Building Community Resilience in Olneyville: A Flood-Prone Environmental Justice Area Providence, RI

Central Providence

Health Equity Zone

OLNEYVILLE | VALLEY | FEDERAL HILL | HARTFORD

WOONASQUATUCKET RIVER
WATERSHED COUNCIL

ONE
NEIGHBORHOOD BUILDERS
NeighborWorks®
CHARTERED MEMBER

The Central Providence Health Equity Zone (HEZ)

Funded by RI Department of Health (RIDOH) to address causes of health disparities at a local level.

Collaboration with nonprofits, residents and clinical partners:

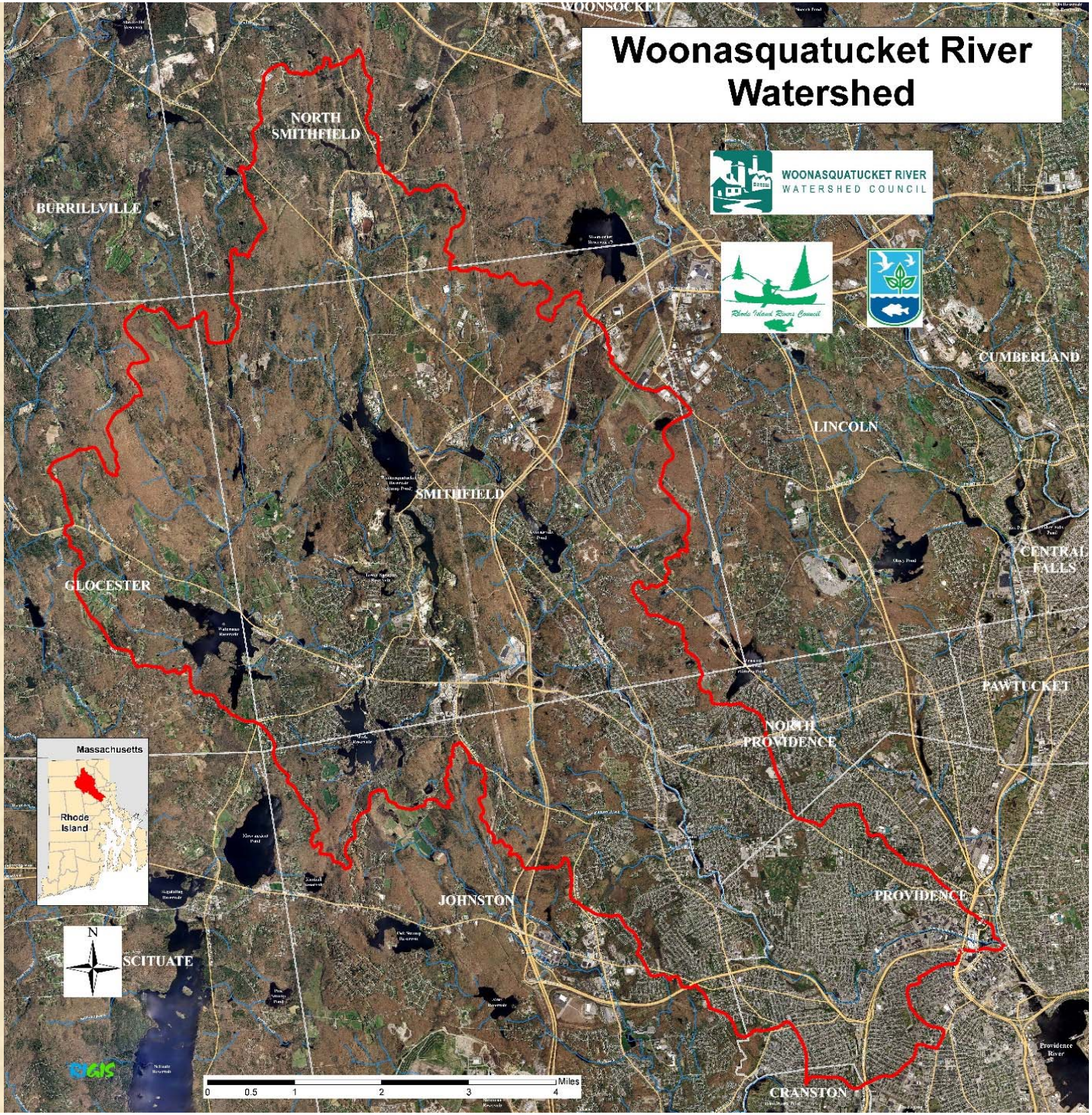
- **Improve economic opportunity**
  - access to healthy affordable foods
  - redevelopment of distressed and vacant properties into affordable housing
  - workforce development opportunities
- **Reduce unnecessary healthcare** spending while improving health outcomes for residents
- **Engage the community** through events and initiatives in efforts to build a more collective and cohesive community.

RIDOH Funded 3 HEZ's To:

Address community resilience to the effects of climate change.

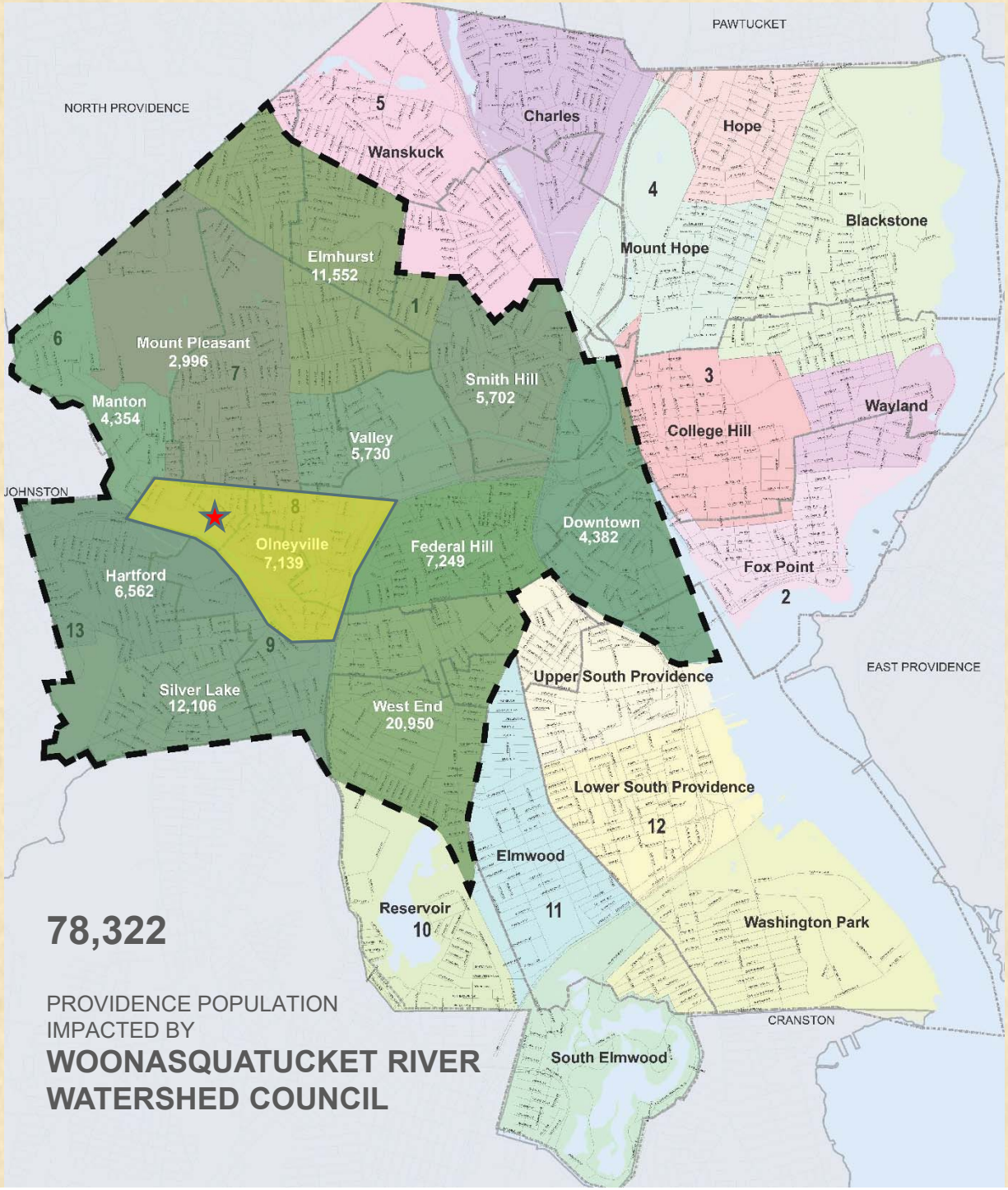
The goals:

1. Support HEZ's to plan for the effects of climate change
   - reduce health disparities
   - cultivate community leadership
   - build social cohesion
   - increase community resilience
2. Build knowledge
3. Learn best ways to build community resilience



283,757 total population
¼ of state pop

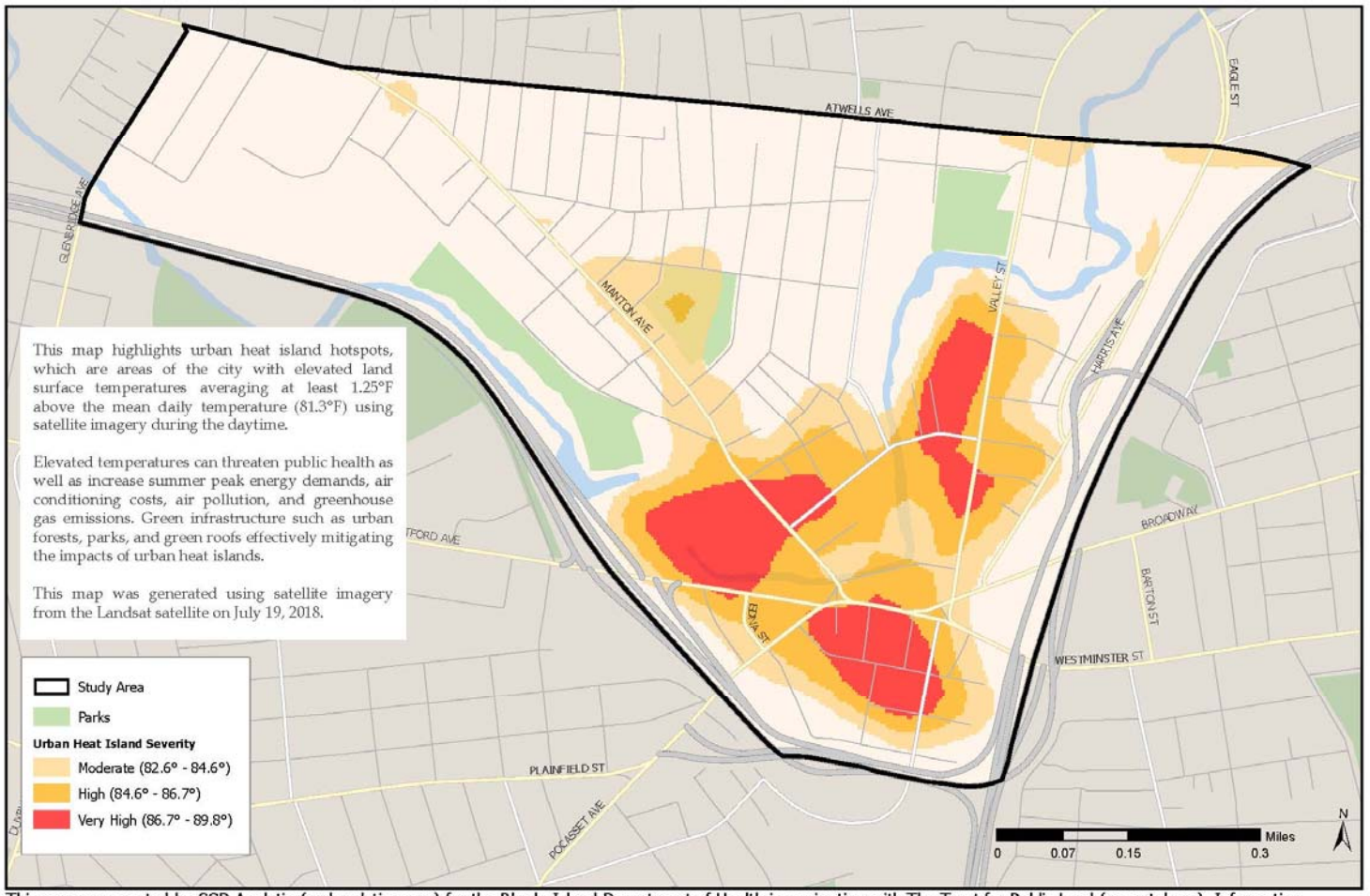
COMMUNITIES IMPACTED BY
WOONASQUATUCKET RIVER WATERSHED COUNCIL


PAWTUCKET
NORTH PROVIDENCE
5
Charles
Wanskuck
Hope
4
Blackstone
Mount Hope
Elmhurst
11,552
1
6
Mount Pleasant
2,996
7
Smith Hill
5,702
3
Wayland
Manton
4,354
College Hill
Valley
5,730
JOHNSTON
8
Olneyville
7,139
Federal Hill
7,249
Downtown
4,382
Fox Point
2
Hartford
6,562
13
9
EAST PROVIDENCE
Upper South Providence
Silver Lake
12,106
West End
20,950
Lower South Providence
12
Elmwood
Reservoir
10
11
Washington Park
CRANSTON
South Elmwood
78,322
PROVIDENCE POPULATION
IMPACTED BY
WOONASQUATUCKET RIVER
WATERSHED COUNCIL

Climate Issues in Olneyville - HEAT

Mitigating Urban Heat Islands

Olneyville Health Equity Zone

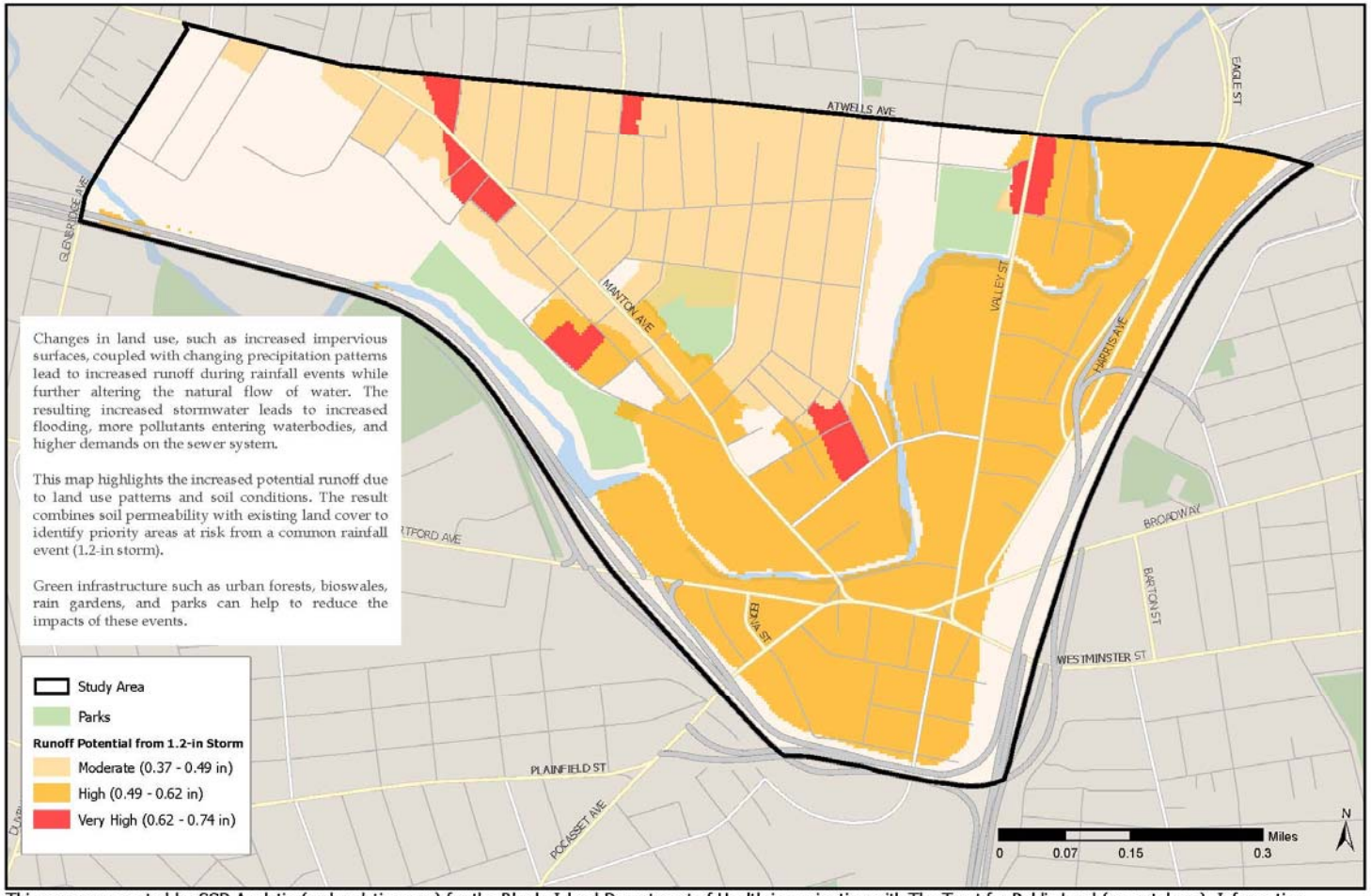


This map was created by CGD Analytics(cgdanalytics.com) for the Rhode Island Department of Health in conjuntion with The Trust for Public Land (www.tpl.org). Information on this map is provided for visualization and discussion purposes only. For more information, please contact the Rhode Island Department of Health. January 2019

