



5TH ANNUAL CAPE COASTAL CONFERENCE

RESPONDING TO A CHANGING CLIMATE

Reshaping the Coast

RESHAPING THE COAST



David Kutner, New Jersey Future

WHO WE ARE



Nonprofit NGO promoting responsible land-use policies to:

- Revitalize cities;
- Preserve open space;
- Keep housing affordable;
- Encourage transportation choices

www.njfuture.org





RISK ANALYSIS

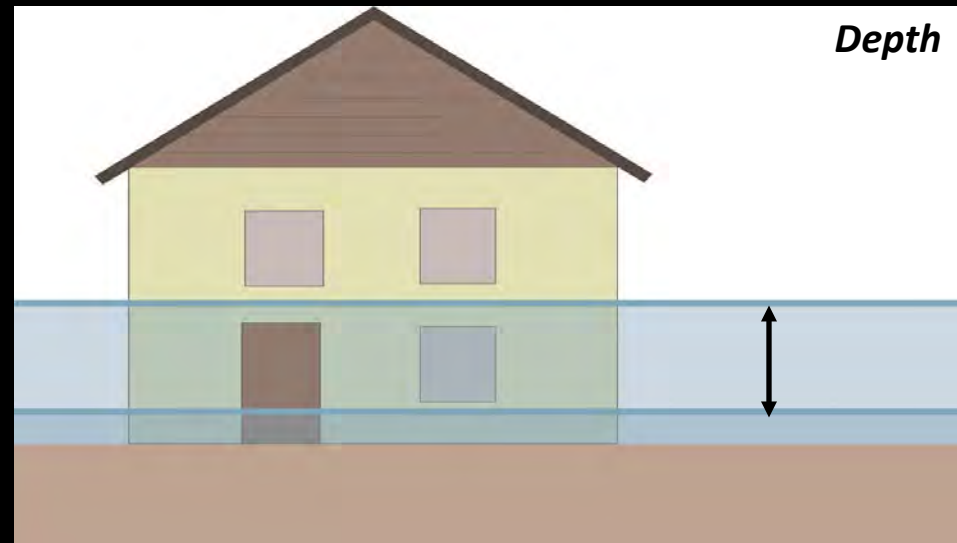
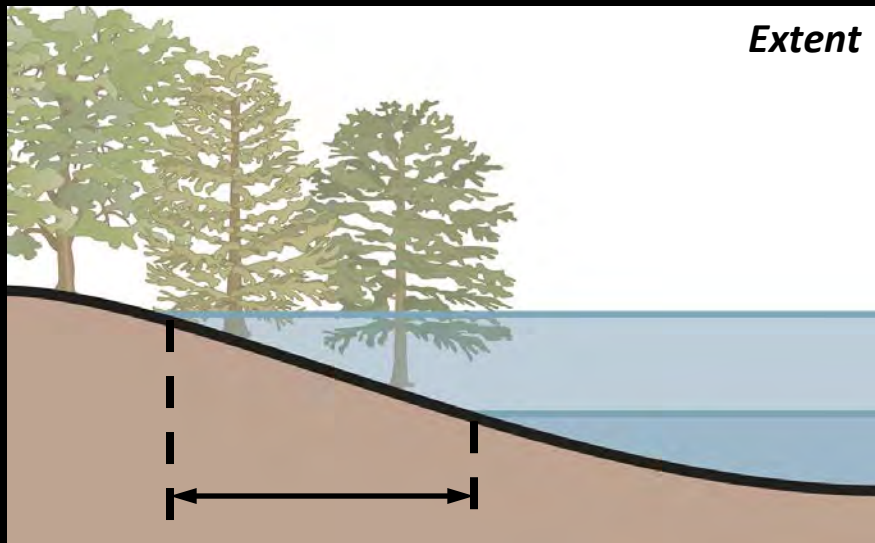
RISK ANALYSIS

Purpose:

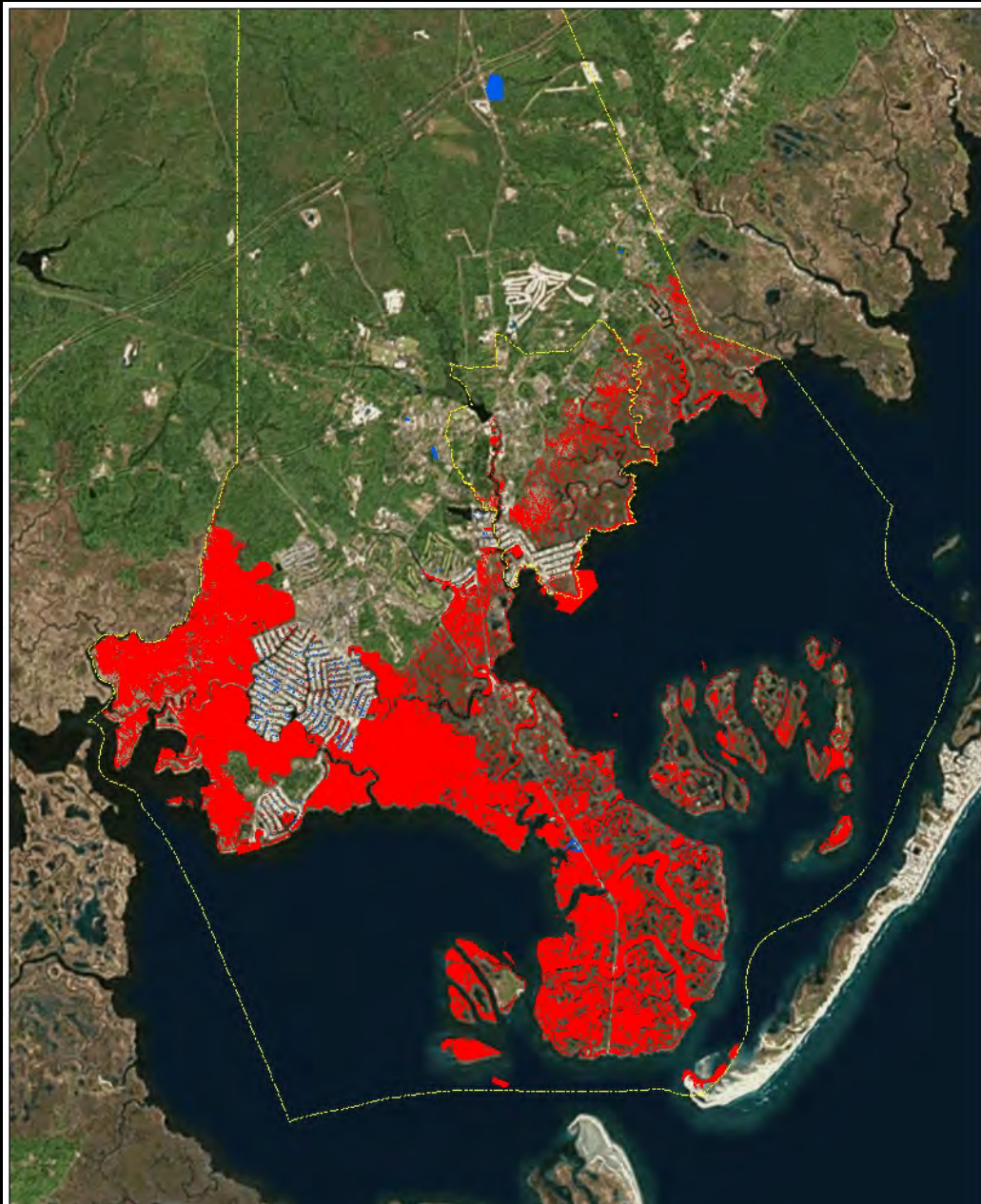
- Evaluate vulnerability to likely hazards;
- Prioritize those actions that most effectively reduce or avoid future loss.



