

The South Atlantic LCC Conservation Blueprint

Hilary Morris, Blueprint User Support & Communications



Outline

- Introduction to the South Atlantic LCC
- What is the Blueprint?
- Indicators and the State of the South Atlantic
- Progress on Version 1.0
- Plans for Version 2.0
- How you can get involved!

What is the South Atlantic LCC?

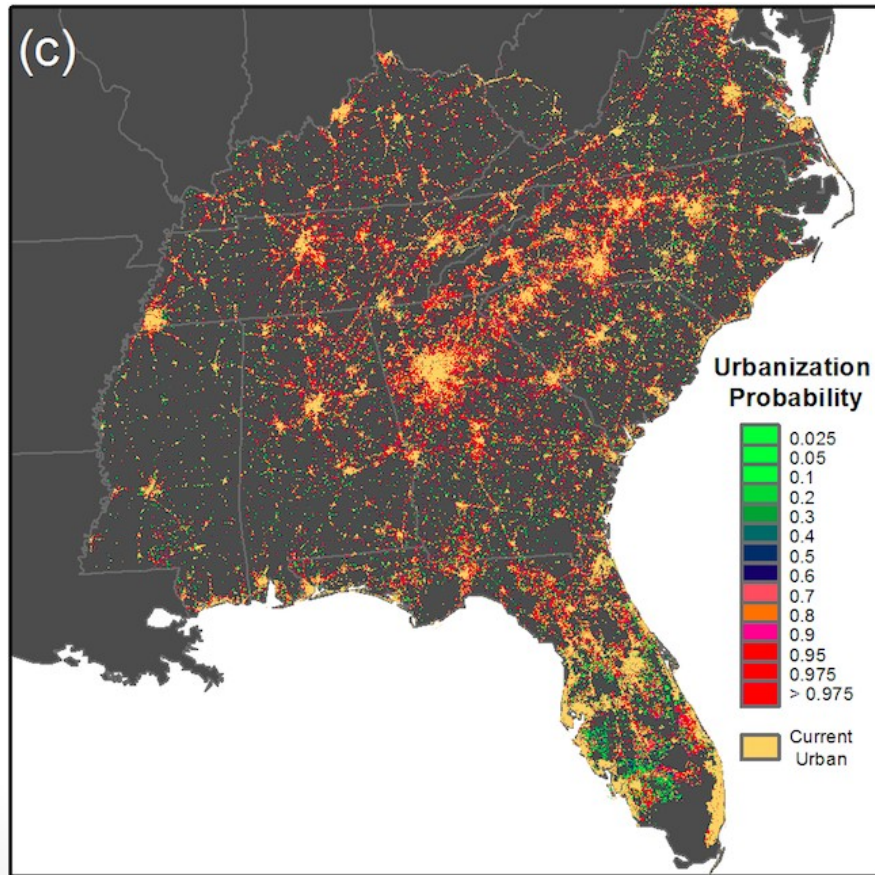


A **forum** in which federal and state agencies, non-profits, businesses and communities work together to develop a **shared vision** of landscape sustainability,

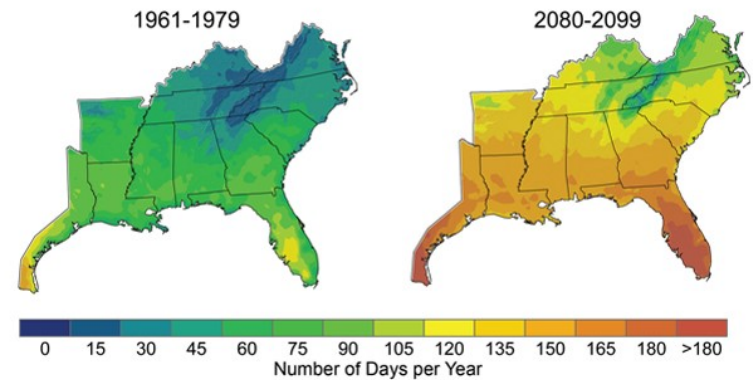
cooperate in its implementation,

and **collaborate** in its refinement.

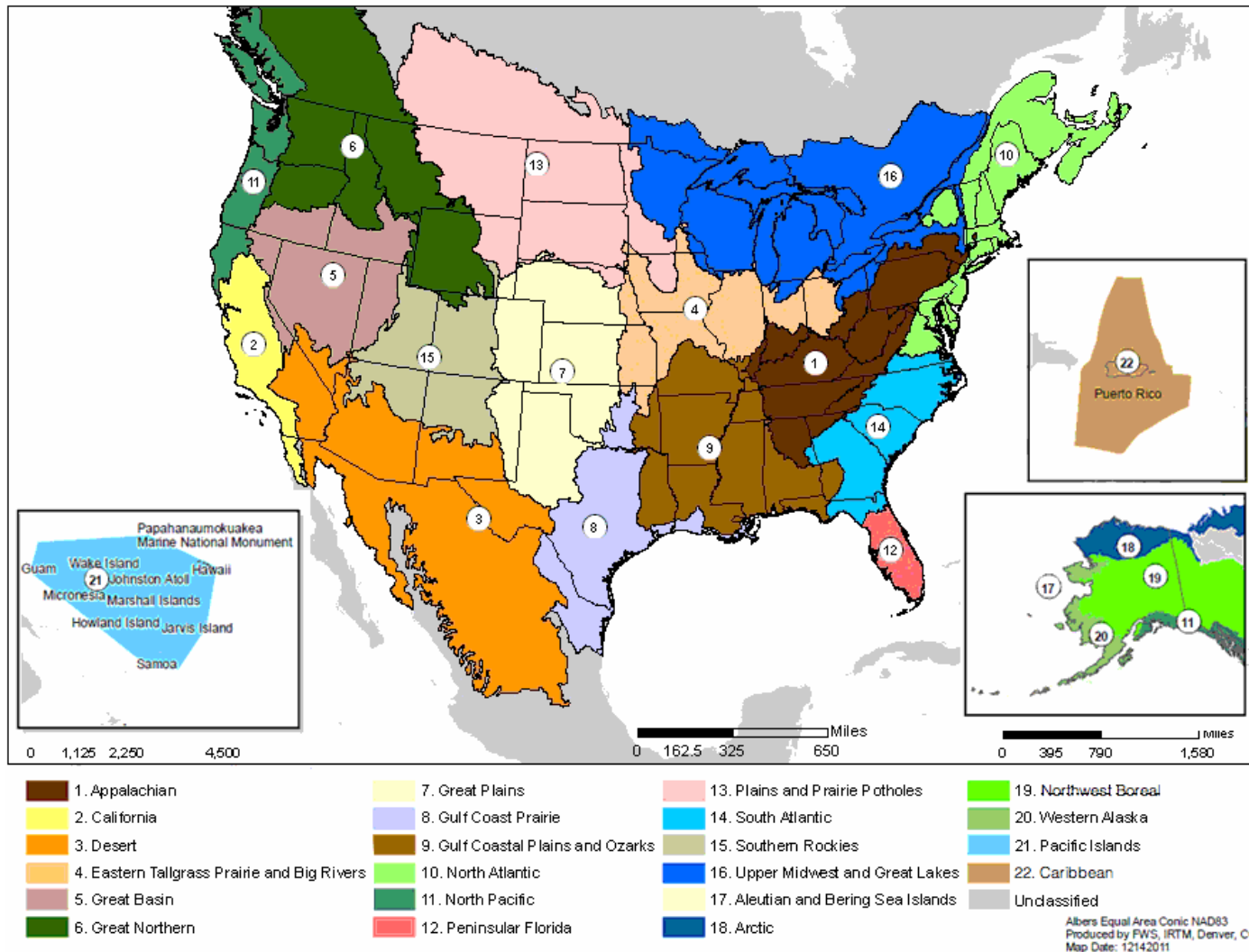
Why cooperate?



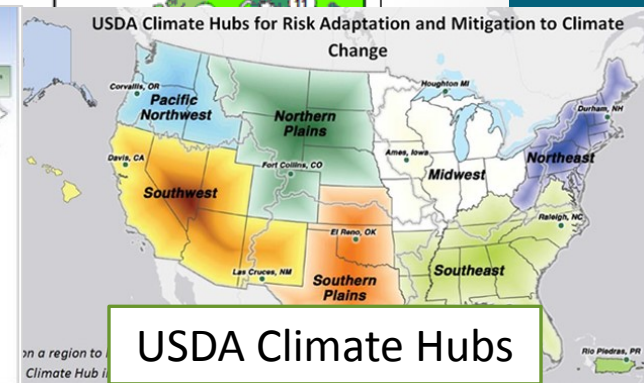
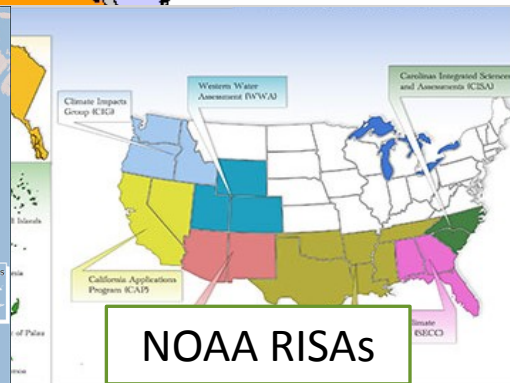
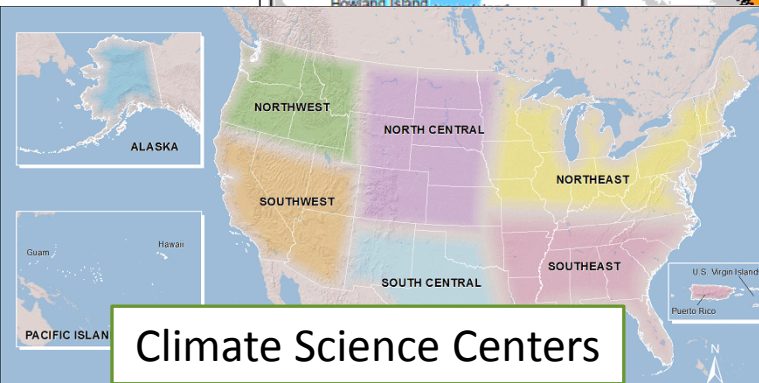
Days per year with peak temperature over 90° F



