



Incorporating Equity in Disaster Mitigation and Climate Adaptation Programs

State Environmental Justice Training Webinar

Florida Department of Environmental Protection

Massachusetts Executive Office on Energy and Environmental Affairs

North Carolina Department of Environmental Quality

October 21, 2020

Introduction

- **Incorporating Equity in Disaster Mitigation and Climate Adaptation Programs**
- **Important Logistical Information**



Charles Lee

Senior Policy Advisor for Environmental Justice
U.S. Environmental Protection Agency

Moderator

[https://www.epa.gov/environmentaljustice/
state-and-local-government](https://www.epa.gov/environmentaljustice/state-and-local-government)

Overarching Messages

- 1. Disproportionate vulnerability of minorities and poor to disasters is a stark reality**
(10 counties most vulnerable to disasters – average minority population is 81%, per CDC)
- 2. EJ is important aspect of all phases of disaster cycle**
(mitigation and prevention, preparedness, response, recovery and reconstruction)
- 3. A suite of approaches is required**
(e.g., social vulnerability analysis, equity in priority setting and resource allocations, community engagement, and area-wide planning)
- 4. Despite challenges, there are many positive stories and models to learn from**
(including Princeville, NC)

10 counties most vulnerable to natural disasters and pandemics	
County	Minority population
Brooks County, Texas	94%
Dimmit County, Texas	91%
Duval County, Texas	91%
Luna County, N.M.	70%
Zavala County, Texas	95%
Cibola County, N.M.	80%
Presidio County, Texas	86%
Imperial County, Calif.	89%
Evangeline Parish, La.	33%
Culberson County, Texas	76%

Coastal Resilience Without Limits

Whitney Gray

Administrator

Florida Resilient Coastlines Program

Office of Resilience and Coastal Protection

Florida Department of Environmental Protection





Coastal Resilience Without Limits

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Today's Presentation

- What do we mean by coastal resilience?
- How are vulnerable populations impacted by sea level rise?
- What is Florida doing in resilience strategies to address the needs of vulnerable populations?



What Do We Mean by Coastal Resilience?

Or, why is there an octopus in the parking garage?



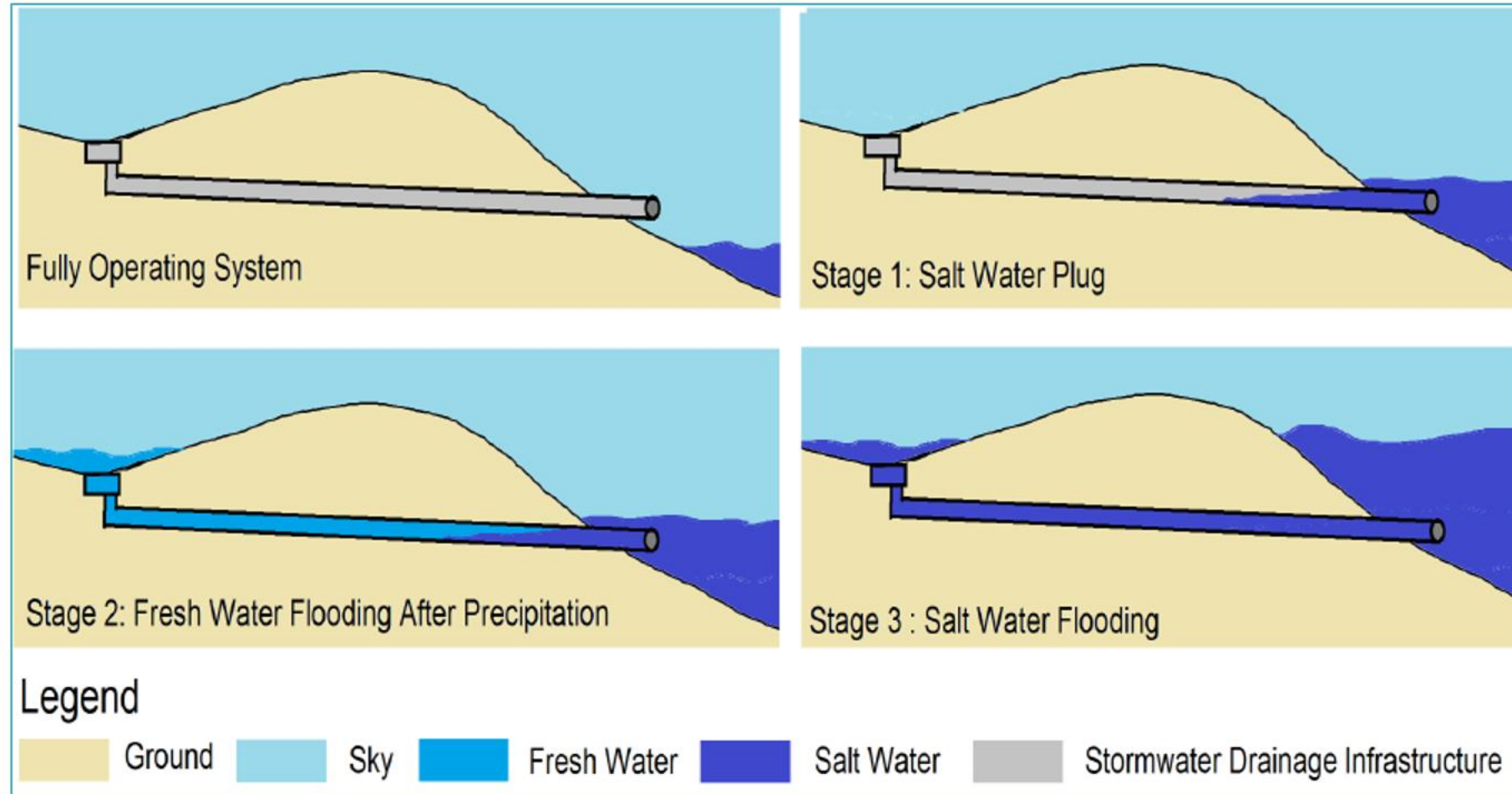


Tidal Flooding

As sea level rises, storm sewer systems reach capacity sooner. (Stage 1)

During heavy rain events, they fail to drain rainfall off streets. (Stage 2)

During extreme high tide events (or sometimes not so extreme) saltwater flows back up the system into the streets. (Stage 3)





Tidal Flooding



Downtown Miami

Photo by wikimedia user B137 via [CC license](#)

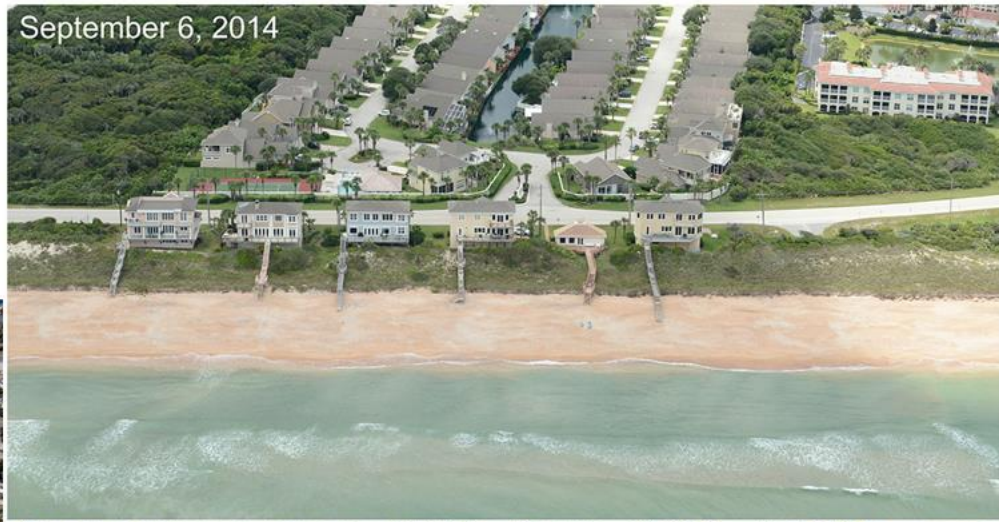


Ft. Lauderdale

Photo by Thomas Ruppert, Fla Sea Grant



Hurricanes



Mexico Beach after Hurricane Michael

Vilano Beach after Hurricane Matthew



Miami after Hurricane Irma



Legislative Response

Adaptation Action Areas

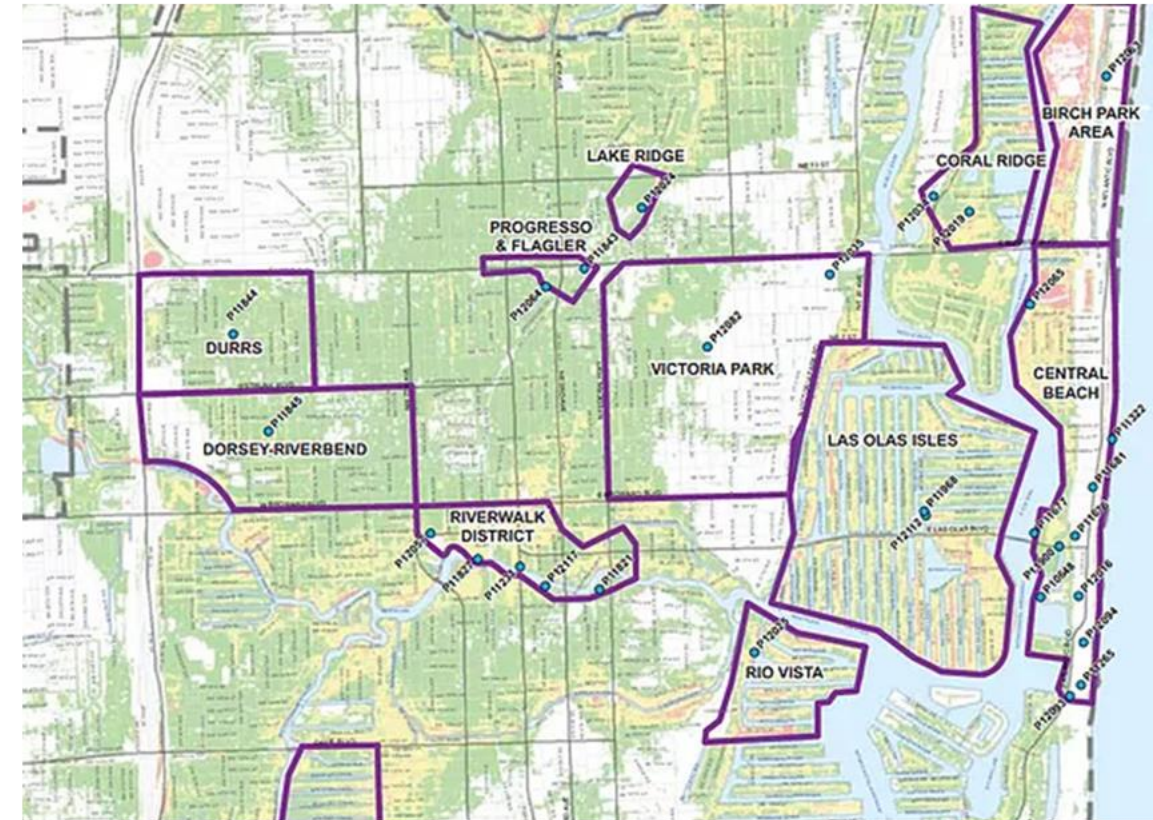
Added to Florida Community Planning Act in 2011 session

