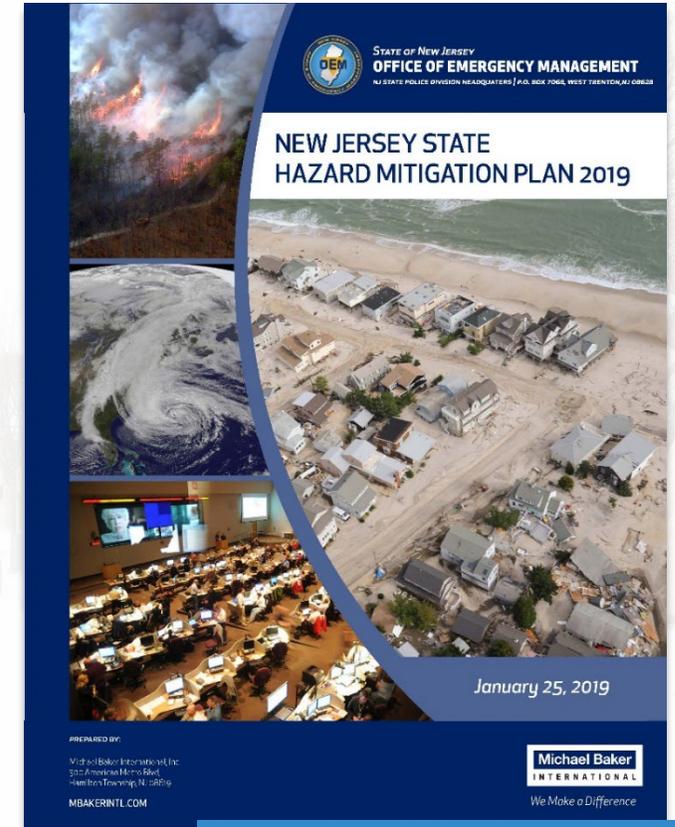
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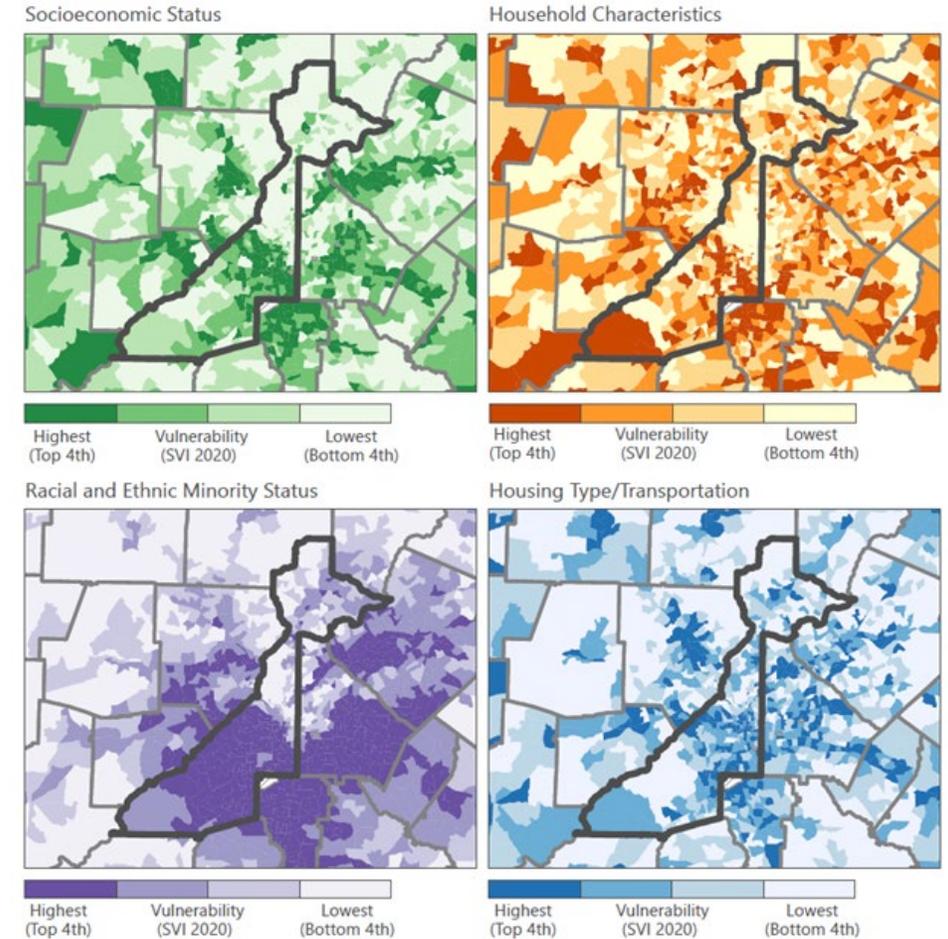
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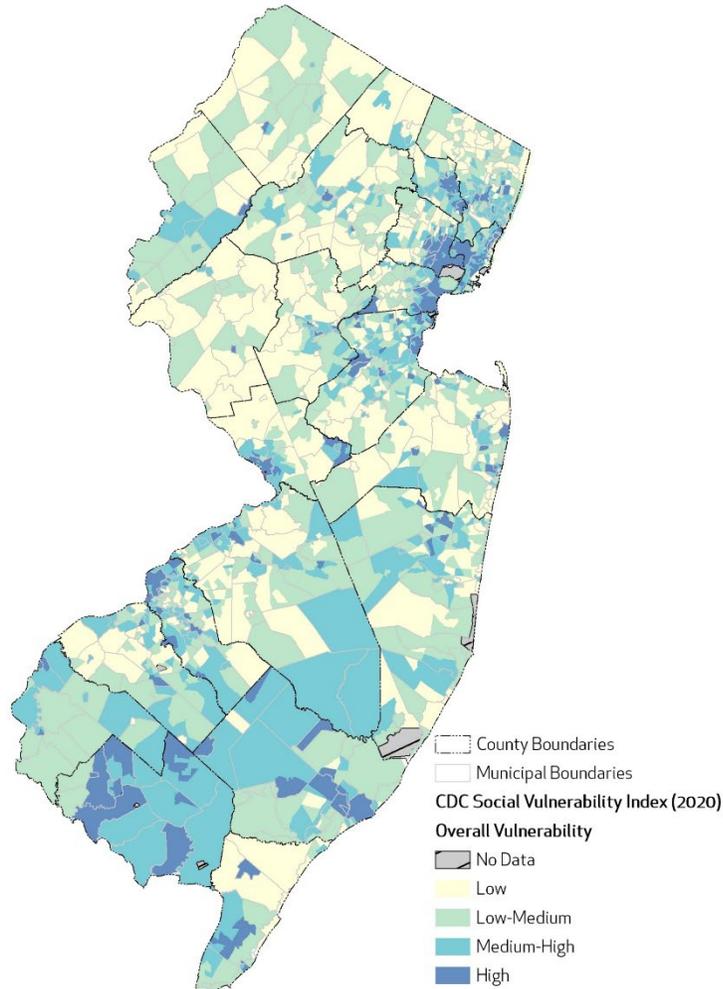
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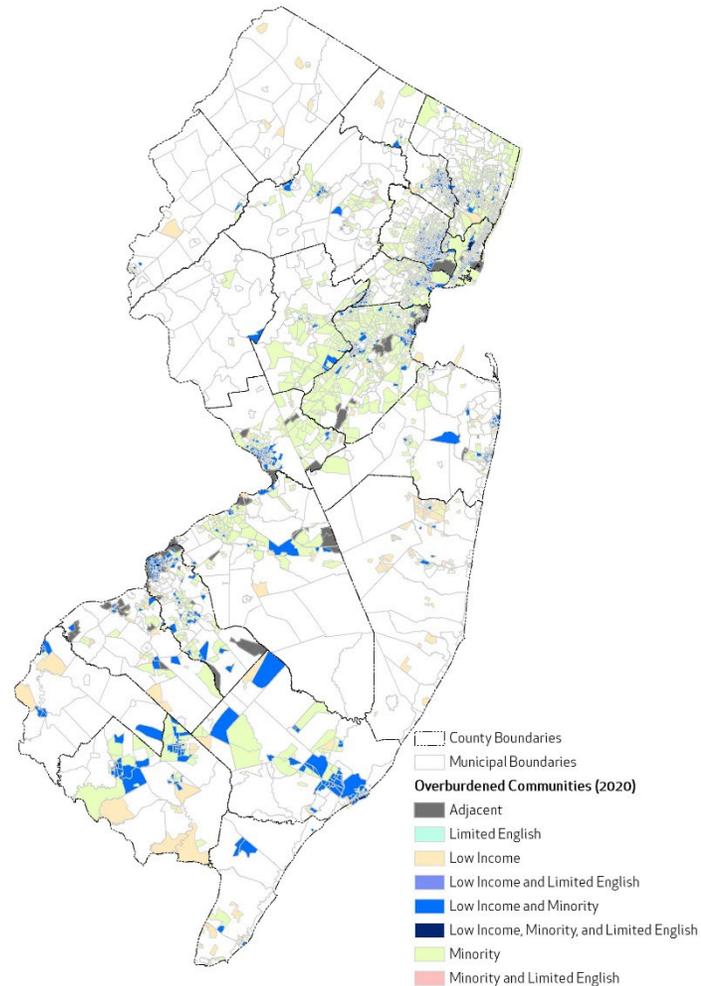
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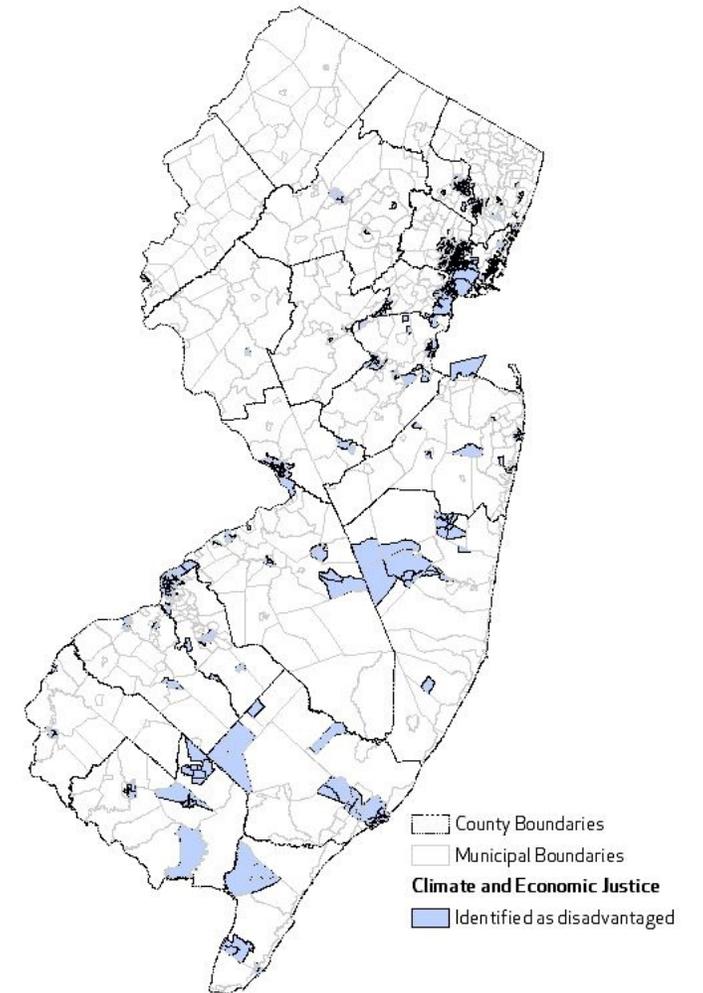
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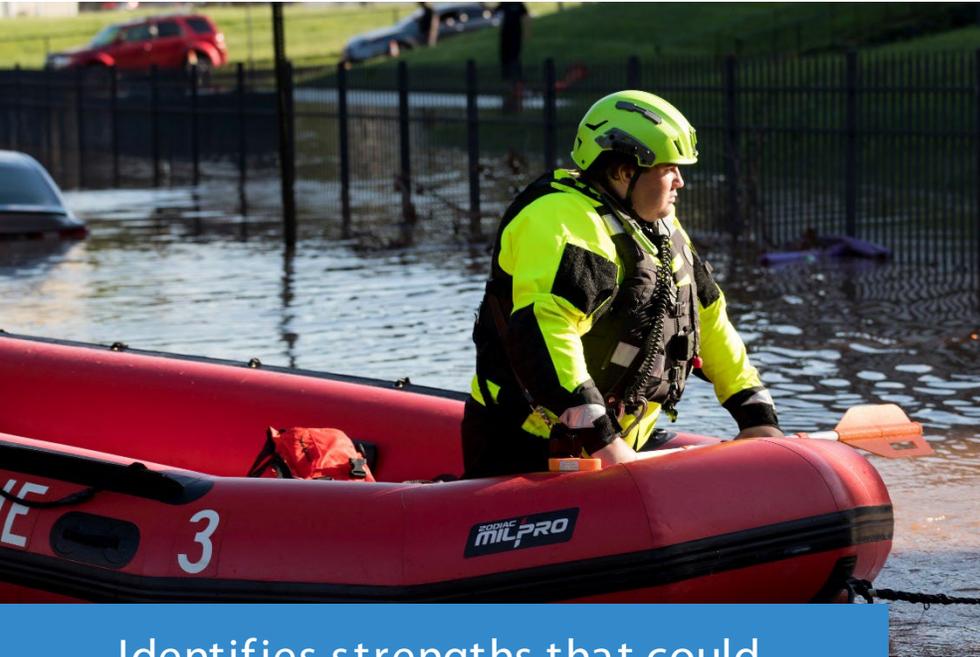
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 - Structure and Infrastructure projects
 - Natural Systems Protection projects
 - Education and Awareness programs