1. Inundation Extent
2. Inundation Depth
3. Estimation of Exposure



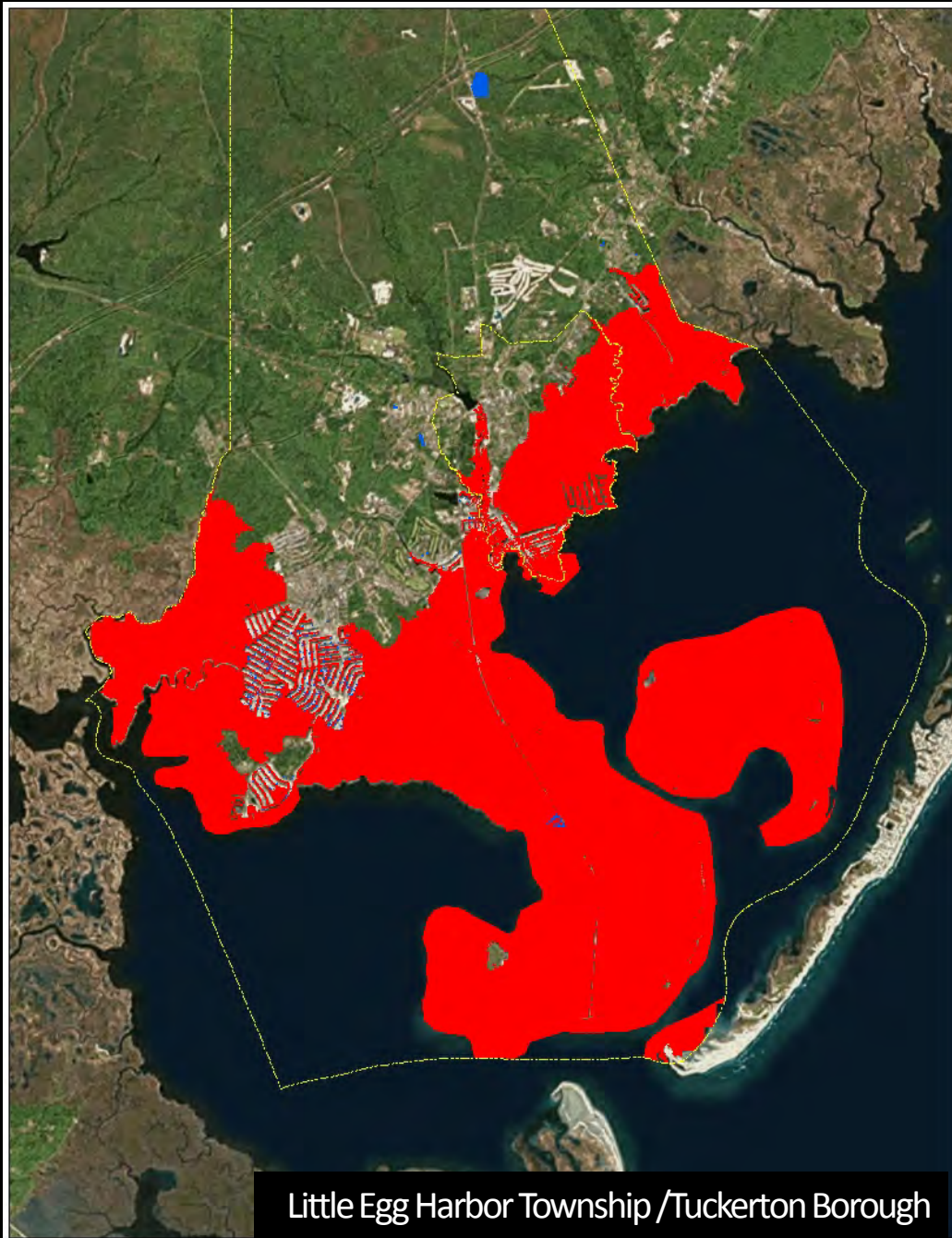
*SLR projections from Rutgers University
Department of Earth and Planetary Sciences*

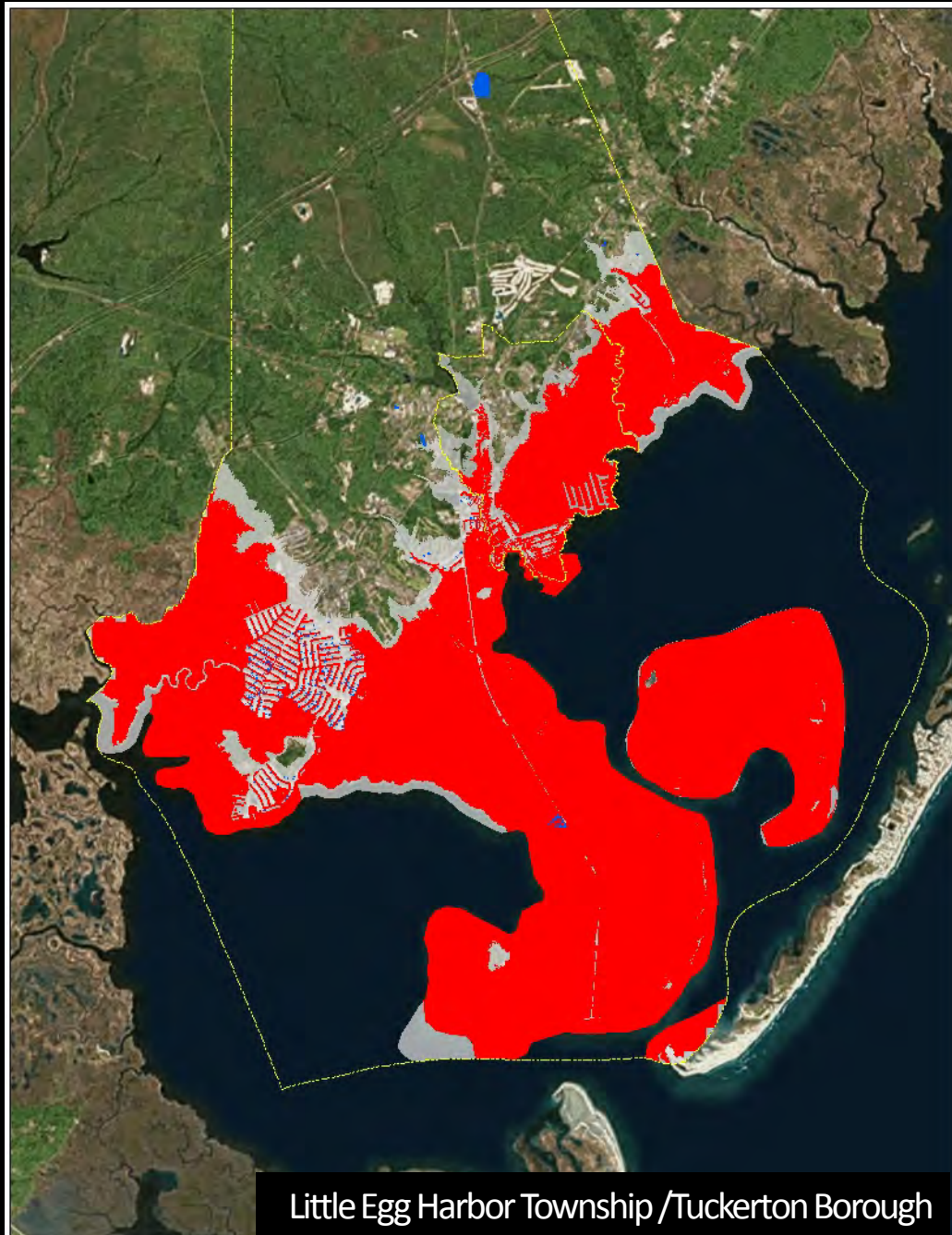


Little Egg Harbor Township /Tuckerton Borough

└ This is not a “nuisance”







