Resilient Rhody:

Statewide Climate Resilience Action Strategy

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Workshop Agenda

- Climate Resilience Action Strategy Update – 25 Minutes
- Strategy Q & A – 10 Minutes
- Resilience Action Workshop – 35 Minutes
    - Project examples and studies we should know about
    - Identify priority actions/investments by Natural System Asset Type
    - Report out

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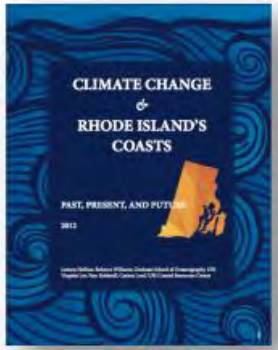
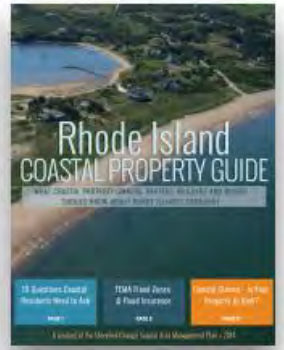
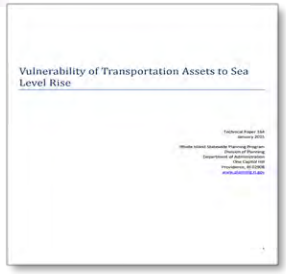
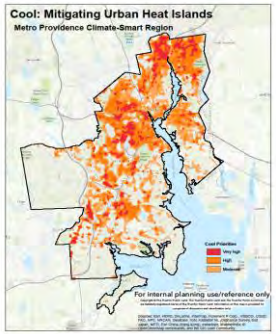
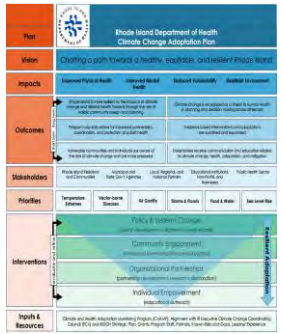
STATEWIDE CLIMATE RESILIENCY ACTION STRATEGY







