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How State Governments Can Help Communities Invest in Climate Resilience

October 14, 2020 Webinar Registration: 1225

Ed Saltzberg
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Shaun O'Rourke
Chief Resilience Officer
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Director
Stormwater and Resiliency
Rhode Island
Infrastructure Bank

Tom Jacobs
Director
Environmental Programs
Mid-America Regional Council

Download HOW STATE GOVERNMENTS CAN HELP COMMUNITIES INVEST IN CLIMATE RESILIENCE

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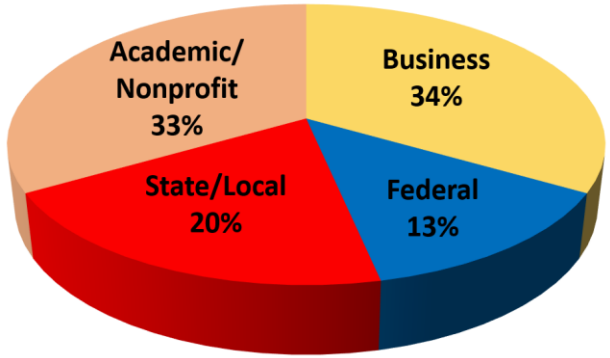

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ASU Series: *How "Smart" Systems Can Power Our Decarbonized Future: View* any webinars you missed

https://sustainability.asu.edu/lightspeed-solutions/ai-and-decarbonization-webinar-series/

- Thurs. June 4: Using Design Thinking to Employ Smart Systems to Decarbonize Our Future
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Agenda

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1. **Welcome**
   - Ed Saltzberg, Security and Sustainability Forum
2. **Panel Introductions and Purpose**
   - Joyce Coffee, Climate Resilience Consulting
3. **Report: State Governments & Climate Resilience**
   - **John Cleveland, Innovation Network for Communities (INC)**
4. **State Leadership**
   - **Nuin-Tara Key, California**
   - **Shaun O'Rourke, Rhode Island**
5. **Local Government Response**
   - **Tom Jacobs, Mid America Regional Council**
6. **Panel Discussion with Audience Q + A**
   - **Use the box in the Go To Webinar window**

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Panel

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UREx SRN

How State Governments Can Help Communities Invest in Climate Resilience

October 14, 2020 Webinar Registration: 1200

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Stormwater and Resiliency
Rhode Island Infrastructure Bank and

Tom Jacobs
Director
Environmental Programs
Mid-America Regional Council

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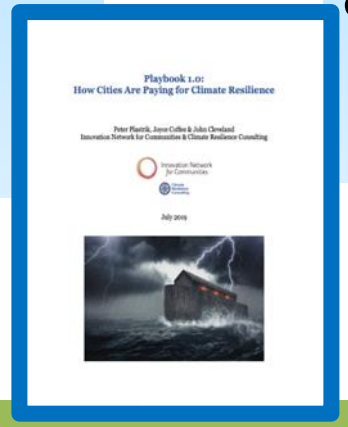
Local Government Strategies for Financing Resilience

1. **Generate Local Revenue**
2. **Impose Land-Use Costs**
3. **Embed Resilience Standards Into Future Infrastructure Investments**
4. **Leverage Development Opportunities**
5. **Exploit Federal Funding Niches**
6. **Tap State Government**
7. **Develop Financial Innovations**
8. **Pursue Equity in Resilience**


Playbook 1.0:
How Cities Are Paying for Climate Resilience

Peter Plastrik, Joyce Cofino & John Cleveland
Innovation Network for Communities & Climate Resilience Consulting

July 2019

http://lifeaftercarbon.net/wp-content/uploads/2019/07/Playbook-1.0-How-Cities-Are-Paying-for-Climate-Resilience-July-2019.pdf

Based on "Playbook 1.0 How Cities are Paying for Climate Resilience.

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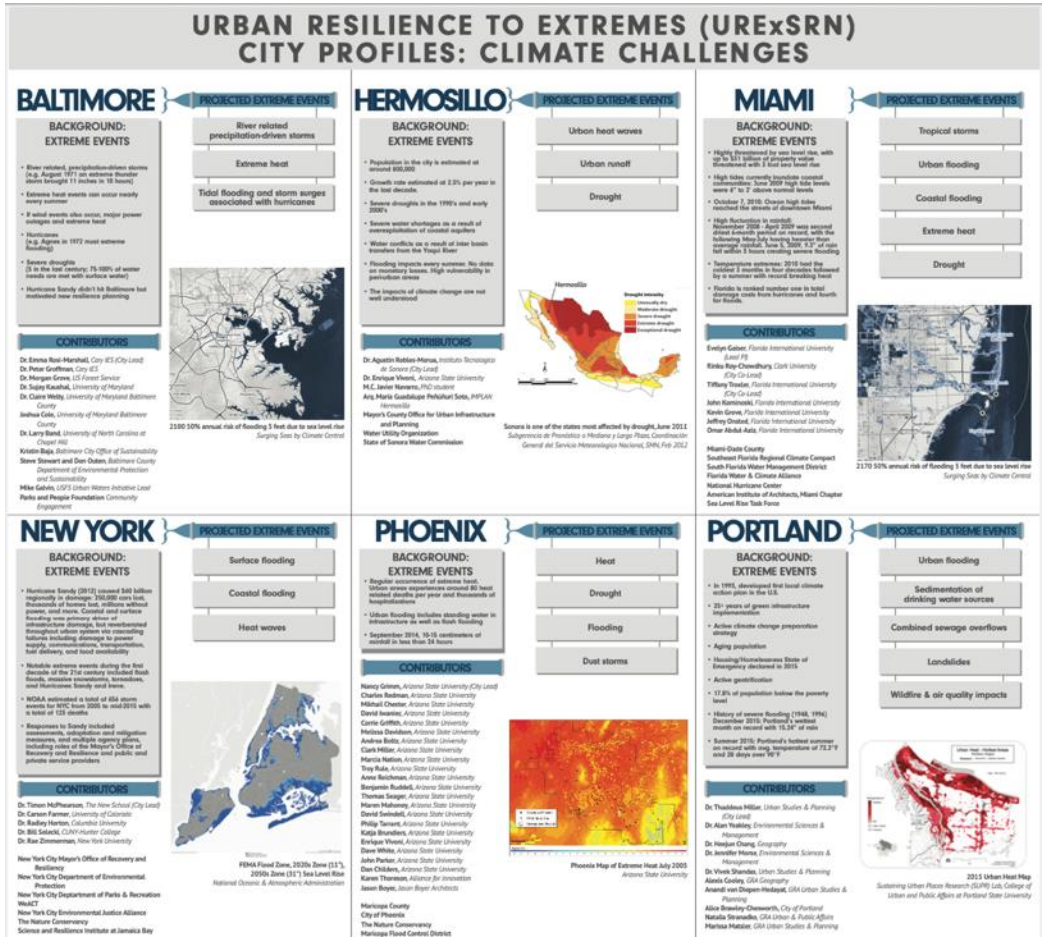
Urban Resilience to Extremes Sustainability Research Network



