

WHAT IS COASTAL RESILIENCE?

PREPARE
AND ADAPT

+

REDUCE
IMPACTS

=

RESILIENCE

"Coastal resilience means building the ability of a community to "bounce back" after hazardous events such as hurricanes, coastal storms, and flooding – rather than simply reacting to impacts" (NOAA).

RESOURCES

Town of Nantucket:
Coastal Resilience Planning
www.ResilientACK.org

Town of Nantucket:
Resilient Nantucket: 2020 MVP Grant
www.nantucket-ma.gov/2020MVPgrant

Protecting Homes (FEMA)
www.fema.gov/protecting-homes

Sea Level Rise (Mass. Coastal Zone Mgmt. Office)
<https://archives.lib.state.ma.us/handle/2452/264132>

MA Coastal Homeowners Preparedness Handbook
www.mass.gov/doc/homeowners-handbook-to-prepare-for-coastal-hazards/download

The Coastal Resilience Advisory Committee (CRAC) is composed of community members appointed by the Nantucket Select Board to plan, advise, and educate on coastal resiliency issues.

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IMPROVING COASTAL RESILIENCE AT HOME

A Nantucket Guide

for minimizing water damage to your property.

COASTAL
RESILIENCE
ADVISORY
COMMITTEE

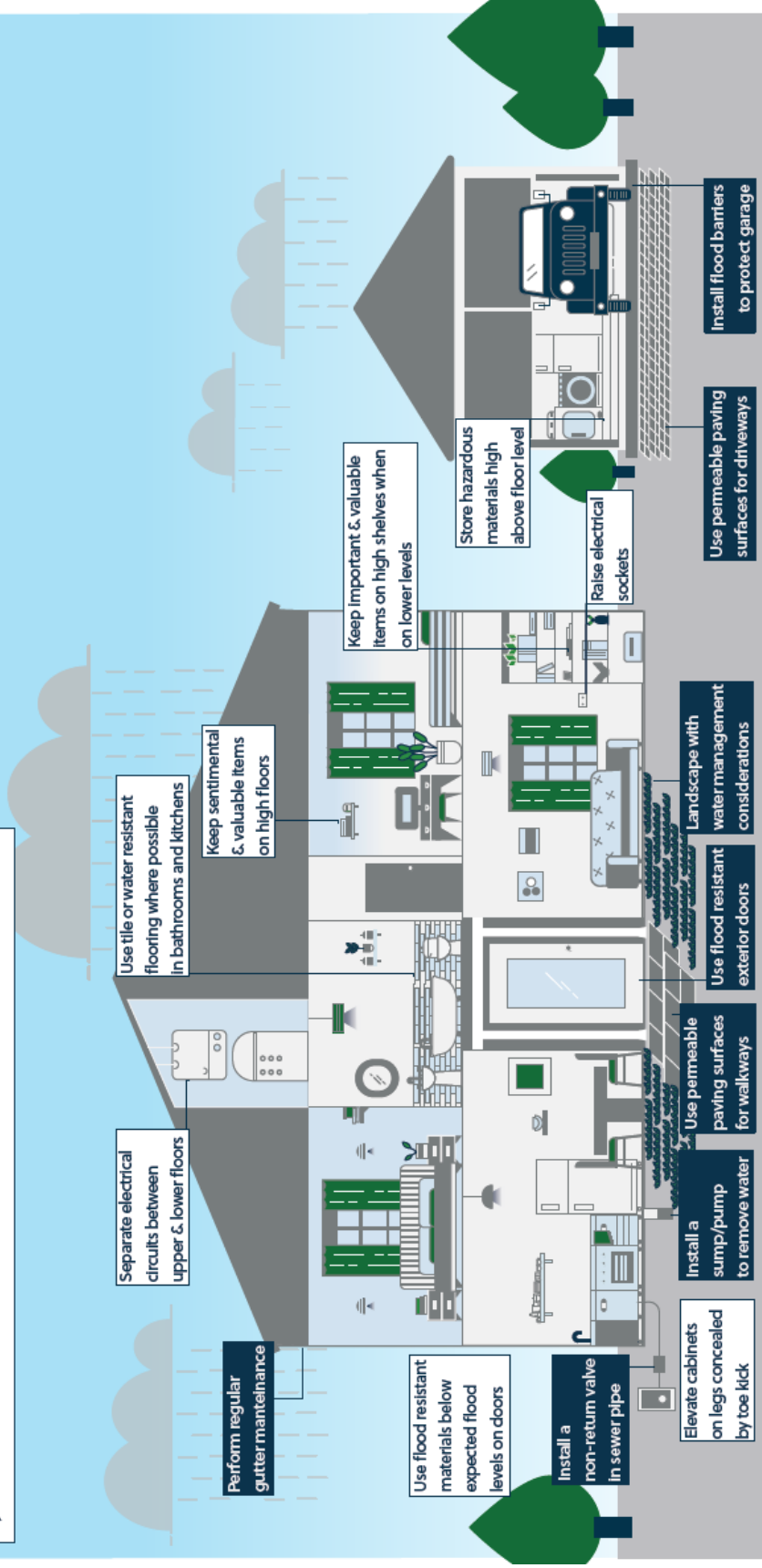
www.nantucket-ma.gov

The Resilience Cycle

PROTECT YOUR HOME FROM DAMAGE DUE TO FLOODING AND SEA LEVEL RISE

The Nantucket Coastal Resilience Advisory Committee recommends a two-step approach to preparing for flood damage and sea level rise:

- 1) RESISTANCE MEASURES TO KEEP WATER OUT;
- 2) RESILIENCE MEASURES TO PROTECT YOUR HOME AND ITS CONTENTS.



**GOT
FLOOD?**
www.floodsmart.gov

KNOW THE RISKS AND PROTECT YOUR HOME

www.resilientack.org

**COASTAL
RESILIENCE
ADVISORY
COMMITTEE**

Meeting in a Box. Full PDF or PowerPoint Presentation available on request

vmurphy@nantucket-ma.gov



What is a self-guided meeting?

The **Nantucket Coastal Resilience Plan (CRP)** is an important step in the process of creating a resilient Nantucket for future generations. This self-guided meeting toolkit provides information that you can use to **have a conversation about the CRP** and what it can achieve with your friends, family, neighbors, and colleagues. To conduct the meeting, please review these slides with your group and respond to the discussion prompts at the end.

