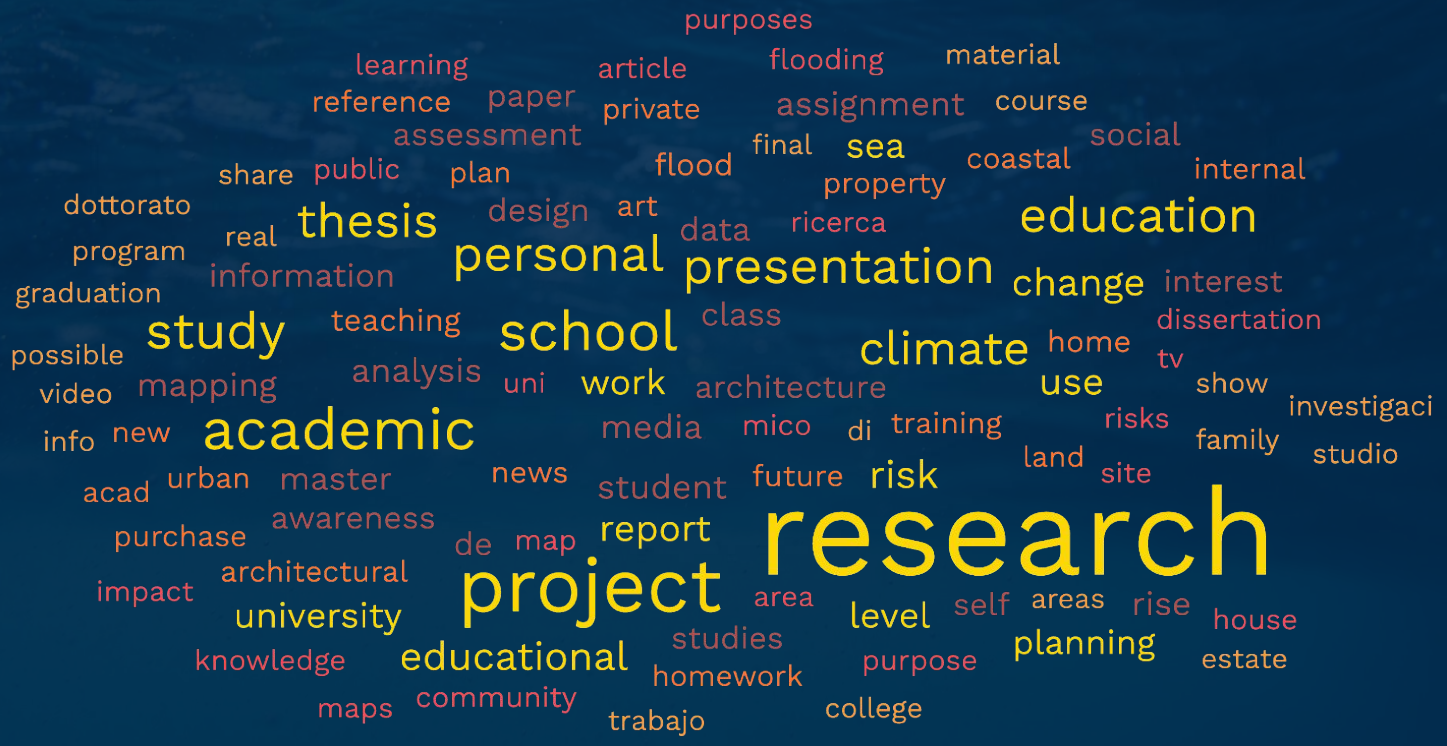
Advancing Coastal Risk Communication: New Tools, Data, and Community Insights

NJ Coastal Resilience Collaborative Conference
March 9, 2026

Dan Rizza
Director, Program on Sea Level Rise
Climate Central

CLIMATE CENTRAL

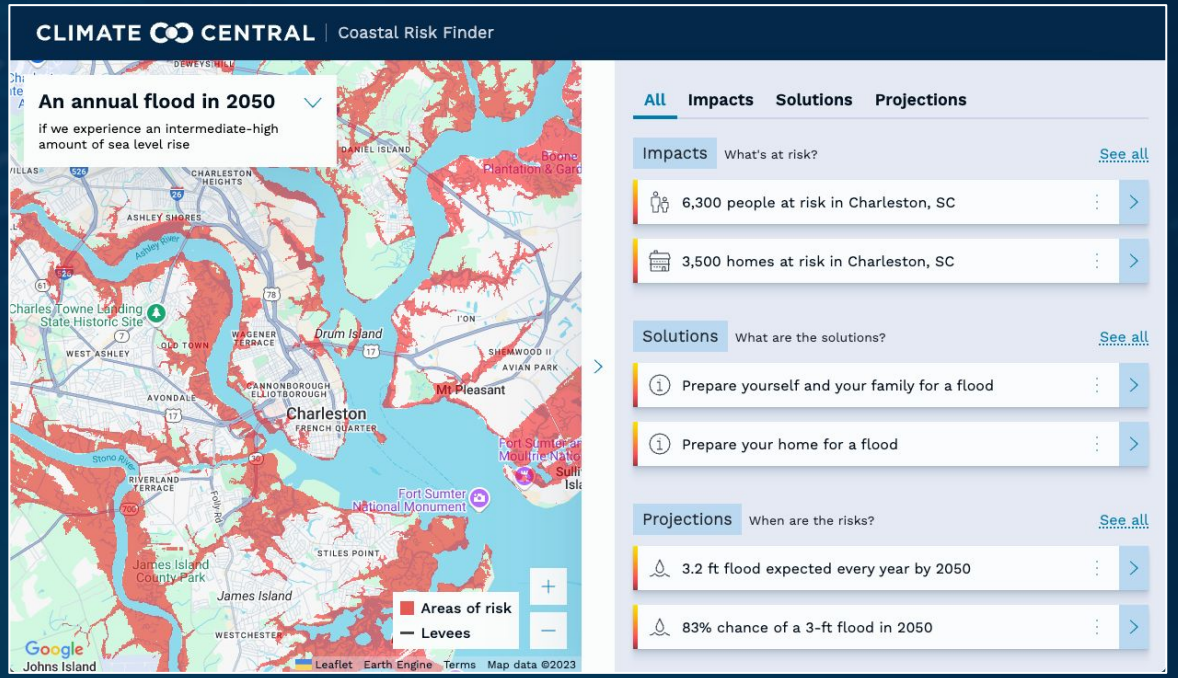
Coastal practitioners use Climate Central tools for...



Coastal Risk Finder

Interactive web tool for exploring **sea level rise** & **coastal flood projections**, **impacts**, & **solutions** with

- Downloadable data and graphics
- Customizable scenarios
- Localized information



app.climatecentral.org/coastalriskfinder

An annual flood in 2050

if we meet our pledged commitments to reduce heat-trapping pollution

Search for a U.S. location

New Jersey

Select a scenario

VIEW RISK BY:

year

Year: **2050**

2030 — 2100

Additional settings

Projection type:

- sea level rise
- sea level rise + annual flood
- sea level rise + 10-year flood
- sea level rise + 100-year flood

Pollution pathway:

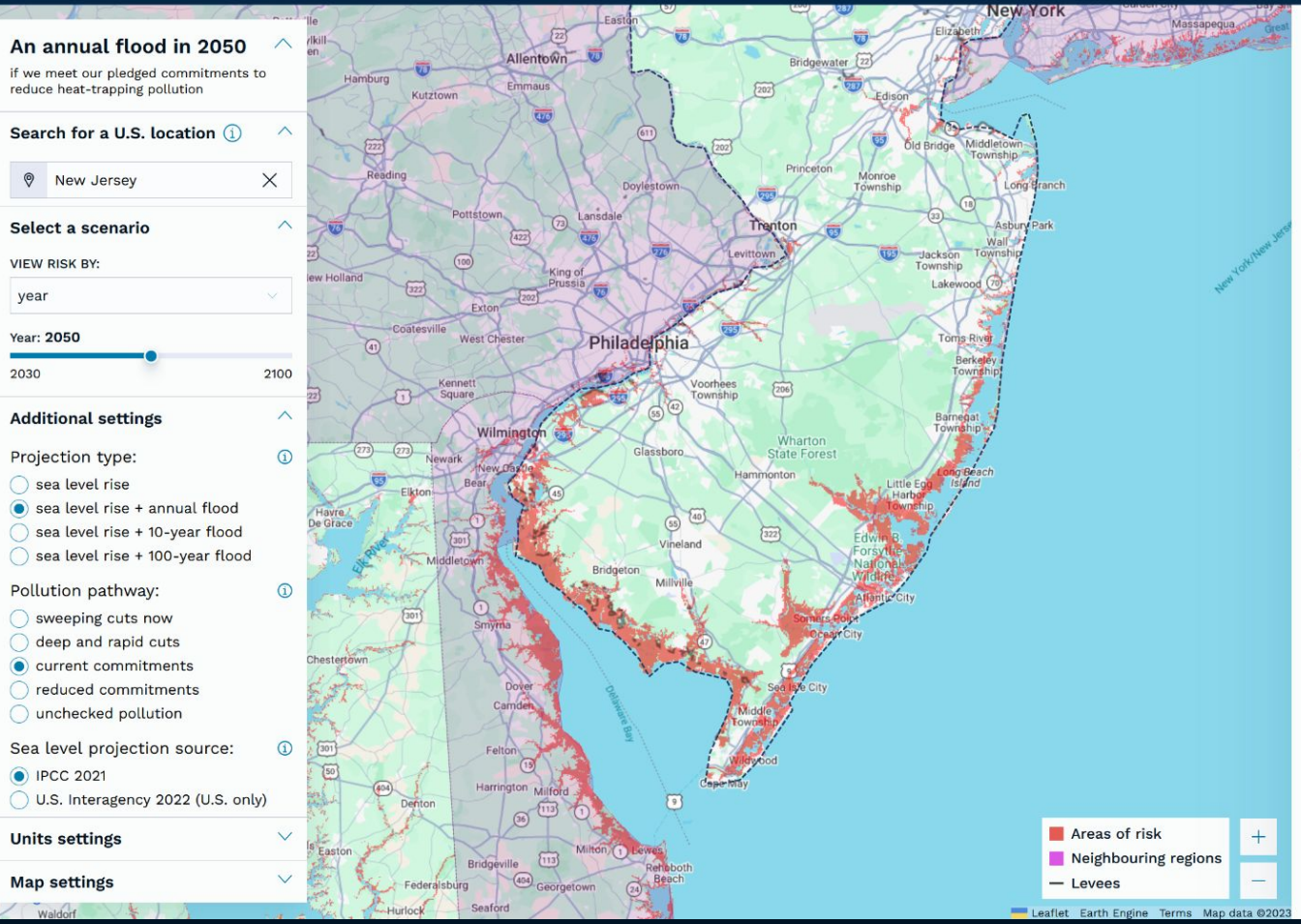
- sweeping cuts now
- deep and rapid cuts
- current commitments
- reduced commitments
- unchecked pollution