Part of a larger network



Part of a larger network

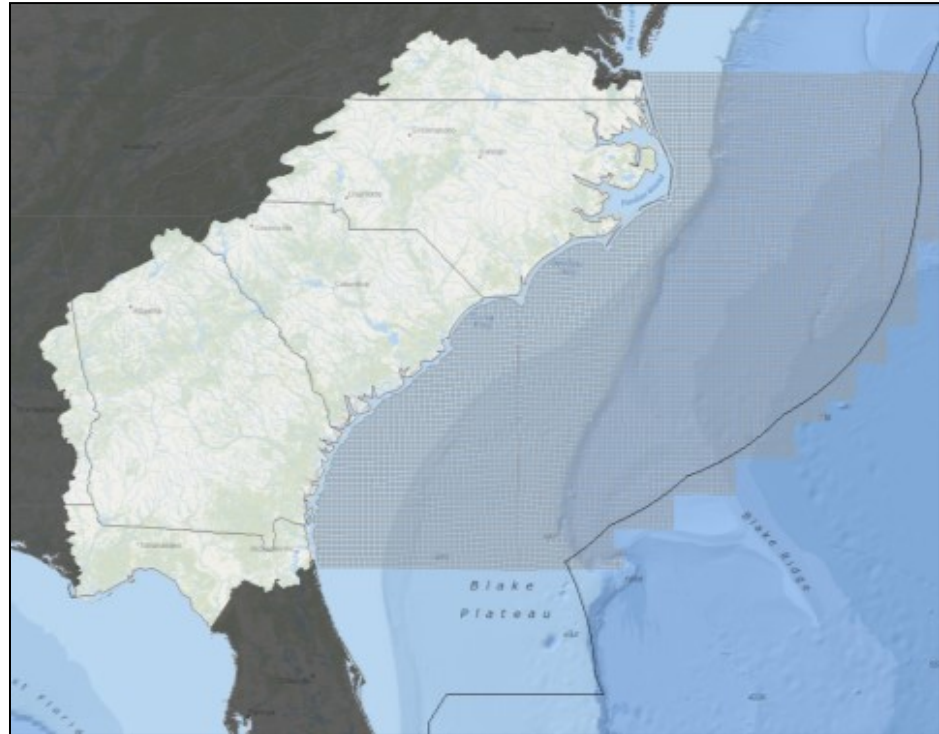


The Steering Committee



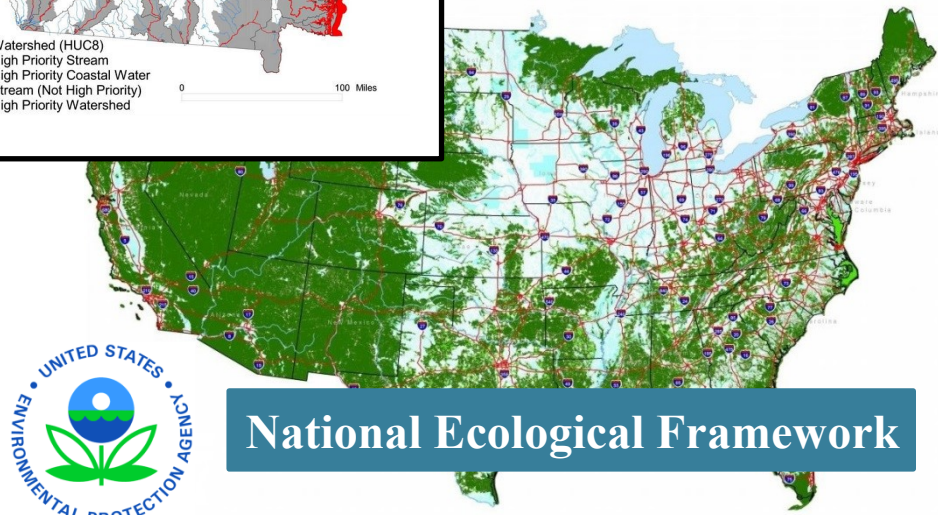
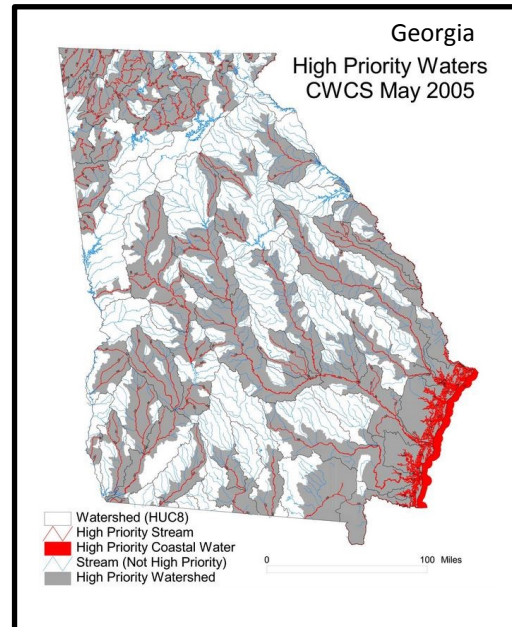
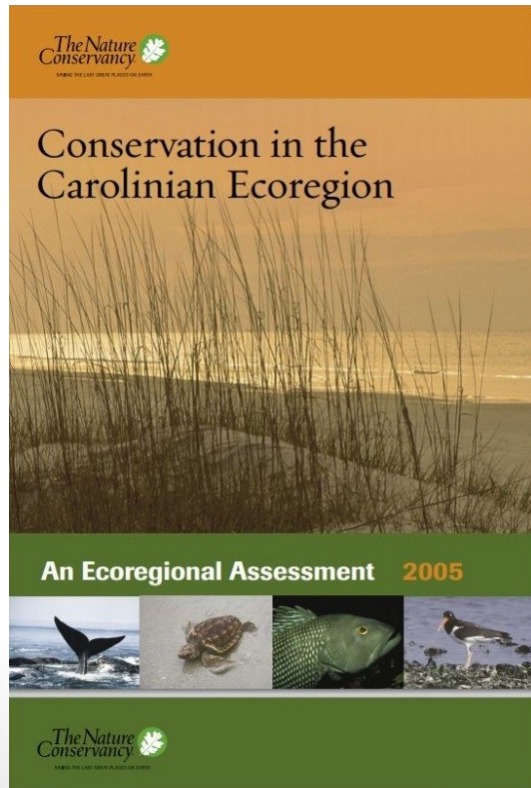
What does the South Atlantic LCC do?

- Create a shared **blueprint** for landscape conservation actions that sustain natural and cultural resources



Conservation Blueprints

- The idea is not new



So, what's different from past efforts?

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- Planning for the Cooperative, not any one organization

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- An adaptation strategy (incorporating climate change, urban growth, and other future changes)

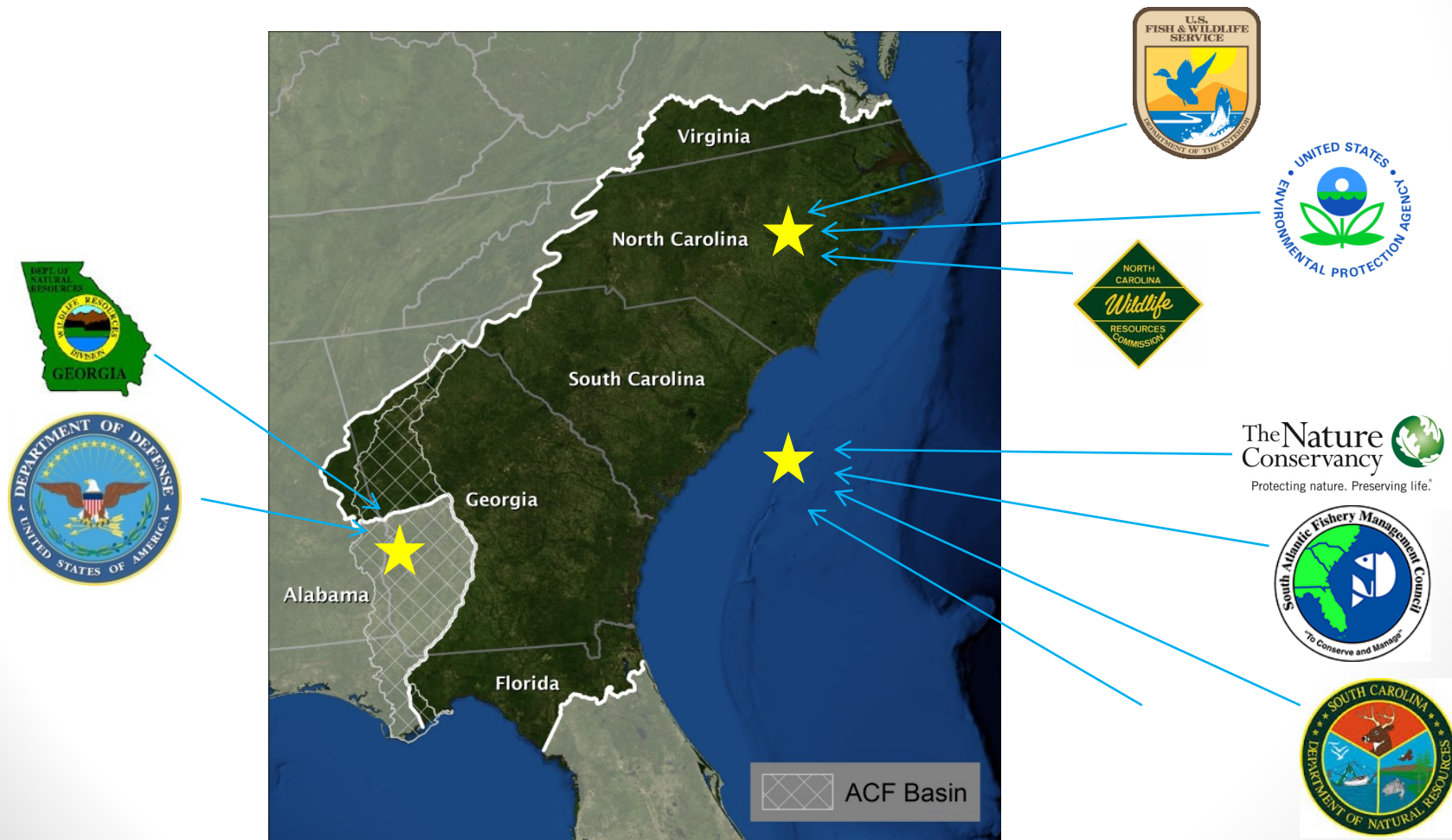
So, what's different from past efforts?

- Planning for the Cooperative, not any one organization
- An adaptation strategy (incorporating climate change, urban growth, and other future changes)
- Bigger scope and scale

How can the Blueprint be used?

How can the Blueprint be used?

- Case 1: finding the best places to use current resources



How can the Blueprint be used?

- Case 2: bringing in new conservation dollars



THE
TRUST
for
PUBLIC
LAND

R. HOWARD DOBBS, JR.
Foundation, Inc.



How can the Blueprint be used?

- Case 3: guiding infrastructure development



The Trinity River Corridor will be a defacto landscape unlike any other—where art and sustainability will coexist throughout the built form, advancing the city's most progressive goals and values; where infrastructure will be rendered green infrastructure; where visitness will be sensed and understood alongside the minute; and where Dallas will rediscover and redefine itself.

How can the Blueprint be used?