The notes from your discussion can be submitted by completing [this form](#).

The feedback from this conversation will be recorded and incorporated into the planning process by the project team. We greatly appreciate your time in holding this meeting!

Visit the [project website](#) for more information

Any questions? Send an email to Nantucket.CRP@arcadis.com

How to organize your virtual meeting

1. Identify a group or community of individuals you want to convene a meeting with
2. Schedule an online meeting for the desired date and time on a web conferencing platform such as Zoom, Webex, Microsoft Teams, Google Hangouts, etc.
3. Send invites to desired attendees via e-mail with the date, time, and web conference link for the meeting
4. Consider sending a reminder e-mail a few days in advance
5. Task 1 or more people with presenting the main content as well as facilitating and leading group discussion around the discussion questions at the end of this slide show
6. Record any questions and feedback on discussion questions [here](#)

During the meeting, make sure to acknowledge everyone's voice and time. If you find yourself speaking frequently, consider opening the floor to your group members. Everyone has important perspectives to share!

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Suggested agenda for 1-Hour meeting

- **Welcome and Introductions** (5 -10 minutes)
 - Consider asking people to share how they experience Nantucket (e.g., year-round resident, seasonal resident, visitor, etc.)
- **Overview of the Self-Guided Meeting Structure** (5 minutes)
- **Presentation of the Coastal Resilience Plan** (20 minutes)
 - What is the CRP?
 - What are the coastal risks facing Nantucket?
 - What do we mean when we say resilience?
 - How will the CRP help Nantucket become more resilient?
 - How will the project team continue to work with you?
- **Discussion** (25 minutes)
 - See discussion slides



Have fun!

Don't be afraid to put your own spin on the meeting!