Sea level projection source:

- IPCC 2021
- U.S. Interagency 2022 (U.S. only)

Units settings

Map settings



All | Impacts | Solutions | Projections

Impacts What's at risk? See all

- 68,000 people at risk in New Jersey
- 61,000 homes at risk in New Jersey

Solutions What are the solutions? See all

- Prepare yourself and your family for a flood
- Prepare your home for a flood

Projections When are the risks? See all

- 3.2 ft flood expected every year by 2050
- 79% chance of a 3-ft flood in 2050

What is NJ doing to adapt to worsening coastal flooding?

Between its low-lying but densely populated barrier islands and its marshy estuaries, New Jersey faces serious risks from rising seas. An estimated 130,000 homes will be at risk from a moderate flood by 2050. Rising sea levels also harm coastal woodlands and marshes, limit the productivity of farmland near the ocean, erode beaches along the iconic Jersey shore, and damage roads and critical infrastructure — threatening both everyday and quintessential parts of life in the Garden State.

Coastal communities, governments, nonprofits, and the private sector are responding to these growing risks. This card lists some of the organizations working to mitigate rising flood risks and provides examples of projects and policies that aim to keep New Jerseyans safe from coastal floods.

Does New Jersey have a coastal resilience plan?

Yes. In 2021, NJ published its first statewide Climate Change Resilience Strategy, which includes a Coastal Resilience Plan as one of six top priorities.

Who coordinates coastal adaptation efforts in New Jersey?

New Jersey has a Chief Resilience Officer who leads the Department of Environmental Protection's Office of Climate Resilience and chairs the Interagency Council on Climate Resilience.

What other government bodies are responsible for aspects of coastal resilience?

New Jersey's Coastal Management Program combines the work of several offices within the Department of Environmental Protection to manage NJ's coastal resources.

The New Jersey Office of Emergency Management is responsible for preparing for and responding to natural disasters including coastal flooding.

Who is responsible for coastal resilience in local governments?

The Office of Emergency Management County Coordinators help to organize local flooding responses.

The Association of State Floodplain Managers maintains a list of certified floodplain managers in New Jersey.

CLIMATE CENTRAL | Coastal Risk Finder

In New Jersey, 68,000 people will be at risk from an annual flood by 2050 if we meet our pledged commitments to reduce heat-trapping pollution.

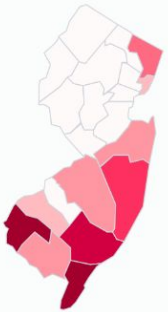
Scenario

Year	Projection type	Pollution pathway	Sea level projection source
2050	sea level rise + annual flood	current commitments	IPCC 2021

People at risk by county

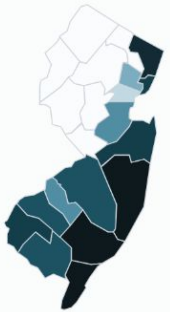
% of population

- 0%-0.1%
- 0.1%-0.2%
- 0.2%-0.4%
- 0.4%-0.8%
- 0.8%-1.6%
- 1.6%-3.2%
- 3.2%-6.4%
- 6.4%-12.5%
- 12.5%-25%
- 25%-50%
- 50%-100%



# of people

- 0-10
- 10-20
- 20-50
- 50-100
- 100-200
- 200-500
- 500-1,000
- 1,000-2,000
- 2,000-5,000
- 5,000-10,000
- >10,000



Share or download

Download data | Download PNG | Share

Who else is at risk?

CLIMATE CENTRAL | Coastal Risk Finder

An annual flood in 2050

if we meet our pledged commitments to reduce heat-trapping pollution

Search for a U.S. location

Atlantic County, NJ

Select a scenario

VIEW RISK BY:

year

Year: **2050**

2030 — 2100

Additional settings

Projection type:

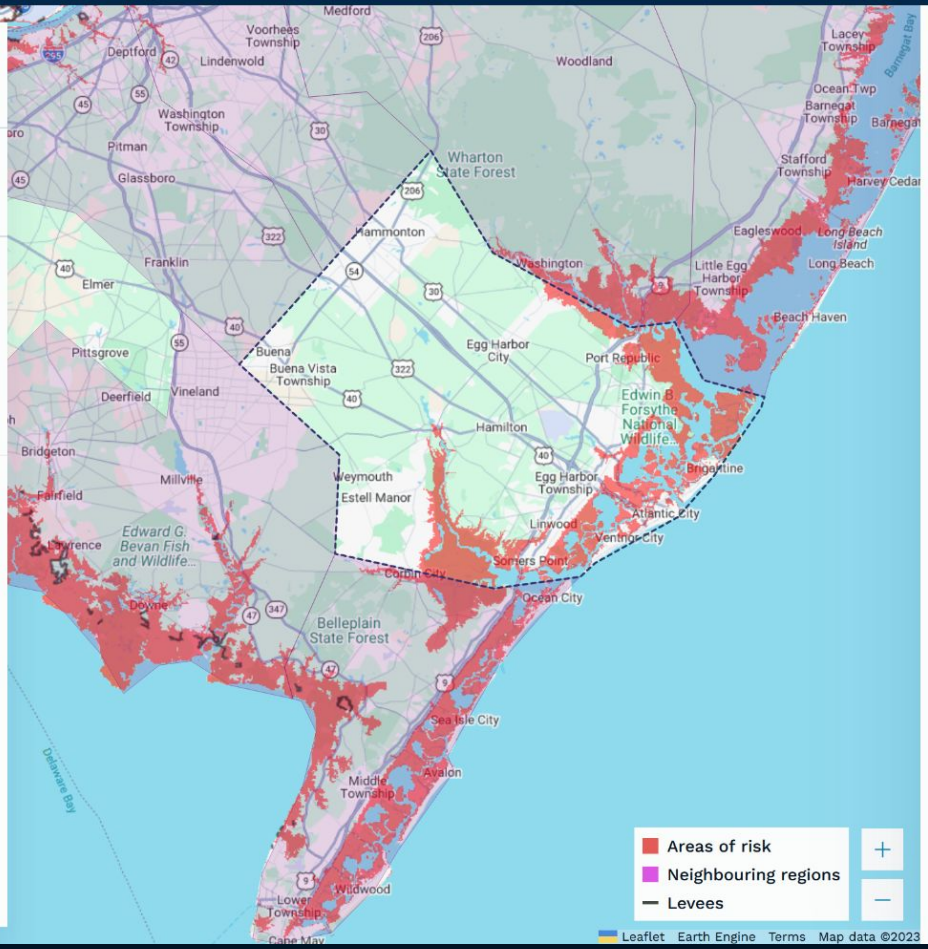
- sea level rise
- sea level rise + annual flood
- sea level rise + 10-year flood
- sea level rise + 100-year flood

Pollution pathway:

- sweeping cuts now
- deep and rapid cuts
- current commitments
- reduced commitments
- unchecked pollution

Sea level projection source:

- IPCC 2021
- U.S. Interagency 2022 (U.S. only)



All | Impacts | Solutions | Projections

Impacts What's at risk? See all

- 13,000 people at risk in Atlantic County, NJ
- 8,300 homes at risk in Atlantic County, NJ

Solutions What are the solutions? See all

- Prepare yourself and your family for a flood
- Prepare your home for a flood

Projections When are the risks? See all

- 3.2 ft flood expected every year by 2050
- 83% chance of a 3-ft flood in 2050

Coastal Risk Finder

app.climatecentral.org/coastal-risk-finder?contiguous=true&elevation_model=best_available&forecast_year=2050&mapType=crf_year&pathway=s

