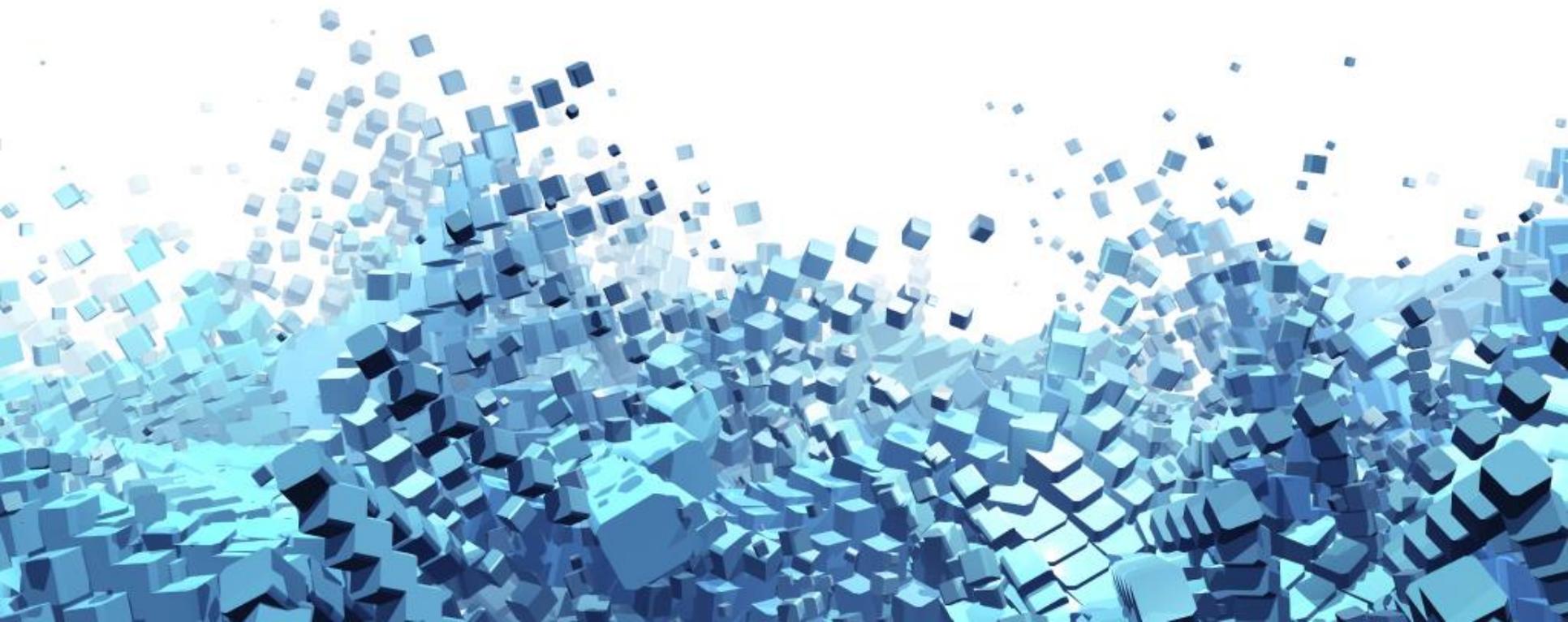


# Office for Coastal Management

Coastal Zone Management Program  
Coral Reef Conservation Program  
Digital Coast  
National Estuarine Research Reserves



# Digital Coast





# Coastal Flood Exposure Mapper

Help start your community discussions about hazard impacts with maps of your area that show people, places, and natural resources exposed to coastal flooding.

[Start Collecting Maps](#)

The information in this product is based on the [Roadmap for Adapting to Coastal Risk](#) approach to assessing coastal hazard risks and vulnerabilities.