- Case 4: creating incentives as an alternative to regulation

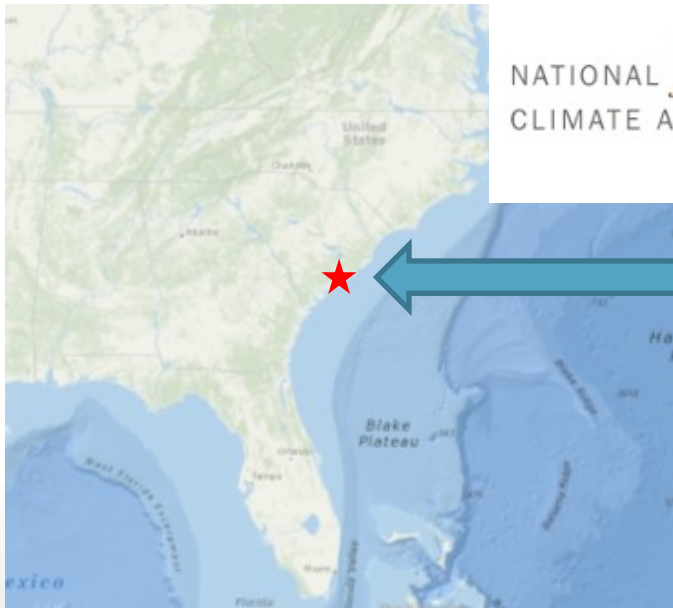


How can the Blueprint be used?

- Case 5: bringing in landscape perspectives to local adaptation (how do I fit in?)



NATIONAL *fish, wildlife & plants*
CLIMATE ADAPTATION STRATEGY



How can the Blueprint be used?

- Case 6: responding to major disasters



Progress so far

- Indicators and targets (shared measures of success)

Indicators and targets

- Ecosystem integrity



- Intact cultural landscapes



Progress so far

- Indicators and targets (shared measures of success)
- State of the South Atlantic

The State of the South Atlantic

State of the South Atlantic



South Atlantic ecosystem health scores

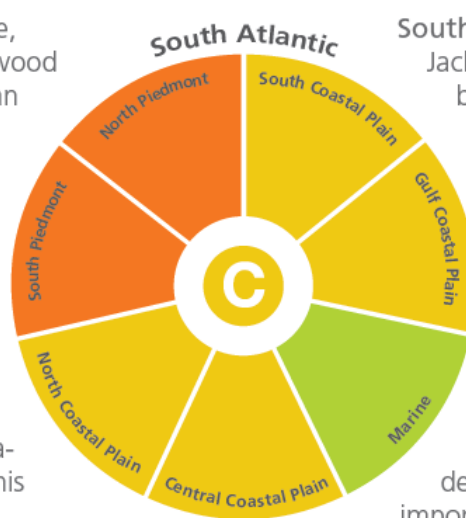
Overall, the South Atlantic scored a C. Piedmont areas scored the lowest, likely due to impacts from their major urban megaregions. The Marine region scored the highest; however, it did not include fishing impacts. The Coastal Plain scores were in the middle. These scores show that, while the South Atlantic is not completely healthy, there's hope for making future improvements.

North Piedmont: **D** Home to Charlotte, Raleigh, and large areas of upland hardwood forest. People who live and work in urban areas will help decide the future of this region.

South Piedmont: **D** Home to Atlanta and diverse watersheds draining into the Atlantic and Gulf. Balancing water needs for people and species continues to be a challenge.

North Coastal Plain: **C** Home to the Outer Banks and extensive estuaries. Sea-level rise is predicted to heavily impact this particularly flat region.

Central Coastal Plain: **C** Home to Wilmington, Myrtle Beach, and large protected wetland areas. Sea-level rise, tourism, and changing agricultural practices continue to influence ecosystem health.



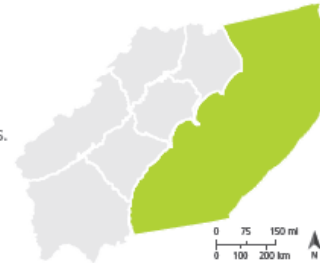
South Coastal Plain: **C** Home to Savannah, Jacksonville, and a network of protected barrier islands. Partnerships are working to conserve this region's largest river floodplains.

Gulf Coastal Plain: **C** Home to rural Southwest Georgia and extensive conservation lands in the Big Bend of Florida. Sea-level rise and upstream agriculture continue to impact coastal protected areas.

Marine: **B+** Home to rich fisheries, deepwater coral, diverse seabirds, and important migratory fish, whales, and turtles. Ocean acidification and increased energy development are major emerging threats.

An ocean of possibilities

The marine environment starts at either the estuary mouth or the shoreline and stretches 200 miles into the ocean, covering the extent of U.S. waters. The marine ecosystem comprises about half of the South Atlantic geography! From deepwater coral formations to right whale calving grounds, this vast expanse of open water and benthic habitat sustains coastal tourism, commerce, and fisheries.

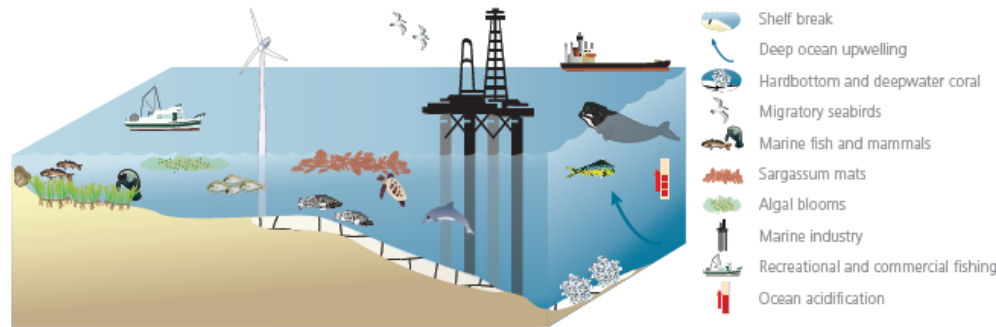


Interpreting the score

Overall, this ecosystem scored a B+. This is the highest ecosystem score in this assessment, however, it does not include fishing impacts. If included, those would likely lower the score. Productivity and hardbottom indicators were in good condition, but poor connectivity with freshwater brought down the overall score. While this system is relatively healthy, future threats from offshore energy and ocean acidification could significantly impact ecosystem integrity.

- | | |
|------------------------------------|--|
| A 100-80% in good condition | D 39-20% in good condition |
| B 79-60% in good condition | F 19-0% in good condition |
| C 59-40% in good condition | ○ Not scored; baseline for future |

- | | |
|---|---|
| ○ Marine turtles & mammals | A Primary productivity |
| A Potential hardbottom condition | D Fresh & saltwater connectivity |



Small turtles, big adventures

Sea turtles are iconic marine animals perhaps best-known for nesting on the beach. Not only do adult females famously migrate back to their birthplaces to lay their own eggs, but recent tracking data shows that young green sea turtles, born as far away as Costa Rica, swim thousands of miles to grow up off the South Atlantic coast.

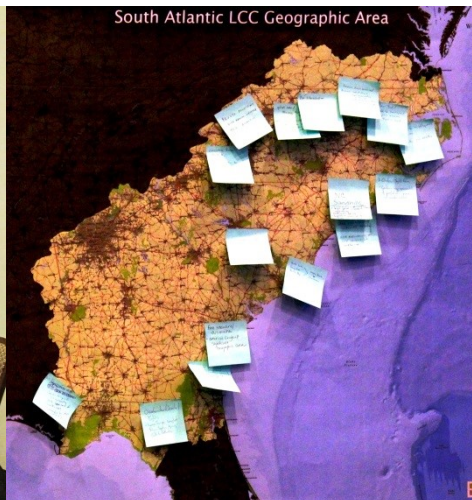
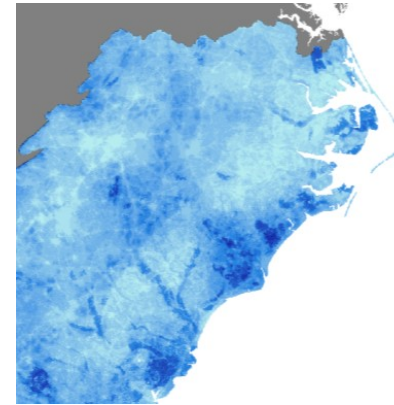
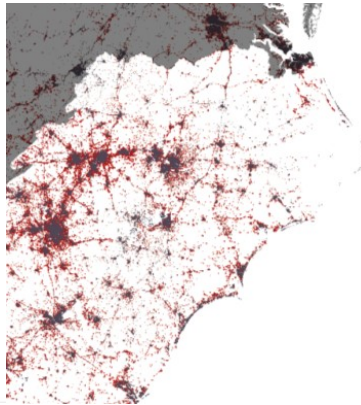
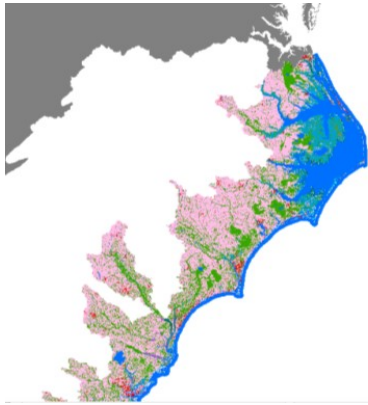


Andy Bruchner/NOAA

Progress so far

- Indicators and targets (shared measures of success)
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- Blueprint 1.0

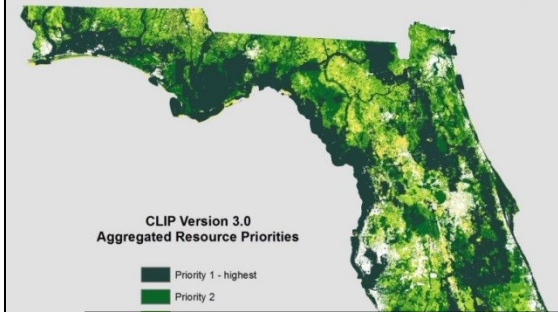
Regional Blueprint workshops



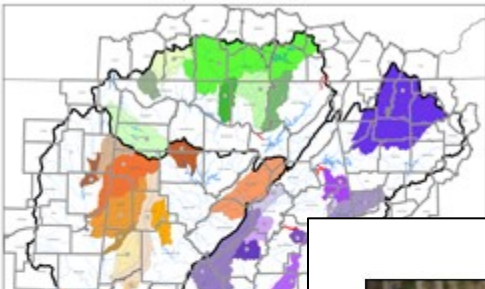
Incorporating partner plans

Critical Lands and Waters Identification Project (CLIP):

Version 3.0

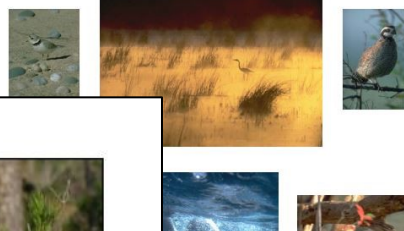


Strategic Habitat Units for Aquatic Species Restoration in Alabama



The South Atlantic Migratory Bird Initiative Implementation Plan

An Integrated Approach to Conservation of "All Birds Across All Habitats"

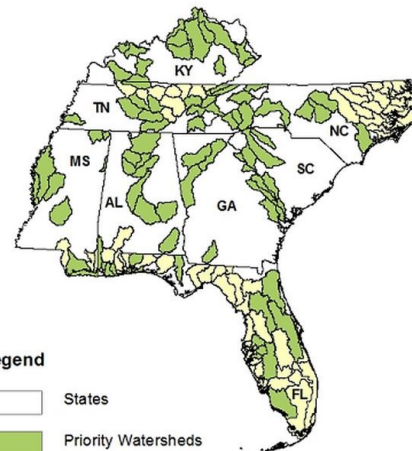


Model Criteria and Implementation Guidance Priority Amphibian and Reptile Conservation (PARCA) System in the U.S.A.



