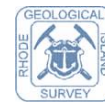


Tutorial:

Rapid Property Assessment & Coastal Exposure or Rapid PACE

www.beachsamp.org/relatedprojects/pace/



Rapid PACE

What is it?

- provides property-specific information about exposure to coastal hazards
- provides a comprehensive overview, enabling proactive decision making

Who is it for?

- *municipal officials* can request a summary report for a specific site
- *the public* can compile their own site-specific reports using the same information used to compile reports for municipal officials

What are some examples of the information available?

- sea level rise
- storm surge
- erosion
- marsh migration areas
- coastal water type
- jurisdiction (CRMC vs. DEM)
- location within various special management areas

Accessing Rapid PACE

RI Shoreline Change Special Area Management Plan



- Coastal Municipalities
- Coastal Businesses
- Coastal Residents
- Fact Sheets



Search

- Recent Posts
- URI Coastal Resilience Science and Engineering Workshop, Monday, December 4th, 8:30am – 5:45pm November 29, 2017
 - Comment on the BeachSAMP Chapters HERE October 16, 2017
 - October 12th, BeachSAMP Stakeholder Meeting October 12, 2017

1. Go to www.beachsamp.org
2. Open the [Related Projects](#) tab, then click [Coastal Municipalities](#)

Coastal Municipalities

Resources to Inform Adaptation Planning & Actions

Sea Level Affecting Marsh Migration (SLAMM)



Statewide maps illustrating how salt marshes may migrate as sea level changes.

[View the maps here.](#)

[View the final report here.](#)

Rapid Property Assessment and Coastal Exposure (Rapid PACE)



More frequent severe storms and sea level rise due to climate change require proactive responses from local decision makers. **Rapid Property Assessment and Coastal Exposure (Rapid PACE)** is a free screening tool available to municipal officials that provides a property-specific summary of exposure to coastal hazards typically within 48-hours of a request.

The report compiles existing information, some of which can assist in regulatory decisions while others support planning initiatives. The information helps municipal officials make informed decisions and safer, more resilient communities.

1. Scroll down, then click [Rapid Property Assessment and Coastal Exposure \(Rapid PACE\)](#)

Rapid PACE

Rapid Property Assessment and Coastal Exposure (Rapid PACE)

Preparedness and Decision Making for Coastal Residents in Rhode Island and Connecticut



More frequent intense storms and increasing sea levels require proactive planning and action for our communities to become more resilient. The Rapid Property Assessment and Coastal Exposure (Rapid PACE) [mapping tool](#) helps municipal officials and property owners view areas exposed to storms, erosion, and sea level rise; evacuation zones, salt marsh migration areas and areas of coastal and wetland jurisdiction are also mapped. **Municipal officials can request a free screening** for a property. Rapid PACE for **the general public hosts an interactive map**, an easy-to-use tool for identifying coastal flooding risk and possible impacts on your property and your community. The Rapid PACE uses existing, [publicly available sources of data](#) that can be [summarized for your property](#).

Interactive Maps



Data Sources



Sample Report



Municipal officials may [request a Rapid PACE Assessment](#) for a site-specific property to inform planning initiatives or regulatory decisions, and enhance efforts that support safer, more resilient communities.

1. Click [Mapping Tool](#) to view interactive, online maps
2. Click [Summarized for Your Property](#) for a sample Rapid PACE report
3. Click [Publicly Available Sources of Data](#) for a list of Rapid PACE's data sources

Sample Rapid PACE Report

RapidPACE

TABLE OF CONTENTS

ABOUT THIS REPORT.....	1
REPORT INFORMATION.....	1
SITE INFORMATION.....	3
Site Location.....	4
CRMC Jurisdiction.....	4
CRMC Special Area Management Plan (SAMP).....	4
CRMC Water Type.....	5
DEM Critical Resource Management Area (CRA).....	6
Coastal Freshwater Wetlands Jurisdiction.....	6
EXISTING RISKS.....	7
Erosion.....	7
FEMA Flood Zones.....	7
U.S. Fish & Wildlife Service Coastal Barrier Resource System (CBRS).....	8
Storm Surge -- 100 Year Storm w/ no Sea Level Rise.....	8
Hurricane Evacuation.....	9
FUTURE RISKS.....	10
Sea Level Rise and Storm Surge.....	10
Wetland Migration.....	12
COMMUNITY RISK.....	13
Vulnerable Roads and Bridges.....	13
DEFINITIONS.....	14
RESOURCES.....	15

RapidPACE

EXISTING RISKS

Erosion

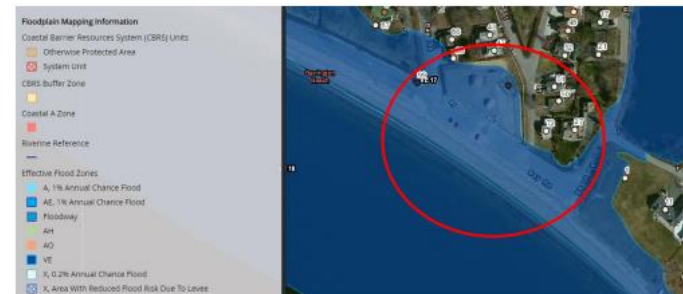
CRMC [Shoreline Erosion maps](#) show shoreline rates of change that are applied to the CRMC's regulatory program to establish construction setbacks from coastal features.