# Coastal Flood Exposure Mapper

Select ▾

Map ▾

Collect ▾

Tips

Resources

Case Studies

FAQ

Save This Map

0

Please Select a Location ▾

Flood Hazards Map ▾

Coastal Flood Hazard Composite  ⓘ

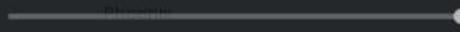
Shallow Coastal Flooding  ⓘ

FEMA Flood Zones  ⓘ

Storm Surge  ⓘ

Sea Level Rise  ⓘ

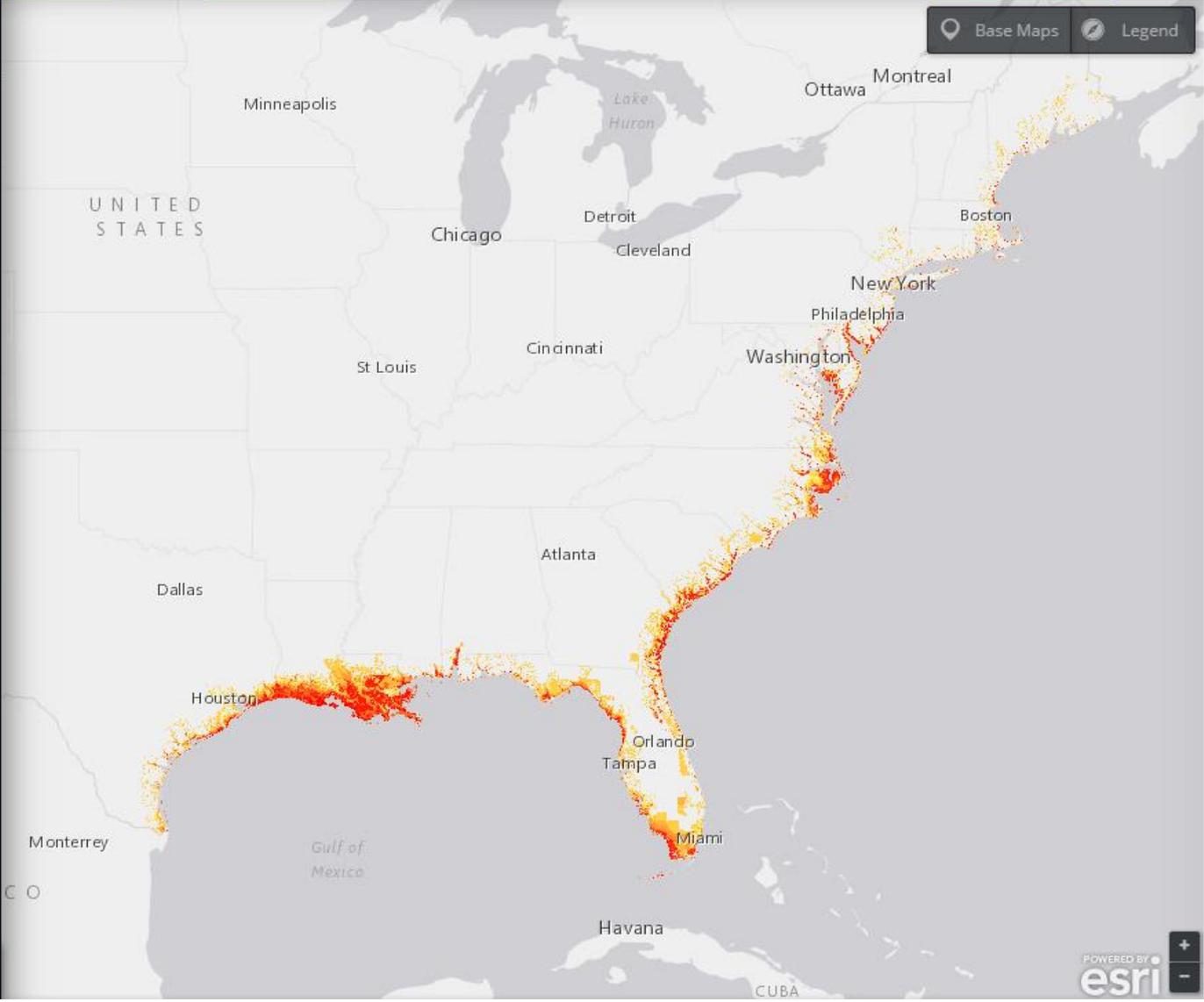
Layers Opacity 100%



Data Sources

Map Services

Base Maps Legend



POWERED BY esri

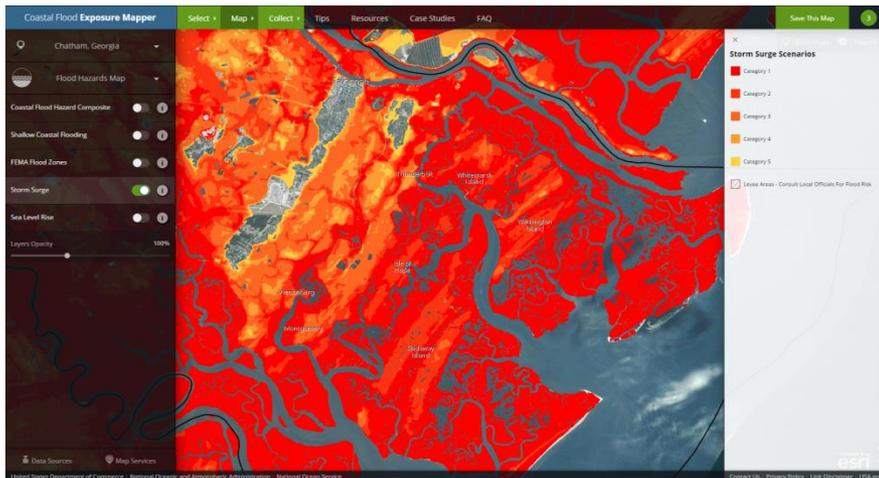
# Shallow Coastal Flooding



# FEMA Flood Zones



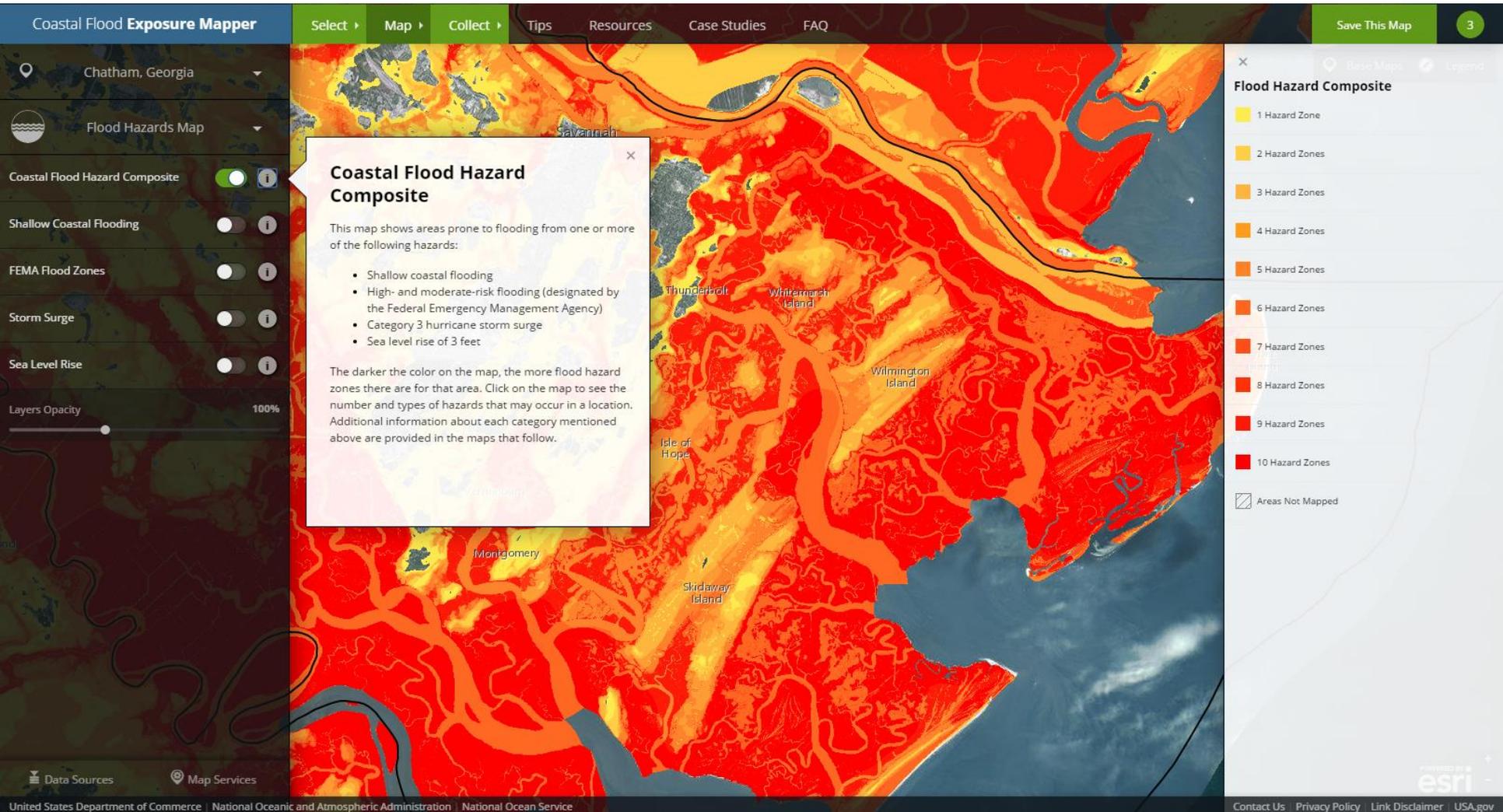
# Storm Surge



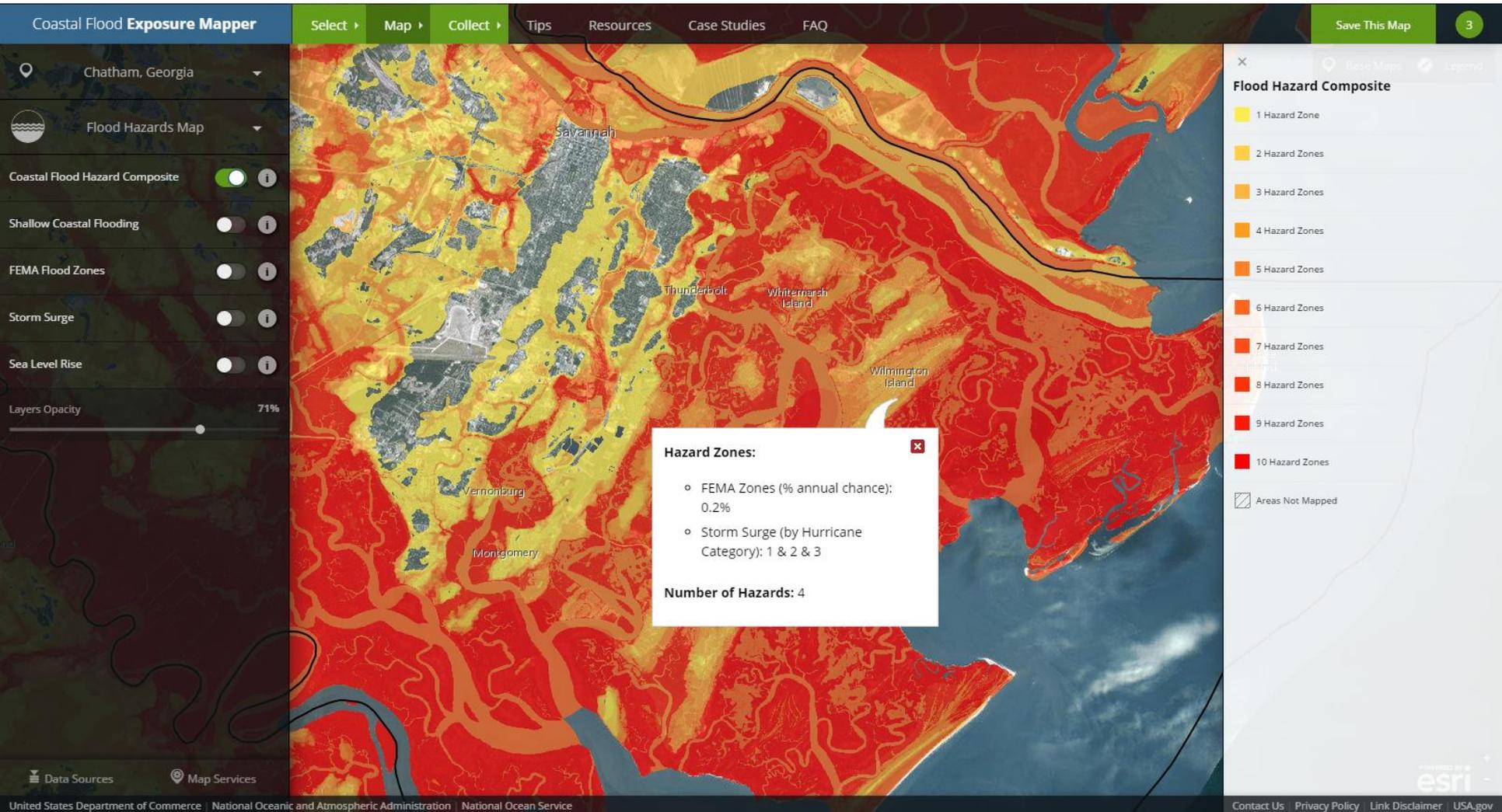