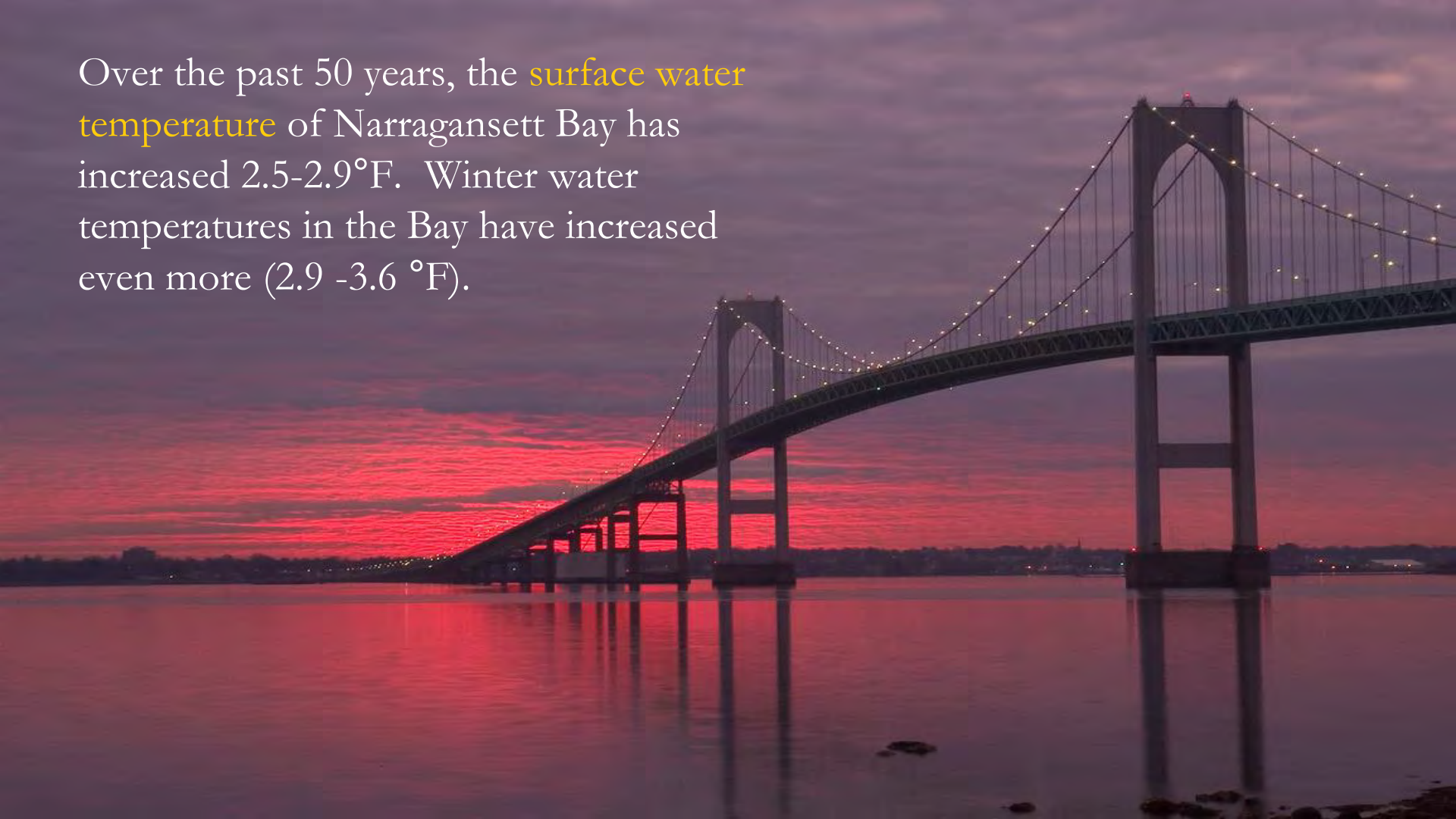




Wealth of reports completed to date

EC4 Science and Technical Advisory Board (2017)

Temperatures in Rhode Island have increased by more than 3°F since the beginning of the 20th century. 2016 was the warmest year on record globally.


Over the past 50 years, the surface water temperature of Narragansett Bay has increased 2.5-2.9°F. Winter water temperatures in the Bay have increased even more (2.9 -3.6 °F).

Sea levels have risen 10 inches in RI since 1930 (Newport tide gauge). Updated NOAA predictions (Jan. 2017) put sea level rise in RI at close to 1 ft. by 2030 and upwards of 9 ft. by 2100.


Intense rainfall events in New England have increased 71% since 1958. RI's average annual precipitation has increased more than 10 inches since 1930.

What's at Risk

- 15,380 active flood insurance policies covering over $3.8 billion in residential and commercial property

- 337 miles of state and municipal roadway are vulnerable to flooding in a 100 yr. storm surge event

- 19 wastewater treatment facilities, all located in coastal or riverine flood zones

- Salt marshes provide recreational and commercial fishing activities with an estimated of $6,417 an acre. Coastal wetlands generate $2 billion annually.

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How are we defining Climate Resilience?

Climate Resilience is the capacity of individuals, institutions, businesses, and natural systems within Rhode Island to survive, adapt, and grow regardless of chronic stresses and weather events they experience.

Statewide Climate Resilience Action Strategy

- Identify and prioritize resiliency actions and investments in response to the impacts caused by climate change that affect our communities, infrastructure and economy
- Catalyze the planning and vulnerability studies already developed
- Position Rhode Island as a national leader in resiliency action and create a better prepared Ocean State

