



# RHODE ISLAND URBAN FORESTS FOR CLIMATE & HEALTH

2020 RI Land & Water  
Conservation Summit



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- SINCE 1875 -

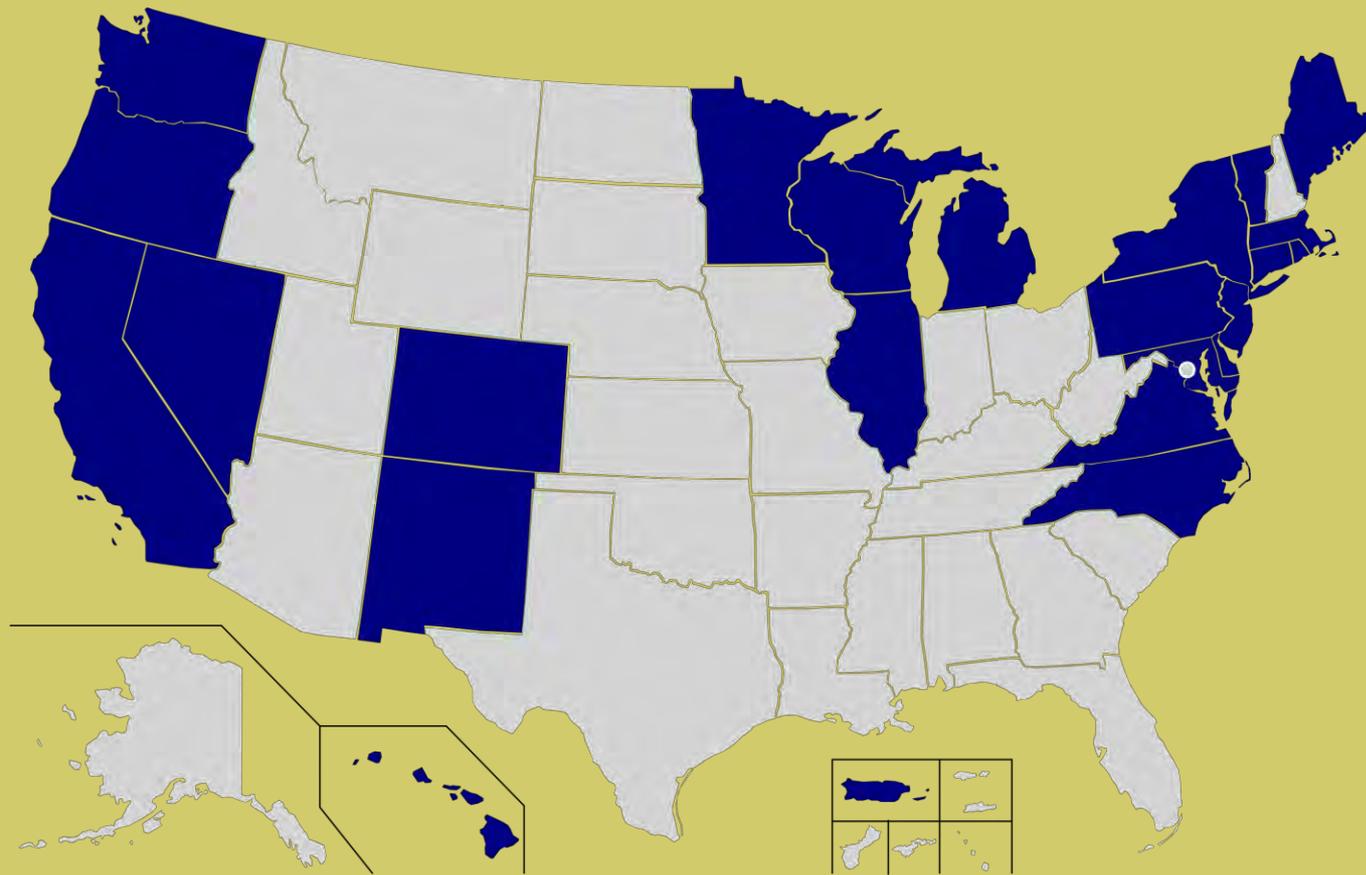
# ABOUT AMERICAN FORESTS

- FOUNDED IN 1875
- OLDEST CONSERVATION ORGANIZATION IN THE NATION
- MISSION: TO INSPIRE AND ADVANCE THE CONSERVATION OF FORESTS, WHICH ARE ESSENTIAL TO LIFE.
- WE DO THIS BY PROTECTING AND RESTORING THREATENED FOREST ECOSYSTEMS, PROMOTING AND EXPANDING URBAN FORESTS, AND INCREASING UNDERSTANDING OF THE IMPORTANCE OF FORESTS.



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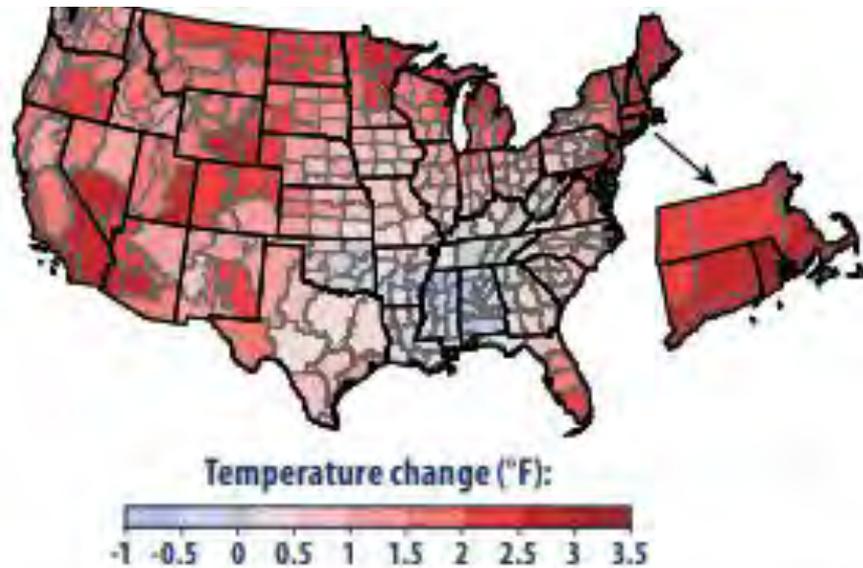


# PROJECT BACKGROUND



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# WHY RHODE ISLAND?



*Rising temperatures in the last century. Rhode Island has warmed twice as much as the rest of the contiguous 48 states. Source: EPA, Climate Change Indicators in the United States.*

Source: *What Climate Change Means for Rhode Island*, US EPA, August 2016

PROVIDENCE  
**Journal**

**America's hot spots: R.I. among the fastest-warming states in U.S.**



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**MONEY DOES NOT  
GROW ON TREES**



