

South Carolina Office of Resilience

Resilience Planning and First Streets Data

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Outline

- SCOR Background
 - SCOR Programs
 - SCOR Resilience Planning
- First Street Foundation
 - Overview
 - How to Request
- Questions

SCOR Background

History

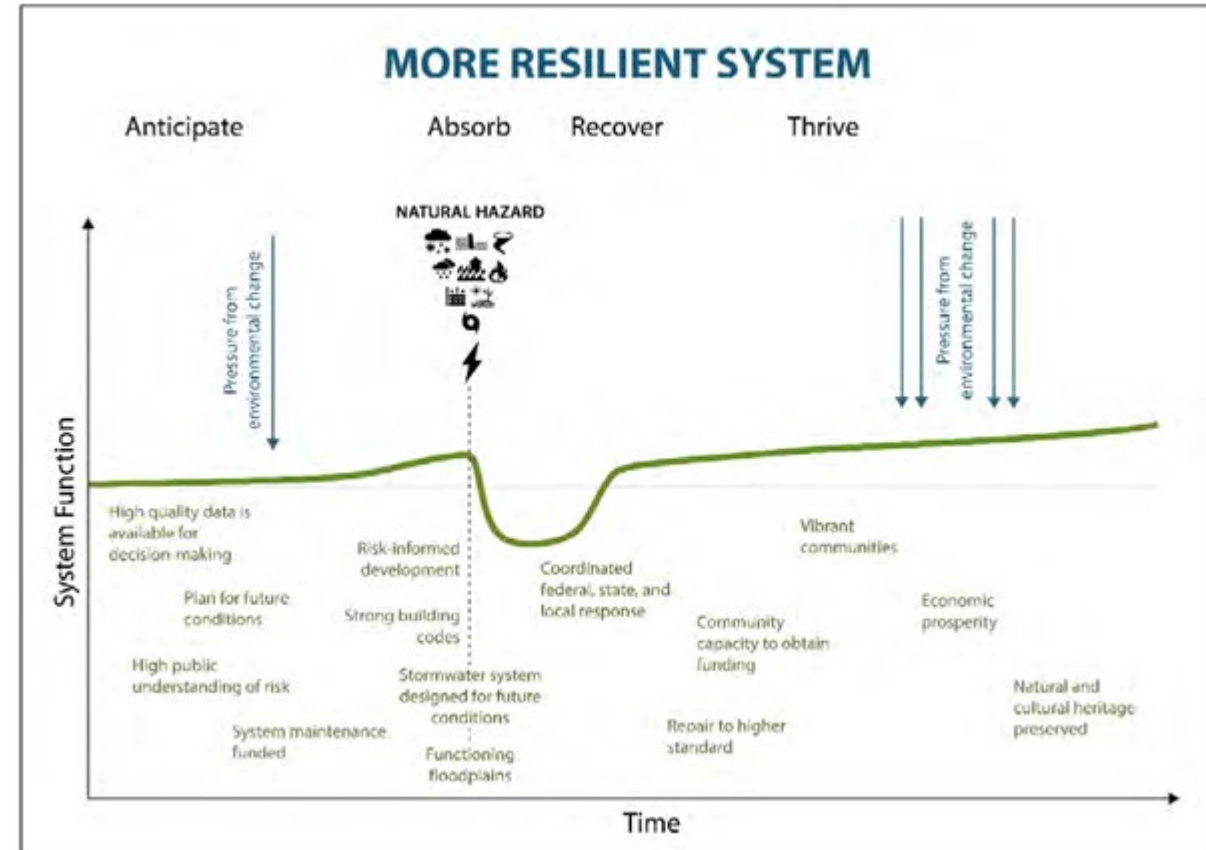
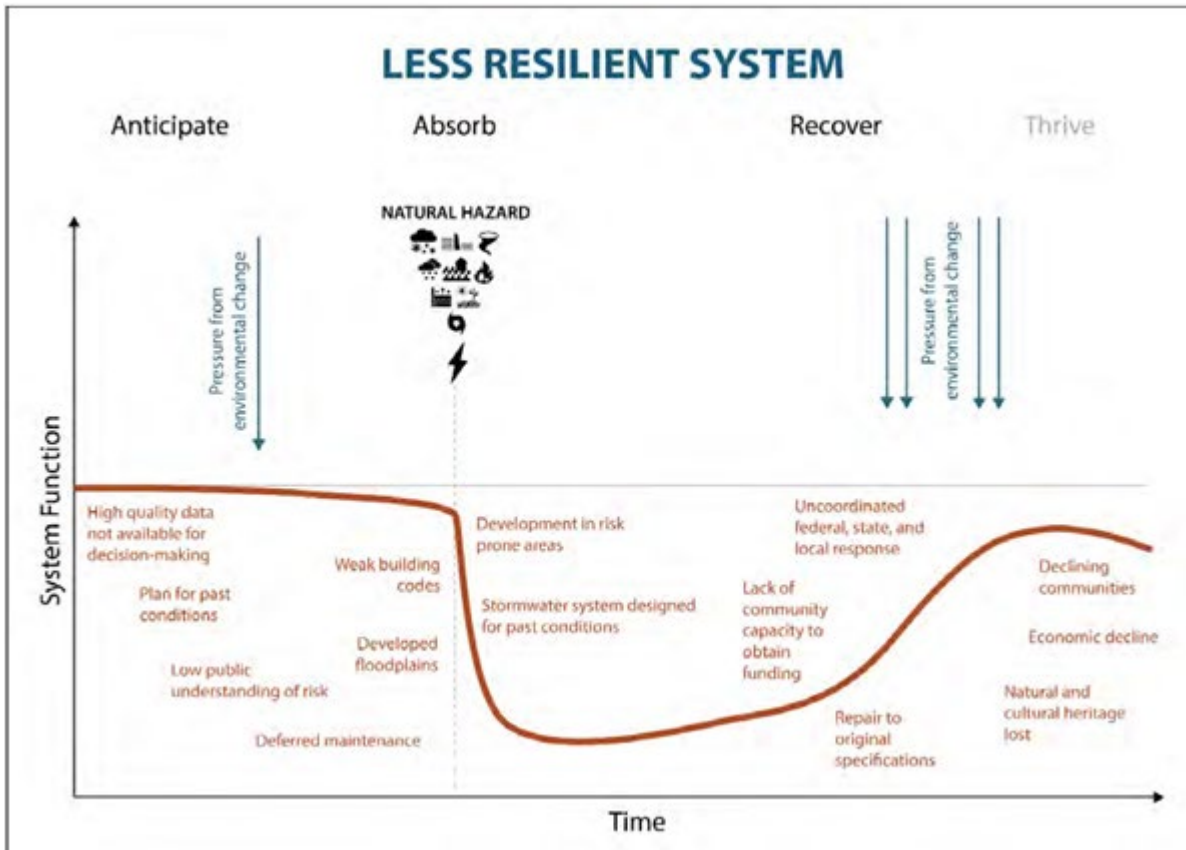


What is Resilience?

The ability of communities, economies, and ecosystems to **anticipate, absorb, recover,** and **thrive** when presented with environmental change and natural hazards.

Resilience Definition

The ability of communities, economies, and ecosystems within South Carolina to anticipate, absorb, recover, and thrive when presented with environmental change and natural hazards.



What We Do

RESILIENCE

- Development and management of the Strategic Statewide Resilience & Risk Reduction Plan
- Management of the Disaster Relief and Resilience Reserve Fund and the SC Resilience Revolving Fund

MITIGATION

- **Buyouts:** Voluntary acquisitions of repetitively flooded land and property in order to return it to green space
- **Infrastructure:** Traditional “Gray” and Nature-based “Green” Infrastructure
- **Plans & Studies:** Funding for local governments and state agencies to develop and/or update hazard mitigation plans, stormwater plans, and more
- **Matching Grants:** Provide the local cost share for other federal flood mitigation programs

DISASTER RECOVERY

Long-term recovery: rebuild and replace homes damaged by hurricanes and flooding in FEMA-declared counties; funded by HUD CDBG-DR

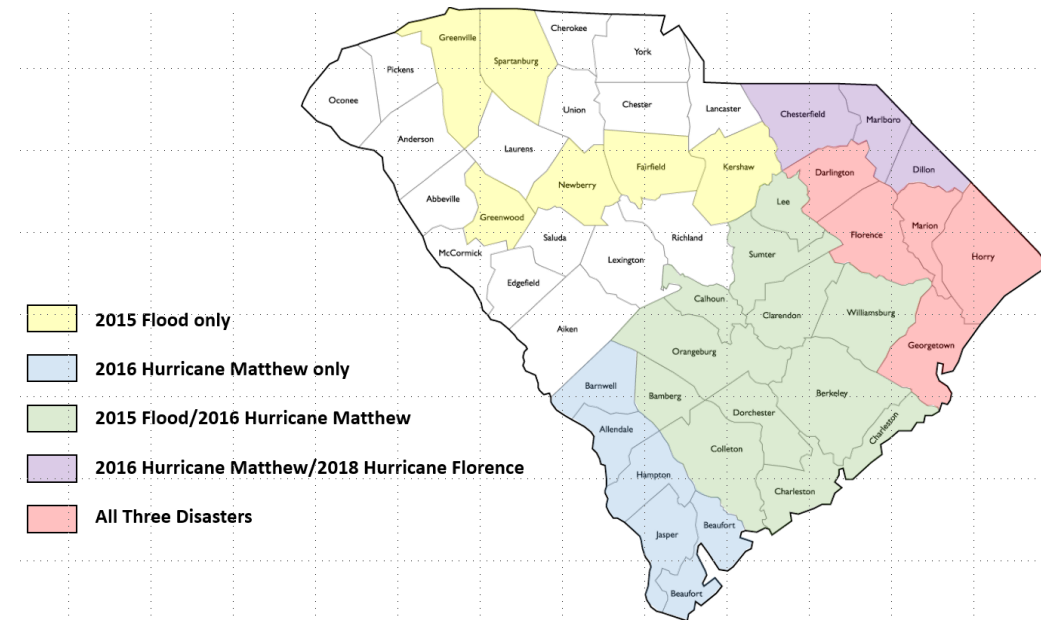


Disaster Recovery

- Using HUD funds through a Community Development Block Grant-Disaster Recovery (CDBG-DR) grant, SCOR repairs, replaces or rebuilds homes impacted by hurricanes