Identifying Problems and Solutions

- **Problem identification and description**

- Describe the challenge/obstacle/impact
- Which hazard(s) cause this problem?
- Where is the problem occurring?
- Who is the problem impacting?
- Have there been past impacts?
- How frequently does the problem occur?

- **Solution identification and description**

- What are the options to solve or mitigate the problem?
- Who is responsible for what aspects of the project?

Name/Agency:

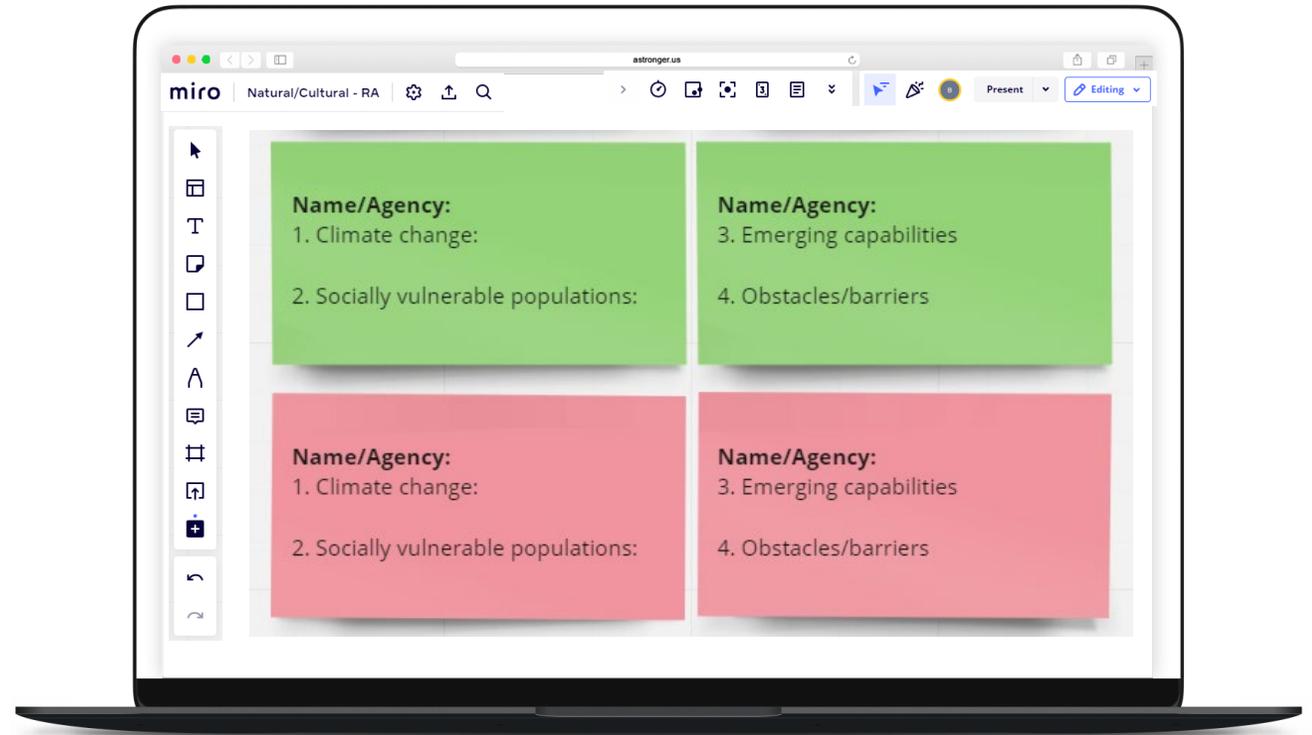
- 1. Problem:
- 2. Problem:
- 3. Problem:

Name/Agency:

- 1. Solution:
- 2. Solution:
- 3. Solution:

How to Use Miro Boards

- Follow the link provided in the chat to access the Miro board for each session
- Use the toolbar on the left of your screen to navigate the board
- Find the sticky note with your name and agency, double click on the note, and use your cursor to type responses.
- Add additional sticky notes as needed, but always identify your name and agency



New Jersey State Hazard Mitigation Plan Update

Social Equity Listening Session

June 21, 2023

Michael Baker
INTERNATIONAL



TETRA TECH



Agenda

- **Introductions**
- **Project Overview**
 - **Hazard Mitigation Planning Primer**
 - **Project Schedule**
- **Considering Equity in HMPs**
 - **Impacts to Socially Vulnerable Populations**
 - **Assessing State Capabilities**
 - **Building a Mitigation Strategy**
- **Enhancing Equity in Local Mitigation Plans**



Project Overview

Hazard Mitigation Planning Primer

- **What is Hazard Mitigation?**
 - Hazard mitigation is the effort to reduce loss of life and property by lessening the impact of disasters before the next event.
- **What is a Hazard Mitigation Plan?**
 - State, tribal, and local governments engage in hazard mitigation planning to identify risks and vulnerabilities associated with natural disasters and develop long-term strategies for protecting people and property from future hazard events.
 - Required by FEMA to receive funding
 - Updated every five years