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This presentation helps answer:

- What is the **Coastal Resilience Plan**?
- What are the **risks** facing Nantucket?
- What do we mean when we say **resilience**?
- How will the plan help **Nantucket become more resilient**?
- How will the project team continue to **work with you**?

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The Project Mission Statement



The **Coastal Resilience Plan** draws on the cherished built and natural heritage of Nantucket to create a community-supported roadmap to implementation for a series of layered flood control and adaptation approaches that lessen the loss from storm surges and help the community adapt to rising seas and eroding coastlines. In coordination with other ongoing adaptation and sustainability initiatives, the plan addresses the whole island and county while respecting the unique characteristics of each neighborhood. Driven by the inclusive and equitable engagement of all, the plan aspires to create social, environmental, and economic benefits and value to everyone who will share in Nantucket's future.

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What is the CRP?

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The goal of the CRP is to develop a comprehensive plan for the **whole island** that addresses



Coastal Erosion



Sea Level Rise

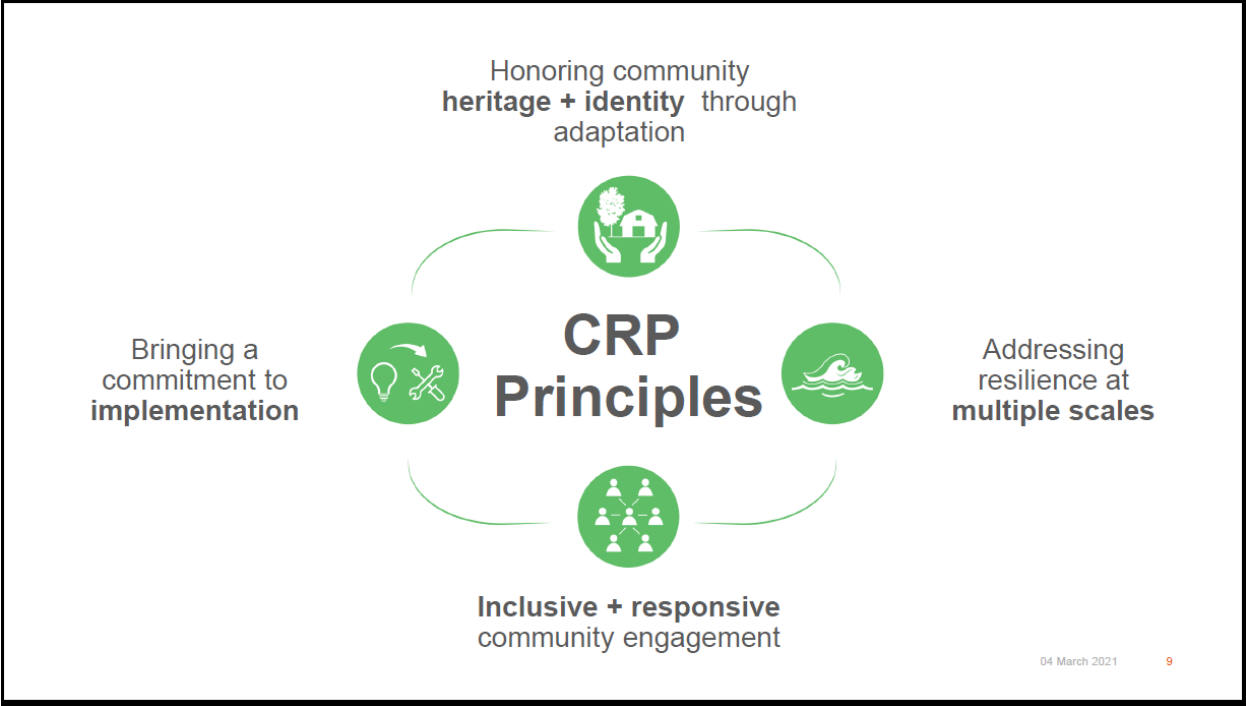


Coastal Flooding

The process will include identifying important community assets, assessing vulnerability to future flooding along the coast, identifying actions to reduce flood and erosion risk, evaluating these options, and developing resilience and adaptation responses that are prioritized and ready to begin the process of implementation by the Town and other community members.