- \$293M total federal HUD funding + \$10.5M from SC Housing Authority
- **3,407 homes total**
- CDBG-DR Grants are for 6 years
 - 2015 completed on time
 - 2016 scheduled to close on time
 - 2018 ahead of schedule to close



Disaster Recovery: HUD CDBG-DR

\$293 million | 3,407 homes complete

2015 SEVERE STORM
\$126 million | 100% complete



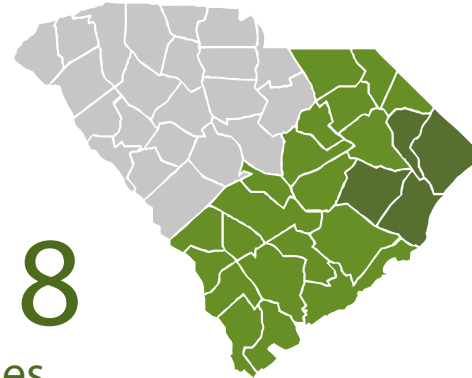
1,829
/ 1,829 homes

Completion date: September 2021

Within 6-year allotment

- | | | | |
|----------------------|-----------------------|------------------|-------------------------|
| 1. Bamberg | 7. Darlington | 13. Greenwood | 19. Orangeburg |
| 2. Berkeley | 8. Dorchester | 14. Horry | 20. Spartanburg |
| 3. Calhoun | 9. Fairfield | 15. Kershaw | 21. Sumter |
| 4. Charleston | 10. Florence | 16. Lee | 22. Williamsburg |
| 5. Clarendon | 11. Georgetown | 17. Marion | |
| 6. Colleton | 12. Greenville | 18. Newberry | |

2016 HURRICANE MATTHEW
\$95 million | 100% complete



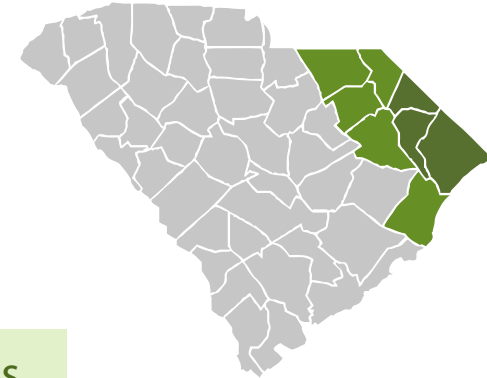
1,138
/ 1,138 homes

Completion date: December 2022

Within 6-year allotment

- | | | | |
|--------------|-----------------|-----------------------|-------------------------|
| 1. Allendale | 7. Charleston | 13. Dorchester | 19. Lee |
| 2. Bamberg | 8. Chesterfield | 14. Florence | 20. Marion |
| 3. Barnwell | 9. Clarendon | 15. Georgetown | 21. Marlboro |
| 4. Beaufort | 10. Colleton | 16. Hampton | 22. Orangeburg |
| 5. Berkeley | 11. Darlington | 17. Horry | 23. Sumter |
| 6. Calhoun | 12. Dillon | 18. Jasper | 24. Williamsburg |

2018 HURRICANE FLORENCE
\$72 million | 92% complete



440
/ 475 homes

Expected completion date: 2024

Within 6-year allotment

- | | |
|------------------|------------------|
| 1. Chesterfield | 5. Georgetown |
| 2. Darlington | 6. Horry |
| 3. Dillon | 7. Marion |
| 4. Florence | 8. Marlboro |

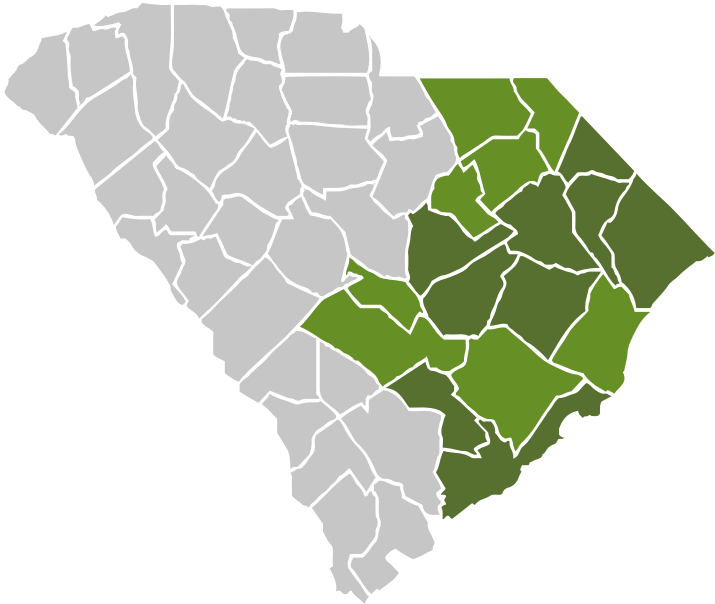
*Note: Richland & Lexington counties received CDBG-DR grants for the 2015 Severe Storm and therefore were not served by our programs.

Mitigation: HUD CDBG-MIT

MITIGATION

\$162 million | 63% obligated

Expected completion NLT 2032



Available to 17 counties in SC:

Infrastructure

\$100 million allocated / \$62 million awarded
20 projects

Projects to reduce flooding – stormwater improvements, drainage tunnels, etc.

Phase I	Phase II
\$50M available - Received \$113M in requests - Awarded \$55M	\$40M available - Received \$91M in requests - Award determination & notification: late 2023 or early 2024

55%

Plans & Studies

\$14 million allocated / \$6 million awarded
19 projects

Studies to assist communities in determining the cause of flooding in their area; assistance with or completion of various types of plans relating to flood mitigation. Plans and studies are meant to produce shovel-ready projects which can be submitted for funding under SCOR's Infrastructure program.

46%

Buyouts

\$37.5 million allocated / \$34 million awarded
6 projects

Acquisition of properties in the floodplain that have been repetitively flooded. The purpose of this program is to move citizens out of harm's way and return the land to green space so that the natural function of the floodplain is restored.

97%

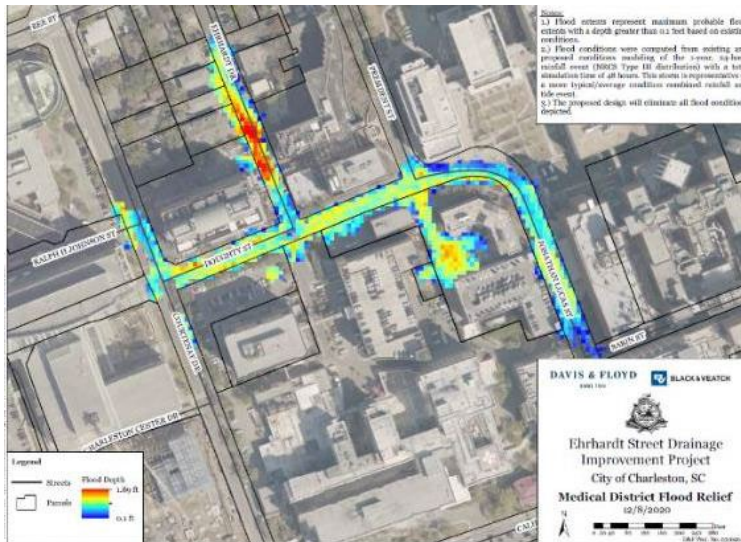
Matching Grants

\$2.5 million allocated / \$2.5 million awarded
8 projects

Provides the local cost-share portion for various federal flood mitigation grants

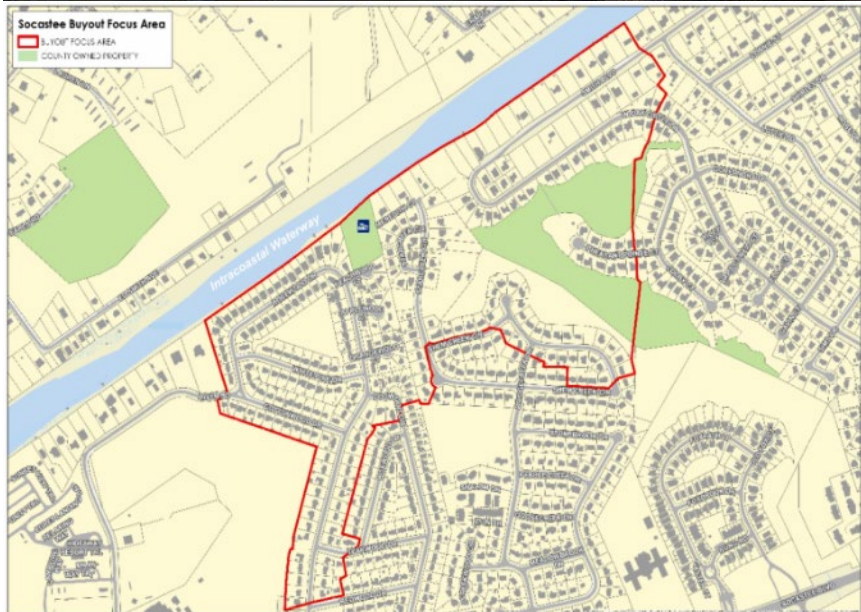
100%

Charleston Medical District: Ehrhardt Tunnel



The proposed design will eliminate the flood conditions depicted in the bottom left image. The map depicts a typical/average combined rainfall and tide event.