Project Overview

Schedule



Virtual Stakeholder Workshops
Through June 2023



Coordination with State Agencies
Through July 2023



Draft Plan to NJOEM
August 2023



Draft Plan to FEMA
October 2023



Final Plan Submission to OEM/NJ
January 2024

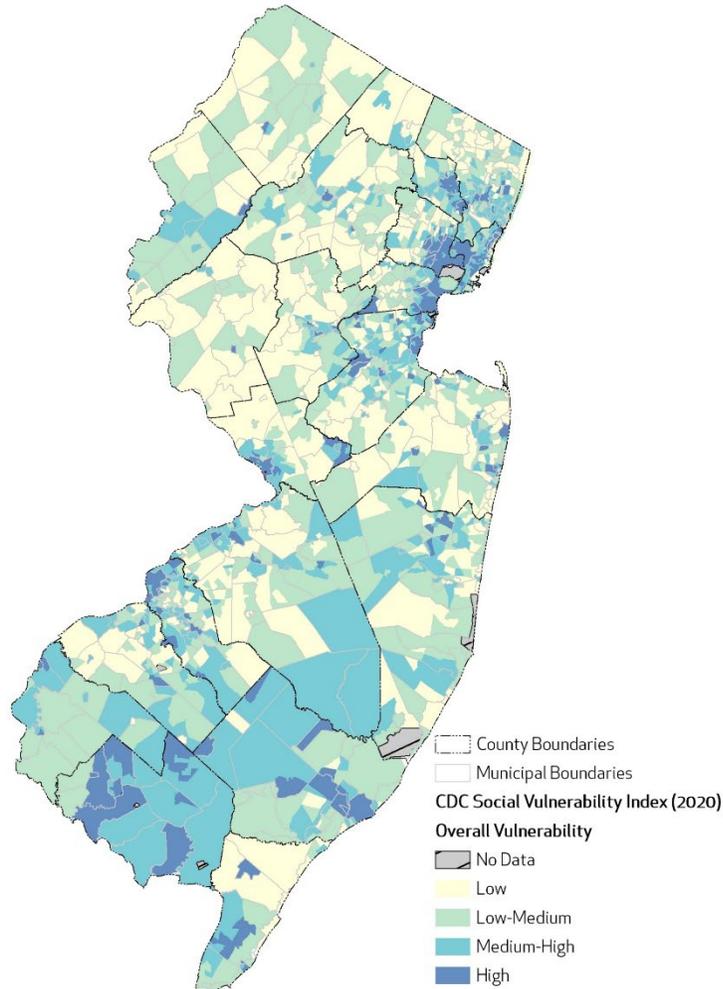


State Adoption and FEMA Approval
April 2024

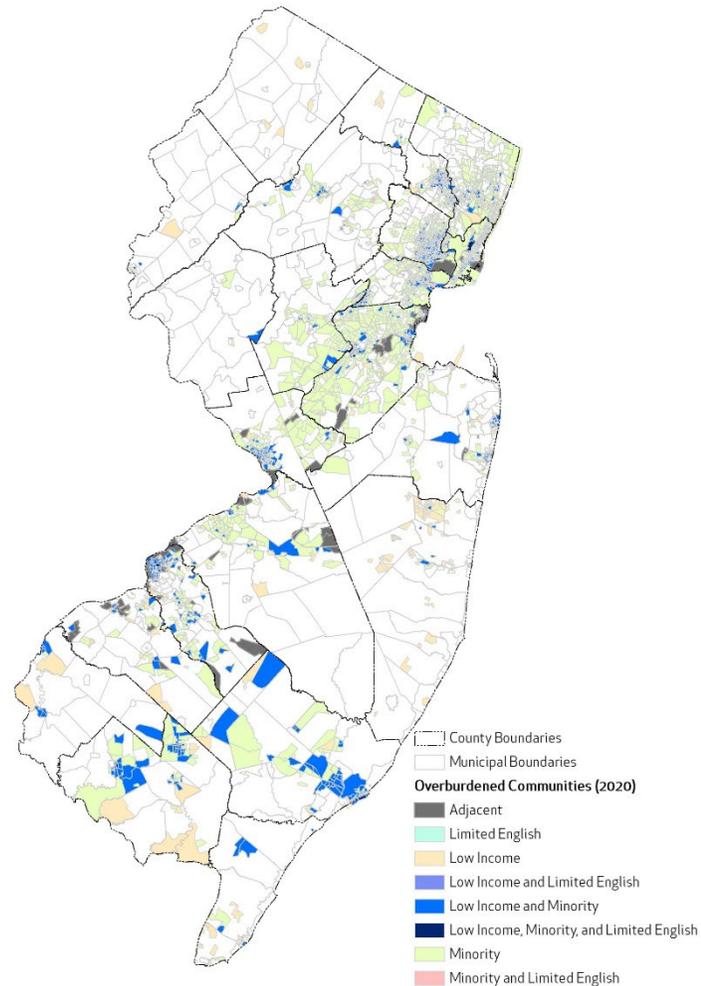


Considering Equity: Looking at Vulnerable Populations

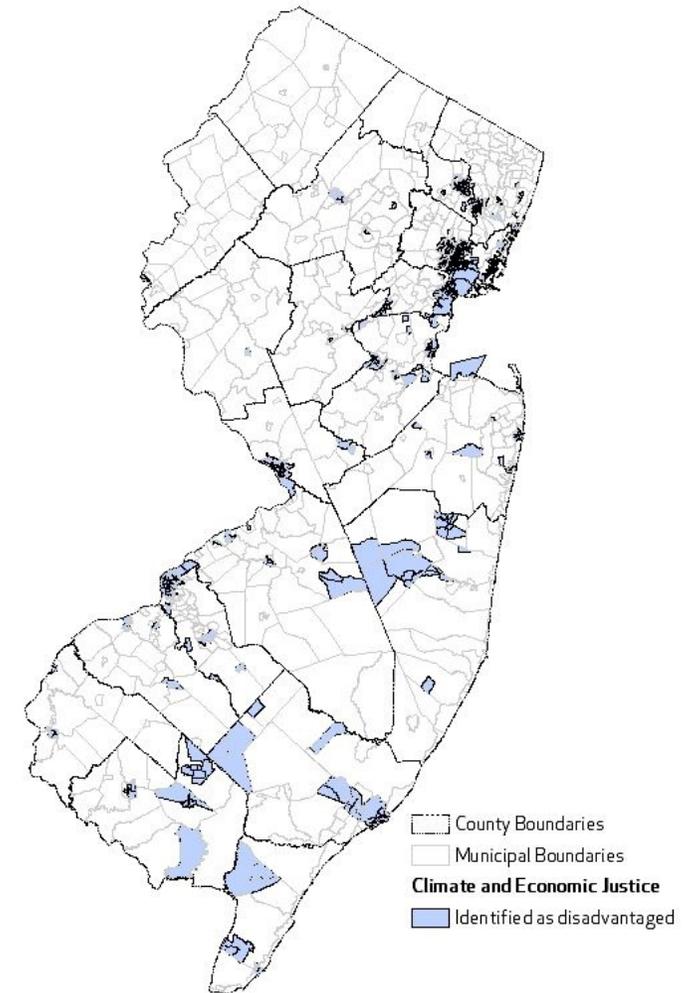
Centers for Disease Control and Prevention (CDC) Social Vulnerability Index (SVI) (2020)



Overburdened Communities under the New Jersey Environmental Justice Law (2020)



White House Climate and Economic Justice Screening Tool (CEJST) (2022)



Step 3: Explain Impacts

How does social vulnerability shape impacts?

2024 State HMP Hazards

Coastal Erosion (including enhanced discussion of beach protection)

Dam/Levee Failure

Drought

Earthquakes

Extreme Temperature

Flood (riverine, coastal, storm surge, nuisance flooding caused by sea-level rise, and stormwater flooding)

Geological Hazards (landslide subsidence/sinkholes, radon exposure, and saltwater intrusion)

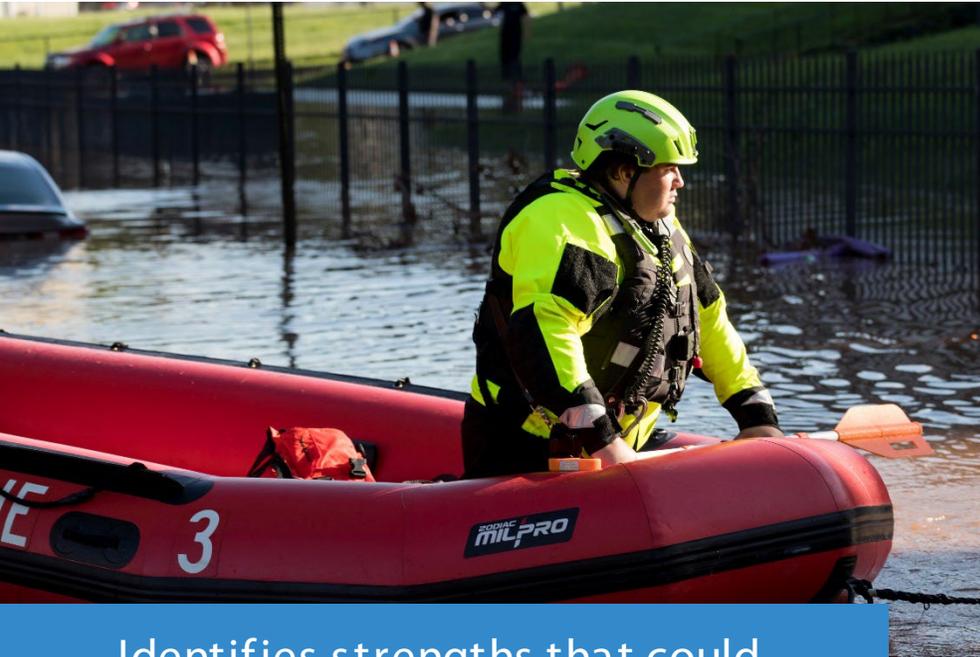
Hurricanes , Nor'easters, Tropical Storms (wind only, power failure from hurricane winds)

Severe Weather (high winds, tornadoes, thunderstorms, hail, power failure from high winds/tornados)

Severe Winter Weather (snow, blizzards, and ice storms. Power failure from severe winter weather)

Wildfire

Step 4: Capability Assessment



Identifies strengths that could reduce losses and reduce risks in the community

- Does your organization have or work with programs that reduce impacts to at-risk populations?
- What gaps may exist that decrease an underserved community's ability to access resources and plan for risk reduction?
- Do any capabilities disproportionately benefit wealthy areas or neighborhoods?
- Do any capabilities actively increase the vulnerability of underserved and socially vulnerable populations and communities?
- What obstacles/challenges have you encountered in trying to reduce risk of a future event?

Step 5: Develop the Mitigation Strategy



Plans and regulations include government authorities, policies, or codes that encourage risk reduction, such as building codes and state planning regulations. This may also include planning studies.



Structure and infrastructure projects involve modifying existing structures and infrastructure or constructing new structures to reduce the impact of hazards.



Natural systems protection projects minimize losses while also preserving or restoring the function of natural systems.



Education and awareness programs include long-term, sustained programs to inform and educate citizens and stakeholders about hazards and mitigation options. This category could also include training.

Thank You!

State Hazard Mitigation Plan

Social Equity Virtual Stakeholder Workshop

Date: **June 21, 2023**

Time: **2pm – 3:30pm**

Location: **Microsoft Teams**

Attendees

Name	Organization
Ann Thoresen	Jewish Family Services
Faye Evans	American Red Cross
Kimberly Goetz	American Red Cross
Jen Butzgy	NORWESCAP
Raquel Kooper	Monarch Housing Associates
Phyllis Worrell	
Nathaly Agosto Filion	New Jersey Department of Environmental Protection
Shamay Phillips	New Jersey Department of Environmental Protection
Chris Testa	New Jersey Office of Emergency Management
Dinan Amin	New Jersey Office of Emergency Management
Cansu Yerdelenli	New Jersey Office of Emergency Management
Jessica Jahre	Michael Baker International
Carrie Martin	Michael Baker International
Chris Huch	Tetra Tech

1. Introductions

2. Project Overview

- Michael Baker International (MBI) described hazard mitigation and the hazard mitigation plan.
- MBI described the project schedule, with State Adoption and FEMA Approval in April 2024.
- MBI asked if any stakeholders participated in hazard mitigation planning?
 - Stakeholders have not participated before.
- MBI explained how new FEMA planning requirements aim to center equity in the planning process.

3. Considering Equity in HMPs: Impacts to Socially Vulnerable Populations

- MBI explained the different datasets that FEMA recommends to identify socially vulnerable populations and overburdened communities.
 - The goal is to align the plan with Federal recommended datasets and State datasets.
- Faye Evans from the American Red Cross asked if we should also look at mobile home data.
 - MBI explained that we have collected information on mobile homes in the state.

○ How does socially vulnerable populations are impacted by natural hazards?

Jewish Family Services

- Jewish Family Services works with individuals experiencing homelessness on the shore in Atlantic County.