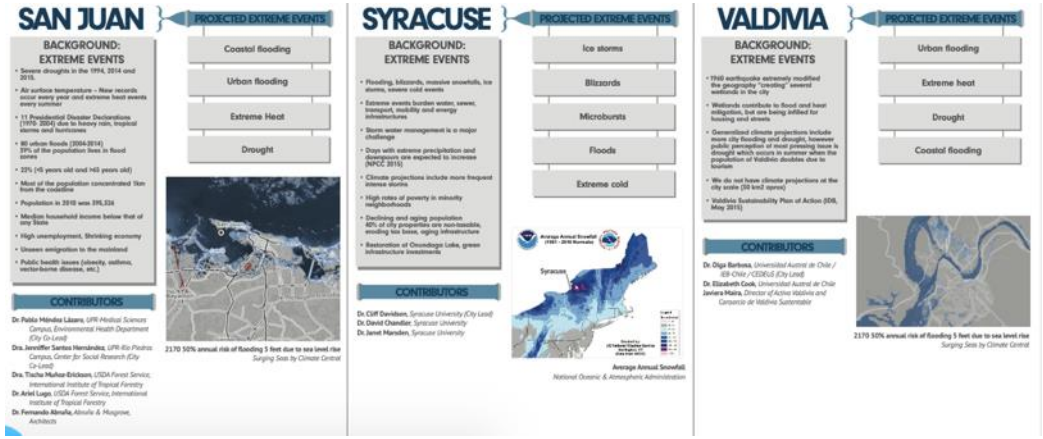
[Research]

UREx SRN focuses on integrating social, ecological, and technical systems to devise, analyze, and support urban infrastructure decisions in the face of climatic uncertainty.

[Network Cities]

Working with 9 UREx network cities - home to over 35 million residents –co-created a novel set of decision-support tools that confront resiliency challenges and assist cities' sustainable futures.

https://sustainability.asu.edu/urbanresilience/



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Main State Resilience Survey Takeaways

Slow start. Momentum is building

1. **Few of the 31 states are fully implementing key elements of climate resilience, but majority are planning to or starting to implement them**
   - Interdepartmental coordinating body
   - Principles for state investment in climate resilience
   - State climate resilience plan
   - Resilience standards for state infrastructure
2. **Although a majority of the 31 states are dedicating *existing* state revenue for resilience strengthening, few are moving to generate *new* revenue exclusively for resilience strengthening or to authorize local governments to raise and spend *new local* revenue for resilience**
3. **Majorities of the 31 states are planning, piloting, or starting to implement these supports for local communities:**
   - Climate data and risk analysis
   - Technical guidance for developing climate resilience plans
   - Communications support for building public support
   - Support for developing local "ready to go" resilience projects
4. **Few of the 31 states have an agenda for federal policies/programs to support state and local resilience building, and not many are planning to develop one**

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How State Governments Can Help Communities Invest in Climate Resilience

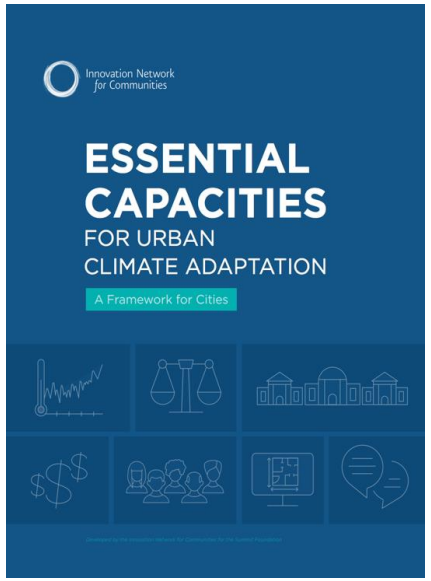
John Cleveland, President
Innovation Network for Communities

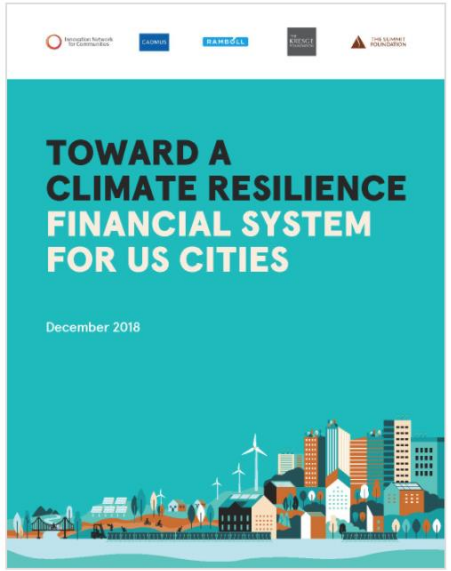
Security and Sustainability Forum
October 14, 2020

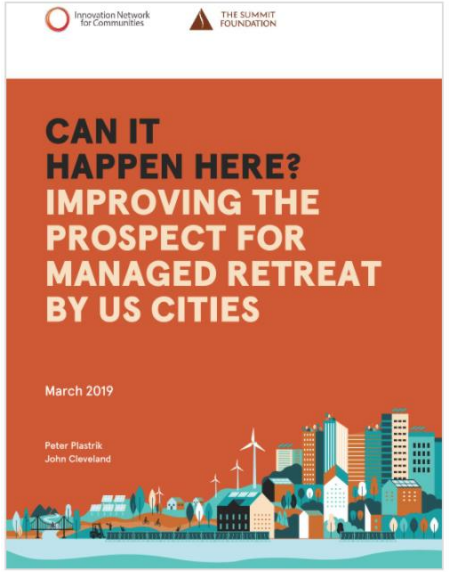
INC Climate Resilience Report Series

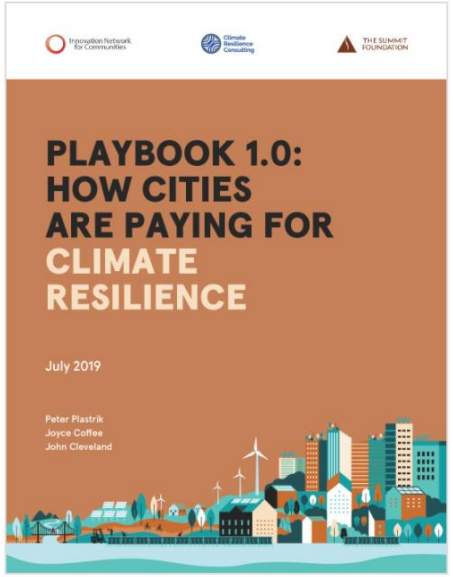
1. Essential Capacities for Urban Climate Adaptation
2. Toward a Climate Resilience Finance System for US Cities
3. Can It Happen Here? – Improving the Prospects for Managed Retreat by US Cities
4. Playbook 1.0 – How Cities Are Paying for Climate Resilience

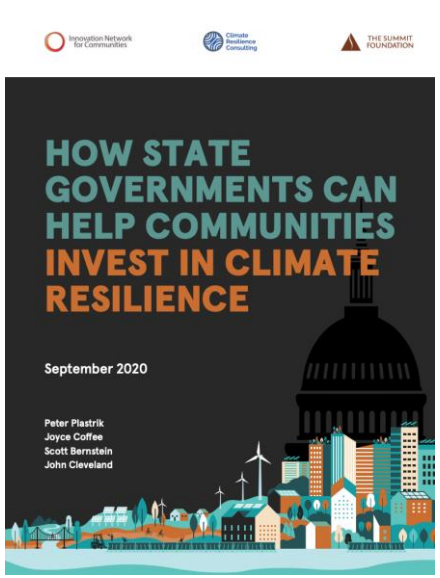
Link to the reports: http://lifeaftercarbon.net/reports/











Report's Goal

The primary goal of this report is to provide financial strategies that state governments can use to help local governments invest in climate resilience.