110%

Search

Sign in

CLIMATE CENTRAL | Coastal Risk Finder

An annual flood in 2050

if we meet our pledged commitments to reduce heat-trapping pollution

Search for a U.S. location

NJ Congressional District 2

Select a scenario

VIEW RISK BY:

year

Year: **2050**

2030 2100

Additional settings

Projection type:

- sea level rise
- sea level rise + annual flood
- sea level rise + 10-year flood
- sea level rise + 100-year flood

Pollution pathway:

- sweeping cuts now
- deep and rapid cuts
- current commitments
- reduced commitments
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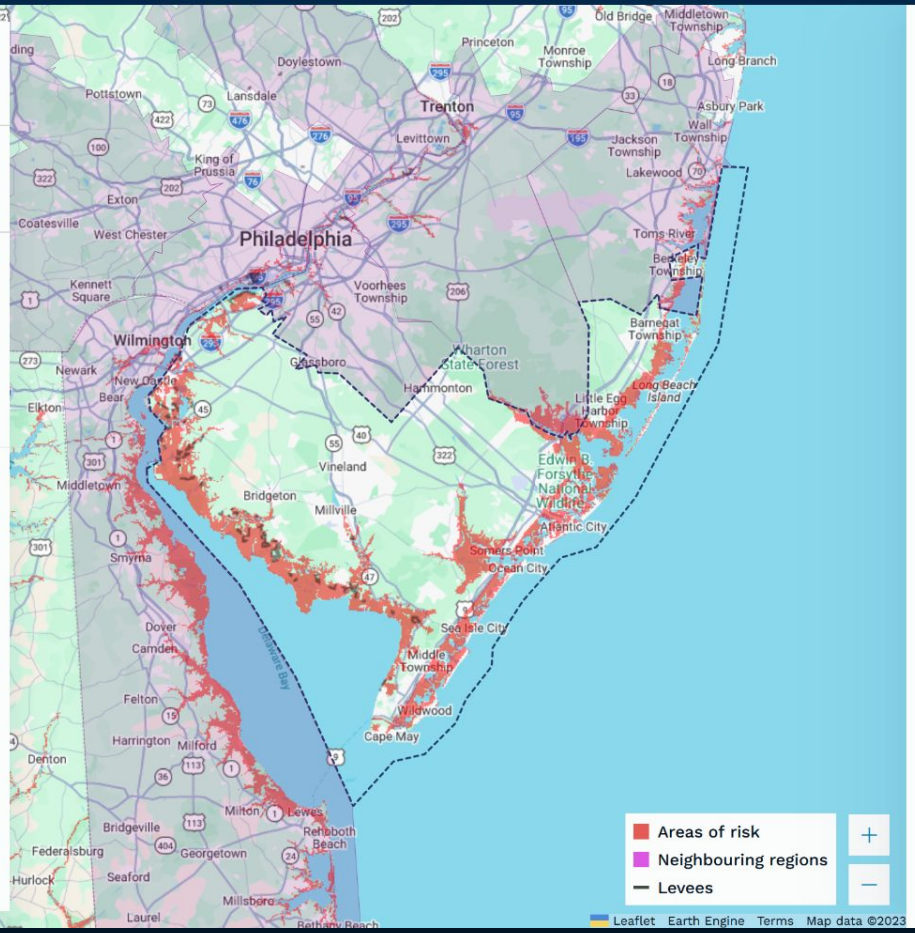
Sea level projection source:

- IPCC 2021
- U.S. Interagency 2022 (U.S. only)



All | Impacts | Solutions | Projections

Impacts What's at risk? See all

- 39,000 people at risk in NJ Congressional District 2
- 42,000 homes at risk in NJ Congressional District 2

Solutions What are the solutions? See all

- Prepare yourself and your family for a flood
- Prepare your home for a flood

Projections When are the risks? See all

- 3.2 ft flood expected every year by 2050
- 82% chance of a 3-ft flood in 2050

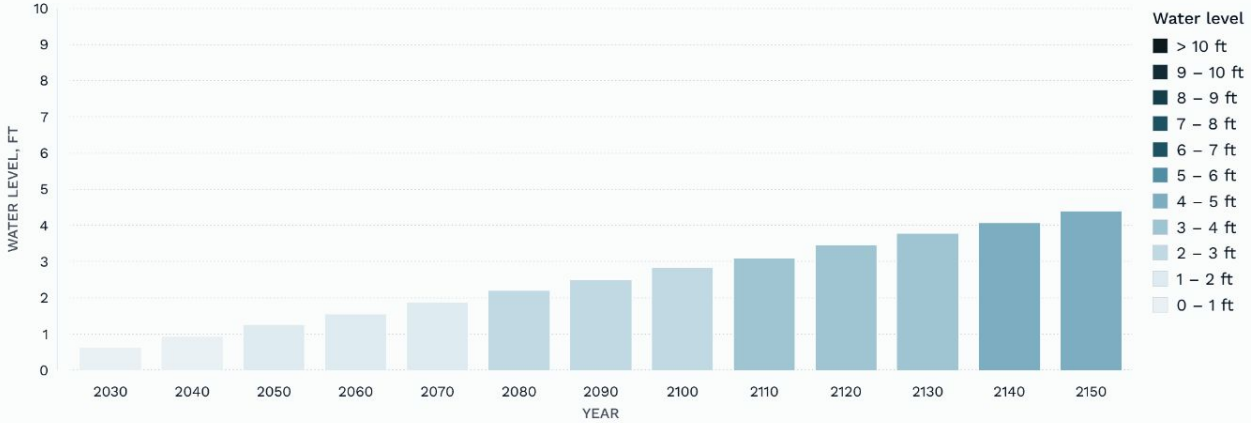
CLIMATE CENTRAL | Coastal Risk Finder

The sea level in NJ Congressional District 2 is projected to rise 2.8 ft by 2100 if we meet our pledged commitments to reduce heat-trapping pollution.

Scenario

Year	Projection type	Pollution pathway	Sea level projection source
2100	sea level rise	current commitments	IPCC 2021

Projected Sea Level Rise for NJ Congressional District 2



CLIMATE CENTRAL | Coastal Risk Finder

An annual flood in 2050

if we meet our pledged commitments to reduce heat-trapping pollution

Search for a U.S. location

Atlantic City, NJ

Select a scenario

VIEW RISK BY:

year

Year: **2050**

2030 — 2100

Additional settings

Projection type:

- sea level rise
- sea level rise + annual flood
- sea level rise + 10-year flood
- sea level rise + 100-year flood

Pollution pathway:

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Sea level projection source:

- IPCC 2021
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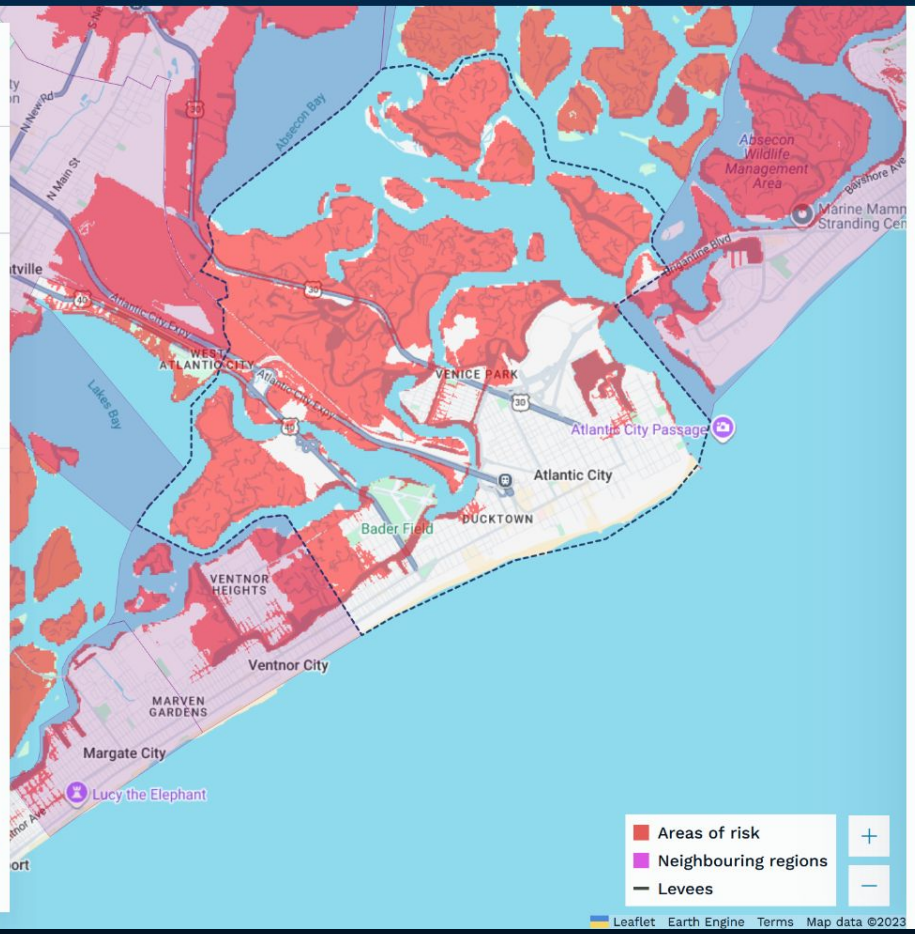