Shoreline erosion has not seriously impacted the site since record keeping began in 1939.

FEMA Flood Zones

[The Rhode Island Floodplain Mapping Tool](#) (RIEMA) is an online mapping resource that shows the regulatory flood zones developed for the FEMA National Flood Insurance Program and the RI State Building Code. This tool provides users with current flood risk for residences, businesses, or other structures statewide. While the tool is not intended for legal, engineering, or surveying purposes, it does provide users with an approximate FEMA flood zone determination relative to the flood hazard areas delineated on FEMA's FIRMs. The FEMA FIRM designations will determine construction requirements for new or substantially improved structures. See your local building official for more information.

The property lies within the VE18 FEMA flood zone. VE flood zones are described as "Coastal areas with a 1% or greater chance of flooding and an additional hazard associated with storm waves. These areas have a 26% chance of flooding over the life of a 30 year mortgage." (CRMC RI Coastal Property Guide)



Sample Rapid PACE Report

TABLE OF CONTENTS

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 - Vulnerable Roads and Bridges
- DEFINITIONS.....
- RESOURCES

RapidPACE

EXISTING RISKS

Erosion

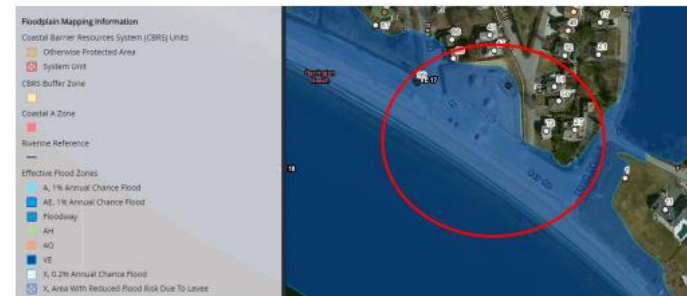
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Rapid PACE Data Sources Available

Provides links to:

- RIGIS - RI Geographical Information Systems
- CRMC
- RIDEM
- RIEMA
- etc

The screenshot displays the Rapid PACE website with the following content:

- Evacuation Areas**
 - Data and information for Evacuation Areas available from RIEMA
 - o <http://www.riema.ri.gov/resources/citizens/prepare/evacuation.php>
 - Data available for download from RIGIS
 - o <http://www.rigis.org/data/evacAreas>
- STORMTOOLS storm surge and sea level rise (1% Chance Annual Flood: 1% Flood + 7ft SLR; 3ft SLR)**
 - Sea level rise data and information available from STORMTOOLS
 - o <http://www.beachsamp.org/stormtools/>
 - o <http://www.beachsamp.org/stormtools/stormtools-interactive-maps/>
 - Downloadable data available from RIGIS
 - o <http://www.rigis.org/data/stormtools/>
 - o [http://www.rigis.org/data/stormtools\\$dlv](http://www.rigis.org/data/stormtools$dlv)
 - Sea level rise curves available from US Army C
 - o <http://corpselimate.us/caceslcurves.cfm>
- Sea Level Affecting Marsh Migration (SLAMM) 1ft:**
 - SLAMM information available from CRMC
 - o http://www.crmc.ri.gov/maps/maps_slam
 - Downloadable data available from RIGIS
 - o <http://www.rigis.org/data/SLAMM>
- Coastal Barriers**
 - Downloadable data available from RIGIS
 - o <http://www.rigis.org/datasets/coastal-bar>
 - Coastal Barrier online mapping tool available from <https://www.fws.gov/chra/maps/Mapper>
- Rapid PACE was developed by the URI Coastal Resources Center, in collaboration with the University of Connecticut (EDEN), which works on community preparedness through the Smith-Lever Special Needs Competitive Grants Program at the U.S. Department of Agriculture.**
- For more information, please visit the [Rapid PACE website](http://www.rapidpace.org) or contact the URI Coastal Resources Center (ccredit@uri.edu) with your questions.**
- Logos:** Coastal Resources Center (CRC), Sea Grant, URI, GSO, Rhode Island, UConn, College of Agriculture, U.S. Department of Agriculture, USDA, National Institute of Food and Agriculture.

Interactive Maps

Rapid Property Assessment and Coastal Exposure (Rapid PACE)

A story map   

In the Ocean State more frequent and severe storms, combined with accelerating sea level rise require informed responses by property owners and local decision makers.