- These individuals live in hotels and motels. A typical storm will cause problem for these individuals because there is no recourse if their belongings are damaged.
- Jewish Family Services also works with older populations who don't have families nearby to rely on.
 - When there are storms, evacuation is difficult for older adults.
- Clients of Jewish Family Services are impacted by high winds, hurricanes, flooding, and high tide events.
- MBI asked Jewish Family Services if their organization owns any facilities.
 - Jewish Family Services is a community-based case management and outpatient services organizations. They perform case management in community in Atlantic and Cape May counties.

American Red Cross

- American Red Cross responds to disasters across the state.
 - During Hurricane Ida, American Red Cross opened centers in North Jersey.
 - These centers serviced a huge Spanish speaking population, people in poverty, and immigrants without other places to go.
 - People living in basement apartments have difficulty during and after a disaster because they may not qualify for government support.
 - American Red Cross also responds to home fires, which is not part of the plan.
 - Home fires may be a secondary hazard of extreme temperatures (increased use of fire-prone space heaters).
- MBI asked if the American Red Cross partners with other organizations for hazard mitigation.
 - The American Red Cross does a lot of preparedness training, lots of apps, seminars, and presentations.
 - They work with all of the counties, meet with county OEMs to see what their maximum shelter population is, and determine what resources can be provided by the American Red Cross and the county.
- American Red Cross noted that mobile homes are particularly vulnerable.
 - In general, there is not enough housing.
- Starting in Florida, the national American Red Cross is starting a program to with other organizations to address housing shortages.
- Faye Evans from American Red Cross suggested that the project team reach out to Keith Adams at NJ VOAD for more information on long-term recovery.

NORWESCAP

- Most of NORWESCAP's programs operate in Hunterdon, Sussex, and Warren counties (northwestern NJ).
 - These communities were impacted by Hurricane Sandy.
 - NORWESCAP received funding from Senior Services at the time.

- **How does social vulnerability shape impacts?**
 - The plan will include quantitative analysis and qualitative discussion on how socially vulnerable populations are impacted by natural hazards.

4. Considering Equity in HMPs: Assessing State Capabilities

- **Does your organization have or work with programs that reduce impacts to at-risk populations?**
Jewish Family Services
- Ann – want to prepare, if ppl need to shelter in place or evacuate, encourage ppl to get on special needs registry, we work with individuals who experience homelessness – where do they go – when things shut down in covid, what facilities do people use, not always easy, situated between the ocean and the bay, had to evacuate because of flooding
- Jj – when evacuated, alt location
 - Through network, there was a church, Oem opened shelters, individuals don't understand, if they have mental health challenges, hard to convince people to do this
- JJ – are there specific neighborhoods, you find yourself engaged with and providing services to, before or after an event
 - Faye – tends to be poor ppl without alternative places – farmworkers, its what you would expect
 - Ann – for us, it was sandy, it really varied, eye of storm came through margate, opened food pantry within day of storm and had people out the door to get pantry items, ppl across the board, storm decimated living situation – ppl didn't have coverage, saw across the board with that
- JJ – jen, I know you mentioned sandy, ida had impact on surprising populations in hunterdon, is there differences between how might be effected
 - Jen – didn't see difference btwn sandy and ida – very low income or senior citizens
- JJ- gaps in our capabilities for people to accrss resources – understanding how to access flood insurance, being more connected to community, are you aware of flood insurance being a resource
 - Faye – have to ask coastal people, in other areas, its very expensive, when you don't hae money, its not something you can afford – can't get ppl to get renters insurances
 - Ann – flodd insurance because they want to, price jumped from reasonable to something that's not affordable; challenges with writing the policies in NJ – don't want ot do that, paying a greater premium (personal experience with relative)
 - Jen – out of our purview, recommend ppl to have insurance but its not affordable
- Jj – anyone aware of ppl working at that intersection?
 - Not aware
- faye (Guest)
 - Red Cross is developing a Climate Adaption Team for Atlantic County to look at Housing, Health, etc. They are just in the starting point for NJ and hiring.
- JJ – in your experience, as practitioners, are there state programs, regs that seem to have an adverse effect on builldig capacity, equity within our state?
 - Kim – acclimating myself to the content; from my perspective, in a state like nj that is so home rule, muni is tenthered together with outny, do preparedness and

- the action, when we talk mitigation, the harder things, its difficult, some muni pull together to do planning, how we are organized is more difficult
- Jjj- pbeause we are so local oriented for decision making and planning, it can be difficult to look outwards, munis can be too honed in
 - Kim – perhaps. I see that with vulnerable populations, floods don't care about borerder, sometimes I look whats happening at a higher level whehre resources can be shared, challenges should be local but encouraged to share resources; content is stressful in community meetings after disasters
 - Jj – FAYE what about you,can you think of any programs or processes that counteract euiqty or mitigation planning
 - Nothing comes to mind at this time
 - CY – plays into more aid, funding, housing – those things ive read into -different states, county, try to alleviate homelessness – million dollar murray – article in new yorker – when there is money spent on these populations there is backlash – diff communities say why do these communities get special treatment – can cause more or a rift that cohension
 - JJ – have you faced any obstacles in interacting with vulnerable populations
 - Faye – ik that im not exgageded in mitigation, other than preparedness, we are making sure we have capacity to respnid, its really the state and the counties that do the mitigation
 - JJ – let me reframe. You're here because this is interesting enough ...your org has participated in disaster-related activities. Part of what we are doing with OEM is to make sure as we integrate FEMA's guidance into HMPs, doing so in a way that engages folks that have not been in process so far. What would it take for your orgs to participate in application, plan, program – is it outside your mission?
 - AT – we are involved not in mitigation, but we are called in when disaster to work with SVP, I would have to see what it would be, I think we are in some respect involved disaster response in areas within framework of services. Far amt of ppl with mental health challenges, its different, someone with thought disorder or anxiety – might have been sandy, red cross did a great job setting up for people with special needs, but outside of that, is there space for neurodivergent people. What other resources are used around the nation to help that group.
 - F – this is new to us. Climate Adaption Team – has started in south – neil palmer at HQ may be more helpful – we are new to that – we are focused on response – disability lead, work with county oem to the best of our ability – disaster response but what can we do to stop- mitigation – how do we move people out of flood zone and put dams up
 - Step 5 – develop the mitigation strategy – in recognition that you guys don't build flood walls, what can state/county do to make it easier for you to do your job, less populations to respond to, that's what we're trying to focus on, people who will be continually vulnerable, what can we do to reduce those vulnerabilities
 - 4 project types
 - F – in Elizabeth, there was a housing complex – how can you build outside of flood zones, support public housing outside of flood zones; after disaster, is there – mostly creating affordable housing in safe areas

- JB – affordable housing in state is an issue – idea of what's affordable and what HUD thinks is affordable
- F – they will give support for rent, but rent can't be over a certain amt – can't get support and can't get housing – policy issue
- JJ - HUD limit was not adjusted for housing costs in NJ
- F- apartment can't be at a certain level, agencies can support but policy is a barrier
- F – housing is the main barrier. Other barrier is language, but we are getting better. Response – need shelter volunteers. Red cross has 200 volunteers – how do you create a program where you have trained volunteers – have to be there for multiple days
- JJ – is there a solution, places?
 - F – some counties have good cert teams, others who don't;
 - Cert is a capability in some counties but not all
- Phyllis Worrell – Burlington County, one of the counties that has very active cert team; other thing for shelter staffing that's helpful, being able to manage spontaneous volunteers – help nj now portal – spontaneous volunteers – push them to the correct groups to do just in time training –
 - Helpnjinow.org – blue sky/grey sky portal. Have used it for quite a few years. What we found during COVID there were people who had needs – good management tool to push information out – people could list their skillset and get training
 - F – we tried using it for ida and didn't get any responses
 - JJ -may be more awareness around its existence
 - PW – more it gets used – hard to do education and determine how county wants to do it
 - PW – cert coordinator, health care coordinator from OEM
- Jj – is there anything we can do
 - JB – education of clients. Trainings. Client education in general. Housing expense education. Have a hard time now.
 - Kim – it really varies – the red cross, we focus on immediate needs, do as much preparedness as possible... for us and shelters, it's usually us or no where else to go. It resonates. Varies depending on how big the disaster is.
- Jj - Trying to provide guidance to county OEMs – county is going to have to do enhanced outreach – have you seen processes that were really effective – at outset of mtg, those on call said they have not
 - PW – I have participated in an update. One of the problems I have seen, when you are talking about social equity and mitigation, no one is addressing it, when you try to...in my county, we've identified a number of different languages, working with health department, AFN coordinator is a health dept trainee – during irene and sandy, had shelters with hundreds of people with no other resources, information was not communicated to them so they could have other choices – don't get addressed unless they are forced to – just did sheltering exercise – I ran people through with those who have physical needs, don't speak English, have no money, the OEM coordinator didn't know what to do, those who have been around a long time have, my challenge is I have been around a long

- time, but others haven't – everything that you're talking about is important but without direction from state throughout OEM – won't be addressed without push,
- Kim – hasn't participated in hazard mitigation
 - Jj – I have seen with Justice40 more emphasis on bringing more attention to socially vulnerable communities – have you participated in other efforts – any best practices we can learn from
 - Kim – our disaster team participate often to do pre planning and strategic work to help future clients – I haven't been at those tables
 - JB would be interested in getting involved with OEM in Hunterdon when they update their plan
 - JJ – one of the challenges can be ID who the right orgs are – would you be open to being a resource – Jen answered for Norwegaap
 - Kim – may be able to use connections – not sure what connections we have in this lane
 - PW – I would agree – when you're looking – ESF6 – some of the collabs are the right people to get involved to really address it more thoroughly – the exercise we just did was at request of human services because they wanted to exercise access and function needs community for shelters – agencies.dept already have connections with the partners who need to be represented
 - Do you guys know of head – Joe Galleta – contact at NJDCA
 - JJ – Is there anything else that has come up for you that you'd like to address for the role of equity and hazard mitigation?
 - Anyone from state agencies?
 - CY – do any orgs find undocumented populations less likely to step up, are there any populations that are hardest to reach out to?
 - Pw – 100% It is a challenge. Through COVID, I ran one of the state megasites, hard to get undocumented workers to get vaccinated, in Burlington county, we had to send people out to the farms to let them know they didn't have to be here legally or have id – wasn't until we had cooperation from farmers we got word out, then the word spread from their social structures, then had vans of folks come in and got them in and they came back for second doses and boosters, but in beginning – working with refugee orgs or immigrant orgs – they are going to be most impacted and have the fewest resources – no id, no medical care, English not first language – can find the right partners to get folks out – have Hispanic grocery store – asked to put up flyer – think outside the box.

