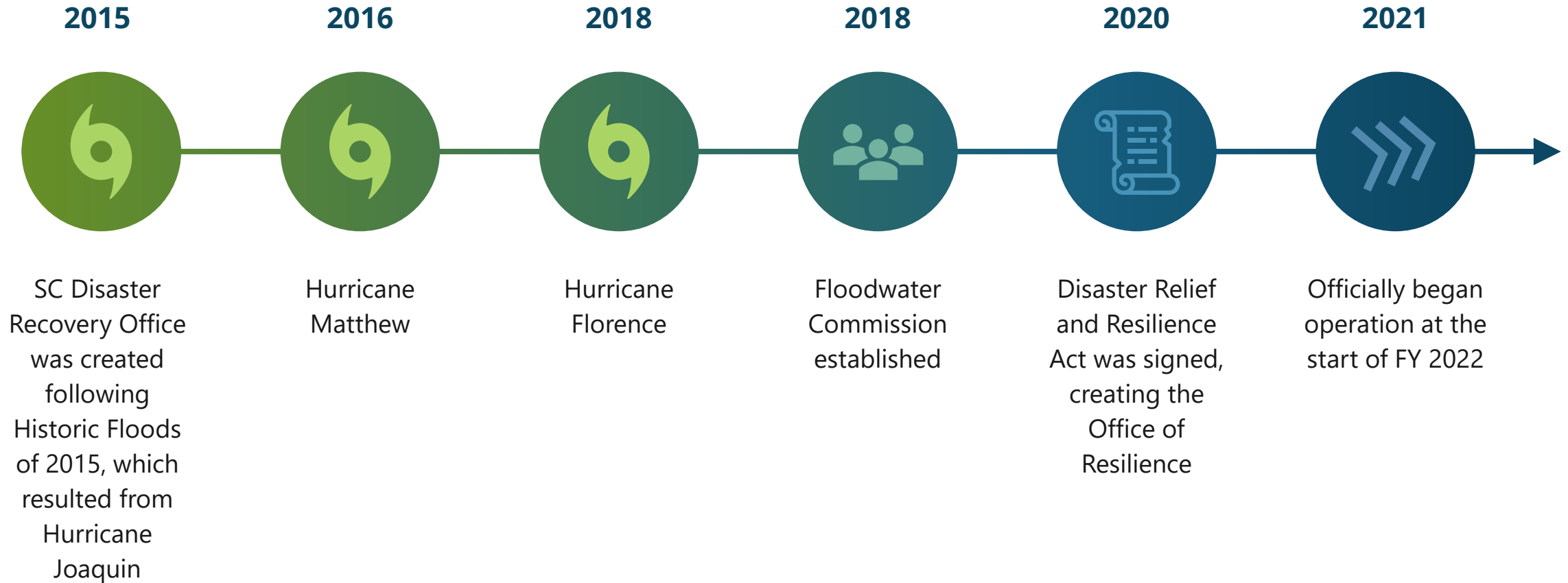


South Carolina Office of
RESILIENCE

Lessening the impact of disasters on the communities and citizens of South Carolina by planning and coordinating statewide resilience, long term recovery and hazard mitigation.

History



What We Do

DISASTER RECOVERY

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

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

RESILIENCE

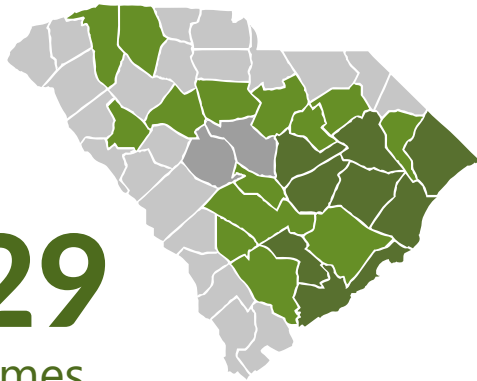
- Development and management of the Strategic Statewide Resilience & Risk Reduction Plan
- Management of the Disaster Relief and Resilience Reserve Fund and the SC Resilience Revolving Fund



Disaster Recovery: HUD CDBG-DR

\$293 million | **3,285** homes complete

2015 SEVERE STORM
\$126 million | Complete

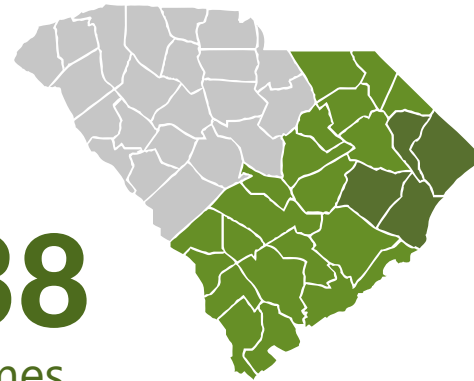


1,829
/ 1,829 homes

Completion date: September 2021

Within 6-year allotment

2016 HURRICANE MATTHEW
\$95 million | Complete

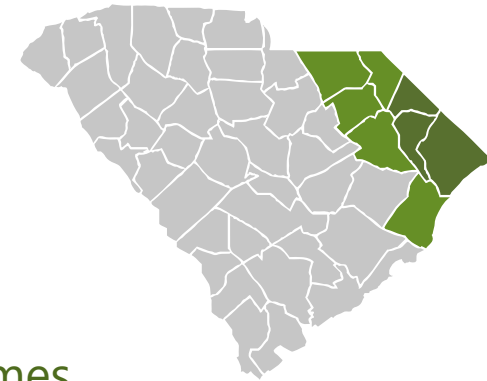


1,138
/ 1,138 homes

Completion date: December 2022

Within 6-year allotment

2018 HURRICANE FLORENCE
\$72 million | In process



318
/ ~434 homes

Expected completion date: 2023

Within 6-year allotment

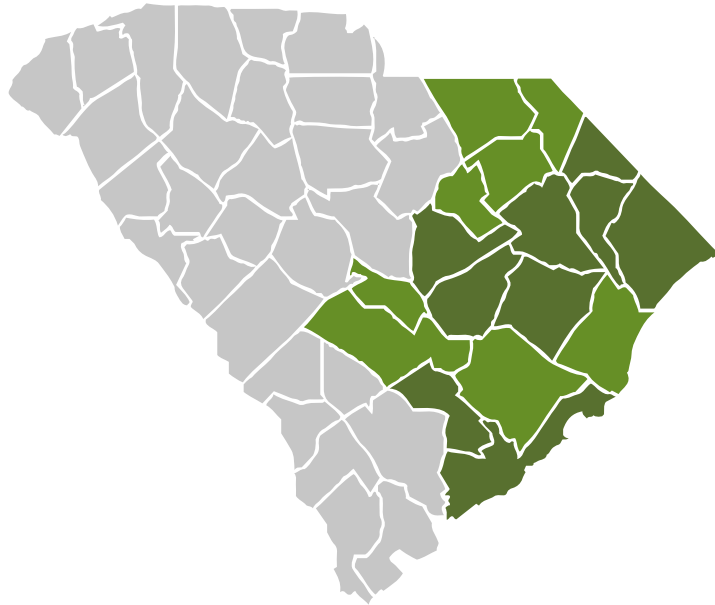
**Note: Richland & Lexington counties received CDBG-DR grants for the 2015 Severe Storm and therefore were not served by our programs.*

Mitigation: HUD CDBG-MIT

MITIGATION

\$162 million | 65% obligated

Expected completion NLT 2032



Infrastructure

\$55 million / **\$100 million**
20 projects

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

55%

Plans & Studies

\$6.5 million / **\$14 million**
20 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

\$36 million / **\$37 million**
7 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%