- Intro
- SAMP
- Water Type
- CRA
- Wetlands
- Shoreline Change
- FEMA Flood
- Evacuation
- 3' SLR
- Storm (100-year)
- Storm + 7' SLR
- Marsh 1' SLR
- Marsh 3' SLR
- Marsh 5' SLR
- Coastal Barriers
- Helpful Resources

Rapid Property Assessment and Coastal Exposure (Rapid PACE) helps local officials and property owners view areas exposed to coastal hazards, such as storms and rising seas. Looking at current and future conditions enables more informed planning decisions, leading to safer and more resilient communities.

Find your home, proposed project or your favorite beach - will it experience impacts from sea level rise? Look at your local high school - is it in a hurricane evacuation zone?

Local officials [can request an evaluation and site report](#) using Rapid PACE information.

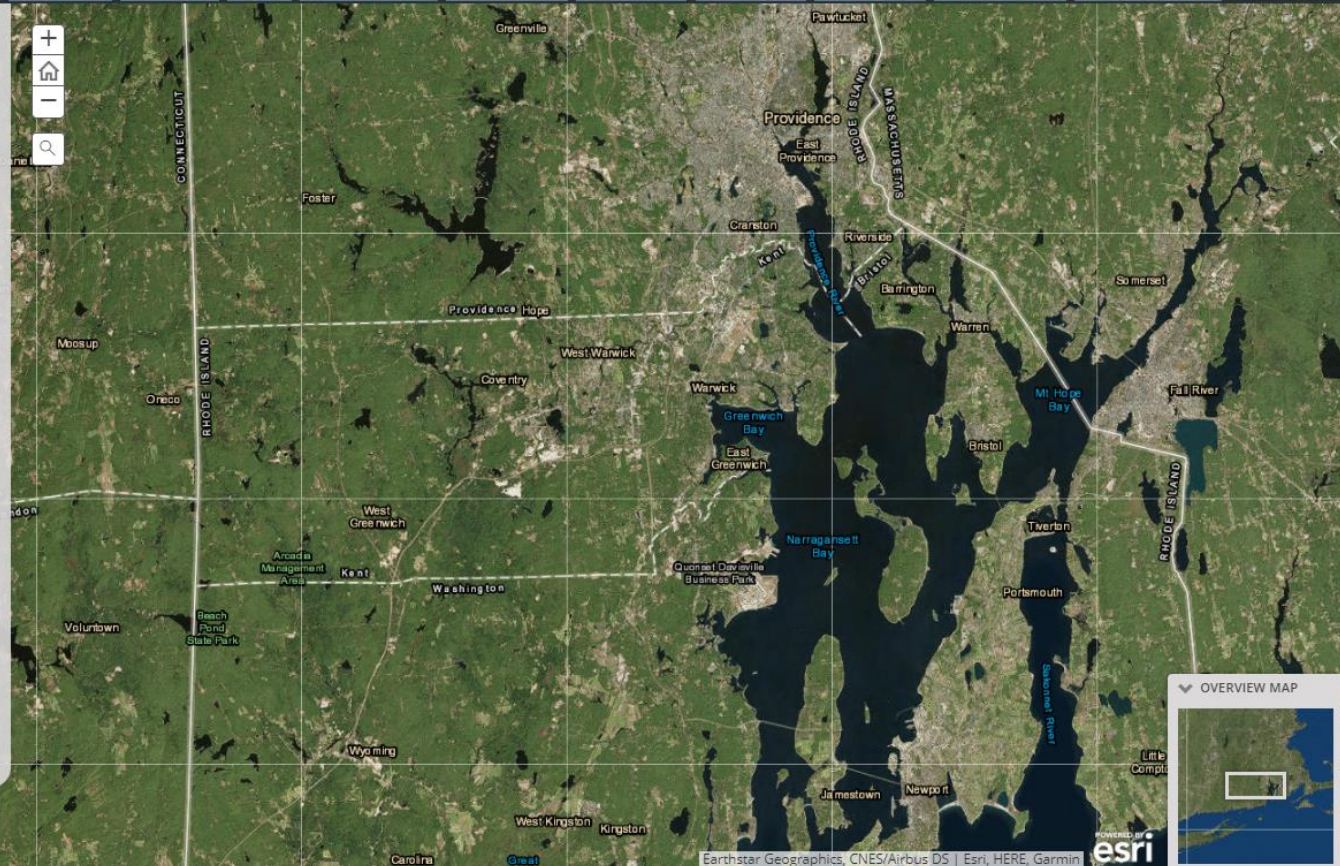
Using the Rapid PACE tool is easy!

1. Use the "+" and "-" symbol in the top left corner of the map to zoom to your area of interest. Use  to enter and zoom to a specific address.
2. Click and drag on the map to move to different parts of the state.
3. Click the tabs on the top of the map to view different types of information.
4. Be patient. It may take a few minutes for maps to load. They are not broken; they are just loading a lot of information!