NATIONAL BOBWHITE CONSERVATION INITIATIVE: A RANGE-WIDE PLAN FOR RECOVERING BOBWITES

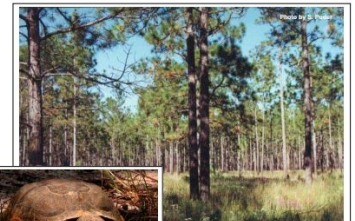
EPA Region 4 Priority Watersheds April 2014



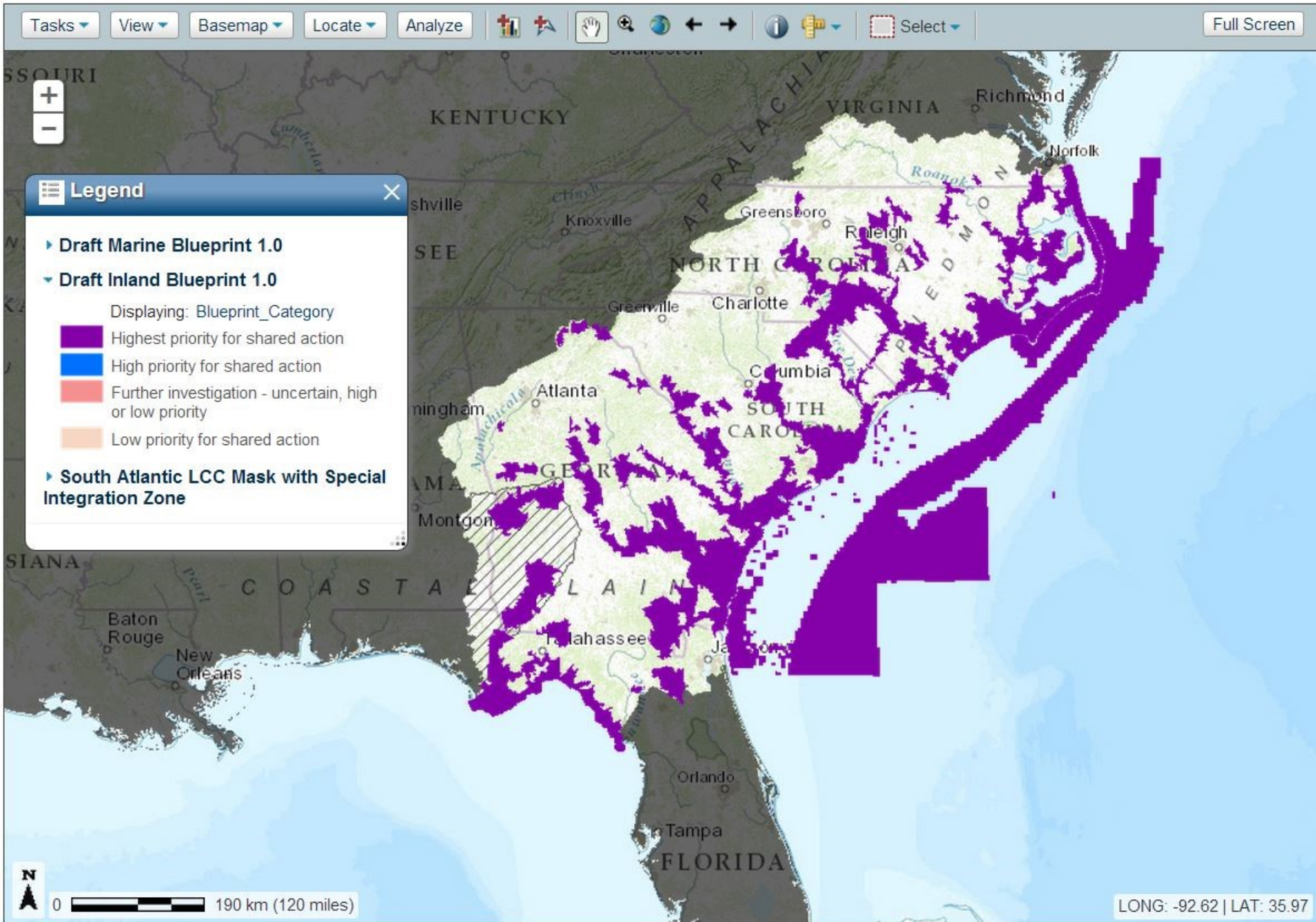
Legend

- States
- Priority Watersheds
- EPA Existing Investment Watersheds

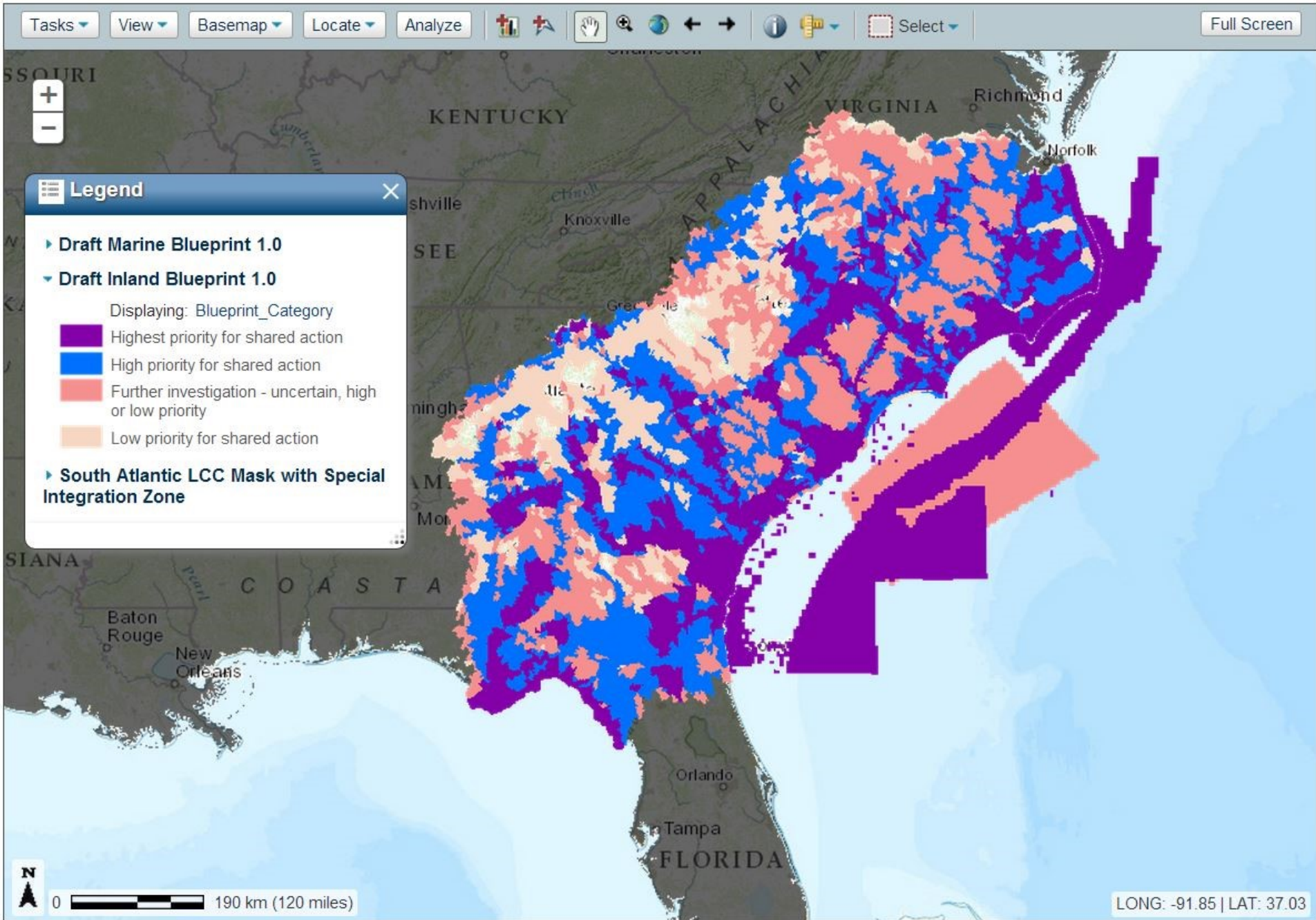
South Atlantic Coastal Plain Ecoregion Plan



The Nature Conservancy
Saving the Last Great Places
South Atlantic Coastal Plain
Ecoregional Planning Team

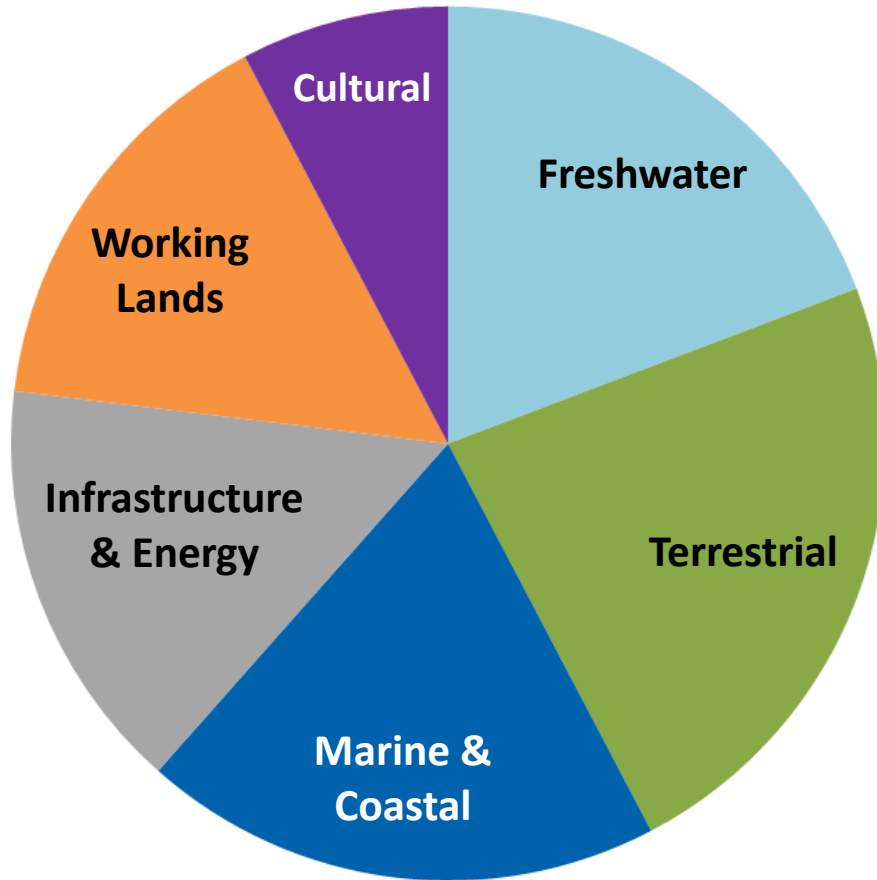


- South Atlantic LCC Blueprint 1.0 – <http://blueprint.southatlantic.org>



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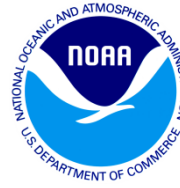
Working with users



The Nature Conservancy
Protecting nature. Preserving life.