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Working in close collaboration with the Town and the Coastal Resilience Advisory Committee, **the project team** of engineers, architects, landscape architects, ecologists, and planners brings years of experience in resilience throughout New England and around the world.

COASTAL RESILIENCE ADVISORY COMMITTEE



  **one architecture**

THE CRAIG GROUP
Your partners in preservation, planning and policy

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The CRP builds on a significant amount of **planning for resilience** in Nantucket that has already occurred in recent years. Several studies are running in parallel to the CRP, namely Resilient Nantucket and Envision Resilience Nantucket. The CRP team is working closely with these partners.



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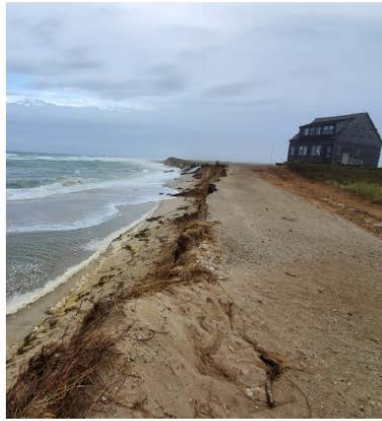
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Coastal storms are increasing in frequency and intensity, bringing the impacts of storm surge to our front doors.



Coastal erosion of our bluffs, dunes, and beaches continues to rapidly progress, threatening our homes, infrastructure, and natural resources.



Sea level rise is exacerbating island-wide coastal/high-tide flooding and erosion over time.

(Images by Vincent Murphy)

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Coastal risk is not new to Nantucket

- Low-lying areas such as **Downtown, Brant Point, Madaket, and Polpis Harbor** have historically experienced repeated flooding during high tide
- Storm surges **due to coastal storms such as nor'easters, tropical storms, and hurricanes** have also affected these and other areas
- In recent memory, **Winter Storm Riley and Grayson** caused widespread flooding and erosion, damaging buildings, inundating roads and natural resources



Deployable Flood Barriers on Oak Street (Image: Vincent Murphy)

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Nantucket **Present Day** 1% Annual Chance Storm (“100-Year” Storm)