This tool uses [publicly available sources of data](#), accessed from Rhode Island Geographical Information Systems (RIGIS), the Coastal Resources Management Council, and Rhode Island Emergency Management Agency among others.

Rapid PACE was developed by the [URI Coastal Resources Center](#) and [Rhode Island Sea Grant](#), in collaboration with the [University of Connecticut Extension Disaster Education Network \(EDEN\)](#), which works on community preparedness. The project is funded by the [Smith-Lever Special Needs Competitive Grants Program](#) of the National Institute of Food and Agriculture at the U.S. Department of Agriculture.

For more information, please visit [our website](#) or contact the University of Rhode Island Coastal Resources Center (ccondit@uri.edu) with any questions or comments.



Rapid Property Assessment and Coastal Exposure (Rapid PACE)

In the Ocean State more frequent and severe storms, combined with accelerating sea level rise require informed responses by property owners and local decision makers.

Use tabs to view different data

- Intro
- SAMP
- Water Type**
- CRA
- Wetlands
- Shoreline Change
- 3' SLR
- FEMA Flood
- Evacuation
- Storm (100-year)
- Storm + 7' SLR

Welcome to Rapid PACE!

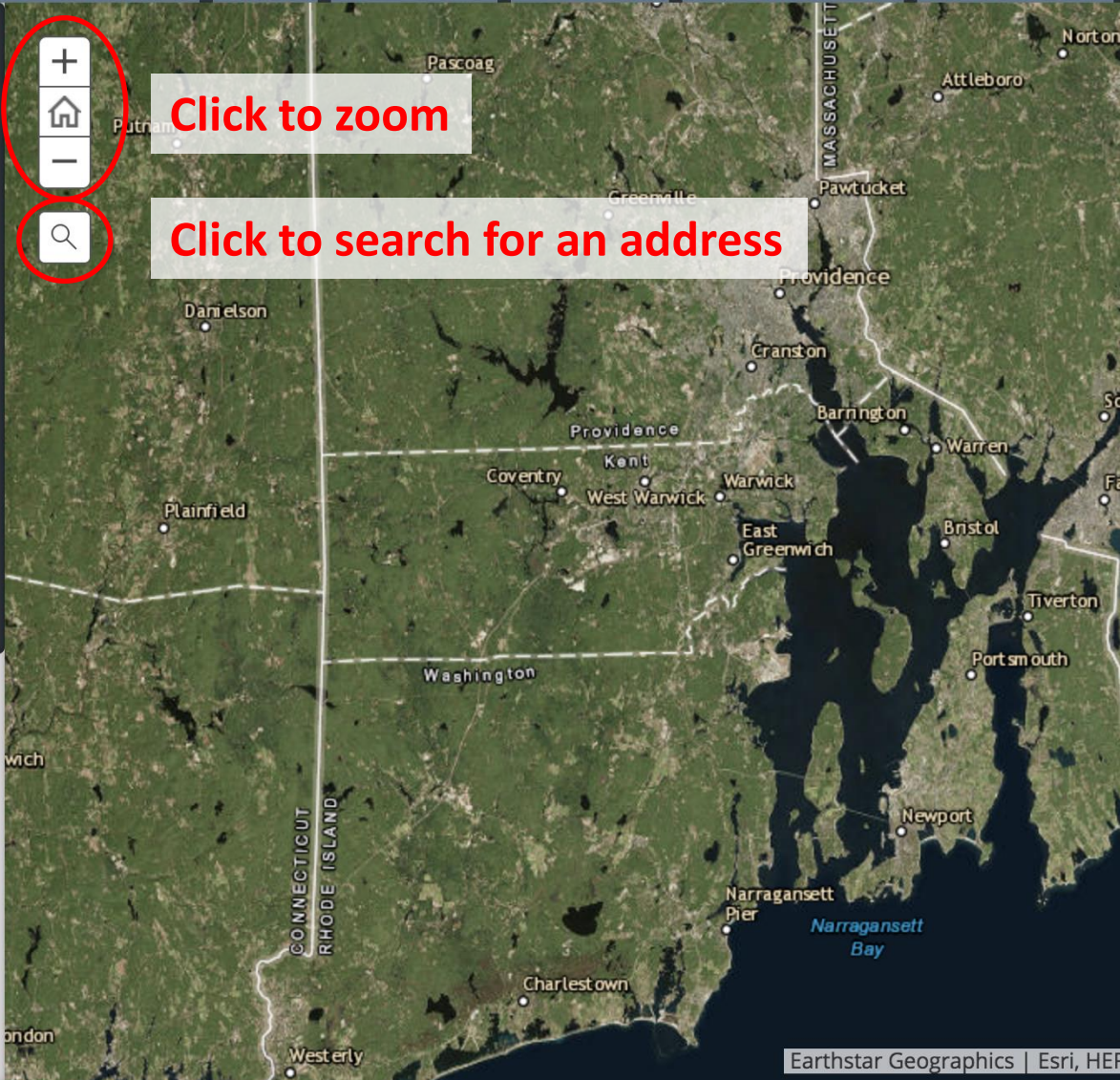
Rapid Property Assessment and Coastal Exposure (Rapid PACE) helps local officials and property owners view areas exposed to coastal hazards. Looking at current and future conditions enables more informed planning decisions, leading to safer and more resilient communities.