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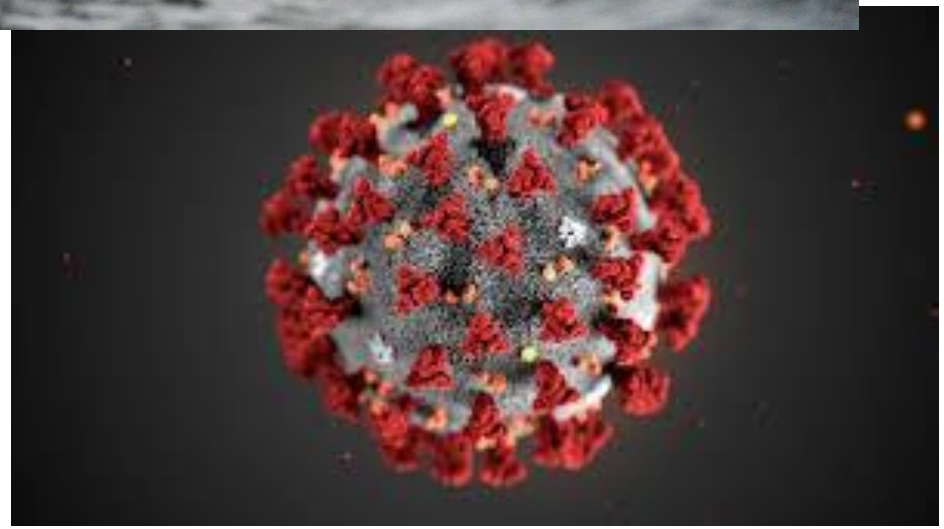
More Urgency, Not Less



State Resilience Framework

GOVERNANCE & MANAGEMENT OF RESILIENCE BUILDING

- Interagency Coordinating Body
- Chief Resilience Officer
- Principles for Resilience Investment

STATE RESILIENCE PLAN

- Assessment of Risks
- Strategies, Priorities
- Initiatives
- Stakeholder Engagement

RESILIENCE STANDARDS FOR INFRASTRUCTURE

- Highways & Roads
- Transit Systems
- Buildings
- Water Systems

RESILIENCE POLICIES FOR STATE-REGULATED SECTORS

- Electricity, Water, Waste Utilities
- Insurance
- Real Estate
- Finance

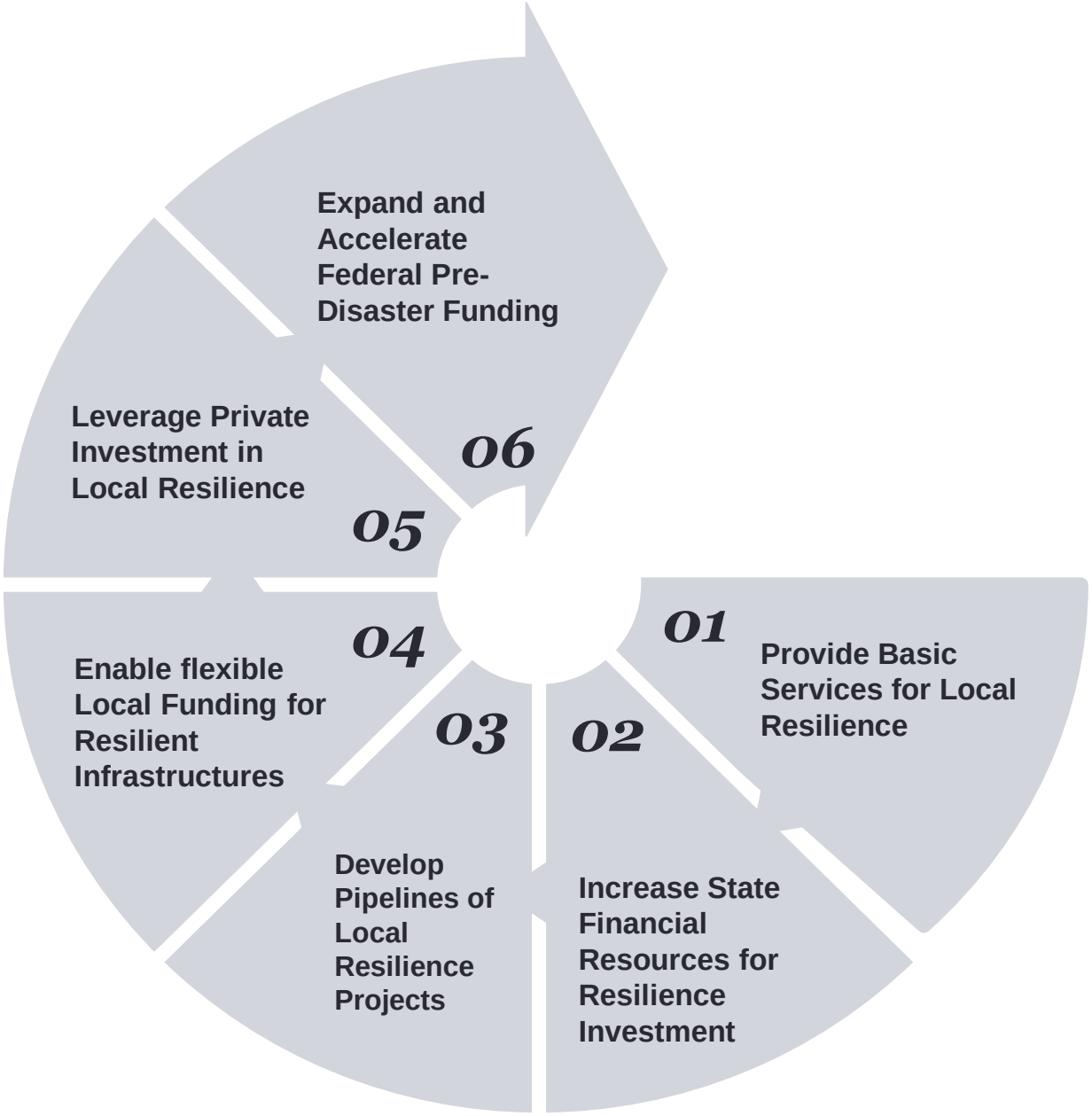
LOCAL RESILIENCE BUILDING CAPACITIES AND ACTIONS

- Assess Risks
- Planning Processes
- Technical Expertise
- Project Implementation & Finance
- Operation, Maintenance, Monitoring