5. Enhancing Equity in Local Mitigation Plans

6. Risk Assessment Findings

- Michael Baker International gave an overview of the risk assessment findings for transportation facilities
- Caveated limitations of point and line data rather than elevation data
- Explained the inundation of roadways

- Explained which assets were vulnerable to SFHA, SFHA +3, Storm Surge – Category 1, Storm Surge Category 4, Sea-Level Rise – 2 Feet, Tornado, Nuclear, and Landslide

7. Capability Assessment

- Tetra Tech explained that the capability assessment includes the identification of pre- and post-disaster capabilities in NJ, a review of local HMPs, and emerging capabilities; new requirements

8. Mitigation Strategy

- Mitigation workshops will be held in May/June.
- Strategy will highlight success stories, past accomplishments, current efforts, and proposed strategies.
- Actions that will support pre- and post-disaster mitigation can include plans and regulations, structure and infrastructure projects, natural systems protection projects, education and awareness programs.

9. Identifying Problems and Solutions

- Tetra Tech explained how the project team is defining problem identification and solution identification.

10. Miro Board Exercise #1 - Capability Assessment

- **How is your agency integrating climate change into your decision making?**
 - Donna – NJOPA Require PE municipalities to do resilience assessment...a lot had to go to those that are going to knock on
- **How is your agency advancing equitable outcomes for socially vulnerable populations that face hazard risk?**
 - Donna – A lot of them know it intuitively, how to do outreach, less disenfranchised if you go to them; how do you make sure housing is built in the right place; a lot of municipalities that don't want vulnerable populations to be housed in centers; spend a lot of time with municipalities telling them that's what they want to do
 - David – It really pertains to some new loans...anything that we finance, a requirement of loan is to keep the asset in good working order...modifying assets on the coast, will that be underwater in 30-years? If it isn't, houses may disappear, which...
 - Cheryl – It is a brief section on resilience...we are redoing our district regulations and working on transportation regs and hopefully we can add things to move us along
 - Zenon – We have a Climate and Resilience program as part of our work here...one of the projects is impacts of extreme weather events, studying where damage has occurred, that info will go into long-range transportation, looking into IJJA for additional studies...looking at SVP as part of research, esp the populations in urbanized areas such as Newark and Paterson
 - When is the next long-term plan – in 3 years
 - Chris Huch– as we look forward, we look at what will get started in the next 5 years... curious about evacuation planning and evacuation response and how SVP are involved?
 - Joe Livingston – we are developing resilience program and have drafted resilience plan with a prospective look to analyze hazards, most critically...working with consultant partners to make screening tool..conducting vulnerability pilot

- studies. then look to incorporate screening tool in project development and include in SOW that they need to do drilled down vulnerability assessment, on other side, prepping sustainability plan and looking at carbon footprint, installing EV chargers and doing a pilot program with PV, working with IAC to contribute to extreme heat plan
- Interact with communities that are socially vulnerable, work with government entities
 - Donna – when we talk about OBC and SVP, many of them don't have access to cars, when talking about evacuation, include public transit (bus, train) seniors cant do that, have evacuation plans that include public transit
 - **What new capabilities/programs/plans/policies have emerged to support hazard mitigation and risk reduction in the last five years?**
 - David Zimmer – have a transportation bank, couple of new programs...for disadvantaged communities (EJ communities) program with \$10m for EJ communities that received competitive grants from Federal government, 0% financing for the match; very cheap funds, never have to pay interest on it; doesn't have to go with resilience but has to do with SVP and transportation – DOT working with I-Bank
 - Donna – about to engage on State Plan update, as part of update, complete Infrastructure Needs Assessments – pull from other state agencies to see if there are any opportunities and see where we can as a state fill those gaps; we are not reinventing the wheel, reaching out to non-State agencies like MPOs that might have info and capabilities analyses...part 1 is including the environment, transportation and energy, part ii will include public health, education, etc. as part of that, we should be able to ID climate change and equity issues
 - Zenon – Passaic River Basin Climate Resilience Planning Study (2019) looks at ways to plan and has shared that with subregions
 - **What obstacles/challenges have you encountered that have kept your organization/agency from advancing hazard risk reduction further?**
 - Zenon – one of the challenges is not continuing the conversation...not sure how much has gone into implementing the strategies...limited communications with State partners
 - David – we really get State or Federal funds, and we make the construction possible, designs are dependent on the engineers, take the plans off the shelf, doing the same thing – wash, rinse, repeat. Climate change is a newer issue that requires out-of-the-box thinking. We don't see that on the 100 projects that we finance every year. Because we don't control designs, we can't make regulations for the design. Take the folks who are responsible for planning and design and look at more innovative ideas.
 - Joe Livingston – based on our other work with DEP, we are asked to use the same data (Rutgers data) – that's inherent with a specific risk profile, that's a convo if that's an appropriate level or risk to plan for, and what time frame, the roadway's lifecycle is infinite, so I'm looking at when that hazard will come into play
 - Chris Testa – when you guys are looking at high value assets, what to look at substantial resilience gains, we defer to experts, higher lifecycle = higher level of protection, Chris questions bring replacement after Sandy, may have community that may or may not be there in 50 years...delicate balance there
 - Joe Livingston – regional focus, community has to make decision

- Chris Testa – I’m a big proponent of having skin in the game, not looking for people to come in and save the day, don’t look to State or Feds to come bail us out

11. Miro Board Exercise #2 - Mitigation Strategy

- Donna – its not only about rail, not only from the perspective of dealing with immediate hazards, for folks that need those kinds of facilities; to have a resilience public transportation system that can be used in times of hazards to get people out of harm’s way, need to be part of the solution
- Donna – how do people know when the last bus is; need to be communicated, people needs to know, a lot of evacuation routes underwater, or how do we address it, can’t raise road without raising the roads; can’t raise anything, what’s the Plan B that the evacuation routes are flooded
- Joe Livingston – we are comparing whats today to 2050 and 2100 and trying to find out what’s the best time
- Donna – EV infrastructure need to be ramped up. Range issues are the problem. Great that we have EV incentives, but need to get the level we need.
- Chris Huch – loss of power, make sure that gas stations can function, what happens to people with EVs, is that going to be a new area of concern? New concerns...
- Donna – we should work towards burying all the utility lines
- David Zimmer – EVs – in urban areas, all your cars are green and the parking structures...need to talk about



**F.4-H. STAKEHOLDER WORKSHOP - SOCIAL EQUITY LISTENING SESSION
(6/21/2023)**



F.5 IAC MEETING (JUNE 13, 2023)



New Jersey State Hazard Mitigation Plan Update

IAC on Climate Resilience:
Monthly Senior Staff Meeting
June 13, 2023

Michael Baker
INTERNATIONAL



TETRA TECH



Project Schedule



Virtual Stakeholder Workshops
Through June 2023



Coordination with State Agencies
Through June 2023



Draft Plan to NJOEM
August 2023



Draft Plan to FEMA
October 2023



Final Plan Submission to OEM/NJ
January 2024



State Adoption and FEMA Approval
April 2024



Outreach and Engagement Overview

- **Coordination with State Agencies**
 - Meeting with each state agency to discuss risk assessment finding and to update their capabilities and mitigation actions
- **Stakeholder Workshops (April – May 2023)**
 - Seven Virtual Stakeholder Workshops via Zoom
 - Used Miro Board to virtually engage participants to complete their capabilities, problems, and solutions
 - To date, participation from 76 stakeholders
- **Social Equity Listening Session (June 21, 2023)**
 - Conversation on building equity into hazard mitigation planning in New Jersey



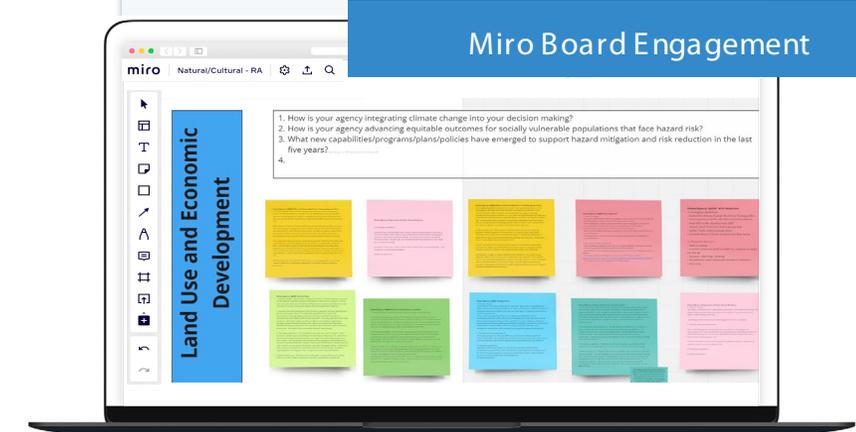
Outreach Flyer

NEW JERSEY STATE HAZARD MITIGATION PLAN

VIRTUAL STAKEHOLDER WORKSHOPS

Join New Jersey Office of Emergency Management for a series of virtual stakeholder workshops on the impacts of hazards (flooding, wildfire, wind, etc.) on regional assets (listed below) in the state, and the capabilities and strategies to reduce risk.

 LAND USE & ECONOMIC DEVELOPMENT April 19, 2023 @ 11:00 am - 1:00 pm EST Link to Register	 HEALTHCARE SYSTEMS & SERVICES May 2, 2023 @ 1:00 - 3:00 pm EST Link to Register
 NATURAL & CULTURAL RESOURCES April 20, 2023 @ 10:00 am - 12:00 pm EST Link to Register	 WATER RESOURCES May 3, 2023 @ 10:00 am - 12:00 pm EST Link to Register
 HOUSING & SOCIAL SERVICES April 24, 2023 @ 1:00 - 3:00 pm EST Link to Register	 OPEN HOUSE May 4, 2023 @ 1:00 - 3:00 pm EST Link to Register
 TRANSPORTATION April 25, 2023 @ 2:00 - 4:00 pm EST Link to Register	



Miro Board Engagement

1. How is your agency integrating climate change into your decision making?
2. How is your agency advancing equitable outcomes for socially vulnerable populations that face hazard risk?
3. What new capabilities/programs/plans/policies have emerged to support hazard mitigation and risk reduction in the last five years?
4.