Find your property or your favorite beach – will it experience impacts from sea level rise? Look at a local school – is it in a hurricane evacuation zone? The Rapid PACE tool will help you become more informed and aware of the risks and impacts your home and community may experience.

Local officials can request a site report using this information.

Using the Rapid PACE tool is easy!

1. Use the "+" and "-" symbol in the top left corner of the map to zoom to your area of interest. Use the magnifying glass to enter and zoom to a specific address.
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Rapid Property Assessment and Coastal Exposure (Rapid PACE)

In the Ocean State more frequent and severe storms, combined with accelerating sea level rise require informed responses by property owners and local decision makers.

The selected tab will turn light blue

- Intro
- SAMP
- Water Type**
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- Shoreline Change
- FEMA Flood
- Evacuation
- 3' SLR
- Storm (100-year)
- Storm + 7' SLR
- Marsh 1' SLR

Is the property adjacent to a CRMC-designated water type?

- Rhode Island's tidal waters are divided into six water types.
- Different water types may be subject to specific regulations that could affect adjacent shoreline use and development.

The CRMC classification are based on the characteristics of the adjacent shoreline, the use of the area, the density of use, and various conservation considerations.

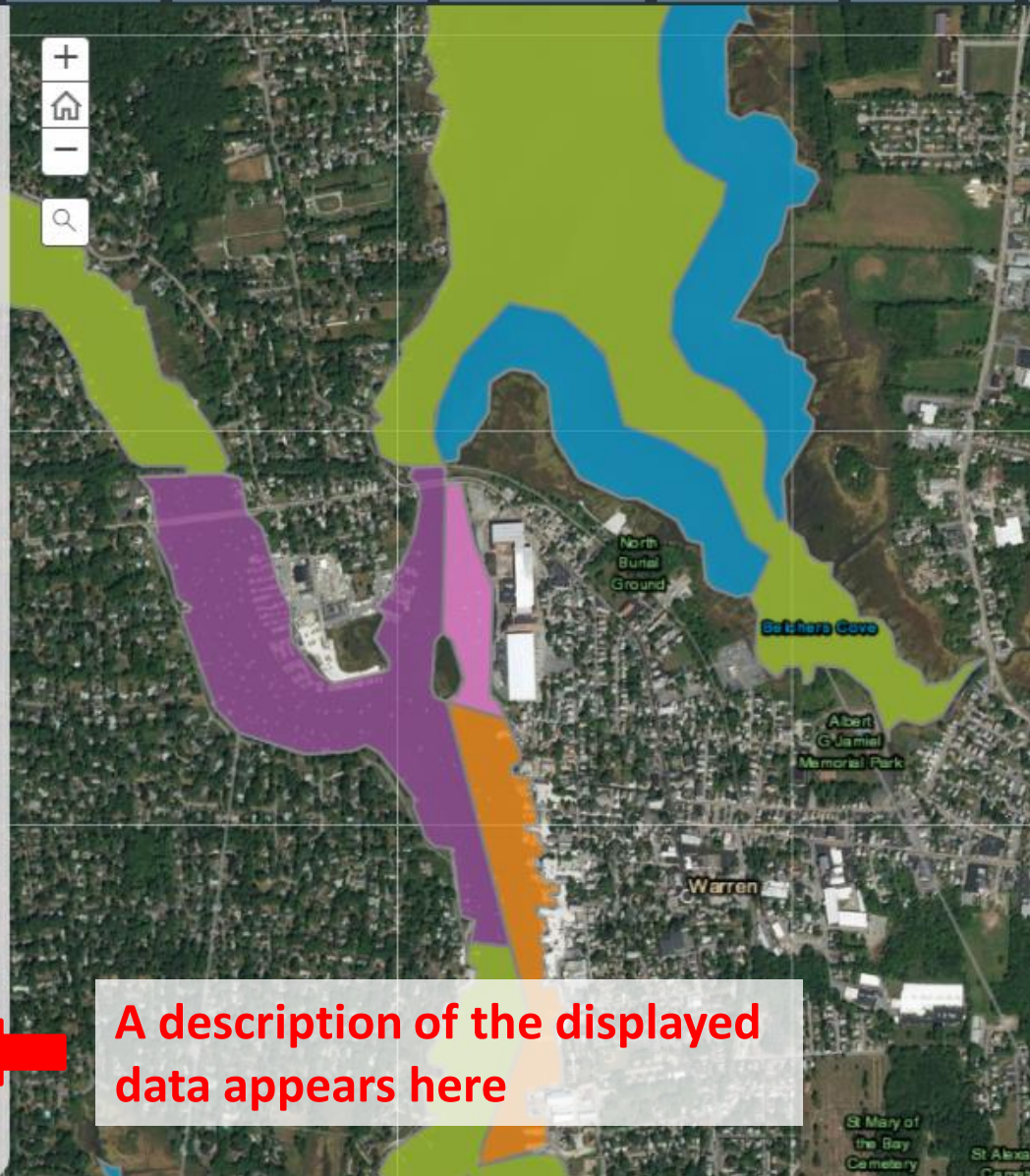
- Type 1: Conservation Areas
- Type 2: Low-Intensity Use
- Type 3: High-Intensity Boating
- Type 4: Multipurpose Waters
- Type 5: Commercial & Recreational Harbors
- Type 6: Industrial Waterfronts