Climate Issues in Olneyville - FLOODS

Addressing Stormwater Challenges

Olneyville Health Equity Zone



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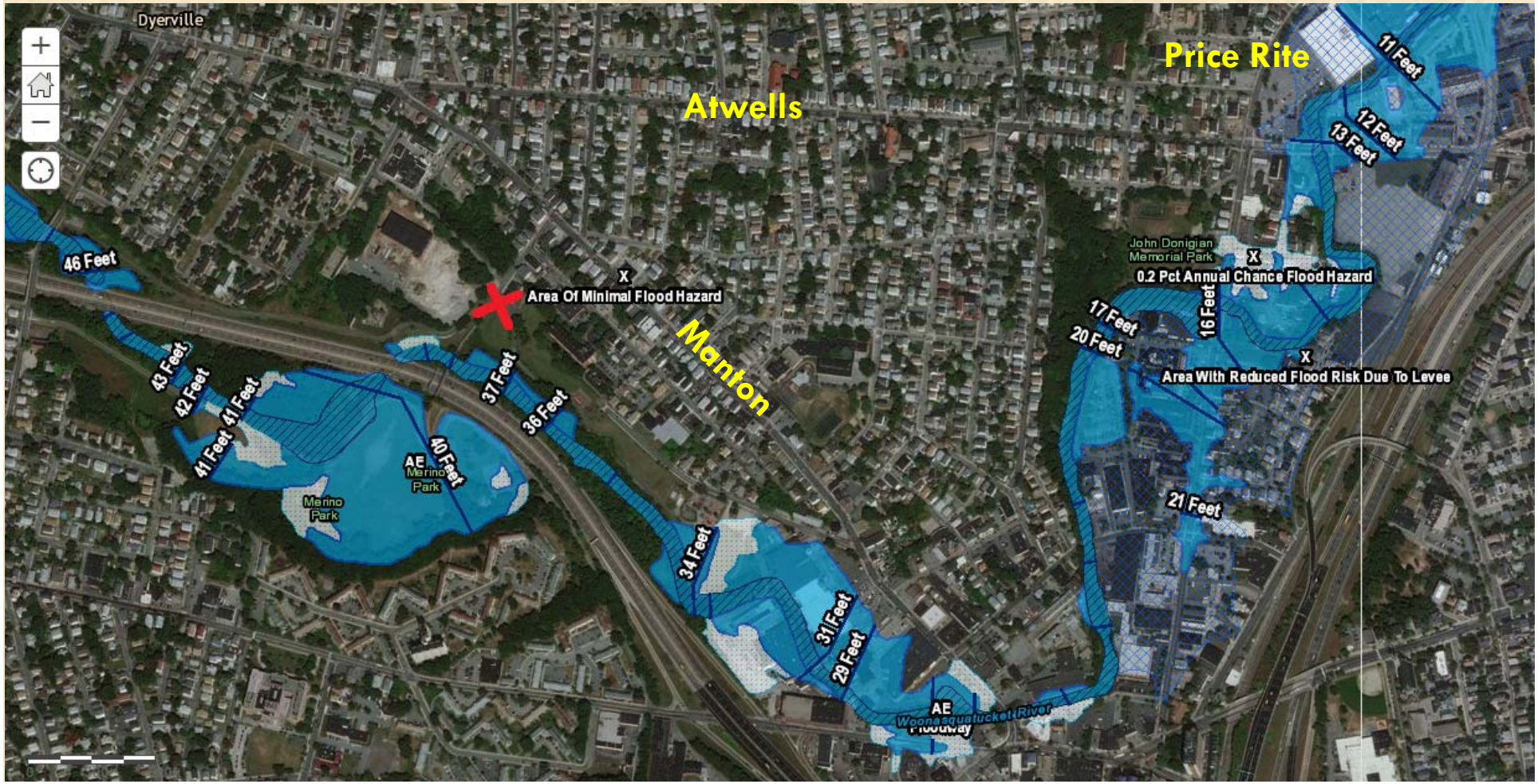
100 Year Flood Zone

"What used to be, say, a 1,000 year event (like [Superstorm] Sandy or perhaps Harvey) is now, say, a 30 year event, and will eventually become an event we see every few years if we continue on the course that we're on,"
Huffington Post Article – August 2017



Floods on the Ground – March 2010

Floods on the Ground – March 2010

How Do We Educate & Engage?
Step 1: Gather Data

Design

- Survey 100 people – 2 bilingual (Spanish/English) surveyors
  - Surveyors complete 1 hour training
  - Respondents receive $15 Price Rite gift card
  - Specifically target Hispanic/Latino residents to represent OV population
- Online Survey
  - Survey Monkey
  - First 10 18+ living in OV receive $15 Price Rite gift card

Actual

- Surveyed 18 in flood zone + 25 to represent Hispanic Community
- 47 Online
- 90 Total

RESULTS - Demographics

- Housing Status – 97% rent
- Time Lived in OV – 74% less than 5 Years
- Age – 52% 18-34, 43% 35-54
- Race/Ethnicity – 52% Hispanic/Latino

RESULTS – Knowledge/Perceptions on Climate Change

- How much do you know about CC? – 50% little or nothing
- Is climate changing in OV? – 63% Yes, 28% Not Sure, 9% No
- If yes, what risks are there in OV?
  - Theme Identified:
    - Flooding – 13
    - More Extreme Weather – 7
    - Illness/Flu/Fever – 13
- How likely is a disaster here? – 71% somewhat to very likely
- How severe would the impact be to you? – 75% somewhat to very severe

RESULTS – Stories

- 83% did not experience flooding
- Biggest problems for next flood
  - Loss of Power - 23
  - Safety – 21
  - Food & Water – 15
  - Property Damage – 15
  - Getting Out – 14
- How do you stay cool?
  - Air Conditioning – 45
  - Go outside (parks/beaches) – 7

RESULTS – Hazard Preparedness

Would you like more information on how to be prepared for a natural disaster? If yes, how can we contact you?		
Yes	48	54%
No	41	*46%*
Do you have supplies set aside in your home in case of a disaster?		
Yes	22	*24%*
No	68	*76%*
Do you have supplies set aside in your car to be used only in case of a disaster?		
Yes	18	*20%*
No	72	*80%*
Do you have supplies set aside inf your workplace to be used only in case of a disaster		
Yes	16	*18%*
No	73	*82%*
Could you tell me the disaster supplies you have in your home? (open-ended)		
Themes Identified		
Water	18	
Flashlights	13	
Canned/Preserved Food	12	
Food unspecified	8	
Batteries	8	
Candles	5	
Have you purchased Flood Insurance?		
Yes	6	*7%*

RESULTS – Hazard Preparedness

I am not planning to do anything about preparing	30	*33%*

RESULTS – Hazard Preparedness

Select Responses Stratified by Ethnicity & Age		
	Count	**Percentage**
Do you worry about having to permanently move out of your home or business due to flooding?		
Yes		
Hispanic/Latino	33	80%
Non-Hispanic/Latino	8	20%

In thinking about preparing yourself for a major disaster, which best represents your preparedness		
I do not plan on doing anything to prepare		
Hispanic/Latino	21	70%
No- Hispanic/Latino	8	27%

RESULTS - Overall

- Surveying was not easy – lots of abandoned homes in target zones
- 90% of those surveyed were not in Olneyville in 2010 and didn't experience flooding
- 70% of those surveyed who are not planning on doing anything are Latino
  - Lack of Experience
  - Too Expensive

How Do We Educate & Engage?
Step 2: Educate
Film: Stories from the Flood

1. Increase personal connection to disasters to increase motivation to prepare
2. Demonstrate how disaster preparedness can be affordable
3. Increase knowledge of landlord and tenant responsibilities around preparation

Stories from the Flood – Show Where We Go

1. Laundromats
2. Workplaces
3. Schools
4. Churches
5. Public Housing Complexes
6. Tenant Meetings

Step 2: Educate
Tours of Neighborhood Retrofits – Riverside Park GI Showcase

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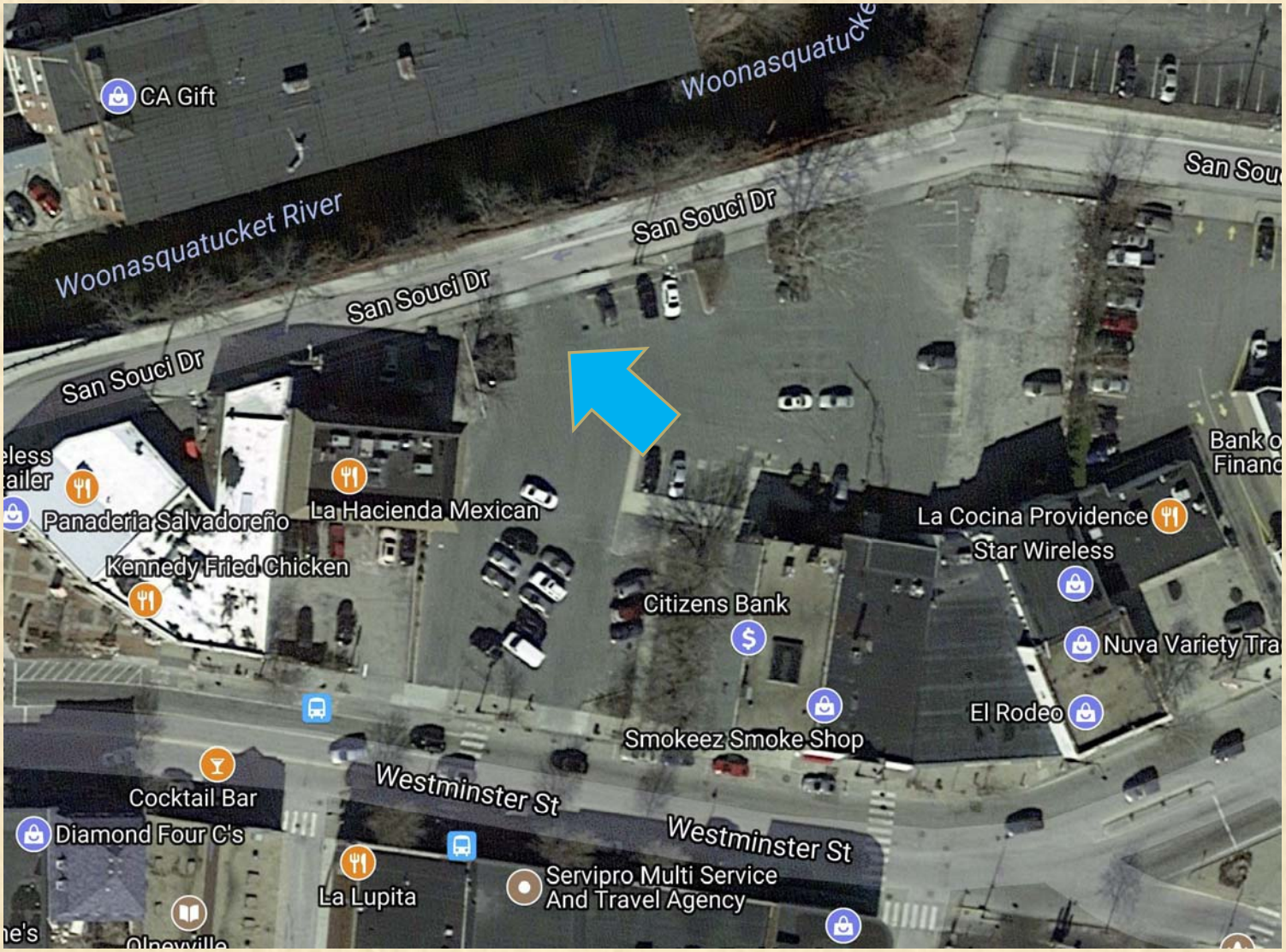
Tours of Neighborhood Retrofits – Riverside Park GI Showcase

Step 2: Educate
Tours of Neighborhood Retrofits – Parking Lot Olneyville Square



Stormwater Flows Directly to Woonasquatucket River
NO SLOWING NO TREATMENT

Step 2: Educate
Tours of Neighborhood Retrofits – Parking Lot Olneyville Square


PROPOSED DECIDUOUS SHADE TREE- LONDON PLANE TREE


PROPOSED MULTI-STEM DECIDUOUS SHADE TREE- RIVER BIRCH


PROPOSED EVERGREEN SHRUBS- COMPACT HOLLY


PROPOSED EVERGREEN SHRUBS- COMPACT HOLLY


PROPOSED ORNAMENTAL GRASSES KARL FOERSTER


PROPOSED GROUNDCOVER GRO-LOW SUMAC


PROPOSED BIORETENTION PERENNIALS
CARDINAL FLOWER
POW WOW CONE FLOWER
PENNSYLVANIA SEDGE
GAYFEATHER
RUDBECKIA


STAMPED CONCRETE


PET WASTE STATION

SITE LAYOUT & LANDSCAPE PLAN

FUSS & O'NEILL

RHODE ISLAND DEPARTMENT OF TRANSPORTATION
1917 WESTMINSTER ST.
PROVIDENCE, RI
FEBRUARY 2018

SCALE: 1"=10'-0"
0' 5' 10' 15' 20'

Step 3: Build Leadership
New Voices at the Water Table

QUESTIONS?