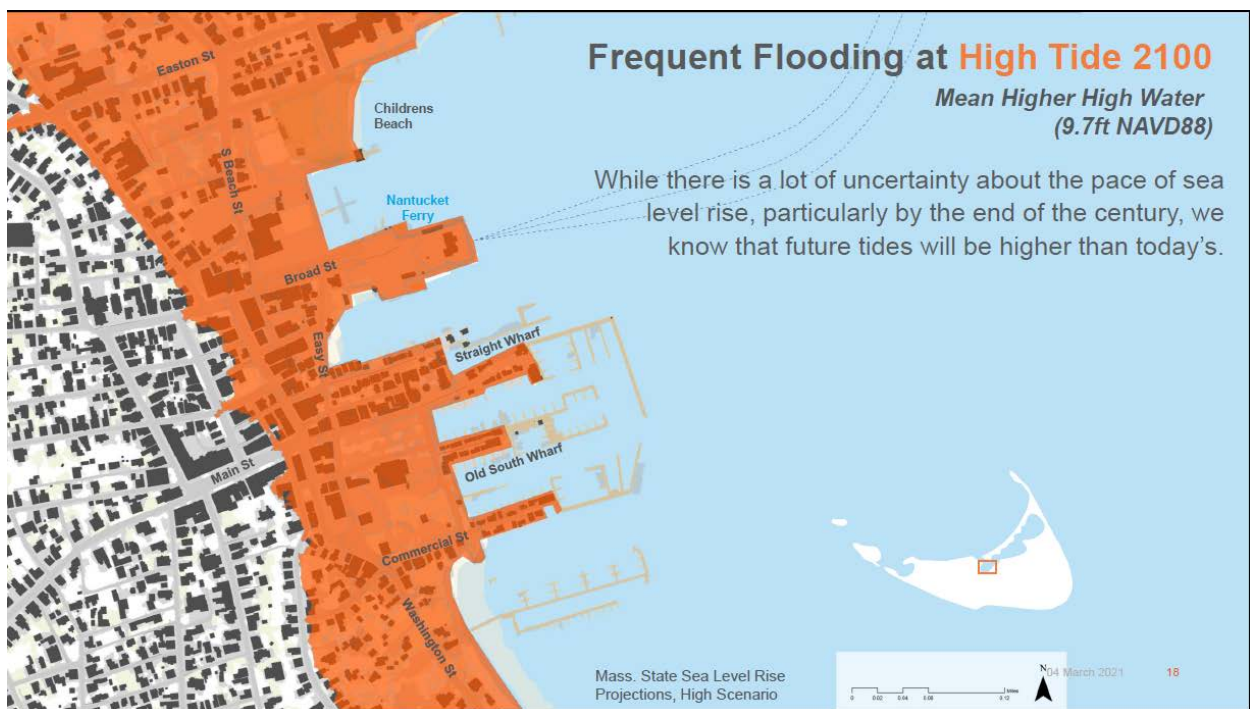
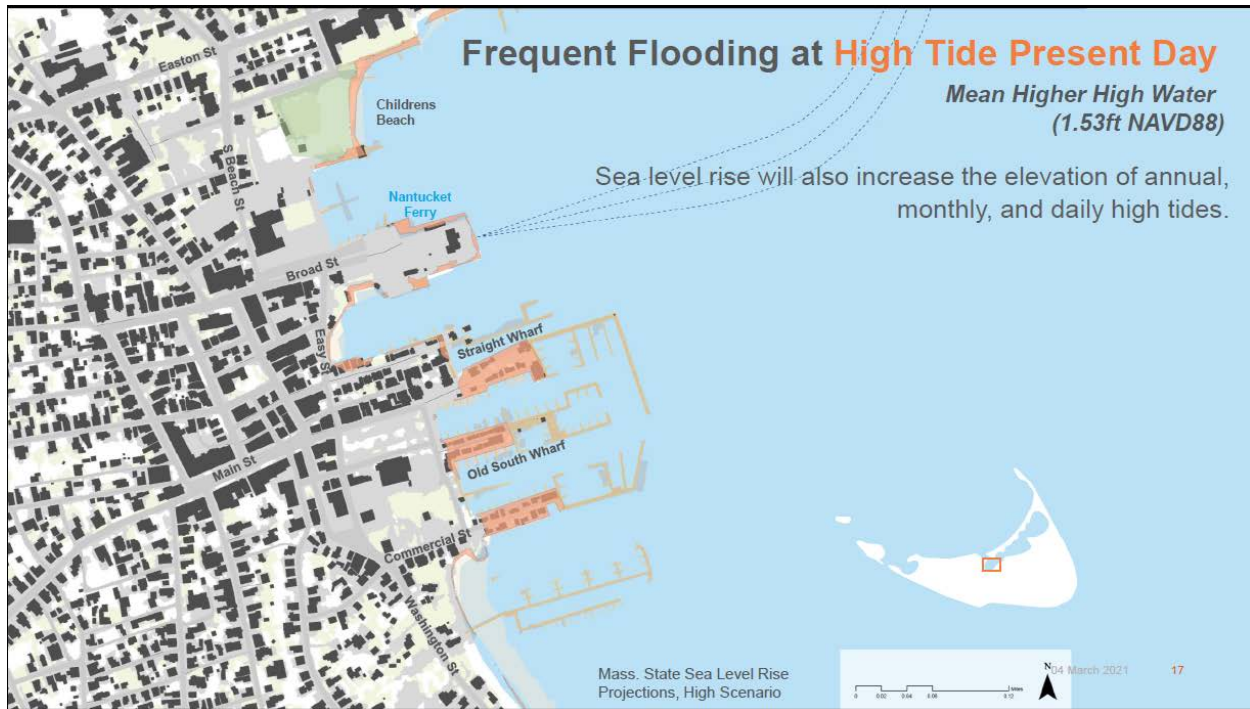
Through modeling and analysis, we can map expected areas where flooding from coastal storms may have impacts today and into the future. This helps us plan for these risks in the future.



Nantucket **2070** 1% Annual Chance Storm (“100-Year” Storm)

The projected risk of flooding from coastal storms is significant on Nantucket and increasing over time with sea level rise, affecting areas that have never experienced flooding from storms.