These classifications are used by the Coastal Resources Management Council to determine the size of required buffer zones between the shoreline and developed areas, whether or not shoreline protection structures can be installed, and what activities may occur within tidal waters.

For additional information about water types in Rhode Island, visit the Coastal Resources Management Council [website](#) (see Section 1.2.1).

Water Use Categories

- Land
- 1
- 2
- 3
- 5
- 4
- 6



A description of the displayed data appears here

What are some questions the maps can answer?

Will Jamiel Park flood during a 100-year storm?

Rapid Property Assessment and Coastal Exposure (Rapid PACE)

In the Ocean State more frequent and severe storms, combined with accelerating sea level rise require informed responses by property owners and local decision makers.

Intro SAMP Water Type CRA Wetlands Shoreline Change FEMA Flood Evacuation 3' SLR **Storm (100-year)** Storm + 7' SLR Marsh 1' SLR Marsh 3' SLR Marsh 5' SLR Coastal Barriers

Is the property vulnerable to storm surge from a "100-year" return period storm?

- This map shows flood levels for a "100-year" coastal storm, meaning a storm that has a 1% chance of happening in any given year.*

STORMTOOLS is a high resolution coastal inundation mapping tool that shows levels of inundation for specific areas of interest in Rhode Island. The tool shows inundation from multiple sea level rise and storm surge scenarios. It is an important planning tool to help property owners and decision makers develop coastal resilient adaptation plans for future climate conditions.

* *STORMTOOLS* planning maps may vary from FEMA regulatory maps due to the modeling approach which makes *STORMTOOLS* more conservative.

100 year storm inundation level

- <= 2
- 4
- 6
- 8
- 10
- > 10
- Lowlying

1. Select the "Storm (100-year)" tab
2. Search or zoom to your address
3. Use key to identify inundation level

Albert G. Jamiel Memorial Park

How deep will flooding be during a 100-year storm?

Rapid Property Assessment and Coastal Exposure (Rapid PACE)

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100 year storm inundation level

<= 2
4
6
8
10
> 10
Lowlying



Click a map location to see flood depth

Estimated Water Depth

The modeled water depth at this location is estimated at 13.15 ft.

Will Jamiel Park flood at 3 feet of sea level rise?

Rapid Property Assessment and Coastal Exposure (Rapid PACE)

In the Ocean State more frequent and severe storms, combined with accelerating sea level rise require informed responses by property owners and local decision makers.

Intro SAMP Water Type CRA Wetlands Shoreline Change FEMA Flood Evacuation **3' SLR** Storm (100-year) Storm + 7' SLR Marsh 1' SLR Marsh 3' SLR Marsh 5' SLR Coastal Barriers

Using [STORMTOOLS](#), this map estimates the flooding area that will occur with 3 feet of sea level rise, which may occur today during a nor'easter, or by 2060-2070 with projected sea level rise and high tide.

Will sea level rise impact the property?

- NOAA's high estimate (2018) of projected sea level rise, used by Rhode Island's CRMC, is approximately 1 foot in 2025, 3 feet in 2050, and 9 feet in 2100.*
- Rhode Island is especially vulnerable to sea level rise inundation due to the state's 400 miles of shoreline, including many highly developed coastal shore fronts.

Design planning horizons recommended by CRMC (Feb. 2017)