Area Inundated

LEHT

■ 2050 SLR : 31% + 1% storm: 55%

Tuckerton

■ 2050 SLR : 55% + 1% storm: 66%

Value Lost

LEHT

■ 2050 SLR : 8% + 1% storm : 32%

Tuckerton

■ 2050 SLR : 30% + 1% storm : 50%

Sustainable & Resilient Coastal Communities

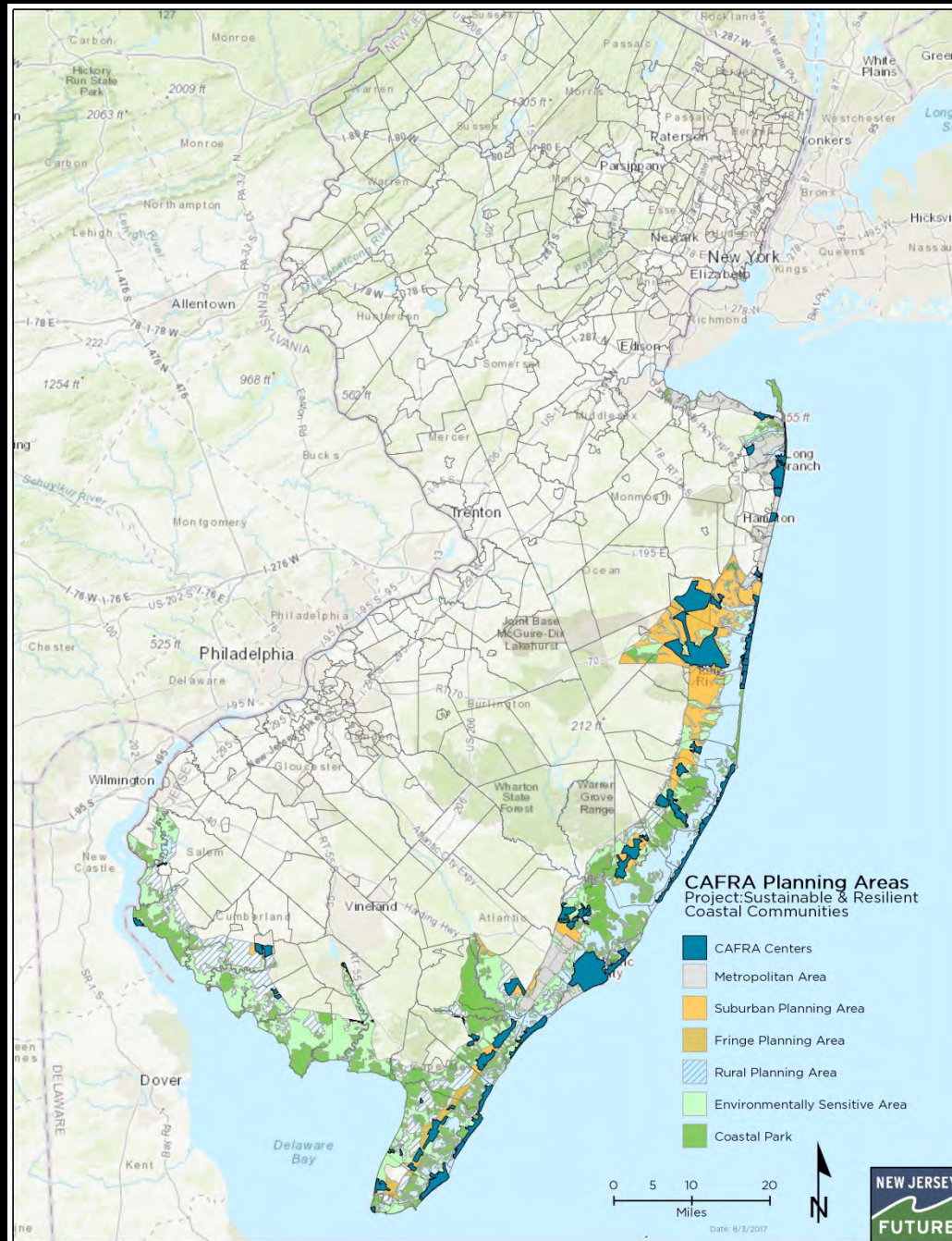
PROJECT OBJECTIVES
PROJECT OBJECTIVES?

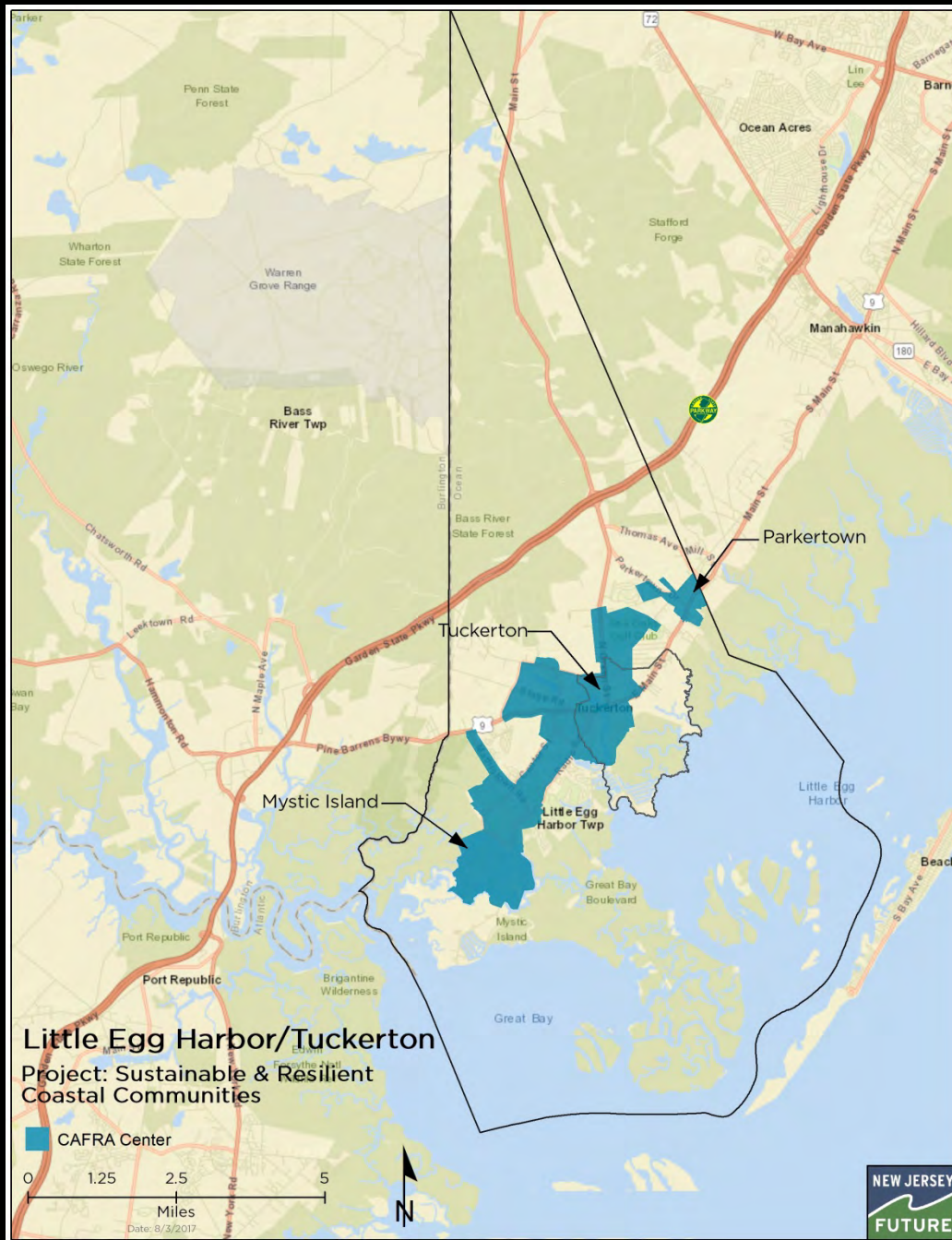
Pilot a comprehensive planning approach that:

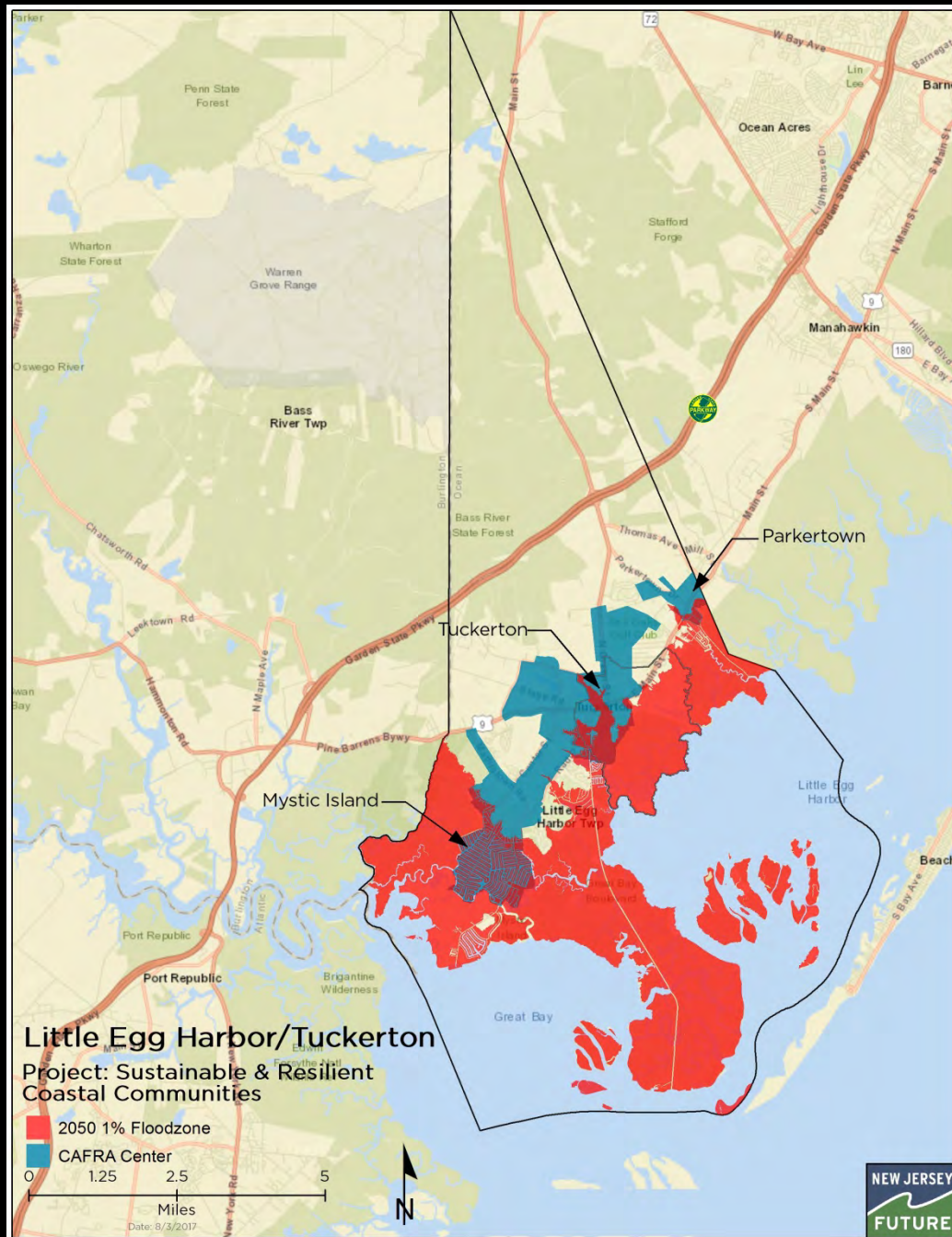
- Responds to coastal hazards – reflects **future** risk
- Protects coastal resources
- Is replicable throughout the coast
- Defines a predictable CAFRA permitting process

WHY?
ΜΗΛΙΣ

New Jersey CAFRA Planning Areas







- Since 1978, one town we work with received NFIP payouts > 43 other states
- Since 1978 **New Jersey** received more NFIP payouts than all but 2 states
- NFIP is currently \$23 billion in debt and 2016 was the third most expensive in NFIP history
- Congress, re-insurance companies, bond rating agencies, and FEMA are evaluating how to manage financing risk in coastal communities



DEVELOPMENT SCENARIOS

РАЗВИТИЕ СЦЕНАРИИ

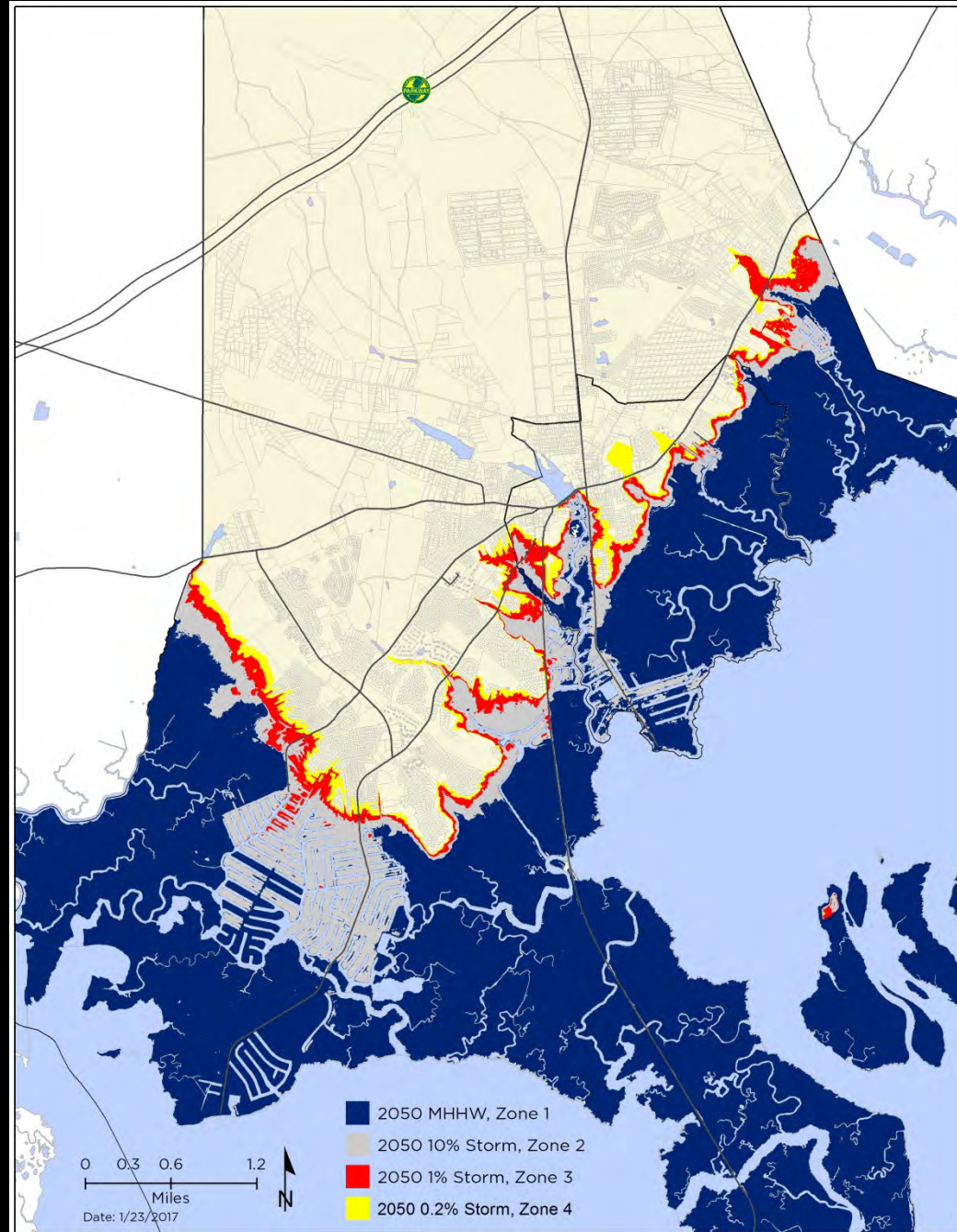
Three Key Questions:

- Where should change occur to avoid/minimize risk?
- When should change be put into effect?
- How can change be accomplished?