Florida Statutes 163.3177(6)(g)10

Optional comprehensive plan designation for areas that:

- experience coastal flooding
- are vulnerable to the related impacts of rising sea levels

Purpose: prioritizing funding for infrastructure and adaptation planning





Legislative Response

Peril of Flood

- 2015 law requires consideration of current and future flooding from storm surge and **sea level rise** in the coastal management element of comprehensive plans
- Must include development and redevelopment principles, strategies and engineering solutions that reduce the flood risk in coastal areas, which results from high-tide events, storm surge, flash floods, stormwater runoff and the related impacts of **sea level rise**



Florida Resilient Coastlines Programs



RESOURCES

Florida Adaptation
Planning Guidebook
& Technical Assistance



FUNDING

Resilience Planning &
Implementation Grants



COORDINATION

Quarterly Coastal
Resilience Forum

[FloridaDEP.gov/Resilience](https://www.floridadep.gov/Resilience)



Franklin County



Miami



Martin County

Resilience Strategies

- Green: Using natural systems to reduce or prevent flooding and erosion
- Grey: Using man-made infrastructure to reduce or prevent flooding and erosion
- Grey-Green: Using combinations of natural and man-made infrastructure



Image courtesy of Broward County

Impacts of Coastal Flooding on People

- Displacement and gentrification
- Costly property damage
 - Structural damage that makes home uninhabitable
 - Damage that destroys contents
- Loss of insurance
- Loss/unavailability of workplace
- Inability to leave or return to home



Displacement and Gentrification



Little Haiti Case Study

Little Haiti, Liberty City, Overtown and other low-income areas are located along a coral ridge



CDC Social Vulnerability Index (SVI)

- Social vulnerability refers to the resilience of communities when confronted by external stresses on human health, stresses such as natural or human-caused disasters, or disease outbreaks. (CDC)
- 15 census variables at tract level
- Interactive map
- Downloadable reports

CDC's Social Vulnerability Index (SVI)

A tool to identify socially vulnerable communities

CDC's SVI

What is social vulnerability?

Every community must prepare for and respond to hazardous events, whether a natural disaster like a tornado or disease outbreak, or a human-made event such as a harmful chemical spill. A number of factors, including poverty, lack of access to transportation, and crowded housing may weaken a community's ability to prevent human suffering and financial loss in a disaster. These factors are known as **social vulnerability**.

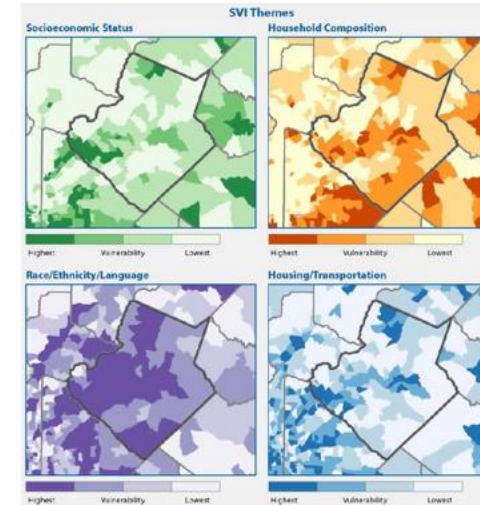
What is CDC's Social Vulnerability Index?

ATSDR's Geospatial Research, Analysis & Services Program (GRASP) created databases to help emergency response planners and public health officials identify and map communities that will most likely need support before, during, and after a hazardous event.



Hurricane Sandy - Breezy Point, NY Photographer - Pauline Tran

CDC's SVI uses U.S. Census data to determine the social vulnerability of every census tract. Census tracts are subdivisions of counties for which the Census collects statistical data. The SVI ranks each tract on 15 social factors, including poverty, lack of vehicle access, and crowded housing, and groups them into four related themes. Maps of the four themes are shown in the figure below. Each tract receives a separate ranking for each of the four themes, as well as an overall ranking.



How can CDC's SVI help communities be better prepared?

The SVI can help public health officials and local planners better prepare for and respond to emergency events like hurricanes, disease outbreaks, or exposure to dangerous chemicals.

CDC's SVI databases and maps can be used to:

- Estimate the amount of needed supplies like food, water, medicine, and bedding.
- Help decide how many emergency personnel are required to assist people.
- Identify areas in need of emergency shelters.
- Plan the best way to evacuate people, accounting for those who have special needs, such as people without vehicles, the elderly, or people who do not understand English well.
- Identify communities that will need extra funding and support before, during, and after a disaster.

Maps show the range of vulnerability in Gwinnett County, Georgia for the four themes.

For more information, please contact CDC's SVI Coordinator (svi_coordinator@cdc.gov) or visit <http://svi.cdc.gov>.



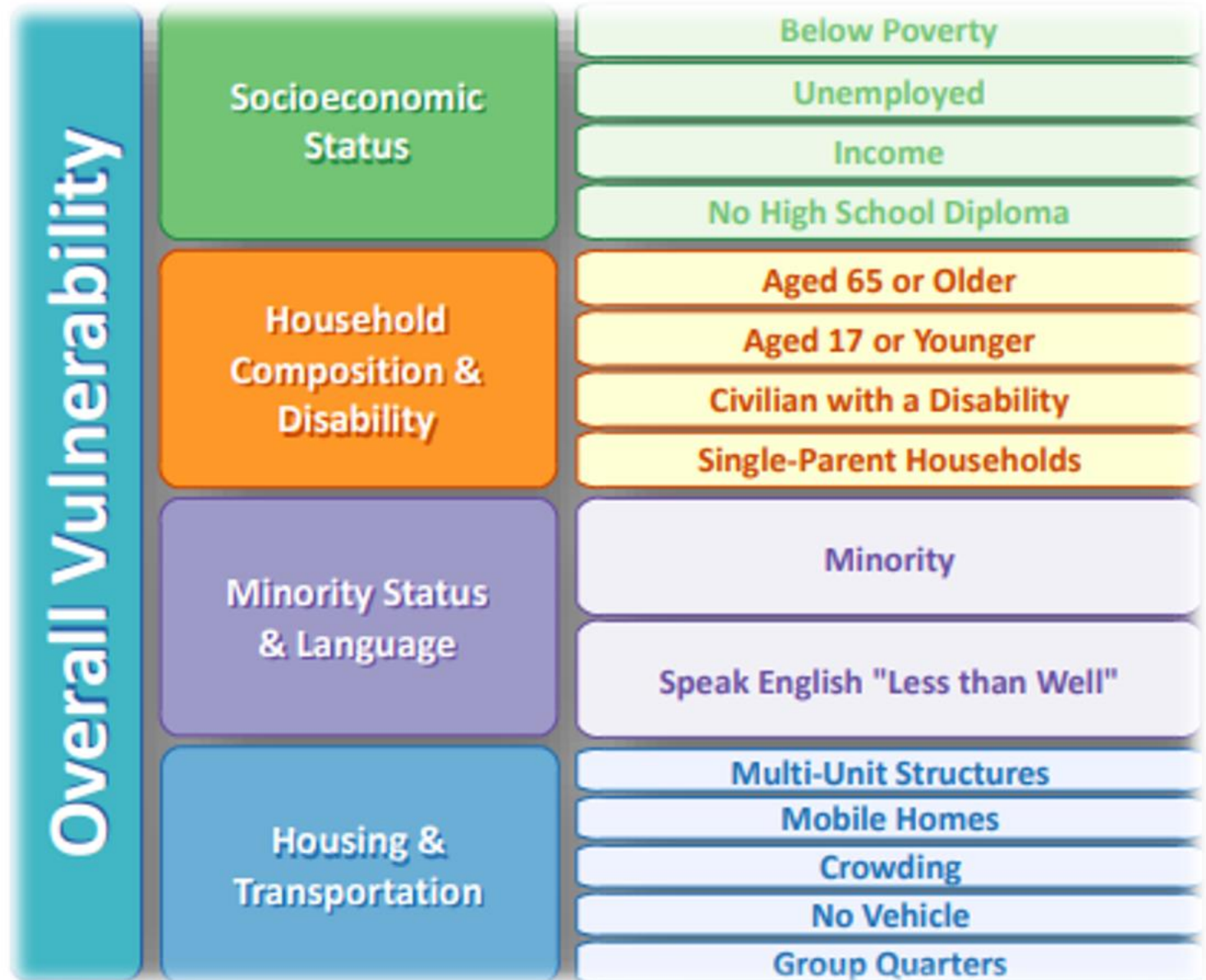
Geospatial Research, Analysis, and Services Program (GRASP)
Division of Toxicology and Human Health Sciences, ATSDR

Centers for Disease Control and Prevention
Agency for Toxic Substances and Disease Registry








16 Variables of the SVI

Data from the
American Community
Survey, 2012-2016



Overall SVI - Counties ▼

Overall SVI

-  0.7501 - 1 | Highest Vulnerability
-  0.5001 - 0.75
-  0.2501 - 0.5
-  0 - 0.25 | Lowest Vulnerability
-  Data Unavailable