**TREES GROW ON  
MONEY**



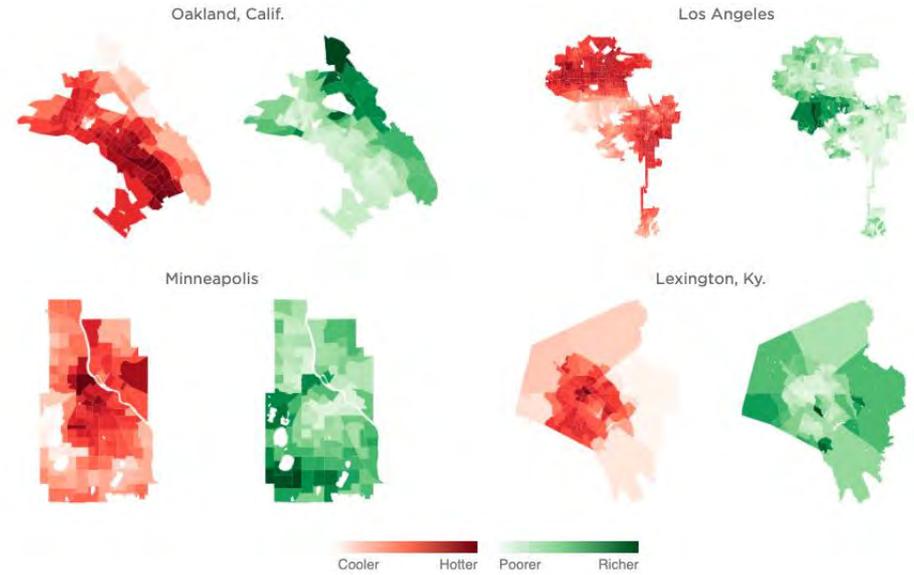
SPECIAL SERIES Heat and Health in American Cities

# As Rising Heat Bakes U.S. Cities, The Poor Often Feel It Most

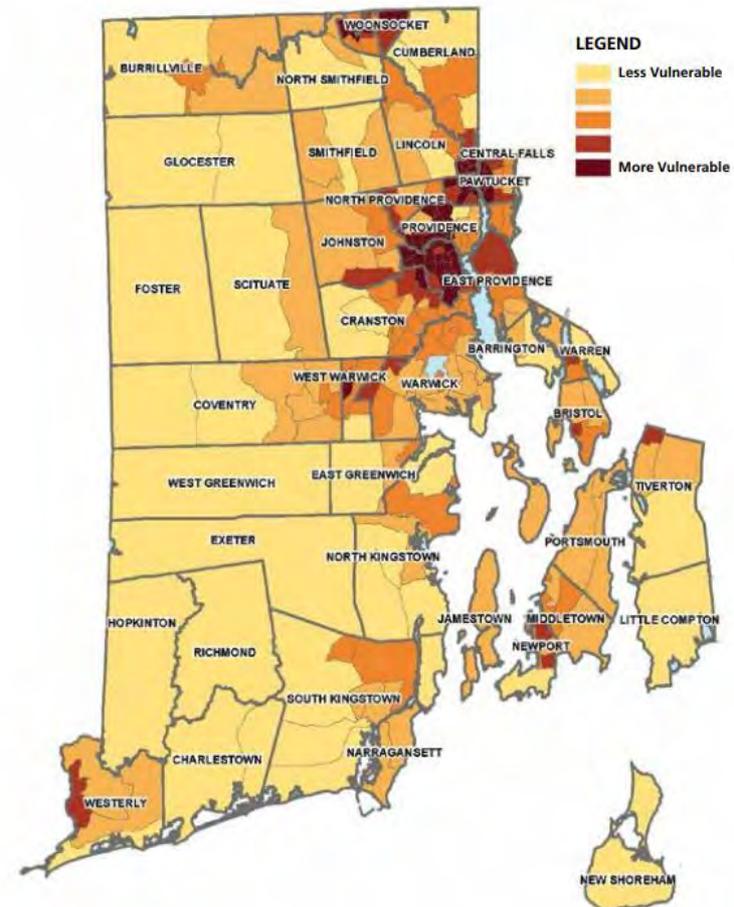
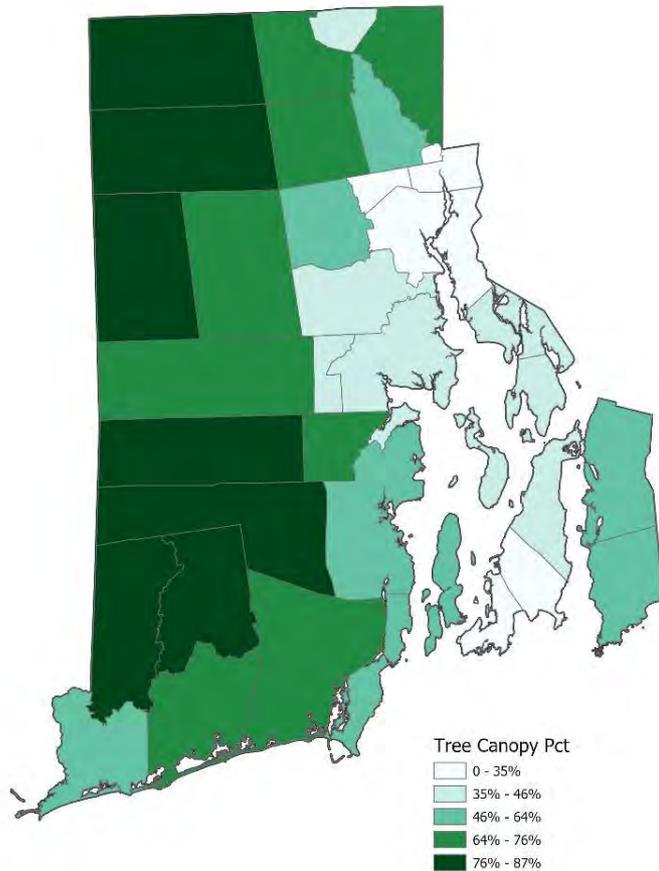
September 3, 2019 - 5:00 AM ET  
Heard on All Things Considered

MEG ANDERSON SEAN MCHINN

8-Minute Listen



# TREE EQUITY = HEALTH EQUITY





# The Rhode Island Health Equity Measures

Developed through the RIDOH Community Health Assessment Group

Domain	Determinant	Measure	Data Source
Integrated Healthcare	Healthcare Access	Percentage of adults who reported not seeking medical care or dental care due to cost (2 measures)	Behavioral Risk Factor Surveillance System (BRFSS)
	Social Services	Ratio: Number of individuals receiving to number of individuals eligible for SNAP benefits, based on income	Supplemental Nutrition Assistance Program (SNAP), US Census Bureau
	Behavioral Health	Ratio: Number of naloxone kits distributed to number of overdose deaths	RIDOH, Prevent Overdose RI website
Community Resiliency	Civic Engagement	Percentage of registered voters participating in the most recent presidential election	Rhode Island Board of Elections
	Social Vulnerability	Index score that reflects the social vulnerability of communities	Centers for Disease Control and Prevention (CDC) Social Vulnerability Index, Agency for Toxic Substances and Disease Registry (ATSDR)
	Equity in Policy	Ratio: Number of low to moderate-income housing units to number of low to moderate-income households	HousingWorks RI, Comprehensive Housing Affordability Strategy
Physical Environment	Natural Environment	Percentage of overall landmass with tree canopy cover	US Department of Agriculture (USDA) Forest Service i-Tree Tools
	Transportation	Index score that reflects the affordability of transportation for renters	US Department of Housing and Urban Development (HUD) Low-Cost Transportation Index
	Environmental Hazards	Number and percentage of children with blood lead levels higher than 5 micrograms per deciliter	RIDOH Environmental Lead Program



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# RI URBAN FORESTS FOR CLIMATE & HEALTH



DORIS DUKE  
CHARITABLE FOUNDATION



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## STATE TREE PLANTING GOAL



# 1. CLIMATE & HEALTH FORESTRY ACTION TOOL

- Tree Equity Score  
(assess/goal setting)
- Map-based tool (select)



# CLIMATE & HEALTH FORESTRY ACTION TOOLS



# ASSESS

UTILIZE SIMPLE METRICS ACROSS SOCIAL, HEALTH, AND CLIMATE DATA.