WHERE?
WHERE?

FOUR ZONES

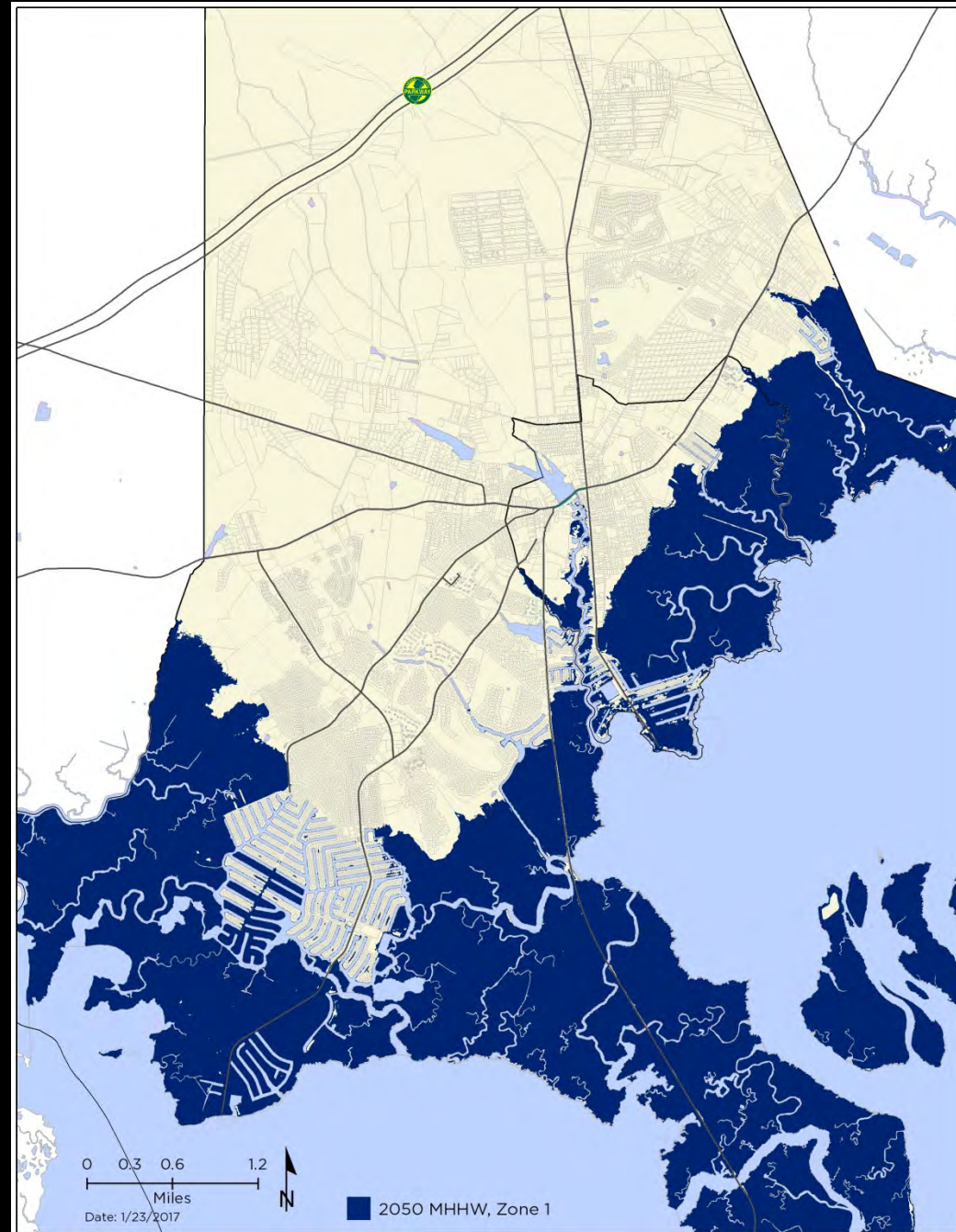
- 2050 MHHW, Zone 1
- 2050 10% Storm, Zone 2
- 2050 1% Storm, Zone 3
- 2050 0.2% Storm, Zone 4



WHERE: All land seaward of 2050 MHHW line

OBJECTIVE:

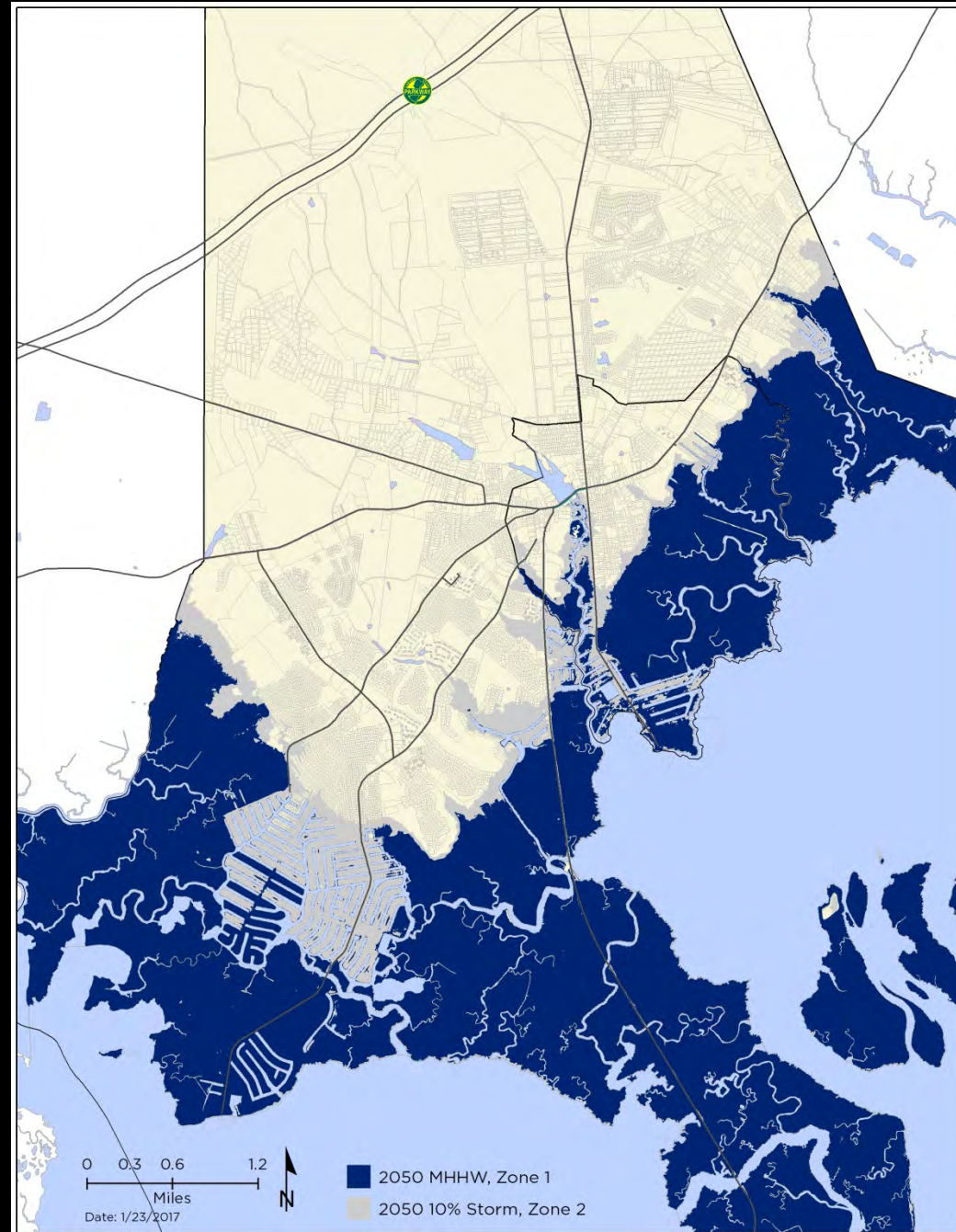
- Reduce exposure to sunny day tidal flooding;
- Prohibit or limit new development;
- Shift/reduce existing development;
- Minimize public investments