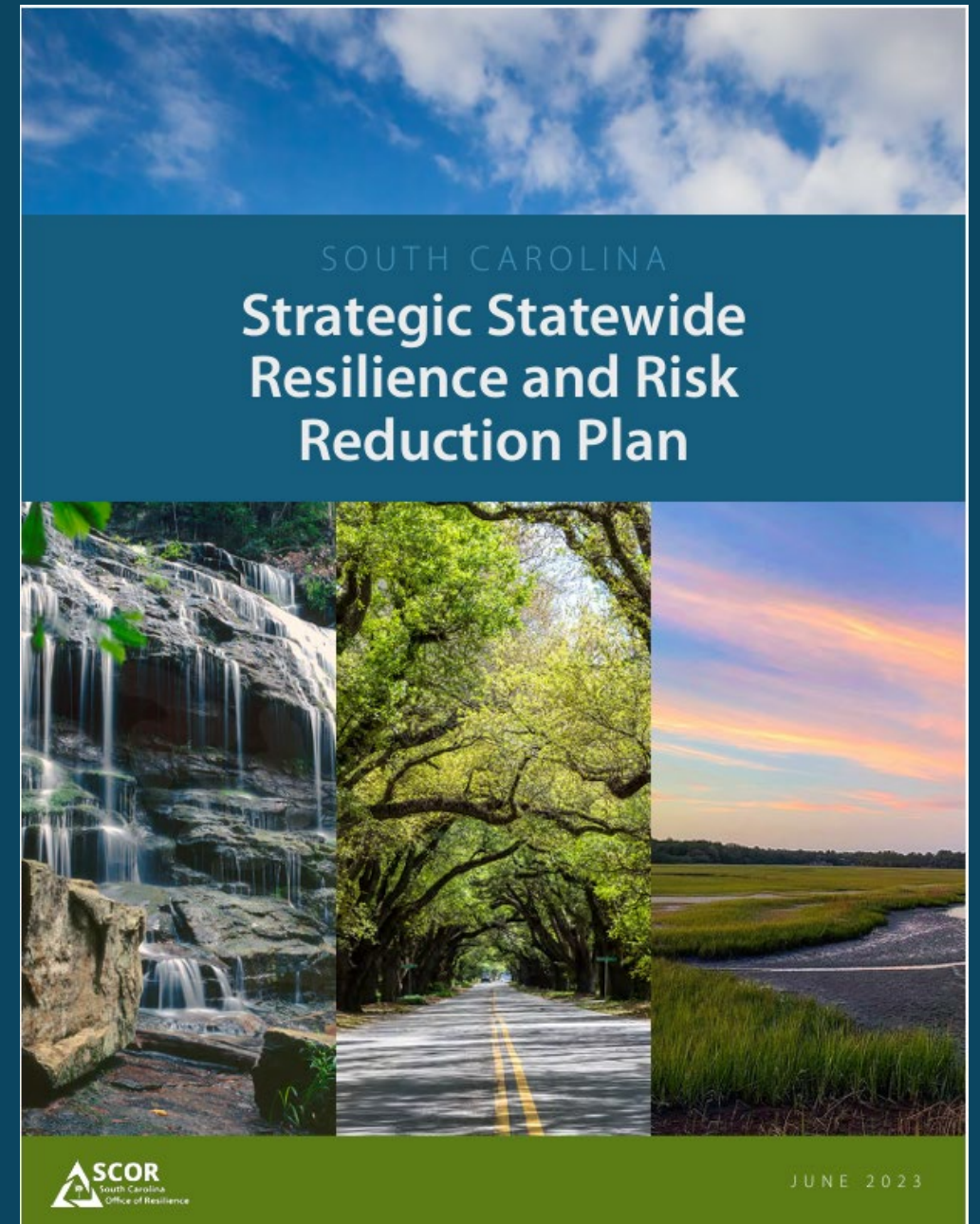
Matching Grants

\$2.7 million / **\$2.7 million**
10 projects

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

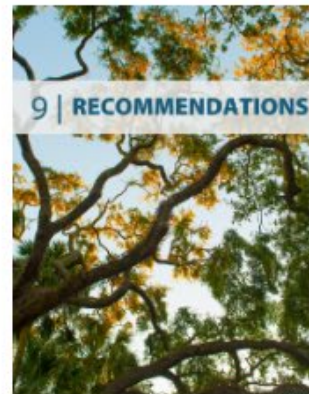
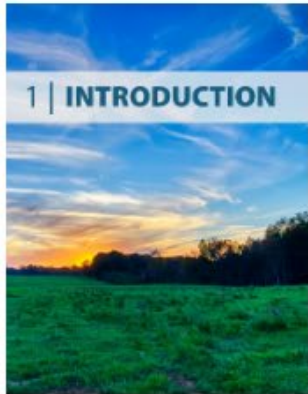
100%

Resilience Planning



Resilience Planning

The South Carolina Office of Resilience is responsible for developing and implementing a **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

Resilience Planning

Planning consisted largely of coordinating with other state agencies and statewide partners to gather data about the hazards that SC faces as well as population and land use trends in the state.



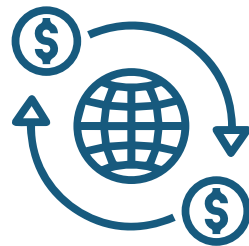
The Planning team worked to identify specific vulnerabilities within each of these sectors:



**Environmental
Systems**



**Community
Services**



**Economic
Systems**



Infrastructure



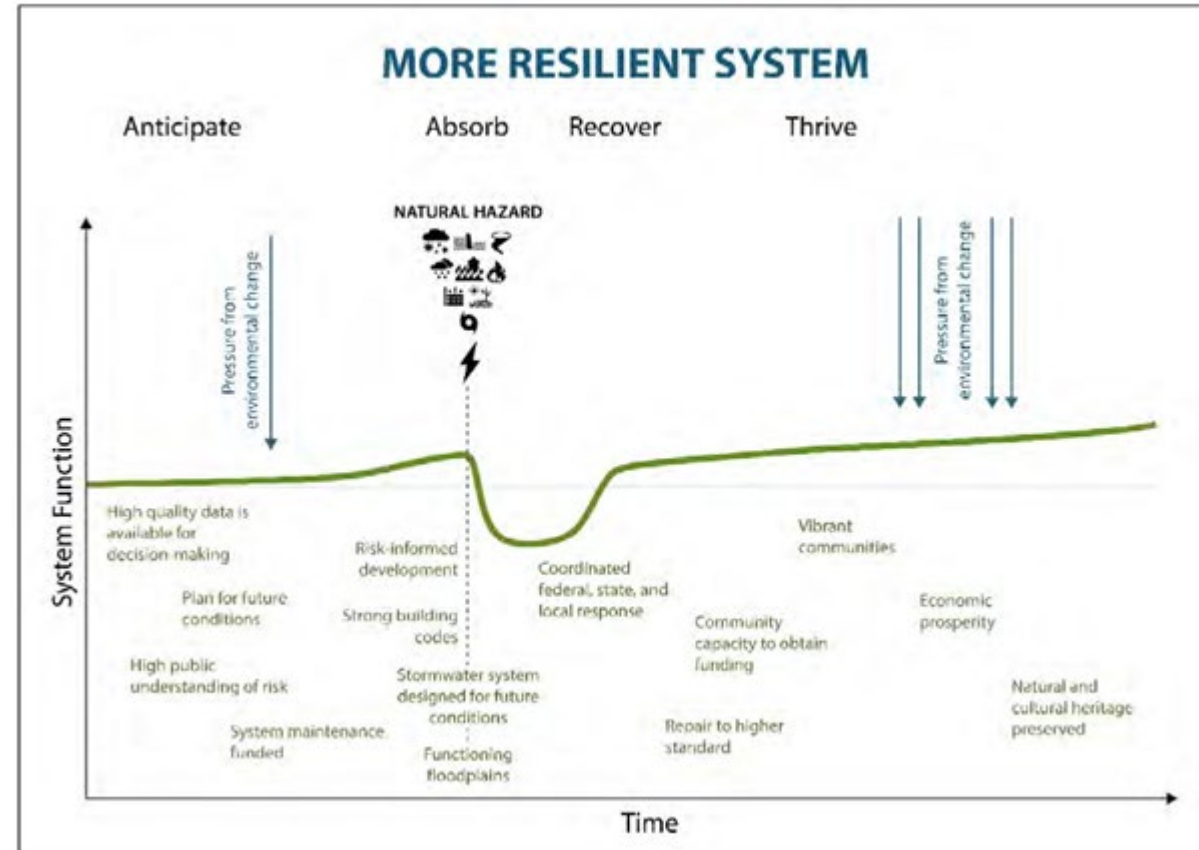
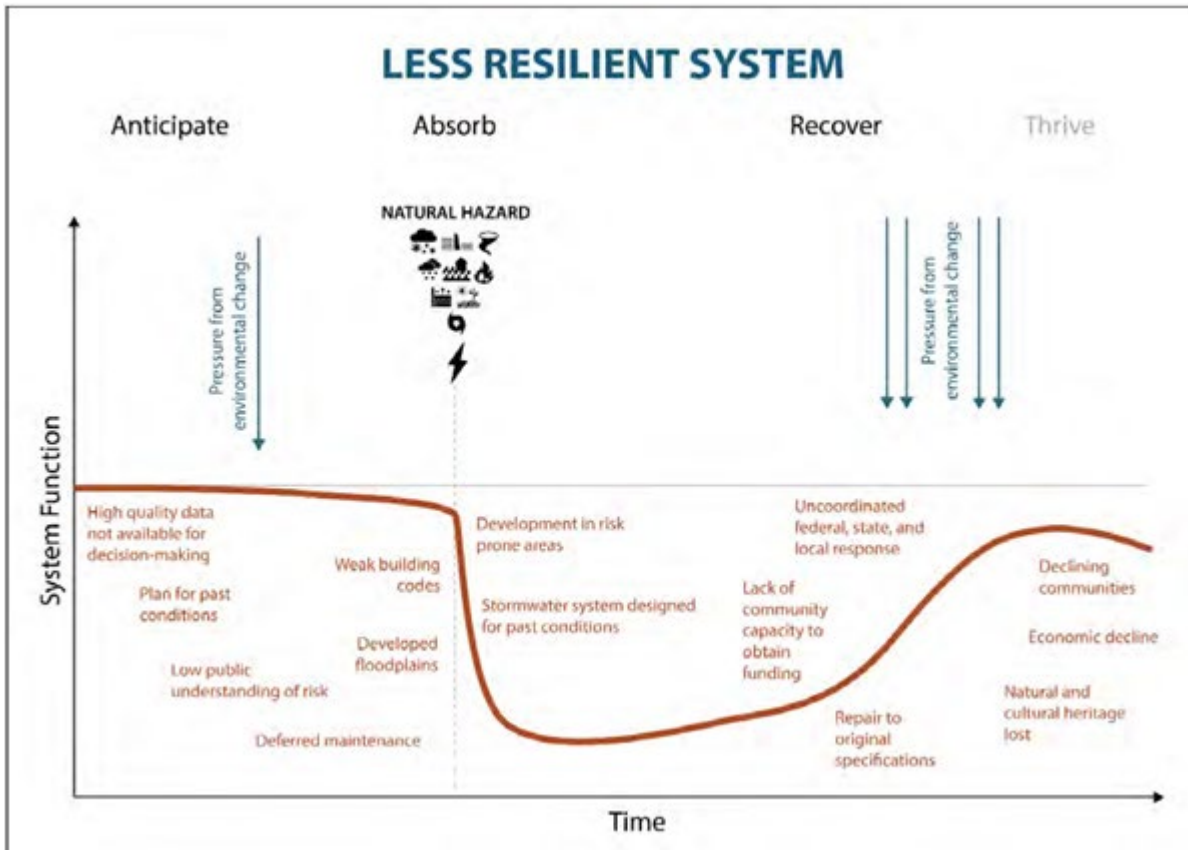
**Building
Codes &
Zoning**