Horry County Buyout



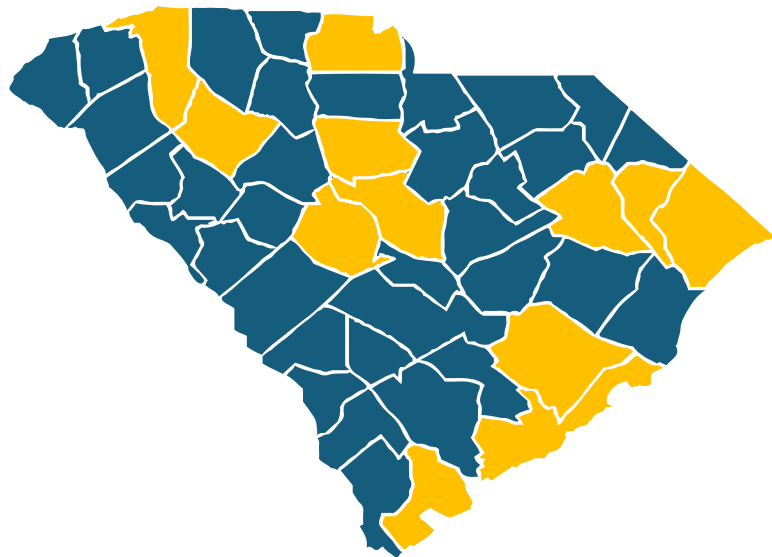
The proposed project will buyout and demolish 61 homes and their associated non-porous surfaces from the community.

Mitigation: American Rescue Plan Act Programs (ARPA)

\$100M Designated

ARPA Stormwater Infrastructure (ASIP)

- Available statewide – application period held Fall 2022
- \$55M Allocated
- 17 projects awarded



USS Yorktown Remediation

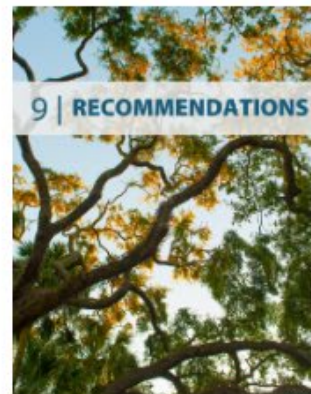
- Phase II Pending JBRC
- \$40M available
- Estimated cost: \$29M

Phase I	Phase II
• Estimated \$10,710,016 • Environmental Study • Immediate hull repair and tank cleanup, necessary for environment remediation • Immediate repair contingency	• Estimated \$18M • Cleanup of hazardous materials (fuel, PCBs, etc.) • Cleanup engineering oversight • Additional hull repair related to environmental remediation • Hull repair contingency



Resilience Planning

The South Carolina Office of Resilience recently released the **Strategic Statewide Resilience and Risk Reduction Plan** (Resilience Plan). The Plan identifies major flood risks around the state and potential losses that could occur as a result of extreme weather events. The Plan provides strategies for local governments to implement resilience into their communities in order to mitigate potential flood risks.



Legislative Guidance

- The Act stated that the plan should be developed with the principles recommended in the South Carolina Floodwater Commission Report.
- Intended to serve as a framework to guide state investment in flood mitigation projects. Adopts programs and policies to protect the people and property of South Carolina from damage and destruction of extreme weather events.
- The Act directed that the initial version of the plan be completed by July 1, 2022.*
(Extended to July 1, 2023)

Resilience Planning Assumptions

- The plan will not try to provide solutions to prevent changes to the climate but will offer recommendations for how the state may minimize the impacts that are expected to occur.
- Resilience Planning utilizes an adaptive management approach so that it can adjust to changing conditions and integrate new data sources as they become available.
- Initial Plan recommendations focuses flooding.
 - Other extreme weather events /disasters to be addressed in more detail in subsequent versions of the plan

Recommendation Themes

Improve Data Collection and Coordination

Increase Education, Outreach, and Disclosure

Coordinate Watershed-Based Resilience Planning and Projects

Incorporate Resilience into Planning, Land Use and Other Regulatory Processes

Maintain and Strengthen Building Codes

Incorporate Resilience into Infrastructure Design

Maintain Natural Flood Protection Through Conservation

Incorporate Resilience into Housing Recovery

Establish a Voluntary Pre-Disaster Buyout Program

Identify and Maximize All Available Funding Sources For Resilience Activities

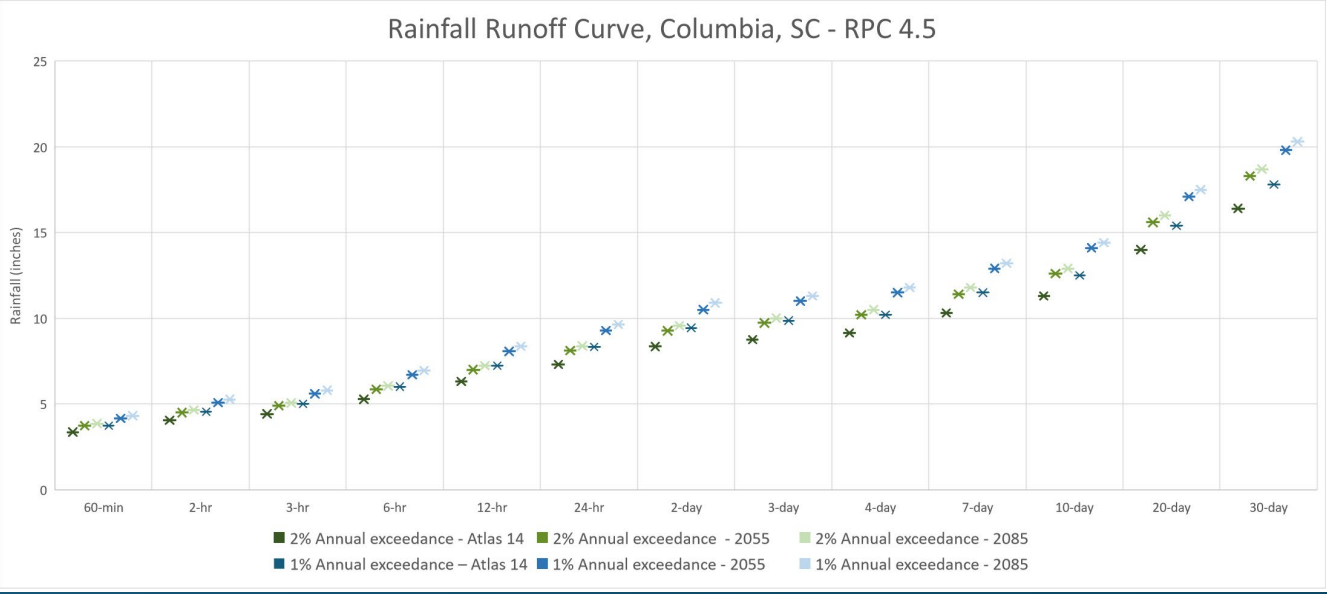
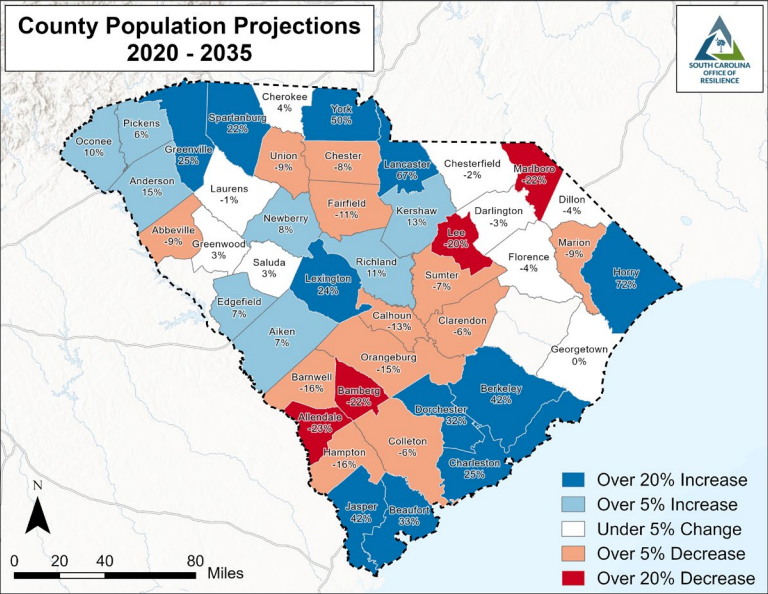
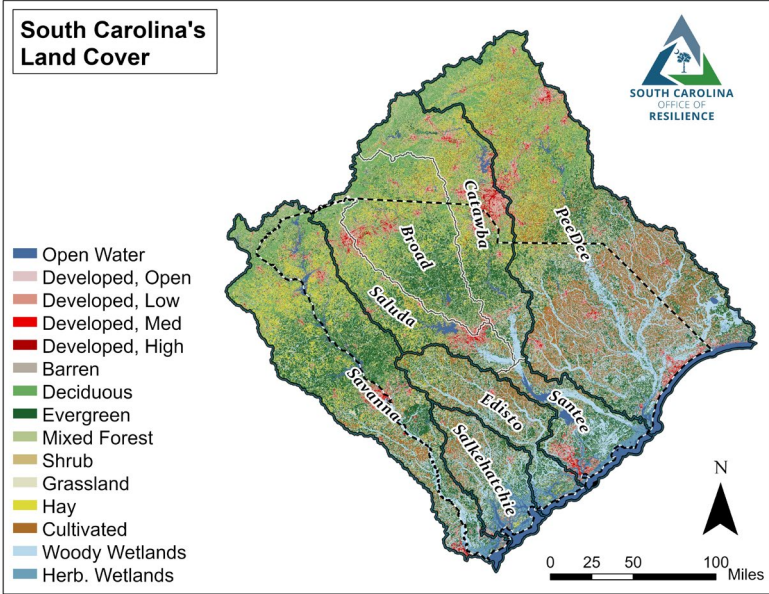
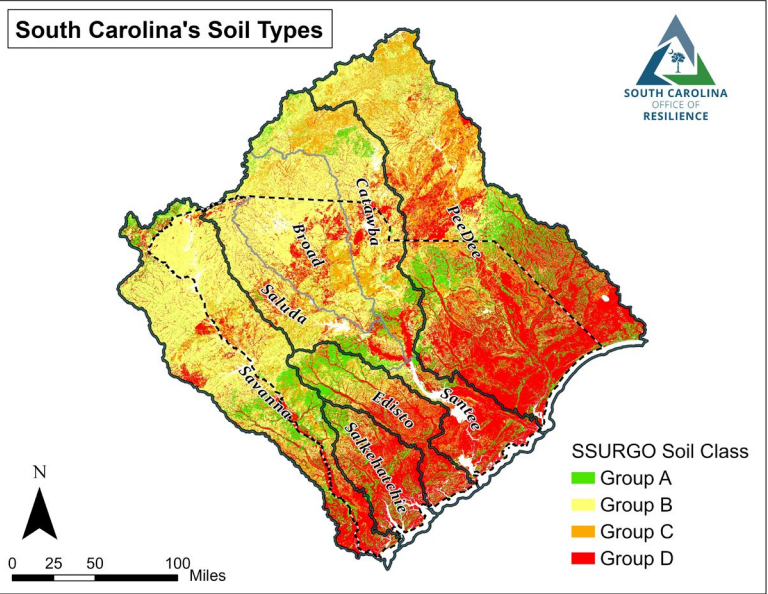
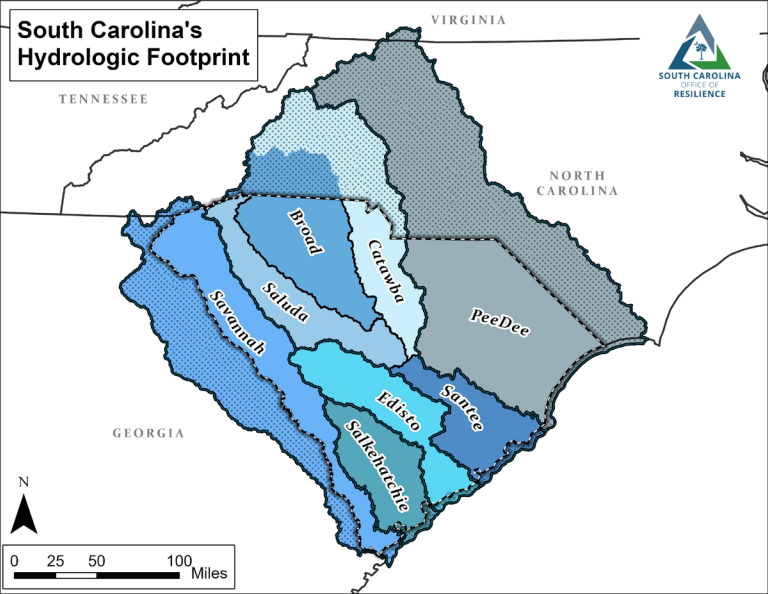
Strategic Statewide Resilience and Risk Reduction Plan