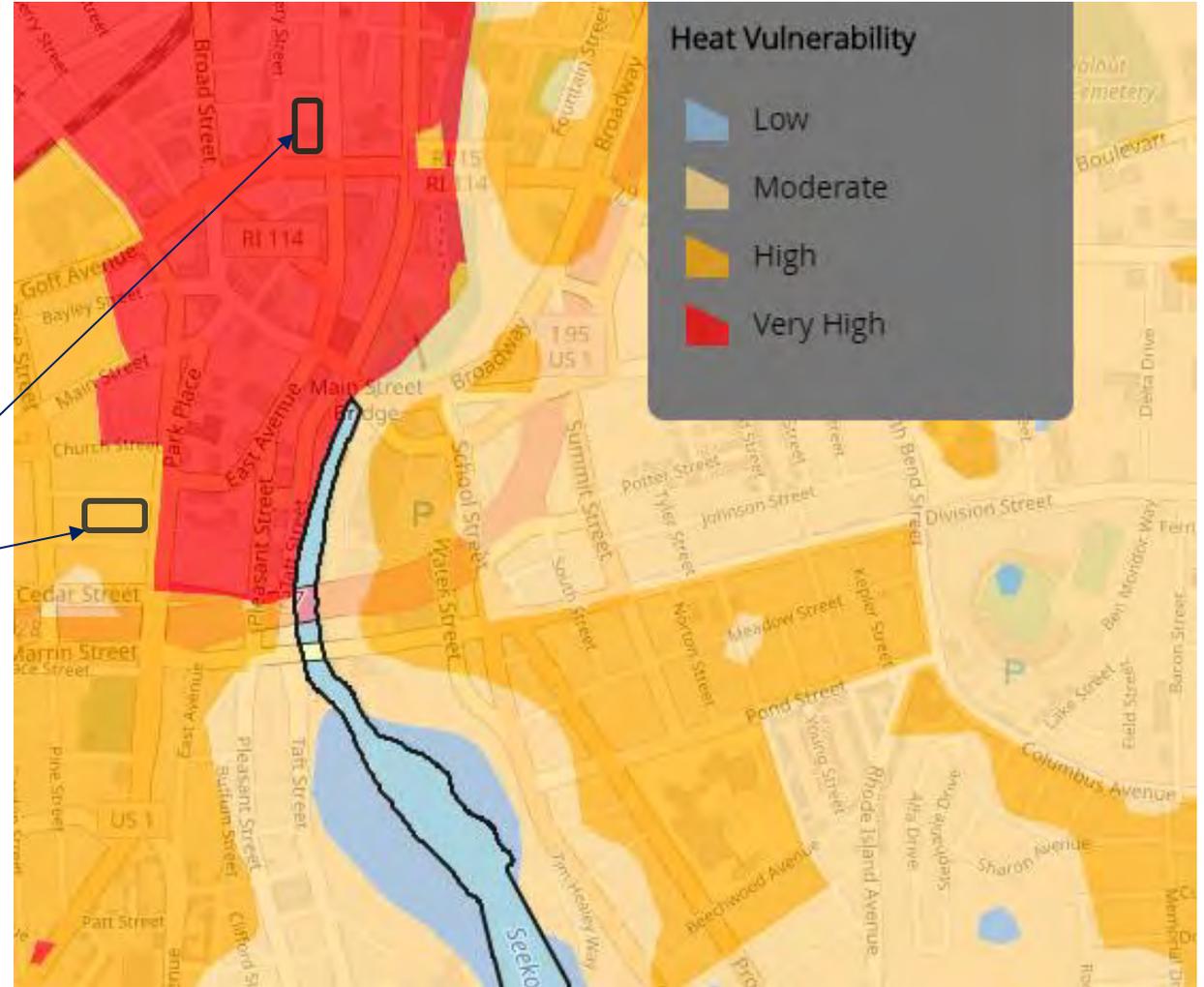
- SETTING A STANDARD FOR NATIONWIDE WORK WITH **TREE EQUITY SCORE**
- CLIMATE PROJECTIONS, THREATS, SEQUESTRATION POTENTIAL, SEA LEVEL RISE
- HEALTH DATA & IMPACTS
- APPLIED AT MULTIPLE SCALES: STATE, CITY, HEALTH EQUITY ZONE, NEIGHBORHOOD (BLOCK GROUP), PARCEL.



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# MAP-BASED TOOL

ALLOW USERS TO COMPARE OPPORTUNITY PARCELS THAT ACHIEVE THEIR CLIMATE & HEALTH NEEDS AS INFORMED BY THE ASSESSMENT (TREE EQUITY SCORE).



# TREE EQUITY SCORE: DEFINED

**TREE EQUITY SCORE** IS A WAY TO MEASURE HOW WELL A NEIGHBORHOOD, MUNICIPALITY OR STATE IS ENSURING THE BENEFITS OF URBAN TREE CANOPY ARE REACHING POPULATIONS THAT ARE PARTICULARLY SUSCEPTIBLE TO EXTREME HEAT AND OTHER CONDITIONS.



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# TREE EQUITY SCORE METHODOLOGY