Risk Assessment – Summary of Findings



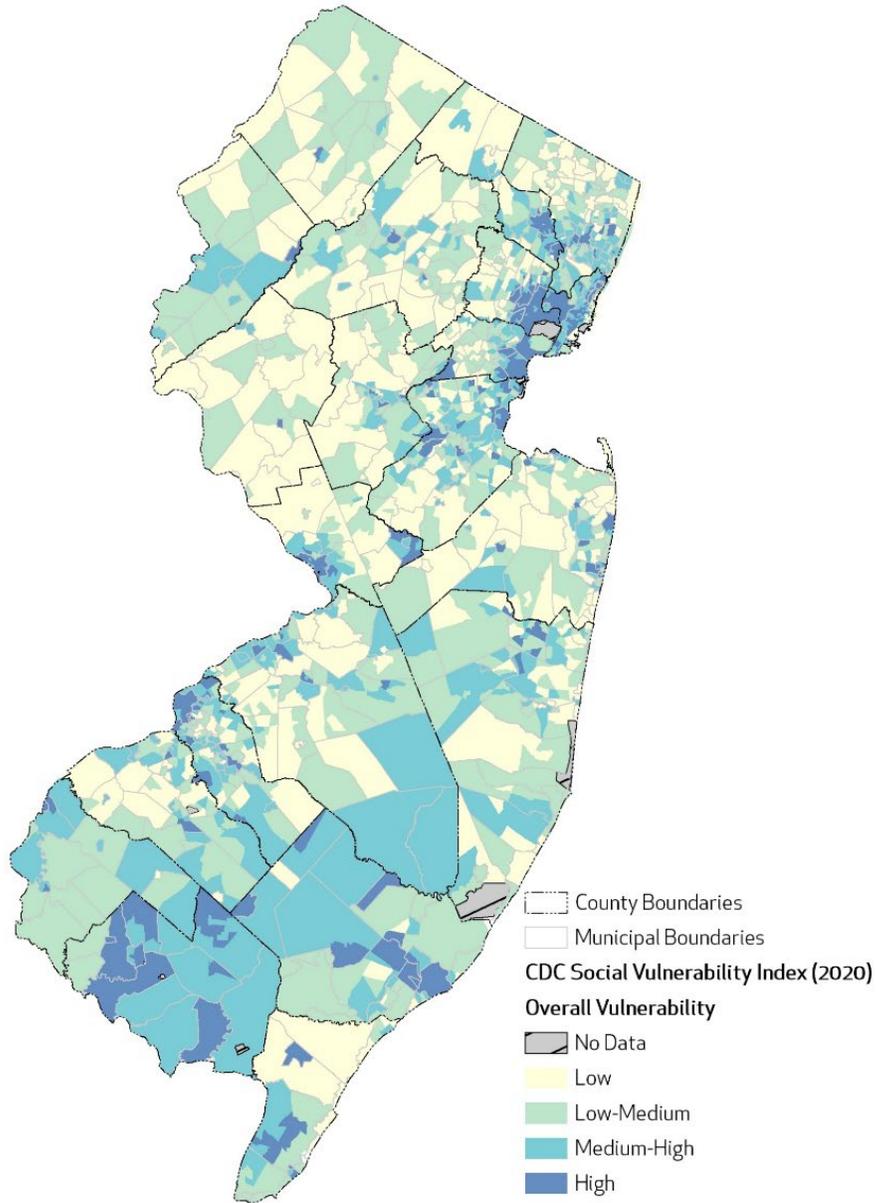
Count & Percent of State Assets at Risk of Natural Hazards

	Total Assets	SFHA	BFE + 3-ft	Coastal BFE + 5-ft	SLR + 2- ft	SLR + 3-ft	SLOSH Cat 1	SLOSH Cat 2	SLOSH Cat 3	SLOSH Cat 4	Tornado	Landslide	Nuclear 10 Mil	Nuclear 50 Mil
Count	3,742	597	283	741	147	187	268	568	812	908	2,128	5	12	1,218
Percent	100%	16.0%	7.6%	19.8%	3.9%	5.0%	7.2%	15.2%	21.7%	24.3%	56.9%	0.1%	0.3%	32.5%

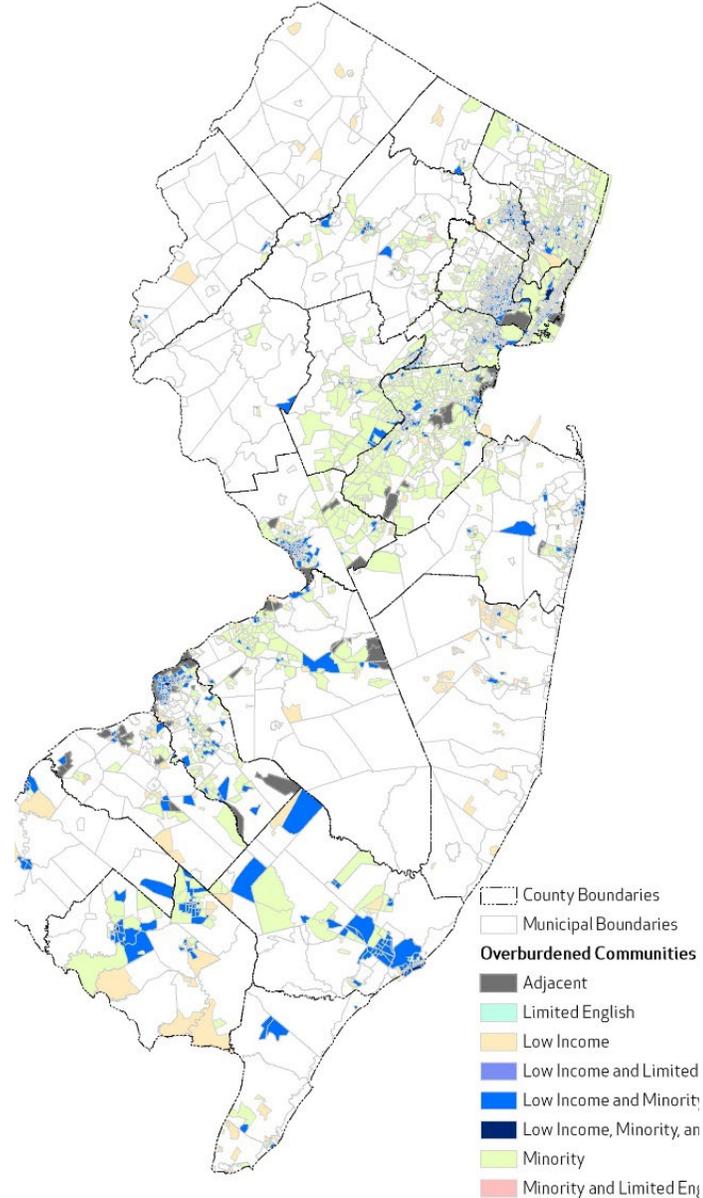
Count & Percent of Community Lifelines at Risk of Natural Hazards

Community Lifeline	Total	SFHA	BFE +3-ft	Coastal BFE + 5-ft	SLOSH Cat 1	SLOSH Cat 2	SLOSH Cat 3	SLOSH Cat 4
Communications	3,280	559	252	559	315	477	586	731
Energy	570	136	84	136	94	123	143	177
Financial?	1,761	157	190	157	70	126	193	279
Food, Water, Shelter	2,202	215	198	215	98	160	252	361
Health and Medical	4,225	395	361	395	177	315	469	635

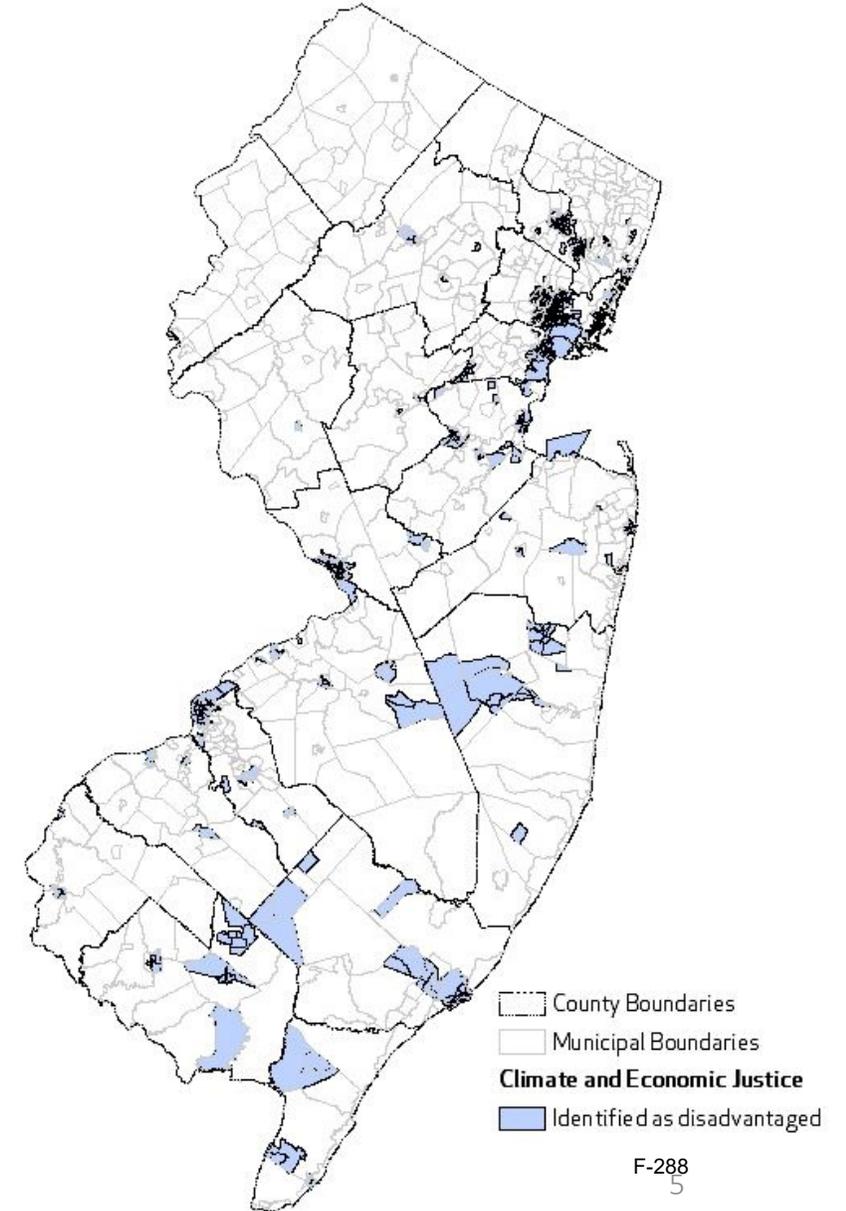
Centers for Disease Control and Prevention (CDC) Social Vulnerability Index (SVI) (2020)