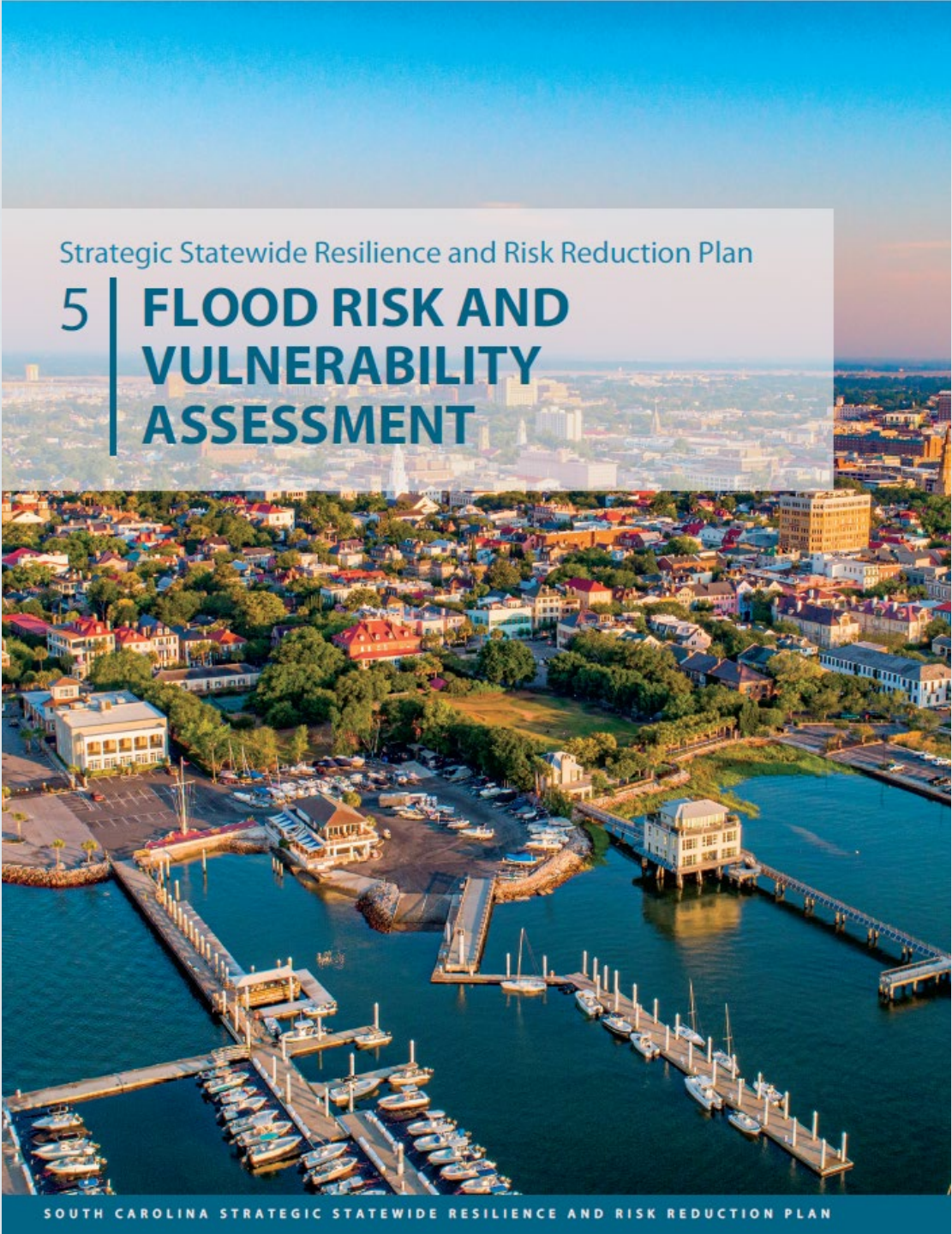
3 | PLANNING CONDITIONS



SOUTH CAROLINA STRATEGIC STATEWIDE RESILIENCE AND RISK REDUCTION PLAN

Planning Conditions

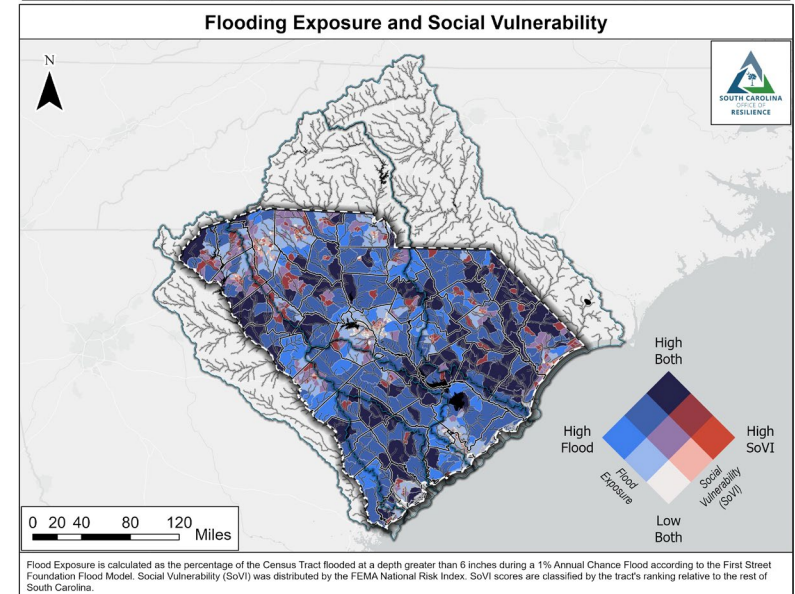
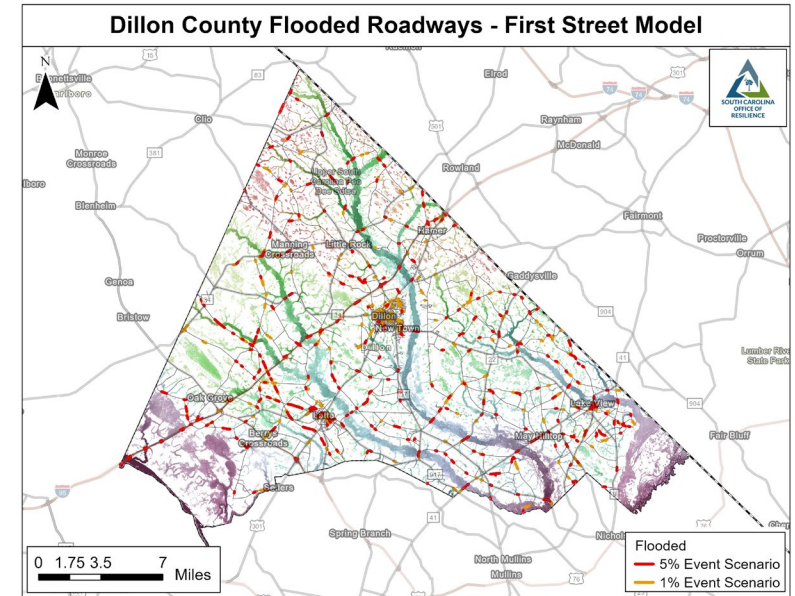
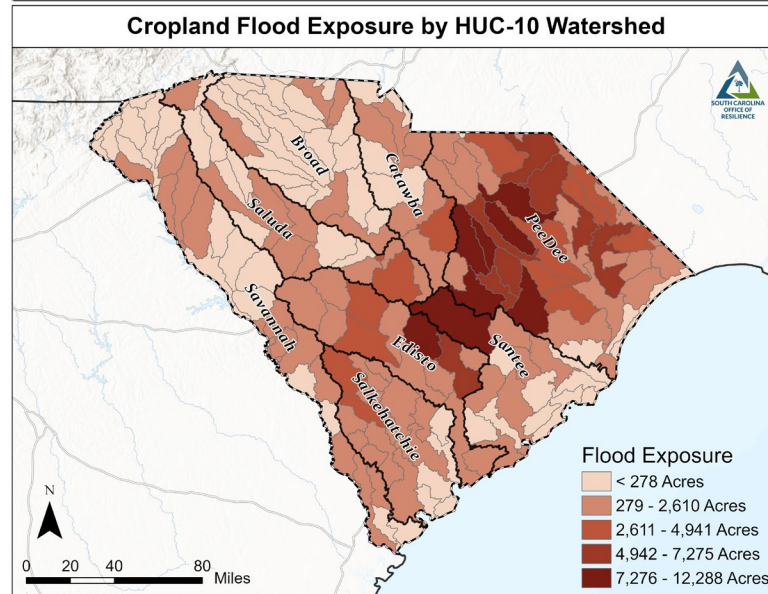
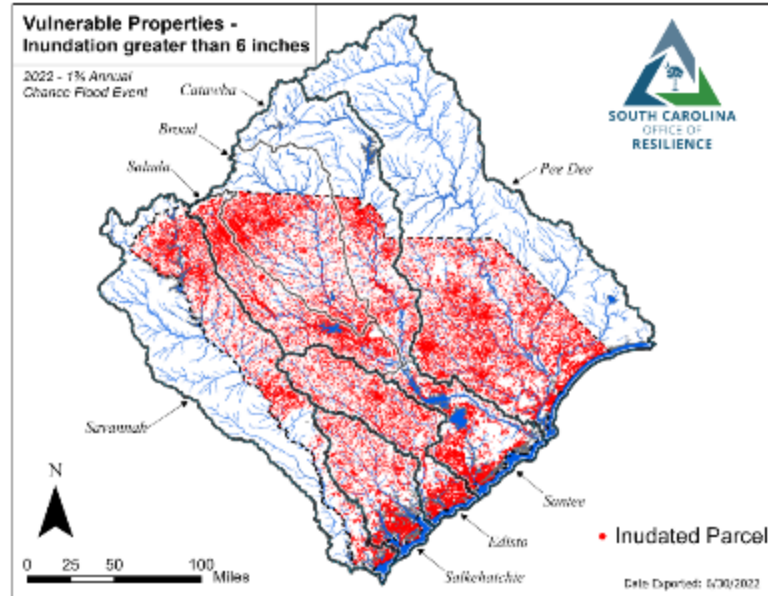