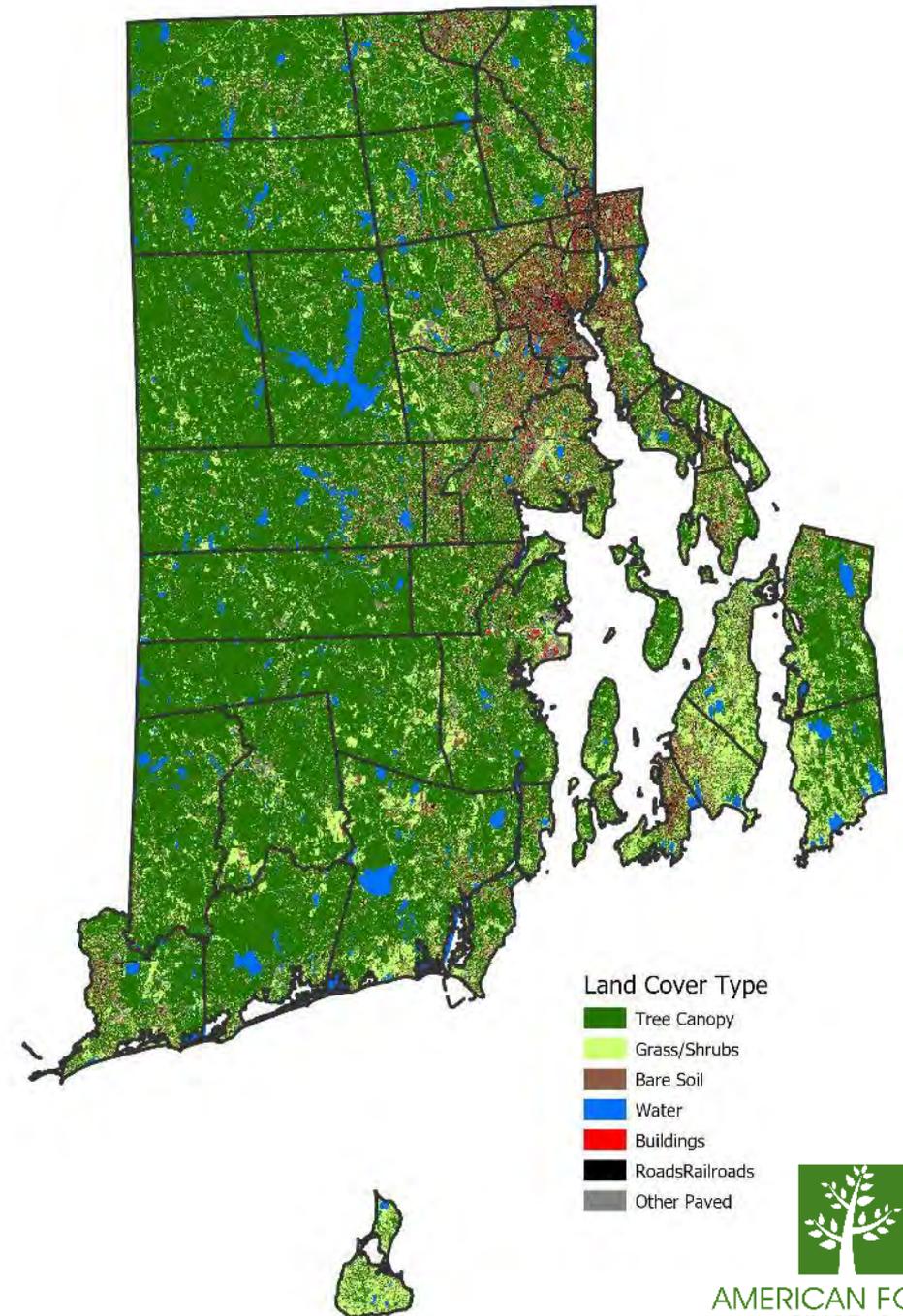
1. NEIGHBORHOOD GOAL

2. NEIGHBORHOOD CANOPY GAP\*\*\*

3. EQUITY INDEX

4. TREE EQUITY SCORE

\*\*\* WE WILL USE THIS AS A BASELINE FOR  
SETTING THE STATEWIDE GOAL.



## Land Cover Type

- Tree Canopy
- Grass/Shrubs
- Bare Soil
- Water
- Buildings
- Roads/Railroads
- Other Paved



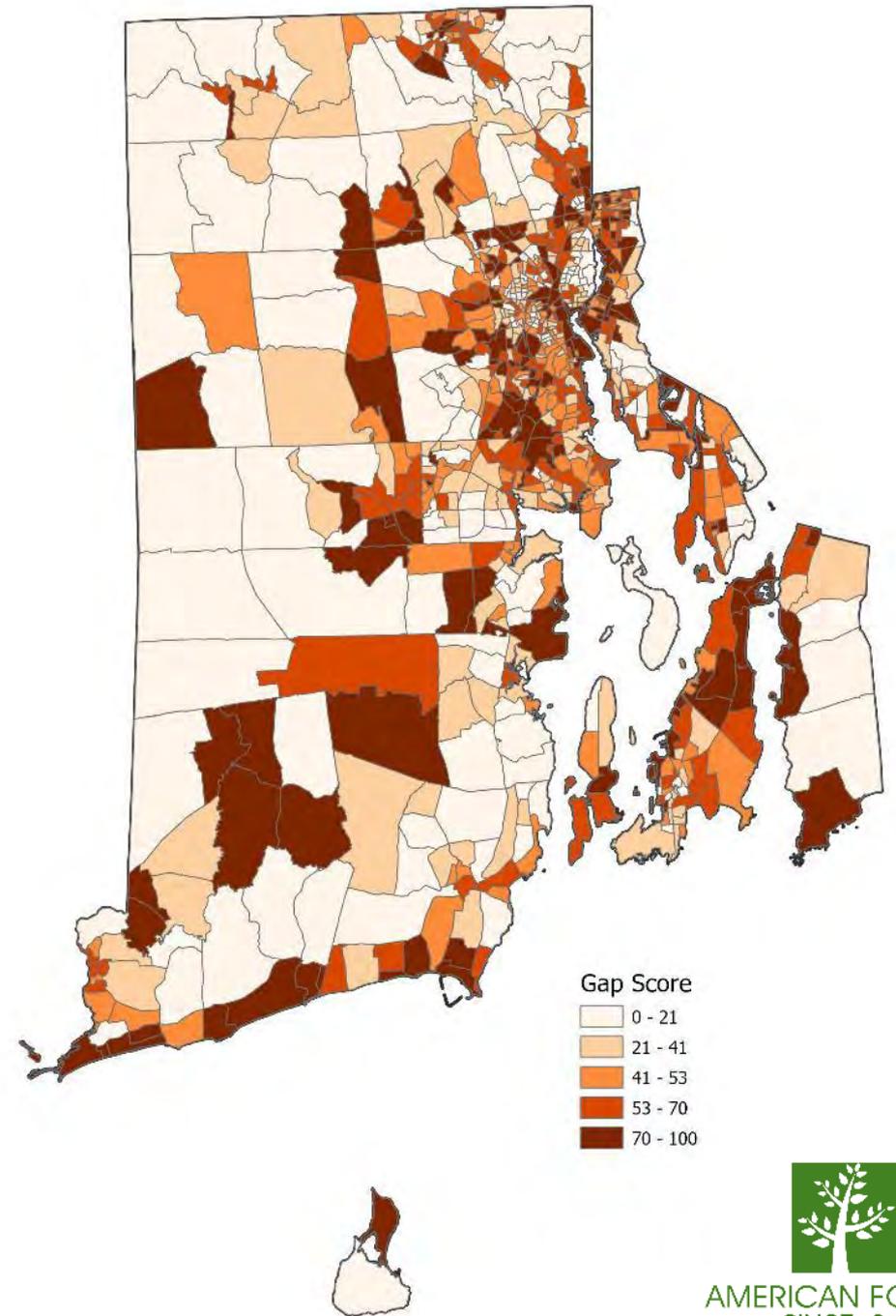
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# 1. NEIGHBORHOOD GOAL

Population Density (ppl/km <sup>2</sup> )	Target Canopy Adjustment factor
Very low (<2k)	1.2
Low (2k-4k)	1
Moderate (4k-8k)	0.8
High (>8k)	0.5