# Sea Level Rise



# Coastal Flood Hazard Composite



# Coastal Flood Hazard Composite



## Select the Flood Hazards Map or One of the Community Exposure Maps

Select a section below to view maps showing flood hazards or different aspects of community exposure to those flood hazards.

First-time user? Starting with Flood Hazards is a good idea.



### Flood Hazards

Flooding events are among the more frequent, costly, and deadly hazards that can impact coastal communities. There are two types:

- Short-term (episodic) – Temporary flooding caused by extreme conditions, including storm surge, tsunamis, inland flooding, and shallow coastal flooding.
- Long-term (chronic) – Flooding caused by a rise in relative sea level or some other change in conditions.



### Societal Exposure

Understanding the populations that live in or near coastal flood-prone areas is an important information need, since residents who are elderly, who live in high-density areas, or who are impoverished may merit special considerations.



### Infrastructure Exposure

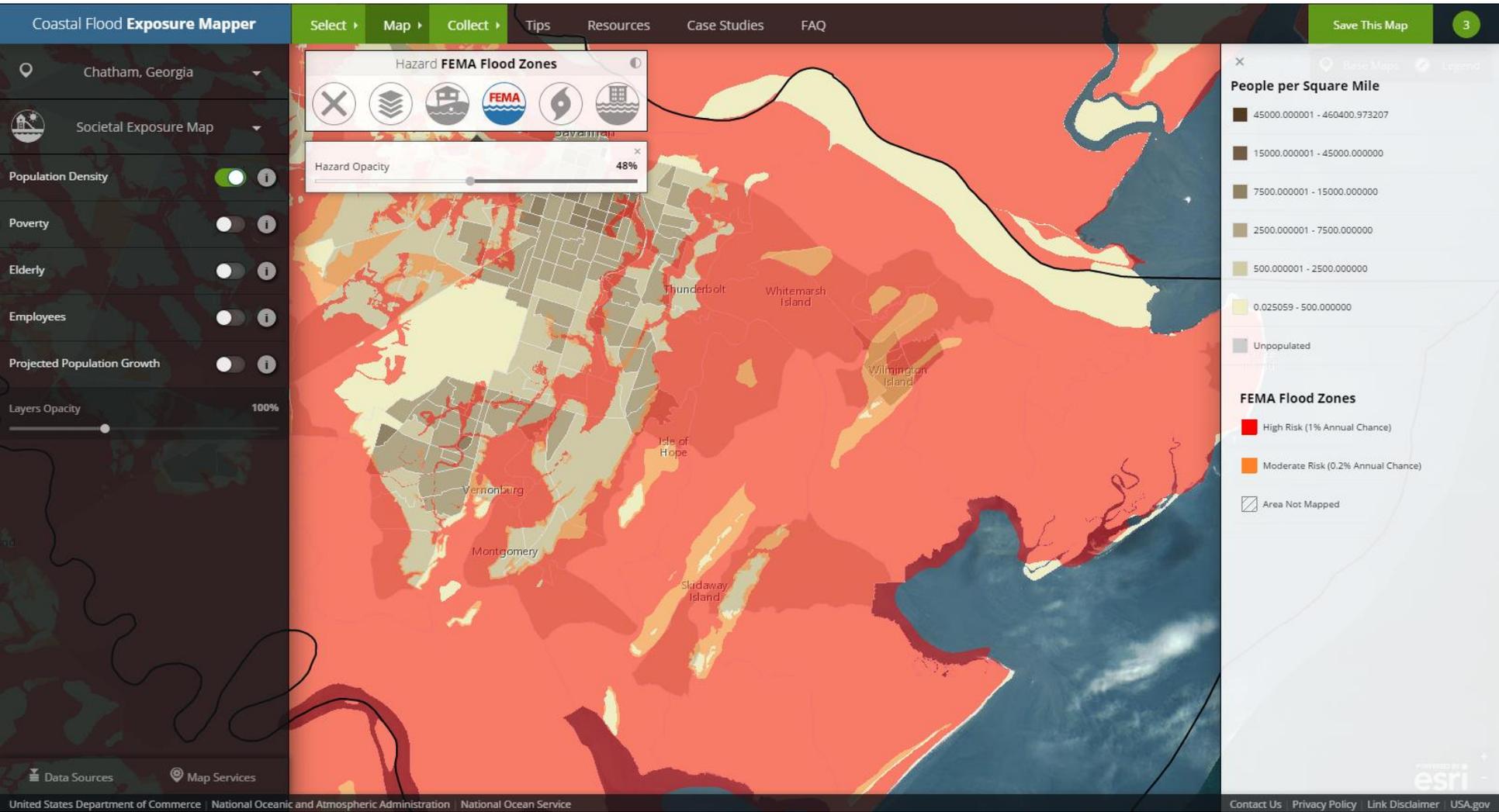
Community infrastructure, including roads, bridges, and water and sewer systems, can be damaged by coastal flooding. Communities should first assess infrastructure vulnerabilities and associated environmental and economic issues to determine what steps are needed to protect these assets.