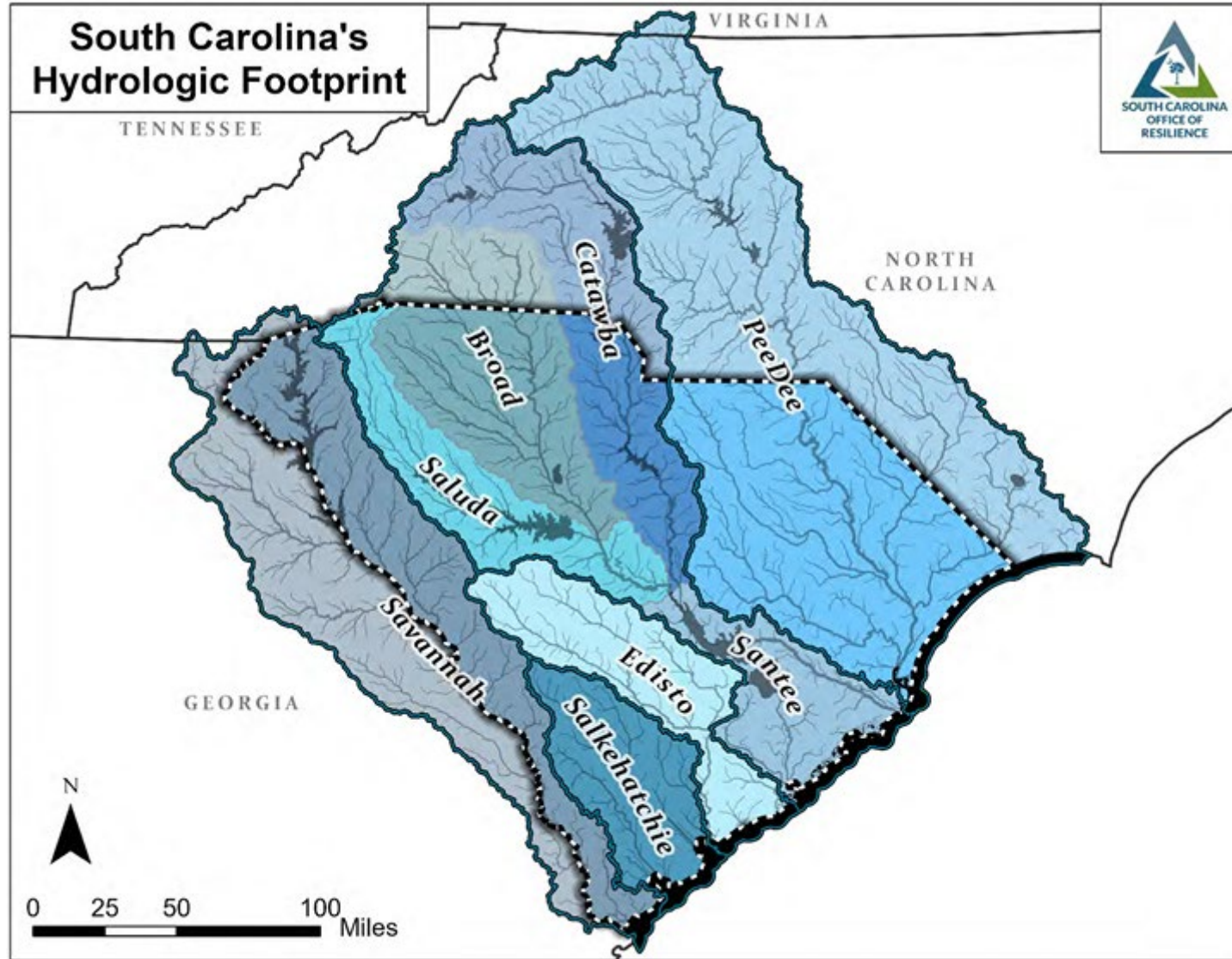
**Cultural
Resources**

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.



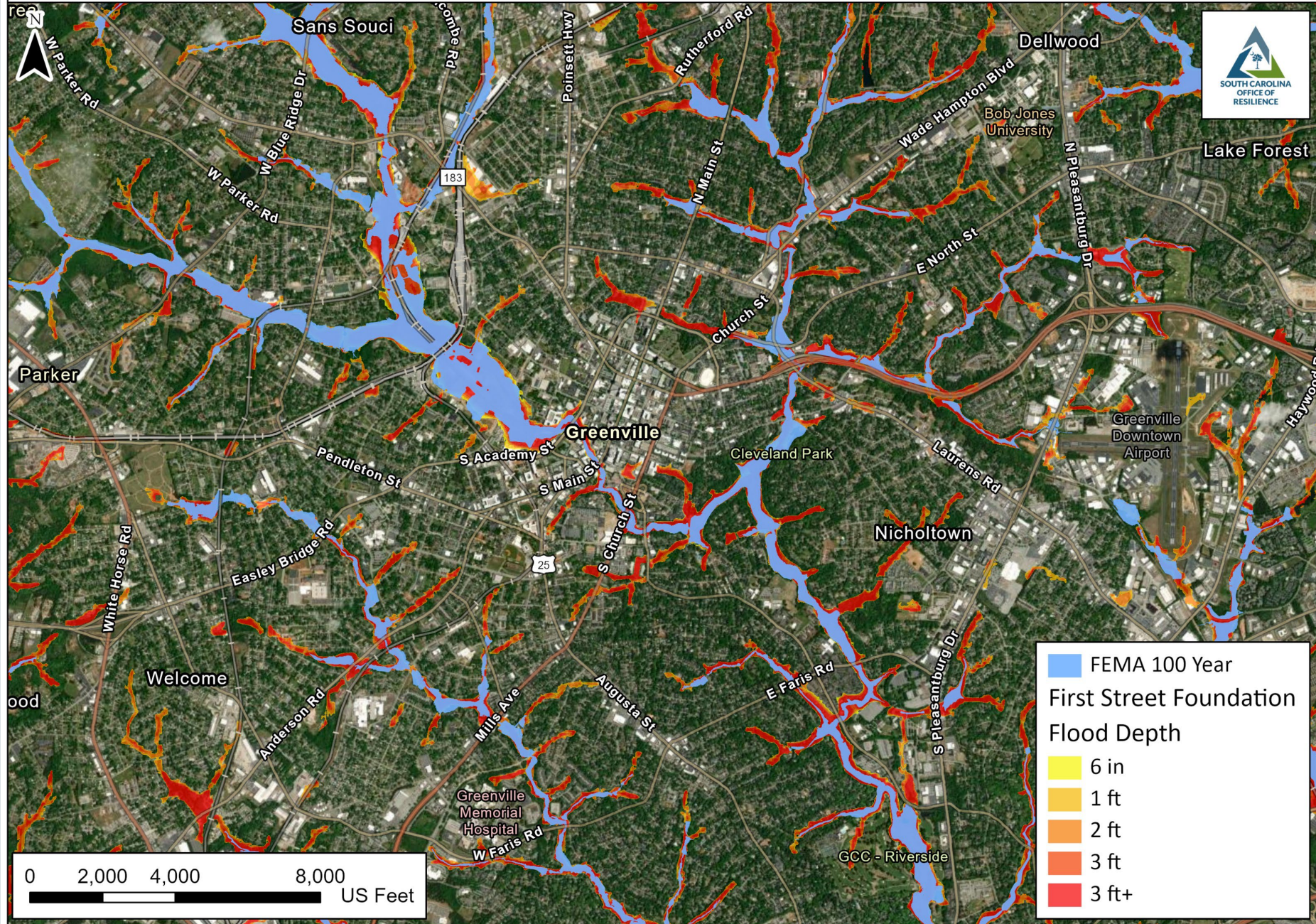
Planning Scale



Water doesn't follow political boundaries.

