

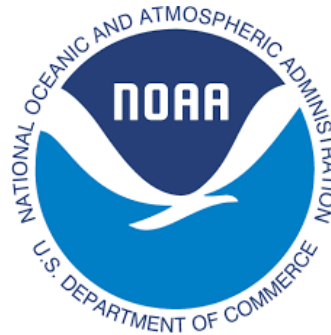
**Tools to be Equipped for Change:
from Raising Awareness to
Adaptation Practices**

Beaches Conference 2017



Gulf of Maine Research Institute

Science. Education. Community.



Agenda for the Day

Part I: Welcome and Introductions (20 minutes)

Part II: Prepare for our future: evaluate risks (45 minutes)

- Current and future coastal issues
- C-RISE: How is this issue impacting your community?

Part III: Adapting to our future: options (1 hour with working lunch)

- Maine Adaptation Toolkit & the Flood Resilience Checklist
- Break Out: take action on resiliency in groups, use the Maine AT & FRC to identify adaptation responses

Part IV: Discussion and Feedback (25 minutes)

- Report back use of C-RISE, Maine AT, and FRC
- Wrap

Tools

Community Resilience Informed by Science Experience (C-RISE)

Gayle Bowness, Gulf of Maine Research Institute

Flood Resilience Checklist

Abbie Sherwin, NOAA Coastal Management Fellow, Maine Coastal Program

Maine Adaptation Toolkit

Nathan Robbins, Maine Department of Environmental Protection

Goals

- ✓ Raise awareness of climate change issues
- ✓ Inform and make available resources to use
- ✓ Co-develop and train on the use of resources

Specific Objectives

- Raise awareness of Sea Level Rise risks to Maine communities
- Ability to use tools to apply to different scenarios
- Raise Awareness of GMRI's C-RISE programming, of the Flood Resilience Checklist, and of the Maine Adaptation Toolkit

Thank you in advance!

Gayle Bowness, Gulf of Maine Research Institute

Abbie Sherwin, NOAA Coastal Management Fellow, Maine Coastal Program

Nathan Robbins, Maine Department of Environmental Protection

Part II: Prepare for our future: evaluate risks...

Community Resilience Informed by Science Experience (C-RISE)

Gayle Bowness, Gulf of Maine Research Institute

Community Resilience Informed by Science and Experience C-RISE

Learning Outcomes:

Participants understand:

- how sea level rise, storm surge, and increased precipitation will impact them personally or indirectly.
- the need to make decisions in the face of uncertainty.
- the importance of using data and modeling to inform decisions.

Goal:

To engage 1,000 citizens in C-RISE by September 2018.

Introduction to Sea Level Rise



Explore Sea Level Rise Scenario Maps



Explore Compounding Impacts of Sea Level Rise, Storm Surge, and Heavy Rain



Explore Sea Level Rise Impacts on Community Resources of Personal Value



Examine Case Studies of Sea Level Rise Resiliency Globally, Nationally, and Regionally

[Home](#) » [Events](#) » [Event Series](#) » [Preparing Coastal Communities for Sea Level Rise](#)

Preparing Coastal Communities for Sea Level Rise



The impacts of climate change are becoming increasingly visible in our state and across the nation. You've probably noticed more frequent news coverage of intense storms, unusual temperatures, ocean warming, and coastal flooding.

As these issues become more prevalent in our daily lives, it's becoming more important to understand the impacts of these events — today and in the future. Ensuring the region's resiliency to climate impacts, such as sea level rise, requires a scientifically informed and engaged public. Here's your chance to join that group of engaged individuals in your community!

Join us for a 90 minute interactive learning experience to explore the data behind sea level rise.

Together, we'll explore models projecting impacts in your community, and we'll examine potential resiliency measures.

The space for this program is limited, so please register online to reserve your spot.

Series Events

AUG
3

[Preparing for Sea Level Rise](#)

[Sea Level Rise](#)

AUG
29

[Preparing for Sea Level Rise](#)

[Sea Level Rise](#)

SEP
28

[Preparing for Sea Level Rise](#)

[Sea Level Rise](#)

OCT
25

[Preparing for Sea Level Rise](#)

[Sea Level Rise](#)

NOV
7


[Preparing for Sea Level Rise](#)

[Sea Level Rise](#)

[All Events](#) 

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Part III: Adapting to our future: options...