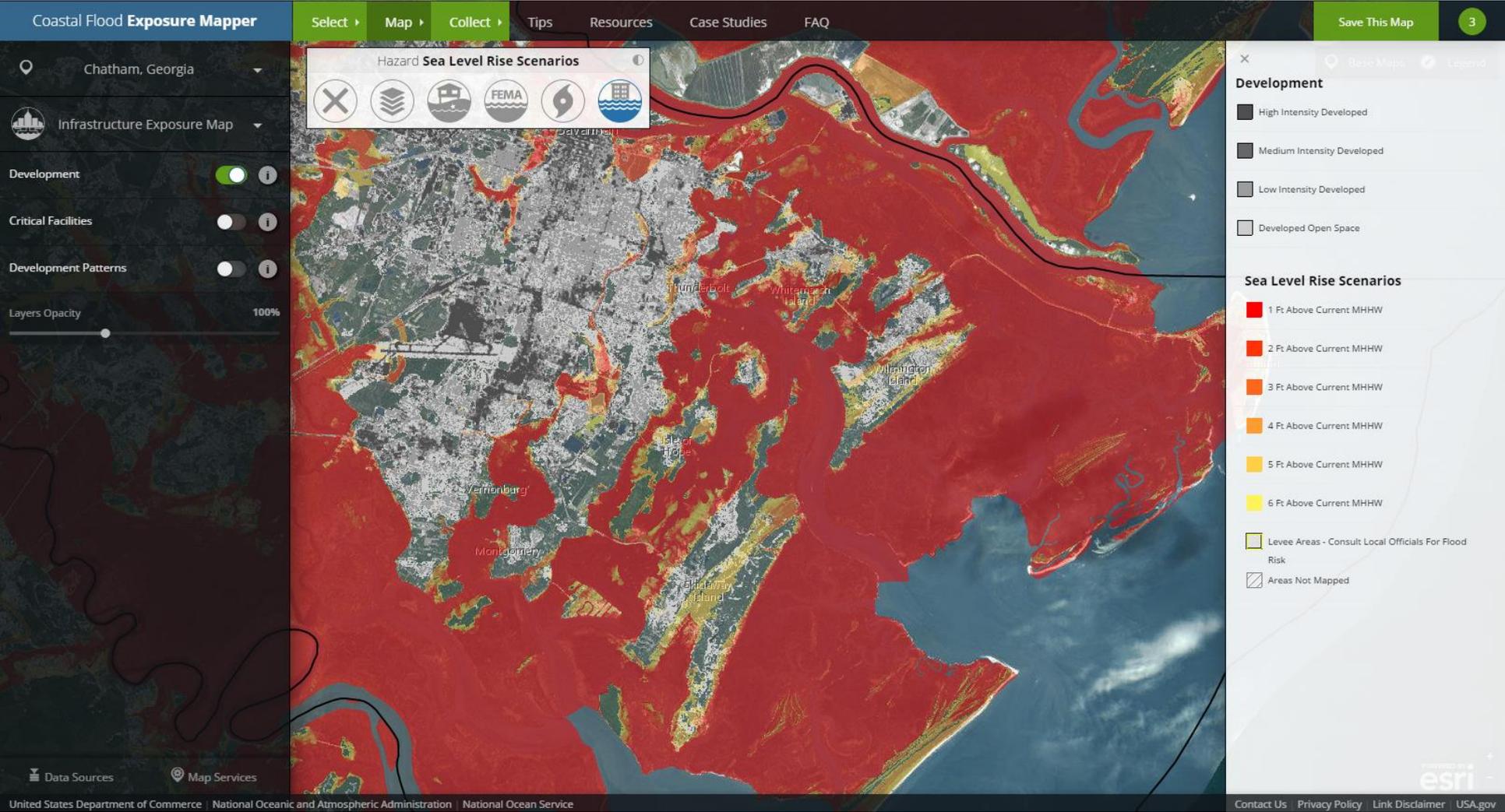
### Ecosystem Exposure

Natural areas provide important benefits to coastal communities, including hazard protection, flood storage, water quality maintenance, fisheries support, and recreational opportunities. Communities can increase resilience by protecting natural areas along the coast that are exposed to flooding and adjacent inland areas.