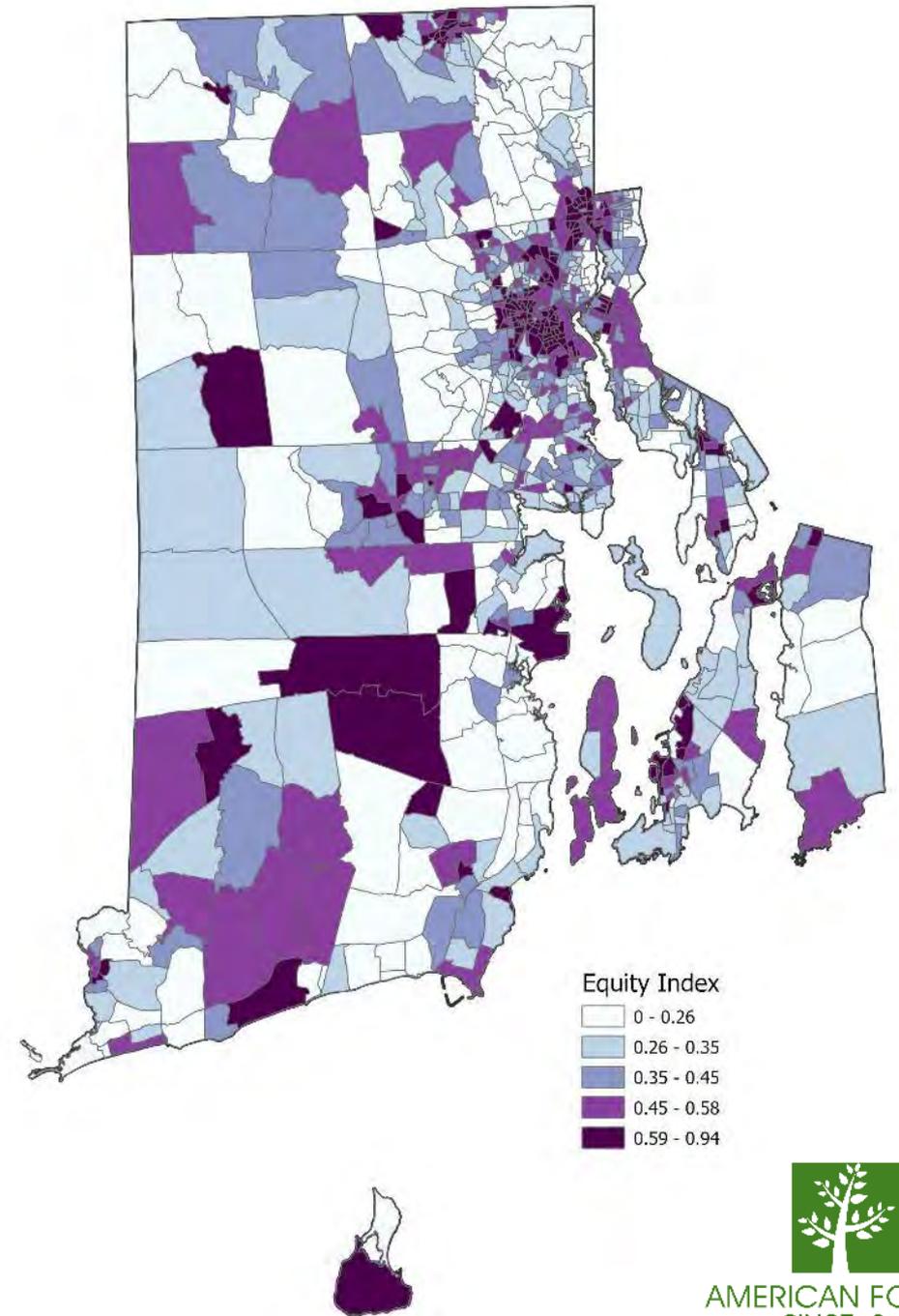


## 2. NEIGHBORHOOD CANOPY GAP



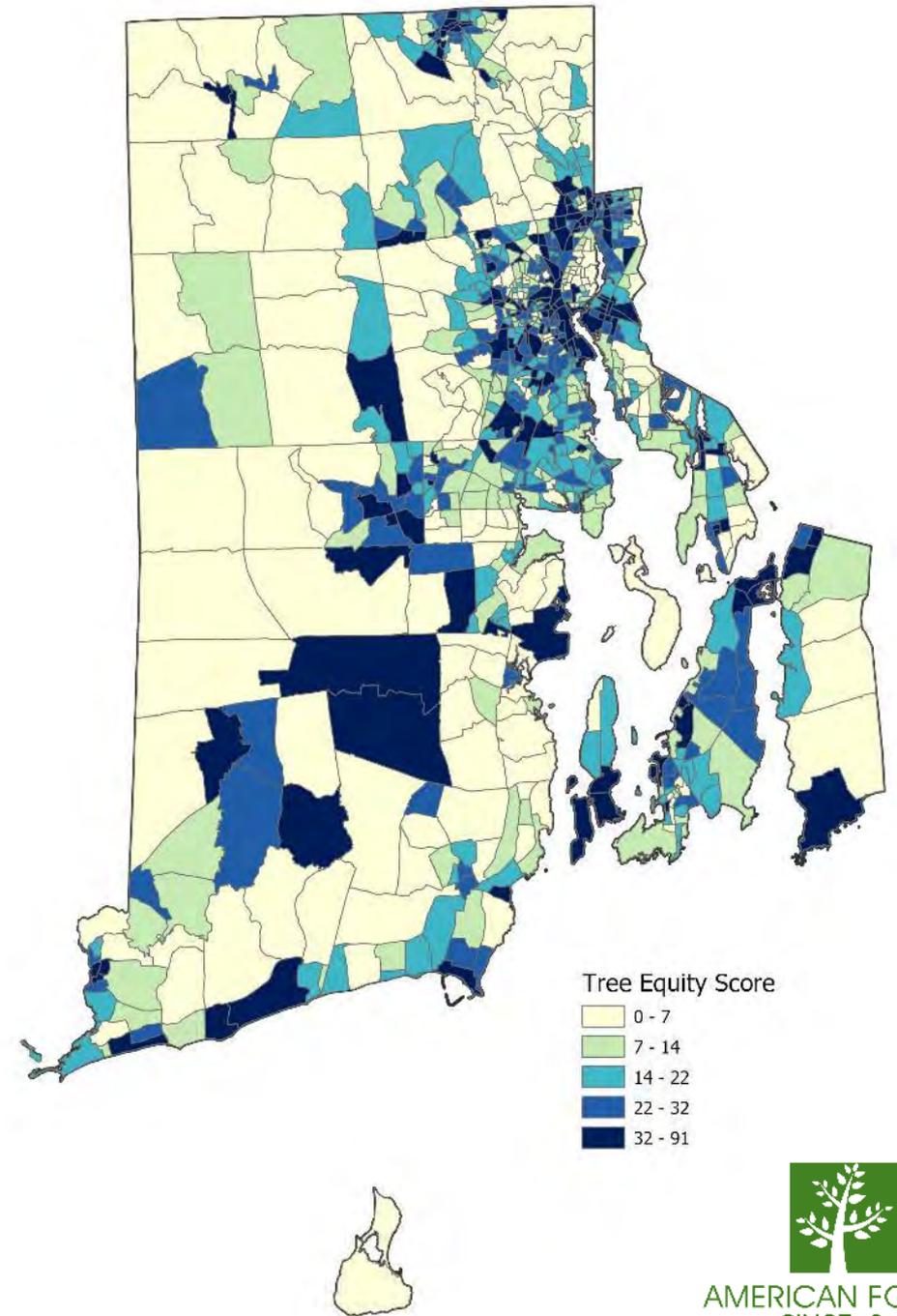
### 3. EQUITY INDEX

FOUR EQUALLY WEIGHTED  
CHARACTERISTICS



## 4. TREE EQUITY SCORE

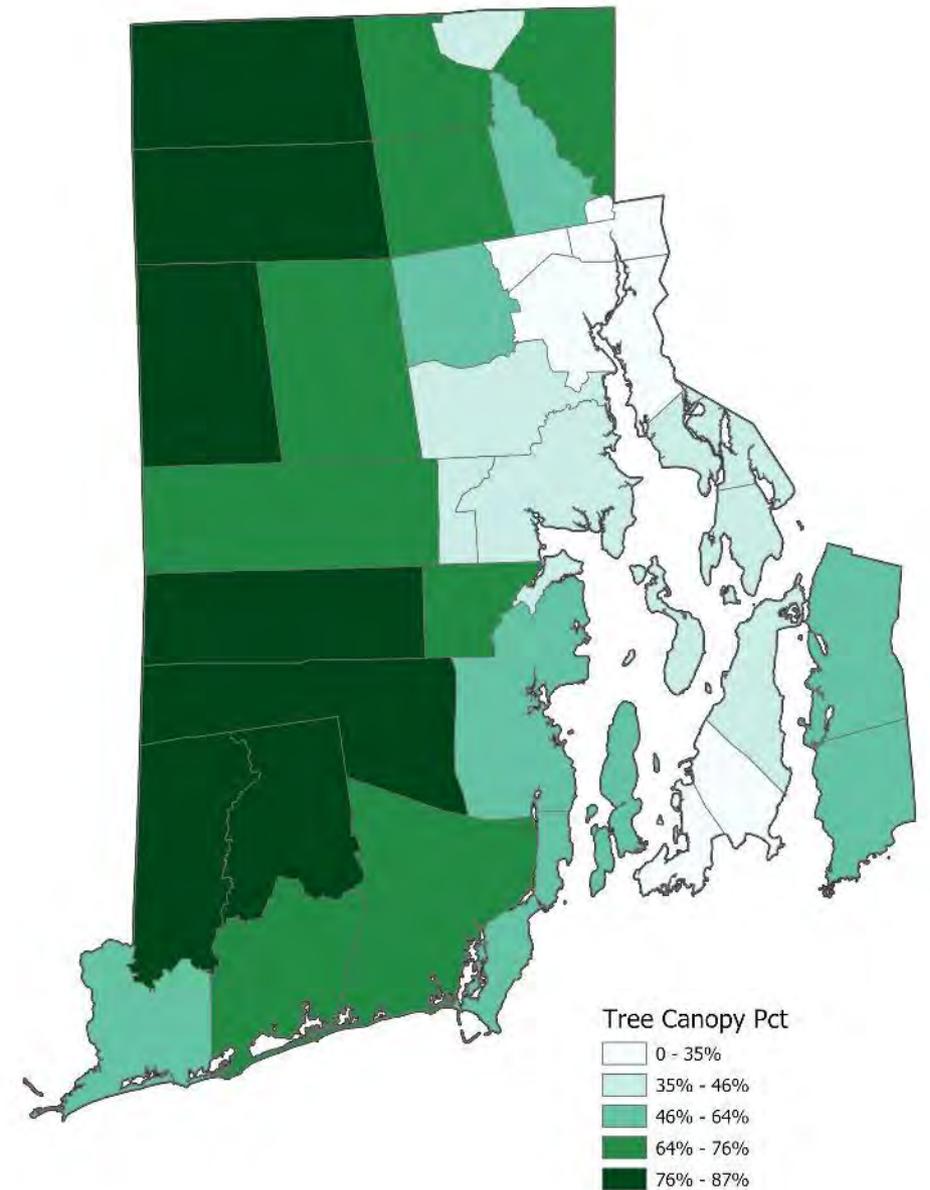
*THE TREE EQUITY SCORE PRIORITIZES TREE PLANTING ACROSS NEIGHBORHOODS WITH CANOPY GAPS.*



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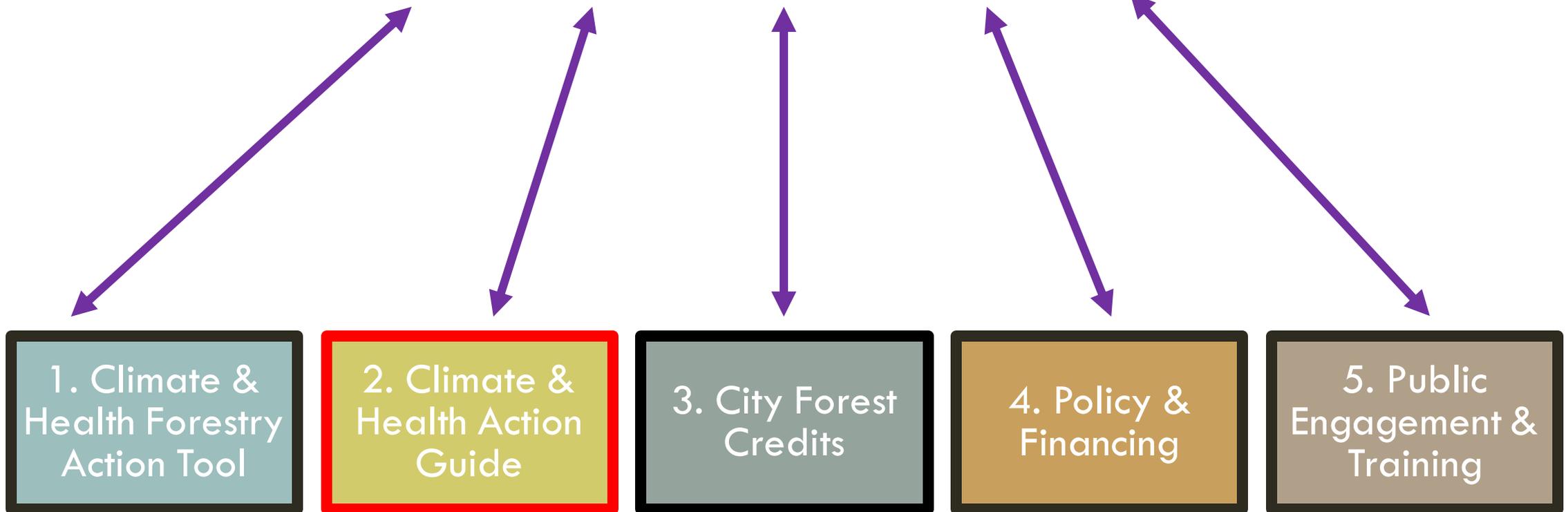
# SET GOALS

- CANOPY & CARBON GOALS BY STATE, MUNICIPALITY, BLOCK GROUP