WOONASQUATUCKET RIVER
WATERSHED COUNCIL

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Global, Local, Coastal

Preparing the Next Generation for a Changing Planet

Jennifer Sloan
Director of Sustainability Education
Groundwork Hudson Valley

Groundwork Hudson Valley

CHANGING PLACES CHANGING LIVES

NOAA

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

U.S. DEPARTMENT OF COMMERCE

SARAH LAWRENCE COLLEGE

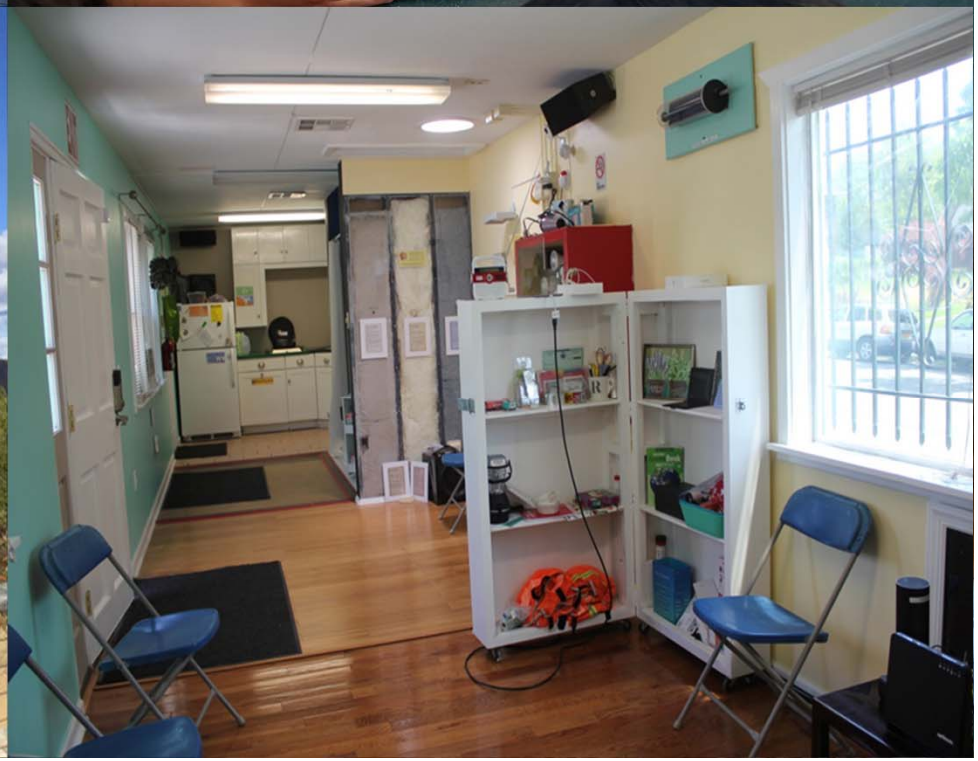
CENTER FOR THE URBAN RIVER AT BECZAK

Global, Local, Coastal

Program Overview

- **Funded in 2015 by NOAA Environmental Literacy Grant**
- **Partnered with Yonkers Board of Education to identify 12 classes among 4 High Schools for programs**
- **Experiential Resilience Education**
  - **2 School Years: 2016/2017 – 2017/2018**
  - **600-700 students** altogether enrolled in the program
  - **3 Field Trips to our outdoor education centers**

Global - Local - Coastal

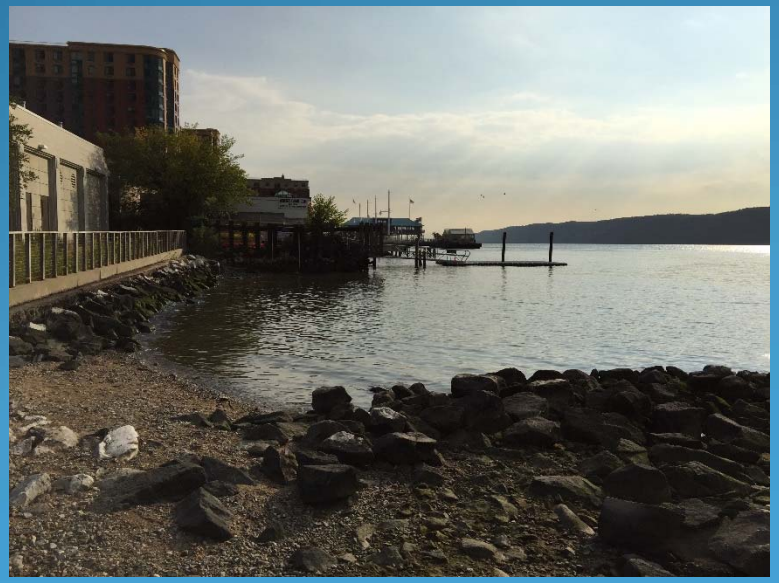


SITE #1: The Science Barge - *Global*

- Climate Science
- Climate Change Human Factors
- Climate Change Impact
- Global Resilience Strategies: Agriculture, Energy, Public Health

SITE #2: Center for the Urban River at Beczak - *Coastal*

- Coastal impacts – storm surge and sea level rise
- Marine impact – ocean acidification
- Green infrastructure – wetlands as buffers



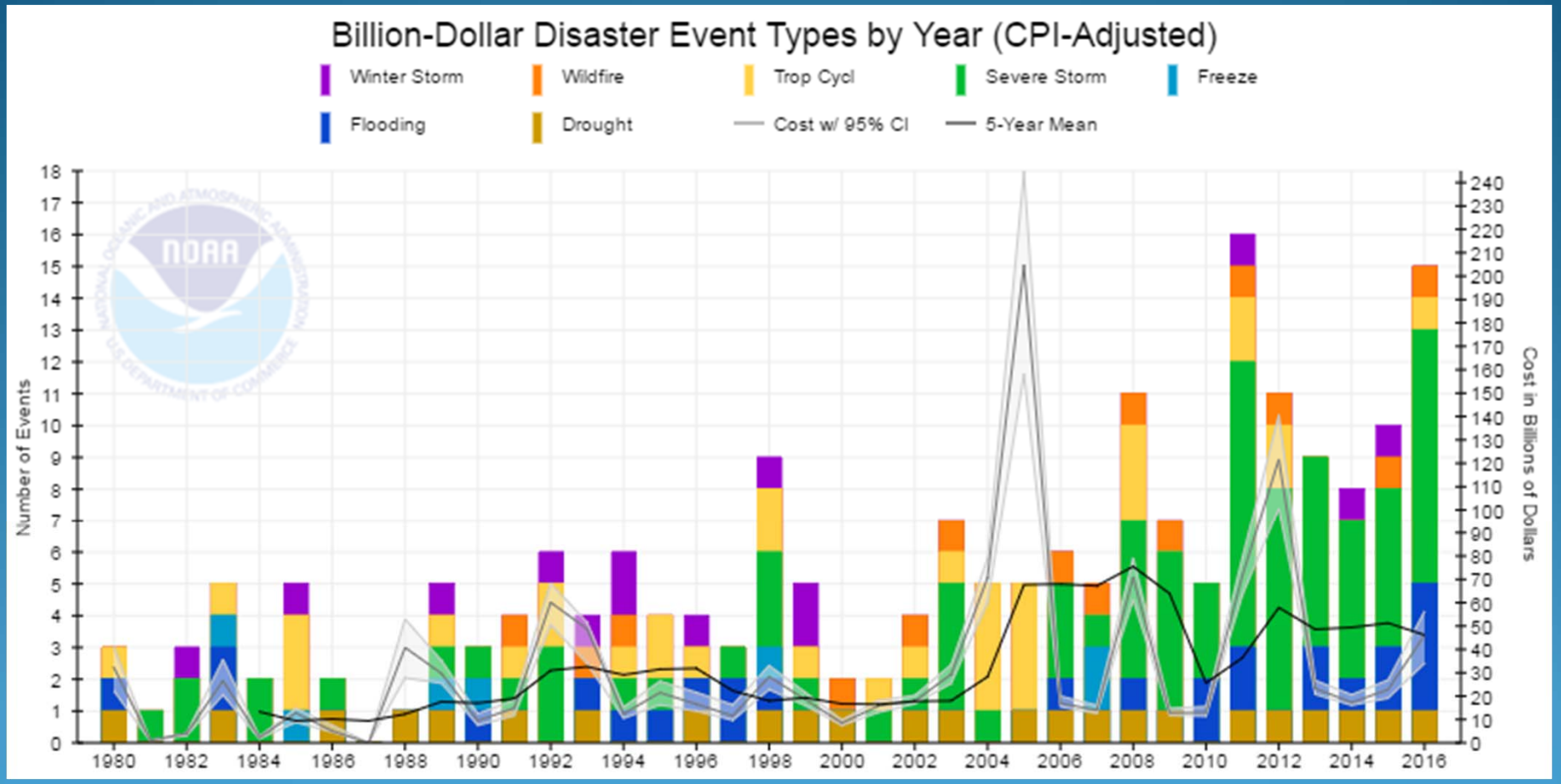
SITE #3: The EcoHouse - *Local*

- Energy/Water Audit in the Home
- Carbon Footprint Game
- Emergency Prep Scavenger Hunt
- Fortifying homes and communities
- Storm-water Management
- Landscaping for new climate

Lessons Learned

- Climate systems are complex, so understanding and predicting broad outcomes is tricky
  - 1) The planet is warming due to GHG emissions
  - 2) A warmer planet is a riskier planet
  - 3) Sea level rise, freshwater availability, heat waves, and ecosystem breakdown are paramount impact issues.
  - 4) NOAA Climate Resilience Toolkit – help with local strategies
- **Climate change affects EVERYONE** – if no where else than at the wallet.

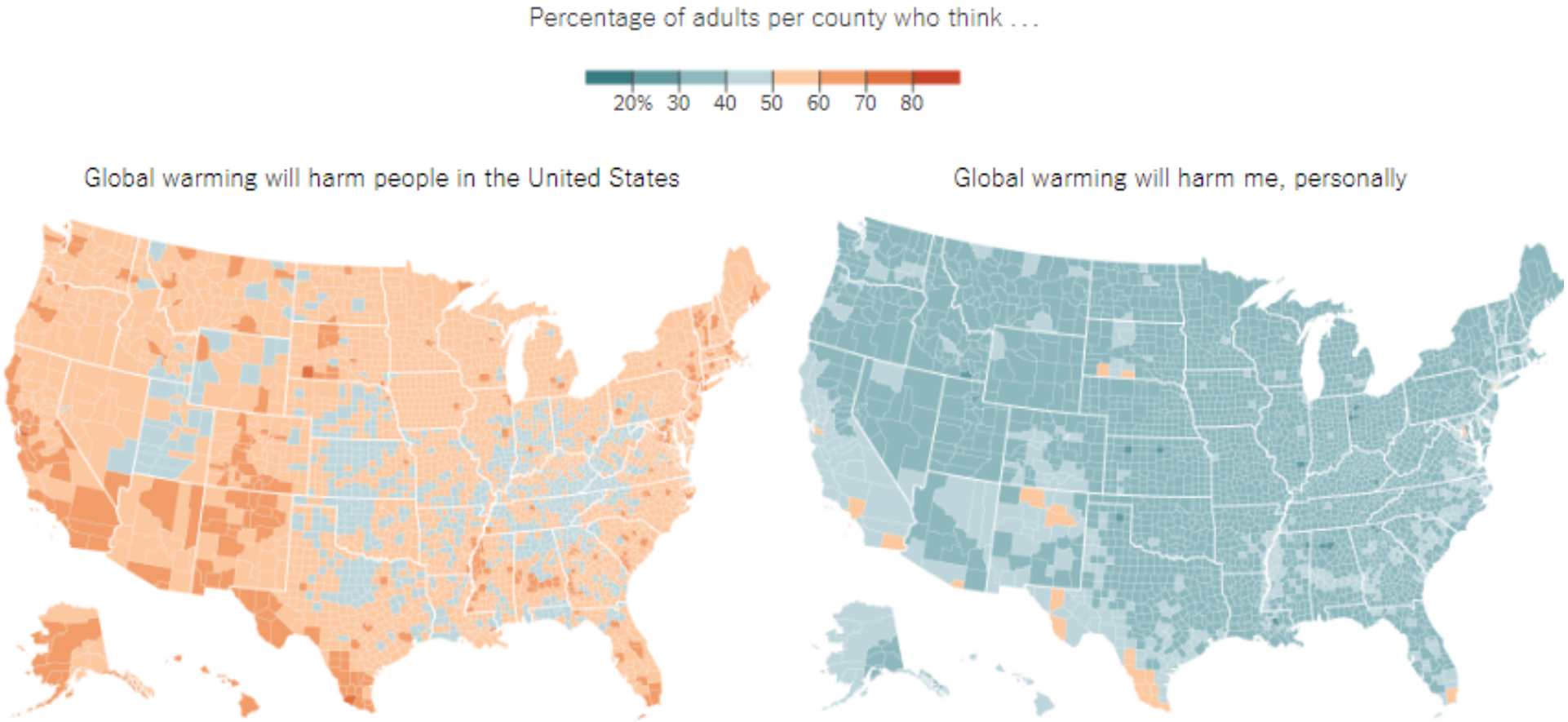
Climate Change Affects Everyone (If nowhere else but our wallets)



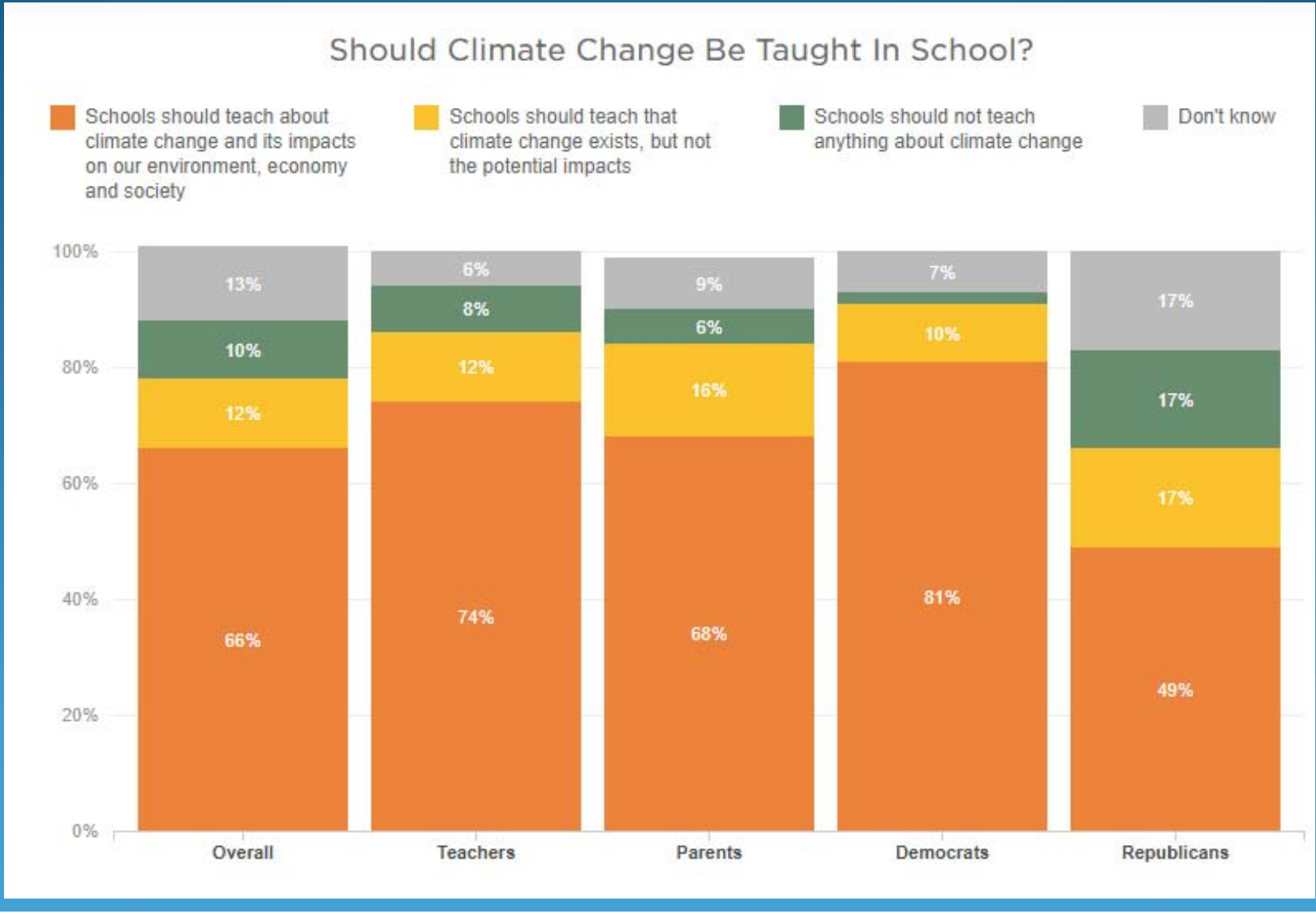
Lessons Learned continued…

- **‘Climate Grief’ is <u>real</u>.**
- Think **<u>Locally</u>**, Act **<u>Globally</u>**… (yes, you read that right)