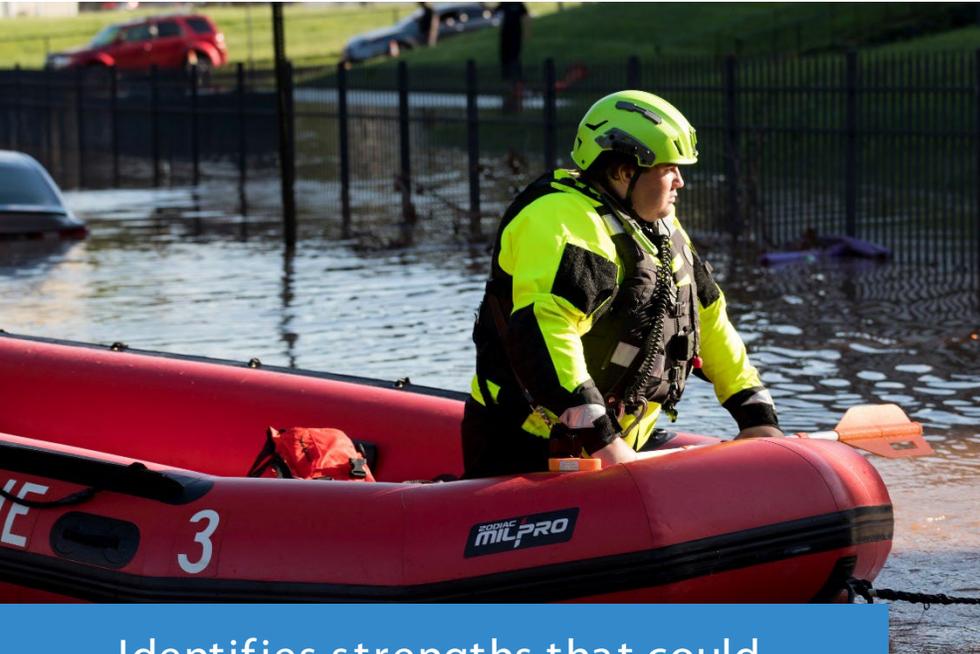
Overburdened Communities under the New Jersey Environmental Justice Law (2020)



White House Climate and Economic Justice Screening Tool (CEJST) (2022)



Capability Assessment



Identifies strengths that could reduce losses and reduce risks in the community

- Identification of pre- and post-disaster capabilities in New Jersey at the federal, state, and local levels including:
 - Regulations and requirements
 - Plans
 - Programs
 - Staffing/technical resources
 - Funding
- Review of local hazard mitigation plans and programs
- Emerging capabilities
- New areas of focus include planning for climate change impacts and addressing social equity in mitigation planning

Stakeholder Workshops – Capability Assessment

Attendees were asked questions concerning:

- Planning for climate change
- Coordination with socially vulnerable populations
- Emerging capabilities and those mitigation capabilities not identified in the previous SHMP
- Obstacles and barriers to successful risk reduction.
- Problems and potential solutions for consideration in the mitigation strategy

Capability Assessment - Natural and Cultural Resources			
1. How is your agency integrating climate change into your decision making? 2. How is your agency advancing equitable outcomes for socially vulnerable populations that face hazard risk? 3. What new capabilities/programs/plans/policies have emerged to support hazard mitigation and risk reduction in the last five years? 4. What obstacles/challenges have you encountered that have kept your organization/agency from advancing hazard risk reduction further?			
Name/Agency: Kevin McGowan, Department of Corrections 1. Climate change: 2. Socially vulnerable populations:	Name/Agency: Kevin McGowan, Department of Corrections 3. Emerging capabilities 4. Obstacles/barriers	Name/Agency: Vincenzo Ferriola, NJDEP 1. Climate change: 2. Socially vulnerable populations:	Name/Agency: Vincenzo Ferriola, NJDEP 3. Emerging capabilities 4. Obstacles/barriers
Name/Agency: Sujatha Girija, PSE&G 1. Climate change: 2. Socially vulnerable populations:	Name/Agency: Sujatha Girija, PSE&G 3. Emerging capabilities 4. Obstacles/barriers	Name/Agency: Cheryl Rezendes, NJ Sports and Exposition Authority 1. Climate change: 2. Socially vulnerable populations:	Name/Agency: Cheryl Rezendes, NJ Sports and Exposition Authority 3. Emerging capabilities 4. Obstacles/barriers
Name/Agency: Ashlyn Spector, Rutgers University 1. Climate change: 2. Socially vulnerable populations:	Name/Agency: Ashlyn Spector, Rutgers University 3. Emerging capabilities 4. Obstacles/barriers	Name/Agency: Donna Rendino, Department of State 1. Climate change: Identification of cultural, historical and natural resources and part of our risk process, and to develop a method of protection for their safety. 2. Socially vulnerable populations: Promoting, locating housing in non-vulnerable areas; identification of vulnerable populations and encourage outreach in their communities for types and feedback.	Name/Agency: Donna Rendino, Department of State 3. Emerging capabilities incorporating mitigation factors in land use planning, recognition of and education to local elected officials and residents. Agree with adding green/pocket parks to urban areas. 4. Obstacles/barriers cost and disbelief.
Name/Agency: Larry Fink, NJDEP Green Acres Program 1. Climate change: See my notes from yesterday's meeting for all questions. 2. Socially vulnerable populations: New NJ Floodplain disclosure requirements should help avoid people who are often of lower income from continuing to purchase homes that have experienced or are susceptible to flooding.	Name/Agency: Larry Fink, NJDEP Green Acres Program 3. Emerging capabilities 1. Floodplain disclosure requirement - see #2. 4. Obstacles/barriers: There are several rules, regulations, and programs that encourage or facilitate build-out/growing and in floodplains and flood-prone areas. Category 1: Permitting municipal zoning. 2. Permitting state regulations/policies/guidelines. 3. Building elevation programs. We need to discourage continued occupancy and development in high-risk floodplains areas.	Name/Agency: Amy Hrabik, Delaware Valley Regional Planning Commission 1. Climate change: Use of our disaster change needs review, or equivalent, as an update or update to our disaster or emergency response plan. We are currently in the process of updating our disaster or emergency response plan. We are currently in the process of updating our disaster or emergency response plan. We are currently in the process of updating our disaster or emergency response plan.	Name/Agency: Amy Hrabik, Delaware Valley Regional Planning Commission 3. Emerging capabilities 1. Floodplain disclosure requirement - see #2. 4. Obstacles/barriers: There are several rules, regulations, and programs that encourage or facilitate build-out/growing and in floodplains and flood-prone areas. Category 1: Permitting municipal zoning. 2. Permitting state regulations/policies/guidelines. 3. Building elevation programs. We need to discourage continued occupancy and development in high-risk floodplains areas.
Name/Agency: Larry Fink, NJDEP Green Acres Program 1. Climate change: 2. Socially vulnerable populations:	Name/Agency: Larry Fink, NJDEP Green Acres Program 3. Emerging capabilities 4. Obstacles/barriers	Name/Agency: Larry Fink, NJDEP 1. Climate change: 2. Socially vulnerable populations:	Name/Agency: Larry Fink, NJDEP 3. Emerging capabilities 4. Obstacles/barriers
Name/Agency: 1. Climate change: 2. Socially vulnerable populations:	Name/Agency: 3. Emerging capabilities 4. Obstacles/barriers	Name/Agency: 1. Climate change: 2. Socially vulnerable populations:	Name/Agency: 3. Emerging capabilities 4. Obstacles/barriers

Mitigation Strategy Update

- Update aspects of previous actions (BATool review)
- Problem **identification and description**
 - Describe the challenge/obstacle/impact
 - Which hazard(s) cause this problem?
 - Where is the problem occurring?
 - Who is the problem impacting?
 - Have there been past impacts?
- Solution **identification and description**
 - What are the options to solve or mitigate the problem?
 - Who is responsible for what aspects of the project?
 - What is the estimated cost?
 - What funding sources are available?



Mitigation Strategy Workshops

- June 14 and 20th
- In order to have mitigation actions included in the SHMP, agencies will need to either:
 - Attend one of the two workshops, or
 - Set up a call with the planning team.
- Participants should come prepared to provide detailed information on problems and solutions.

Quality Over Quantity!!



F.6 LIST OF STAKEHOLDERS



STATE OF NEW JERSEY 2024 ALL-HAZARD MITIGATION PLAN

Table 1 Mitigation Strategy Workshop Attendees

Name	Organization	Attended 6/14/2023	Attended 6/20/23
Amy Verbofsky	Delaware Valley Regional Planning Commission		✓
Larry Fink	Department of Environmental Protection		✓
Jesse Kolodin	Department of Banking and Insurance		✓
Martha Sapp	Department of Environmental Protection	✓	
Jessica Cobb	Department of Environmental Protection	✓	
Courtney Wald-Wittkop	Department of Environmental Protection	✓	
Jennifer Feltis	Department of Environmental Protection	✓	
Jeffrey L. Hoffman	Department of Environmental Protection	✓	
Clint Omen	Department of Environmental Protection	✓	
Kim McEvoy	Department of Environmental Protection	✓	
Mitzi Kaiura	Department of Environmental Protection		✓
Vincenzo Ferriola	Department of Environmental Protection		✓
Kinney Clark	Department of Environmental Protection		✓
Robert Van Fossen	Department of Environmental Protection		✓
Jennifer Pepson Elwood	Dewberry	✓	
Emma Corrado	Economic Development Authority		✓
Patience Purdy	Economic Development Authority	✓	
Maryjude Haddock-Weiler	Highlands Council	✓	
Emily Korman	New Jersey Transit	✓	
Joseph Livingston	New Jersey Turnpike Authority	✓	
Josh DeFlorio	Port Authority of New York/ New Jersey	✓	
Dr. David A. Robinson	Rutgers – Office of the State Climatologist	✓	
Ashlyn Spector	Rutgers University	✓	
David Heller	South Jersey Transportation Planning Organization		✓

Table 2 State Agency Meeting Attendees

Name	Organization	Attended 3/16/2023	Attended 6/14/23	Attended 6/20/2023	Social Equity 6/21/23 Attendance
Faye Evans	American Red Cross				✓
Kimberly Goetz	American Red Cross				✓
Taryn Boland	Board of Public Utilities	✓			
Amy Verbofsky	Delaware Valley Regional Planning Commission	✓		✓	
Bill Rader	Department Military & Veterans Affairs	✓			
Jeff Beach	Department Military & Veterans Affairs	✓			
Larry Fink	Department of Environmental Protection			✓	
Jesse Kolodin	Department of Banking and Insurance			✓	
Luciana DiMaggio	Department of Community Affairs	✓			
Samuel Viavattine	Department of Community Affairs	✓			
Julie Bunt	Department of Education	✓			