- THROUGH THE LENS OF TREE EQUITY AND CLIMATE PROJECTIONS.
- INCORPORATES OPPORTUNITY
- AMBITIOUS, BUT ACHIEVABLE



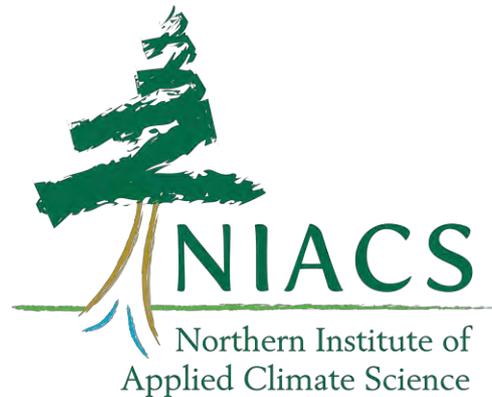


## STATE TREE PLANTING GOAL



## 2. CLIMATE & HEALTH ACTION GUIDE

- CLIMATE INFORMED TREE SPECIES SELECTION
- URBAN FOREST MANAGEMENT STRATEGIES TO ENHANCE CLIMATE ADAPTATIONS AND SUPPORT CARBON MITIGATION GOALS AND IMPROVE PUBLIC HEALTH OUTCOMES
- URBAN WOOD RE-USE STRATEGIES