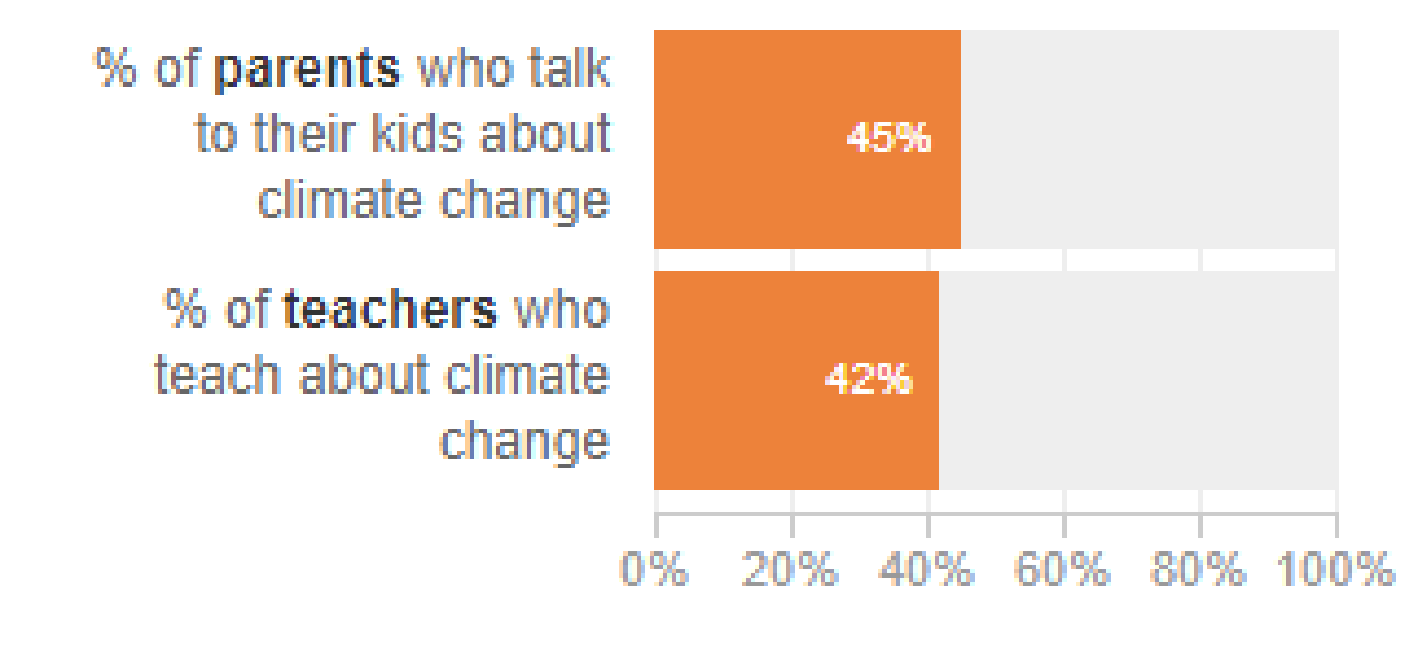
Make it Personal and Relevant



NPR Poll: Most want climate education

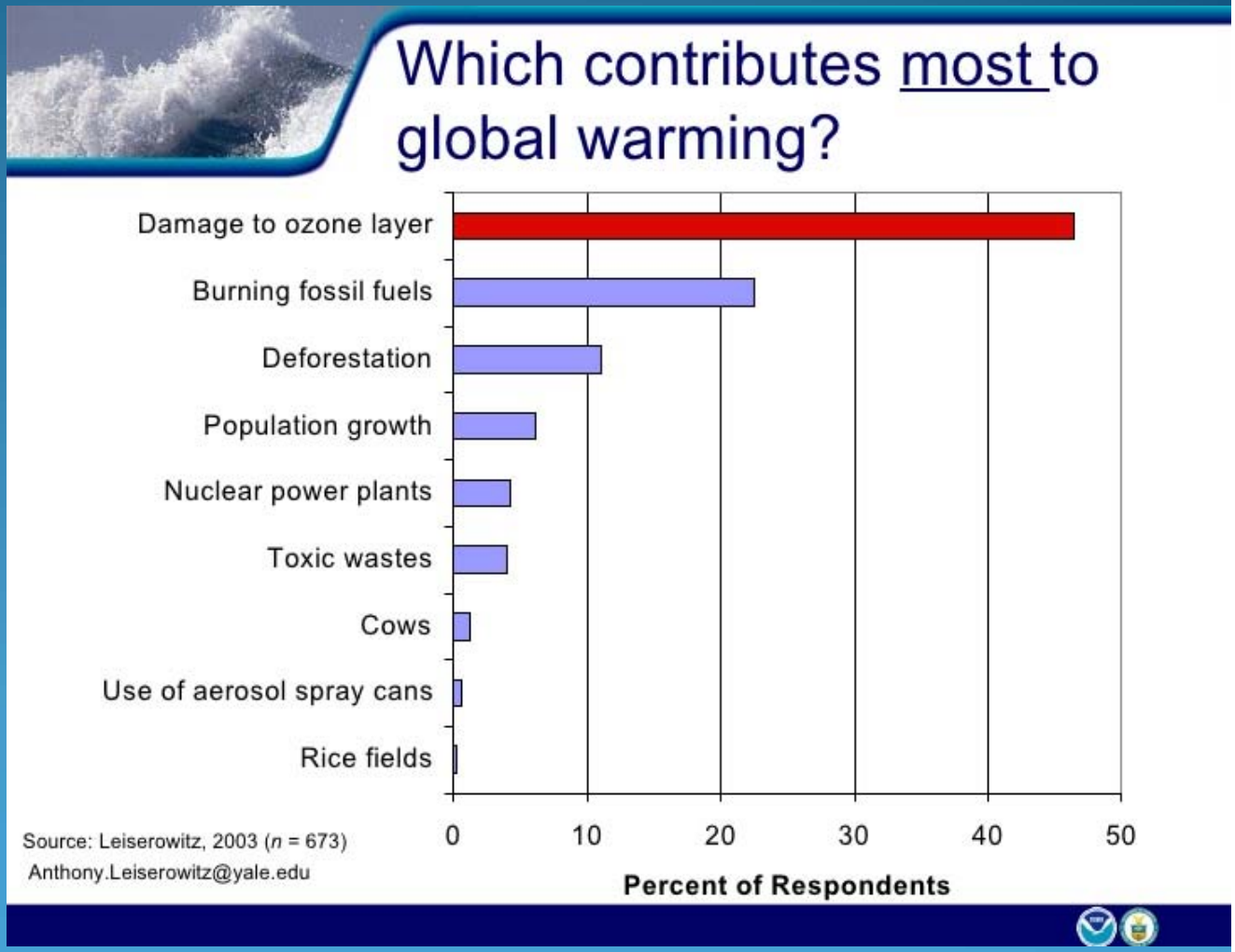


Few teach about it.



Many Obstacles for Education

- Even teachers have tenuous grasp of the subject!
- Inundation of misinformation
- Political Landscape
- Too negative



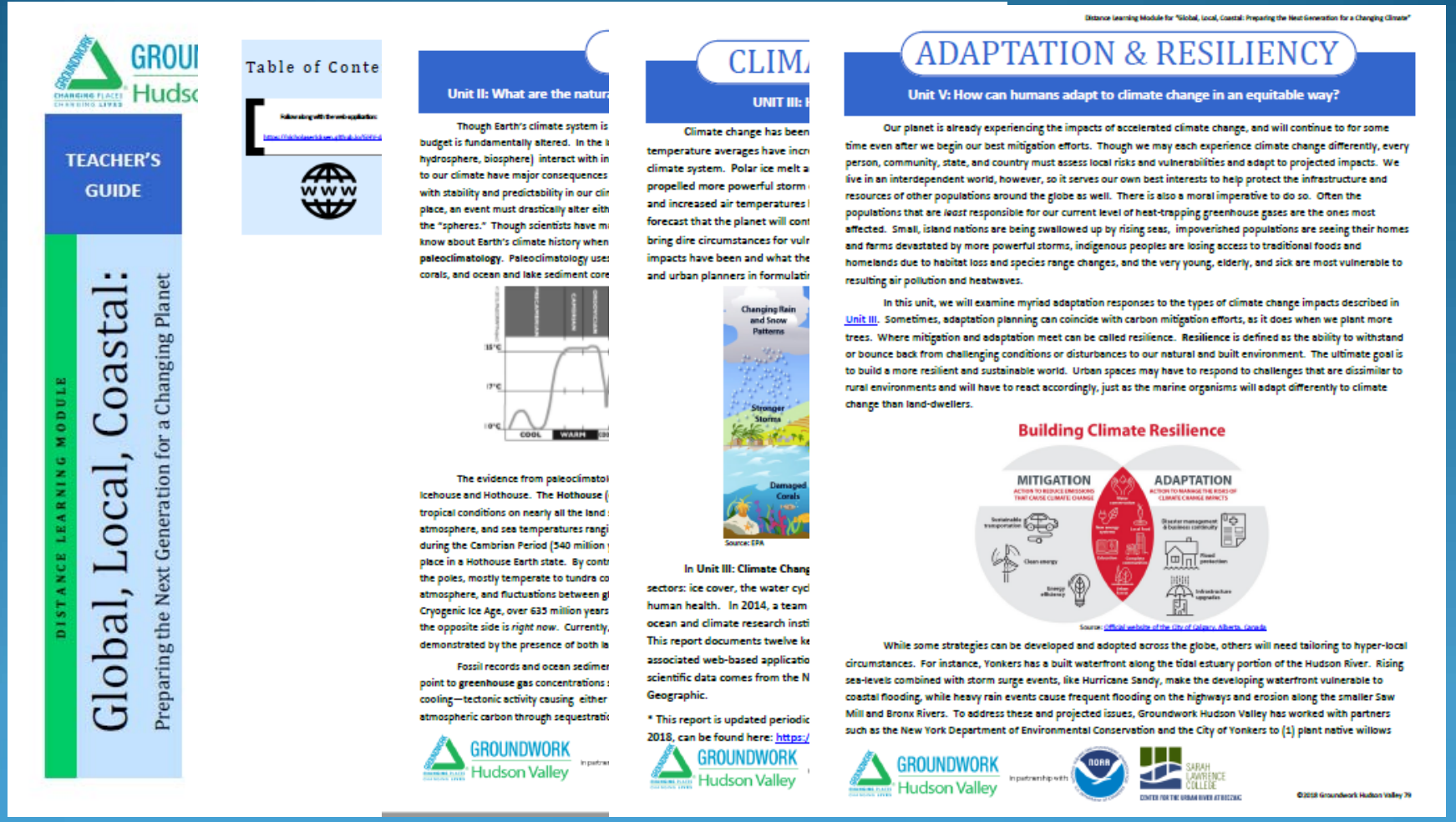

Now what?

Distance Learning Module

- Three years of research turned up countless teacher resources from various sites (CLEAN, PBS Learning Media Library, Etc.)
  - Too much to comb through for a teacher first introducing climate science into the curriculum
- **We wanted to make these resources <u>easily available</u> so educators can jump right in to the material**
- Connect experiential learning to classroom standards
- **This DLM can be used 3 ways:**
  - As a full curriculum with web-app
  - A la carte classroom activities
  - As an in-classroom supplement to visiting our sites!

Comprehensive Curriculum

Available online on Groundwork HV Website



GROUNDWORK Hudson

TEACHER'S GUIDE

DISTANCE LEARNING MODULE

Global, Local, Coastal:

Preparing the Next Generation for a Changing Planet

Table of Conte

Unit II: What are the natur

Though Earth's climate system is
budget is fundamentally altered. In the
hydrosphere, biosphere) interact with in
to our climate have major consequences
with stability and predictability in our cli
place, an event must drastically alter eith
the "spheres." Though scientists have m
know about Earth's climate history when
paleoclimatology. Paleoclimatology use
corals, and ocean and lake sediment core

COOL WARM

The evidence from paleoclimatol
Icehouse and Hothouse. The Hothouse (
tropical conditions on nearly all the land
atmosphere, and sea temperatures rangi
during the Cambrian Period (540 million
place in a Hothouse Earth state. By contr
the poles, mostly temperate to tundra co
atmosphere, and fluctuations between gl
Cryogenic Ice Age, over 635 million years
the opposite side is *right now*. Currently,
demonstrated by the presence of both Ia

Fossil records and ocean sedimer
point to greenhouse gas concentrations
cooling—tectonic activity causing either
atmospheric carbon through sequestrati

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CLIM

UNIT III:

Climate change has been
temperature averages have incr
climate system. Polar ice melt a
propelled more powerful storm
and increased air temperatures
forecast that the planet will cont
bring dire circumstances for vuln
impacts have been and what the
and urban planners in formulati

Changing Rain and Snow Patterns

Stronger Storms

Damaged Corals

Source: EPA

In Unit III: Climate Chang
sectors: ice cover, the water cycl
human health. In 2014, a team
ocean and climate research insti
This report documents twelve ke
associated web-based applicatio
scientific data comes from the N
Geographic.

* This report is updated periodic
2018, can be found here: https:/

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Distance Learning Module for "Global, Local, Coastal: Preparing the Next Generation for a Changing Climate"

ADAPTATION & RESILIENCY

Unit V: How can humans adapt to climate change in an equitable way?

Our planet is already experiencing the impacts of accelerated climate change, and will continue to for some time even after we begin our best mitigation efforts. Though we may each experience climate change differently, every person, community, state, and country must assess local risks and vulnerabilities and adapt to projected impacts. We live in an interdependent world, however, so it serves our own best interests to help protect the infrastructure and resources of other populations around the globe as well. There is also a moral imperative to do so. Often the populations that are *least* responsible for our current level of heat-trapping greenhouse gases are the ones most affected. Small, island nations are being swallowed up by rising seas, impoverished populations are seeing their homes and farms devastated by more powerful storms, indigenous peoples are losing access to traditional foods and homelands due to habitat loss and species range changes, and the very young, elderly, and sick are most vulnerable to resulting air pollution and heatwaves.

In this unit, we will examine myriad adaptation responses to the types of climate change impacts described in Unit III. Sometimes, adaptation planning can coincide with carbon mitigation efforts, as it does when we plant more trees. Where mitigation and adaptation meet can be called resilience. **Resilience** is defined as the ability to withstand or bounce back from challenging conditions or disturbances to our natural and built environment. The ultimate goal is to build a more resilient and sustainable world. Urban spaces may have to respond to challenges that are dissimilar to rural environments and will have to react accordingly, just as the marine organisms will adapt differently to climate change than land-dwellers.