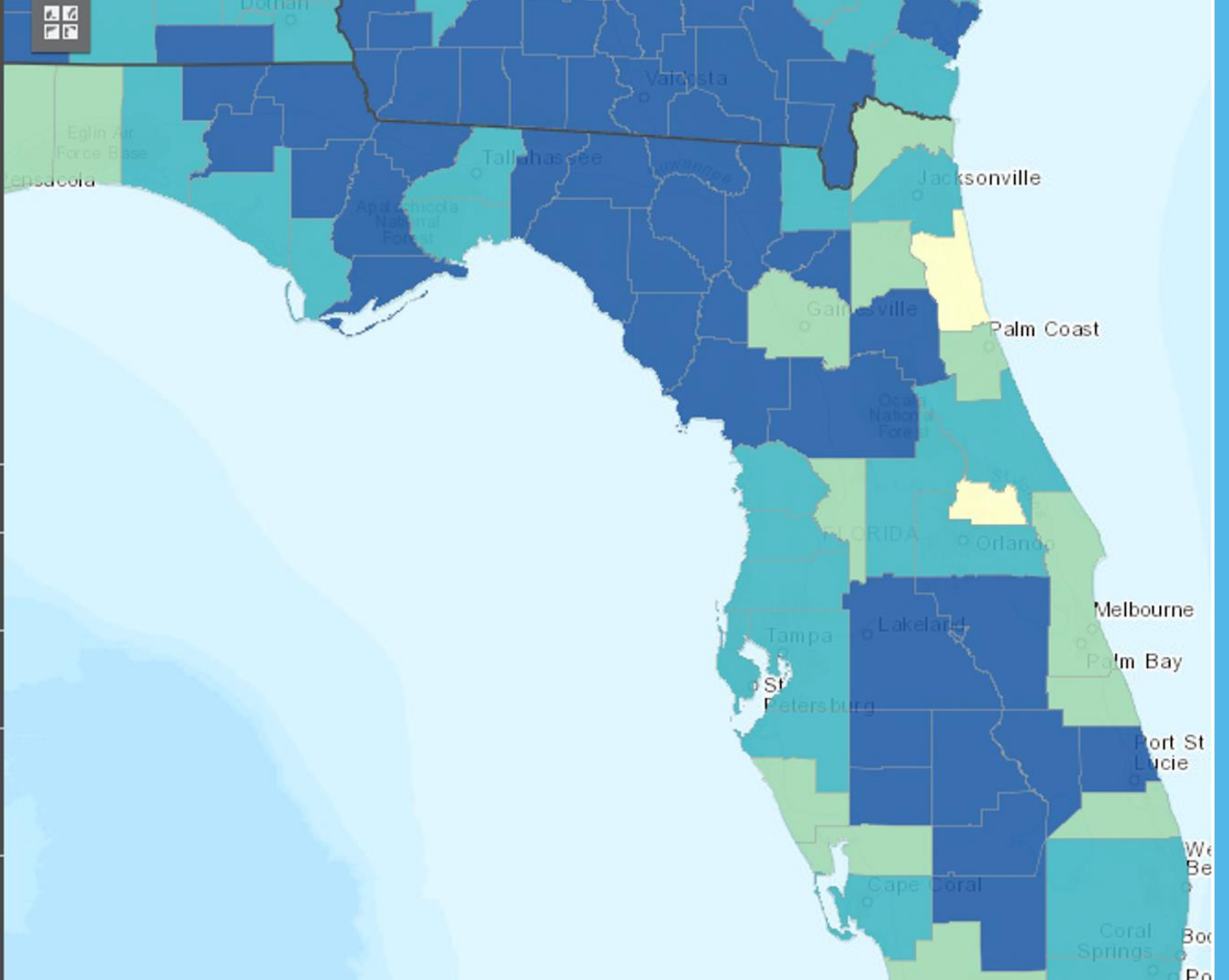
Overall SVI - Census Tracts >

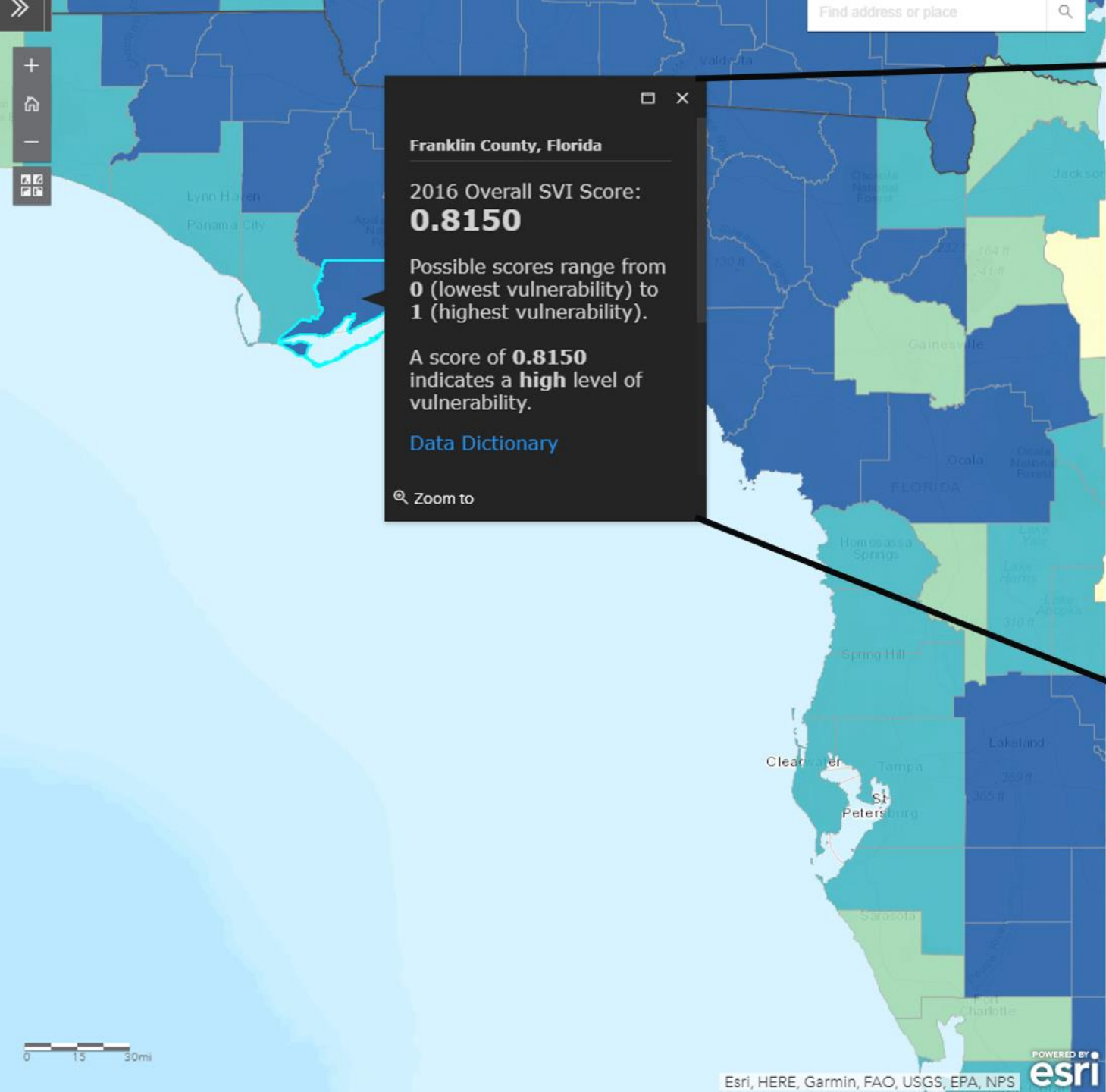
Socioeconomic Theme - Counties

Socioeconomic Theme - Census Tracts

Household Composition/Disability Theme - Counties

Household Composition/Disability Theme - Census Tracts





Franklin County, Florida

2016 Overall SVI Score:
0.8150

Possible scores range from **0** (lowest vulnerability) to **1** (highest vulnerability).

A score of **0.8150** indicates a **high** level of vulnerability.

[Data Dictionary](#)

Zoom to

Franklin County, Florida

2016 Overall SVI Score:
0.8150

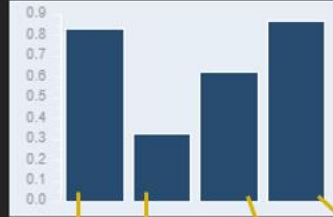
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[Data Dictionary](#)

Theme Rankings

Rankings for each of the 4 themes that make up the Overall SVI



Socioeconomic:
0.8319

**Household
Composition/Disability:**
0.3308

Minority/Language:
0.6211

Housing/Transportation
: 0.8723



Resilience Planning Grants

1. Analysis of social vulnerability over and above what is typically included in Peril of Flood analysis; development of plans specifically focused on social vulnerability

Project Types 1-3 that include an analysis of and/or address adaptation for social vulnerability must use best practices, such as those identified by the US Centers for Disease Control <https://CVI.CDC.gov/>.

Outputs should include products that show graphically the impacts of sea level rise and/or associated flooding on vulnerable sectors, narrative descriptions (with references) of the methods used in any analysis, and any goals, objectives and policies developed for adoption into the community's comprehensive plan.



[This Photo](#) by Unknown Author is licensed under [CC BY-NC](#)



Resilience Planning Grants

Examining Social Vulnerability

\$1,102,000
out of the total
\$2,239,500
awarded for
2020-2021

City of Jacksonville	Adaptation Action Area Public Engagement Workshops for Continued Resiliency Planning	\$60,000.00
City of North Port	Resilient Coastal Program	\$25,000.00
St. John's County BOCC	Community Resilience Planning	\$70,000.00
City of Neptune Beach	Community Resilience Planning	\$66,000.00
City of Madeira Beach	Community Resilience Planning	\$66,000.00
Monroe County BOCC	Resilient Coastlines Program	\$75,000.00
Brevard County BOCC	Planning for Resilience	\$70,000.00
Indian River County	Vulnerability Assessment	\$75,000.00
Manatee County	Improving Social Resilience in Manatee County	\$70,000.00
Miami-Dade County	Building Neighborhood Resilience: Adaptation Action Area for Little River	\$75,000.00
City of Tampa	Land Regulatory Response to Sea Level Rise	\$75,000.00
City of St. Augustine	Assess Vulnerability of OSTDS to SLR and Storm Surge to Develop Adaptation Plans Phase 1	\$75,000.00
City of North Miami	Vulnerability Assessment and Resiliency Adaption Action Plan	\$75,000.00
St. Lucie County	Vulnerability Study Phase 1	\$75,000.00
Pinellas County	Comprehensive Plan Evaluation and Post-Disaster Redevelopment Plan Update	\$75,000.00
City of Melbourne	Coastal Resiliency Plan	\$75,000.00



We cannot solve our problems using the same thinking we used when we created them. Albert Einstein





Thank you!