Maine Adaptation Toolkit

Nathan Robbins, Maine Department of Environmental Protection

Flood Resilience Checklist

*Abbie Sherwin, NOAA Coastal Management Fellow, Maine
Coastal Program*



Maine Adaptation Toolkit

Nathan P. Robbins
Sustainability Specialist
Sustainability Division

MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION

Protecting Maine's Air, Land and Water

Maine Adaptation Toolkit

- Who?** [Those gaining an understanding](#) of the issues
[Those applying knowledge](#) of the issue and translating it into action
- What?** [Online reference library](#) of Maine-focused resources for climate adaptation and resilience actions
- Why?** [Learn](#) about Maine's changing climate
[Access information](#) to help integrate best practices into communities, homes, or places of work

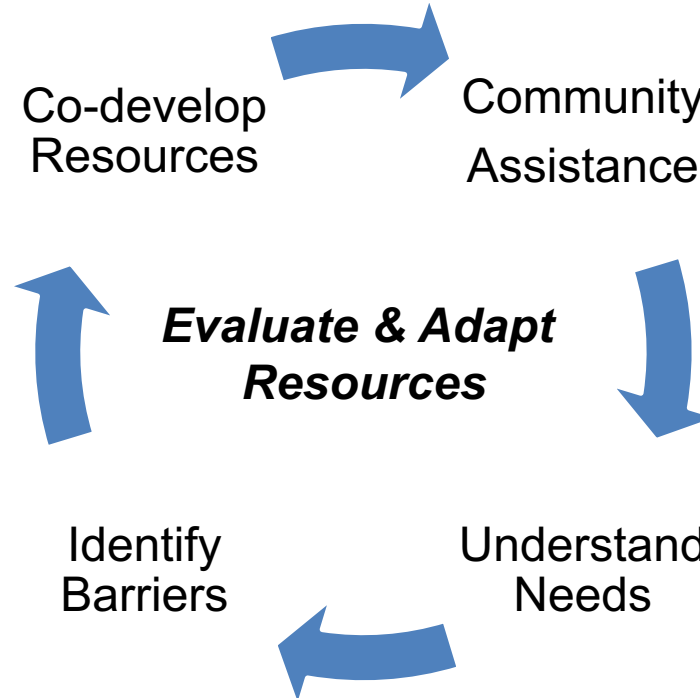
Goals

- ✓ Access and understand community resilience needs
- ✓ Leverage local, state, and federal climate related resources (projects, tools, data, etc.)
- ✓ Bring resources to Maine communities to aid their efforts

Uses

- ✓ Climate change adaptation is a continual process:
 - short-term by project
 - long-term through planning

Development Process



How?

Engagement with toolkit users to ensure they are getting the key information they need

Continually improve the utility of the Adaptation Toolkit by updating the guidance materials through user input

Orientation

Adaptation Toolkit

The Maine Climate Change Adaptation Toolkit aids climate adaptation efforts by providing a centralized source to go to for the information you might need for designing and implementing resiliency practices, as well as information on important regulations and standards to integrate into your project or planning process, and opportunities to connect with state and other engaged practitioners for technical expertise.

The Toolkit will continue to be developed in coordination with the [Environmental and Energy Resources Working Group](#) with input from user groups, to enhance consideration of climate-related factors that may affect our communities, and to provide integrated best practices for design and the implementation of climate resilience activities.

Climate change adaptation is a continual process that can be done in the short-term, by project, and in the long-term, through planning.

Navigate the Toolkit

Click the audiences below to browse through a selected list of tools. From the audience pages, click on one of the subjects at the top of each page to scroll down to the related tools and information for that subject. Or, browse all tools at once in the A-Z Library.

Select the Weather and Climate link to connect with Information on local weather, climate change, current indicators and future projects for the climate, and tools to help visualize and understand climate hazards and their associated risks.