All | Impacts | Solutions | Projections

Impacts What's at risk? See all

- 7,900 people at risk in Atlantic City, NJ
- 3,400 homes at risk in Atlantic City, NJ

Solutions What are the solutions? See all

- Prepare yourself and your family for a flood
- Prepare your home for a flood

Projections When are the risks? See all

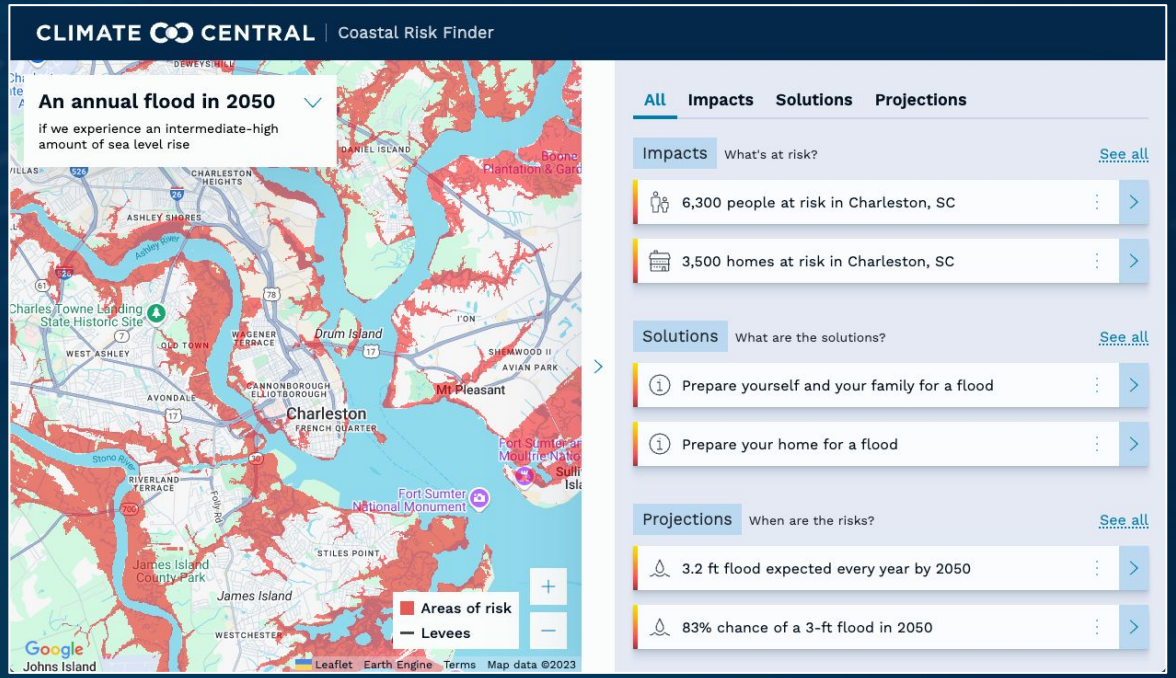
- 3.3 ft flood expected every year by 2050
- 86% chance of a 3-ft flood in 2050

Coastal Risk Finder

Coming Soon:

Attributable Sea Level Rise Study / Tool

- Historic flood stats
- Historic sea level rise stats



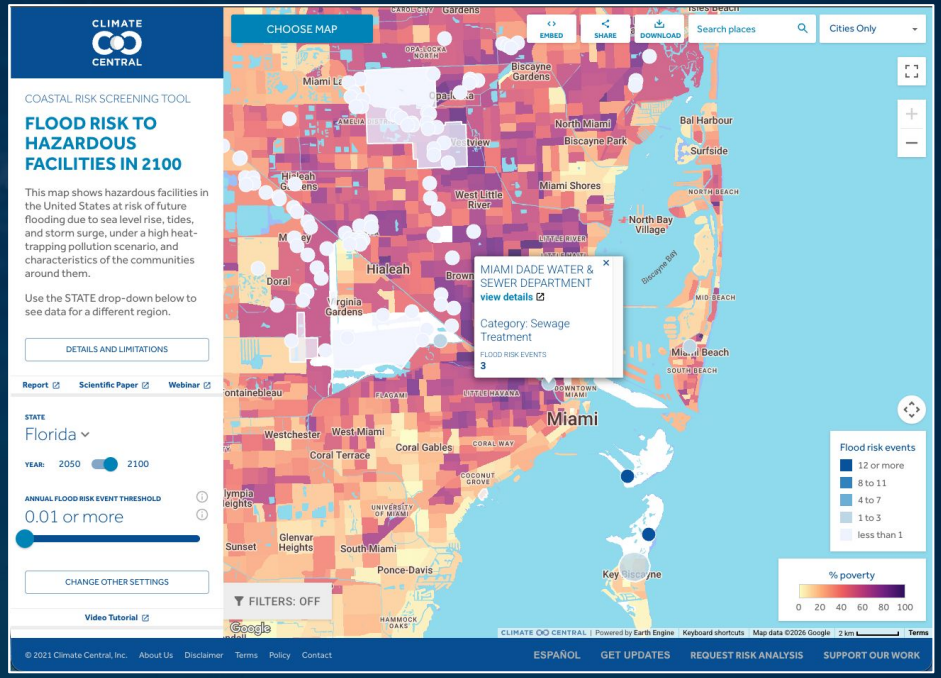
app.climatecentral.org/coastalriskfinder

Toxic Tides

Peer-reviewed research finding:

- 5,500 hazardous facilities at risk from a 100-year coastal flood by 2100
- Vulnerable communities are more likely to be exposed

Interactive maps available for exploring the data



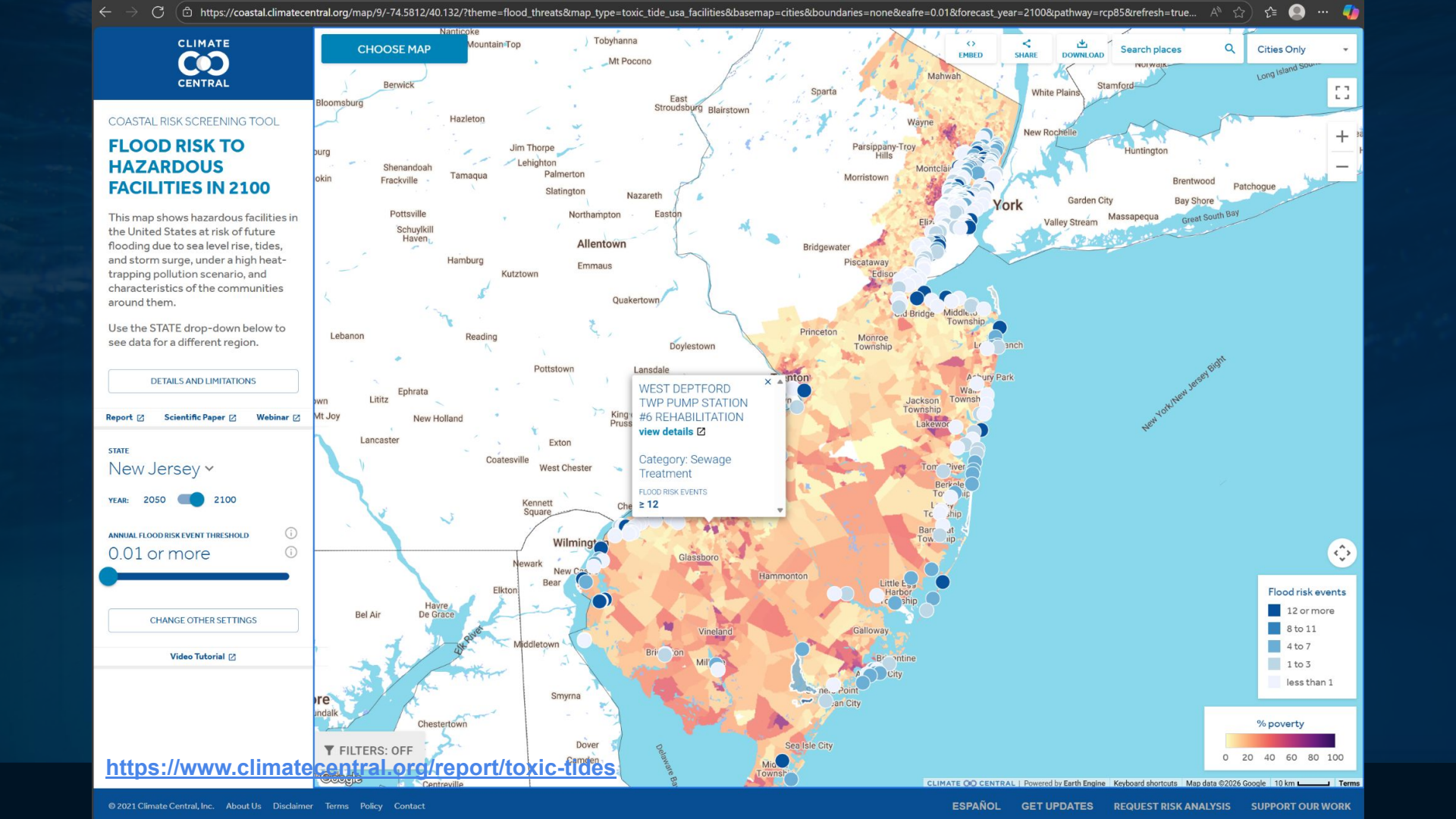
coastal.climatecentral.org/toxic-tides

Toxic Tides: Flooding threatens hazardous sites

- **5,500** coastal hazardous sites at risk (100-year flood) by **2100** — **RCP 8.5**
- **RCP 4.5: −362 sites (7%)**
- **>⅔** of 2100-risk sites become at risk within **25 years** (both scenarios)
- **Disproportionate exposure:** vulnerable neighborhoods **15–41%** more likely within **1 km**
- **Scale: 47,646** facilities mapped
- **Concentration: ~80%** in **LA, FL, NJ, TX, CA, NY, MA**