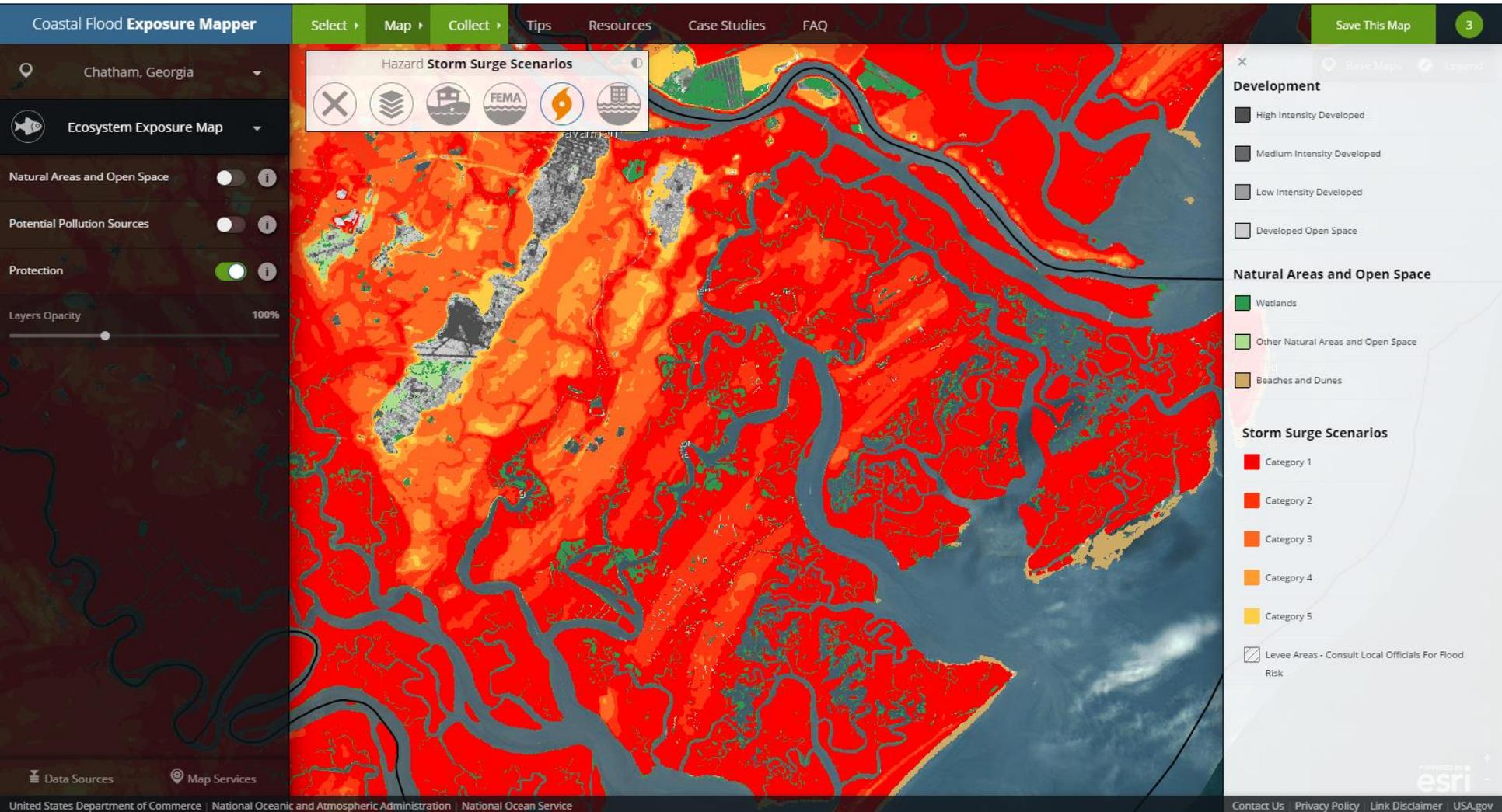
# Population Density and FEMA Flood Zones