Information For

- Business** Private Forester, Fishermen, Farmer, Utility, Developer, Grocer, Educator / Academic
- Consultant** Land Manager, Natural Resource Manager, Environmental Services or Energy Consultant
- Homeowner** Homeowner, Renter, Landowner, Community Member, Volunteer
- Public Official** Planners, Municipal Departments, Emergency Services, Government Council and Commissions

Activities & Resources

- [Weather and Climate](#)
- [Current Activities](#)
- [A - Z Listing](#)

Climate Change Partners

- [Agriculture, Conservation and Forestry](#)
- [Environmental Protection](#)
- [Inland Fisheries and Wildlife](#)
- [Marine Resources](#)
- [Transportation](#)
- [Governor's Energy Office](#)

A closer look

Audiences

- Business
- Consultant
- Homeowner
- Public Official

> Natural Environment

- Ocean & Coastal
- Fisheries
- Forest, Agriculture, Land Management
- Vulnerable and Priority Species
- Water Resources

Categories

> Built Environment

- Greenhouse Gases
- Energy
- Transportation and Infrastructure
- Water Quality
- Hazard Mitigation and Emergency Response

Topics of Interest

Climate and Weather

- Temperature & Precipitation
- Climate Hazard Risk Assessment

Current Activities / Partners

- State Agency Contacts

A-Z List

- All Resources

Adaptation Toolkit

[http://www.maine.gov/dep/sustainability/climate/
adaptation-toolkit/index.html](http://www.maine.gov/dep/sustainability/climate/adaptation-toolkit/index.html)

Survey

<https://www.surveymonkey.com/r/AdaptationToolkit>





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www.maine.gov/dep

Maine Flood Resilience Checklist

Maine Flood Resilience Checklist

Who? Communities wanting to understand vulnerabilities to flood hazards and sea level rise

Communities interested in building flood resilience

What? Integrated framework for examining local flood risk, assessing vulnerability, and identifying strategies for increasing resilience

Why? Prepare for increasing flood hazards

Build resilience and reduce vulnerability to protect people, places, and nature

Move beyond the theory of resiliency toward operationalization of the practice of resilience