**Contact Whitney Gray at 850-245-2098
or Whitney.Gray@FloridaDEP.gov**

Investing in Environmental Justice



Rishi Reddi

Director
Environmental Justice
MA Executive Office of Energy and Environmental Affairs



Mia Mansfield

Director
Climate Adaptation and Resilience
MA Executive Office of Energy and Environmental Affairs



Robert O'Connor

Director
Division of Conservation Services
MA Executive Office of Energy and Environmental Affairs



Investing in Environmental Justice

Rishi Reddi,
Director of Environmental Justice
MA Executive Office of Energy and Environmental Affairs



Massachusetts Programs for Discussion Today:

Rishi Reddi – Director of Environmental Justice

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MA Environmental Justice Policy

Mia Mansfield – Director of Climate Adaptation & Resilience

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Municipal Vulnerability Preparedness (MVP) Grant Program

Bob O'Connor – Director of Division of Conservation Services

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- **Greening the Gateway Cities Program**
- **Urban Forestry Program**

MA Environmental Justice Communities

EJ communities are those with a census block group meeting at least one of the following criteria:

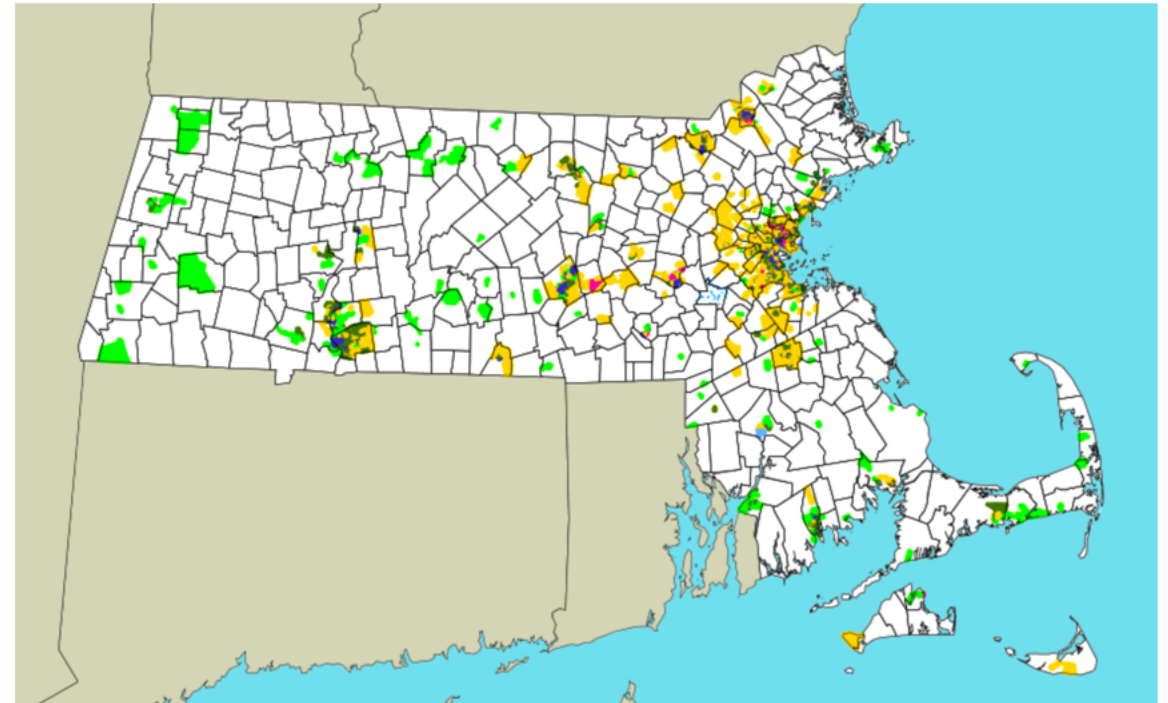
Low Income Community: Annual median household income at / below 65% statewide median income

Minority Community: 25% or more of the residents are racial minority

English Isolation Community: 25% or more of the residents have Limited English Proficiency

Definition based on demographics alone

33% of MA residents | 7% of total land area



The **online EJ Viewer** identifies relevant areas to direct enhanced public participation and resource allocation.

Challenges to Statewide Public Participation & Information Gathering

Top 5 primary languages for speakers who ALSO report persons with Limited English Proficiency

LANGUAGE	SPEAKERS
Spanish	231,000
Portuguese	80,000
Chinese (all forms)	65,000
Haitian Creole	35,000
Vietnamese	25,000
TOTAL	436,000 = 6.3% of MA population

Data from American Community Survey and U.S. Census

Cross-Agency Approach

**Massachusetts Executive Office of Energy and Environmental Affairs =
Agriculture+Conservation+Energy+Environment+Hunting/Fishing+Utilities
+CLIMATE.**

EJ Work in the next 12 months

- **Inter-agency EJ Task Force** to formulate EJ Strategy
- Forming **Governor's EJ Advisory Council**
- Holding **internal equity trainings** with each EEA team



Municipal Vulnerability Preparedness Program

Mia Mansfield,
Director of Climate Adaptation and Resilience
MA Executive Office of Energy and Environmental Affairs



MA 2017 EJ Policy requires:

Climate Change Adaptation, Mitigation, and Resiliency

"EEA agencies shall consider the current and future impacts that climate change will have on EJ populations.

...EEA agencies shall take appropriate measures towards ensuring that EJ populations are equally protected from hazards and health risks imposed by future climate changes and properly informed of appropriate measures taken to increase their adaptive capacity."

Municipal Vulnerability Preparedness (MVP) Program



A state and local partnership to build resilience to climate change by building capacity to respond to climate effects at the local level and pilot innovative adaptation practice



Across the Commonwealth, cities and towns need **financial and technical resources to prepare** their residents, businesses, and aging infrastructure:

- **300** high-hazard dams
- **12,000+** culverts and small bridges needing replacement
- **1,100** municipally-owned coastal structures

4 Years of MVP

MVP Designations

89% of the
Commonwealth
312 communities

Action Grant Projects

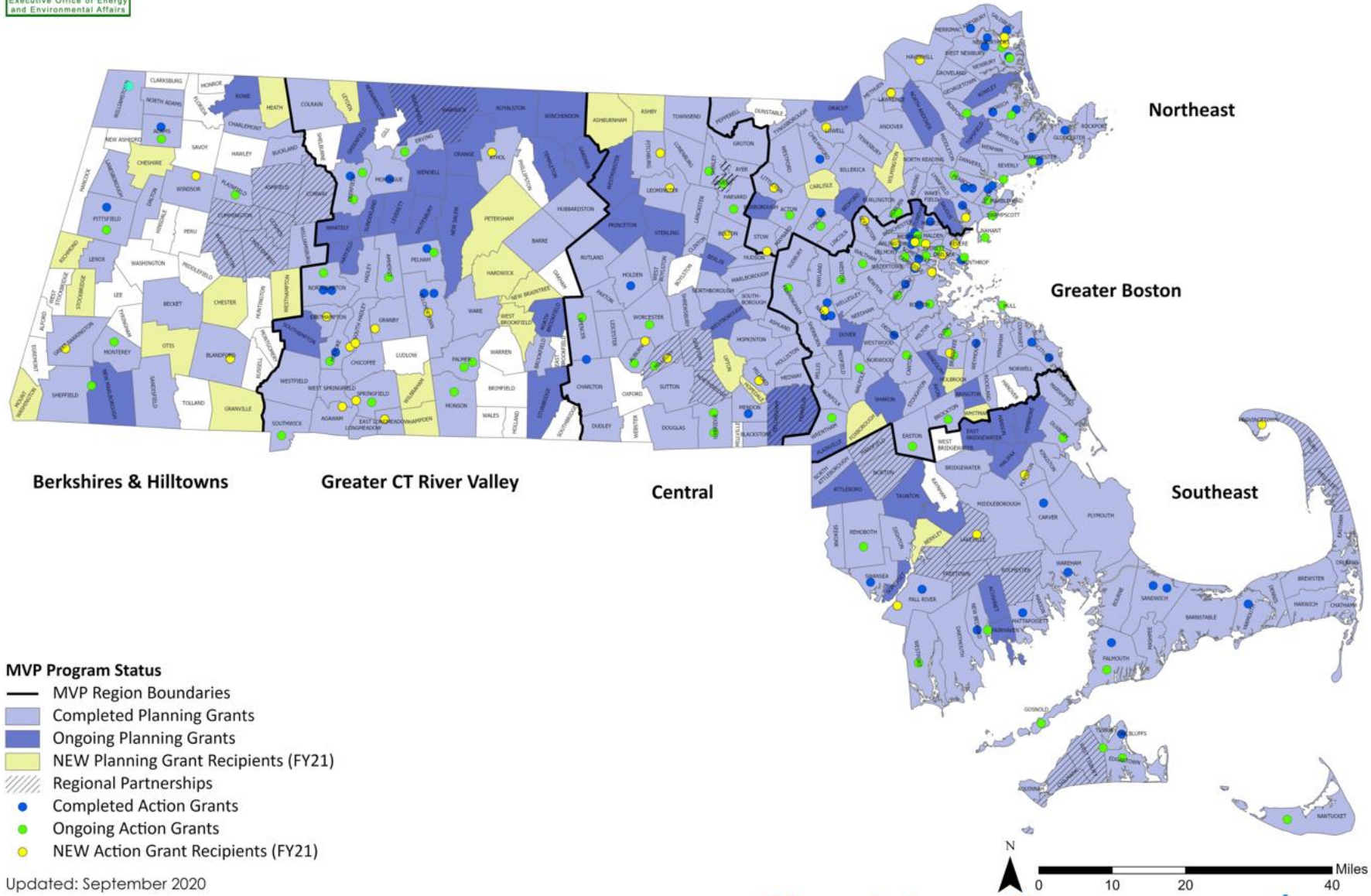
FY 18: 37
FY 19: 36
FY 20: 54
FY21 : 41

Total Awards

\$44M in planning and
action grants to date



Municipal Vulnerability Preparedness (MVP) Program



MVP Core Principles

- Furthering a community identified **priority action** to address climate change impacts
- Utilizing best available **climate projections and data** for a proactive solution
- Employing **nature-based solutions**
- Involving **Environmental Justice Populations** in meaningful decision-making, as defined and outlined in the 2017 EEA EJ Policy, and giving special consideration to Climate Vulnerable Populations
- Achieving broad and multiple **community benefits**
- Committing to **monitoring project success** and maintaining the project into the future
- Utilizing **regional solutions** toward regional benefit
- Pursuing approaches from which other MVP communities and the state can **learn**



Scoring for EJ impact and engagement

9.3 Environmental Justice and Public/Regional Benefits (14 pts)

8 points for a project located within a mapped EJ Population, identified through the Massachusetts [EJ viewer](#), with demonstrated positive impacts to that community. To receive full points, the Applicant must provide specific relevant demographic information related to the Environmental Justice Population (i.e., income, race, and English isolation), a description of where the community is located geographically relative to the project site, and how the project will increase climate resiliency for this EJ Population.