Erosion is exacerbated by, and in turn exacerbates, these risks

- The natural process of erosion poses a direct risk to buildings, infrastructure, and natural resources, especially during major storm events
- Rates of erosion and shoreline change are increasing over time due to sea level rise and the potential for more frequent and intense storms
- As a result, beaches, dunes, and bluffs are changing, affecting access to the beach and threatening existing buildings and infrastructure



Erosion monitoring from Smiths to Sheep Pond Road

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Why does this matter?



Living with water and evolving shorelines are part of what it means to spend time on Nantucket.



However, climate change is accelerating natural processes and causing storms and other events that we are not prepared for.

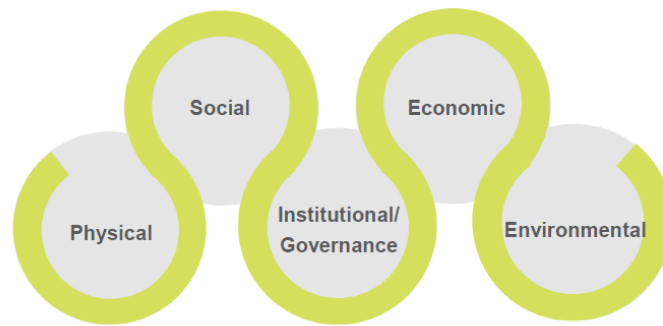


We must take urgent action to adapt Nantucket to climate change and ensure the island is safe and resilient for future generations.

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In a context where risk is increasing and evolving, our resilience is our ability to **change, adapt, and respond.**



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**How will the CRP help
Nantucket become
more resilient?**

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Creating a toolkit of potential coastal resilience infrastructure approaches



Levees / Berms / Buried Floodwalls



Shoreline Armoring and Stabilization



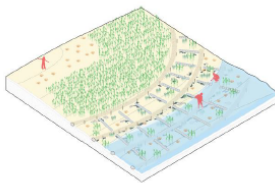
Elevated Streets and Protected Buildings



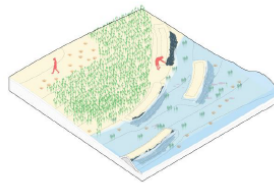
Breakwaters

These are just some example of things we may consider, not recommendations at this stage.

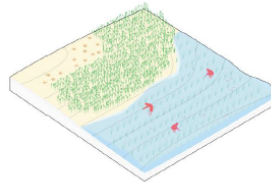
Exploring how Nantucket can build with nature to protect its unique environment and character



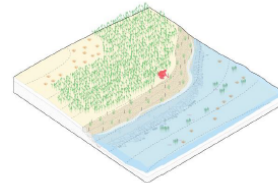
Living Shoreline



Living Breakwaters

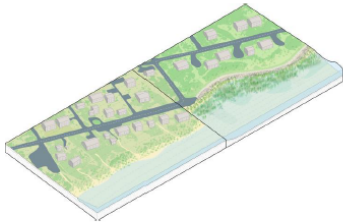


Eelgrass Restoration/
Wave Attenuation



Planted Erosion Control

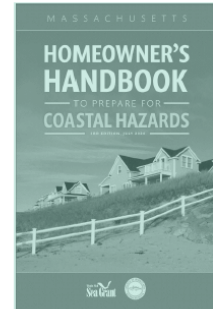
Creating new policies and tools, including for property owners and residents



New policies and regulations
(e.g., zoning, wetlands by-laws)



Improved coordination
across public and private
entities



Homeowner guidance and
education on how to build
resilience in households or
businesses

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Providing a detailed roadmap of prioritized steps Nantucket can take toward implementation



**Clear understanding of
coastal risks**



**A community
engaged in
conversations about
these risks and what
they can do about it
working together**



Evaluation of options for
increasing resilience,
adapting to a changing
climate, and enhancing
value