WHERE: All land within 2050 FEMA 10% flood zone, but landward of MHHW Line

OBJECTIVE:

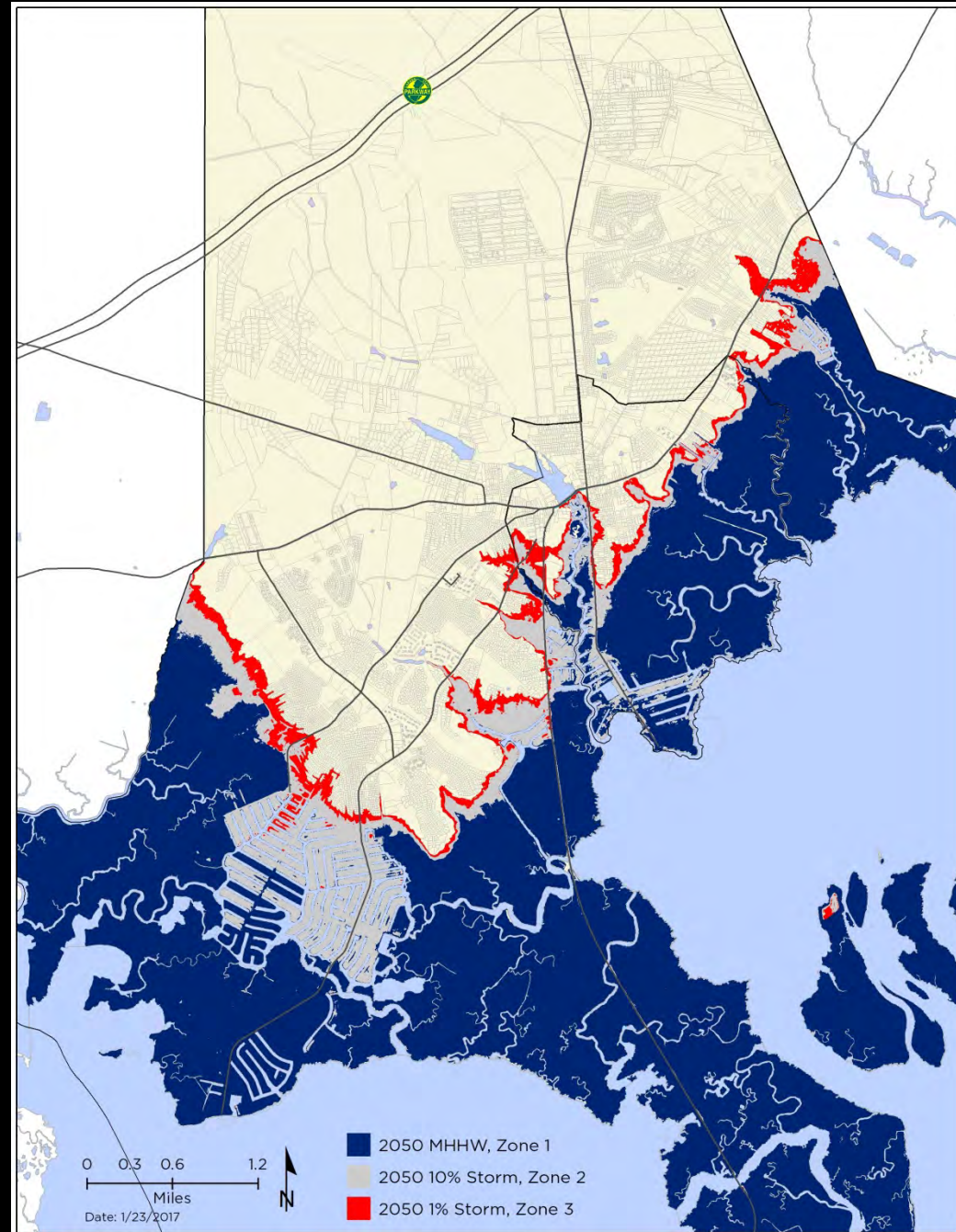
- Reduce exposure to frequent/severe flooding;
- shift/reduce development



WHERE: All land within 2050 FEMA 1% flood zone

OBJECTIVE:

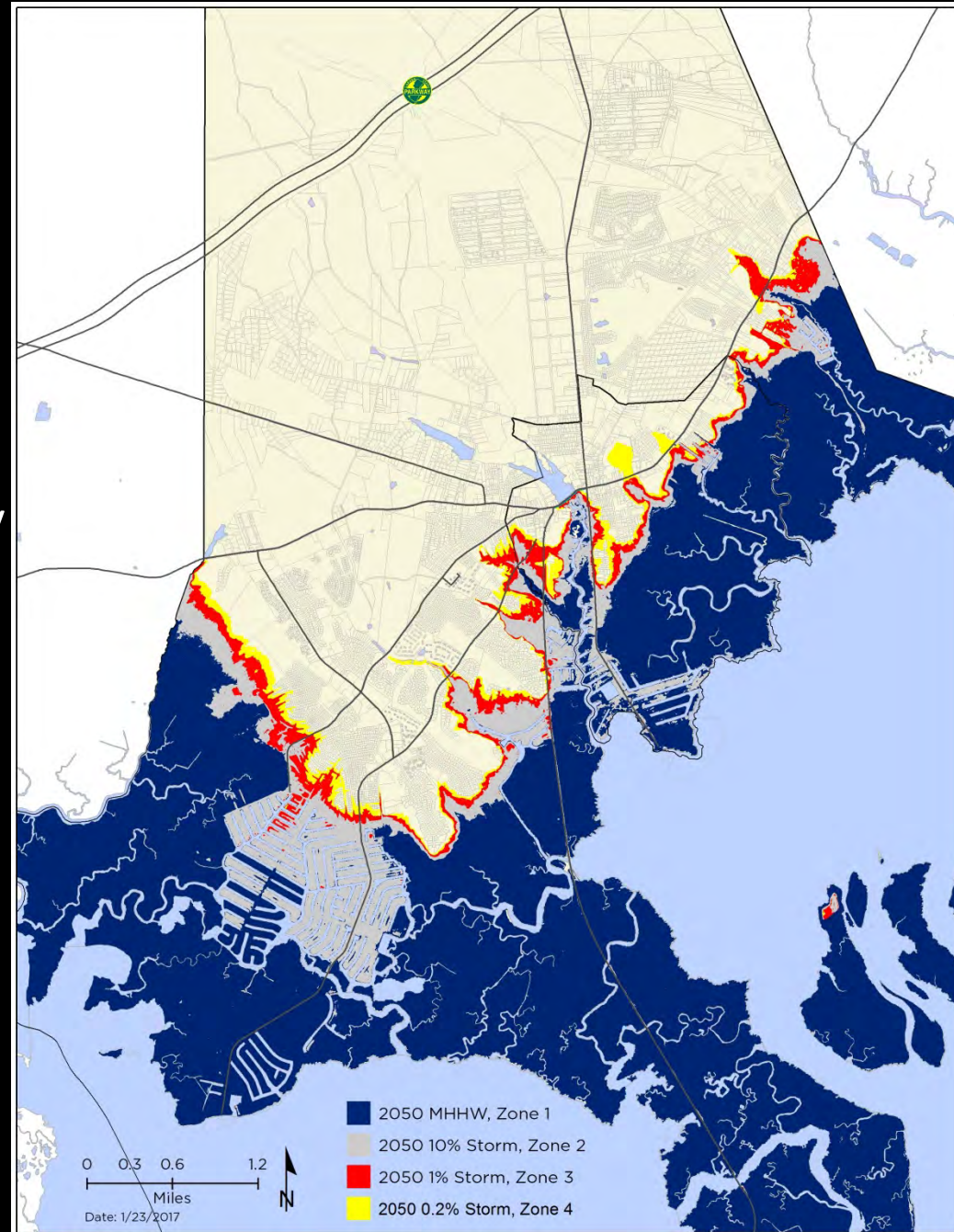
- Limit exposure/reduce property damage of existing and future development from coastal storms;
- Enact more stringent flood protection requirements; increase NFIP compliance



WHERE: All land within 2050 FEMA
.02% flood zone

OBJECTIVE:

- Extend flood protection requirements in areas not currently regulated



WHEN?
WHEN?