Building Climate Resilience

MITIGATION

ADAPTATION

Source: Official website of the City of Calgary, Alberta, Canada

While some strategies can be developed and adopted across the globe, others will need tailoring to hyper-local circumstances. For instance, Yonkers has a built waterfront along the tidal estuary portion of the Hudson River. Rising sea-levels combined with storm surge events, like Hurricane Sandy, make the developing waterfront vulnerable to coastal flooding, while heavy rain events cause frequent flooding on the highways and erosion along the smaller Saw Mill and Bronx Rivers. To address these and projected issues, Groundwork Hudson Valley has worked with partners such as the New York Department of Environmental Conservation and the City of Yonkers to (1) plant native willows

GROUNDWORK Hudson Valley

In partnership with NOAA

SARAH LAWRENCE COLLEGE

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Web application – Home Menu

Groundwork Hudson Valley

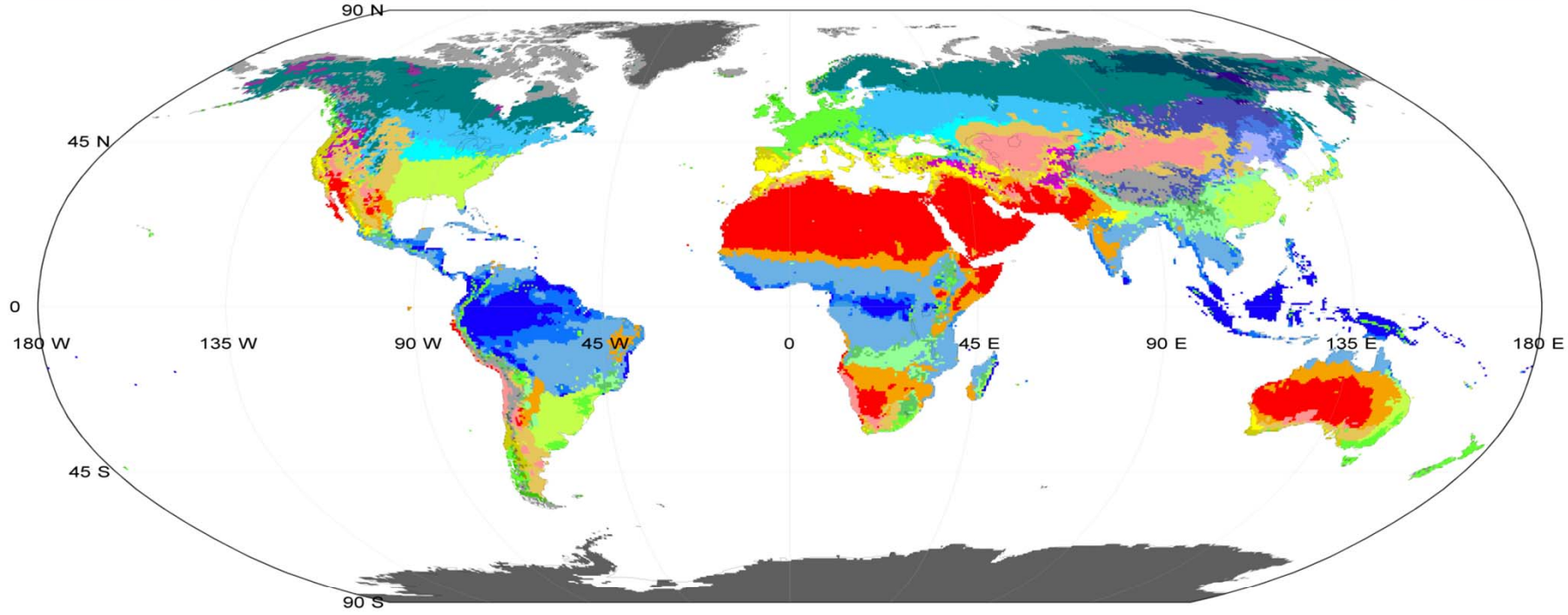
- Climate Science
- Climate Change Impact
- Adaptation and Resiliency

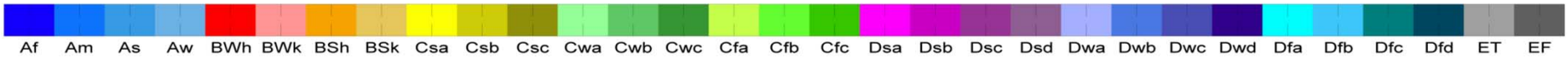
Curriculum format

- **Five Units** – key topics elaborated in chapters
  - Teacher resources on web-app and classroom activities
  - All lessons aligned with Next Generation Science Standards (NGSS), listed in the curriculum
- **Inquiry-based science education model, "5-E lesson plan"**
  - Engagement – pique audience interest
  - Exploration – hands-on activities, interactive labs
  - Explanation – instruction phase where concepts are explained
  - Elaboration – new knowledge is applied to previous investigations
  - Evaluation – through writing, worksheets, presentations, peer to peer

Unit 1 – Climate Science

- Difference between Climate and Weather
  - Tie into **weather studies** (weather station) or **river studies** at your center (ie: HRECOS – sonde equipment)
- Climate is a 30 year or more average of weather for a region.
  - Tie into **phenology** (ie: apple blossoms and honeybees) & **biodiversity studies** (ie: biomes)
- What does it mean when the climate changes?
  - Disrupted water cycle, human health and ecosystems
  - Fast change doesn't allow time for life to adapt





First letter	Second letter		Third letter
A: Tropical	f: Fully humid	T: Tundra	h: Hot arid
B: Dry	m: Monsoon	F: Frost	k: Cold arid
C: Mild temperate	s: Dry summer		a: Hot summer
D: Snow	w: Dry winter		b: Warm summer
E: Polar	W: Desert		c: Cool summer
	S: Steppe		d: Cold summer

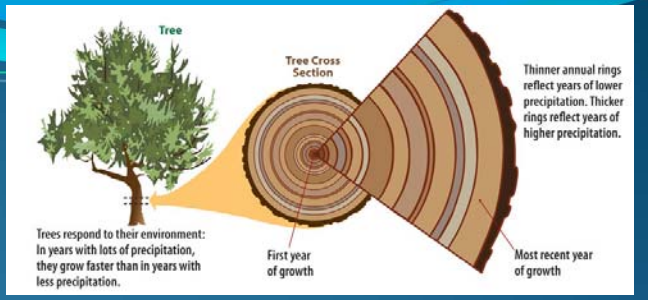
Data source: Terrestrial Air Temperature/Precipitation: 1900-2010 Gridded Monthly Time Series (V 3.01)

Resolution: 0.5 degree latitude/longitude

Website: http://hanschen.org/koppen

Ref: Chen, D. and H. W. Chen, 2013: Using the Köppen classification to quantify climate variation and change: An example for 1901–2010. Environmental Development, 6, 69-79, 10.1016/j.envdev.2013.03.007.

Unit 2 – Climate Proxies

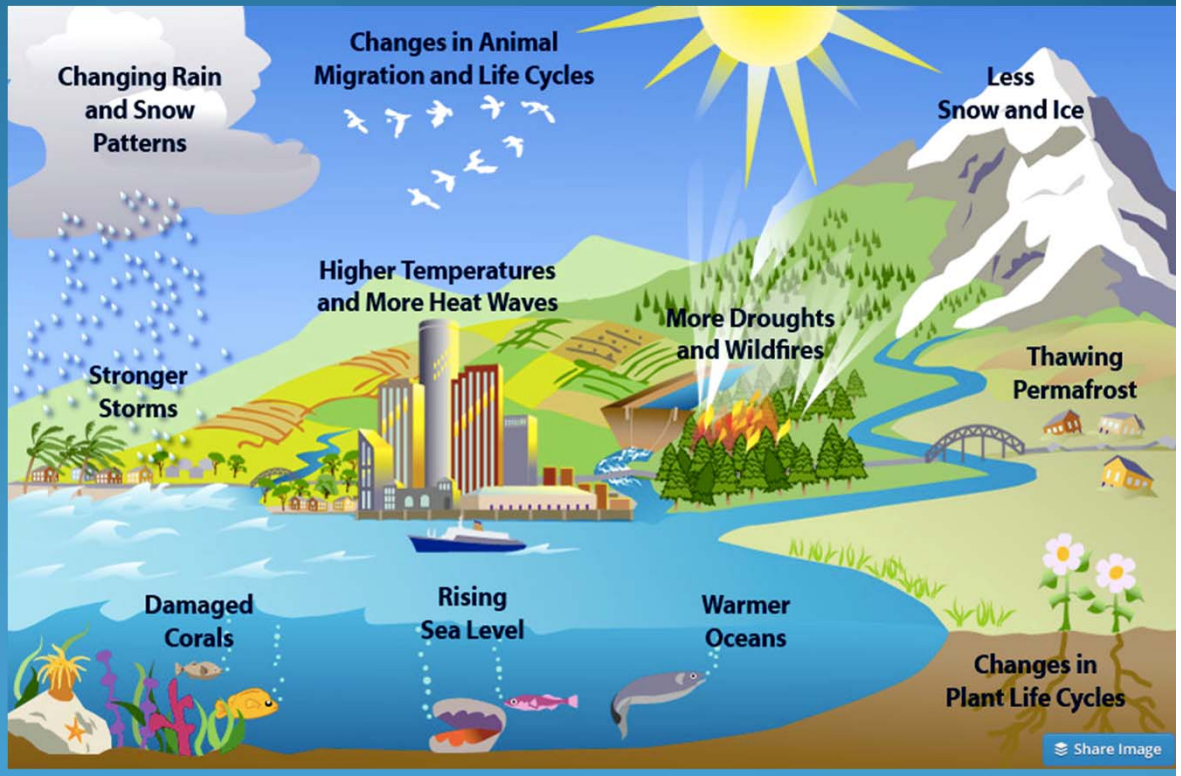


- Direct data predating 1850 doesn't exist, so *paleoclimatologists* study climate *proxies*, such as ice cores, to better understand our climate history.
- Use your center's assets to talk about climate science!
  - If you have a forest, can you do a **dendrochronology** tree cookie/tree core lab and then explore the property?
  - If you are on the shore, study **sediment cores**
  - Do you have a lot of **glacial remnants** or other geologic samples?

Paleoclimatology - Tools of the Trade

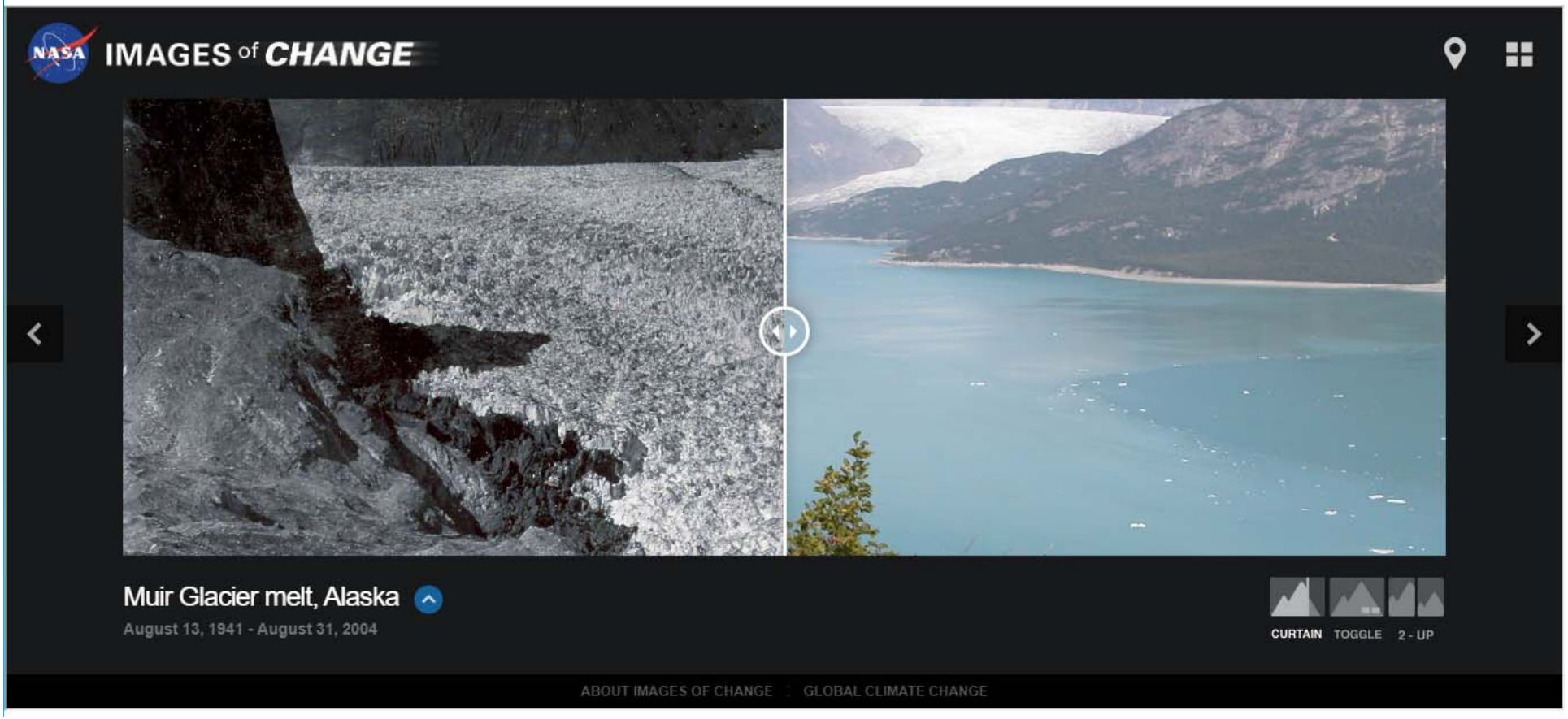
Unit 3 - Impact

- **Forest Cover** – Invasives, Fire Safety, Pests
- **Wildlife** - Biodiversity & Species Ranges
- **Water Cycle** – Storms, Drought
- **Health** – Vector Species, pathogens, air pollution
- **Coastal changes** – Sea Level Rise
- **Agriculture** – crop losses, stress on livestock