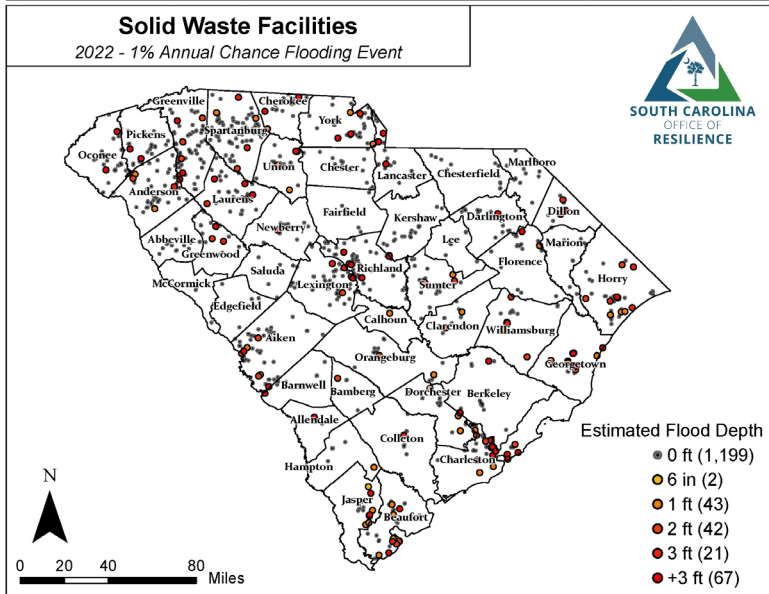
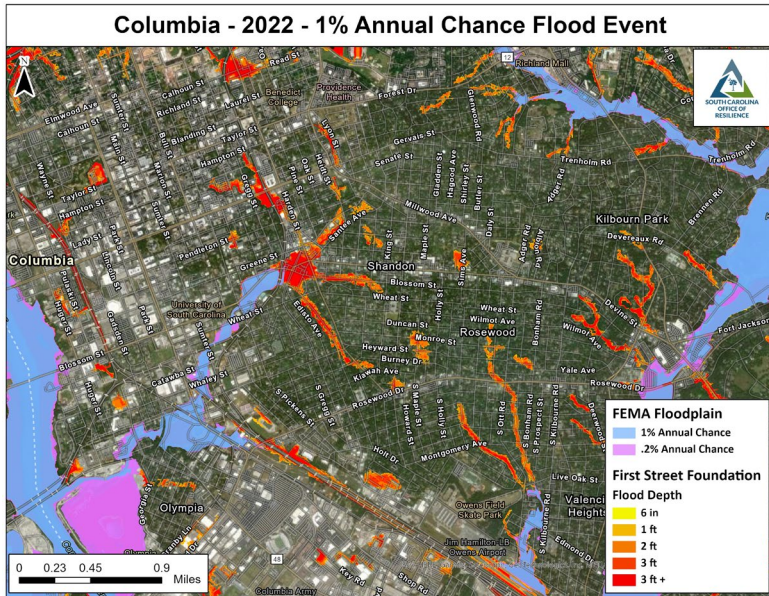




Strategic Statewide Resilience and Risk Reduction Plan

5 | FLOOD RISK AND VULNERABILITY ASSESSMENT

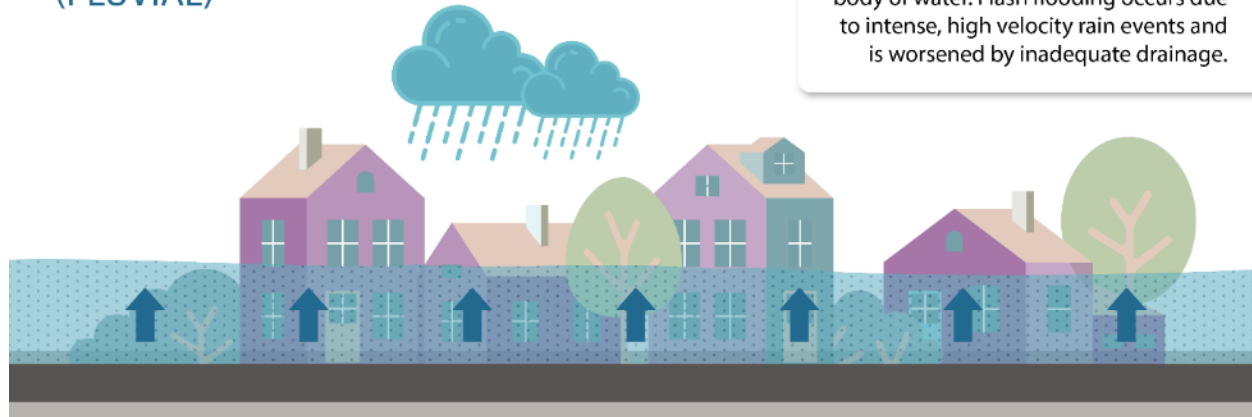
Risk and Vulnerability Assessment



Surface Water & Flash Flooding

(PLUVIAL)