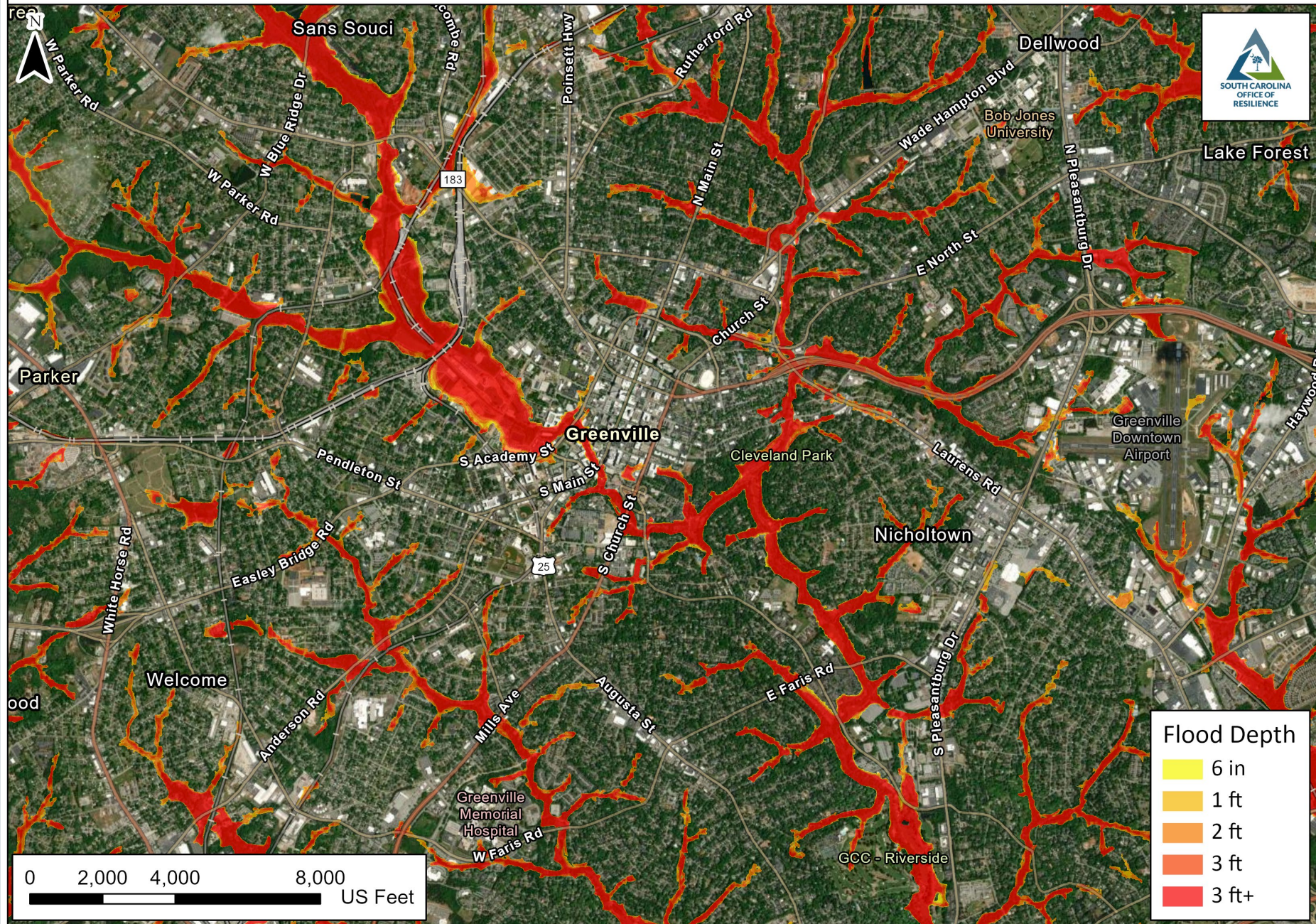
First Street Foundation Flood Model

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

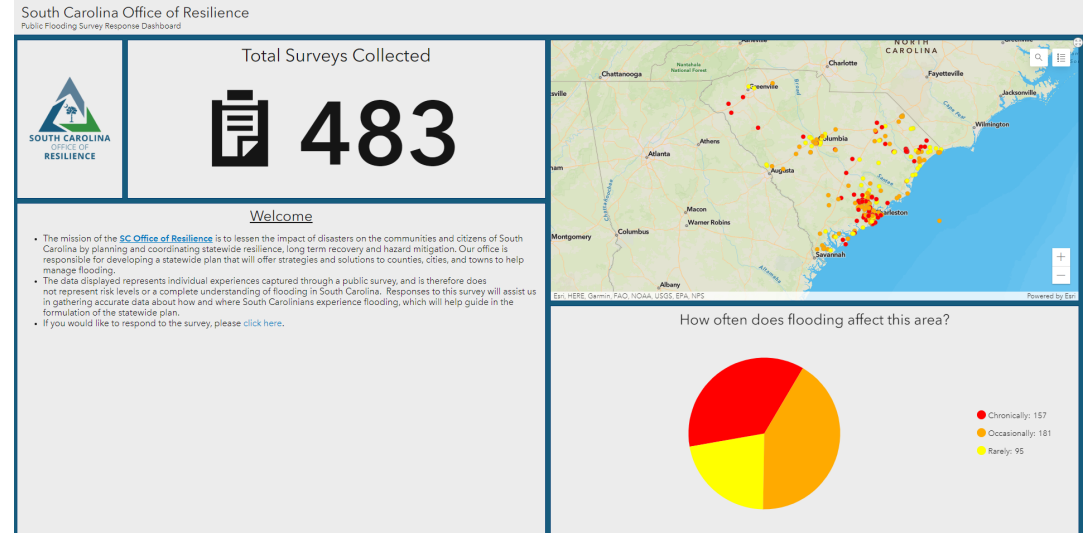
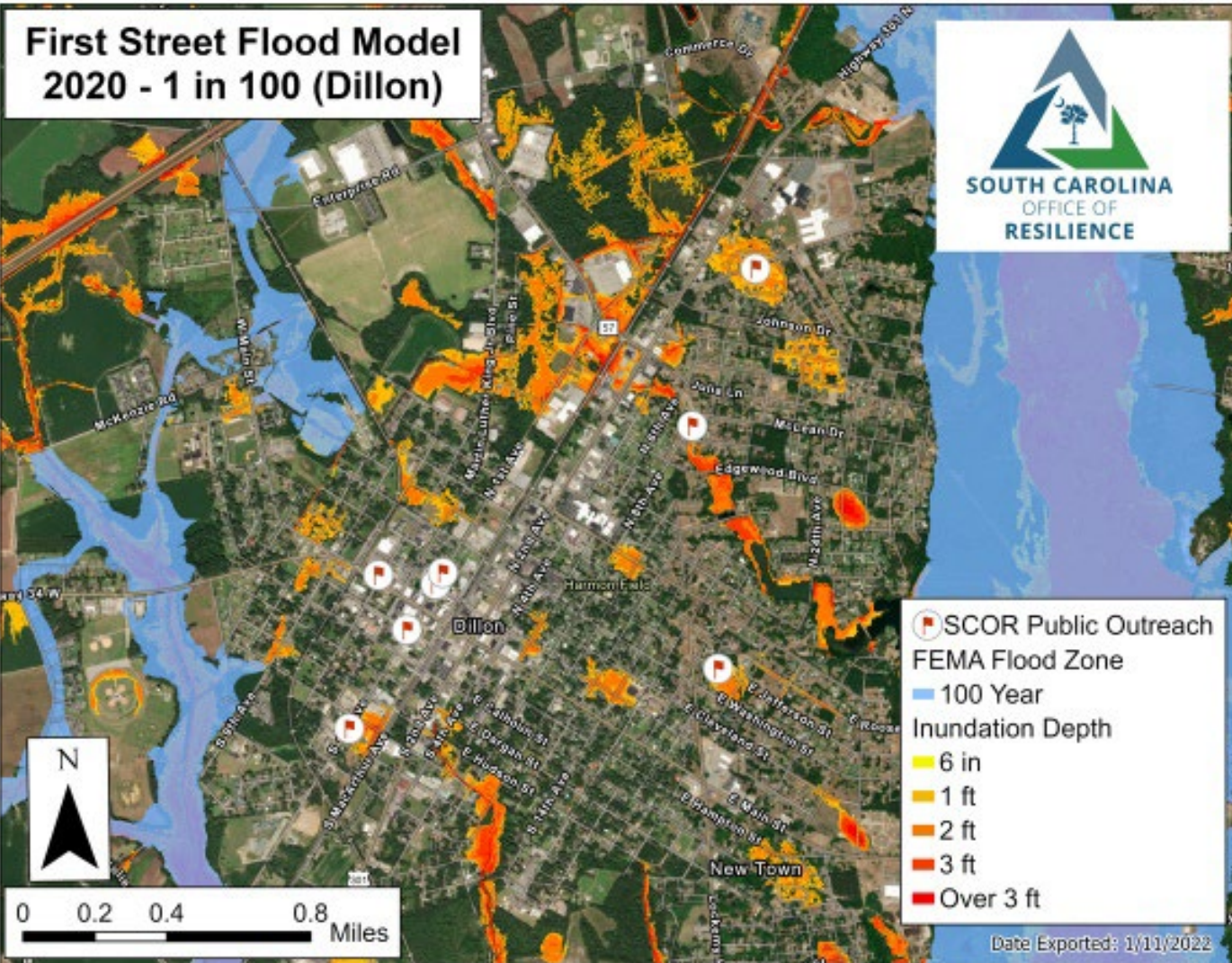