9.4 Public Involvement and Community Engagement (12 pts)

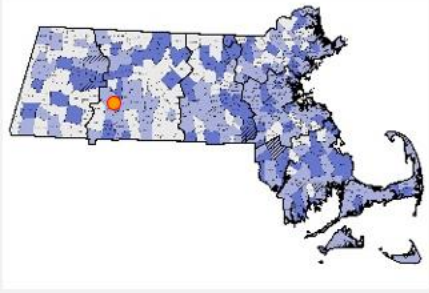
Projects must provide multiple principle and assisting strategies for digital, print, and in-person engagement. Projects receive additional points for prioritizing and describing equitable engagement modifiers such as:

- Translation of content into three (3) most-prevalent languages spoken within the community and distributed via principal and assisting methods⁴
- Translated content published in alternative language newspaper and online media outlets that services residents of EJ/Climate Vulnerable Population
- Implementing and coordinating actions through the Community Liaison Model
- Selecting meeting hours that correspond with hours that are feasible for working parents
- Providing professional grade interpretive services during public meeting events
- Providing childcare during meeting
- Empowering EJ/Climate Vulnerable Population residents to select meeting location
- Providing food/refreshment at meetings
- Providing stipends for meeting attendance for those representing EJ/Climate Vulnerable Populations
- Providing transportation to meetings for those who may not otherwise have means to attend

Example MVP Planning Process

Amherst Community Gathering Sessions

AMHERST



- Compensating **designated community liaisons** as part of the Climate Action Plan project team who conducted targeted outreach in neighborhoods and public housing where EJ communities live, and taps into existing social networks
- **Partnering with a trusted community organization**, regardless of their previous experience with climate change topics
- **Budgeting for food, childcare, and translation/interpretation** services for the most common languages spoken in the area
- **Holding meetings in central, convenient, and familiar locations** at hours that allowed individuals with day jobs to join

Community Liaison Model

Partnerships

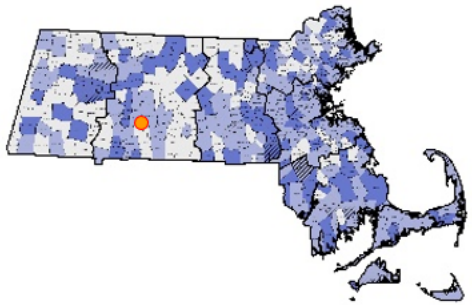


Example Action Grant Projects

Climate Migration to Holyoke

The City of Holyoke successfully applied for a grant from the MVP program to assess the city's capability to respond to an influx of migrants driven by a climate change event. This project sought to address the city's concerns through a multipronged analysis of the experience of the post-Hurricane Maria displacement/migration of Puerto Ricans to the City of Holyoke.

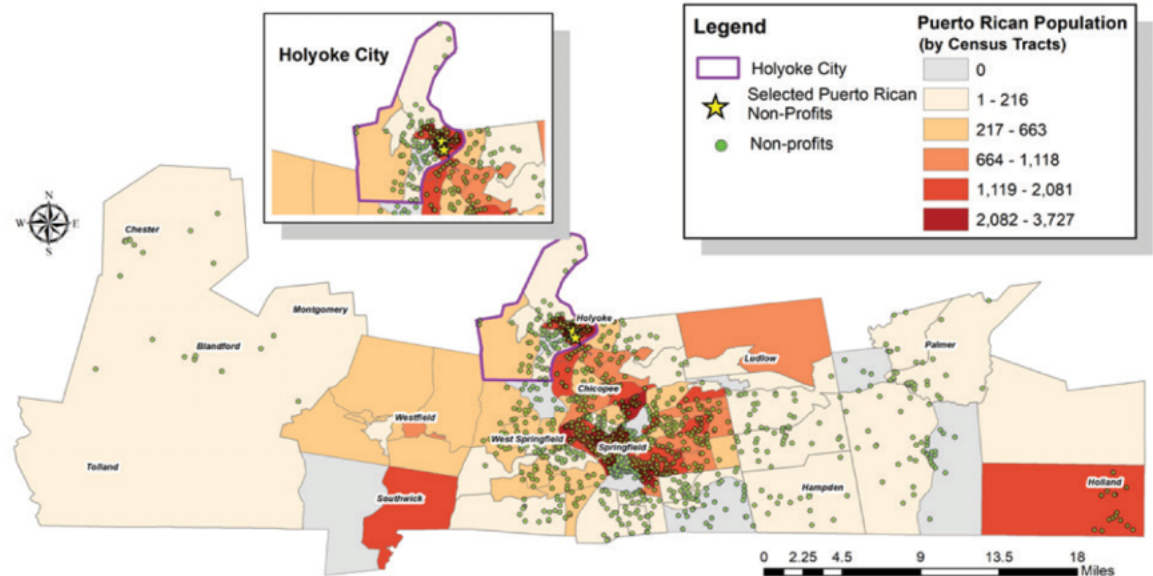
HOLYOKE



Partnerships

Focus on EJ experience and needs

Hampden County's Puerto Rican Population, 2017

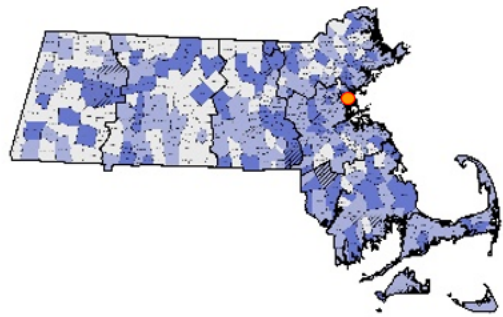


Example Action Grant Projects

Malden River Works

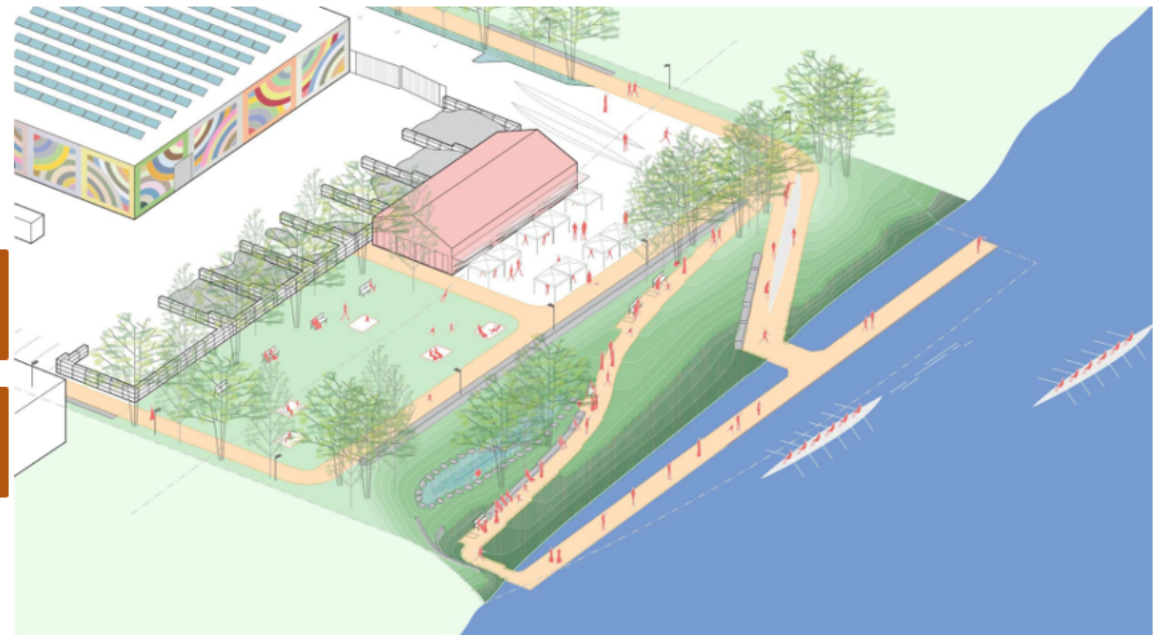
An MVP Action Grant that will protect the City's Department of Public Works yard, a critical facility for responding to extreme weather, and transform it into a vibrant, resilient public riverfront park. This project will be a major step in reclaiming the Malden River after centuries of industrial contamination and neglect. **A coalition of community leaders of color, youth, environmental advocates, and government stakeholders** formed a Steering Committee that led a **community-based planning and design process**. The award-winning park design that resulted largely uses nature-based solutions for rehabilitating the area including bioswales, 80 new trees, invasive species removal, and riparian habitat restoration.

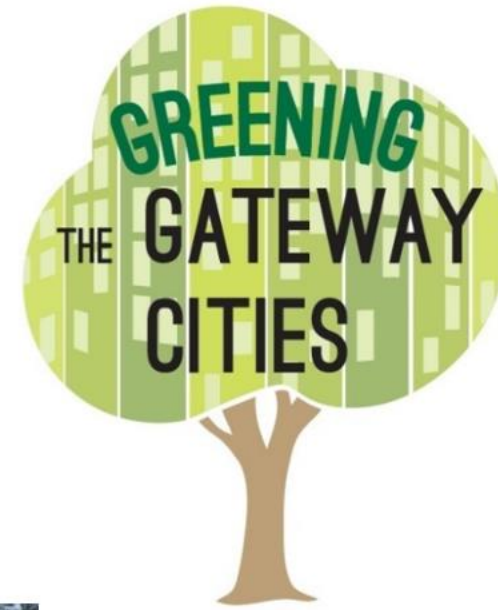
MALDEN



Creating co-benefits

Focus on EJ community control and vision





Robert O'Connor,
Director of Division of
Conservation Services

MA Executive Office of
Energy & Environmental
Affairs



MA 2017 EJ Policy requires:

Urban Forestry

"To help improve the environmental quality of urban neighborhoods, EEA shall, in partnership with DCR, implement the Urban Forestry and Greening the Gateway Cities programs to increase urban forest canopy in EJ neighborhoods through grants, training, and tree planting initiatives."