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
WILDLIFE RESOURCES DIVISION

THE CONSERVATION FUND



DCR
Virginia Department of Conservation & Recreation

ncasi

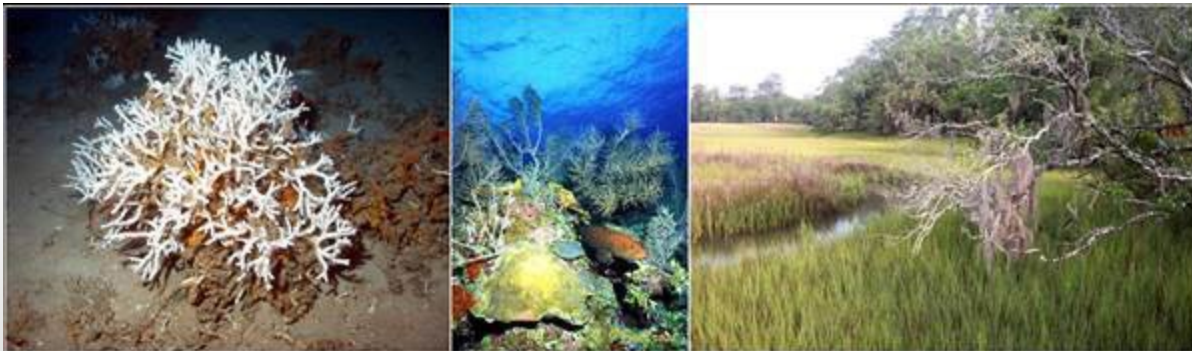
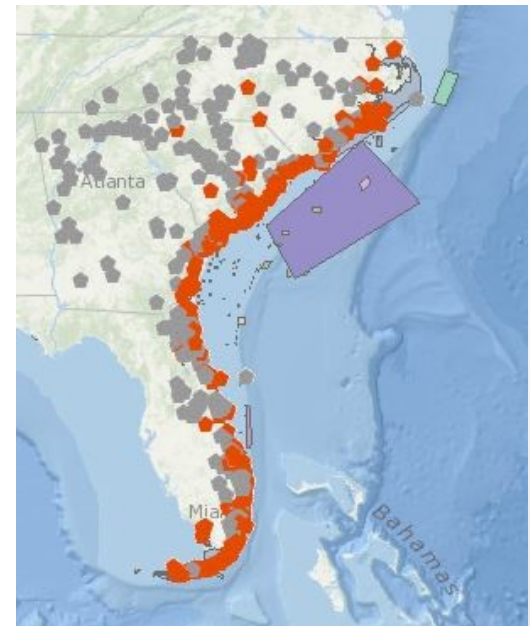
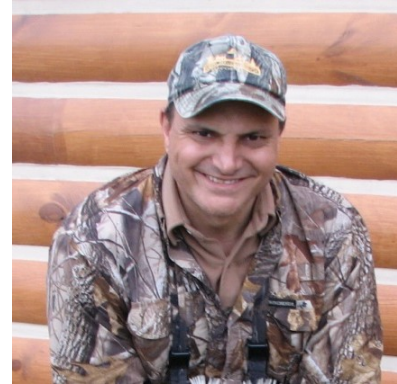
NRCS
Natural Resources Conservation Service

Meet the user team

Aleta Hohn	NOAA	John Ann Shearer	FWS
Anna Toline	NPS	John Stanton	FWS
Ben Wigley	NCASI	Jon Ambrose	GA DNR
Beth Stys	FL FWC	Julie Elmore	NRCS
Beth Byrd	NPS	Kacy Cook	NC WRC
Billy Dukes	SC DNR	Lisa Perras-Gordon	EPA
Breck Carmichael	SC DNR	Marella Buncick	FWS
Brian Watson	VA DGIF	Maria Whitehead	TNC
Brian Yanchik	DOT	Mark Cantrell	FWS
Charlotte Gillis	NPS	Mark Scott	SC DNR
Chris Burkett	VA DGIF	Mary Morrison	USFS
Cynthia Walton	NPS	Pace Wilber	NOAA
Darrell Echols	NPS	Pam Wingrove	FWS
David Whitaker	SC DNR	Randy Swilling	NPS
Don Imm	FWS	Reggie Thackston	GA DNR
Emrys Treasure	USFS	Rick Durbrow	EPA
George Willson	TCF	Roger Pugliese	SAFMC
Hervey McIver	TNC	Ryan Heise	NC WRC
Jan MacKinnon	GA DNR	Ryan Orndorff	Marines
Jason Bulluck	VA DCR	Wilson Laney	FWS

Ecosystem-based fishery management

- Embedding the Conservation Blueprint in the revised Fishery Ecosystem Plan
- Reduce regulatory pressure on fishermen



South Carolina quail focus areas

- Implementing the National Bobwhite Conservation Initiative
- Facilitate conservation on private lands
- Demonstrate benefits of quail management



Photo by Steve Maslowski, USFWS



Public lands planning

- Informing acquisition boundaries
- Demonstrate significance within larger landscape
- Adapting to climate change and urbanization



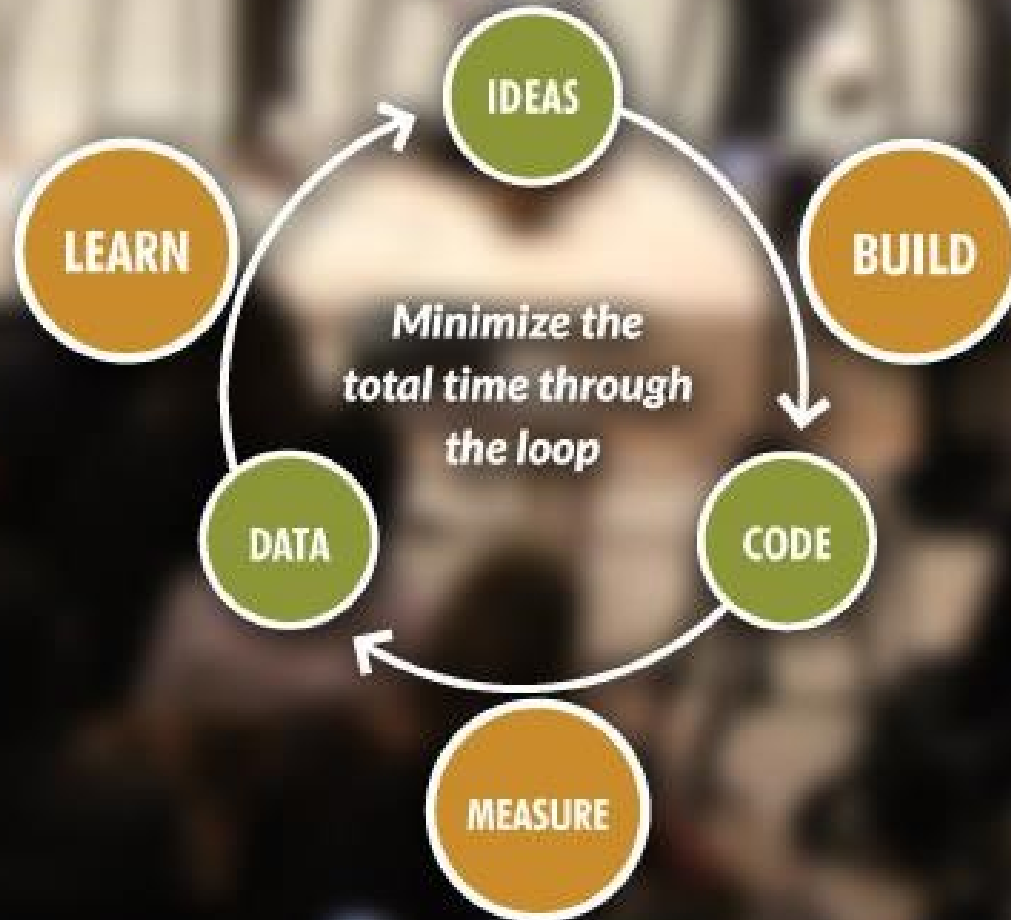
NATIONAL *fish, wildlife & plants*
CLIMATE ADAPTATION STRATEGY



Progress so far

- Indicators and targets (shared measures of success)
- State of the South Atlantic
- Blueprint 1.0
- **Blueprint 2.0**