STATE-LOCAL RESILIENCE FINANCIAL SYSTEM

- State-Funded Services for Local Resilience
- State Revenue for Resilience Investment
- State Support for Local Project Development
- State-Enabled Local Resilience Investment Structures
- Incentives & Regulations for Private Resilience Investment
- Expanded Federal Pre-Disaster Funding

6 Recommendations for Building State Resilience Financial Systems



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01 Provide Basic Services for Local Resilience Strengthening

Specific Basic Services

1. ***Climate Data & Risk Analysis***
2. ***Technical Guidance & Assistance***
3. ***Communications Assets for Resilience***

Case Study: California County-Level Data

Source: https://www.cdph.ca.gov/

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02 Increase the State's Financial Resources for Resilience Investment

Raising Revenue for Resilience Building

1. ***Bonding or long-term debt***
2. ***Utility rates***
3. ***Targeted sectors***

Case Study: Massachusetts Approved $2.4 Billion Bond for Investments in Climate Adaptation

Source: https://www.mass.gov/

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03 Support Development of Local Pipelines of Ready-To-Go Projects for Climate Resilience

Specific Pipeline Development Approaches

1. ***State inventories of "must do" projects***
2. ***Enhance FEMA Hazard Mitigation planning***
3. ***Partner with environmental organizations***
4. ***Support resilience design competitions***

Case Study: Hurricane Sandy Design Competition, Rebuild by Design

Source: http://www.rebuildbydesign.org/

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04 Enable Local Funding for Implementing Public Infrastructure Projects

Specific Enabling Environment Tools

1. ***State Grants & Loans***
2. ***Local Taxation Authority***
3. ***Local Authority for Special-Purpose Financial Entities***
4. ***Credit Ratings***
5. ***Removing Barriers***

Case Study: Rhode Island Infrastructure Bank

RHODE ISLAND INFRASTRUCTURE BANK

Source: https://www.riib.org/

05 Leverage Private Investment in Local Resilience Using Incentives & Regulations

Specific Private Investment Leveraging Mechanisms

1. ***Incentives***
2. ***Standards & Regulations***
3. ***Targeted sectors***

Case Study: California Climate Smart Insurance Products Database

Source: http://www.insurance.ca.gov/

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06 Push to Expand & Accelerate Federal Funding for Pre-Disaster Local Action

Press the federal government to increase the amount of funding available for resilience building

1. **Leverage resilience beachheads that have been made in several traditional federal funding streams**
2. **Resilience investments in federal assets and coordination with local community investments**
3. **National Flood Insurance Program Reform**

Case Study: Multi-state – The Great Lakes Initiatives

Source: https://www.epa.gov/

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Criteria for Equity in State Resilience

01 Provide technical support, planning and resources to less resourced local governments to develop resilience project ideas into fundable concepts.

02 Offer state resources for inclusive community engagement in local resilience planning.

03 Adopt grant and loan guidelines that require local governments to engage lower resourced neighborhoods in resilience project decision-making.

04 Establish targeted universalism guidelines for grant and loan allocations based on state's risk data.

05 Prevent housing displacement. States can require loan and grant recipients to anticipate and mitigate lower resourced community displacement pressures.

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Examples of Financial Mechanisms that Can Build Social Equity

01 General Obligation bonds that combine investment in affordable housing with flood mitigation

02 Stormwater retention credit trading schemes that create credits via a regulator for sellers, inspiring distribution of green infrastructure assets outside city -center

03 Environmental & social impact bonds with quantifiable environmental & social measures that the bond issuer aims to meet with their project & an evaluator verifies

04 Community land trusts to protect community resources for environmental and community benefit and inspire community-based ownership and control of land.

Conclusion

As the climate emergency unfolds, states will be under increasing pressure to take responsibility for protecting life, property, and business from climate hazards.

States have the ability to make a difference in building local climate resilience.

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Let’s Get Moving!

Local governments can’t do it on their own

Resilience is a new class of responsibility for states

We know how to do it; we have built investment systems for key functions before – energy, transportation, water, waste, etc.

The longer we wait, the more expensive and difficult it will become

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Thank You

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HOW STATE GOVERNMENT CAN HELP COMMUNITIES INVEST IN CLIMATE RESILIENCE

Nuin-Tara Key
Deputy Director, Climate Resilience
Governor's Office of Planning and Research

BY 2100

AVERAGE ANNUAL MAXIMUM

DAILY TEMPERATURE

IS PROJECTED TO

INCREASE BY

5.6°–8.8°

Depending on greenhouse gas emissions reductions. The greatest increase is seen with business-as-usual emissions levels.

BY 2100

WATER SUPPLY FROM SNOWPACK

IS PROJECTED TO

DECLINE BY TWO-THIRDS

BY 2050

HEAT WAVES IN CITIES

COULD CAUSE

2-3 TIMES MORE

HEAT-RELATED DEATHS

Vulnerable populations will experience the worst of these effects.