More Resources: **https://www.climatecentral.org/report/toxic-tides**

- An interactive map showing the location of hazardous sites and projected flood risks
- An interactive map showing the number of at-risk hazardous sites by region
- A StoryMap highlighting risks to fossil fuel infrastructure
- A webinar summarizing the research findings, demoing the maps, and contextualizing the findings


CLIMATE CENTRAL
COASTAL RISK SCREENING TOOL
FLOOD RISK TO HAZARDOUS FACILITIES IN 2100
This map shows hazardous facilities in the United States at risk of future flooding due to sea level rise, tides, and storm surge, under a high heat-trapping pollution scenario, and characteristics of the communities around them.
Use the STATE drop-down below to see data for a different region.
DETAILS AND LIMITATIONS
Report
Scientific Paper
Webinar
STATE
New Jersey
YEAR: 2050 2100
ANNUAL FLOOD RISK EVENT THRESHOLD
0.01 or more
CHANGE OTHER SETTINGS
Video Tutorial
CHOOSE MAP
EMBED
SHARE
DOWNLOAD
Search places
Cities Only
WEST DEPTFORD TWP PUMP STATION #6 REHABILITATION
view details
Category: Sewage Treatment
FLOOD RISK EVENTS
≥ 12
Flood risk events
12 or more
8 to 11
4 to 7
1 to 3
less than 1
% poverty
0 20 40 60 80 100
FILTERS: OFF
https://www.climatecentral.org/report/toxic-tides
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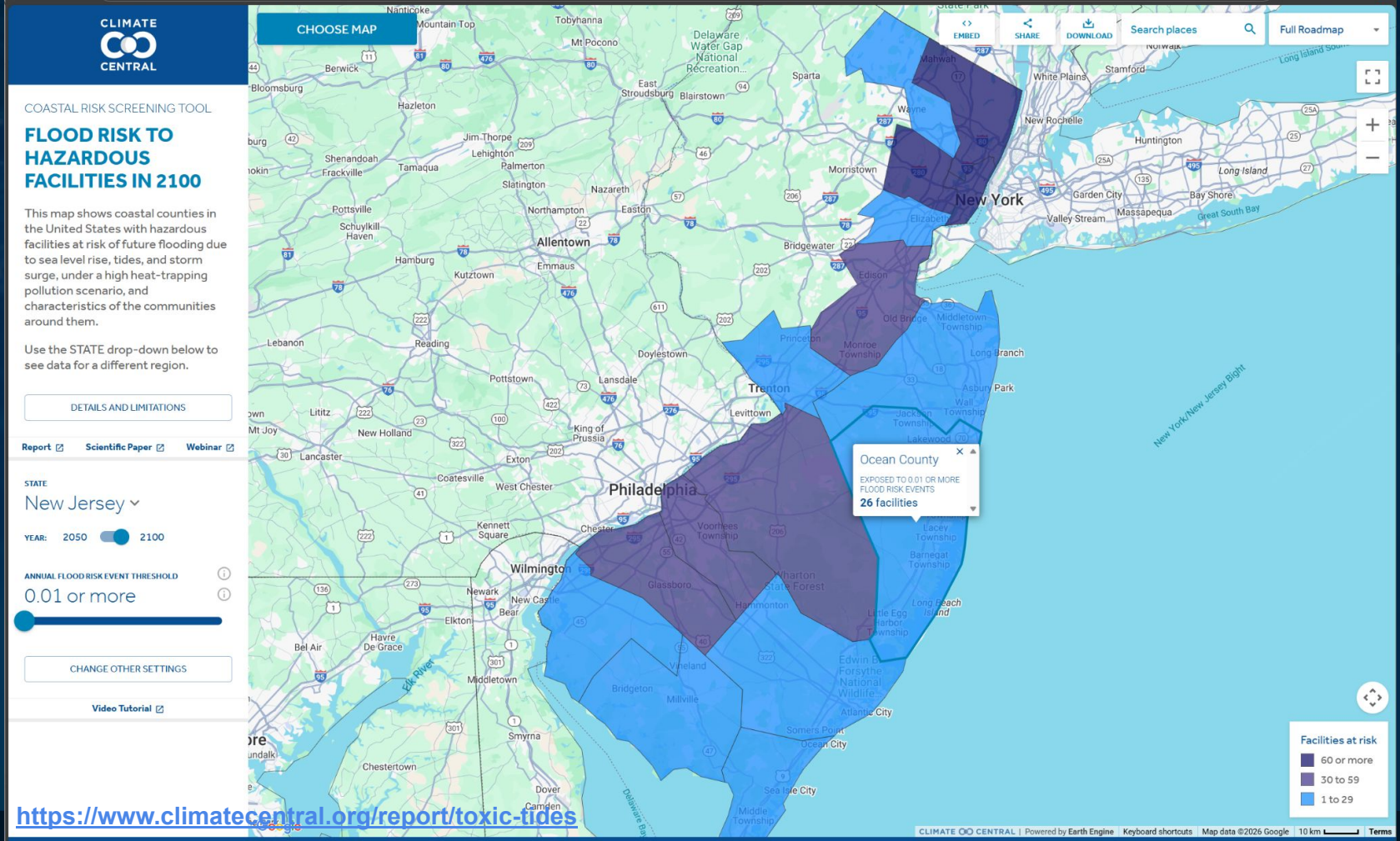
ESPAÑOL GET UPDATES REQUEST RISK ANALYSIS SUPPORT OUR WORK


CLIMATE CENTRAL
COASTAL RISK SCREENING TOOL
FLOOD RISK TO HAZARDOUS FACILITIES IN 2100
This map shows coastal counties in the United States with hazardous facilities at risk of future flooding due to sea level rise, tides, and storm surge, under a high heat-trapping pollution scenario, and characteristics of the communities around them.
Use the STATE drop-down below to see data for a different region.
DETAILS AND LIMITATIONS
Report
Scientific Paper
Webinar
STATE
New Jersey
YEAR: 2050 2100
ANNUAL FLOOD RISK EVENT THRESHOLD
0.01 or more
CHANGE OTHER SETTINGS
Video Tutorial
CHOOSE MAP
EMBED
SHARE
DOWNLOAD
Search places
Full Roadmap
Ocean County
EXPOSED TO 0.01 OR MORE FLOOD RISK EVENTS
26 facilities
Facilities at risk
60 or more
30 to 59
1 to 29
New York
Philadelphia
Trenton
Allentown
Wilmington
https://www.climatecentral.org/report/toxic-tides
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U.S. Billion-dollar Weather and Climate and Disasters






Climate Central communicates climate change science, effects, and solutions to the public and decision-makers. **Tracking the trends and impacts of extremes is one area.**

- U.S. billion-dollar disaster analysis seeks to bring the best public and private disaster loss data together in a systematic approach. To that end, we maintain a consistent record of weather and climate disasters with costs equaling or exceeding $1 billion in damages (adjusting for inflation) using high-quality data sources and peer-reviewed methods.

- **Period of record: January 1980 - December 2025**
- The U.S. has sustained **426** separate weather and climate disasters since 1980 where overall damages/costs reached or exceeded $1 billion.
- **Total, direct costs exceed $3.1 trillion (CPI-adjusted to 2025).**

https://www.climatecentral.org/climate-services/billion-dollar-disasters

Disaster Types

All types shown

- Drought
- Freeze
- Tropical Cyclone
- Winter Storm
- Flooding
- Severe Storm
- Wildfire

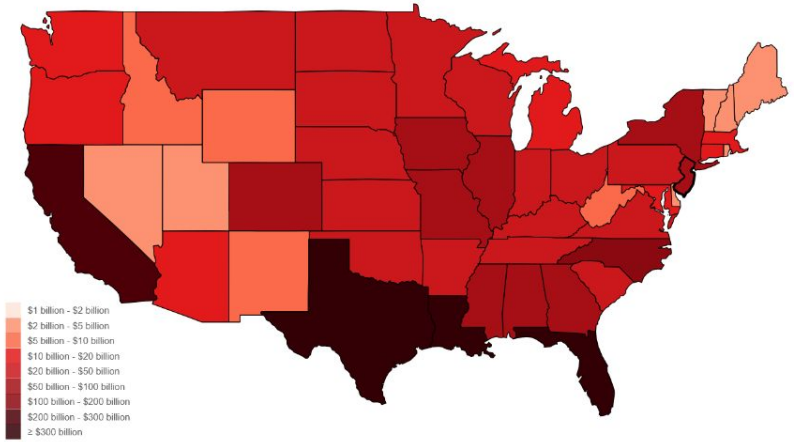
Map: Cost

Year Range: 1980 – 2026

Event: Coming Soon — All Events

Disaster Costs by State

CLIMATE CENTRAL



New Jersey

Drought:	$500M–1B
Flooding:	$1B–2B
Freeze:	$5M–100M
Severe Storm:	$2B–5B
Tropical Cyclone:	$50B–100B
Wildfire:	0
Winter Storm:	$5B–10B
All Disasters:	**$50B–100B**