“Even if I knew that tomorrow the world would go to pieces, I would still plant my apple tree.” — **Martin Luther**



Trees outside our windows are our first contact with the urban forest and a gateway to conservation – GGCP trees are within 50 feet of 25,000+ residents

Planting trees to improve health

- Cleans the air – reducing asthma and cardiovascular diseases
- Cools the air – reduces impact of heat waves
- Promotes exercise and reduces obesity
- Improves mental health and reduces stress

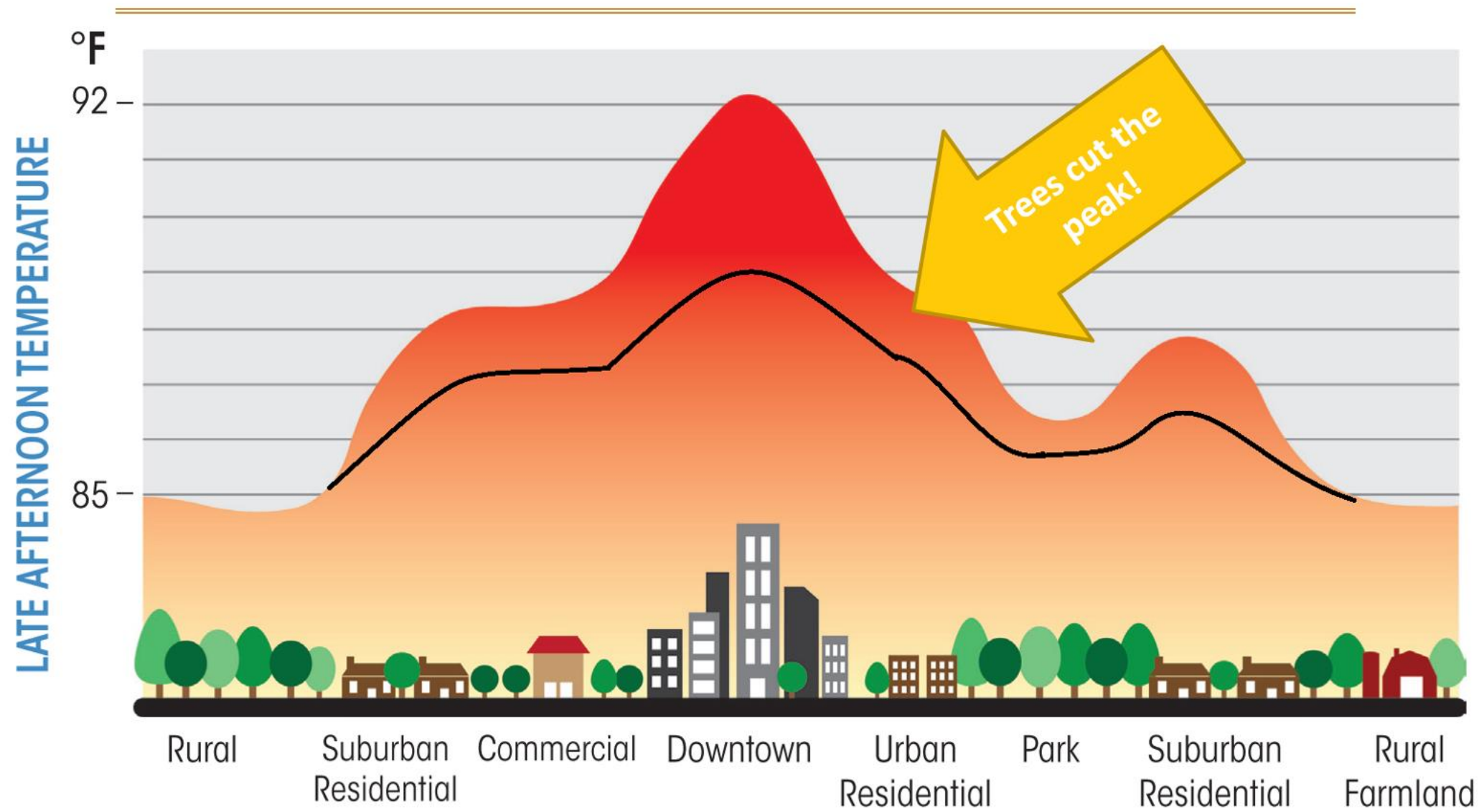


Planting trees to improve health in 14 Cities

- MA has 3 of 20 top “Asthma Capitals (Springfield #1, Boston #11, Worcester #12 – Metro areas include other cities)
- Two studies (NYC and U.K.) both found that significant reduction in asthma hospitalizations with 1-2 trees per acre
- Trees filter the air of harmful particulates (p.m. 2.5) and cool the neighborhoods during heat waves when ozone is formed
- Louisville, KY planted a buffer between a school and a busy road and student health monitoring shows significant results and particulate pollution was reduced by 60% behind the tree filter.



Urban Heat Island and Climate



Park Access Study



Massachusetts Contact Info

Rishi Reddi – Director of Environmental Justice

Rishi.P.Reddi@mass.gov

MA Environmental Justice Policy

Mia Mansfield – Director of Climate Adaptation & Resilience

Mia.Mansfield@mass.gov

Municipal Vulnerability Preparedness (MVP) Grant Program

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- **Greening the Gateway Cities Program**
- **Urban Forestry Program**



Jennifer Mundt

Senior Policy Advisor

North Carolina Department of Environmental Quality

Princeville, North Carolina:

History, Lessons Learned and a Commitment to Address Environmental Justice in State Disaster and Climate Programs

PRINCEVILLE TOWN HALL

Princeville, North Carolina:

History, Lessons Learned, and a Commitment
to Address Environmental Justice in State
Disaster and Climate Programs

Jennifer Mundt, Senior Policy Advisor
North Carolina Department of Environmental Quality
October 21, 2020

Princeville is Coming Back
with History on Our Side



Introduction & Agenda

Presentation Overview

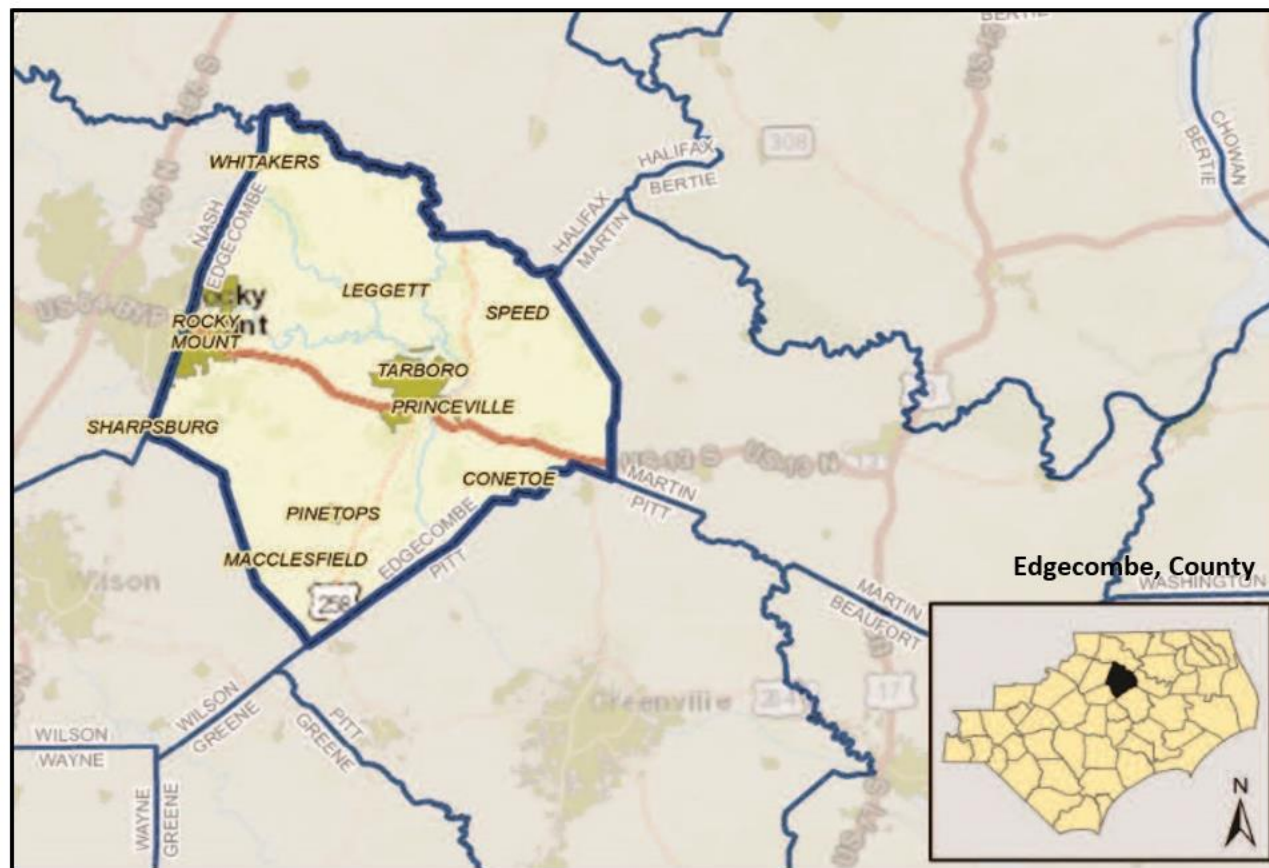
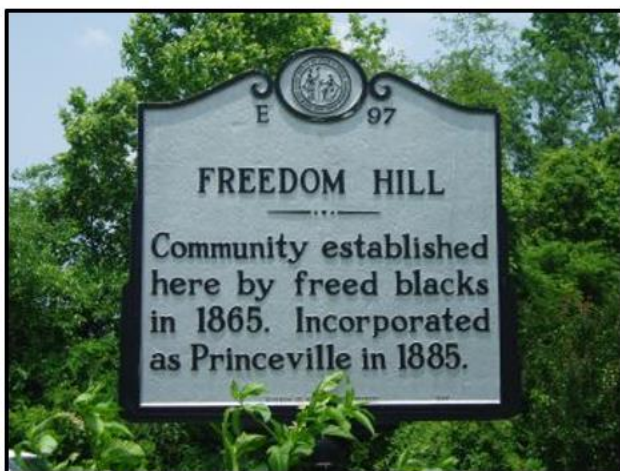
- Princeville, North Carolina
 - Historical context, importance of place
 - Flooding history
 - Partners and outcomes
- Statewide impact
 - Creation of NCORR
 - Executive Order 80
 - NC Clean Energy Plan
 - NC Climate Risk Assessment and Resiliency Plan / Climate Justice Chapter
 - Executive Order 143
 - Andrea Harris Social, Economic, Environmental, and Health Equity Task Force
 - §4A: DEQ's responsibilities
- Lessons Learned / Future Initiatives