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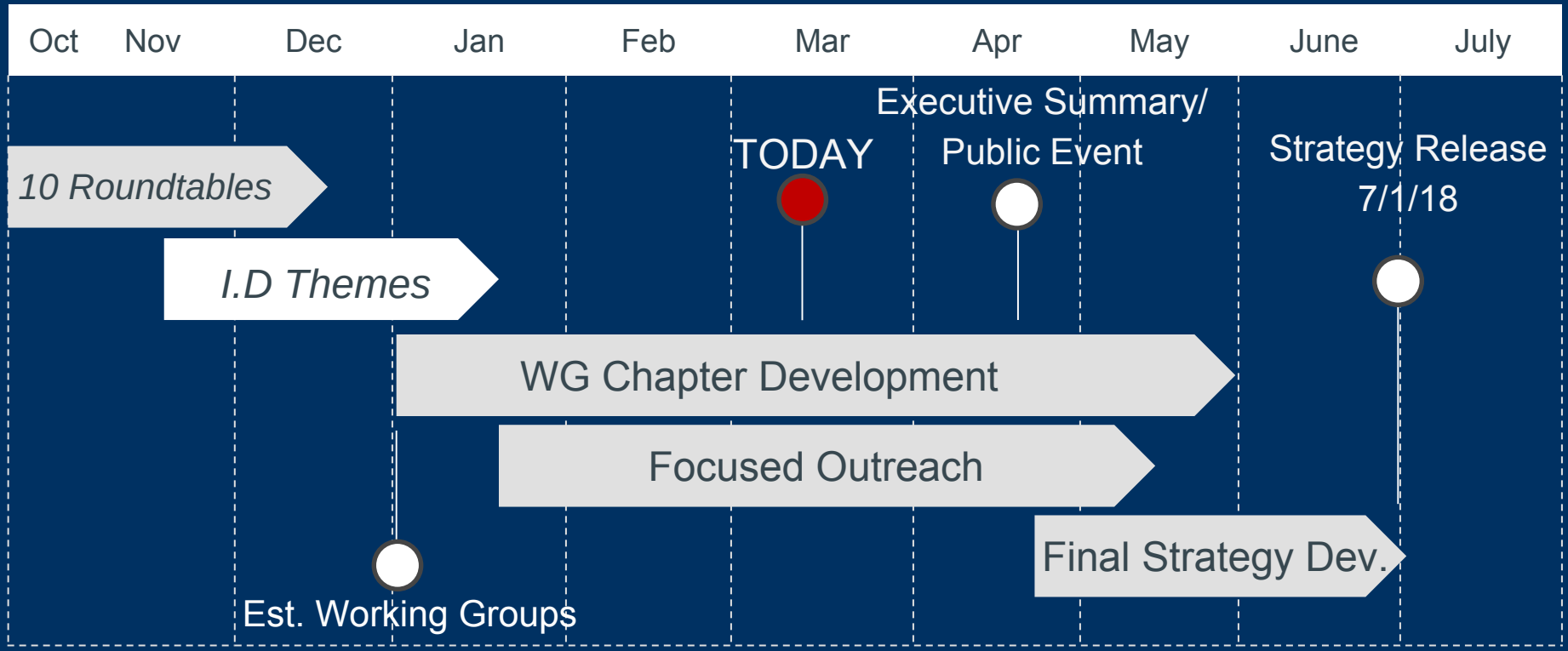
Climate Resilience Action Strategy Timeline



Statewide Resiliency Roundtable Series

10 Roundtables over 2.5 months

350 Attendees

- 35% Municipal Planners/Staff
- 25% Environmental Orgs
- 15% Community Orgs (Chambers, Faith-based groups, Historic districts)
- 10% Business Owners
- 10% State agency employees
- 5% Residents

Representation from 35 of 39 Cities and Towns

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“The statewide strategy needs to recognize that municipalities are on the front lines of dealing with the impacts of a changing climate”

“Rhode Island has done a lot of planning and vulnerability studies, this strategy needs to drive investment where it’s needed most”

“We are glad you ventured to the inland communities for the Roundtable discussion as we often feel left out of the process since we aren’t on the coast”

“How are we going to pay for all these needed infrastructure upgrades?”

What we learned

- Clear communication matters
- There is a tremendous amount of work already underway
- Municipalities are on the front lines of climate adaptation planning
- Statewide climate adaptation investments require collaboration and new ways of working

Resiliency Themes

"Prioritize to Optimize"

- Critical Infrastructure Assets
  - Clean Water, Roads and Bridges
- Utilities
  - Drinking Water, Electric Grid
- Natural Systems
  - Coastal & Upland
- Emergency Response and Preparedness
- Local Community Resilience / Education
- Paying for Climate Resilience Projects

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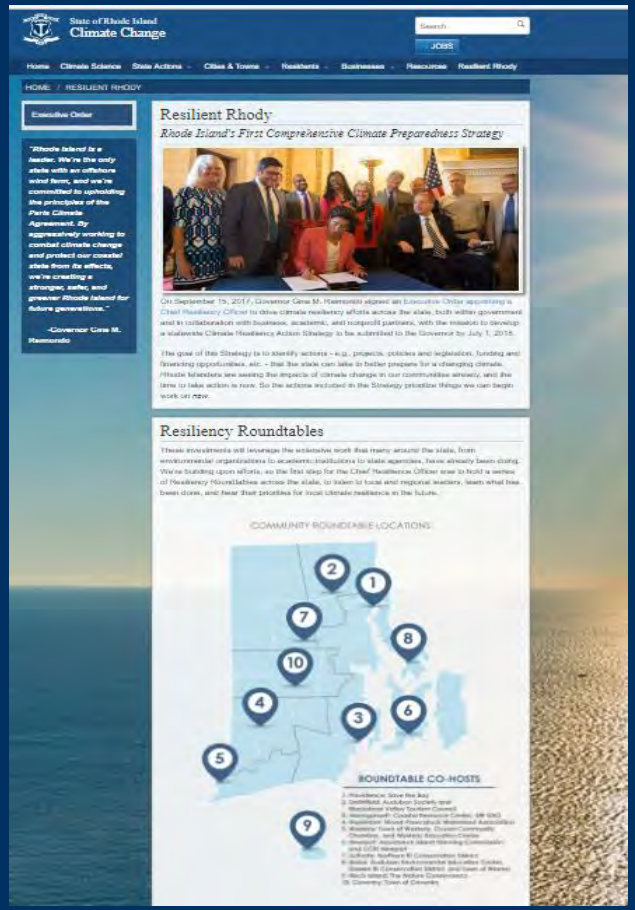