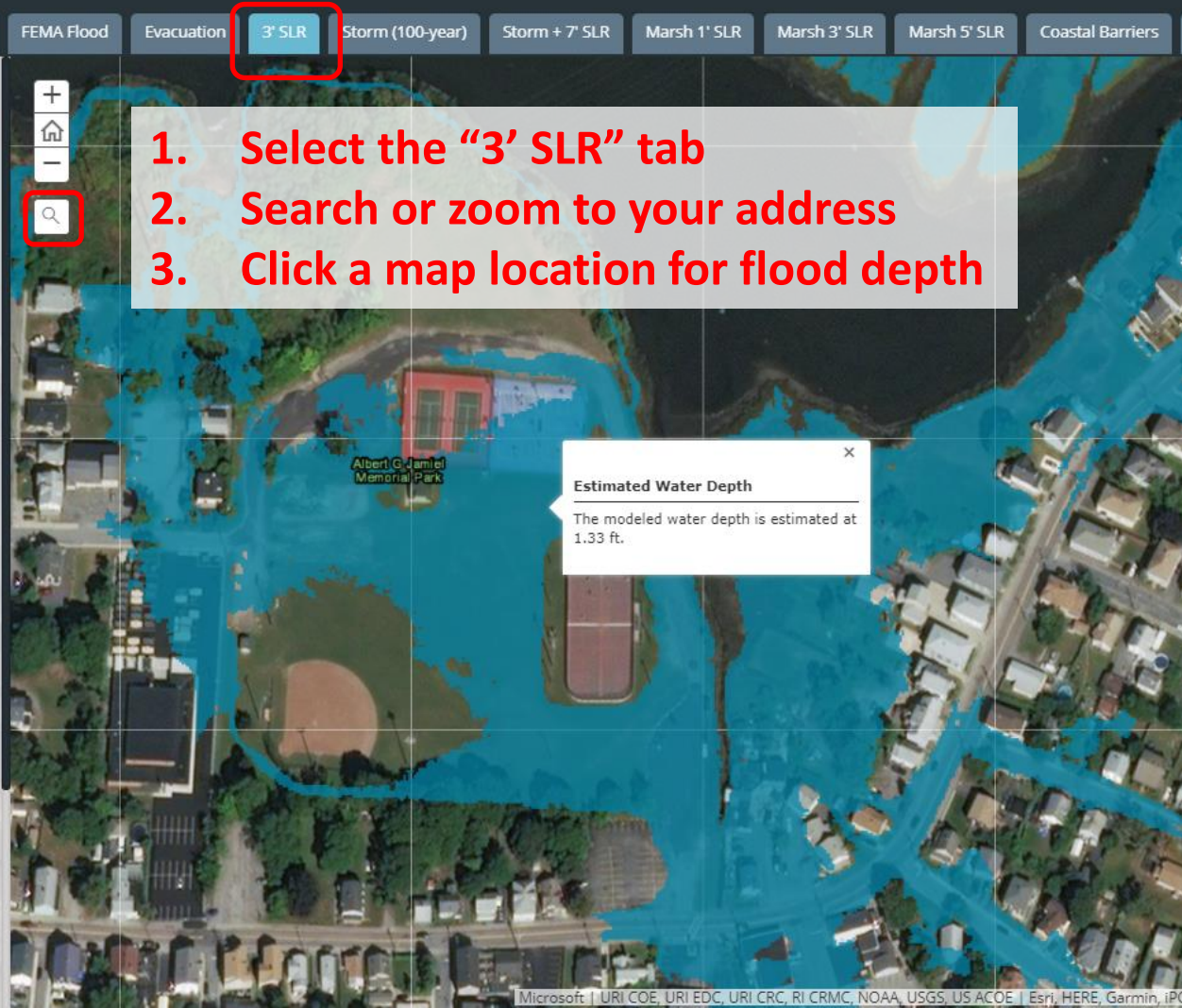
Time Horizon	Projected Sea Level Rise: NOAA Sea Level Rise High Curve in Rhode Island	Projected Sea Level Rise with Annual Extreme High Tides
2035	1 foot	2-3 feet
2050	2 feet	3-4 feet
2100	7 feet	8-9 feet

The projections reflect NOAA's high curve on the USACE Sea Level Change Curve Calculator (February 2017), and are based on sea level in 1990 at the Newport Tide Gauge.

The Coastal Resource Management Council considers the US Army Corps of Engineers' [Sea-Level Change Calculator](#) to be the standard for estimating future sea level rise. More information about climate change and sea level rise visit Coastal Resources Mangement Program, Section [1.1.10](#).

In 2017, the Coastal Resources Management Council (CRMC) updated its sea level rise projections to 1 foot by 2025, 3 feet by 2050 and 9 feet by 2100, based on NOAA's high scenario curve.*

*The CRMC relies upon the most recent NOAA sea level rise data to address both short- and long-term planning horizons and the design life considerations for public and private infrastructure. The CRMC policy is to adopt and use the most recent sea level change scenarios published by NOAA, and the NOAA sea level rise change curves for Newport and Providence as provided in the U.S. Army Corps of Engineers online sea level rise calculator tool available *at: <http://corpsclimate.us/ccaceslcurves.cfm>.



1. Select the "3' SLR" tab
2. Search or zoom to your address
3. Click a map location for flood depth

Do I need to evacuate during a hurricane?

Rapid Property Assessment and Coastal Exposure (Rapid PACE)

In the Ocean State more frequent and severe storms, combined with accelerating sea level rise require informed responses by property owners and local decision makers.