Alaska

Hawaii

Puerto Rico

Guam

U.S. Virgin Islands

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Metric

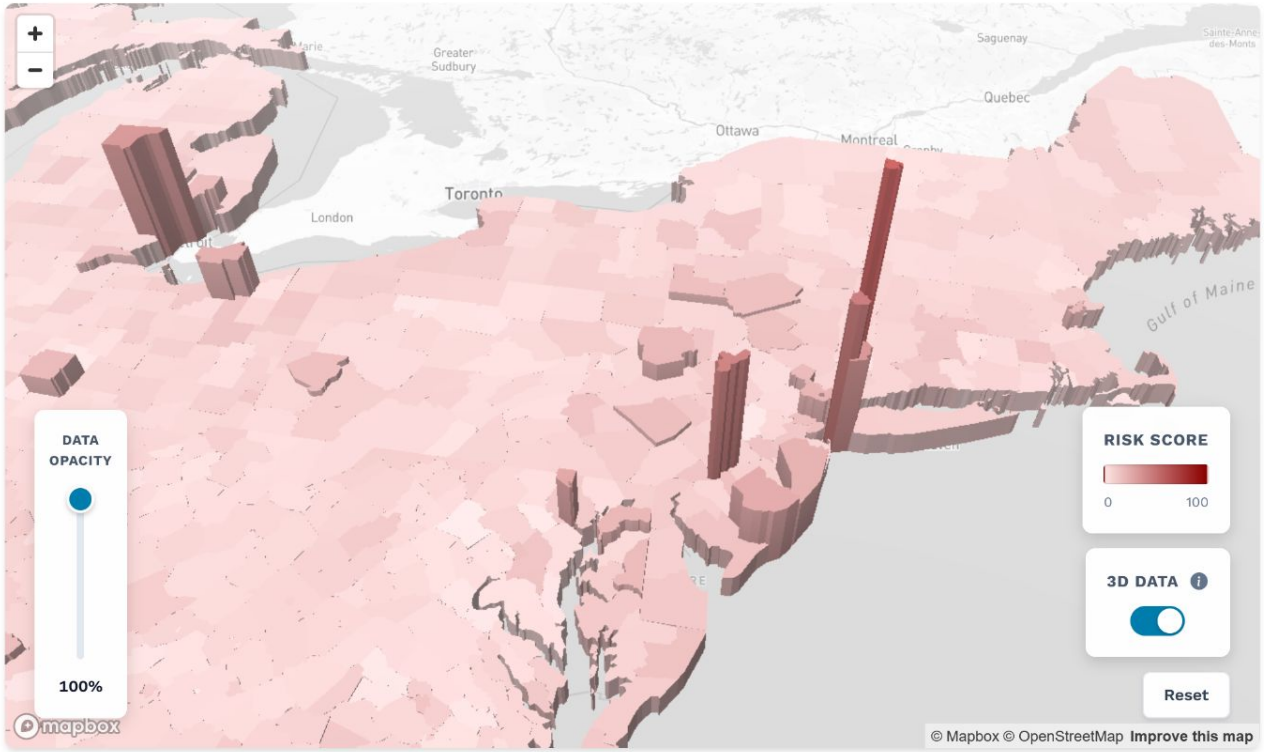
Weather and Climate Risk

Location

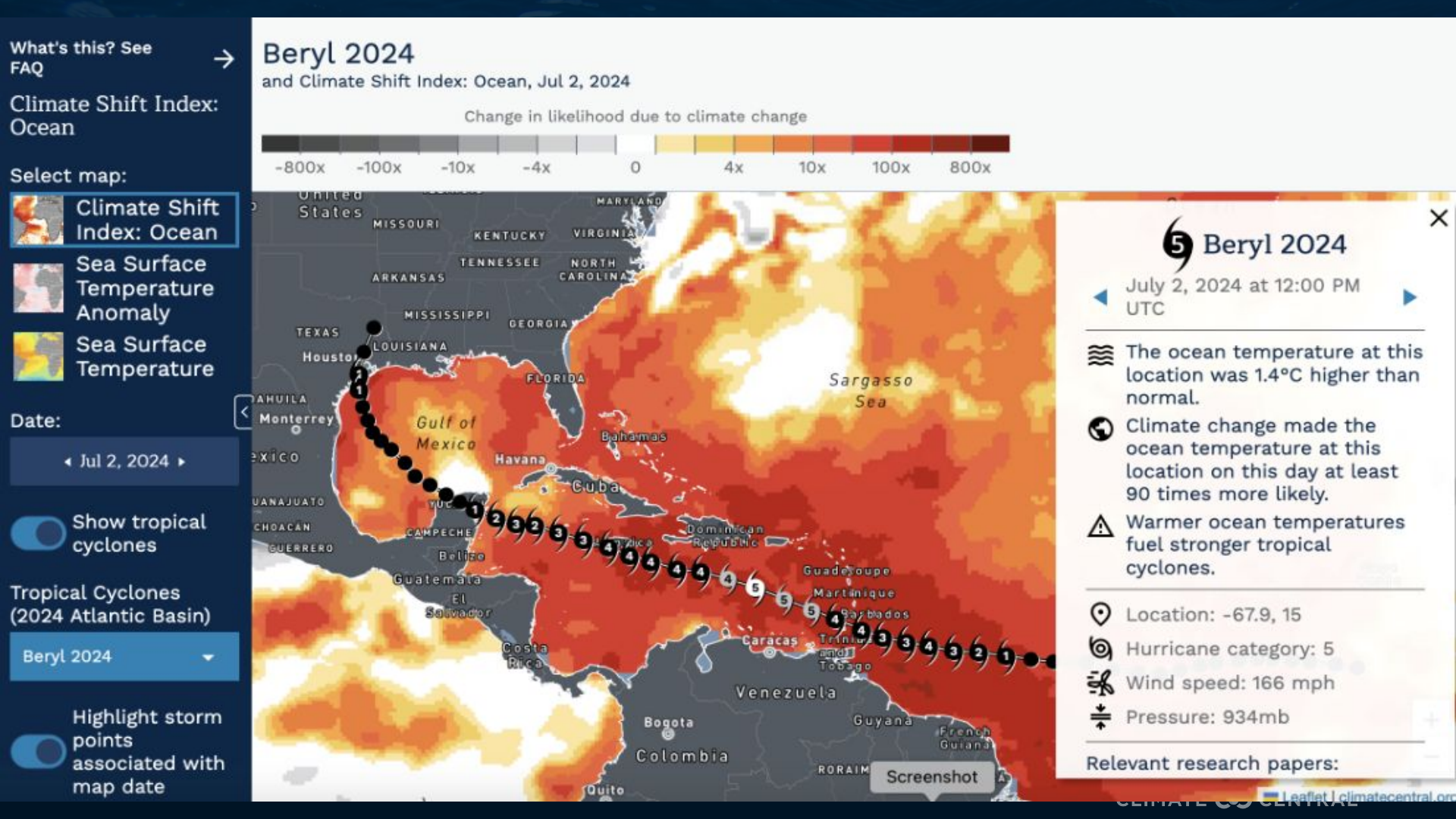
U.S. Counties

Disaster Types *7 of 7 selected*

- [x] Drought
- [x] Flooding
- [x] Freeze
- [x] Severe Storm
- [x] Tropical Cyclone
- [x] Wildfire
- [x] Winter Storm



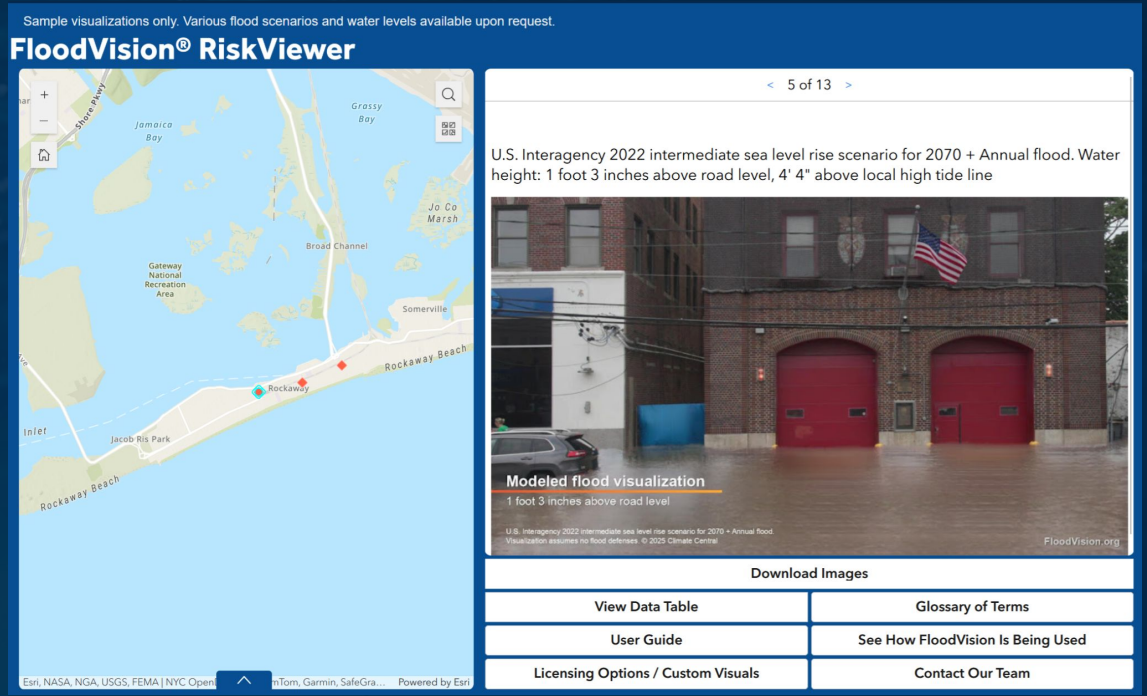
Navigate the map by pan and zoom (Shift+Click+Drag, +/- Controls). Use the Data Opacity slider to reveal locations and landmarks on the map beneath the data. Click on a county to see weather and climate risk score comparisons, socioeconomic vulnerabilities, and future risk projections.