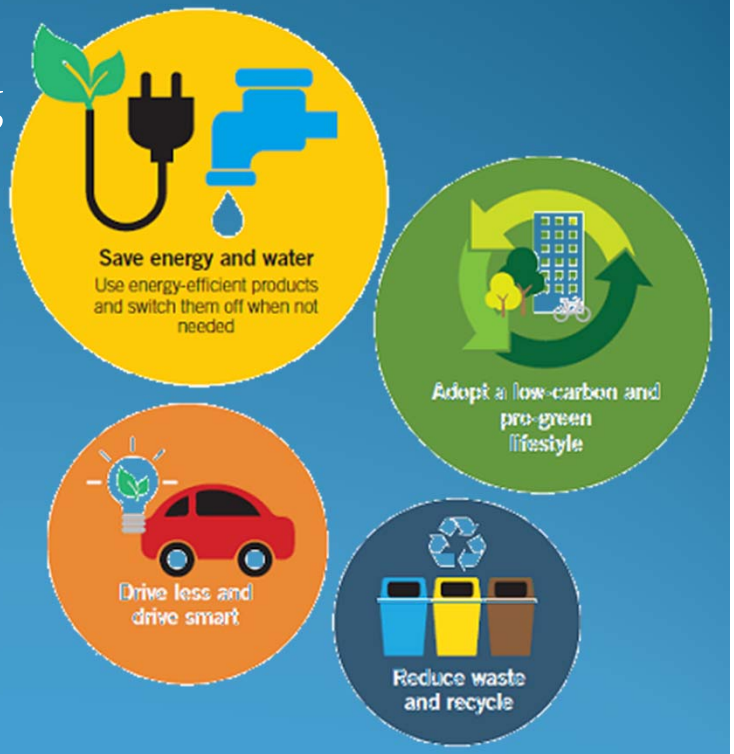
Web application - Impact

Groundwork Hudson Valley



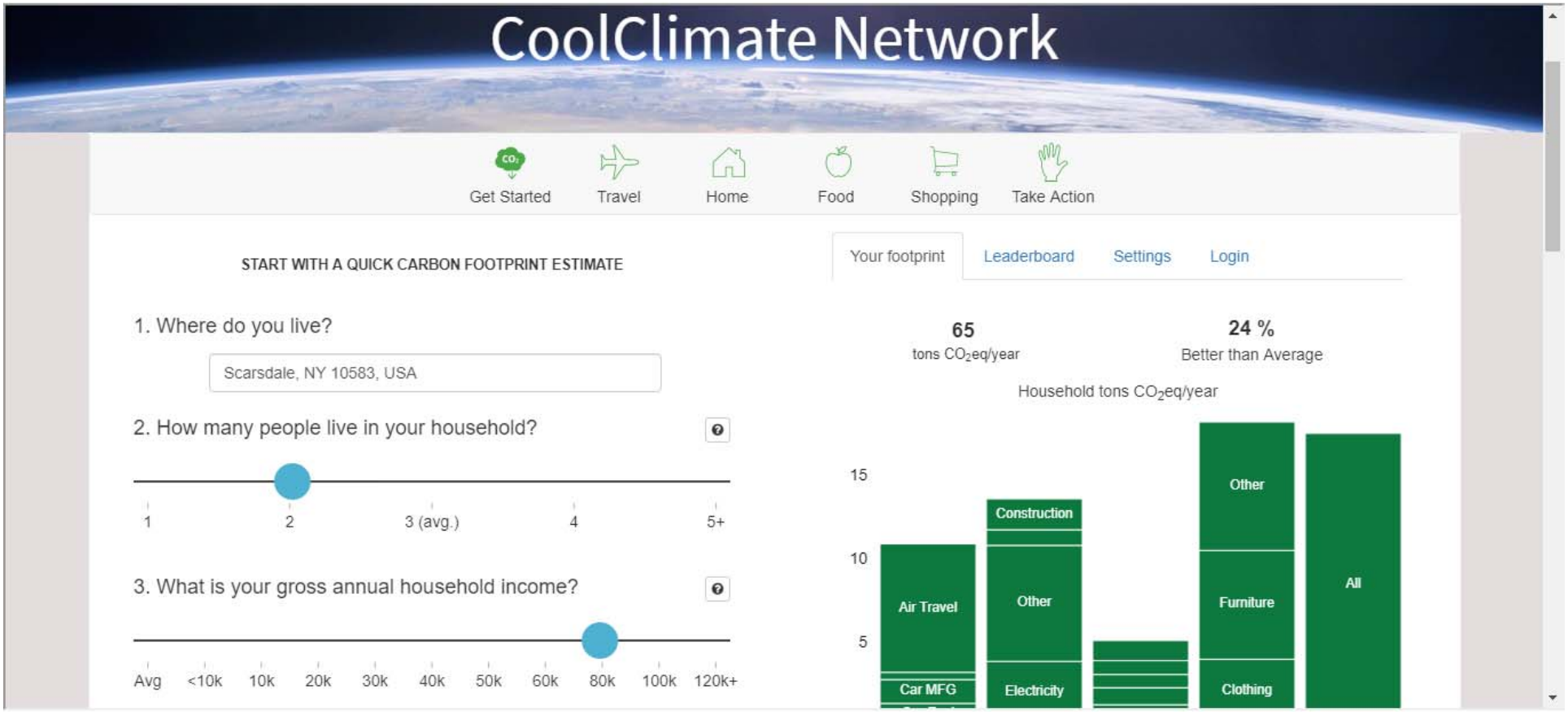
Unit 4 - Mitigation

- Highlight ways to reduce your carbon, water footprint
  - Waste management – 3 R's, composting
  - Outdoor & Active Lifestyle – hiking, biking, gardening
  - Carbon sequestration – low till, protect old forests, plant more trees, geological
  - Renewable energy – solar, wind, geothermal, tidal, hydro
  - Local agriculture – CSA, garden classes



Web application - Mitigation

Groundwork Hudson Valley

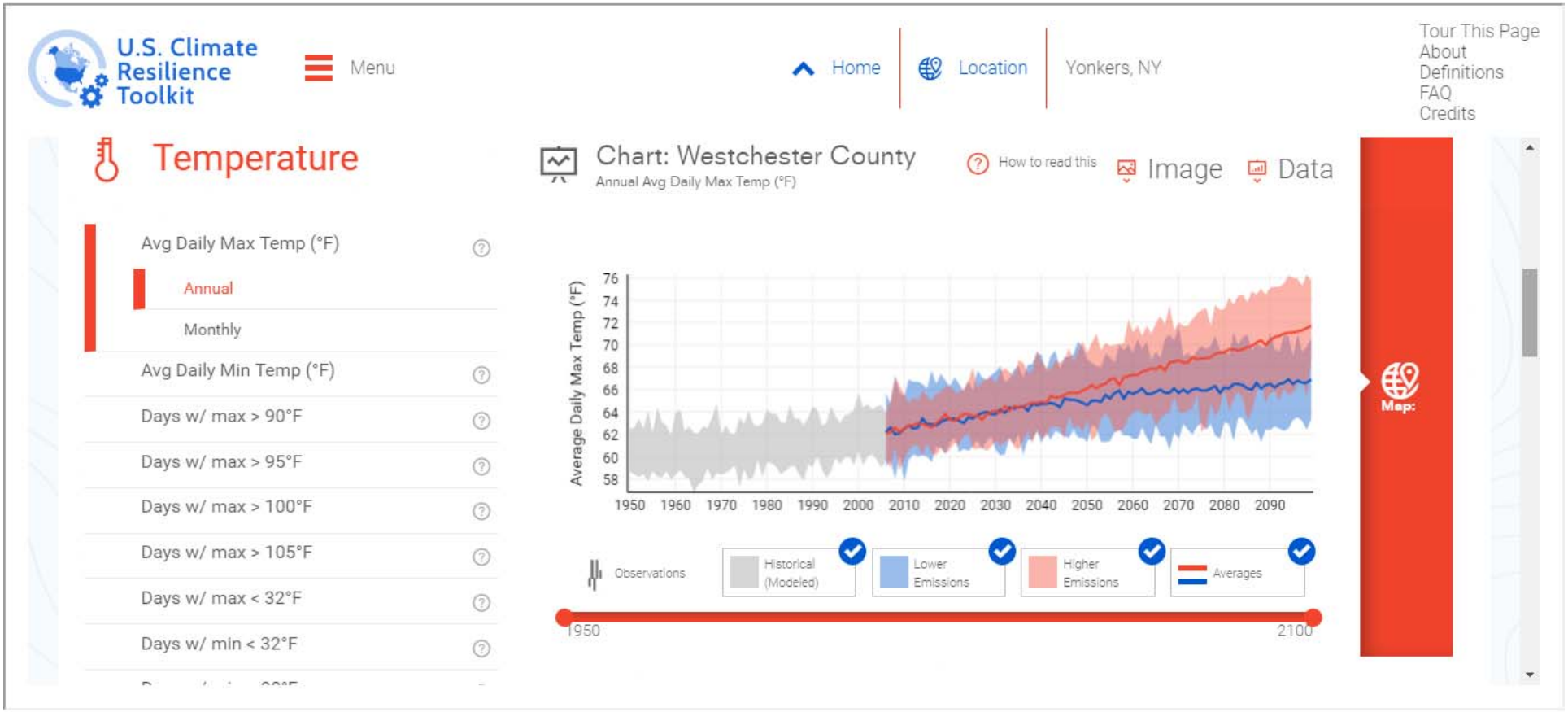


Unit 5 – Adaptation & Resiliency

- Trees/Forest cover
- Wetlands
- Rain garden, greenroof, xeriscaping, permeable pavers
- Local Ag, Local Energy
- Invasive removal
- Raising bees
- Green infrastructure/green design

Web application - Resilience

Groundwork Hudson Valley



Recapping Best Practices

- **Use your own natural assets at your center or school**
  - Especially with measurements, mitigation and adaptation
- Help students **find their voice** – their personal connection to material
- **Keep students moving – Make it Hands-on**!
  - Focus on STEM methods
- Tie into standards/school curriculum (**NGSS**, Regents, or otherwise)
- Avoid "doom and gloom"
- **REBRAND WHAT YOU'RE ALREADY DOING!**

Identify the Right Resiliency Measures for Your Community

- Flood Walls OR Marshes/Riparian Restoration
- Storm Surge Barriers OR Levees/Flood Pumps
- Improved Stormwater Drainage Infrastructure OR More Trees & Greenroof/Bioswales
- Improved Freshwater Conservation OR Reverse Osmosis Systems
- Evacuation Systems OR Emergency Shelters

Leverage Collective Power

- Creating pathways to share information
- Connecting city planners, politicians and community members
- Helping individuals determine personal risks
- Providing resources to individuals to increase personal readiness

Resources

- Our web-app!
- NOAA – Climate.Gov
- NOAA Climate Literacy packet
- CLEAN Network (Climate Literacy and Energy Awareness Network)
- ACE – Alliance for Climate Education (activism based)
- PBS Learning Media Library
- 2014 National Climate Assessment webpage/pdf

the watershed project

The Watershed Project's mission is to inspire Bay Area communities to understand, appreciate, and protect our local watersheds.

the watershed project

How we work

We develop community based solutions to the urban watersheds.

- Protect waterways through green infrastructure, urban canopy and sustainable gardening;
- Prevent pollution from entering the watershed through marine debris education, trash cleanups and inspiring behavioral change;
- Engage students and youth in stewardship and hands-on science education;
- **Facilitate equitable and inclusive infrastructure planning and environmental justice projects;**
- **Promote access to shorelines and natural areas**

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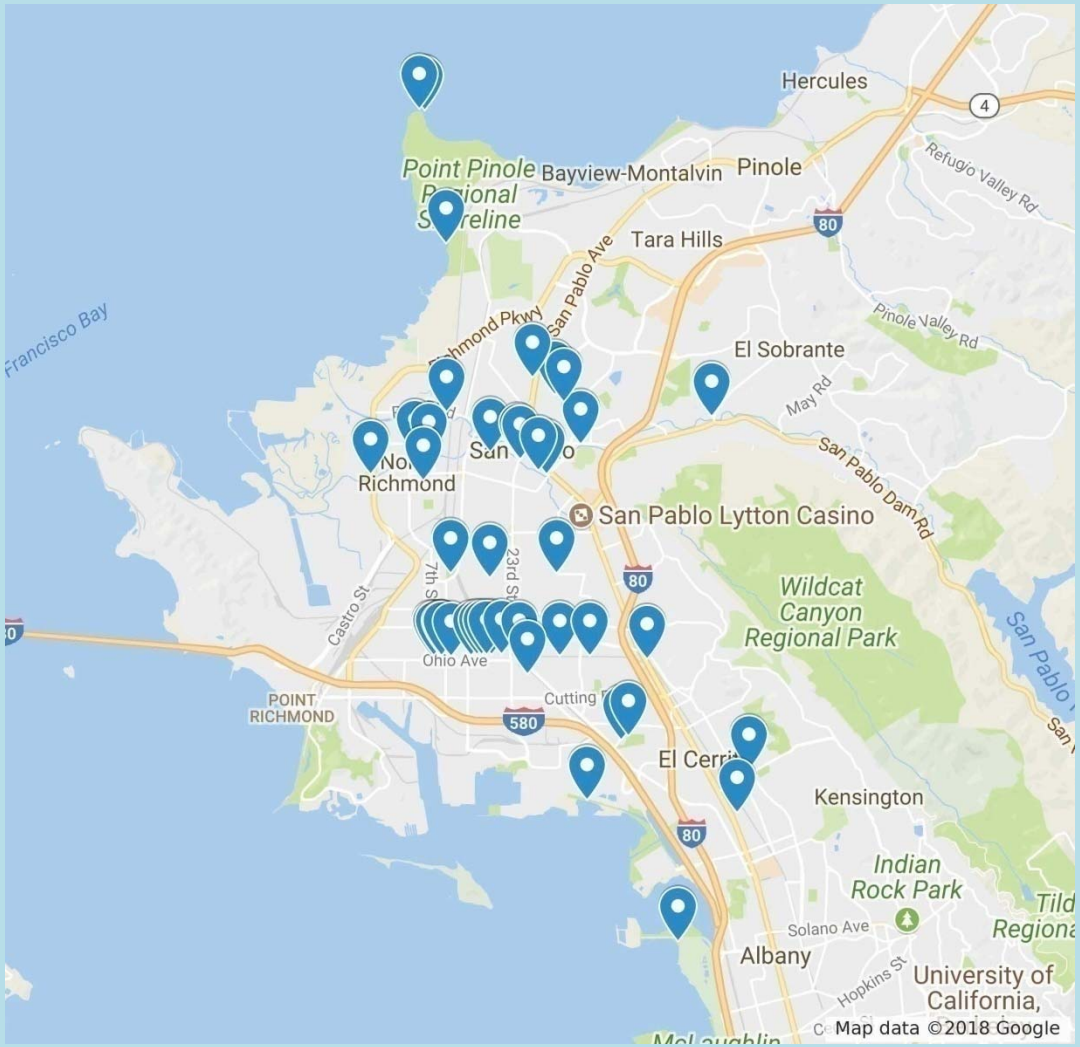
Map of TWP restoration sites 2007-2019



Nearly all **36** projects are in Richmond and West Contra Costa County

Off the map: addition sites Oakland rain Water & San Francisco Unified

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North Richmond CA

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Visioning for the Future

- **North Richmond Shoreline Vision: A community-based approach (2017)**
- **Resilient by Design Competition –The Home Team (2018)**
- Quality of Life Master Plan (2019)
- Water Needs Assessment and Project Identification and Prioritization (2019)


What do you do on the North Richmond Shoreline? | Qué hace en la costa de North Richmond?
BIRD'S EYE VIEW OF THE
NORTH RICHMOND SHORELINE
Comments | Comentarios