Princeville, NC

History & Importance of Place

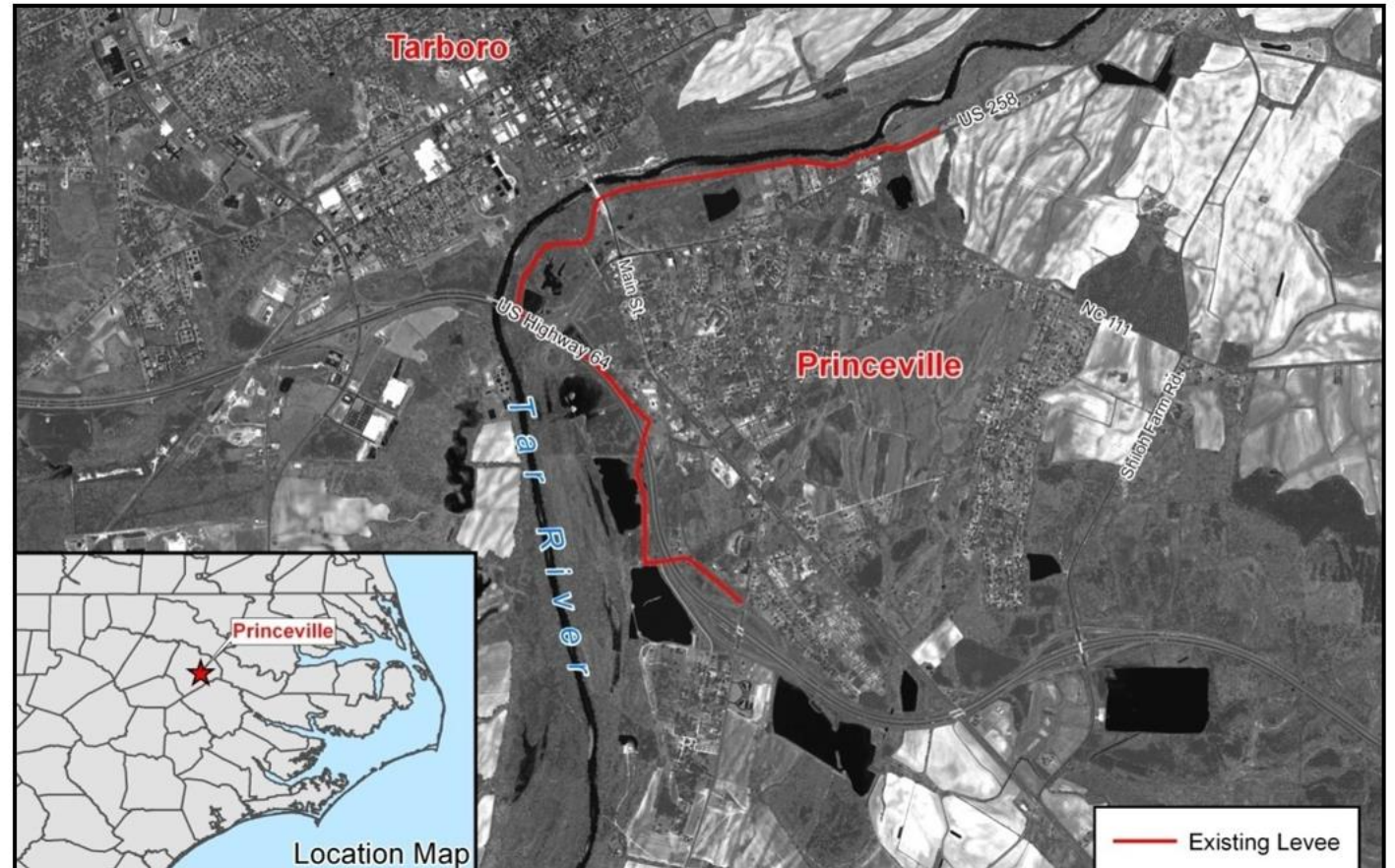
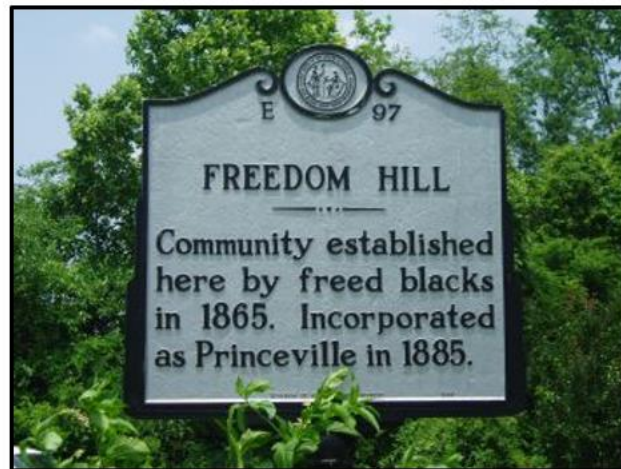
- Freedom Hill (1865)
- Princeville (1885)



Princeville, NC

History & Importance of Place

- Freedom Hill (1865)
- Princeville (1885)



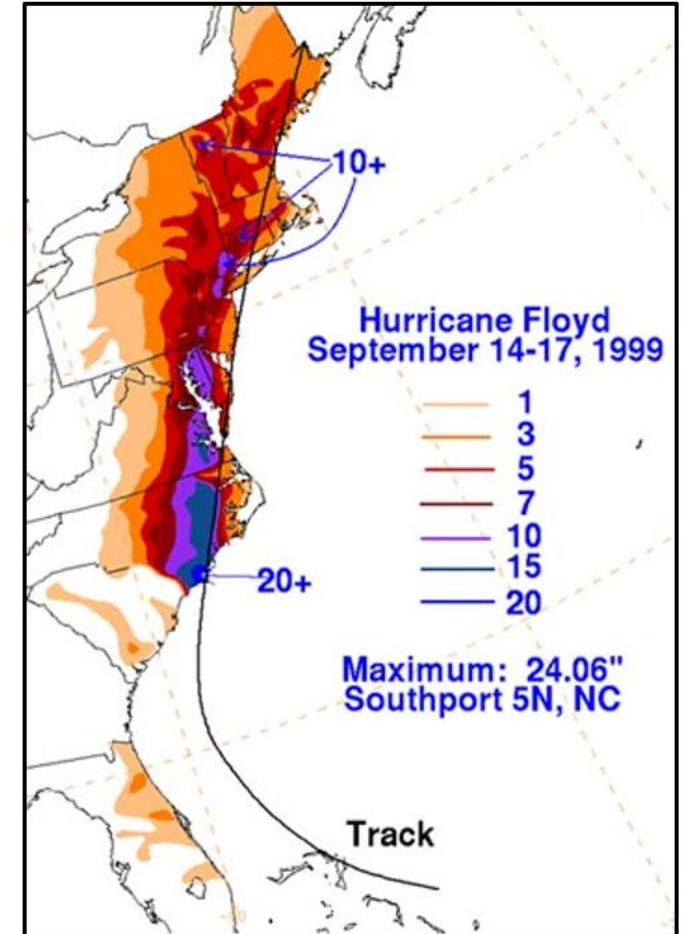
- Recurrent flooding of the Tar River
 - 1880 – 1958 (1918)
 - Hurricane Floyd (1999)
 - Hurricane Matthew (2016)



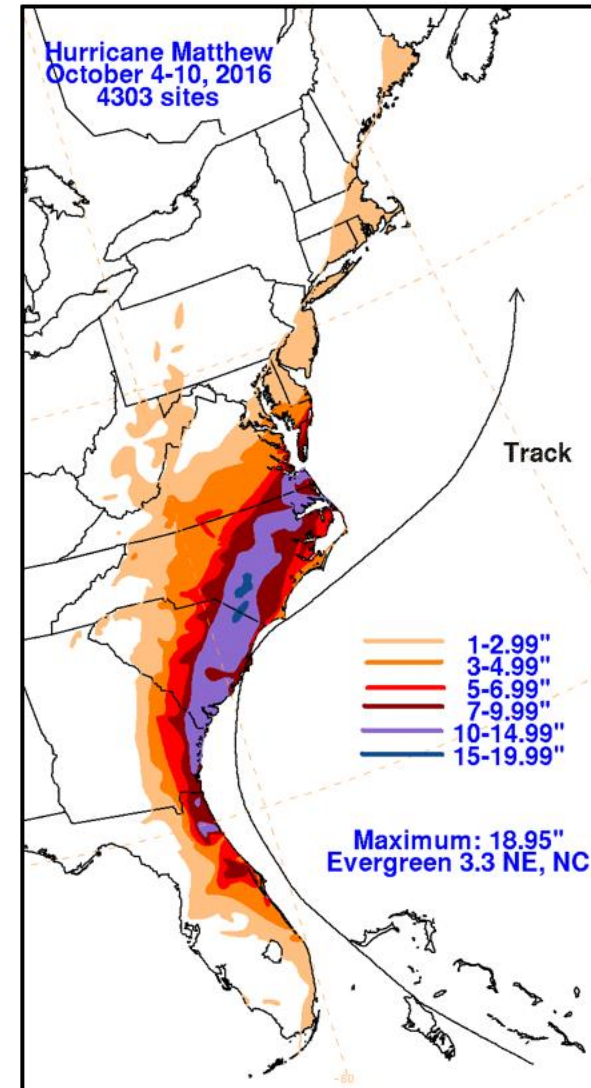
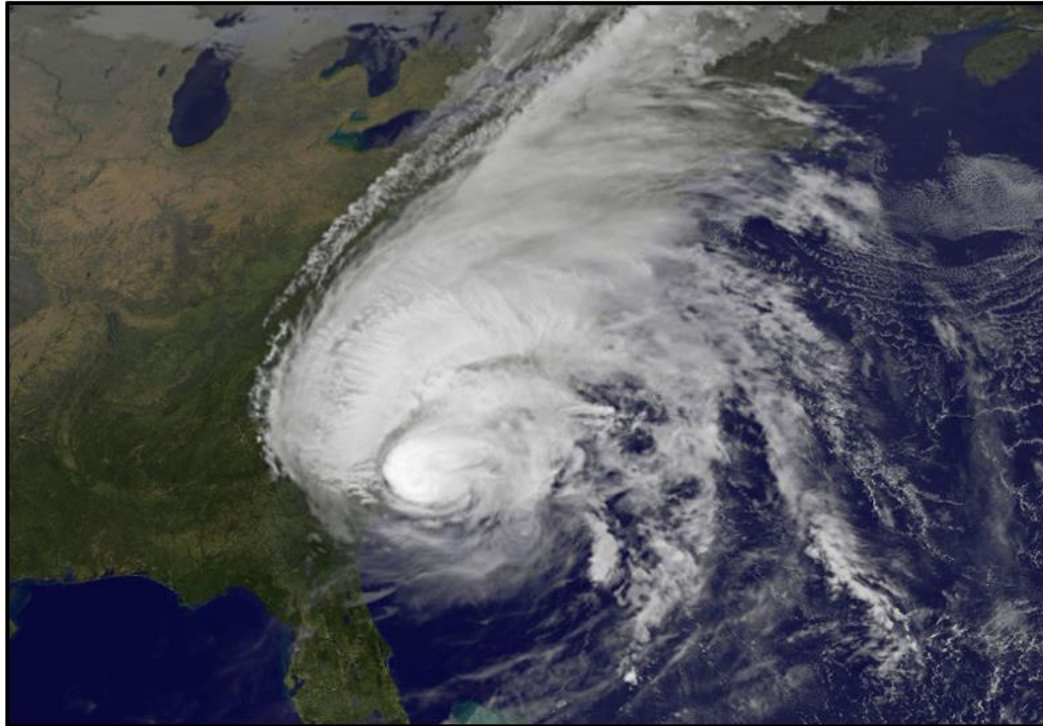


- Recurrent flooding of the Tar River

- 1880 – 1958
- Hurricane Floyd (1999)
- Hurricane Matthew (2016)



- Recurrent flooding of the Tar River
 - 1880 – 1958
 - Hurricane Floyd (1999)
 - Hurricane Matthew (2016)



Princeville, NC

Flooding (cont'd)