September 2021



**Roadmap of
prioritized
steps**
Nantucket can
take toward
implementation

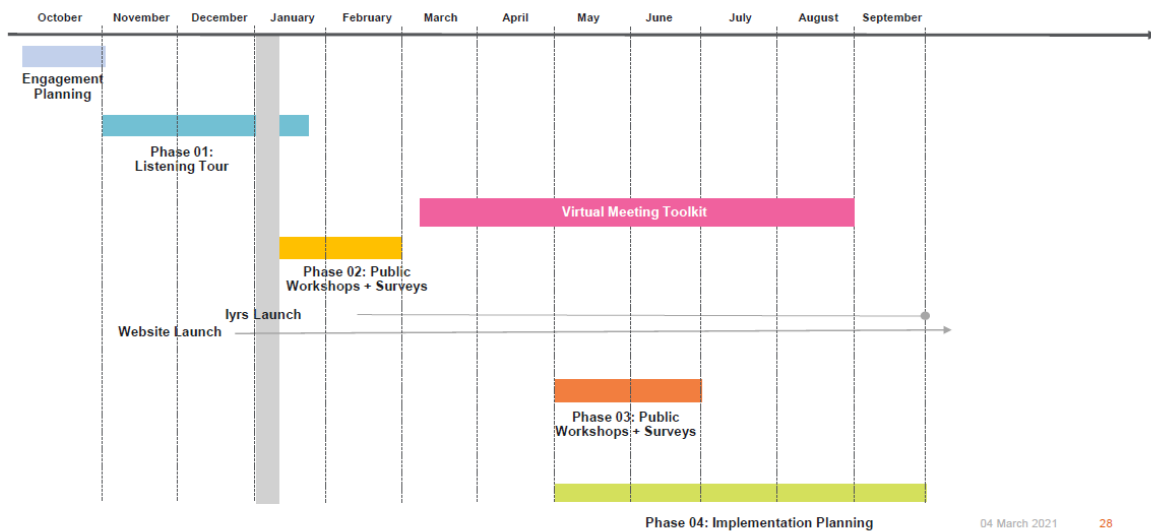
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How will the CRP team continue to work together with you?

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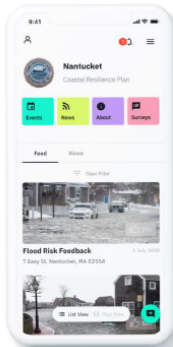
Engagement schedule



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Download the Irys App!



The Nantucket Coastal Resilience Plan Project Team is excited to announce the launch of the Irys App – a tool to help facilitate two-way engagement as we move forward with the development of the Coastal Resilience Plan.

Using the Irys App, you will be able to:

- **Provide Input:** Provide feedback throughout the development of the Nantucket Coastal Resilience Plan. Users can choose from providing input by location, providing input by category, and responding to survey questions.
- **Find Events:** Find opportunities to participate in future Nantucket Coastal Resilience Plan events!
- **View Project Updates:** Track project progress and view information about project developments.
- **Build Community:** Follow your feed! View community input and interact with other app users.

The Irys App is available for download now on iOS and Android devices.

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Storytelling activity

Nantucket is in the process of developing the island's first Coastal Resilience Plan, a plan for adapting to the risks of flooding, erosion, and sea level rise. Use this space to share a drawing, image, story, or anything else about a resilient Nantucket means to you and how you envision the future of Nantucket's coastline!

Be sure to share your card with us and on social media!

#ResilientNantucket
#ACKtogether



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Questions for discussion

Be sure to record notes from your discussion on [this form!](#)

4 March 2021

What **areas** concern you most as to flooding and erosion?

[Record your notes here](#)

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If you have experienced flooding and erosion, have you taken any **measures in response?**

[Record your notes here](#)

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What other issues do you see in your **neighborhood?**

[Record your notes here](#)

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What do you **value** most about living in Nantucket?

[Record your notes here](#)

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What **changes** do you want to see for yourself and future generations?

[Record your notes here](#)

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What are the most **important features** of the resilience or adaptation approaches the CRP might recommend?

- Effectiveness in reducing risk
- Can feasibly be constructed
- Is adaptable to future conditions
- Provides ecological and public health benefits
- Promotes equity and quality of life
- Creates value for the community
- Others?

[Record your notes here](#)

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