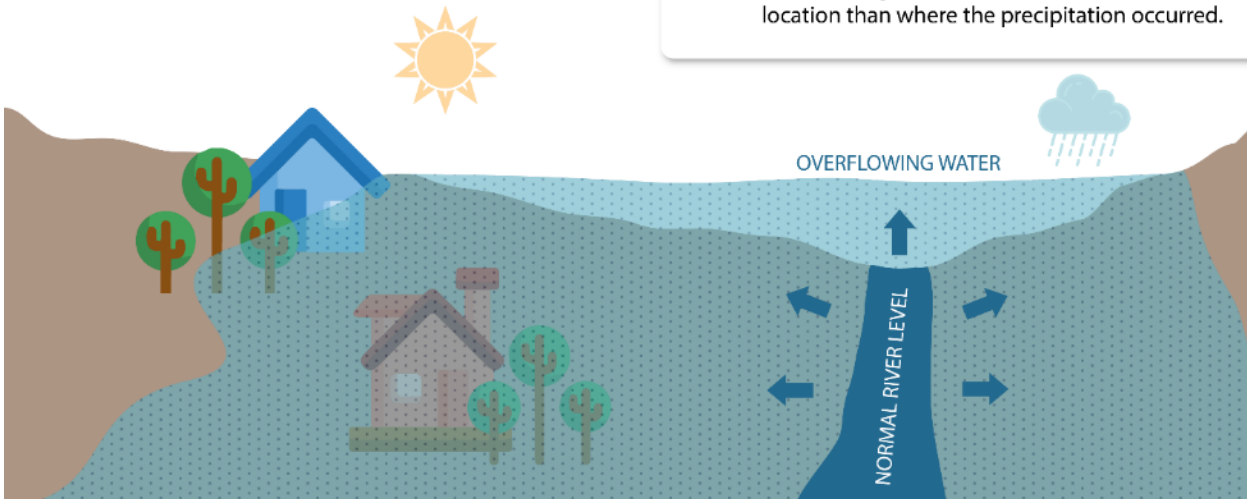
Pluvial flooding occurs when an extreme rainfall event takes place in an area where there is inadequate drainage for that particular amount of rainfall. This type of flooding is not associated with a body of water. Flash flooding occurs due to intense, high velocity rain events and is worsened by inadequate drainage.



River Flooding

(FLUVIAL)

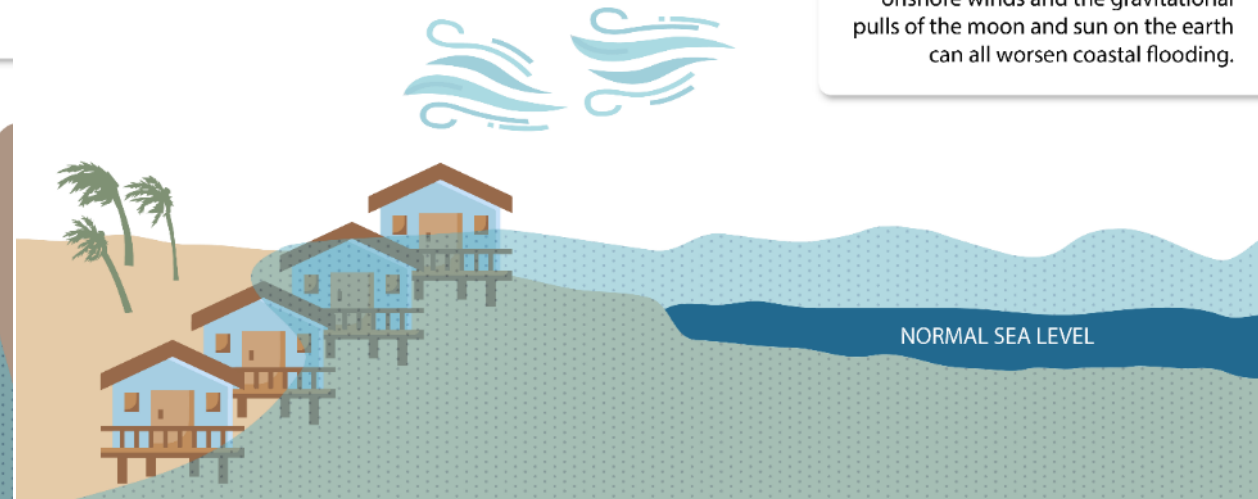
Fluvial flooding, or river flooding, occurs when the water level of the river overtops its banks or natural levees due to excess precipitation. This type of flooding can be devastating because it can occur in a different location than where the precipitation occurred.



Coastal Flooding

DUE TO STORM SURGE OR TIDES

Coastal flooding can be caused by storm surge, high tides, and sea level rise. Compound riverine flooding, onshore winds and the gravitational pulls of the moon and sun on the earth can all worsen coastal flooding.



First Street Foundation



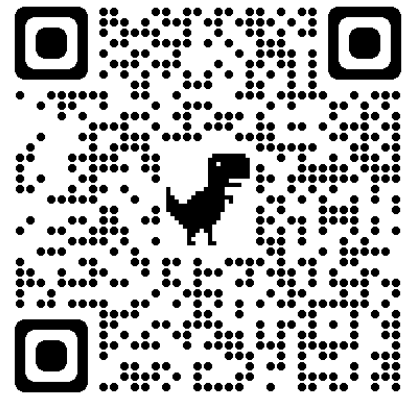
First Street Background

- “A non-profit research and technology group dedicated to quantifying and communicating those risks by incorporating world class modeling techniques and analysis with the most up to date science available in order to simply, and effectively, inform Americans of their risk today and into the future from all environmental changes” (First Street Foundation, 2022).

SCOR partnered with the First Street Foundation early into our Planning Process, and they have been responsive and helpful partners.

-Recently (February of 2024)

First Street has adopted a new corporate structure,
First Street Technology, Inc.

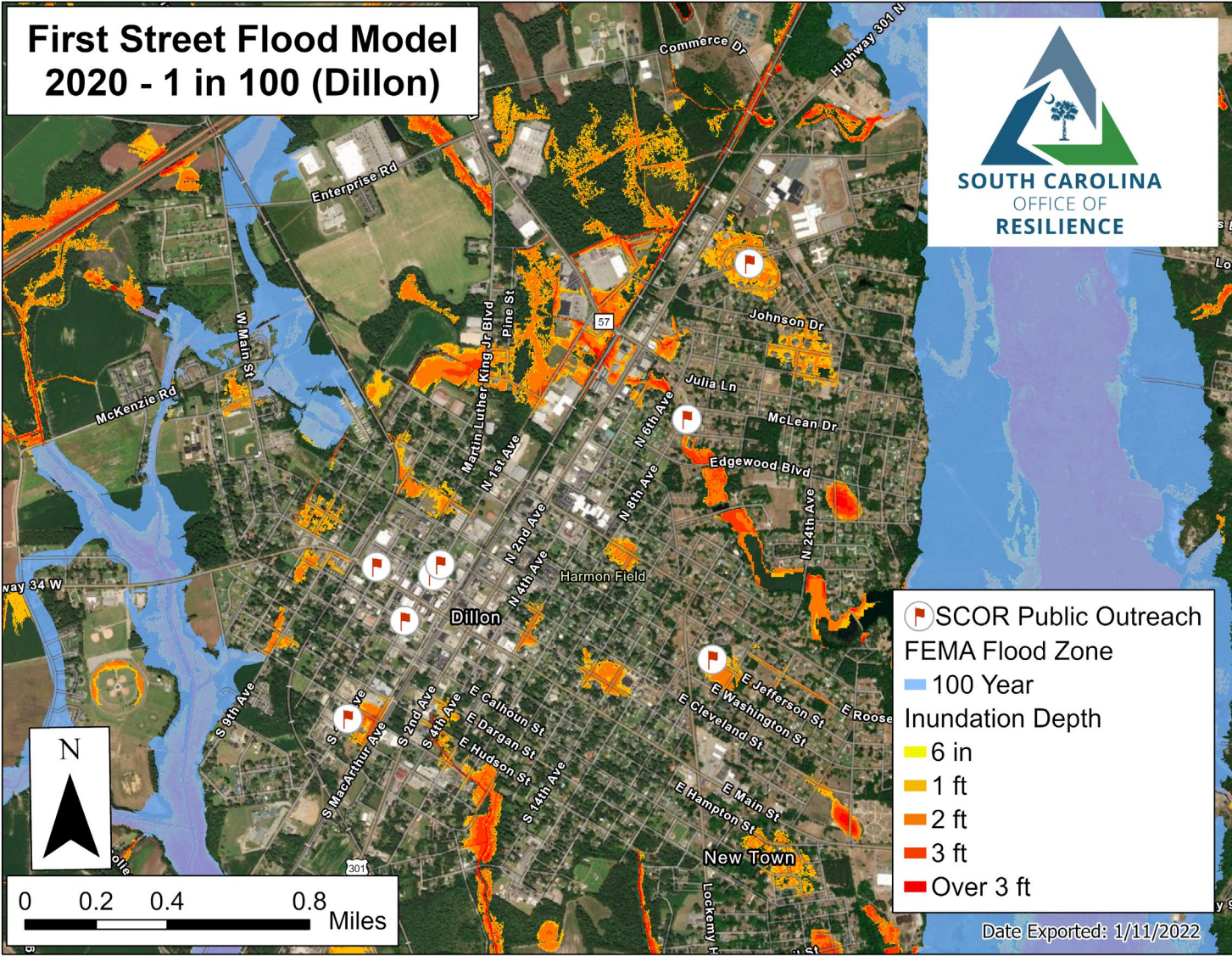


First Street Available Data

- First Street has expanded analysis to multiple hazards (V3.2)
 - These are available at multiple intervals
 - 2023 and 2053
 - Available as raster hazard layers and as Tabular property-specific layers
- This data intended for planning purposes only

	Hazard Attribute	Annual Chance
Flood Data	1 in 2 Year Flood Level	50%
	1 in 5 Year Flood Level	20%
	1 in 20 Year Flood Level	5%
	1 in 100 Year Flood Level	1%
	1 in 500 Year Flood Level	0.2%
Wildfire Data	Burn Probability	--
	Ember Likelihood	--
	Flame Length Avg	--
	Flame Length Max	--
	Flame Likelihood	--
Heat Data	Days at or above current local 98 th percentile temperature	--
	Maximum local temperature	--
Wind Data	1 in 5 Year Wind Speed	20%
	1 in 20 Year Wind Speed	5%
	1 in 100 Year Wind Speed	1%
	1 in 500 Year Wind Speed	0.2%
	1 in 3000 Year Wind Speed	0.03%
Air Quality	Orange Days	--
	Red Days	--
All data layers are available in current climate and in a 30 year projection (2023 and 2053).		