What's this? See FAQ
Climate Shift Index: Ocean
Select map:
Climate Shift Index: Ocean
Sea Surface Temperature Anomaly
Sea Surface Temperature
Date:
Jul 2, 2024
Show tropical cyclones
Tropical Cyclones (2024 Atlantic Basin)
Beryl 2024
Highlight storm points associated with map date
Beryl 2024
and Climate Shift Index: Ocean, Jul 2, 2024
Change in likelihood due to climate change
-800x
-100x
-10x
-4x
0
4x
10x
100x
800x
Beryl 2024
July 2, 2024 at 12:00 PM UTC
The ocean temperature at this location was 1.4°C higher than normal.
Climate change made the ocean temperature at this location on this day at least 90 times more likely.
Warmer ocean temperatures fuel stronger tropical cyclones.
Location: -67.9, 15
Hurricane category: 5
Wind speed: 166 mph
Pressure: 934mb
Relevant research papers:
Screenshot
Gulf of Mexico
Sargasso Sea
Cuba
Havana
Bahamas
Venezuela
Colombia
Caracas
Bogota
Guyana
Trinidad and Tobago
Barbados
Martinique
Guadeloupe
Dominican Republic
Jamaica
Belize
Guatemala
El Salvador
Costa Rica
Monterrey
Houston
Quito
Leaflet | climatecentral.org

FloodVision RiskViewer

Library of **realistic, street-level visuals of projected flooding** for

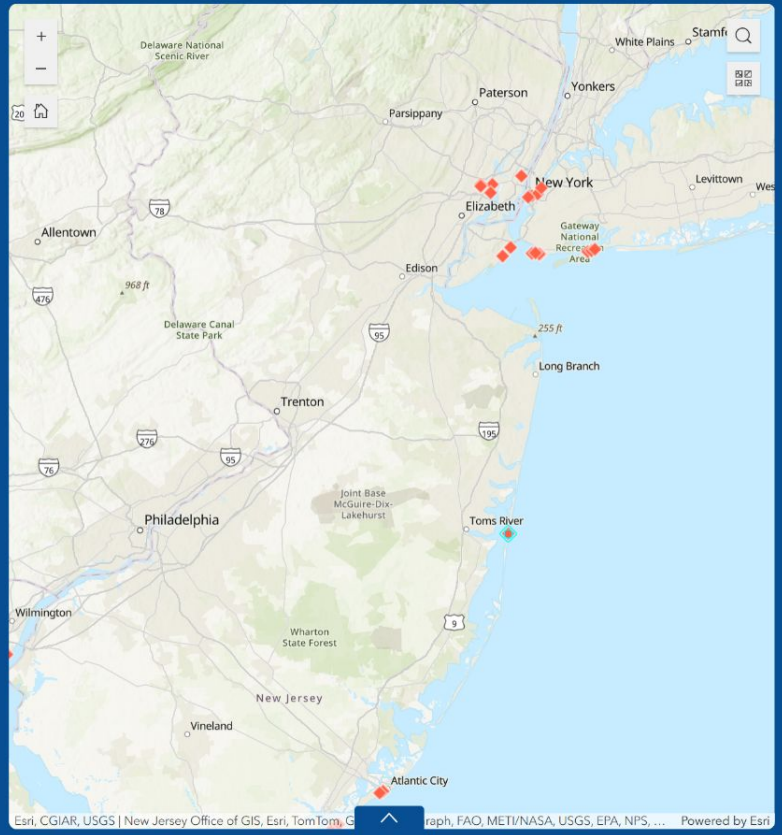
- communicating local flood risks
- supporting resilience planning
- raising awareness before the next disaster



climatecentral.org/tools/floodvision-riskviewer

Sample visualizations only. Various flood scenarios and water levels available upon request.

FloodVision® RiskViewer



< 12 of 12 >

815 Blvd, 815 Boulevard, Seaside Heights, NJ 08751, USA

U.S. Interagency 2022 intermediate sea level rise scenario for 2100 + 1% annual chance flood height. Water height: 5 feet 1 inch above road level, 8' 10" above local high tide line

Download Images

View Data Table | Glossary of Terms

User Guide | See How FloodVision Is Being Used

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FloodVision®

- High quality entry-floor elevation data for quantitative flood risk assessments
- Photorealistic flood visualizations for effective risk communication

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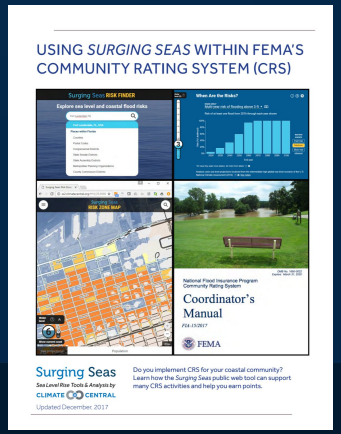
5721
Entry floor elevation measurement
Measurements of buildings

CRS Workshop, Mobile, AL



USING *SURGING SEAS* WITHIN FEMA'S COMMUNITY RATING SYSTEM (CRS)

Surging Seas RISK FINDER
Explore sea level and coastal flood risks

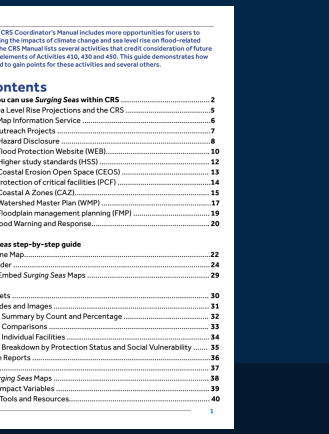
What Are the Risks?

RISK ZONE MAP

National Flood Insurance Program
Community Rating System
Coordinator's Manual
FIA-15/2017
FEMA

Surging Seas
Sea Level Rise Tools & Analysis by
CLIMATE CENTRAL
Updated December 2017

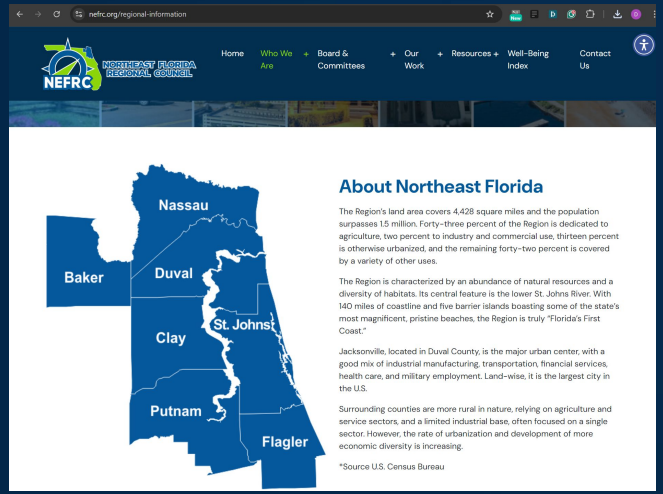
Do you implement CRS for your coastal community? Learn how the *Surging Seas* public web tool can support many CRS activities and help you earn points.



The 2017 edition of the CRS Coordinator's Manual includes more opportunities for users to gain credit for considering the impacts of climate change and sea level rise on flood-related issues. Section 404 of the CRS Manual lists several activities that credit consideration of future sea level rise, including elements of Activities 410, 420 and 450. This guide demonstrates how *Surging Seas* can be used to gain points for these activities and several others.

Table of Contents

FloodVision in use: NE Florida Regional Council



Fara Ilami
Regional Resiliency Manager
Northeast Florida Regional Council

Coming Soon:
FloodVision Entry Floor Elevations Nationwide

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Time horizon

Explore sea level rise and coastal flood threats by decade.

VIEW MAP

Water level

Choose a water level and see what areas may be impacted.

VIEW MAP

Warming choices

Compare scenarios for long-term sea level rise based on different pollution pathways.

VIEW MAP

Temperature

Explore how different warming scenarios could affect sea level rise in the coming decades.