First Street Foundation Flood Model

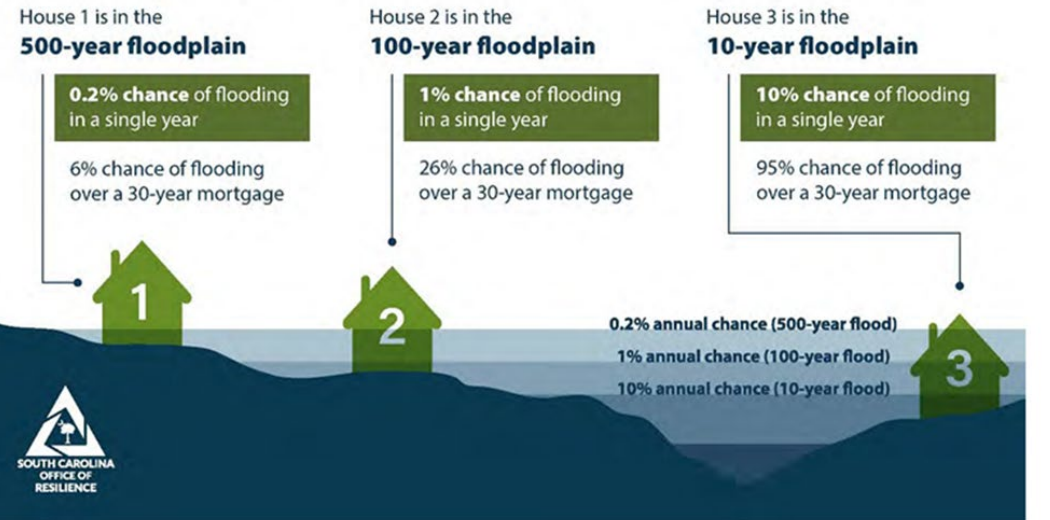
2052 - 0.2% Annual Chance Flood Event (500 Year)



Understanding Flood Risk



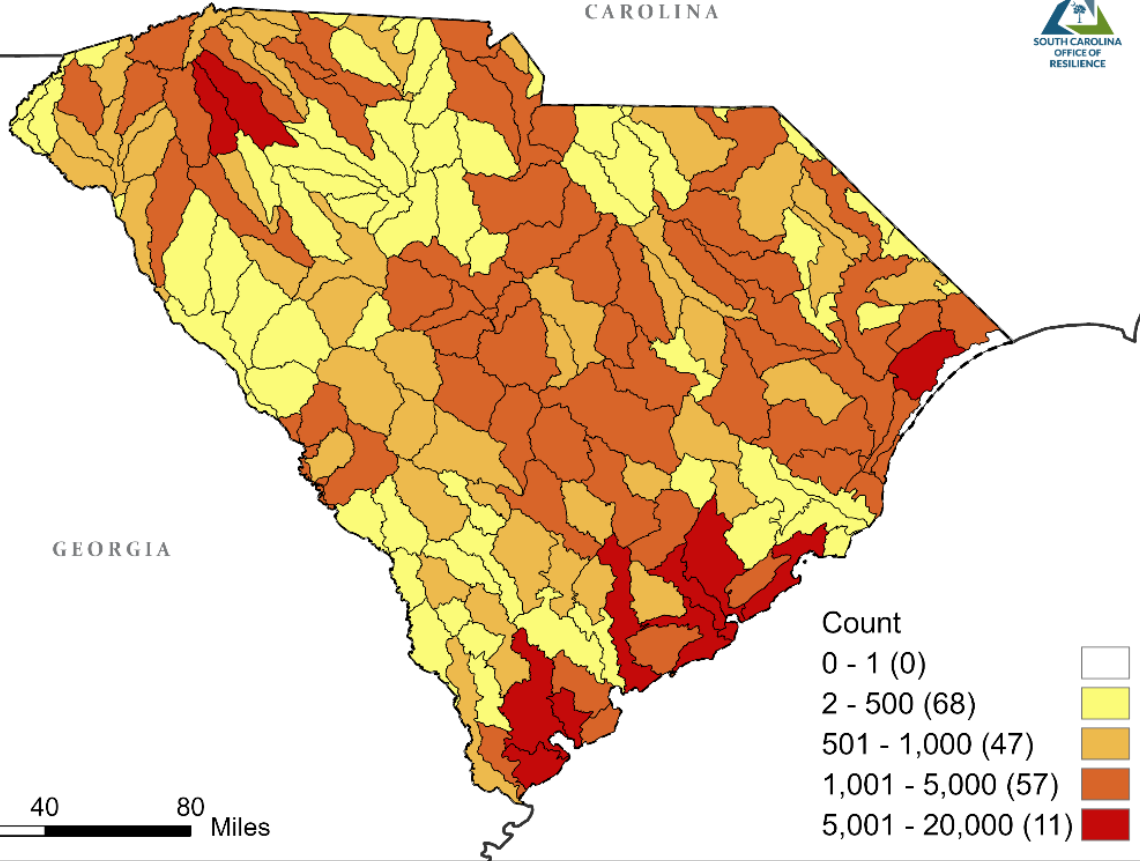
Flood Frequency



Parcel Count by HUC10 - Inundation Greater than 6 inches

2022 - 1% Annual Chance Flooding Event

NORTH CAROLINA

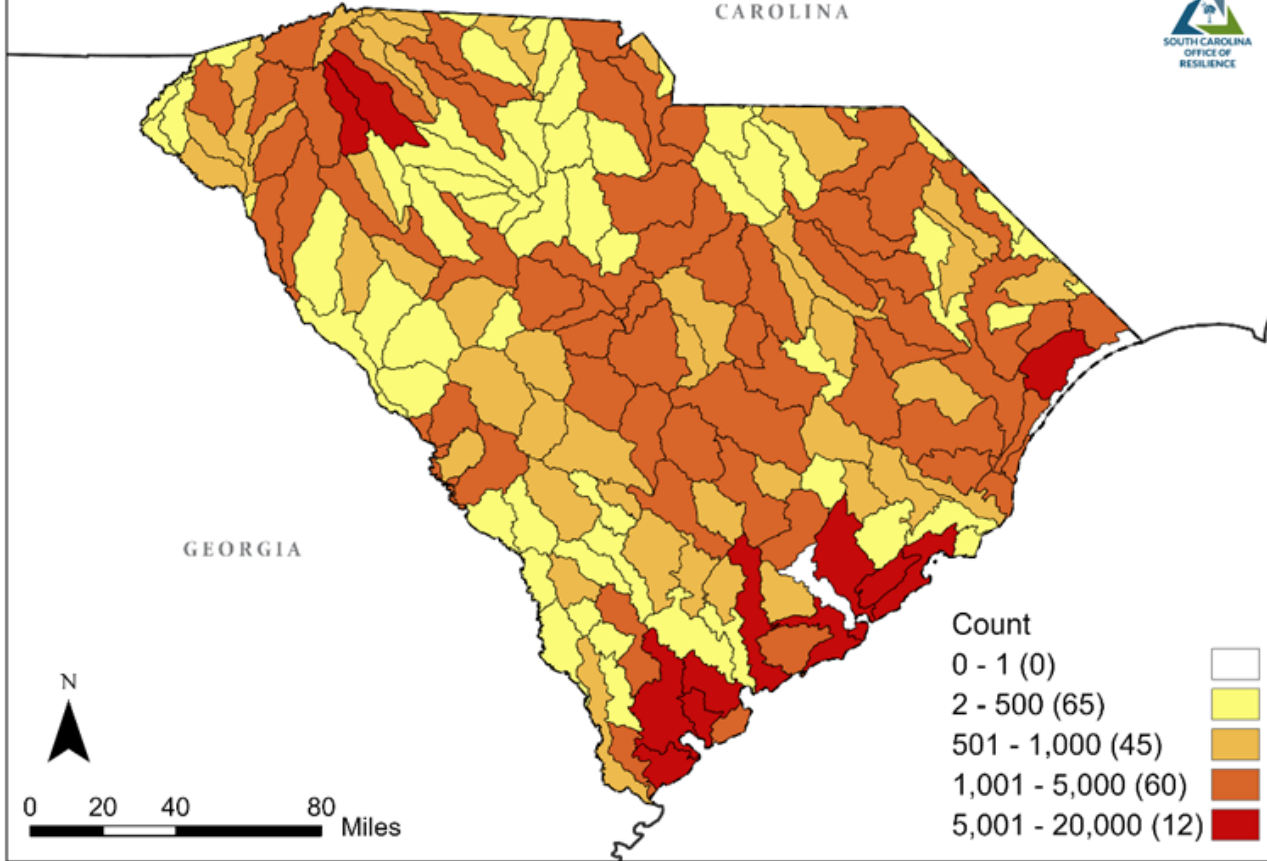


Count	
0 - 1	(0)
2 - 500	(68)
501 - 1,000	(47)
1,001 - 5,000	(57)
5,001 - 20,000	(11)