- Wait for the next major storm/hurricane?
- 1.5 feet of sea level rise vs. current MHHW?
- Ten-year intervals as master plan is reviewed and updated?
- A pre-determined property valuation decline?
- Combination of above? (variable timing at pre-determined thresholds)

BUT planning needs to start ASAP!

How?
HOM3

How?
HOM3

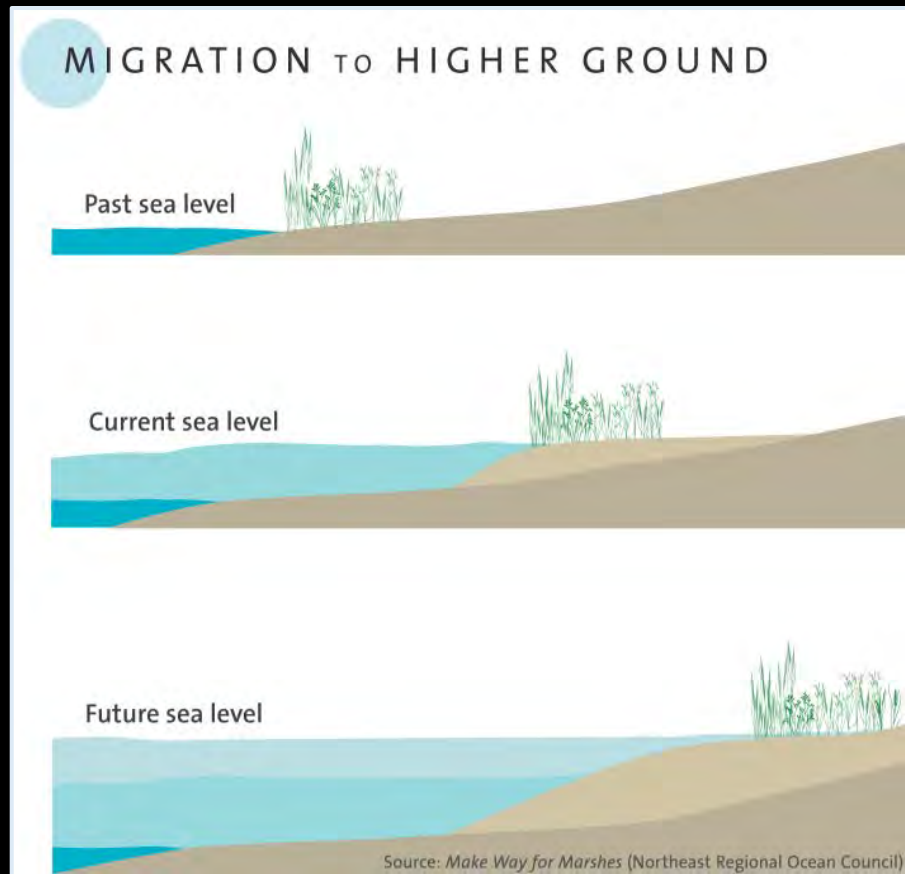
1. Disclose hazards

- Point of sale
- Government-issued public outreach and awareness



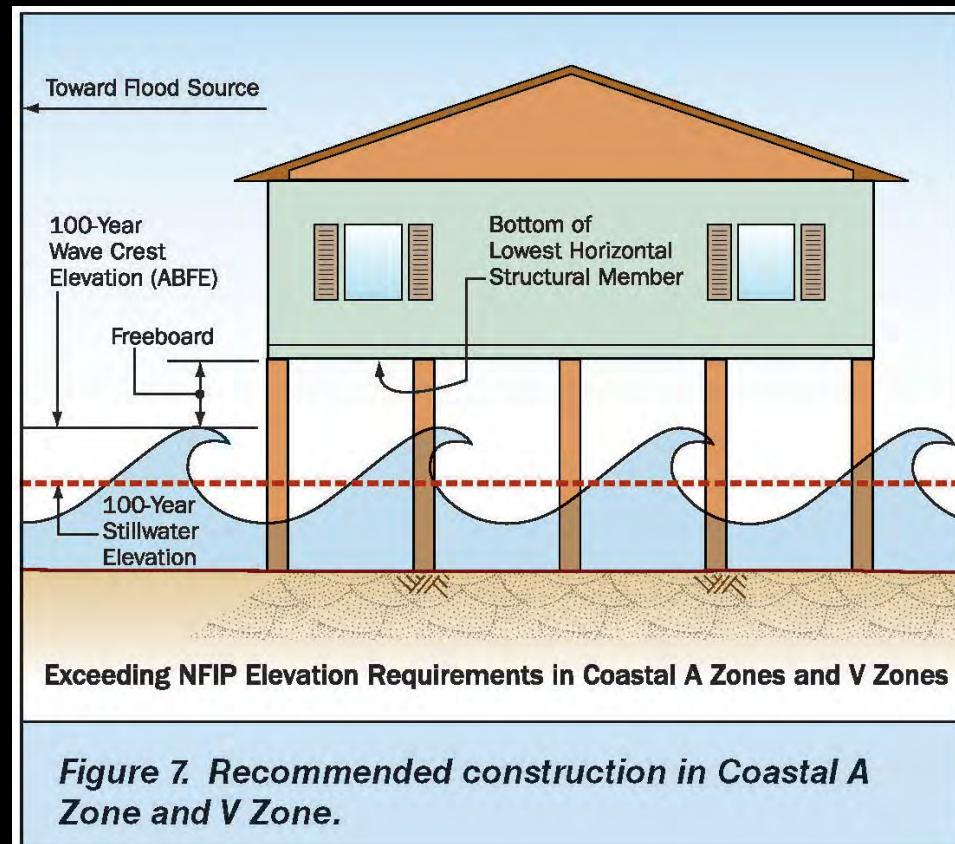
2. Allow marshes to move

- Conserve adjacent upland areas
- Rolling easements
- Minimize shoreline armoring



3. Build higher and drier

- More stringent codes and ordinances (e.g. freeboard, setbacks, limit uses, modify SI/SD)