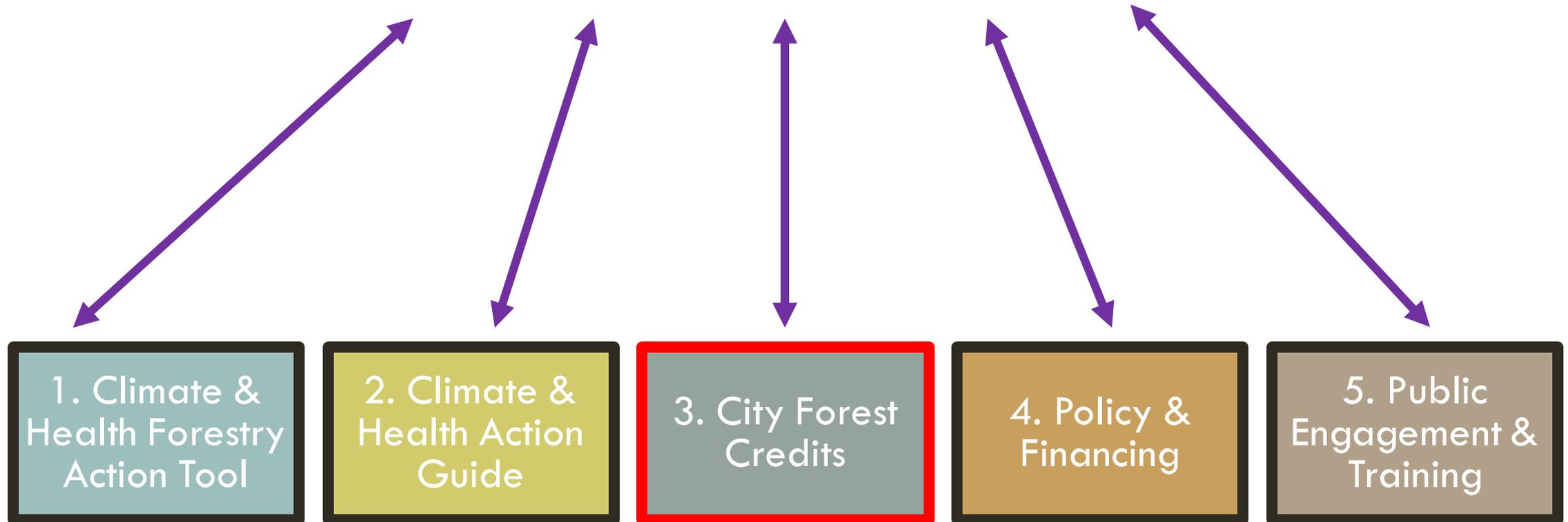




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## STATE TREE PLANTING GOAL



### 3. CITY FOREST CREDITS

VOLUNTARY CARBON+ MARKET THAT NOT ONLY MEASURES CARBON SEQUESTRATION BUT ALSO CALCULATES RAINFALL INTERCEPTION, AIR QUALITY BENEFITS AND ENERGY SAVINGS



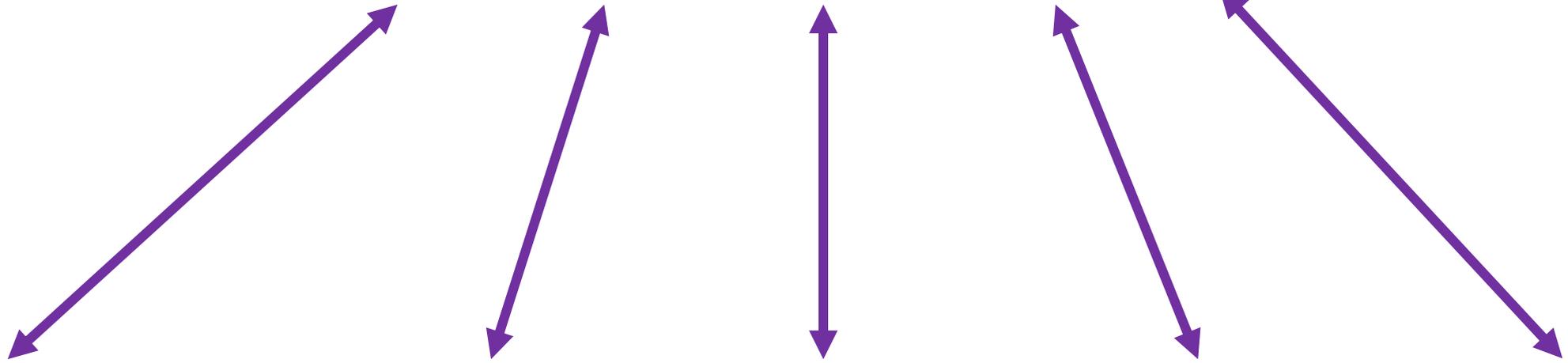
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## STATE TREE PLANTING GOAL



1. Climate & Health Forestry Action Tool

2. Climate & Health Action Guide

3. City Forest Credits

4. Policy & Financing

5. Public Engagement & Training



# RESILIENT RHODY

AN ACTIONABLE VISION FOR ADDRESSING THE IMPACTS OF CLIMATE CHANGE IN RHODE ISLAND



## POLICY & FINANCING

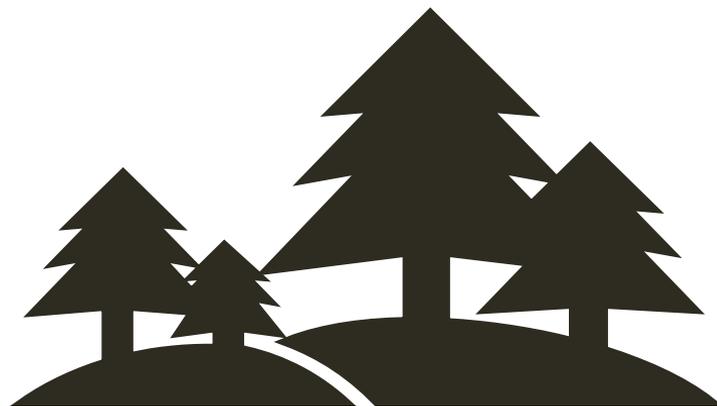


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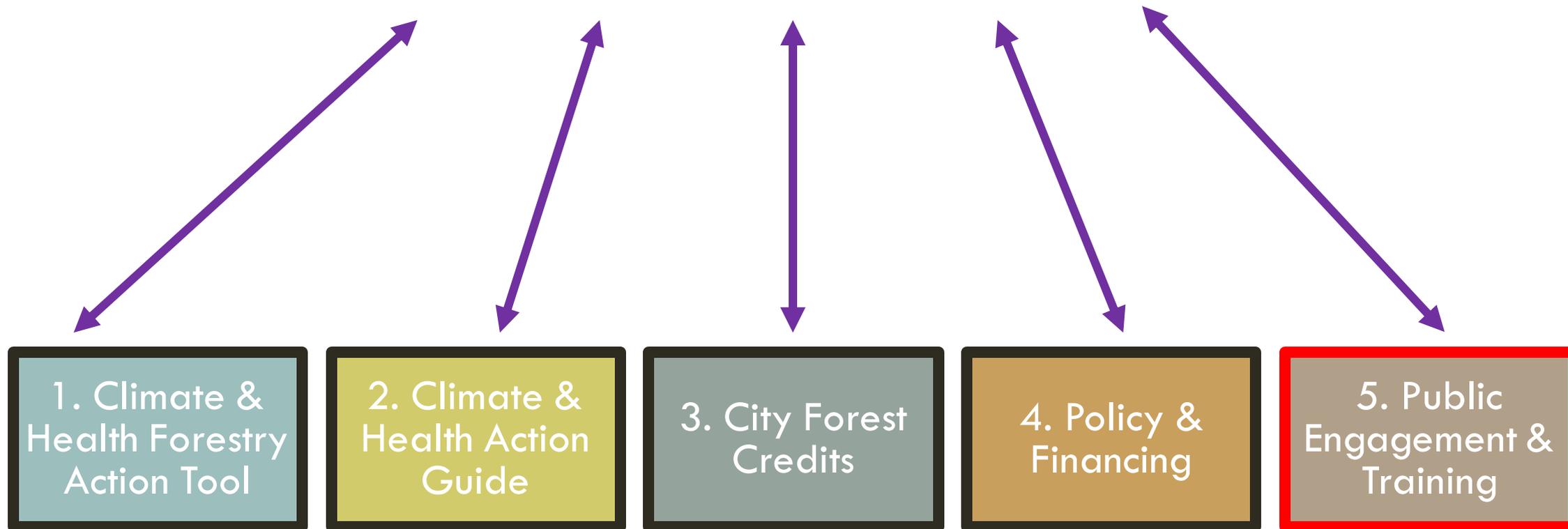