STATE OF NEW JERSEY 2024 ALL-HAZARD MITIGATION PLAN

Name	Organization	Attended 3/16/2023	Attended 6/14/23	Attended 6/20/2023	Social Equity 6/21/23 Attendance
Clint Omen	Department of Environmental Protection		✓		
Courtney Wald-Wittkop	Department of Environmental Protection		✓		
Dennis Reinknecht	Department of Environmental Protection	✓			
Jeffrey L. Hoffman	Department of Environmental Protection		✓		
Jennifer Feltis	Department of Environmental Protection		✓		
Jessica Cobb	Department of Environmental Protection		✓		
Kim McEvoy	Department of Environmental Protection		✓		
Kinney Clark	Department of Environmental Protection			✓	
Martha Sapp	Department of Environmental Protection		✓		
Mitzi Kaiura	Department of Environmental Protection	✓		✓	
Nathaly Agosto Filion	Department of Environmental Protection				✓
Nick Angarone	Department of Environmental Protection	✓			
Robert Van Fossen	Department of Environmental Protection			✓	
Shamay Phillips	Department of Environmental Protection				✓
Vince Mazzei	Department of Environmental Protection	✓		✓	
Miae Park	Department of Law and Safety	✓			
SFC Marc Reinecker	Department of Military and Veterans Affairs	✓			
SFC Sarah Nothdurft	Department of Military and Veterans Affairs	✓			
Donna Rendeiro	Department of State (Office for Planning Advocacy)	✓			
Michael Griffin	Department of Treasury / Office of Management and Budget	✓			
Jennifer Pepson Elwood	Dewberry		✓		
Emma Corrado	Economic Development Authority	✓		✓	
Patience Purdy	Economic Development Authority		✓		
James Kelly	Governor's Office of Rebuilding and Recovery (GORR)	✓			
Taraun Tice McNight	Governor's Office of Rebuilding and Recovery (GORR)	✓			
Maryjude Haddock-Weiler	Highlands Council	✓	✓		
Lisa Auermuller	Jacques Cousteau National Estuarine Research Reserve	✓			
Ann Thoreson	Jewish Family Services				✓
Paul Penna	League of Municipalities	✓			
Brittany Dremluk	Michael Baker International, Inc.	✓			
Jessica Jahre	Michael Baker International, Inc.	✓			✓
Carrie Martin	Michael Baker International, Inc.				✓
Raquel Kooper	Monarch Housing Associates				✓
Michael Hertzog	New Jersey Department of Environmental Protection	✓			
Kevin McGowen	New Jersey Department of Corrections	✓			



STATE OF NEW JERSEY 2024 ALL-HAZARD MITIGATION PLAN

Name	Organization	Attended 3/16/2023	Attended 6/14/23	Attended 6/20/2023	Social Equity 6/21/23 Attendance
Joseph Ruggeri	New Jersey Department of Environmental Protection	✓			
Tanya Rohrbach	New Jersey Future	✓			
George Rolon	New Jersey Infrastructure Bank	✓			
Joshua Nessonson	New Jersey Infrastructure Bank	✓			
Collete Santasieri	New Jersey Institute of Technology	✓			
MAJ John Craddock	New Jersey National Guard	✓			
Bradley Waugh	New Jersey Office of Emergency Management	✓			
Chris Testa	New Jersey Office of Emergency Management	✓			✓
Dinan Amin	New Jersey Office of Emergency Management	✓			✓
Cansu Yerdelenli	New Jersey Office of Emergency Management				✓
Major Christopher DeMaise	New Jersey Office of Emergency Management	✓			
Michael Geraghty	New Jersey Office of Homeland Security	✓			
Cpt. Ryan Frasier	New Jersey Transit	✓			
Emily Korman	New Jersey Transit	✓	✓		
John Keller	New Jersey Turnpike Authority	✓			
Joseph Livingston	New Jersey Turnpike Authority		✓		
Walter Dragon	NJ National Guard	✓			
Cheryl Rezendes	NJ Sports and Exposition Authority	✓			
Monica Miannecki	NJ Sports and Exposition Authority	✓			
David Behrend	North Jersey Transportation Authority	✓			
Jen Butzgy	NORWESCAP	✓			✓
Joseph Galeta	Office of Homeland Security and Preparedness	✓			
Chris Rein, CTO	Office of Information Technology	✓			
Karen Krenzel	Office of Information Technology	✓			
Lisa Blauer	Office of Information Technology	✓			
Constance Lawrence	Port Authority of New York/ New Jersey	✓			
Josh DeFlorio	Port Authority of New York/ New Jersey	✓	✓		
Tiffany Chapman	Port Authority of New York/ New Jersey	✓			
Jeanne Herb	Rutgers - Climate Change Resource Center	✓			
Marjorie Kaplan	Rutgers - Climate Change Resource Center	✓			
Clint Andrews	Rutgers – Edward J. Bloustein School of Planning & Policy	✓			
Dr. David A. Robinson	Rutgers – Office of the State Climatologist	✓	✓		
Mathieu Gerbush	Rutgers – Office of the State Climatologist	✓			
Ashlyn Spector	Rutgers University	✓	✓		
Bhushan Pathare	South Jersey Transportation Authority	✓			
James Sullivan	South Jersey Transportation Authority	✓			
Nelson Wiest	South Jersey Transportation Authority	✓			



STATE OF NEW JERSEY 2024 ALL-HAZARD MITIGATION PLAN

Name	Organization	Attended 3/16/2023	Attended 6/14/23	Attended 6/20/2023	Social Equity 6/21/23 Attendance
Shawn Carpenter	South Jersey Transportation Authority	✓			
David Heller	South Jersey Transportation Planning Organization			✓	
Taylor Waymire	South Jersey Transportation Planning Organization	✓			
Jon Miller	Stevens Institute of Technology	✓			
Alison Miskinman	Tetra Tech, Inc.	✓			
Chris Huch	Tetra Tech, Inc.	✓			✓
Anne Heasley	The College of New Jersey	✓			
Kimberly McKenna	The Richard Stockton College – Coastal Research Center	✓			
Phyllis Worrell	Virtua Health				✓

Table 3 Stakeholder Workshop Attendees

Name	Organization	Attended Land Use/ Economic Development Workshop	Attended Natural and Cultural Workshop	Attended Housing Workshop	Transportation Workshop	Healthcare Workshop	Water Resources Workshop	Open House
Jim Hess	AECOM		✓					
Karen Koptic	Atlantic County				✓			
Elizabeth Brown	Delaware River Basin Commission							✓
Amy Verbofsky	Delaware Valley Regional Planning Commission						✓	
Luciana DiMaggio	Department of Community Affairs		✓					
Nathaly Agosto Filion	Department of Environmental Protection			✓				
Nick Angarone	Department of Environmental Protection	✓						
Vincenzo Ferriola	Department of Environmental Protection	✓						
Martha Sapp	Department of Environmental Protection	✓						
Charles Jenkins	Department of Environmental Protection	✓	✓					
Courtney Wald- Wittkop	Department of Environmental Protection						✓	
Kate Marcopul	Department of Environmental Protection			✓				
Kinney Clark	Department of Environmental Protection		✓					
Jeffrey L. Hoffman	Department of Environmental Protection	✓						
Donna Rendeiro	Department of State (Office for						✓	



STATE OF NEW JERSEY 2024 ALL-HAZARD MITIGATION PLAN

Name	Organization	Attended Land Use/ Economic Development Workshop	Attended Natural and Cultural Workshop	Attended Housing Workshop	Transportation Workshop	Healthcare Workshop	Water Resources Workshop	Open House
Sophia Calcaterra-Hull	Planning Advocacy) Hudson County	✓	✓	✓	✓			
Lisa Auermuller	Jacques Cousteau National Estuarine Research Reserve							✓
Bob Hartman	Mercer County OEM Coordinator	✓						
John Ferguson	Middlesex County							✓
Bridget Neary	Monmouth County							✓
Scott Nielsen	Monmouth County OEM Coordinator			✓				
Thomas Herrington	Monmouth University, Urban Coast Institute							✓
Joe Barilla	Morris County							
Virginia Michelin	Morris County							✓
George Rolon	New Jersey Infrastructure Bank						✓	
Josh Nessenson	New Jersey Infrastructure Bank				✓			
Ambika Mehta	New Jersey Infrastructure Bank				✓		✓	
Judy Karp	New Jersey Infrastructure Bank				✓		✓	
Melinda Roslon	New Jersey Infrastructure Bank				✓		✓	
John Notte	New Jersey Infrastructure Bank				✓		✓	
Joseph Livingston	New Jersey Turnpike Authority						✓	
Marc Brooks	New Jersey Water Support Authority				✓			
Ken Klipstein	New Jersey Water Support Authority						✓	
Ahmad Shaibani	New York City -OEM						✓	
David Zimmer	NJ Infrastructure Bank							✓
Nicholas Calenicoff	NJ National Guard				✓			
Cheryl Rezendes	NJ Sports and Exposition Authority							
Sara Sundell	NJ Sports and Exposition Authority	✓	✓		✓			
Jeff Zielinski	NJ Sports and Exposition Authority	✓						
Zenon Tech-Czarny	North Jersey Transportation Planning Authority						✓	
Brian Kempf	NYC				✓			
Tim Gleason	Ocean County							✓
Dinan Amin	Office of Emergency Management							✓
Chris Testa	Office of Emergency Management							✓



STATE OF NEW JERSEY 2024 ALL-HAZARD MITIGATION PLAN

Name	Organization	Attended Land Use/ Economic Development Workshop	Attended Natural and Cultural Workshop	Attended Housing Workshop	Transportation Workshop	Healthcare Workshop	Water Resources Workshop	Open House
Noah Palau	Philadelphia		✓	✓	✓			
Josh DeFlorio	Port Authority of New York/ New Jersey							✓
Sujatha Girija	PSE&G				✓			
Kathy Hale	Raritan Basin	✓	✓					
Ashlyn Spector	Rutgers University						✓	
Kenneth Otrimski	Somerset County	✓		✓	✓			
Kayla Pipas Keller	Somerset County							✓
Taylor Waymire,	South Jersey Transportation Planning Organization							✓
Jennifer Van Der Wende	Sussex County OEM Coordinator			✓			✓	
Bill Kane	Union County OEM Coordinator							✓
Elizabeth Stamler	Union County OEM Coordinator							✓
Larry Fink	New Jersey Department of Environmental Protection							✓
Peter Bilton	North Jersey Transportation Planning Authority (NJTPA)	✓	✓					
Ben Snyder	New Jersey Turnpike Authority			✓				
Cansu Yerdelenli	New Jersey Office of Emergency Management				✓			
Bruce Ciallella	New Jersey Economic Development Authority							✓
Katherine Fullerton	Hunterdon County Planning							✓
Ernie Szabo	Pennsylvania Emergency Management Agency							✓