The lean startup method



Next steps: building a better Blueprint



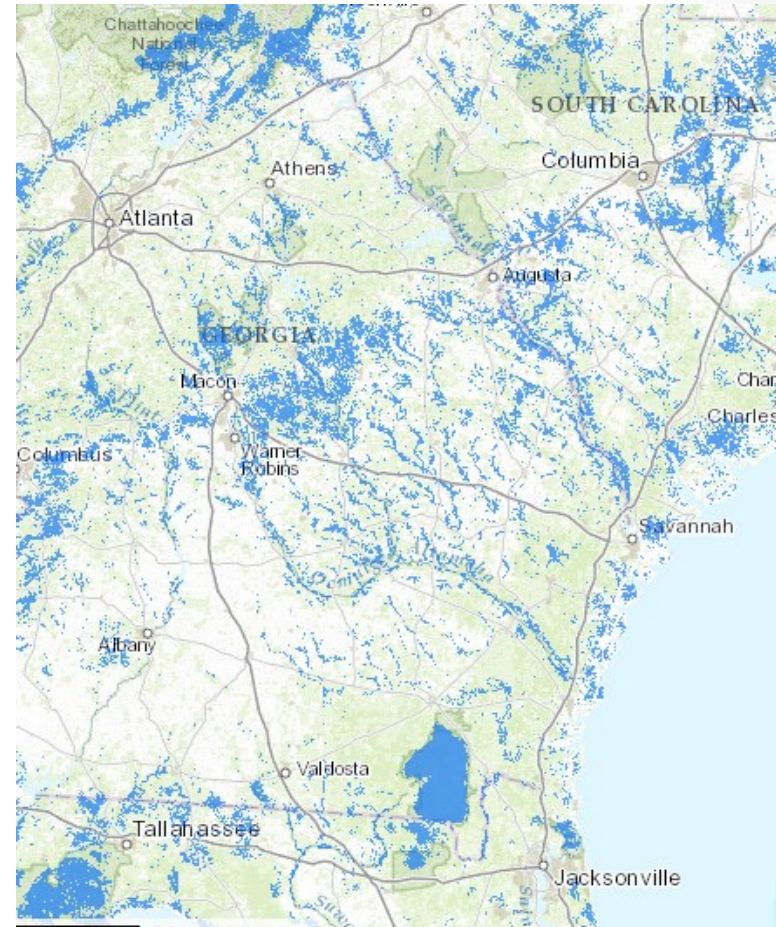
Content



Presentation

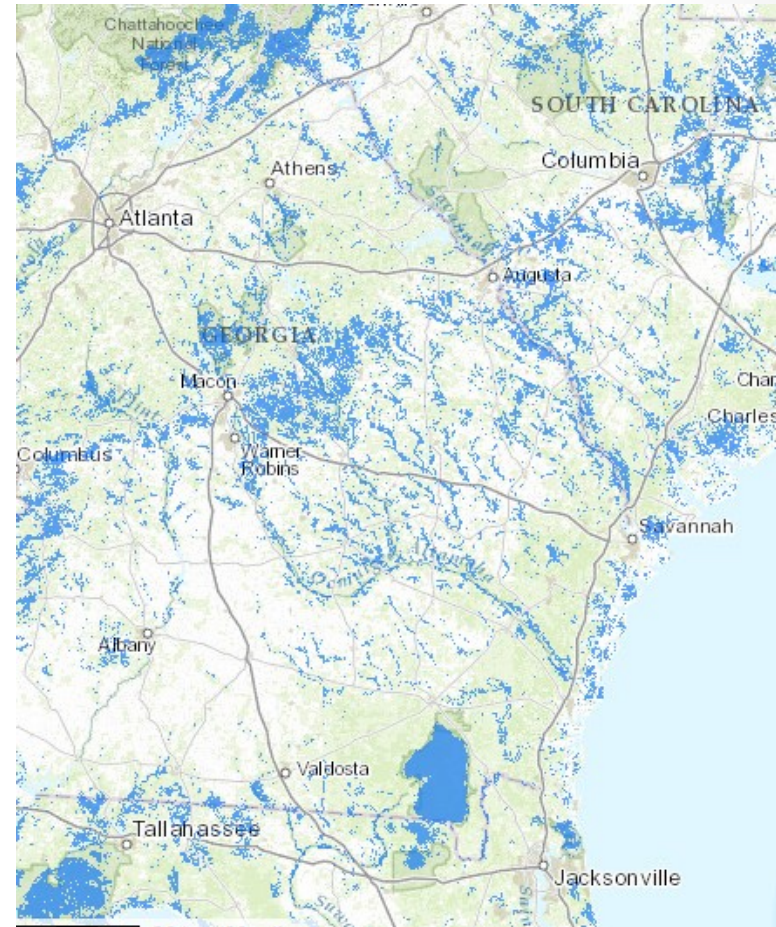
Content

- More explicitly connected to the indicators
 - Finished revising and modeling in January



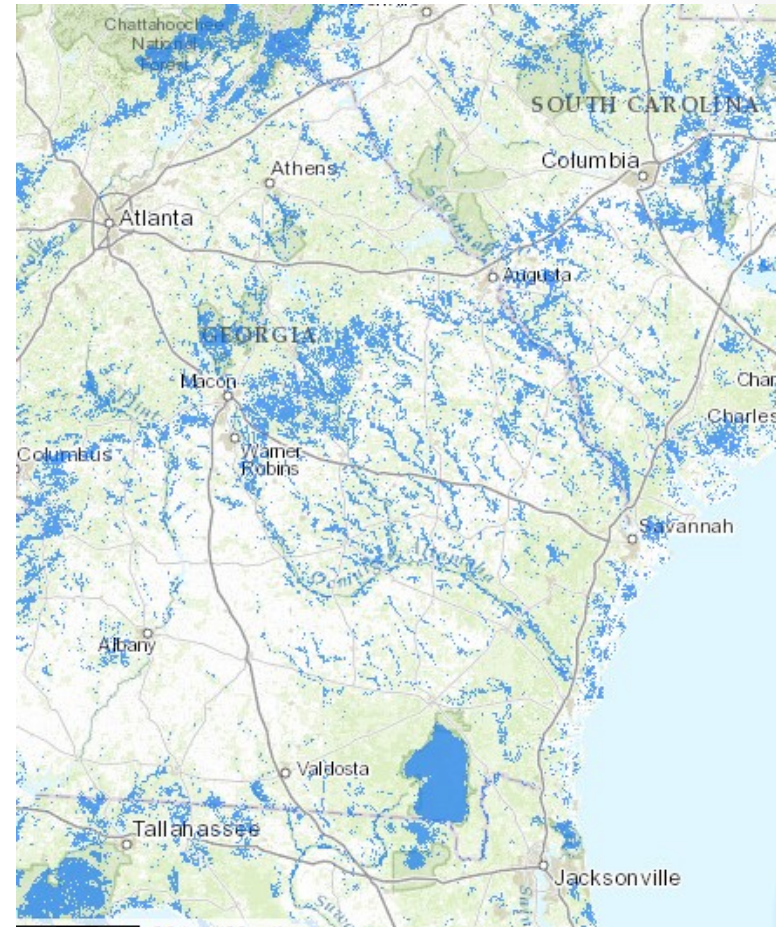
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- Update Blueprint using a more data driven approach



Content

- More explicitly connected to the indicators
 - Finished revising and modeling in January
- Update Blueprint using a more data driven approach
- **Finer spatial resolution**

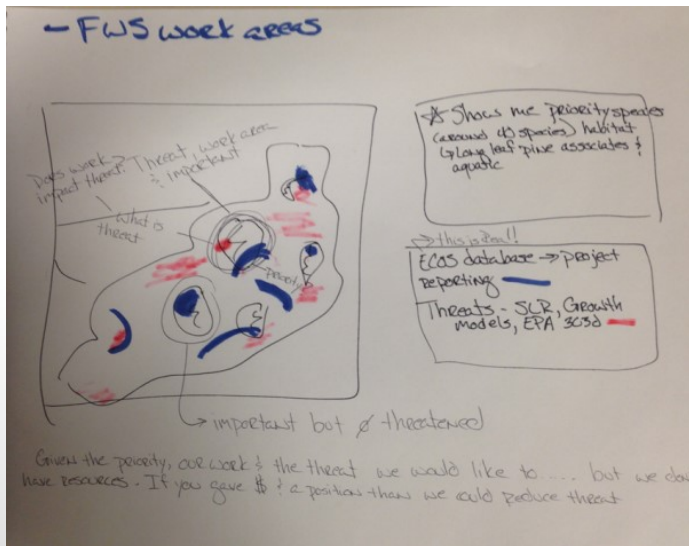


Conservation Design Team

- Mark Anderson TNC
- Jim Fox University of NC – Asheville
- Will Allen The Conservation Fund
- Paul Wagner Army Corps
- Bob Cooper UGA
- Mary Conley TNC
- Barry Grand USGS
- Nate Nibbelink UGA
- Dean Urban Duke University
- Lindsey Smart Albermarle-Pamlico Nat'l Estuary Prog.
- Tim Jones Atlantic Coast Joint Venture
- Mary Davis Southeast Aquatic Resources Partn.

Presentation

- Improved interface for accessing the Blueprint



I wish the CPA included better bathymetric data...

Did a 3-year-old design this zoom tool?

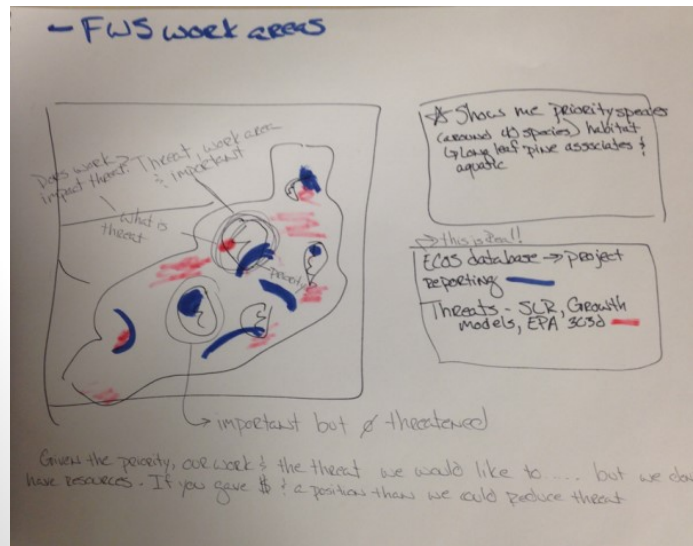
I want to use the Blueprint to decide what land to acquire.

How do I filter?