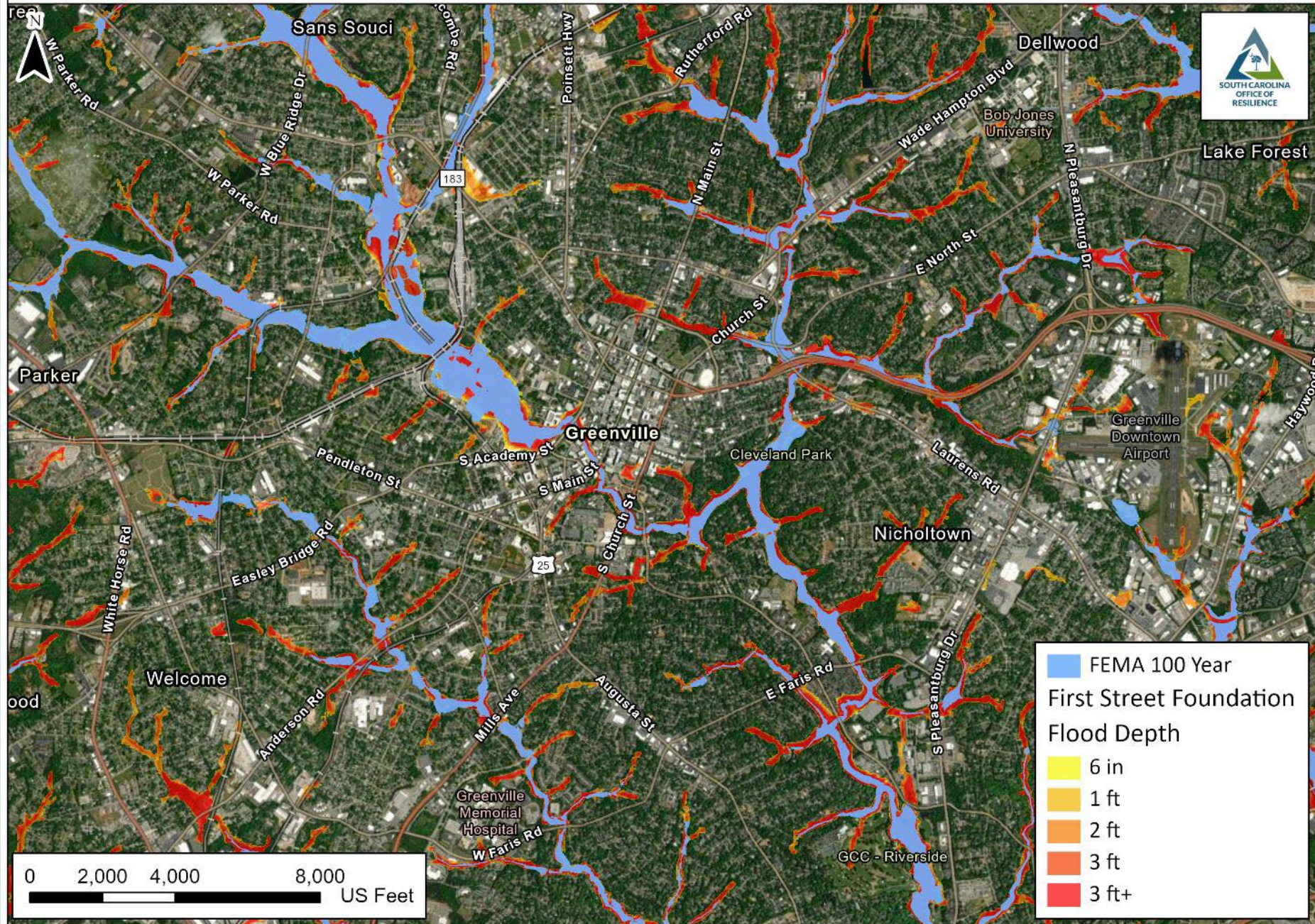
How It Looks



A quick caveat: Some parts of the state have elevation data that doesn't work well with their model. I'll let you know if that's a problem in your area of interest!

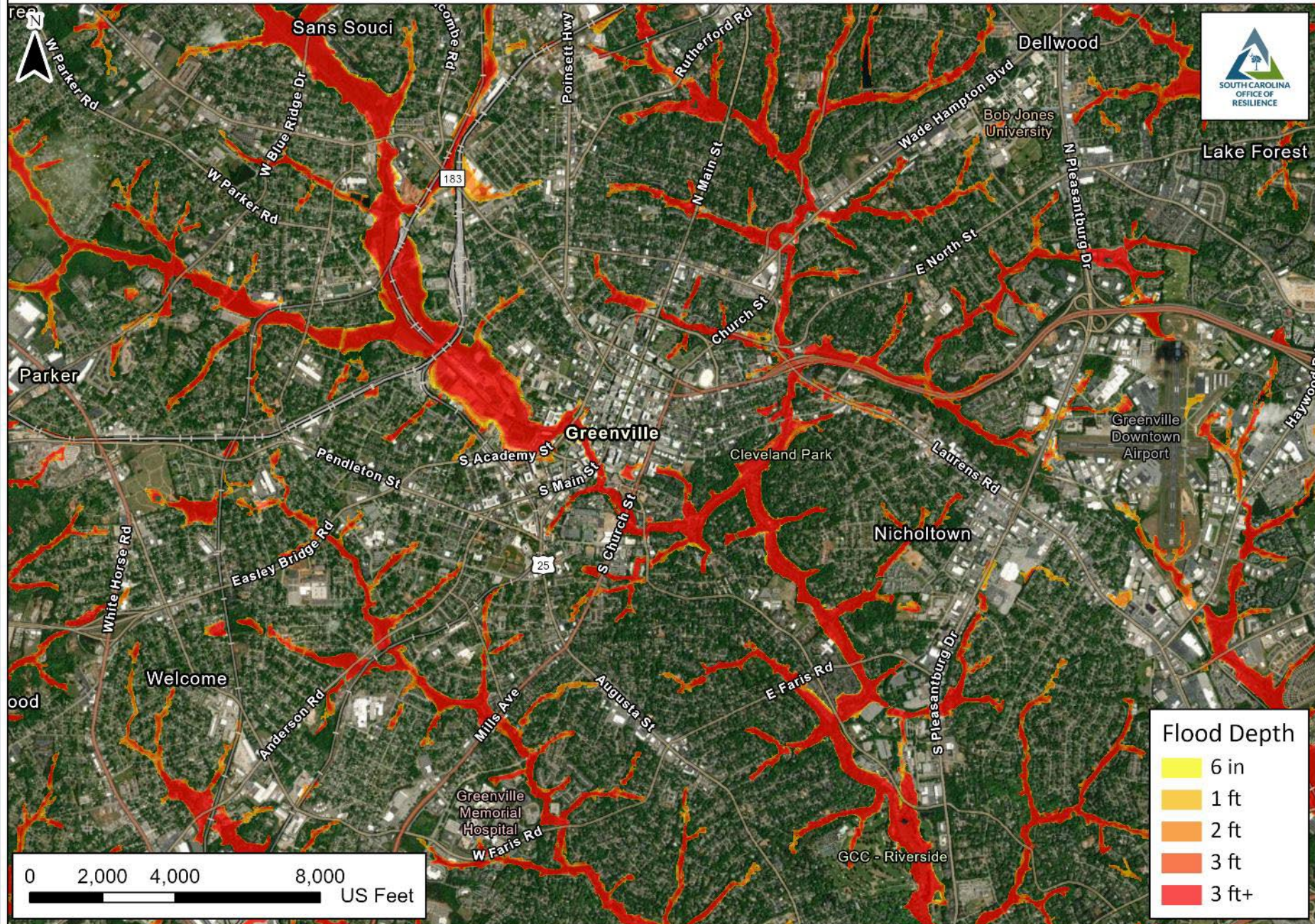
First Street Foundation Flood Model

2022 - 1% Annual Chance Flood Event (100 Year)