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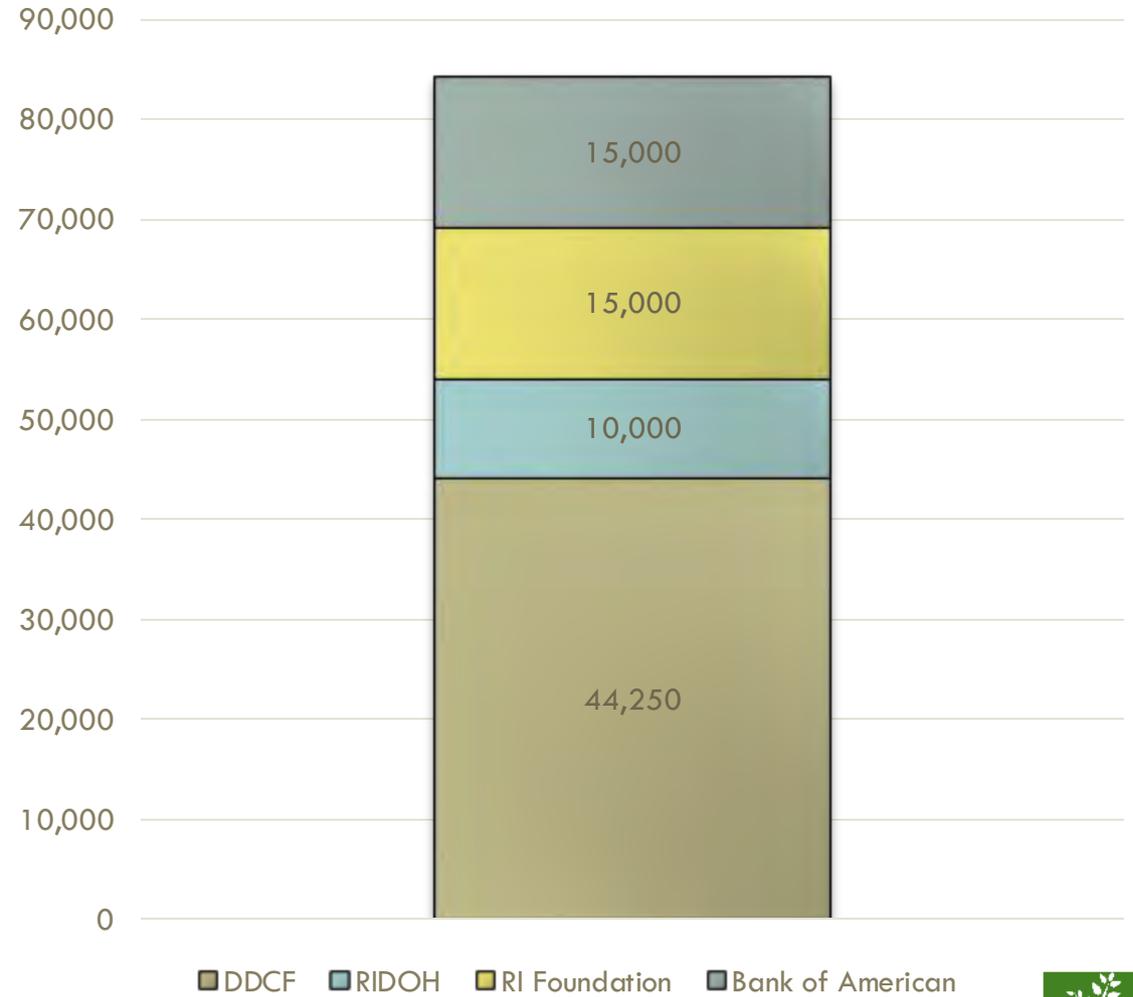
## STATE TREE PLANTING GOAL

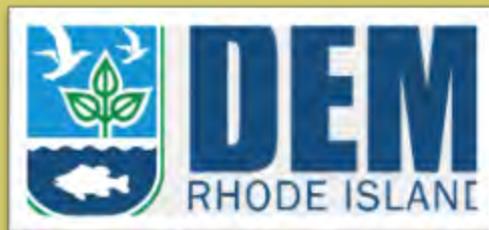


# 5. PUBLIC ENGAGEMENT & TRAINING



## Funds Raised to Date for Capstone Tree Planting





# CORE PROJECT PARTNERS

# MEASURE IMPACT

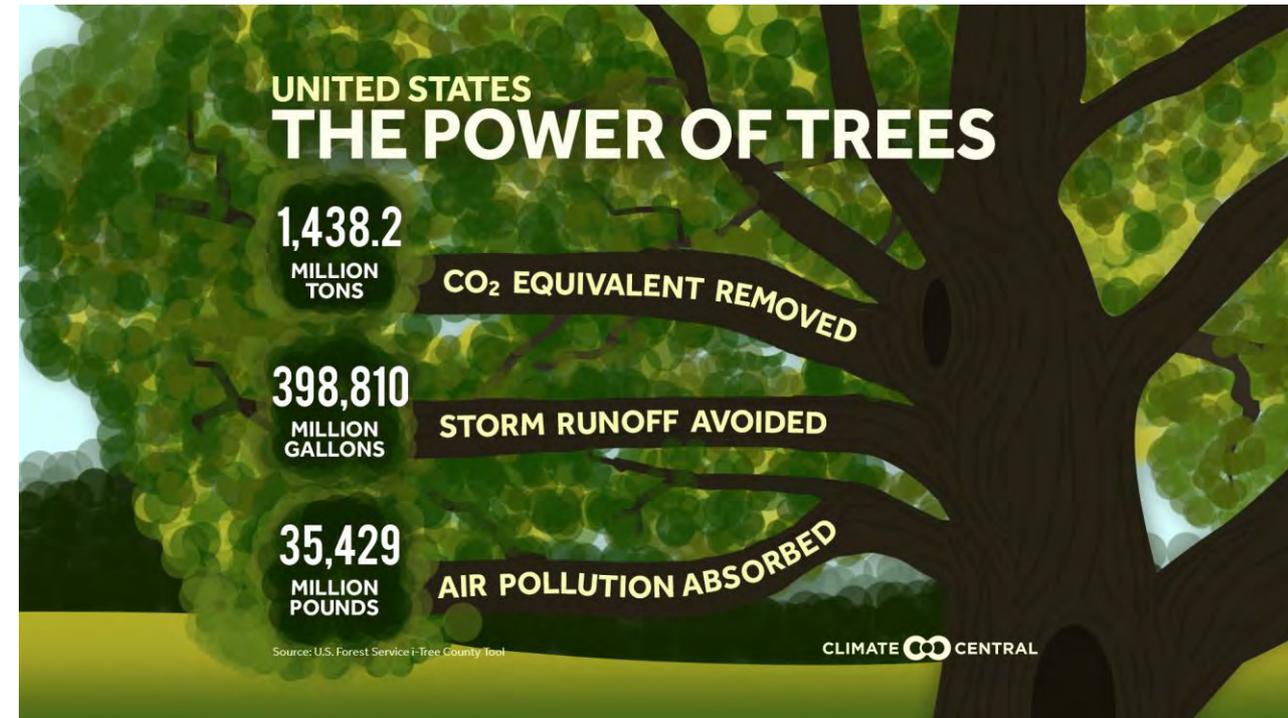
HOW DOES THIS CONTRIBUTE TO STATEWIDE GOALS?

HOW MUCH CARBON WILL BE SEQUESTERED BY THE PROJECT?

HOW MUCH STORMWATER INFILTRATED?

MEASUREABLE IMPACTS ON **PUBLIC HEALTH**?

IMPACT ON AIR QUALITY?



THANK YOU!

QUESTIONS?

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