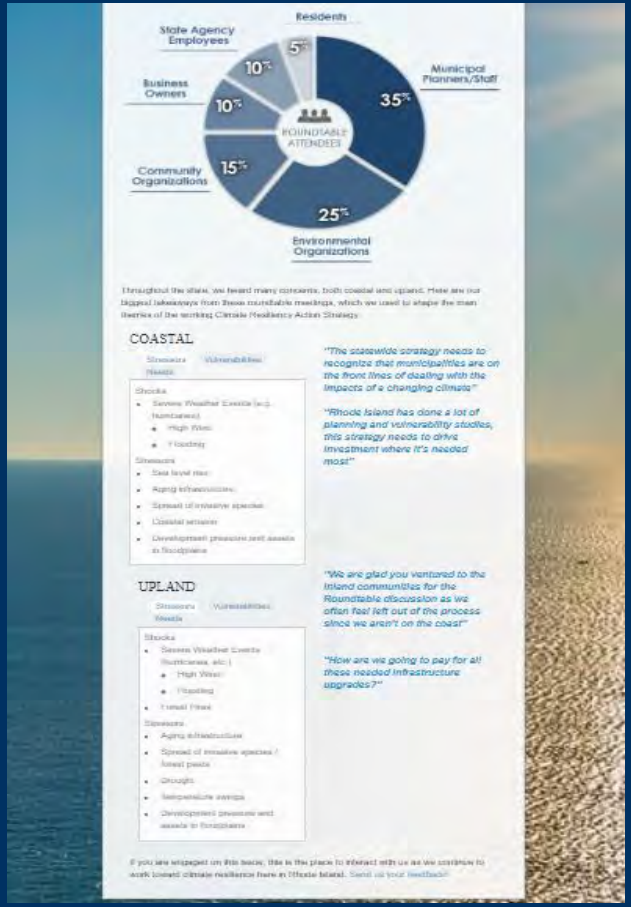

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Strategy Outline & Chapter Leads

1. Making the Case for Climate Resilience: *EC4, Science and Technical Advisory Board (STAB)*
2. Critical Infrastructure and Utilities: *RIDEM, OHCD, RIEMA*
   - Water - RIDEM, WRB
   - Power - OER, DPUC
   - Transportation - RIDOT, SPP
   - Food – GOV, RIDEM
3. Natural Systems: *CRMC, DEM*
   - Coastal – CRMC
   - Upland - RIDEM
4. Emergency Preparedness*: RIEMA*
5. Community Resilience: *RIDOH*
6. Financing Climate Resilience Projects: *RIIB*

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Chapter 3: Natural Systems

Coastal: *CRMC*

- Asset types:
  - Beaches and Barriers
  - Salt Marshes

Upland: *DEM*

- Asset types:
  - Forests
  - Surface Water

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Action and Investment Time Horizons

NOW	Projects and processes that can be accelerated now with existing resources
2-5 Years	Actions and investments are identified but missing a critical resource, such as funding or permit
10 Years	Actions and investments are identified but multiple project components need to be developed

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Actions Matrix

Coastal or Upland	Municipality	Asset Type (1 of 4)	Action	Description	Timeline (1 year, 2-5, 5-10)	Cost (high, med, low)	Lead
Examples							
Coastal	Westerly	Beaches	Misquamicut State Beach replenishment & dune restoration	84000 cubic yards of sand, restored dunes along ~2.5 miles of developed shoreline, enhanced dunes in front of State and Town beaches and 71 private properties	1	$4.1 million	Town of Westerly, ACOE
Upland	Hopkinton	Forests	Preservation of 30 acres of forestland	30 acres, adjacent to Rockville Management Area	1	$132,000	RI Department of Environmental Management (DEM)
Completed							
Proposed							

Natural Systems

Coastal Asset Types:

- Beaches and Barriers
- Salt Marshes

Upland Asset Types

- Forests
- Surface Water

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