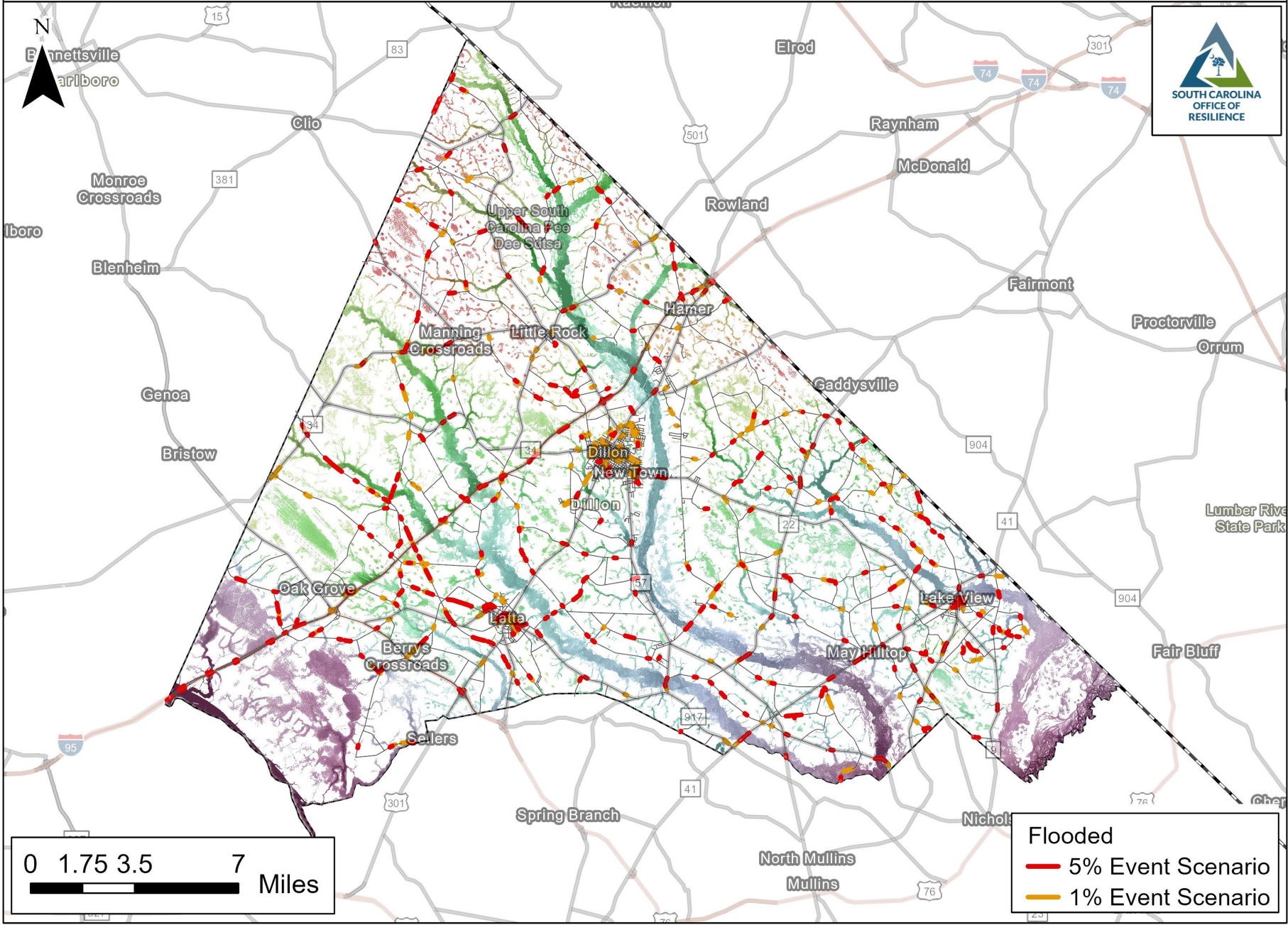


First Street Foundation Flood Model

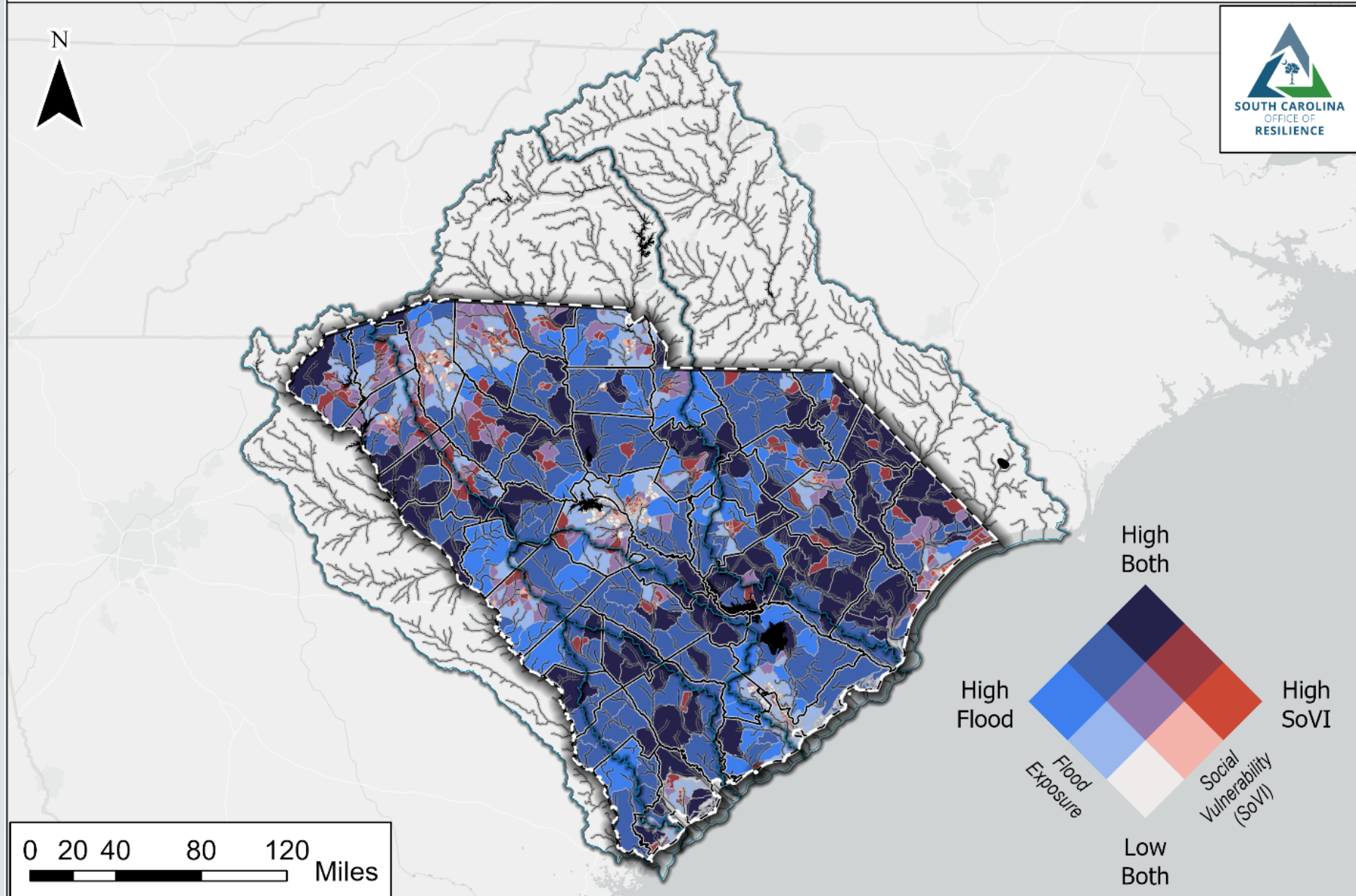
2022 - 0.2% Annual Chance Flood Event (500 Year)



Dillon County Flooded Roadways - First Street Model



Flooding Exposure and Social Vulnerability



Flood Exposure is calculated as the percentage of the Census Tract flooded at a depth greater than 6 inches during a 1% Annual Chance Flood according to the First Street Foundation Flood Model. Social Vulnerability (SoVI) was distributed by the FEMA National Risk Index. SoVI scores are classified by the tract's ranking relative to the rest of South Carolina.

SCOR and First Street and YOU

- Originally, these products were available only via SCOR's internal processing
- NOW, Any South Carolina public organization (local, state, tribal, etc) can request this data from SCOR, for their own internal use.
- Request via a short survey
 - Automatically sent the contracts for use
 - I will begin processing your request
 - (Thank you for your patience!)



General Terms:

- Licensed Data will be used for planning purposes only, including internal research, analysis, and derivative reports in its efforts to increase the overall environmental resiliency of their planning initiatives (research, analysis, and derivative reports).
- Licensed Data may not be distributed to other entities and only use such portion of the Licensed Data that is relevant to such public organization's intended use in its ordinary course of business.

How the public can access data for their property

RISK
FACTOR

Enter an address

Q

Produ

🏠

Looks like we couldn't find the address you searched for. We've redirected you to the main address for the parcel your address is on.

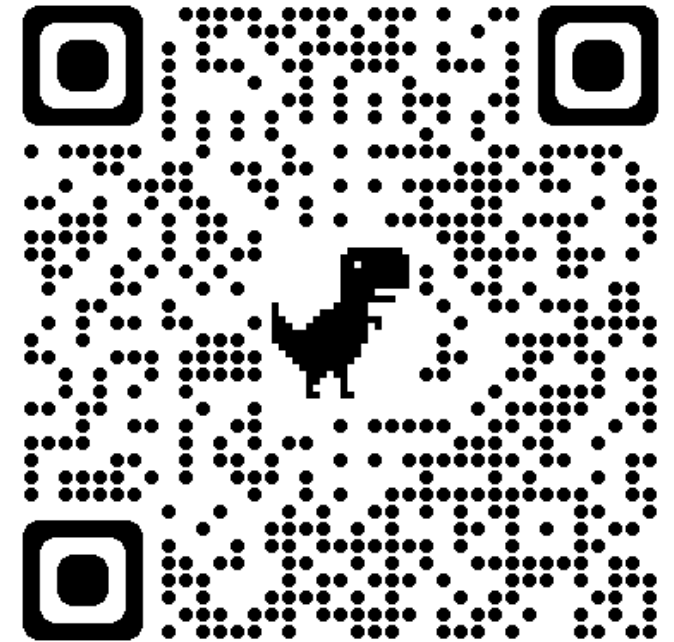


1/10 Flood Factor 1/10 Fire Factor 6/10 Wind Factor 3/10 Air Factor 6/10 Heat Factor

Key Insights for This Property

- 🏭 There are facilities near this property that **release toxic pollution** into the air. [Find out how close they are](#)
- 🌀 This county has experienced **hurricane or tornado winds**. [See if this property was damaged](#)
- ☀️ The number of **dangerously hot days** is increasing. [See how hot it's going to get](#)

🔍 Transparent, unbiased, and peer-reviewed
Risk Factor is a product of [First Street](#), the leading provider of climate risk data



Questions?

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