Hurricane Matthew, 2016



Princeville, NC

Government Partners & Outcomes



FEMA



THE UNIVERSITY
of NORTH CAROLINA
at CHAPEL HILL

NC STATE
UNIVERSITY



ReBUILD NC



NCORR

NORTH CAROLINA OFFICE OF RECOVERY AND RESILIENCY



Town Of
PRINCEVILLE
OLDEST TOWN CHARTERED BY BLACKS IN AMERICA

North Carolina's Next Steps

Statewide Impact: Resilience & Recovery

- Renewed focus on resilience and recovery
- NC Office of Resilience and Recovery and ReBUILDNC
- October 2018: Executive Order 80
North Carolina's Commitment to Address Climate Change and Transition to a Clean Energy Economy
 - NC Clean Energy Plan (Oct 2019)
 - NC Climate Risk and Resilience Plan (June 2020)



- Chapter on *Climate and EJ: Equity, Risk, and Resilience in North Carolina*
 - Terms defined
 - Inequities in vulnerability and resilience
 - Physical infrastructure and housing disparities
 - Inequalities in adaptation interventions
 - Spotlight issues
- Includes 60 recommendations:
 - 30 across six named agencies
 - 6 for all state agencies
 - 16 addressing policy and other changes
 - 8 directing further research
- Recurring theme: engage communities and local voices, and invite those most impacted to drive the narrative

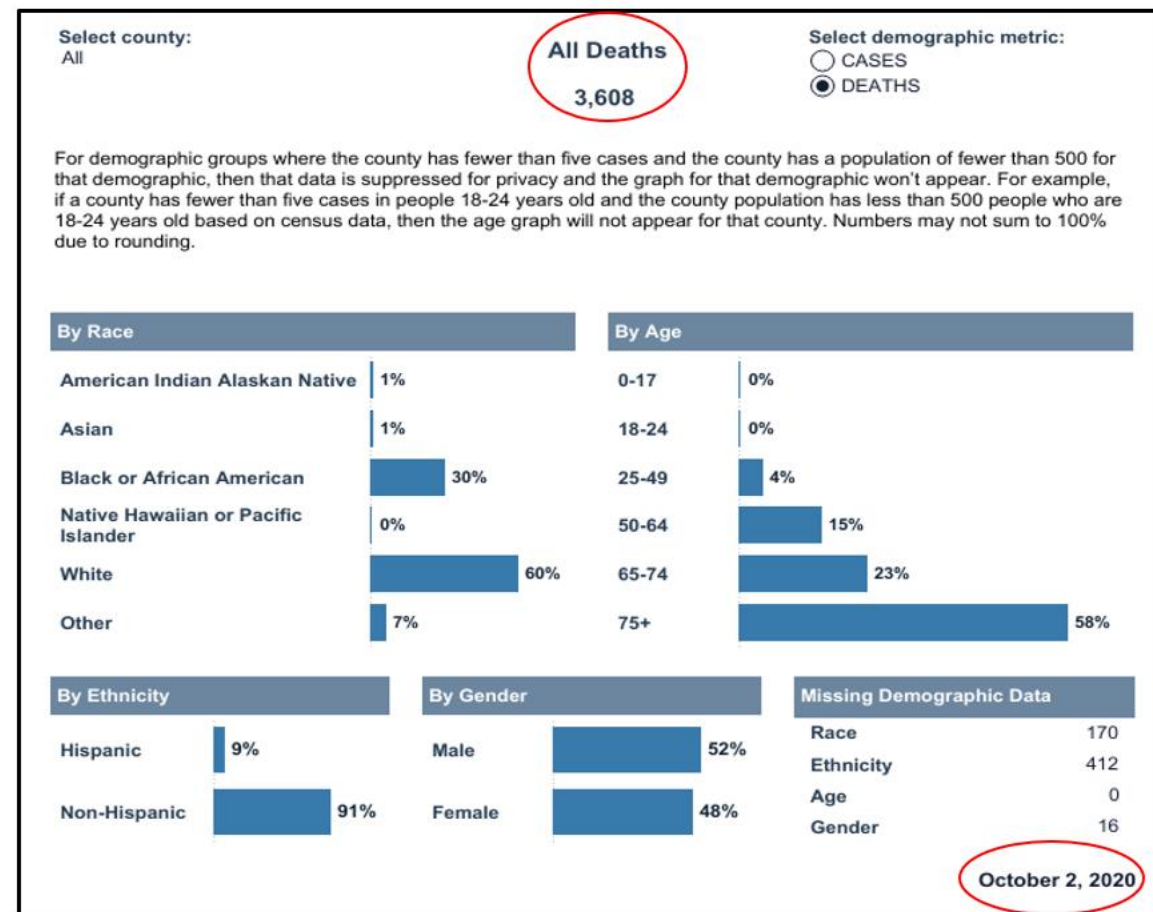


Floodplain Encroachment in Princeville

North Carolina's Next Steps (cont'd)

Statewide Impact: Addressing EJ & Disparate Impacts

- June 2020: Executive Order 143
Addressing the Disproportionate Impact of Covid-19 on Communities of Color
 - Established the Andrea Harris Social, Economic, Environmental, and Health Equity Task Force
 - Subcommittee on Environmental Justice and Inclusion
 - Goal setting complete, implementation underway
 - §4: DEQ directives:
 - Lead the State's effort to create a common discourse on EJ
 - Identify communities of concern for purposes of all State related actions
 - Coordinate with Executive Agencies on how to integrate EJ considerations into existing and future policies, programs, and procedures
 - Create lasting institutional structures for agencies to address equality, equity, and justice for all North Carolinians



Facing Forward...

Lessons Learned & Future Initiatives

- There is still much work to be done and we're short on time
 - Princeville and
 - Underserved North Carolina communities are vulnerable to the risks of the changing climate
- Maintain our focus on rebuilding North Carolina stronger and smarter
- Make a just transition to a clean energy economy and reduce carbon emissions from all sectors
- Celebrate successes and stay the course in our service to the state



Thank you!

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Discussion

- Summary
- Questions and Answers
- For more information, tools and resources, go to EPA Environmental Justice Learning Center

<https://www.epa.gov/environmentaljustice/state-and-local-government>



**State EJ Training Webinar on
Information Systems to Advance Environmental Justice
October 21, 2020
Speaker Biographies**

SPEAKERS

Whitney Gray has been the Administrator of the Florida Resilient Coastlines Program in the Florida Coastal Office of DEP since December of 2017. Her bachelor's and master's degrees are from the University of Florida (Go Gators!) where she studied zoology and systems ecology. She first worked on climate change vulnerability assessment and adaptation planning with the Southwest Florida Regional Planning Council. From 2012 to 2015, Whitney served as Sea Level Rise Coordinator for both the Florida Fish and Wildlife Conservation Commission and Florida Sea Grant, specializing in the effects of sea level rise on coastal ecosystems serving as a subject matter expert during the Imperiled Species Management Planning process. Whitney is a 5th generation Florida native from the Gulf Coast.

Rishi Reddi is the Director of Environmental Justice for the Massachusetts Executive Office of Energy and Environmental Affairs. Before taking up this post in December 2019, she spent 25 years working as an environmental lawyer at the United States Environmental Protection Agency, Region I and the Massachusetts Department of Environmental Protection (MassDEP), practicing in the areas of regulatory development, enforcement, administrative appeals, and grant development. She co-founded MassDEP's first Environmental Justice Committee in the mid-1990s and established the agency's internal language resource bank, which facilitates communication between the agency and Massachusetts residents with limited proficiency in English.

Rishi has worked in a broad array of substantive environmental areas, including Wetlands and Waterways, the Clean Air Act, and RCRA. Most recently, she advised state programs in developing and implementing regulations under the Massachusetts' Global Warming Solutions Act, helped to develop and implement the Massachusetts grant program resulting from the national Volkswagen Settlement, and was the lead attorney for Massachusetts' Low Emission Vehicle Program.

Rishi has served on the Board of Directors of South Asian Americans Leading Together (SAALT), a national civil rights organization, and served as the Massachusetts Legislative Coordinator for Amnesty International. She is also the award-winning author of two works of fiction, *Passage West: a novel* (2020) and *Karma and Other Stories* (2007).

Mia Mansfield is the Director of Climate Adaptation and Resilience at the MA Executive Office of Energy and Environmental Affairs. In this role, she co-leads the implementation of the State Hazard Mitigation and Climate Adaptation Plan through the Resilient MA Action Team, and the Municipal Vulnerability Preparedness (MVP) grant program. Previously, she managed the Climate Ready Boston initiative for the City of Boston. She has a Master's in City Planning from MIT and a BA from Brandeis University.

Bob O'Connor is the Director of the Division of Conservation Services for the state environmental agencies of the Commonwealth of Massachusetts. He has a B.S. in Forestry from S.U.N.Y Syracuse, an M.B.A. from the University of Massachusetts, Boston, and a Masters in Conflict Resolution and Mediation at UMass, Boston. He coordinates land and forest conservation efforts in the Commonwealth

of Massachusetts. He was the statewide Director of the Watershed Initiative and the Director of Natural Resources at Metropolitan District Commission of Boston. (Robert.oconnor@state.ma.us)

Jennifer Mundt joined the North Carolina Department of Environmental Quality (DEQ) in April 2017, after spending more than a decade as a nonpartisan analyst serving the North Carolina General Assembly. While at the legislature, Jennifer drafted and evaluated environmental, energy, and public health legislation and policy.

Jennifer earned bachelor's degrees in environmental science and political science from Virginia Tech before working for several years in environmental consulting. She earned her master's degree in Public Health from the Gillings School of Global Public Health at the University of North Carolina at Chapel Hill. While at Carolina, Jennifer focused her studies on environmental policy. Her culminating master's research assessed the State's stormwater laws and their projected impacts on surface water quality.

In addition to her role as Senior Policy Advisor on DEQ's Leadership Team, Jennifer represents North Carolina on and serves as Chair of the Regional Energy Resources Council to the Tennessee Valley Authority. Her energy expertise has been tapped by Governor Cooper to lead the Bureau of Ocean Energy Management's North Carolina Renewable Energy Task Force.

Jennifer can often be spotted running on the Capital Area Greenway trails in Raleigh or enjoying North Carolina's parks and open spaces with her husband and two daughters.

MODERATOR

Charles Lee is widely recognized as a true pioneer in the arena of environmental justice. He was the principal author of the landmark report, Toxic Wastes and Race in the United States. He helped to spearhead the emergence of a national environmental justice movement and federal action, including the establishment of EPA's Office of Environmental Justice and issuance of Executive Order 12898. Charles Lee is currently the Senior Policy Advisor for Environmental Justice at the U.S. Environmental Protection Agency (EPA). He led the development and implementation of EPA's agency-wide environmental justice strategic plans, e.g., Plan EJ 2014 and EJ 2020. He has served in multiple capacities, ranging from creating the United Church of Christ's environmental justice program to directing EPA's environmental justice office.