77%

AVERAGE AREA BURNED

INCREASE BY 2100

IF EMISSIONS CONTINUE TO RISE

18%

INSURANCE COSTS

INCREASE BY 2055

IN HIGHEST RISK AREAS

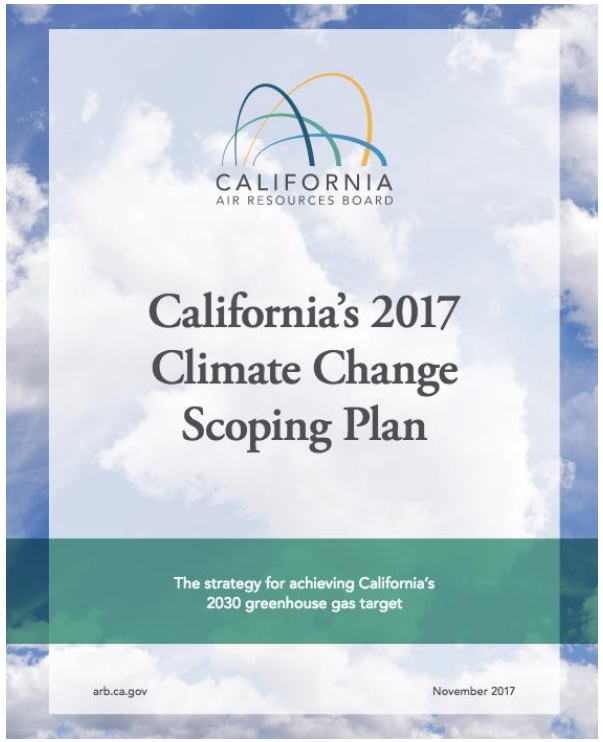
STATEWIDE CLIMATE IMPACTS

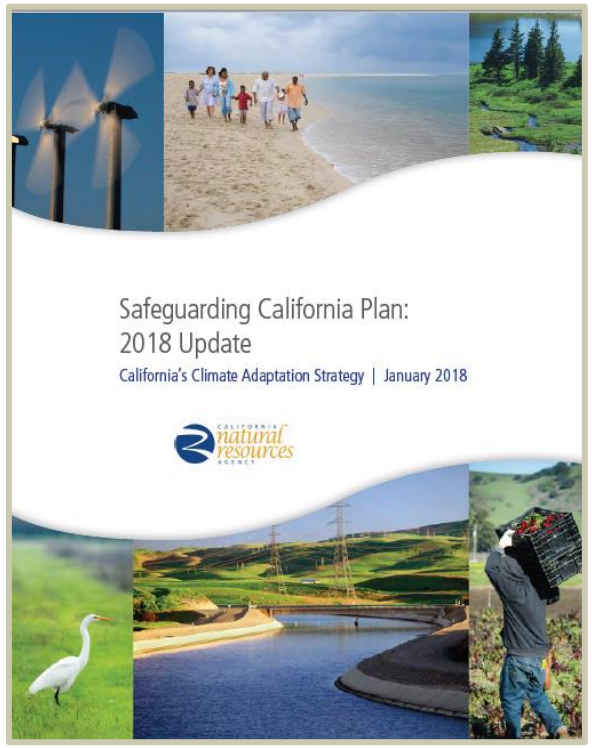
Emissions Reduction Targets	EO S-03-05 EO B-30-15	AB 32 (2006) SB 32 (2016)
Adaptation Strategy	EO S-13-08	AB 1482 (2015)
State Planning and Investments	EO B-30-15 EO N-19-19	AB 2800 (2016/20)
Climate Assessments	EO S-03-05	SB 1320 (2020)
OPR's Adaptation Program (state local coordination)		SB 246 (2015)
Local Government (General Plan)		SB 379 (2015) SB 1035 (2018)
Many more…		