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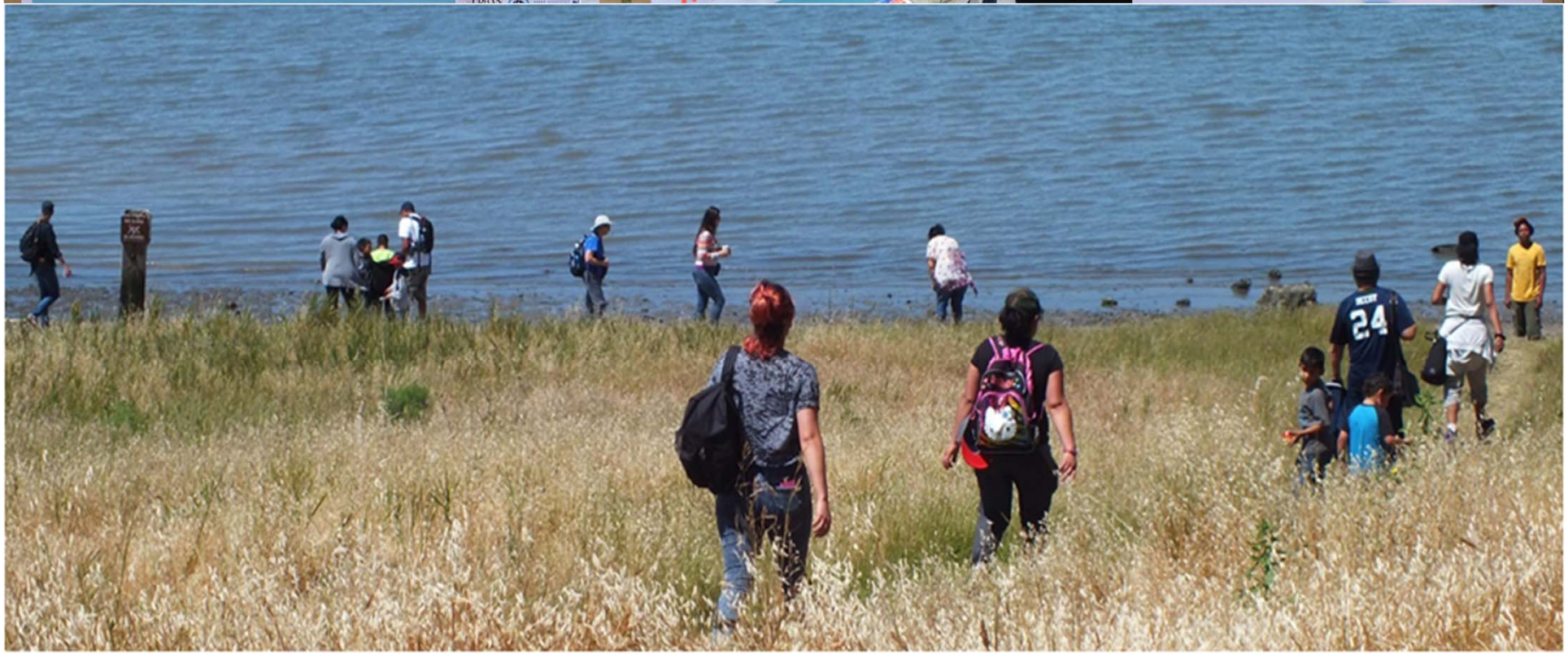
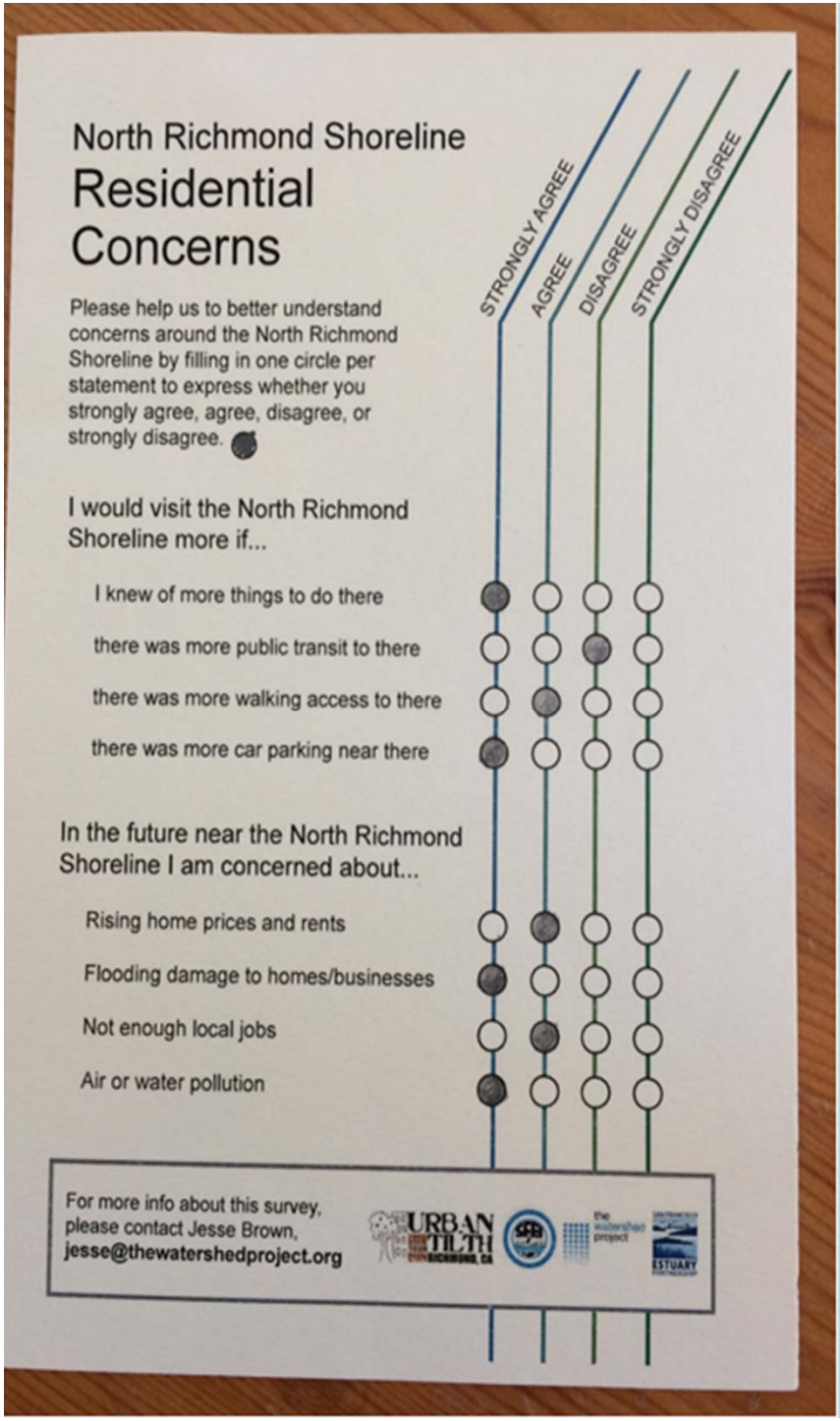
What's in your watershed?
www.thewatershedproject.org


The North Richmond Shoreline needs more | La costa de North Richmond necesita más





On the shoreline in the future I am concerned about…

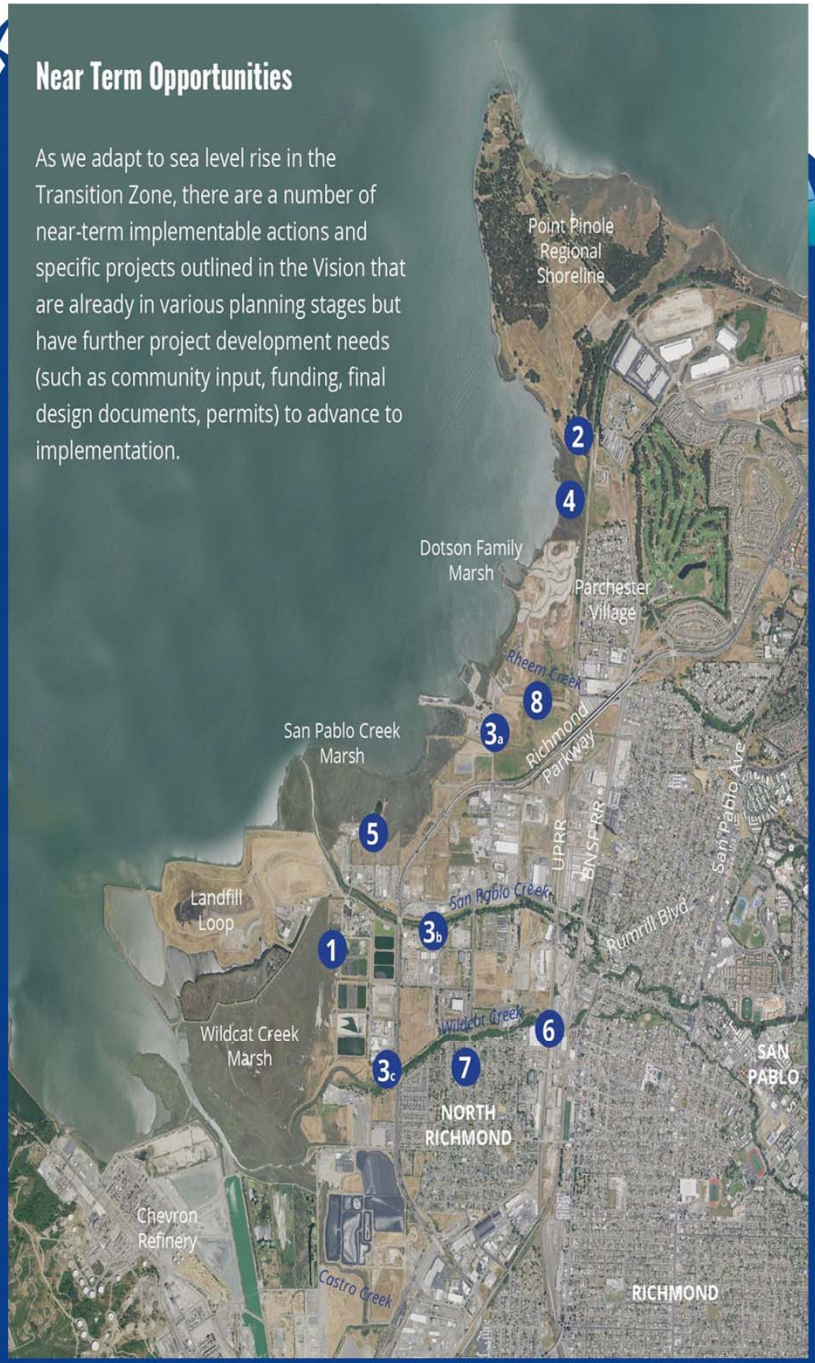
90% Air or water pollution
85% Not enough local jobs
73% Flooding damage to homes/business
73% Rising home prices and rents

I would visit the shoreline more if…

94% If I knew more things to do
90% Better walking access
66% Better public transportation access
66% More parking

Near Term Opportunities

As we adapt to sea level rise in the Transition Zone, there are a number of near-term implementable actions and specific projects outlined in the Vision that are already in various planning stages but have further project development needs (such as community input, funding, final design documents, permits) to advance to implementation.



1 Horizontal levee and Interpretive Center at West County Wastewater District

Explore planning, design, and construction of nature-based shoreline infrastructure, and an associated Environmental Center supporting environmental education and public outreach programs. The effort is looking at placing a horizontal levee at Wildcat Marsh, adjacent to the Bay Trail, in partnership with the District and SFEP.

2 Interpretive Center at Point Pinole Regional Shoreline

Engage the public through a new 9,000 sf visitor center that will serve as the primary point of contact for park visitors, with interpretive and educational functions, community facilities, and a regional recreational resource center for the Park District. Site developments include multiple interpretative gathering areas, an amphitheater, trail links, bus drop off, and parking.

3 Bay Trail Gap closures and Richmond Parkway Overpass on Wildcat Creek Trail

Improve access through closing 2.1 miles of Bay Trail gaps on the northern shoreline including: Parkway/Wildcat Marsh Trail on south side of San Pablo Creek; Parkway/ Goodrick Avenue; Goodrick Avenue; and Atlas Road/Richmond border.

4 Giant Marsh Living Shorelines

Enhance living resources, including the multi-habitat San Francisco Bay Living Shorelines Project (LSP). The project integrates subtidal habitat restoration of native oyster and native eelgrass beds with designs that test the use of natural structures to buffer and protect adjacent tidal wetland sites, as well as areas of the San Francisco Bay shoreline that are vulnerable to sea level rise and shoreline erosion.

5 Develop and construct renewable energy pilot projects

Generate renewable energy, through a special district that is exploring producing renewable energy in the area. Goals of the project are for the special district to become more carbon neutral and test out a new method of green energy production. The pilot project would use green waste from the area to produce renewable energy at the Green Waste Recycle Yard.

6 Wildcat Creek Fish Ladder Improvements

Realign portions of the environmental low-flow channel of Wildcat Creek (downstream of Verde Elementary School), improve function of the sediment basin, and replace dysfunctional fish ladder immediately upstream of sediment basin.

7 Fred Jackson First Mile, Last Mile Green Street / Watershed Connections Project

Provide urban greening through the North Richmond Watershed Connection, which will serve to create a healthy, walkable, green connection between the San Pablo and Wildcat Creeks in North Richmond. The project will implement coordinated urban greening elements on streets, parks, creek trails, and an urban farm to enhance the health of the creeks and watershed while improving the community's access to their environment.

8 Rheem Creek Realignment though Dotson Family Marsh

Realign and restore about 1/2 mile of Rheem Creek, and connect it with restored Dotson Family marsh to create improved aquatic habitat through the marsh.


MITHŪN
The Home Team
RESILIENT
BAY AREA CHALLENGE BY
DESIGN
ouR-HOME
North Richmond Priority Resilience Area
©Mithun

Stakeholder/Community engagement Process overview

- Conformed a Community Advisory Board
  - Engage community liaison through NGO active in the area.
  - Overcoming recruitment barriers
  - Defining composition goals
  - Regular meetings
    - Meeting times
    - Translation
    - Facilitation

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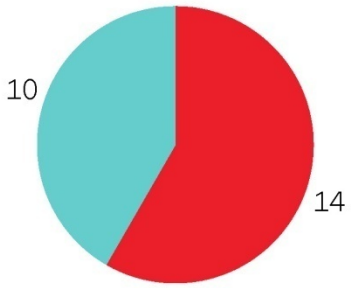
North Richmond Community Advisory Board

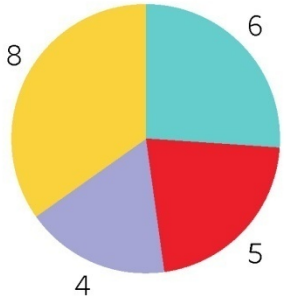
CAB STATS

Gender



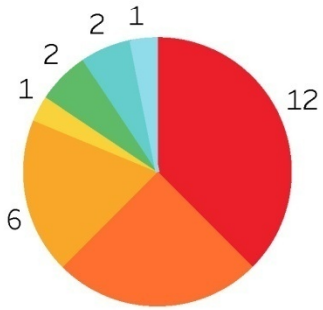
What is your gender?
- Female
- Male

Race



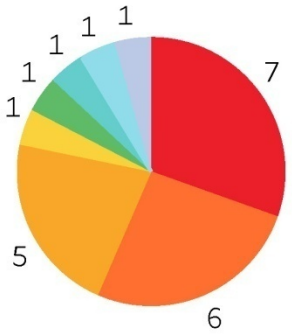
What is your primary racial identity?
- Black
- Hispanic
- Mixed Race
- White (not Hispanic)

Sector



What sector do you currently work / volunteer in?
- Local non-profit
- Government employee
- Community representative
- Elected government official
- High school student
- Local small business
- Other business

City of Residence



Where do you live?
- North Richmond
- Richmond
- Contra Costa County, but not North Richmond
- Hercules
- Sebastopol, but am a homeowner in Richmond
- Berkeley
- Alameda County
- San Francisco, CA

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North Richmond RbD-Home Team CAB

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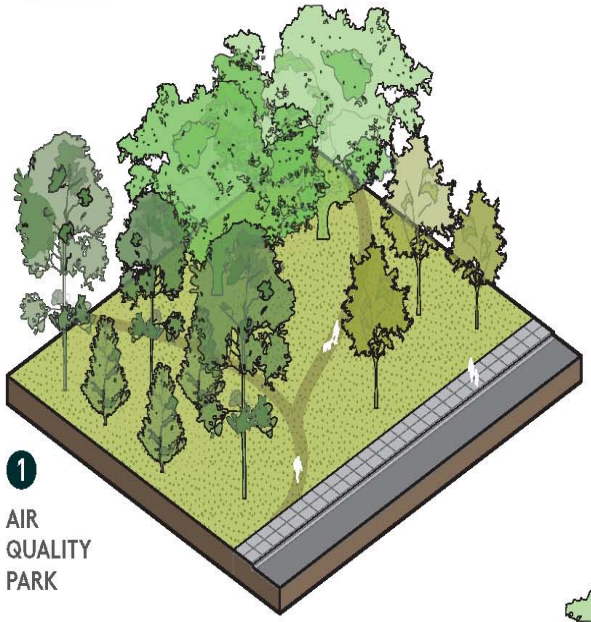
Meaningful community Input and listening sessions