VIEW MAP

Ice sheets

Explore how ice loss in Antarctica and Greenland could impact different parts of the globe.

Affordable housing

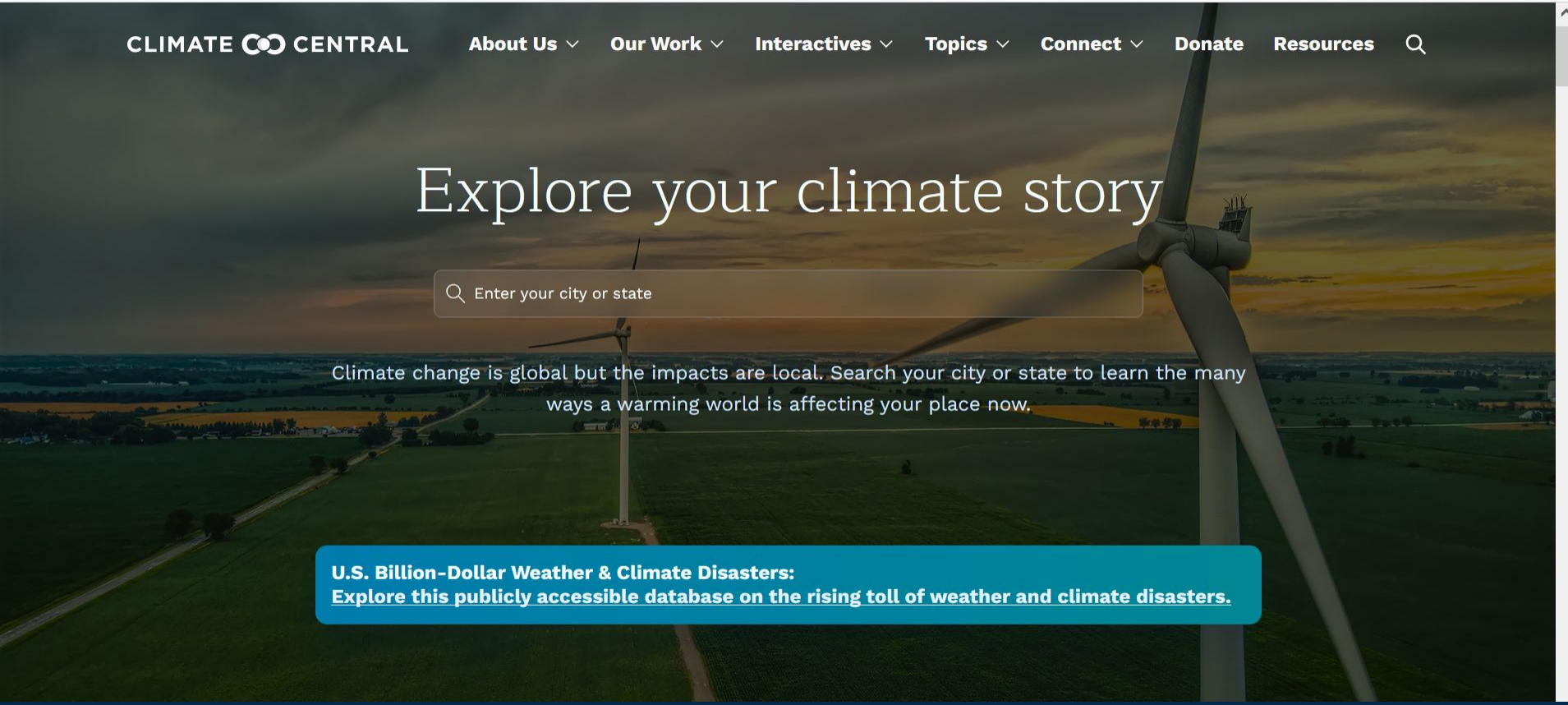
Explore how coastal flooding puts America's already scarce affordable housing at risk.

Toxic tides

See how worsening coastal flooding puts communities near hazardous facilities at risk from toxic floodwaters.

Coastal wetlands

Explore how sea level rise, coastal development, and marsh vertical growth rates impact the resilience of wetlands.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Resources
Explore your climate story
Enter your city or state
Climate change is global but the impacts are local. Search your city or state to learn the many ways a warming world is affecting your place now.
U.S. Billion-Dollar Weather & Climate Disasters:
Explore this publicly accessible database on the rising toll of weather and climate disasters.

Climate change in Atlantic City, New Jersey

Climate change is affecting locations like Atlantic City in a variety of ways. In spring, these impacts include **housing at risk from coastal flooding**, **heavier rain**, and **more frequent fire weather**.

Explore these pages to learn how people in Atlantic City are at risk in a warming world.

Temperature change	Precipitation change	Days with temperatures strongly affected by climate change
+3.9 °F	+12.6 in.	0 days

Atlantic City's climate threats in spring include:

Heavy rainfall	Severe weather	Heat	Sea level rise
Change in hourly rainfall intensity	Billion-dollar disasters	Spring average temperatures	Projected sea level rise by 2050
+12 %	+24 storms	+3.7 °F	1.3 ft

More graphics about **Atlantic City** and climate change

Browse climate-related graphics for all seasons localized for Atlantic City, available for download and use consistent with our Terms of use.

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March 4, 2026

Freeze Free Growing Season Trends

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February 25, 2026

Spring Days Above Normal

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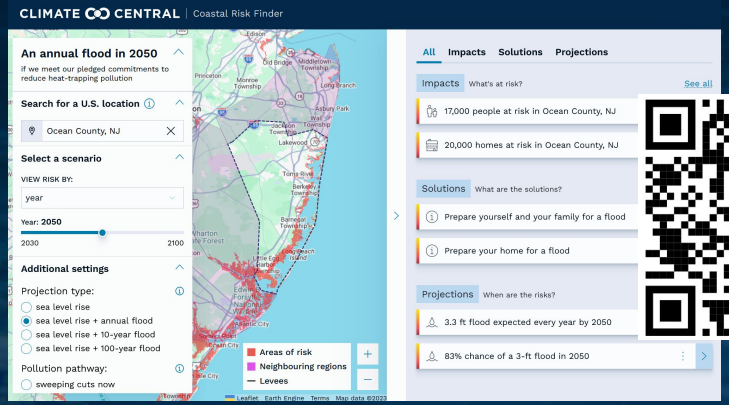

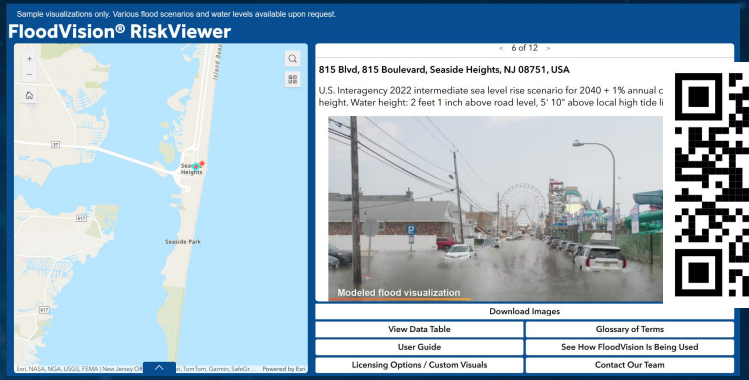

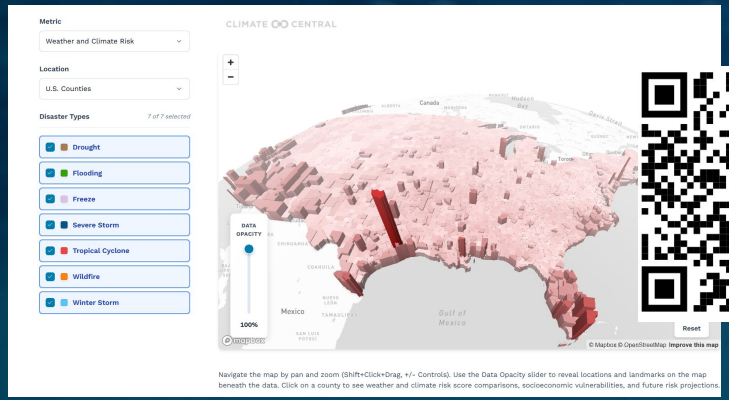

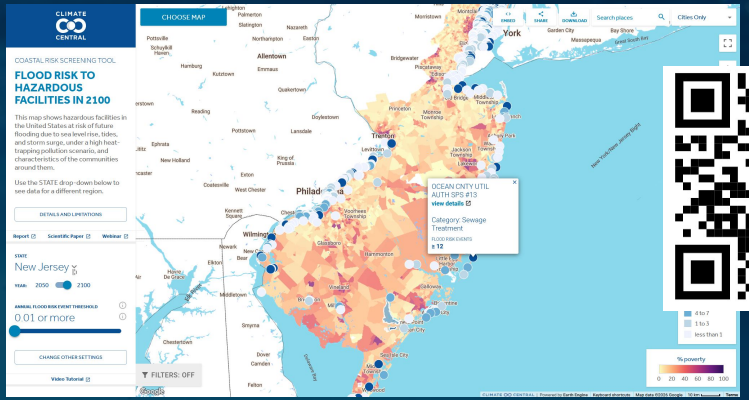

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Thank You