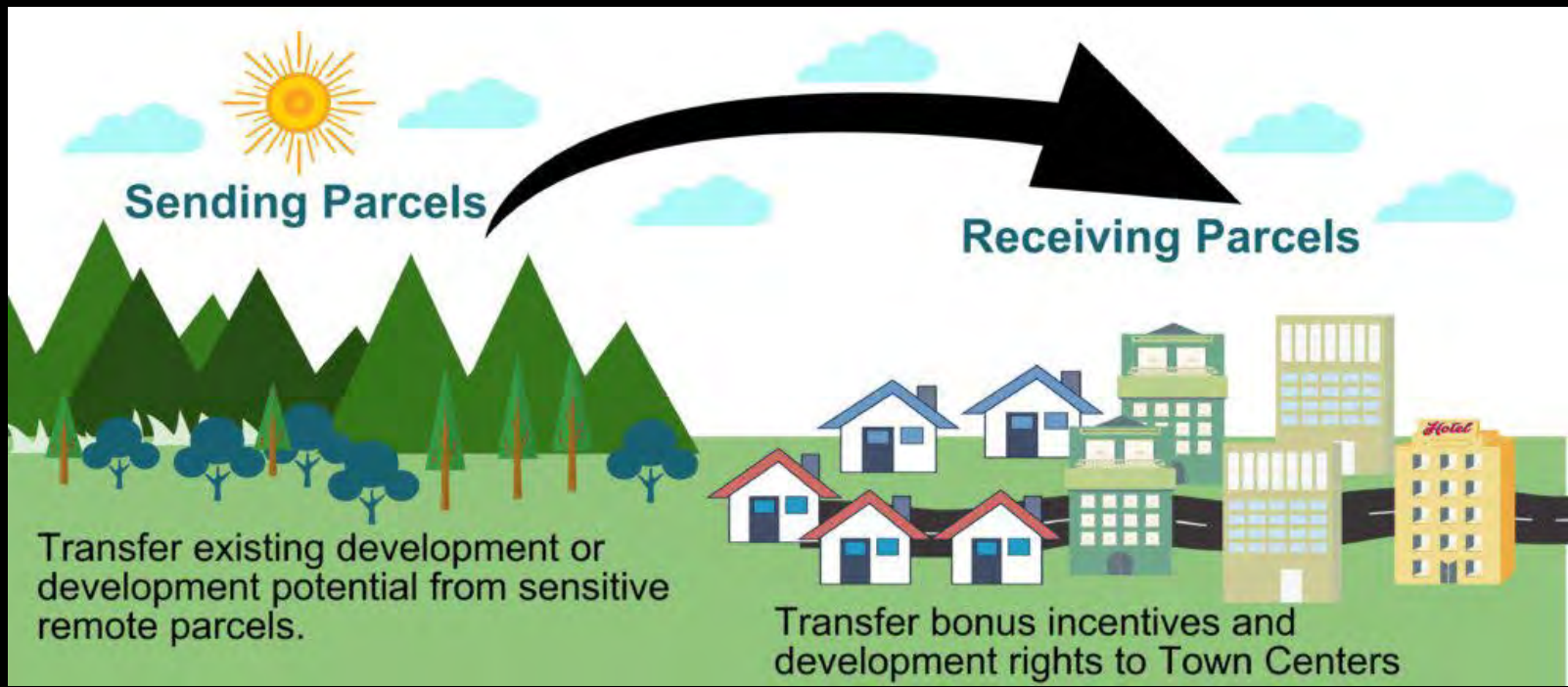
4. Restrict rebuilding

- Limit building size/density
- Target acquisitions
- Minimize public investment



5. Move inland

- Acquisition of development rights
- Transfer of development rights



6. Finance Long-term investment

- Finance long-term protection
 - Capital improvement plans
 - Special tax districts

Measure AA: San Francisco Bay Restoration Authority "Clean and Healthy Bay" Parcel Tax



The basics

Election date:

June 7, 2016

Status:

✔ Approved

Majority required:

66.67 percent

MAKING IT HAPPEN
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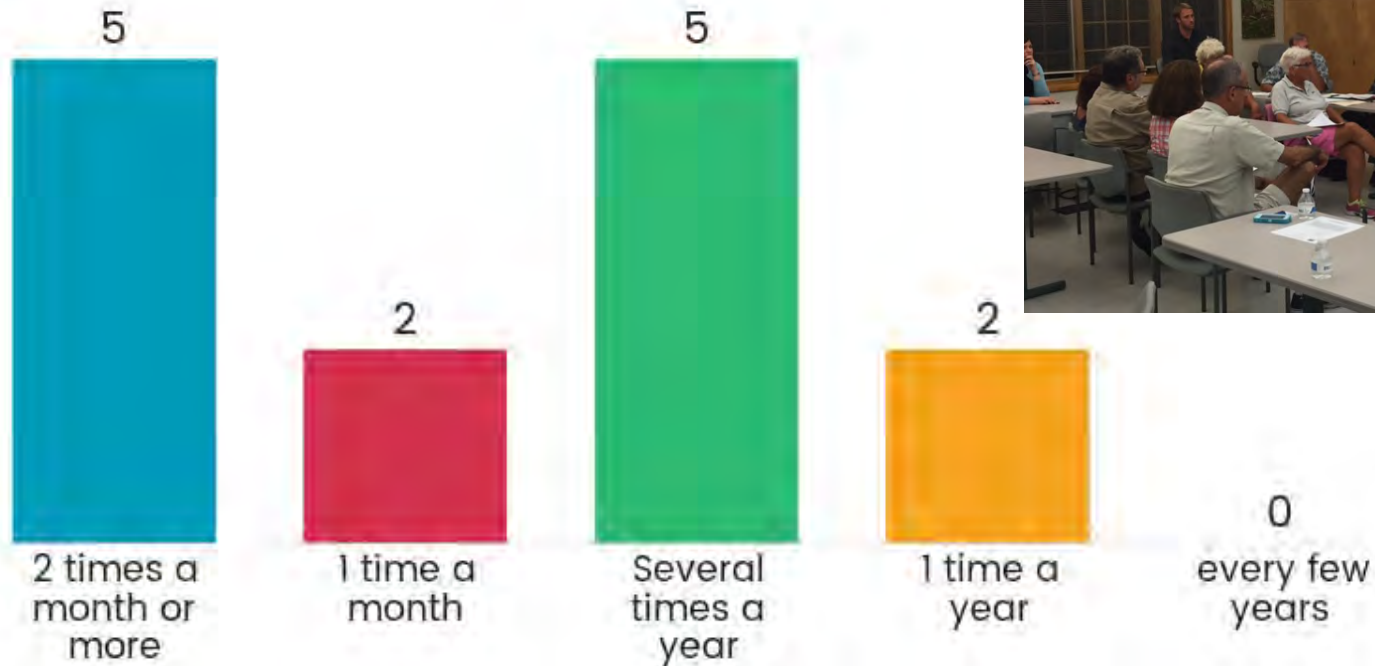
- State-level coastal commission, develop a long-term climate adaptation plan (create a Chief Resiliency Officer cabinet position)
- Adopt consistent SLR projections to guide state, county, local planning
- Factor SLR, surge and flooding into facility siting decisions - require counties and towns do the same (FFRMS)
- Align state incentives to encourage and/or discourage development based on flood inundation risk factors

- Identify current vulnerabilities and future risks
- Amend master plan to:
 - incorporate overlay zones
 - select implementation options
 - determine triggering threshold

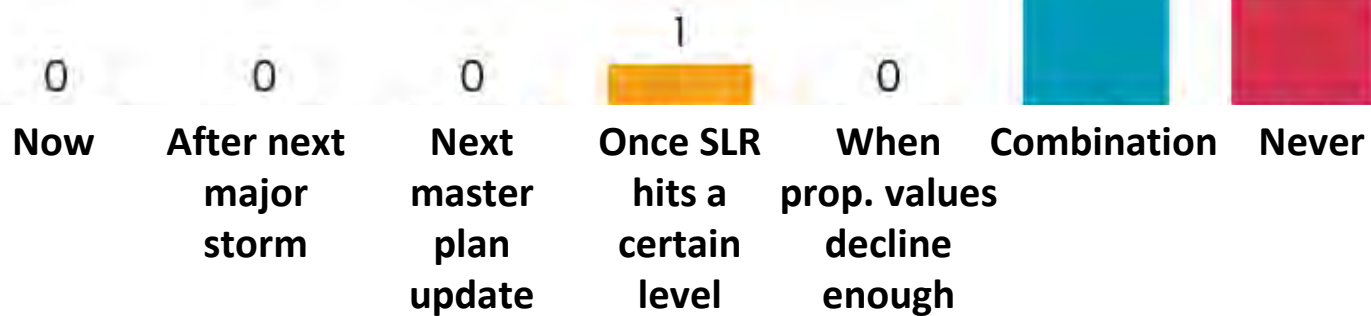


HAVE WE LEARNED ANYTHING?
HAVE WE LEARNED ANYTHING?

How often do you observe evidence (flooding, erosion, road damage, etc.) of sea-level rise?



When do you think residents will acknowledge there need to be changes in how our town develops?



Thinking about yourself, are you ready now to consider changes in how your town develops?

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Yes. I might not like it, but I know it's necessary.



3



No. I love it the way it is now, and I don't want it to change.



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- Municipalities aren't capable of addressing climate impacts alone
- Lack of shared understanding of risk hinders response
- Connections to the shore are deep seated and not easily severed
- Coastal communities are accustomed to tidal flooding
- Efforts to alter development patterns = property rights threats

Yes, BUT... AIR Worldwide report: value of property within 1% storm surge contour is \$1.1 trillion

BILL NYE

THE SCIENCE GUY

"You're not going to solve global problems or address global issues without being optimistic. If you don't think you can do anything about it, you can't."