Presentation

- Improved interface for accessing the Blueprint
- New chart and graph features

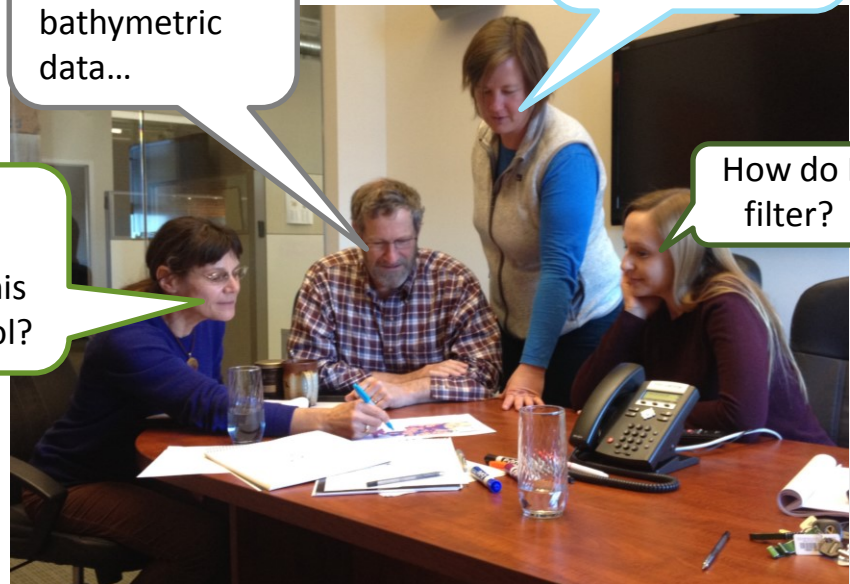


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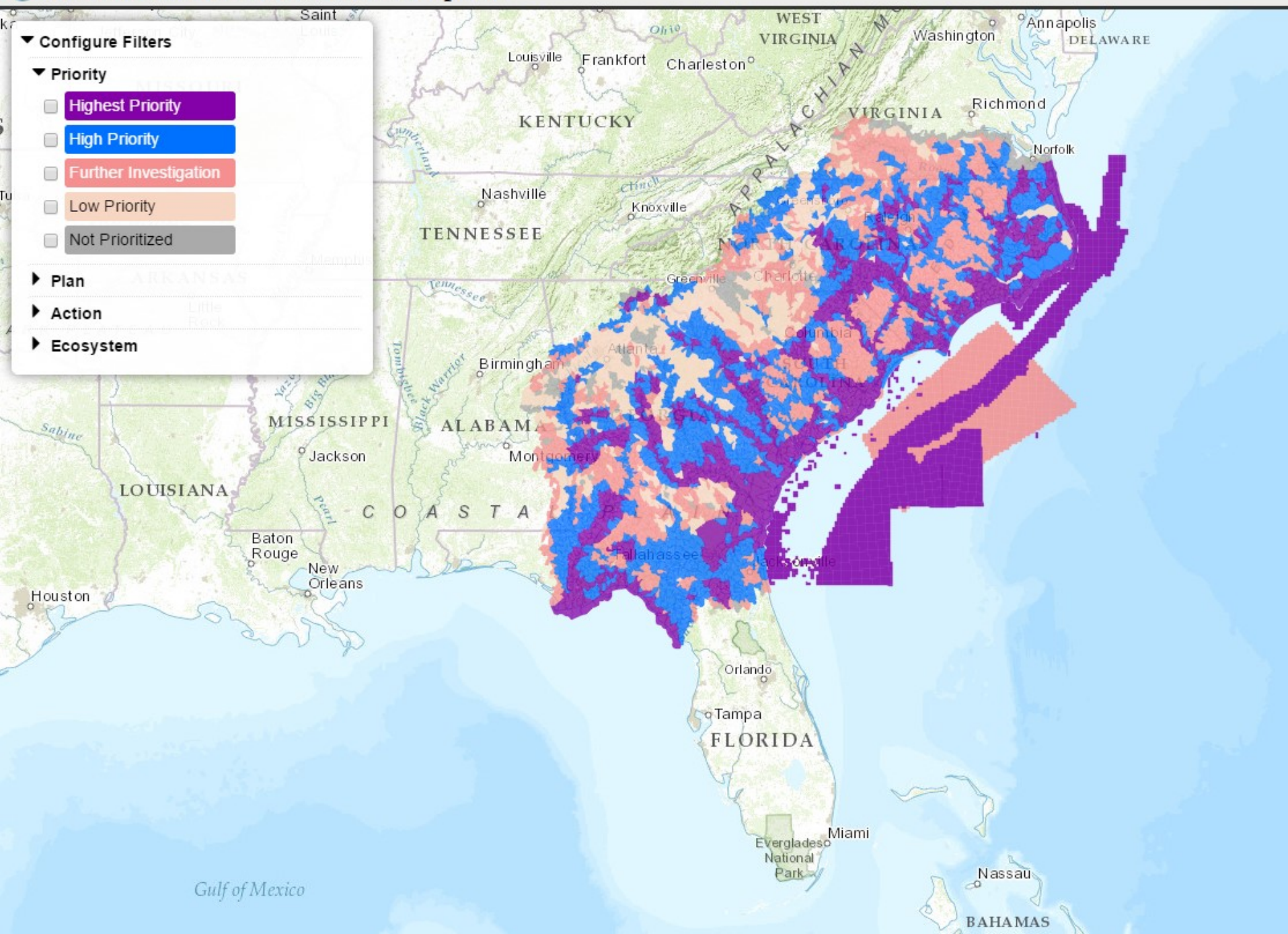
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South Atlantic Conservation Blueprint

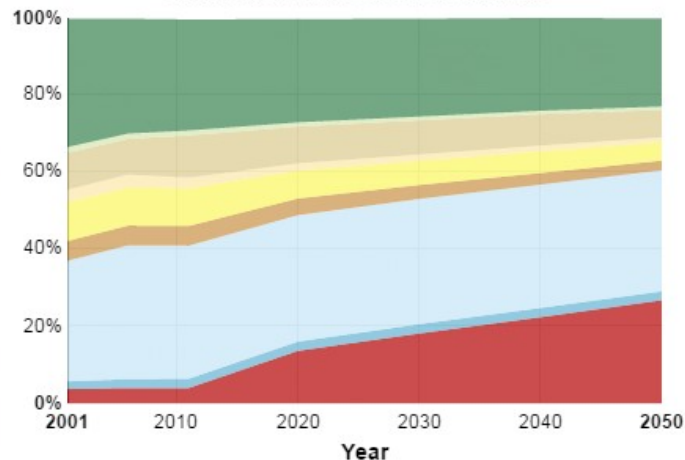


Walker Swamp (Edisto-South Carolina Coastal Basin)

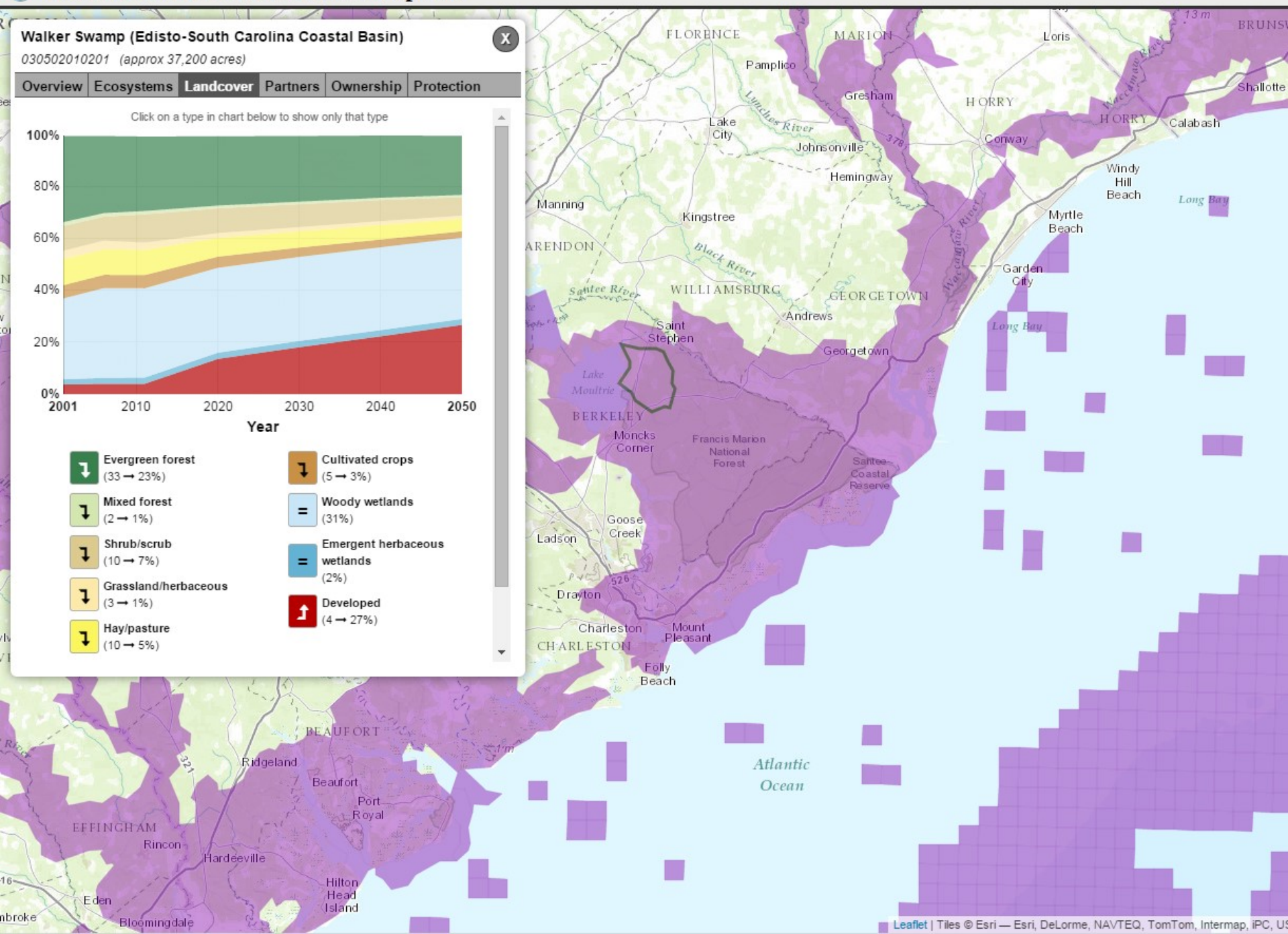
030502010201 (approx 37,200 acres)

Overview Ecosystems **Landcover** Partners Ownership Protection

Click on a type in chart below to show only that type



- Evergreen forest (33 → 23%)
- Mixed forest (2 → 1%)
- Shrub/scrub (10 → 7%)
- Grassland/herbaceous (3 → 1%)
- Hay/pasture (10 → 5%)
- Cultivated crops (5 → 3%)
- Woody wetlands (31%)
- Emergent herbaceous wetlands (2%)
- Developed (4 → 27%)



Walker Swamp (Edisto-South Carolina Coastal Basin)

030502010201 (approx 37,200 acres)