Parcel Count by HUC10 - Inundation Greater than 6 inches

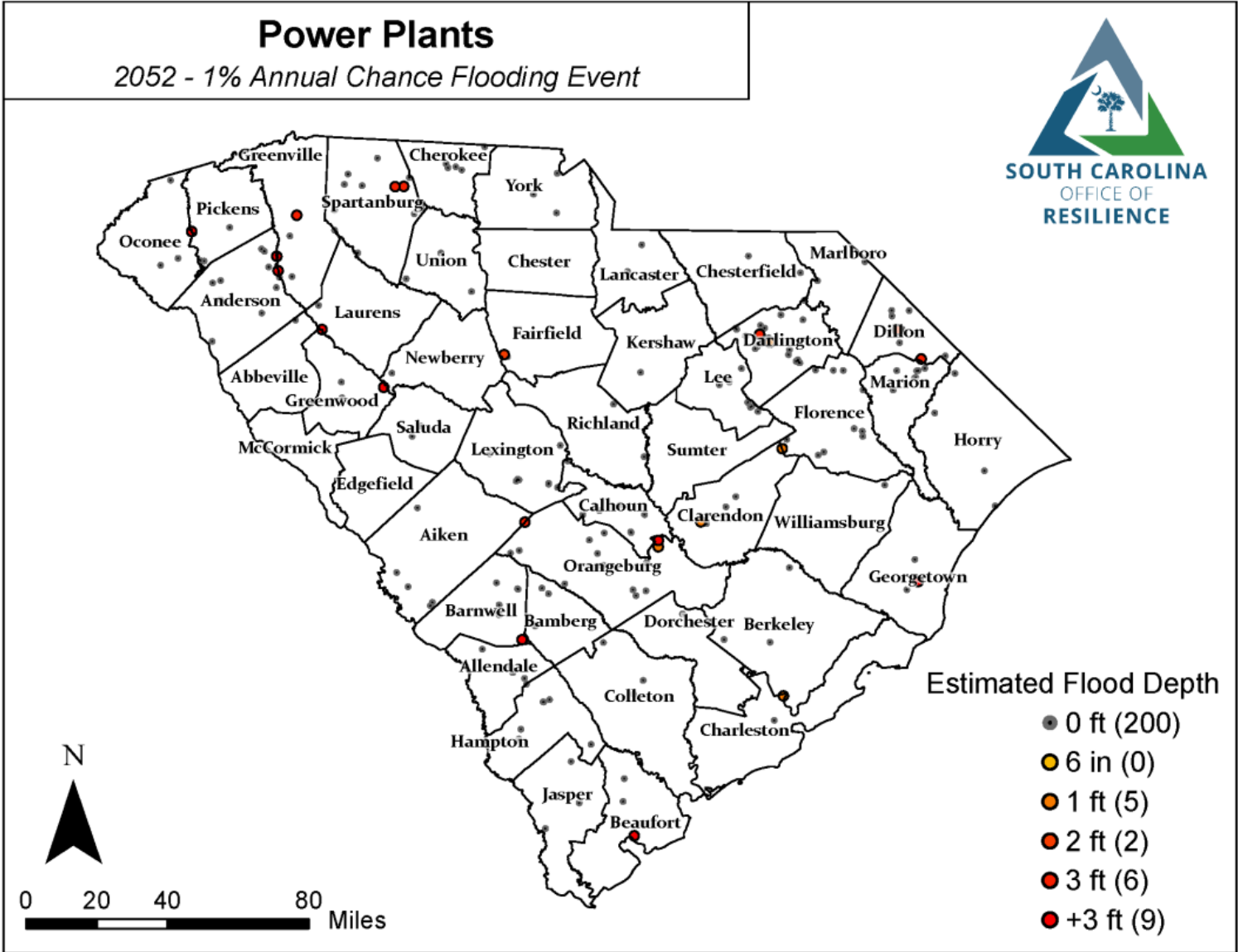
2052 - 1% Annual Chance Flooding Event

NORTH CAROLINA



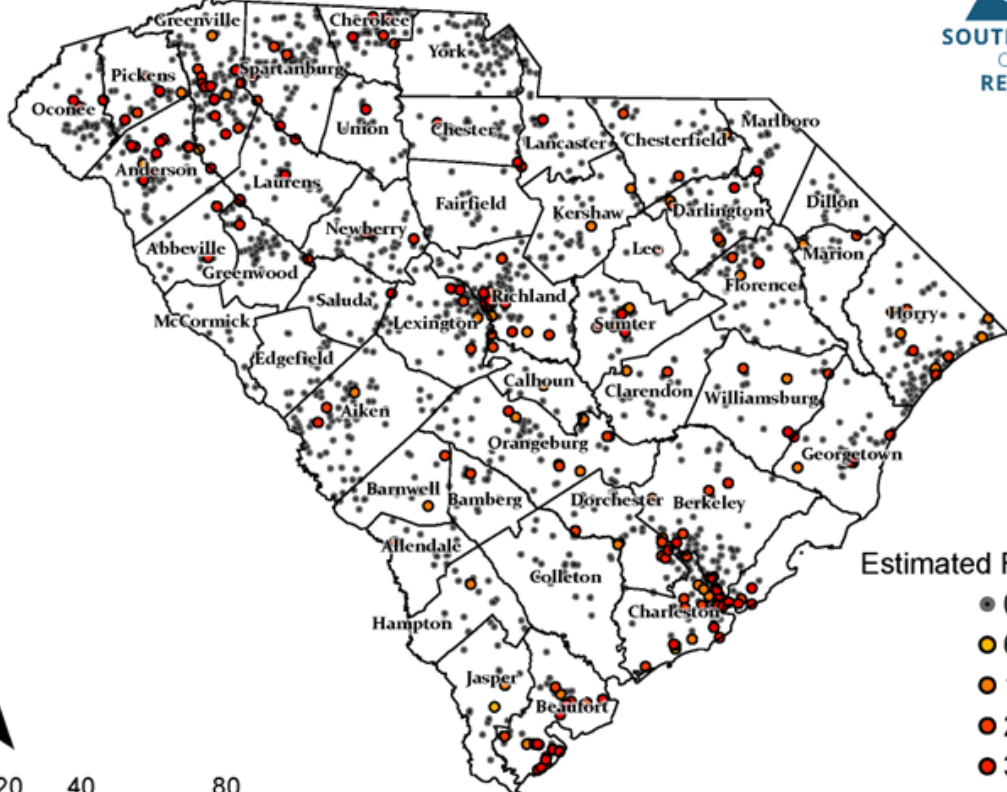
Count	
0 - 1	(0)
2 - 500	(65)
501 - 1,000	(45)
1,001 - 5,000	(60)
5,001 - 20,000	(12)

Example: Vulnerability Assessment



Substations

2022 - 1% Annual Chance Flooding Event



Estimated Flood Depth

- 0 ft (2,323)
- 6 in (5)
- 1 ft (56)
- 2 ft (68)
- 3 ft (36)
- +3 ft (88)