Intro

SAMP

Water Type

CRA

Wetlands

Shoreline Change

FEMA Flood

Evacuation

3' SLR

Storm (100-year)

Storm + 7' SLR

Marsh 1' SLR

Marsh 3' SLR

Is the property in a Hurricane Evacuation Zone?

- [Hurricane Evacuation Maps](#) for Rhode Island's coastal communities use a worst-case hurricane surge inundation scenario in order to help keep residents safe.
- Evacuation planning maps identify coastal areas at risk of serious impacts from hurricanes and severe storms.

Evacuation Zone "A" (RED) is recommended to be evacuated prior to a Category 1 or 2 hurricane.

Evacuation Zone "B" (BLUE) is recommended to be evacuated prior to a Category 3 or 4 hurricane.

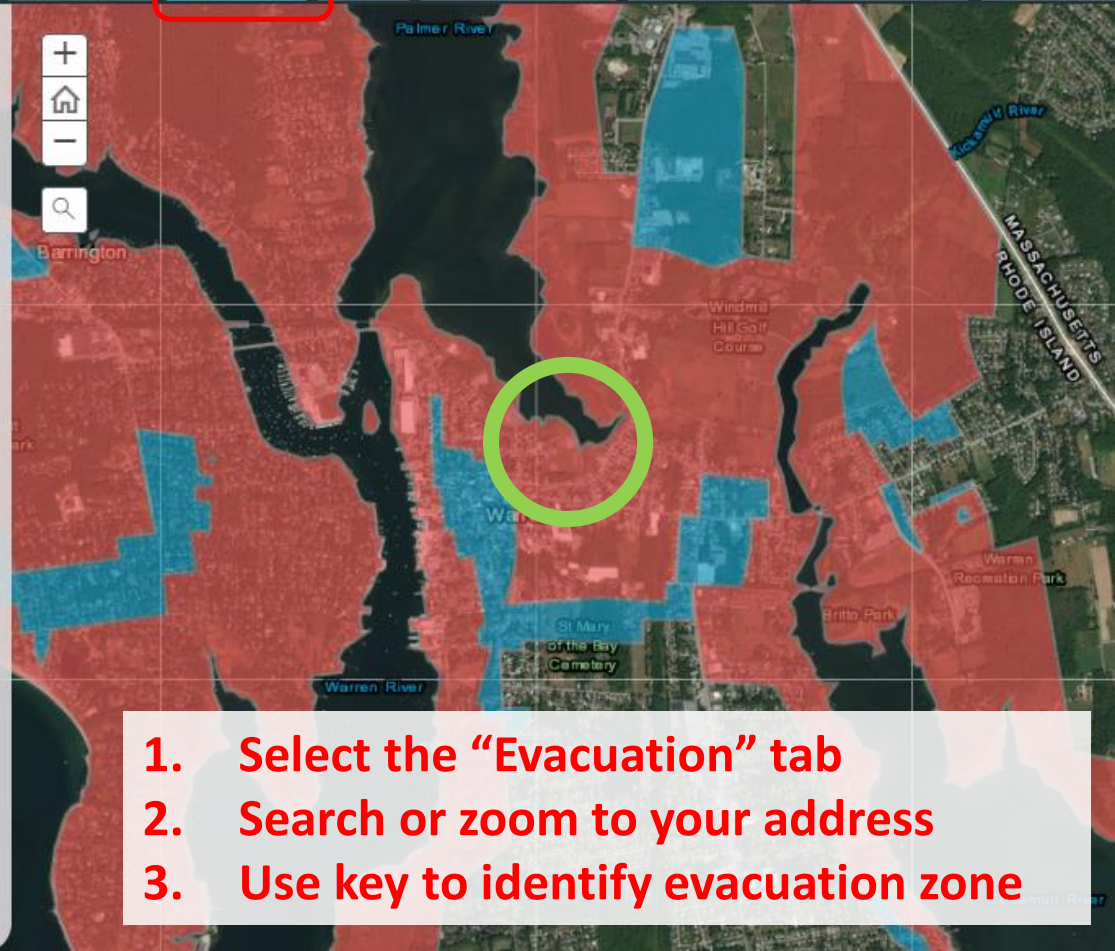
Evacuation Zone "C" (GREEN) exists only for the City of Providence. It is recommended that evacuation occurs in the event of the Fox Point Hurricane Barrier failing during a worse case category 3 or 4 hurricane.

For additional information, such as how to evacuate safely or how to locate your local emergency shelter, visit the Rhode Island Emergency Management Agency Evacuation [website](#) or contact your local Emergency Management official.

***Note: If the Evacuation Zone is not visible on the map, zoom out until the zones appear.**

Evacuation Zone

- A
- B
- C



1. Select the "Evacuation" tab
2. Search or zoom to your address
3. Use key to identify evacuation zone

For more information on Rapid PACE, contact:

Chris Condit

ccondit@uri.edu

Coastal Resources Center
University of Rhode Island

www.beachsamp.org/relatedprojects/pace/