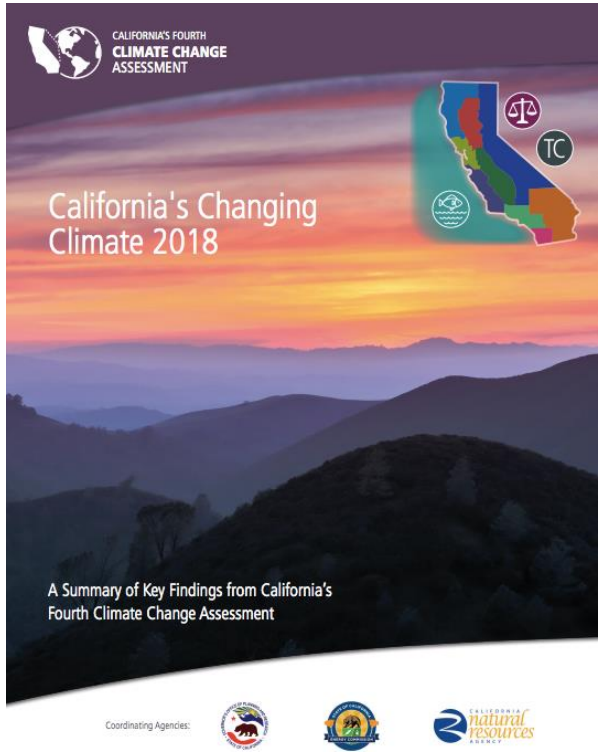
STATE POLICY LANDSCAPE

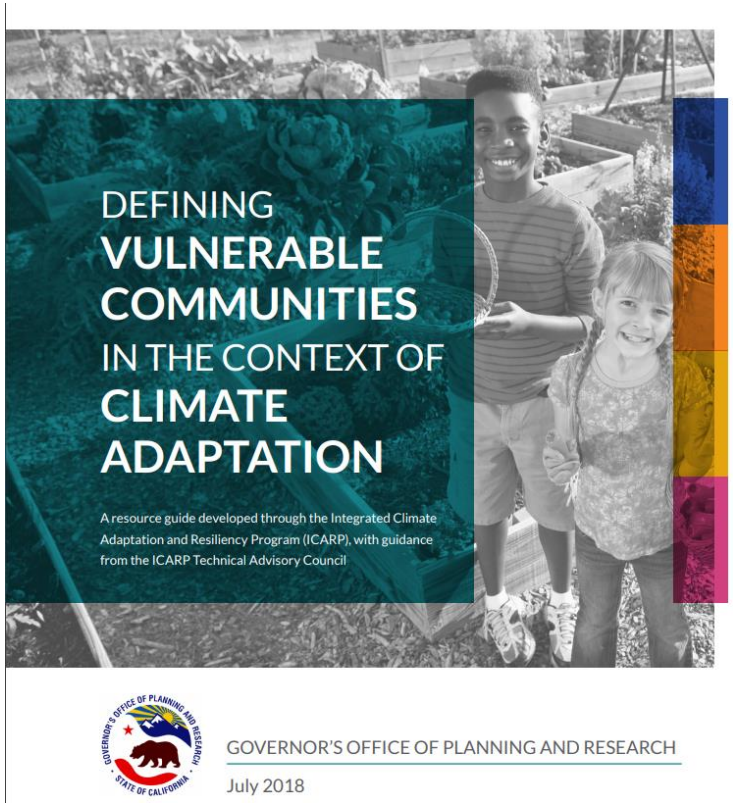
Framework for Integrated Climate Action

Reducing Emissions	Preparing for Impacts	Research

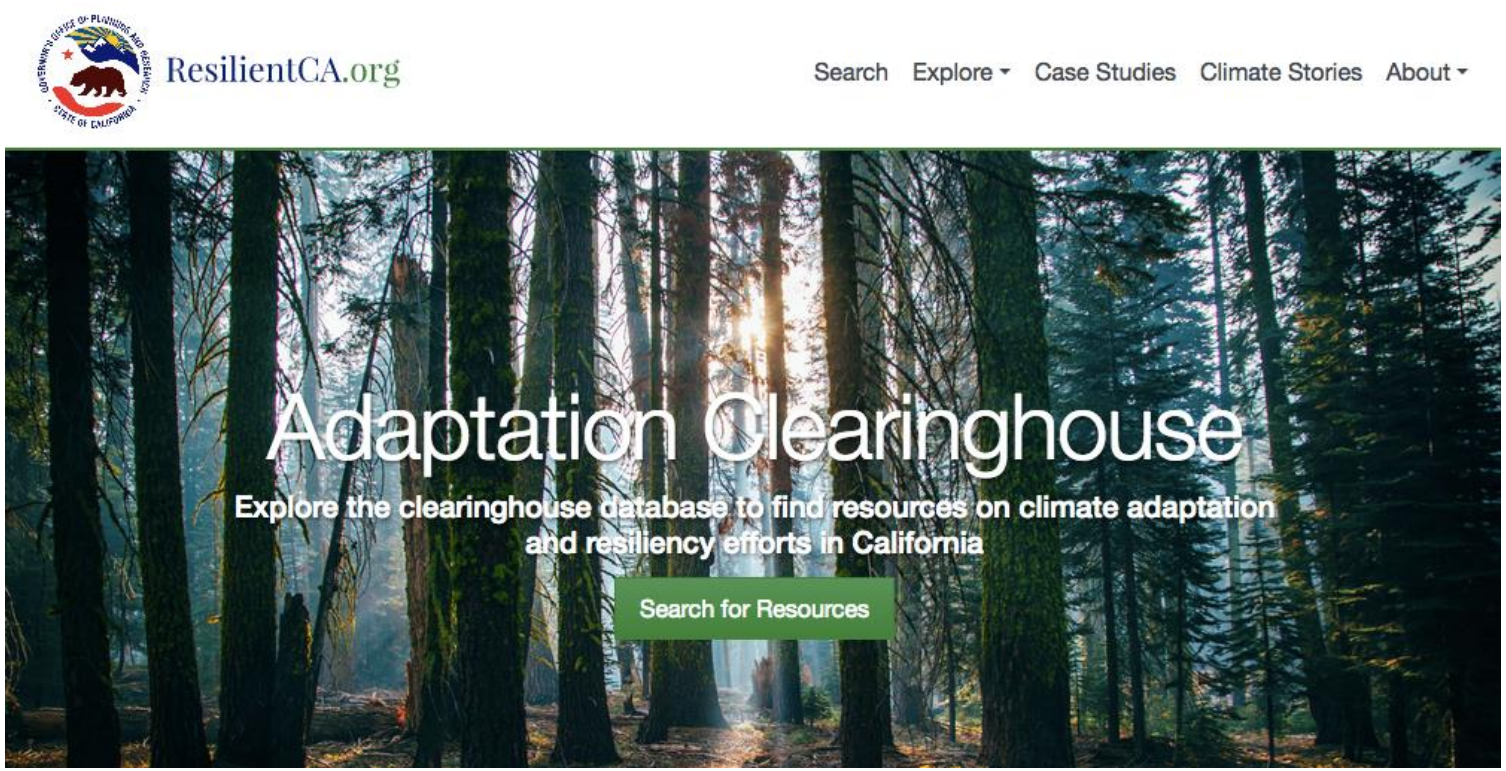




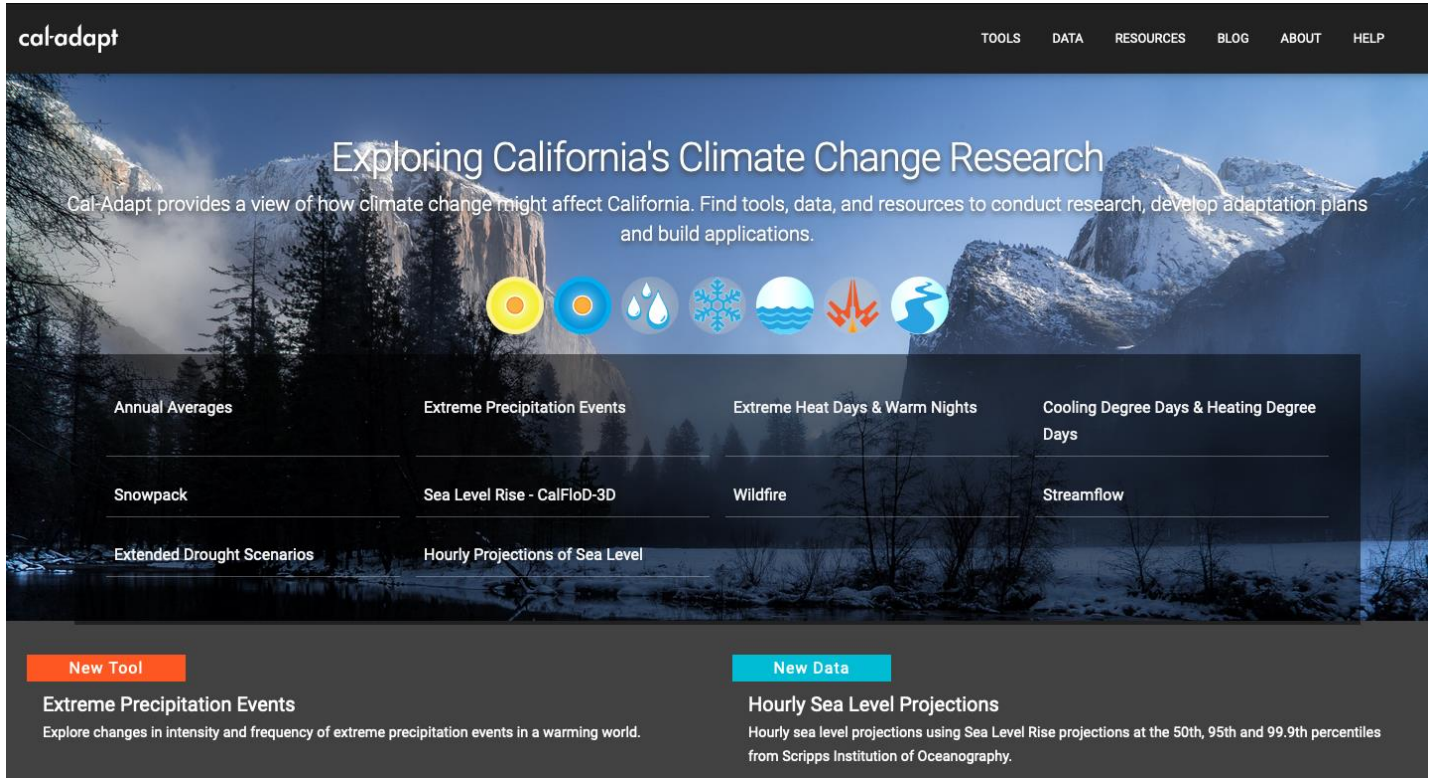




ADVANCING EQUITY



TOOLS AND RESOURCES: CLEARINGHOUSE



TOOLS AND RESOURCES: DATA

CLIMATE FINANCE

Operationalizing Physical Risk into planning and investment decisions

- Climate Risk Disclosure
- Coalition for Climate Resilient Investment

THANK YOU!

RESILIENT RHODY

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

About the Infrastructure Bank

Rhode Island's centralized hub of local infrastructure investment

Diversified Product Offerings

Wastewater, Sewer and Stormwater

Drinking Water

Residential septic and sewer tie-in

Road and Bridge

Commercial Clean Energy (C-PACE)

Clean Energy for Public Sector Entities

In September 2017, Governor Gina M. Raimondo signed an Executive Order appointing a Chief Resilience Officer to drive climate resilience efforts across the state with the mission to develop a statewide action strategy by July 2018.