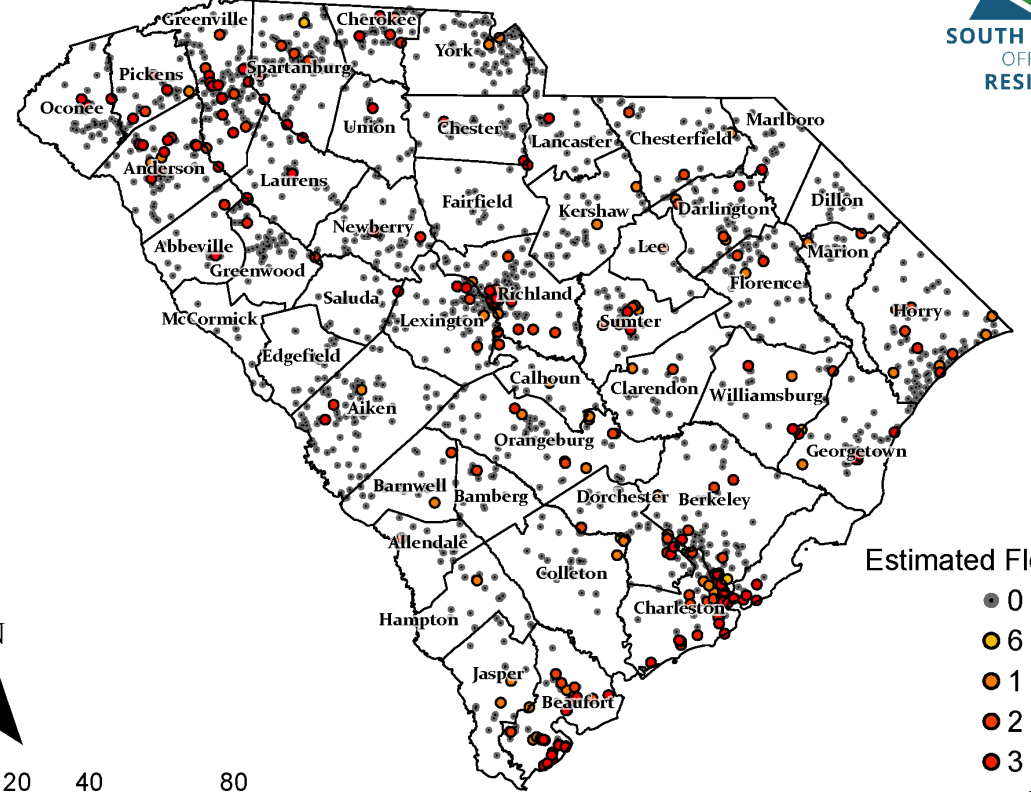
N



0 20 40 80 Miles

Substations

2052 - 1% Annual Chance Flooding Event



Estimated Flood Depth

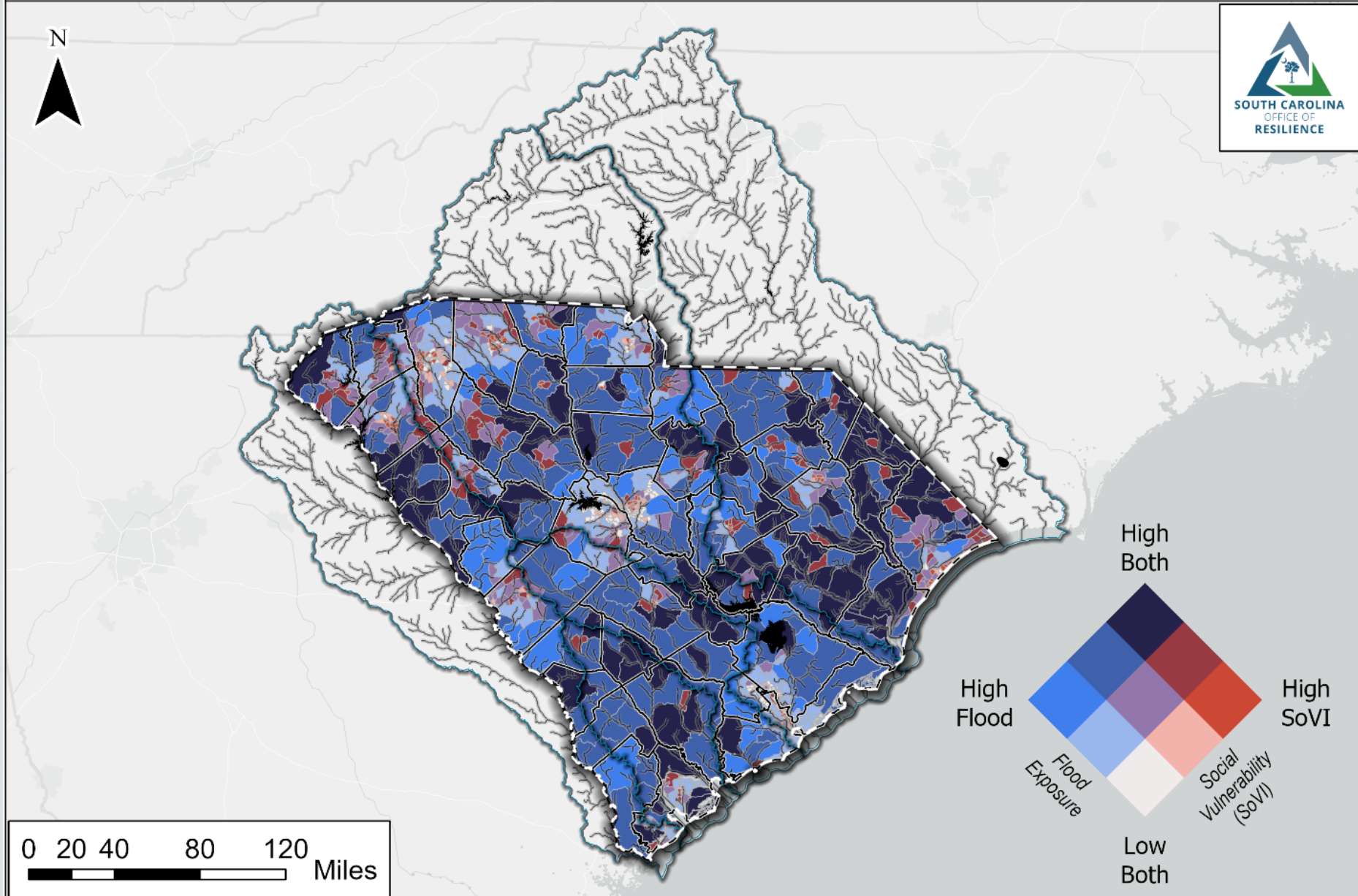
- 0 ft (2,289)
- 6 in (5)
- 1 ft (66)
- 2 ft (72)
- 3 ft (37)
- +3 ft (107)

N



0 20 40 80 Miles

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.

Resilience Plan Recommendations

Data Collection & Coordination

Education, Outreach, Disclosure

Maintain Natural Protection through
Conservation

Maintain & Strengthen Building Codes

Incorporate Resilience into Housing Recovery

Watershed Based Resilience Planning &
Projects

Establish a Voluntary Pre-Disaster Buyout
Program

Incorporate Resilience into Existing Planning,
Land Use & Other Regulatory Processes

Identify & Maximize All Available Funding
Sources for Resilience Activities

Incorporate Resilience into Infrastructure
Design, Construction & Maintenance

Watershed Planning Process

Information Gathering, Planning & Community Engagement

- Compile existing data, plans, and studies
- Fill data gaps
- Community engagement

Community Risk, Vulnerability, and Resilience Reports

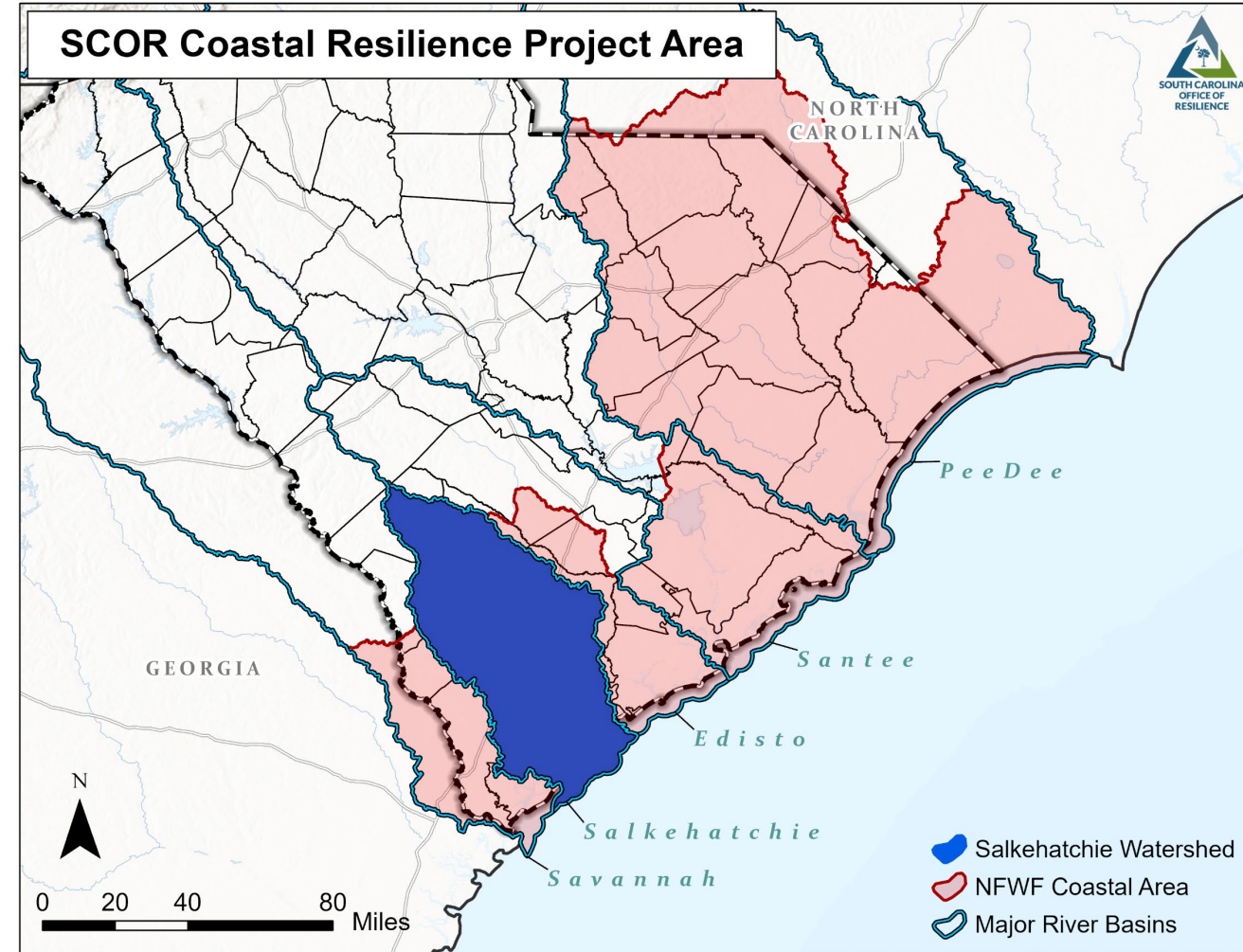
- Individual community reports completed with technical assistance
- Focus on local needs and priorities
- Includes a portfolio of resilience projects

Watershed Resilience Plan

- Integrates community reports into a comprehensive, cross-jurisdictional, watershed-based resilience plan
- Includes a combined vision and goals for the watershed, a review of existing efforts, summary of current and future risk and vulnerability
- Results in a prioritized list of resilience projects, programs, and policies that increase the resilience of the watershed as a whole