Number of meetings

Type of interactions

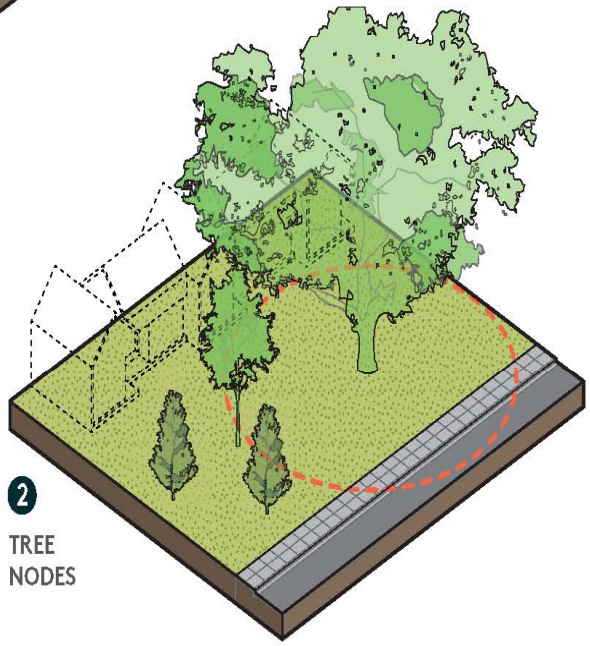

filteR
NEIGHBORHOOD GREENWAY
AIR QUALITY PARK
TREE NODES

filteR



1
AIR
QUALITY
PARK

3
NEIGHBORHOOD
GREENWAY



2
TREE
NODES

KEY SPECIES:

MONTERREY CYPRESS

ARROYO WILLOW

COAST LIVE OAK

VALLEY OAK

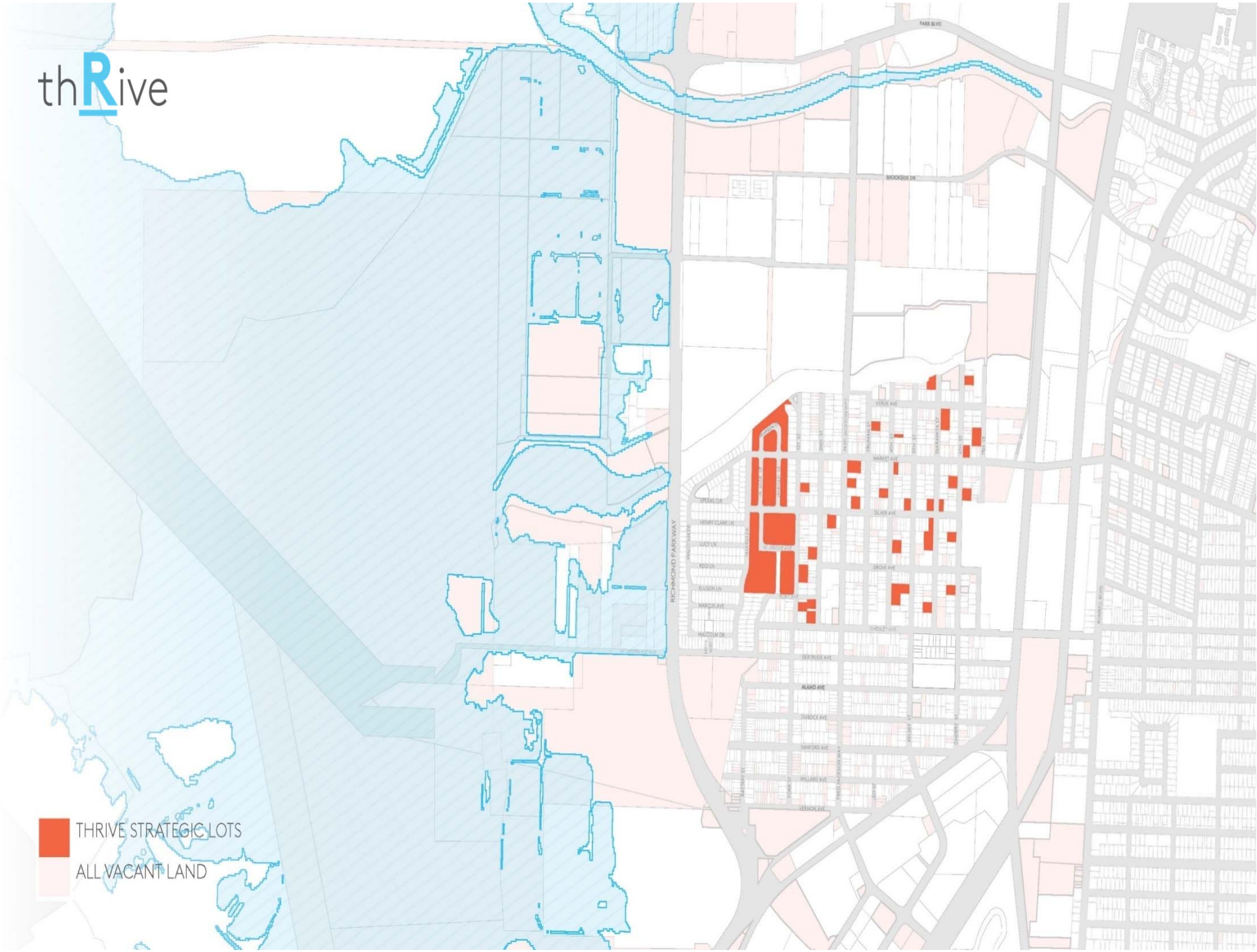

gRow


filteR
Richmond Pkwy

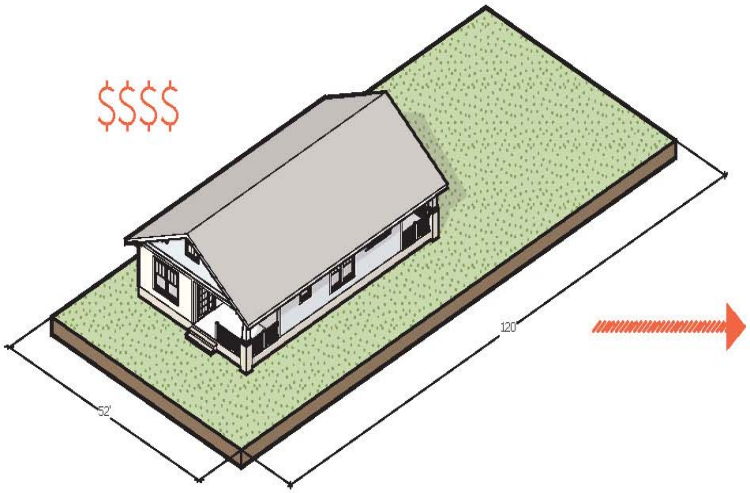

filteR
NORTH RICHMOND
Richmond Pkwy


Relate

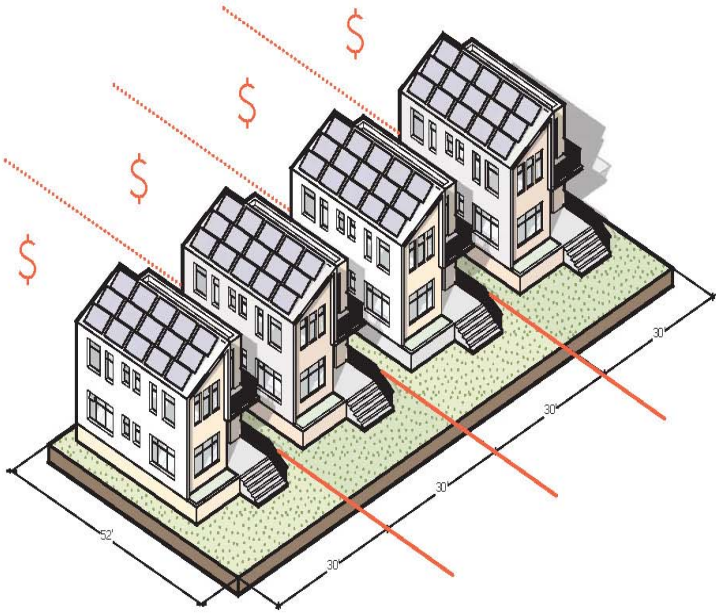
Relate


thRive
THRIVE STRATEGIC LOTS
ALL VACANT LAND
RICHMOND PARKWAY
ALAMO AVE

thRive



EXISTING:
Typical Lot: 52'x120' = 6240 sq ft
Typical Single Family Home:
1500 sq ft (single story)

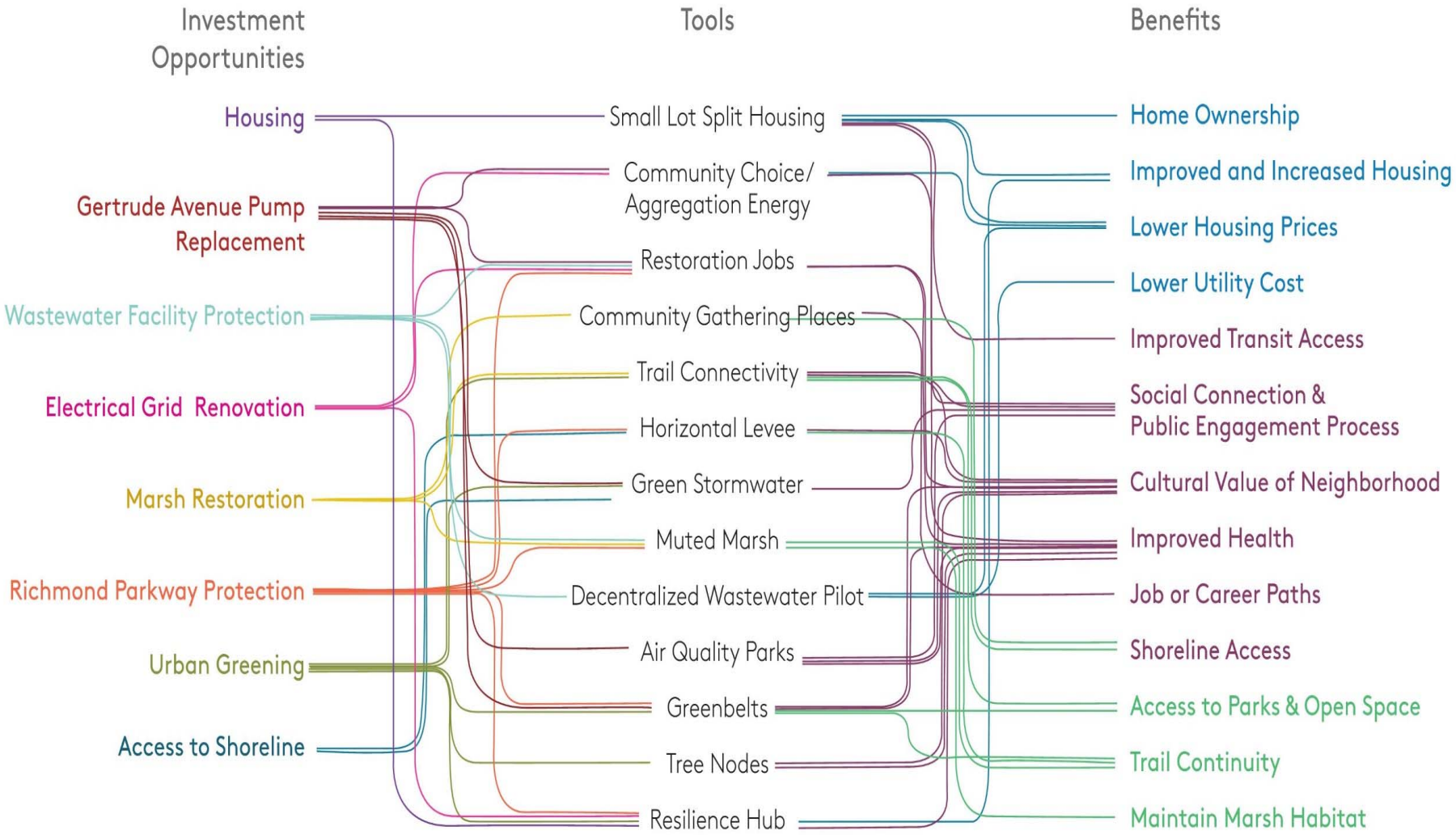


SPLIT:
52'x120' =/4 =
Four Small Lots at 1560 sq ft each
Small Lot Infill Homes:
1250 sq ft (two story).


thRive


thRive

Multi-Benefit Opportunities



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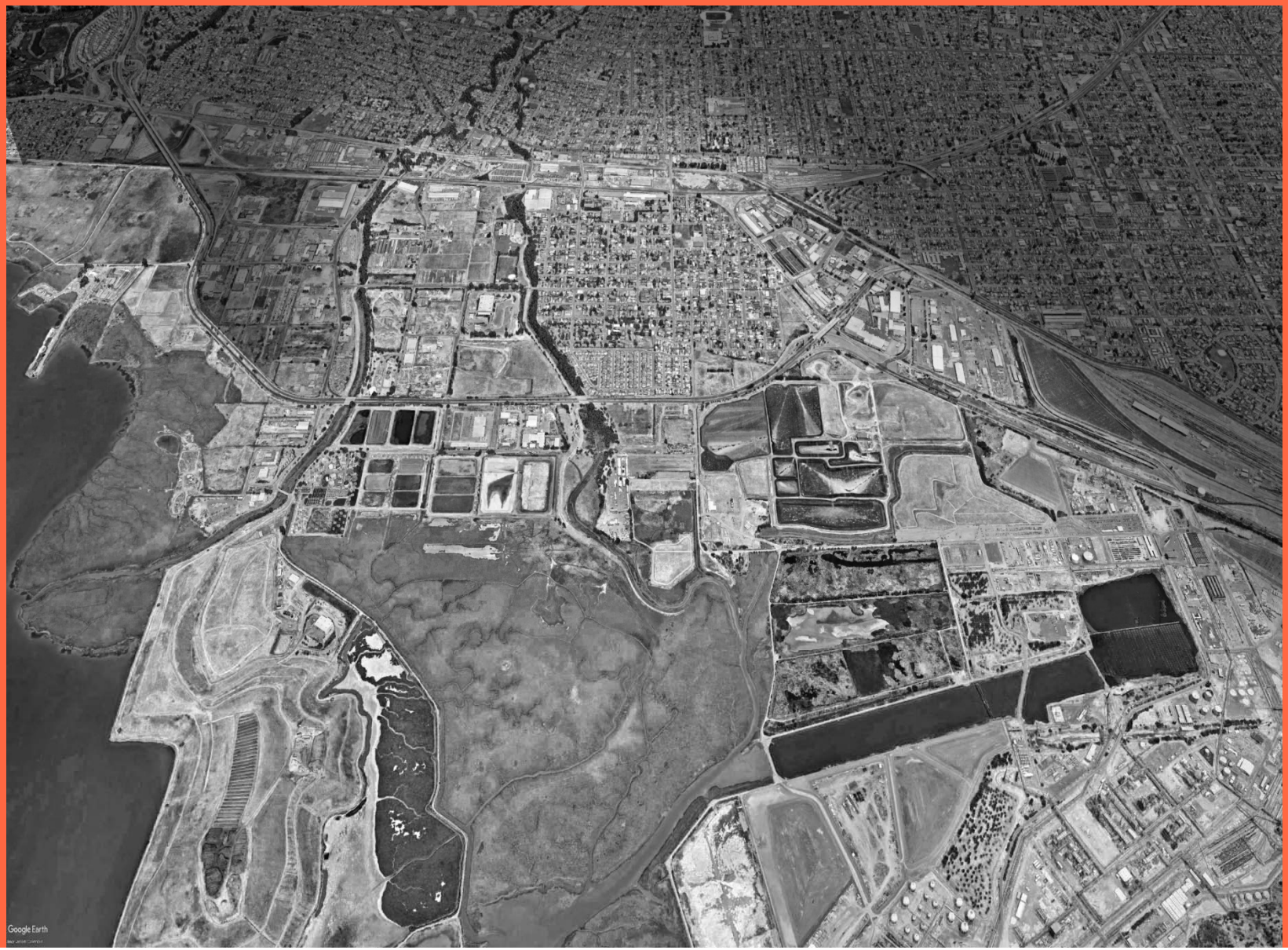


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juliana@thewatershedproject.org

QUESTIONS?