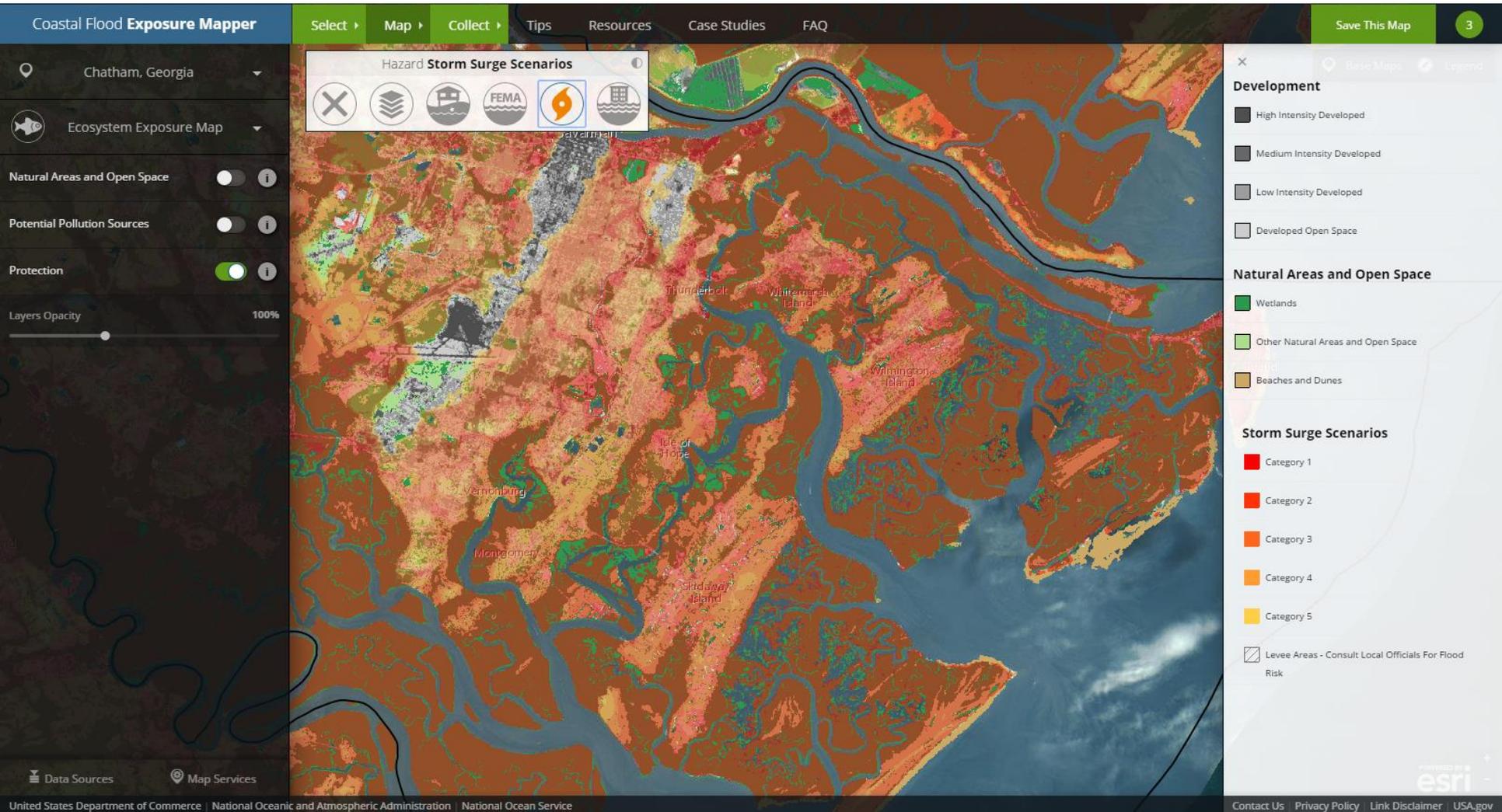
# Development and Sea Level Rise



# Natural Areas, Development, and Storm Surge



# Natural Areas, Development, and Storm Surge



# Tips, Resources, Case Studies



Coastal Flood Exposure Mapper | Select | Map | Collect | Tips | Resources | Case Studies | Save This Map | 4

### Tips for Using These Maps in Your Community

#### Stakeholders

When communities come together to assess hazards and their impacts on society, infrastructure, and the environment, solutions can be found that are win-win strategies for multiple sectors.

The map data and the discussions spurred from these maps are valuable and applicable to a variety of community planning processes—from comprehensive land-use to hazards mitigation and conservation planning.

- Need ideas on who to include? [Download a participants checklist.](#)
- Need ideas on how to engage stakeholders? [Download guidance on stakeholder engagement.](#)



Coastal Flood Exposure Mapper | Select | Map | Collect | Tips | Resources | Case Studies | Save This Map | 4

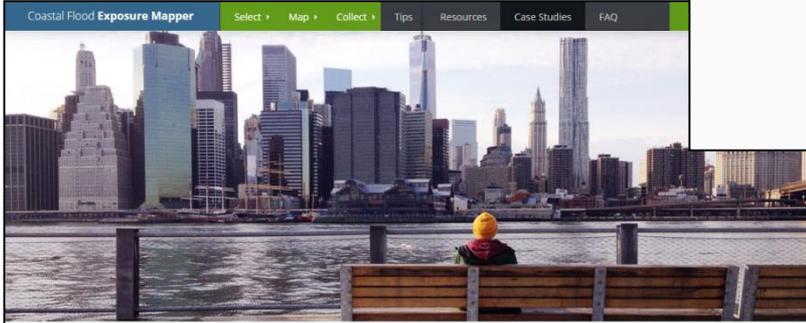
### Resources

#### Flood Hazards

Use these resources to explore relevant hazards, climate trends, and potential impacts as a starting point in assessing community risks and vulnerabilities.

[Coastal Inundation Mapping](#)

This two-day instructor-led course offers a combination of lectures and hands-on exercises to give students a better understanding of coastal inundation issues and mapping methods using a geographic information system (GIS).



Coastal Flood Exposure Mapper | Select | Map | Collect | Tips | Resources | Case Studies | FAQ

### Case Studies

The following case studies illustrate how communities are assessing their risks and vulnerabilities to hazards. These examples emphasize the importance of diverse stakeholders, local knowledge and experience, hazard risk and community exposure maps and photographs, and facilitated discussions to identify hazard impacts.

[Building Storm Ready and Resilient Communities in New Jersey](#)

The Jacques Cousteau National Estuarine Research Reserve is helping coastal New Jersey municipalities kick-start conversations in their communities and plan for future hazards using the Coastal Flood Exposure Mapper and NJADAPT resources.

# Exposure Data and Information

This page provides information on the data used in the Coastal Flood Exposure Mapper, map services available for use in ArcGIS Online or other online mapping platforms, and instructions on using map services within ArcGIS Online. [Click here](#) to directly access all map services.