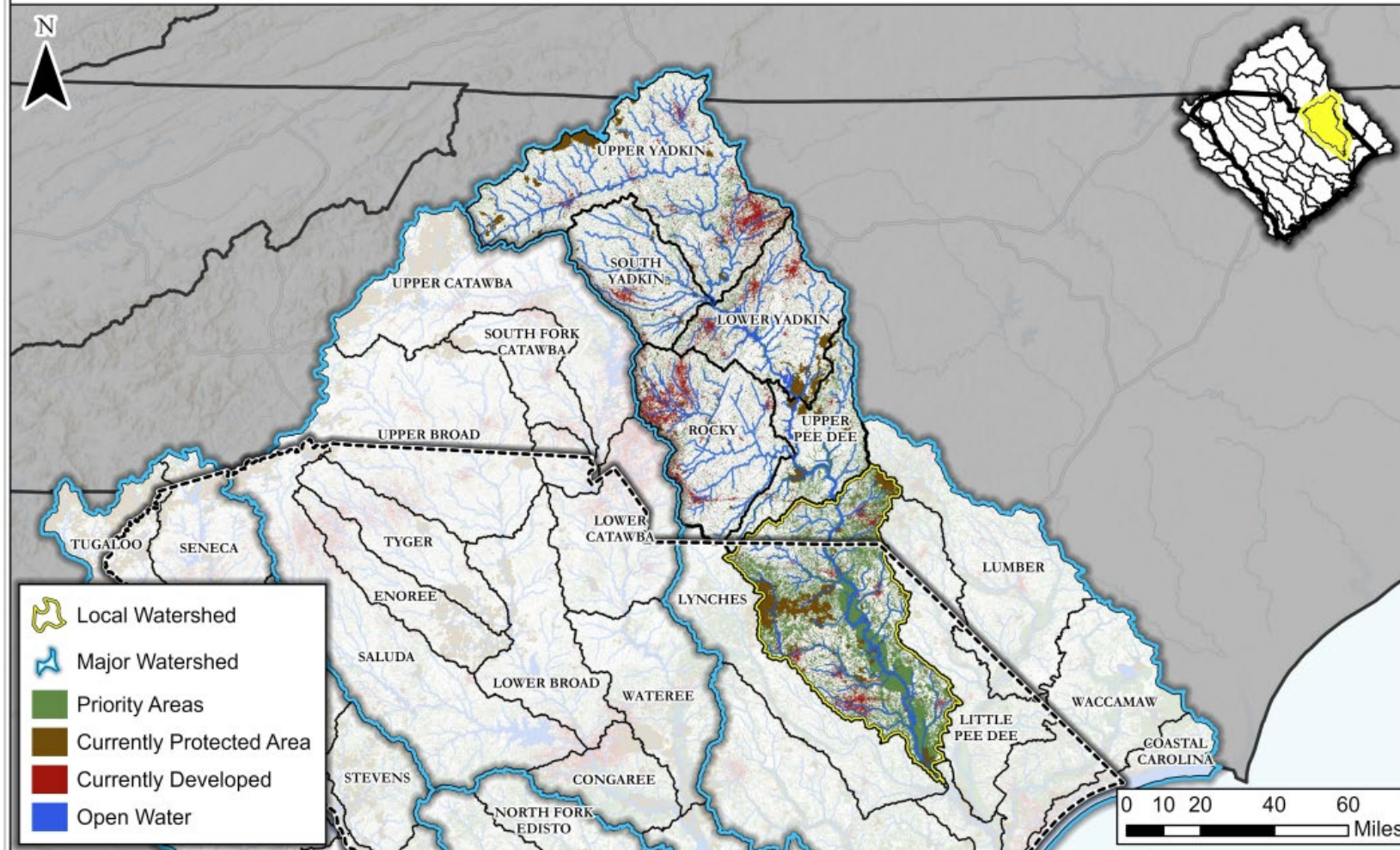
Resilient Coastal Communities Collaborative Program

- SCOR has been awarded a grant from the National Fish and Wildlife Foundation's National Coastal Resilience Fund to complete this process in the Salkehatchie River basin, as a pilot program for future watershed-based planning efforts.
- Working with partners at S.C. Sea Grant Consortium and S.C. Beach Advocates to develop the Resilient Coastal Communities Collaborative Program.
- Technical Assistance to 10 underserved communities to complete community risk assessments, grounded in local engagement leading to a portfolio of resilience projects.
- Project kick off Fall 2023 – tentative
- Worked with NFWF technical assistance to coordinate multiple South Carolina proposals.
- **Check SCOR website for updates**



Prioritized Flood Mitigation Areas

Lower Pee Dee Watershed



SCOR's Prioritized Flood Mitigation Areas are the outcome of a data driven approach to identifying areas that will reduce severity and exposure to flooding in South Carolina's watersheds. Priority Areas incorporate inputs from the 2019 National Land Cover Dataset, NRCS SSURGO, NOAA's Marsh Migration model, future high-risk flood areas from the First Street Foundation, and FEMA's Special Flood Hazard Areas.



Questions?

Palmetto Air Quality Collaborative (PAQC)

What is the PAQC?

- The Palmetto Air Quality Collaborative (PAQC) is an initiative to develop innovative strategies to reduce greenhouse gases and co-pollutants in South Carolina.
- This initiative intends to lay the groundwork for lowering air emissions, engaging communities, and capitalizing on workforce and economic development opportunities.
- Funding comes from the EPA Climate Pollution Reduction Grant program

Program Overview

- EPA's CPRG program provides grants to states, local governments, tribes, and territories to support climate planning.
- SC CPRG
 - DHEC is prime recipient
 - Funding = \$3 million total for 4 years
 - SCOR and SC Ports Authority are sub-awardees, with SCOR managing the majority of CPRG activities
 - Columbia and Greenville-Spartanburg MSAs also have CPRG grants (\$1 million for 4 years)

Key Dates and Timeline

- Today: currently in development phase of planning grant

4 October 2023

- Priority Climate Action Plan (PCAP) due

1 March 2024

- Competitive Implementation Grant Application due
- Must tie to PCAP reduction measures

1 April 2024

- Comprehensive Climate Action Plan (CCAP) due

30 June 2025

- Status Report due
- Award ends

30 June 2027

Phases of CPRG Funding

Phase I (Planning)

- Phase I is currently in progress!
- States develop climate action plans and reduction measures.
- Phase I includes various levels of engagement and coordination
- **Three Key Deliverables:**
 - **March 1, 2024:** Priority Climate Action Plan
 - **June 30, 2025:** Comprehensive Climate Action Plan
 - **Summer 2027:** Status Report

Phase II (Implementation)

- Sept. 20, 2023: EPA released Notice of Funding Opportunity for implementation grants.
- Competitive Grant: funds measures identified in Phase I planning process.
- \$4.6 billion available
 - Funding tiers from **\$2 - \$500 million**
- Eligibility: agencies covered under Phase I (PAQC PCAP covers all agencies in SC)
- **Proposed implementation projects MUST be discussed within a PCAP.**

Quantified GHG Reduction Measures

Per EPA:

“‘Measure’ is intended to reflect the full breadth of the CPRG authorizing language directing planning grants to eligible entities for plans that include ‘programs, policies, measures, and projects that will achieve or facilitate the reduction of greenhouse gas emissions and air pollution.’”

Program Impacts and Outcomes

- Reduce tons of pollution (greenhouse gases, co-pollutants)
- Improve staff capacity to implement climate change policies
- Enhance community engagement
- Improve ambient air quality
- Achieve health benefits
- Increase public awareness of the project
- Create high-quality jobs

Contacts and Information

CPRG Program Manager:

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CPRG Project Coordinator:

Amanda Rahimian

Amanda.Rahimian@scor.sc.gov

SCOR website coming soon!

EPA website

<https://www.epa.gov/inflation-reduction-act/climate-pollution-reduction-grants>

Solar For All

Award Overview

[https://www.epa.gov/
greenhouse-gas-
reduction-fund/solar-all](https://www.epa.gov/greenhouse-gas-reduction-fund/solar-all)

- Offered by the EPA
- Up to 60 awards; 5-year duration
- SCOR is applying for \$200 million
- Dates
 - October 12: application due
 - July 2024: anticipated start date
 - 1-year planning period allowed
- Grant can be used for:
 - Financial assistance (75% of funds)
 - Grants, subsidies, rebates, loans for solar projects
 - Technical assistance
 - Workforce training
 - Customer outreach and education
 - Project deployment (siting, permitting, interconnections, coordination with utilities)

EPA's Program Goals & Objectives

- Expand existing low-income solar programs or design and deploy new programs
 - Improve access for low-income households
 - Provide economic benefits
- Deploy clean energy projects
 - Improve air quality and reduce air pollutants
- Mobilize financing and private capital to stimulate additional deployment of clean energy projects

SCOR's Proposed Framework

Expand access to
community solar
programs

Establish a Solar
Innovation Grant
Fund

Coordinate with
energy efficiency
and
weatherization
programs

Support workforce
training and
development
programs

Multi-family housing
Affordable housing
Resilience hubs
Other ideas!



Community organizations
Local governmental agencies
Partnerships

Questions?