Maine Flood Resilience Checklist

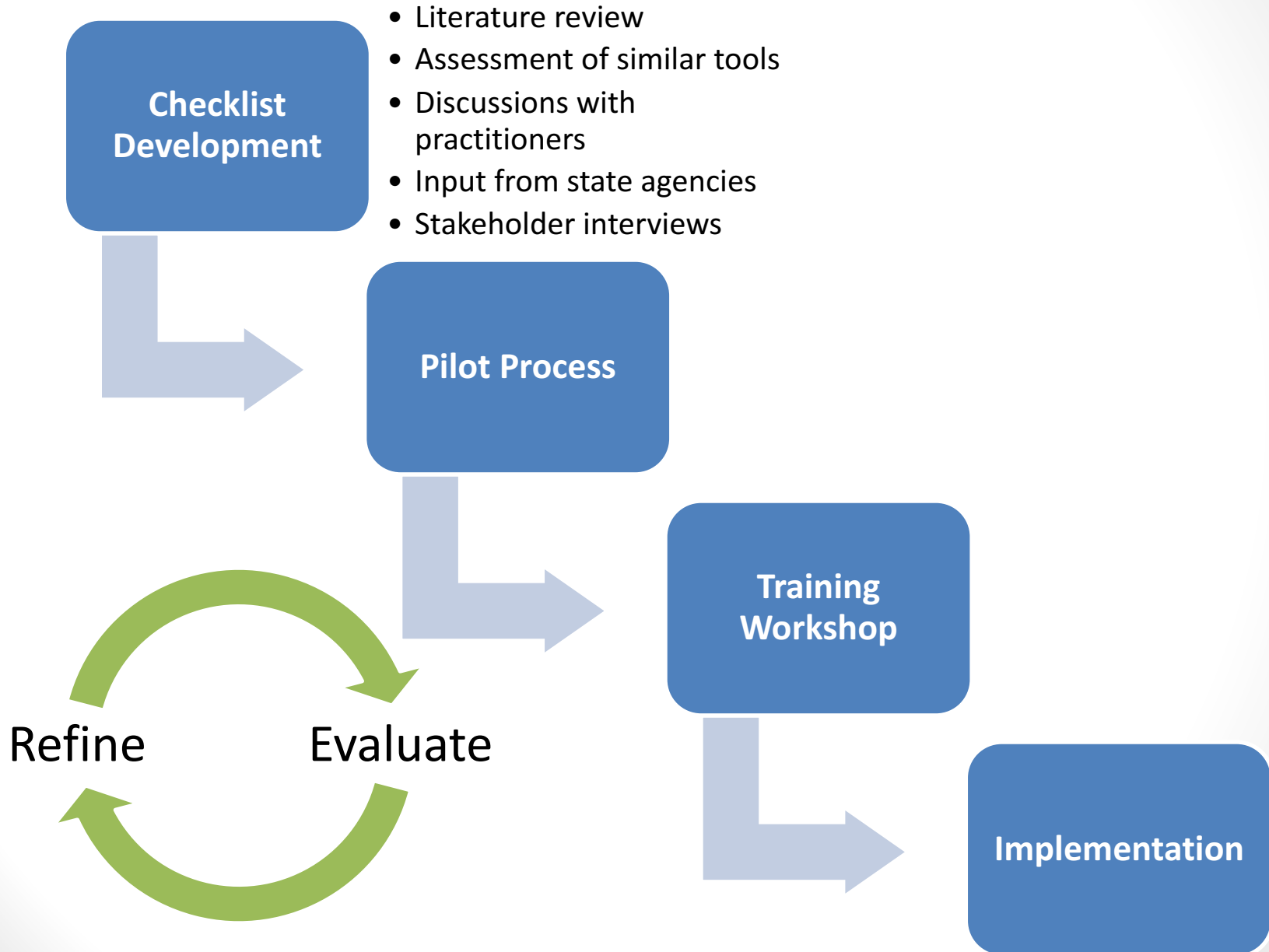


A self-assessment tool for Maine's coastal communities to evaluate their vulnerability to flood hazards and increase resilience.



Version 1, May 2017

Development Process



Orientation

Checklist Categories

1. Risk & Vulnerability



2. Critical Infrastructure & Facilities



3. Community Planning



4. Social & Economic Vulnerability






5. Natural Environment



Community Planning		Yes	No	N/A	
1	Does your community have a shared vision of 'community resilience'?				
2	Does your community have plans that address the following?				
	• Coastal hazards				
	○ Coastal and nuisance flooding				
	○ Storm surge				
	○ Sea level rise				
	○ Coastal erosion and/or shoreline change				
3	Adaptation and mitigation strategies and actions addressing coastal hazards				
	Community resilience and specific strategies and actions to increase resilience				
	Open space preservation and management				
	Beach management				
	Floodplain management				
3	Does your community have the following personnel on staff or on retainer?				
	• Professional planner				
	• Code enforcement officer				
	• Certified Floodplain Manager (CFM®)				
	• Building inspector				
	• Engineer				
4	Public works director				
	Does your community's floodplain ordinance exceed minimum State standards?				
5	Does your community's floodplain ordinance apply to flood hazard areas that extend beyond, horizontally and/or vertically, those identified as the Special Flood Hazard Area (SFHA) or 100-year floodplain depicted on your community's Flood Insurance Rate Map (FIRM) (e.g., does it apply to existing <i>and</i> potential future flood hazard areas)?				
6	Do your community's Shoreland and municipal zoning ordinances and/or land use regulations limit development in areas subject to (a) existing and (b) potential future flood hazards?	<u>a</u>	<u>b</u>	<u>a</u>	<u>b</u>

Orientation: Link to CRS

23 	Does your community have a (a) flood warning plan and (b) system?	<u>a</u>	<u>b</u>	<u>a</u>	<u>b</u>	
24 	Does your community have an emergency communication system to use prior to, during, and after a storm event or natural disaster (e.g., reverse 911 call system for landlines, IPAWS for cell phones)?					
25 	Does your community have an emergency evacuation plan that identifies populations needing evacuation assistance and mechanisms for providing that assistance?					

Checklist Section and Question	CRS Credit				Max. Points			
	Activity	Element	Description					
Community Planning	21	610 Flood Warning and Response	610	This activity provides credit for a community that, at a minimum, has adopted a flood warning and response program that includes a flood threat recognition system; methods to warn the public of an impending flood; a plan for response operations; and coordination with critical facility operators.	395			
	23							
	24					612.b	Credit is provided for emergency warning alerts and messages that are disseminated to the public when a flood is imminent.	75
	25					612.c	This element credits a flood warning and response plan that identifies specific tasks to reduce or prevent threats to health, safety, and property from flooding.	115