## Flood Hazards

Name	Description	Where to Get It		Significance
		Map Service	Authoritative Source	
Coastal Flood Hazard Composite	Spatial extents of multiple flood hazard data sets combined. Flood hazard data sets include shallow coastal flooding, Federal Emergency Management Agency (FEMA) flood data (V zones, A zones, and 500-year zones treated as individual layers), storm surge for Category 3 hurricane (from FEMA Hurricane Evacuation Studies), and sea level rise of three feet above mean high tide.	<a href="#">Coastal Flood Hazard Composite Map Service</a>	<a href="#">Coastal Flood Exposure Mapper</a>	Provides a quick visual assessment of areas most prone to flood hazard events.
Shallow Coastal Flooding	Areas that flood when coastal flood warning thresholds are exceeded. Derived from the flood frequency layer within the Sea Level Rise and Coastal Flooding Impacts Viewer.	<a href="#">Shallow Coastal Flooding Map Service</a>	<a href="#">Sea Level Rise and Coastal Flooding Impacts Viewer</a>	Areas subject to shallow coastal flooding.
FEMA Flood Zones	Digital FEMA flood data. The data represent the digital riverine and coastal flood zones available as of June 2014 and are a combination of Digital Flood Insurance Rate Maps and Q3 flood data.	<a href="#">FEMA Flood Zones Map Service</a>	<a href="#">FEMA's Map Service Center</a>	Areas at risk from flooding.
	Areas of near-worst-case storm surge flooding scenarios for			

## Step-by-Step Instructions for Using Map Services in [ArcGIS.com](#)

### 1. Setup

- Go to [ArcGIS.com](#)
- Click **Sign In**
- If needed, register for new account

### 2. Build a Map

- Click the **MAP** button in the top banner
- Click the **Basemap** button
- If you would like a different basemap, select a **Basemap** from the available options

### 3. Add a Layer From ArcGIS Online

- Click the **Add** drop-down list
- Select **Search for Layers**
- In Find: type a keyword to search (example: Hurricane Evacuation Routes)
- Click **Add** beside the layer(s) you want to add to the map
- Click **Done Adding Layers** when finished

### 4. Add a Layer that is not published to ArcGIS Online

- Go to the ArcGIS Service Directory where you can find services (example: Office for Coastal Management, [coast.noaa.gov/arcgis/rest/services](http://coast.noaa.gov/arcgis/rest/services))
- Browse to the REST page for the service you want (example: FloodExposureMapper link and



# *Coastal Flood Exposure Mapper*

Help start your community discussions about hazard impacts with maps of your area that show people, places, and natural resources exposed to coastal flooding.

**Start Collecting Maps**

The information in this product is based on the [Roadmap for Adapting to Coastal Risk](#) approach to assessing coastal hazard risks and vulnerabilities.



# COMMUNITY INFORMATION BULLETIN

## Reduce Insurance Premiums and Keep Money in Your Pocket with Coastal Flood Exposure Mapper

### NOAA's Coastal Flood Exposure Mapper

Implementing flood-reduction programs makes communities more resilient and allows homeowners to save on flood insurance premiums—sometimes by as much as 45 percent. The Coastal Flood Exposure Mapper, a new tool from the National Oceanic and Atmospheric Administration (NOAA), can be a valuable ally for communities seeking to reap these rewards.

Communities participating in the National Flood Insurance Program's Community Rating System can use the data and visualization capabilities found within this tool to support coastal flooding discussions and planning activities. Such activities can help communities improve their Community Rating System score—and pay less in homeowner flood insurance—because they are working to implement flood-reduction efforts that go beyond minimum standards.

The tool provides a wealth of information. Printable, shareable maps show not only flood hazards but also different aspects of community exposure—people, places, and natural resources. Community Rating System participants find this information particularly useful for Floodplain Management Planning (Activity 510), Element 512.a, which identifies a 10-step planning process for comprehensive floodplain management.

*"The money saved by the Community Rating System, which is over \$1 million annually, is money that stays in Myrtle Beach - it doesn't go to insurance companies in Hartford, in Omaha...it stays at home to make an impact here."*

John T. Rhodes, Mayor  
Myrtle Beach, South Carolina

### Ecosystem Exposure Maps

Natural areas help reduce flooding by storing extra water. This section of the tool provides the maps that show where wetlands, beaches and dunes, and other open spaces are located. Communities use this information to improve their score in the following sections:

Map Information Services (Activity 320), Element 322.g – Credit for providing information about areas that should be protected because of their natural floodplain functions.

- Open Space Preservation (Activity 420), Element 422.a – Credit for preserving open space in the floodplain. Element 422.c – Credit for preserving open space in areas where natural floodplain functions are preserved or restored.
- Floodplain Management Planning (Activity 510), Element 512.c – Credit for adopting plans that protect one or more natural functions within the community's floodplain.

### Flood Hazard Maps

Informative maps found under this section show flood hazard areas designated by the Federal Emergency Management Agency as well as shallow coastal flooding areas, sea level rise scenarios, and storm surge scenarios. Communities use this information to improve their Community Rating System score in the following sections:

- Map Information Services (Activity 320), Element 322.c – Credit for information about other flood hazards not shown on the Flood Insurance Rate Map.
- Outreach Projects (Activity 330), Element 332.a – Credit for designing and carrying out public outreach projects.

This tool is one of many resources available from NOAA's Digital Coast at [www.coast.noaa.gov/digitalcoast](http://www.coast.noaa.gov/digitalcoast). To learn more, see the Community Rating System Coordinator's Manual ([www.fema.gov/media-library/assets/documents/8768?id=2434](http://www.fema.gov/media-library/assets/documents/8768?id=2434)) or contact your state ([www.floodsmart.gov/floodsmart/pages/cs/contact2.jsp](http://www.floodsmart.gov/floodsmart/pages/cs/contact2.jsp)).

Coastal Flood Exposure Mapper  
[www.coast.noaa.gov/digitalcoast/tools/flood-exposure](http://www.coast.noaa.gov/digitalcoast/tools/flood-exposure)





# Digital Coast Trainings

Online or at your location  
Focus is on coastal management