Resilient Rhody Framework

Making the Case for Climate Resilience

RESILIENCE THEME:
Emergency Preparedness

RESILIENCE THEME:
Natural Systems

RESILIENCE THEME:
Critical Infrastructure and Utilities

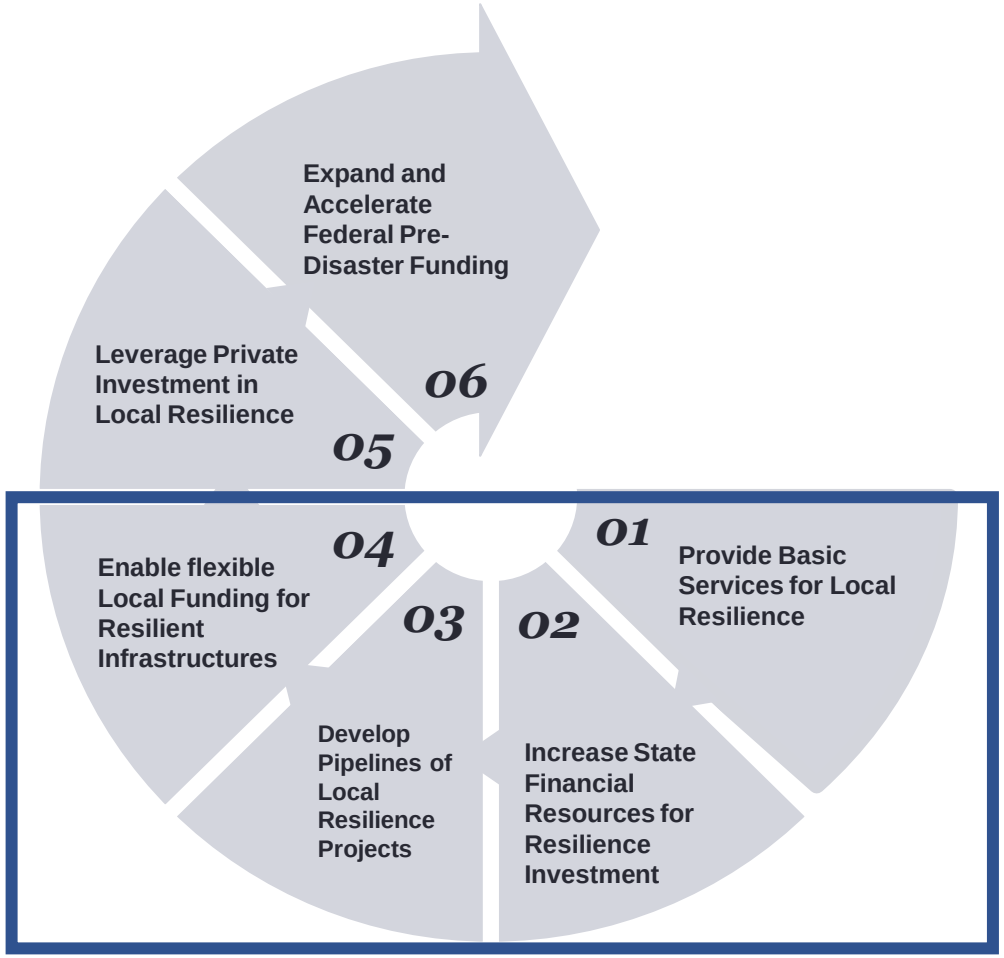
RESILIENCE THEME:
Community Health and Resilience

Financing Climate Resilience Projects

Resilient Rhody by the Numbers

- 61 actions with 1,3,5-year goals
  - 50 of 61 actions achieved year 1 goals
- Accelerate funding and financing
  - Resilient Rhody has been a catalyst for $13mm in new climate resilience funding
  - $7mm for Municipal Resilience Program proposed in 2021 budget
- Establishing a process for building a pipeline of climate resilience projects

6 Recommendations for Building State Resilience Financial Systems



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Resilient Rhody Leadership Structure

1. Provide Basic Services for Local Resilience

The Resilient Rhode Island Act established the Executive Climate Change Coordinating Council (EC4) in 2014.

It also sets specific greenhouse gas reduction targets; establishes two advisory bodies, the EC4 Advisory Board and the EC4 Science and Technical Advisory Board, to assist the Council.

Funding Climate Resilience Projects

2. Increase State Financial Resources for Resilience Investment

- 2018 Climate Resilience Fund
  - State awarded $4.36mm in matching grants to 13 municipalities and organizations for climate resilience projects
  - 14 projects to restore and improve the climate resilience of vulnerable coastal and river habitats and infrastructure in floodplains
- 2018 Wastewater Treatment Facility Resilience Grants
  - State awarded $4.7mm in matching grants to 15 municipalities

Building a Funding and Financing Quilt

	Type	Woonasquatucket River Greenway
Clean Water State Revolving Fund	RIIB	Green Stormwater Infrastructure
Clean Water and Stormwater Infrastructure Fund	RIIB	Stormwater Accelerator
Commercial Property Assessed Clean Energy	State	TBD
Brownfield Revolving Loan Fund	RIIB / Local	TBD
Rebuild Rhode Island Tax Credits	Commerce	Mill Renovations and Redevelopment / Farm Fresh
RIDOT Stormwater	State	Stormwater Management and Bike Infrastructure
Rhode Island Green Economy Bond	State	Bay and Watershed Restoration, Bike Grants, Brownfield Grants
Southeast New England Estuary Program (Federal / EPA)	Federal	Stormwater infrastructure
National Fish and Wildlife Foundation & NRCS Conservation Grants	Federal	Green infrastructure demonstration

Woonasquatucket Vision Plan - Project Area

Resilient Rhody: Municipal Resilience Program

3. Develop Pipelines of Local Resilience Projects

- Partnership between Rhode Island Infrastructure Bank and The Nature Conservancy
- The MRP is open to all 39 municipalities in Rhode Island
- Provides technical assistance to complete the “Community Resilience Building” process to identify projects
- Action grant funding is available to implement priority projects

Resilient Rhody: Municipal Resilience Program

- MRP is building a project pipeline and accelerating implementation
  - 2019 Cohort: Identified 48 Projects totaling ~$14mm
  - 2019 Cohort: $1mm in Action Grants allocated from Rhode Island Infrastructure Bank

2019 MRP Action Grants		
Municipality	**Project Type**	**Action Grant Award**
Barrington	Coastal restoration and green stormwater infrastructure projects	$201,000
Portsmouth	Dam rehabilitation and green stormwater infrastructure for flood mitigation and water quality benefit	$339,000
Warren	Green stormwater infrastructure at public access points	$156,000
Westerly	Flood protection at wastewater treatment facility pump station	$304,000
		$1,000,000

Stormwater and Resilience Project Accelerator

4. Enable flexible Local Funding for Resilient Infrastructures

- Accelerate implementation of stormwater projects through low-cost upfront capital
- Backed by a funding source that will eventually reimburse the project
- First projects completed in fall 2019
- Pipeline of ~$3M in projects over next 9 months

www.climatechange.ri.gov

Shaun O'Rourke

Director of Stormwater and Resilience, Rhode Island Infrastructure Bank
Chief Resilience Officer, State of Rhode Island

sorourke@riib.org @shaun_orourke

MARC

MID-AMERICA REGIONAL COUNCIL

CLIMATE ACTION KC

COLLABORATING ON CLIMATE RESILIENCE IN THE KANSAS CITY REGION

10/2020

SSF Webinar

A case for regionalism

Creative collaboration

Middle-in leadership

Scaling

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MindMixer

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PRINCIPLES

1. Resilience is intrinsically a **triple bottom-line** concept, with an unblinking social equity lens and a focus on public health.
2. Resilience builds from **existing successes**.
3. Complex linkages among sectors and disciplines require an **integrated**, **systems-based**, **collaborative** approach.
4. Leadership comes from the **top-down**, **bottom-up** and **middle-in**.
5. Mitigation, adaptation and resilience go hand-in-hand.
6. Institutional **solutions** must match the scale of the **problem**.
7. **Do no harm**.