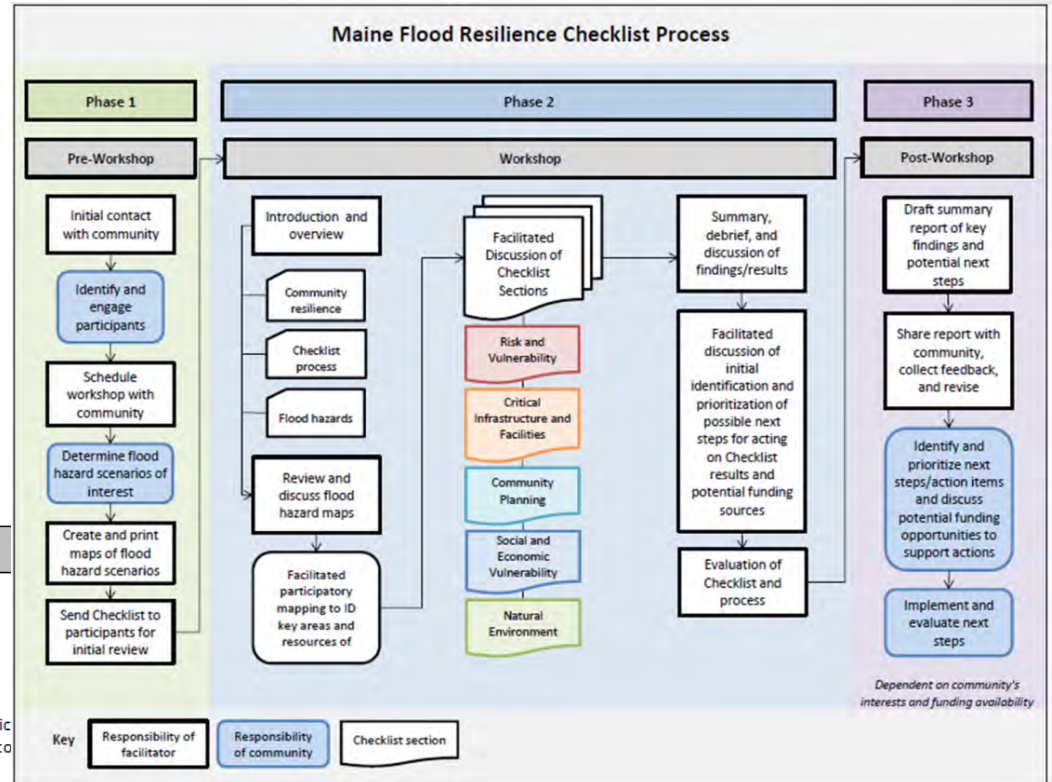
Orientation: Associated Materials

- Process diagrams
- Agenda templates
- Process agenda templates

Workshop #1

Total suggested time: 2.5 hours

Suggested Time	Task
35 min	<p>Introduction and overview</p> <ul style="list-style-type: none"> • Flood Resilience Checklist overview (15 min) <ul style="list-style-type: none"> ○ Description of Checklist and summary of its purpose ○ Overview of process for completing Checklist ○ Overview of pilot process • Community resilience (10 min) <ul style="list-style-type: none"> ○ Discussion of what 'community resilience' means to participants ○ Brief overview of what it is and how communities can incorporate resilience into planning, policies, and activities • Local flood hazards (10 min) <ul style="list-style-type: none"> ○ Discussion of past flooding in community, impacts, and efforts underway to address flooding
25 min	<p>Flood hazard maps</p> <ul style="list-style-type: none"> • Review and discuss flood hazard maps (10 min) • Participatory mapping exercise (15 min) <ul style="list-style-type: none"> ○ Identify areas and assets of interest that are vulnerable to flooding ○ Identify areas known to flood that are not mapped as such
60 min	<p>Facilitated discussion of Checklist</p> <ul style="list-style-type: none"> • Risk and Vulnerability (30 min) • Critical Infrastructure and Facilities (30 min)
30 min	<p>Debrief of findings, summary discussion, and wrap up</p> <ul style="list-style-type: none"> • Begin to identify data/information gaps and needs and potential actions items for increasing resiliency • Reminder of next workshop



Break Out Exercise

Guiding Questions

- What climate change related issues are my community facing?
- What is my community doing in response to these changes?
- What could my community be doing in response to these challenges?
- How can my community begin addressing climate issues through existing programs and planning activities?
- How can I get involved?
- What are the most relevant data sources to use when making a decision?
- What questions do we still have?
- Who is taking action on climate issues that I care about?
- What else might I consider if taking action on my issue?

Discussion and Feedback

What worked today for the workshop? What didn't work?

What worked well for the tools you used? What didn't work?

What would you like to see going forward for future workshops or outreach?

Review

Goals

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Thank you!

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