Key Planning Directions

- Green infrastructure
- Building energy hub
- Resilience web
- Local food production
- 15-minute neighborhood
- Multi-modal transport/compact growth
- Renewable energy investment

THOUGHTS ON THE ROLE OF STATES

- Equity first
- Leadership and vertical alignment
- Meaningful collaboration
- Scaling up

A FEW MORE THOUGHTS ON COLLABORATION

- Where does leadership reside?
- Think like a partner
- Social equity: environmental justice is basic civil rights
- Inclusion

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FRAMEWORK CHECKLIST: STATE CLIMATE RESILIENCE ACTIONS

This checklist provides state government leaders and stakeholders with a quick way to self-assess their progress on developing and implementing an approach to strengthening climate resilience.

The checklist uses the framework for state resilience (rows 1-14) and the recommendations for developing a state-local climate resilience financial system (rows 15-24) that are contained in "How State Governments Can Help Communities Invest in Climate Resilience."

For each row, check whichever column best describes the state's current situation.

A completed checklist will suggest areas that need strengthening to further state resilience and can be compared annually to gauge progress.

DOES THE STATE...	No and no plan to do this	State is planning to do this	State is starting to implement this statewide	State is well down the road of imple-menting this statewide	Don't know
1 Have an interdepartmental body to coordinate climate resilience action	○	○	○	○	○
2 Have principles or other guidance for state investment in resilience building	○	○	○	○	○
3 Have a state climate resilience plan	○	○	○	○	○
4 Have resilience standards for state infrastructure	○	○	○	○	○
5 Have resilience standards for new buildings in the state	○	○	○	○	○
6 Have resilience policies for utilities (e.g. water, electric)	○	○	○	○	○
7 Have an insurance commission with climate-risk policies for the insurance sector	○	○	○	○	○
8 Dedicate specific revenues/funds for use in climate resilience strengthening	○	○	○	○	○
9 Generate additional revenue exclusively for resilience building	○	○	○	○	○
10 Have criteria for investing state funds equitably in climate resilience	○	○	○	○	○
11 Have research, funding, outreach, or other resilience-building partnerships with universities, nonprofits or networks	○	○	○	○	○

DOES THE STATE...	No and no plan to do this	State is planning to do this	State is starting to implement this statewide	State is well down the road of imple-menting this statewide	Don't know
12 Have an agenda for federal policies/programs to support state and local resilience building	○	○	○	○	○
13 Include resilience building in the state's all hazard mitigation plan	○	○	○	○	○
14 Provide ways for local governments to address regional and metropolitan resilience challenges and opportunities	○	○	○	○	○
15 Provide local governments with climate data and risk analysis	○	○	○	○	○
16 Provide local governments with technical guidance and assistance for developing climate resilience plans	○	○	○	○	○
17 Provide local governments with communications assets/support for building public commitment to resilience	○	○	○	○	○
18 Provide local governments with support in developing local "ready to go" projects for resilience building	○	○	○	○	○
19 Provide local governments with authority to generate and spend local funds for resilience	○	○	○	○	○
20 Provide local governments with ways to leverage private investments for local resilience development	○	○	○	○	○
21 Have funds that can be used to buy out at-risk properties	○	○	○	○	○
22 Provide real estate developers or owners with incentives to strengthen property resilience	○	○	○	○	○
23 Have building codes that require strengthened resilience of properties and buildings	○	○	○	○	○
24 Have an infrastructure bank whose funds can be used for resilience strengthening	○	○	○	○	○

How State Governments Can Help Communities Invest in Climate Resilience: ow.ly/a67a50BOPmh

States can lay the foundation of a comprehensive and long-term system for climate-resilience investment by undertaking 6 recommended actions.

Each of the recommendations below for state government action could be enacted separately, but when advanced together they lay the foundation for a systemic approach to the challenge of paying for local climate resilience.

1 PROVIDE BASIC SERVICES AND TOOLS FOR LOCAL RESILIENCE STRENGTHENING.

State governments should provide local governments with the services—climate data and risk analysis, technical guidance and assistance, and communications assets for resilience—that are key to building local resilience capacities.

2 INCREASE THE STATE'S FINANCIAL RESOURCES FOR RESILIENCE INVESTMENT.

State government should use various ways of raising revenue for resilience building—tailored to their political situations, fiscal conditions, and legal constraints. Some states are raising resilience funds by bonding against future tax revenue and/or tapping money generated by carbon-pricing markets. Other methods under consideration include surcharges on property insurance.

3 SUPPORT DEVELOPMENT OF LOCAL PIPELINES OF "READY TO GO" PROJECTS FOR CLIMATE RESILIENCE.

State governments should provide resources—expertise and funding—that enable local governments, private sector developers, community organizations, and nonprofit organizations to design numerous resilience projects and get them ready for full-scale implementation and funding.

4 ENABLE LOCAL FUNDING FOR IMPLEMENTING PUBLIC INFRASTRUCTURE PROJECTS.

State governments should provide local governments with an array of tools—an enabling environment—for obtaining and attracting financial resources they need to cover significant costs of retrofitting and building climate resilient infrastructures. These include state grant and loan programs, increased local authority to raise revenue, and state-authorized local financial entities.

5 LEVERAGE PRIVATE INVESTMENT IN LOCAL RESILIENCE DEVELOPMENT.

State governments should stimulate substantial private investment in resilience building for private purposes such as protecting private land, utilities, buildings, and businesses—and this can contribute significantly to a local community's overall resilience. States can use incentives and regulations to accelerate and expand private investment for resilience building in key economic sectors—real estate, insurance, energy, and finance, for example.

6 PUSH TO EXPAND AND INCREASE FLEXIBILITY OF FEDERAL FUNDING FOR PRE-DISASTER LOCAL RESILIENCE.

State governments should press the federal government to more rapidly increase the amount of funding available for resilience building. They can leverage resilience-funding allocations that have been made in several federal funding streams—at the Federal Emergency Management Agency and the Department of Housing and Urban Development—and promote increased and more flexible funding for resilience-relevant traditional federal funds for water, transportation, other infrastructure, and environmental protection.

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