Overview Ecosystems Landcover Partners **Ownership** Protection

Conserved Lands Ownership

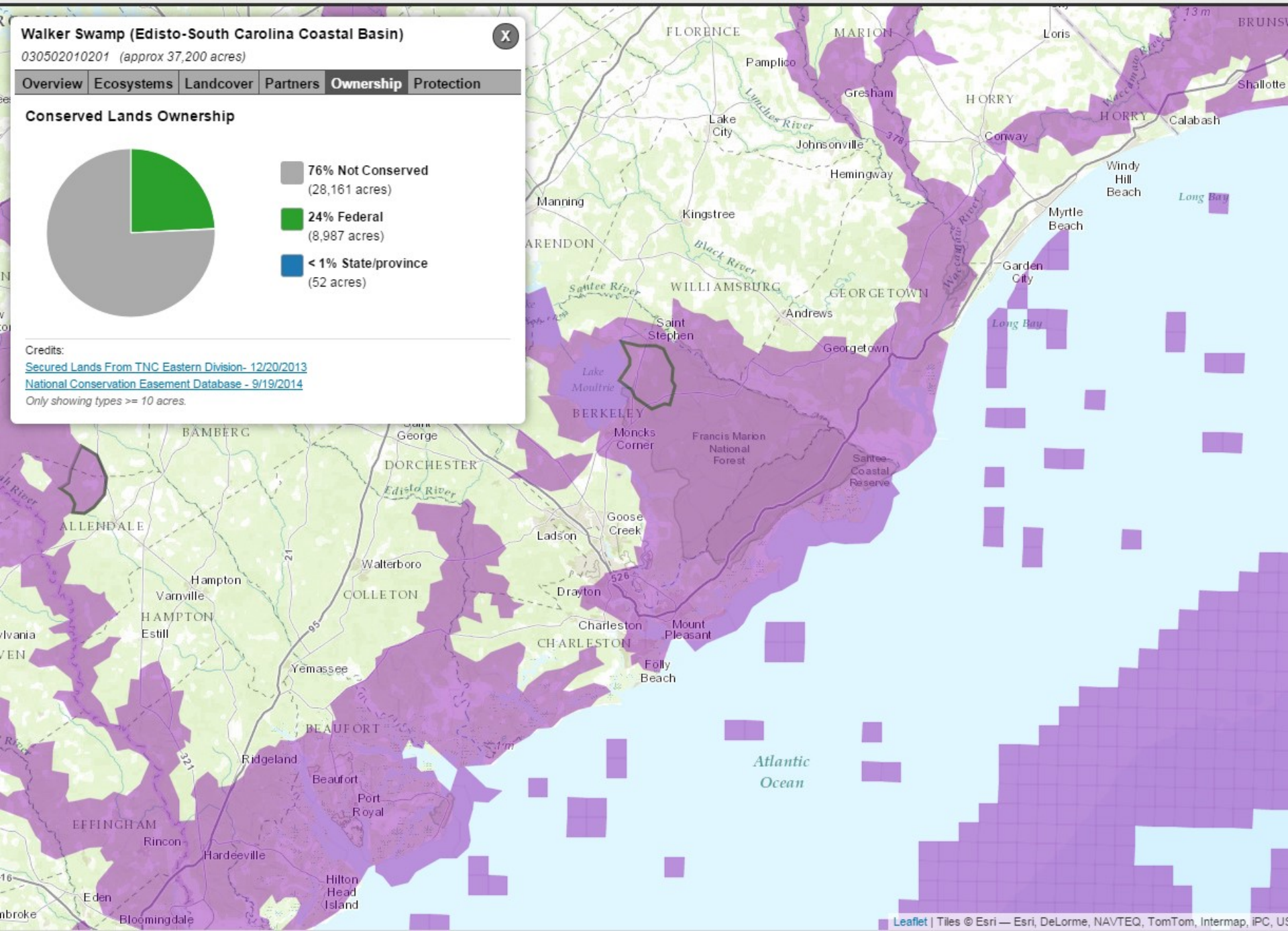


Credits:

[Secured Lands From TNC Eastern Division- 12/20/2013](#)

[National Conservation Easement Database - 9/19/2014](#)

Only showing types >= 10 acres.



What's the plan for Blueprint 2.0?

Landscape scale stressors (Salefsky et al. 2008)

**Residential and
commercial
development**

**Agriculture and
aquaculture**

**Energy
production and
mining**

**Transportation
and service
corridors**

**Biological
Resource Use**

**Human intrusions
and disturbance**

**Natural system
modification**

**Invasives and
other problematic
species and
genes**

Pollution

**Climate change
and severe
weather**

Landscape scale stressors (Salefsky et al. 2008)

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Conservation actions (Open standards 2013)

Land/Water
protection

Land/Water
management

Species
management

Education &
awareness

Livelihood,
economic, &
other
incentives

Law and
policy

Landscape scale stressors (Salefsky et al. 2008)

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Ecosystem Integrity

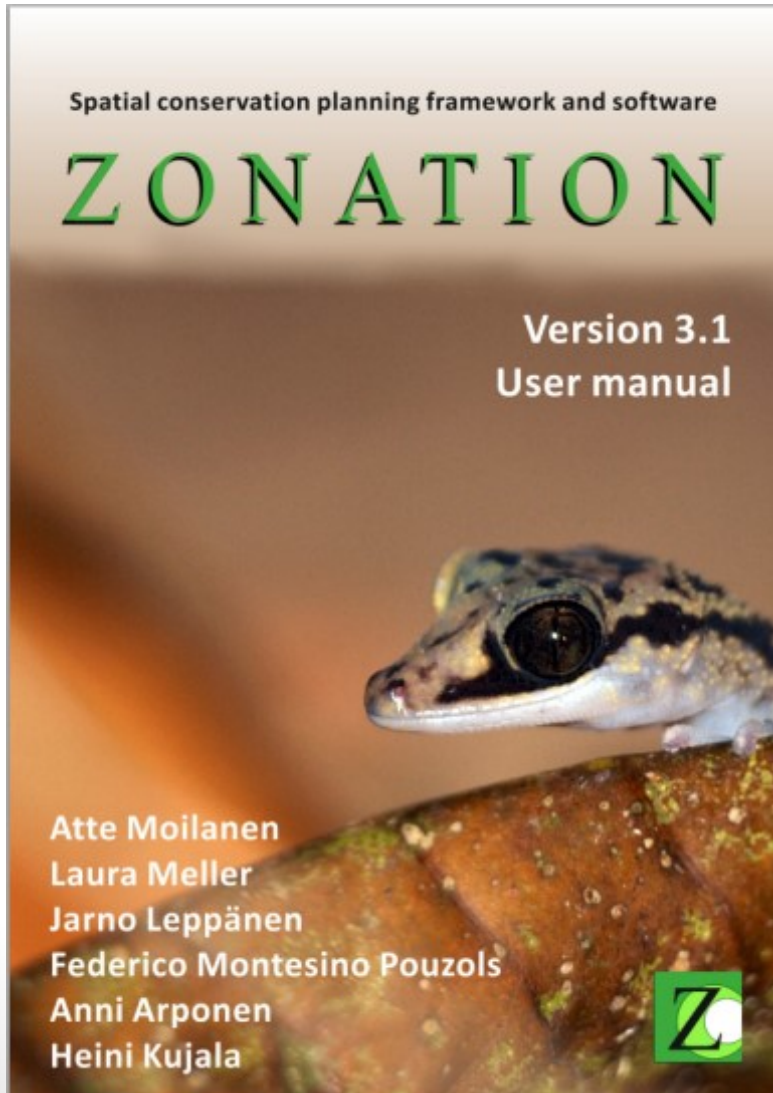
Indicator 1: % of target met

Indicator 2: % of target met

Indicator 3: % of target met

Overall integrity: % of all
ecosystem targets met

What's the plan for Blueprint 2.0?



- Originally developed in 2004 and is regularly updated
- Used globally for diverse applications
 - Terrestrial, freshwater, marine
 - Climate resilience
 - Urban conservation
- Algorithm is easy to understand

Indicator

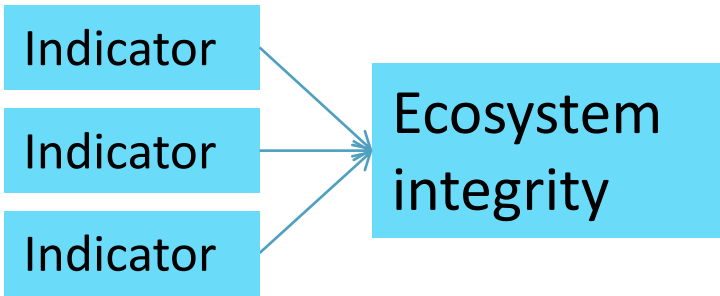
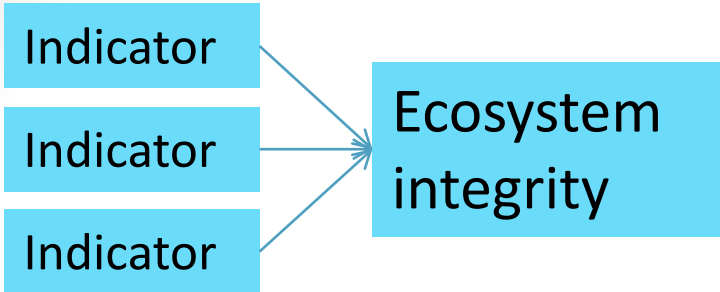
Indicator

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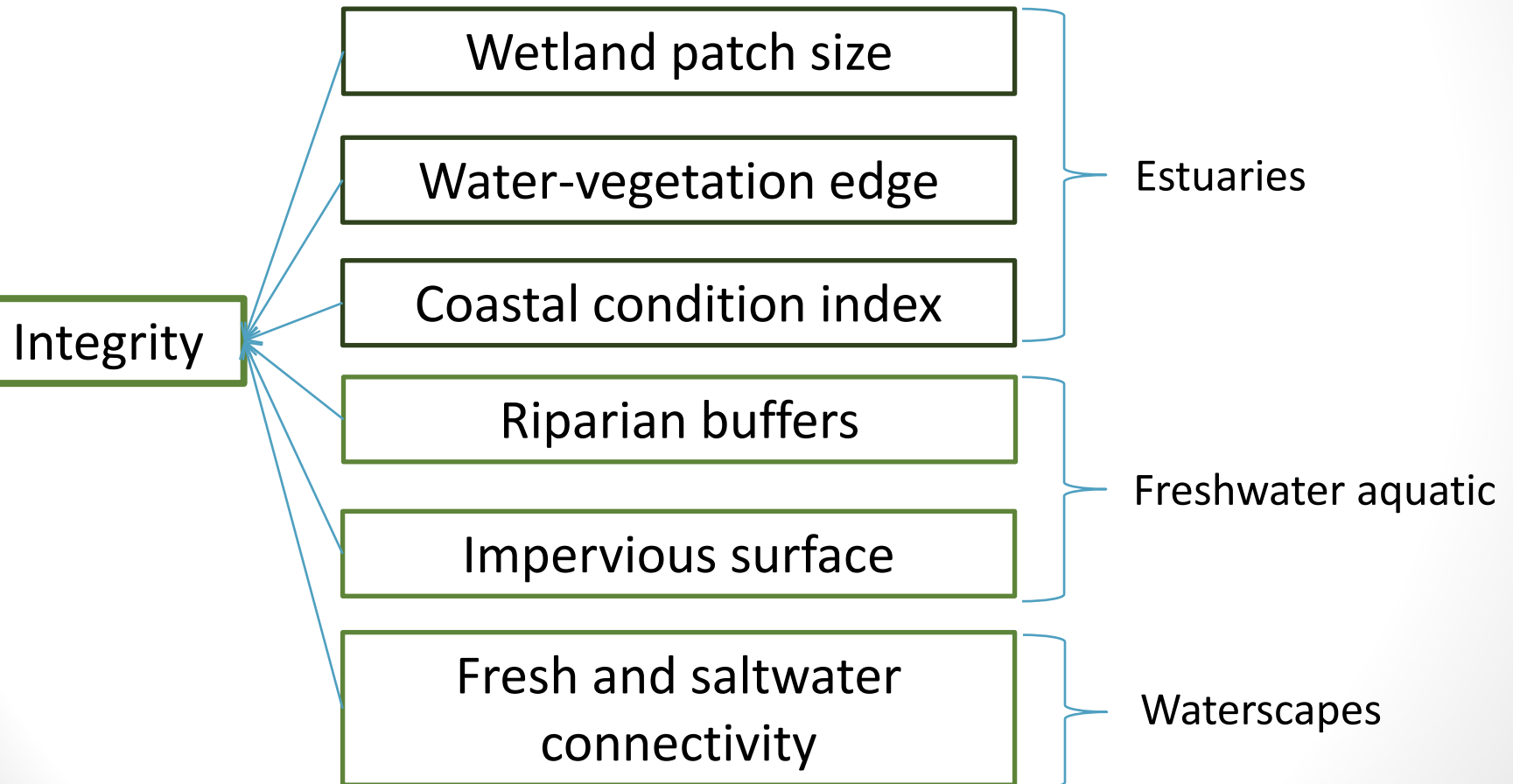
Indicator

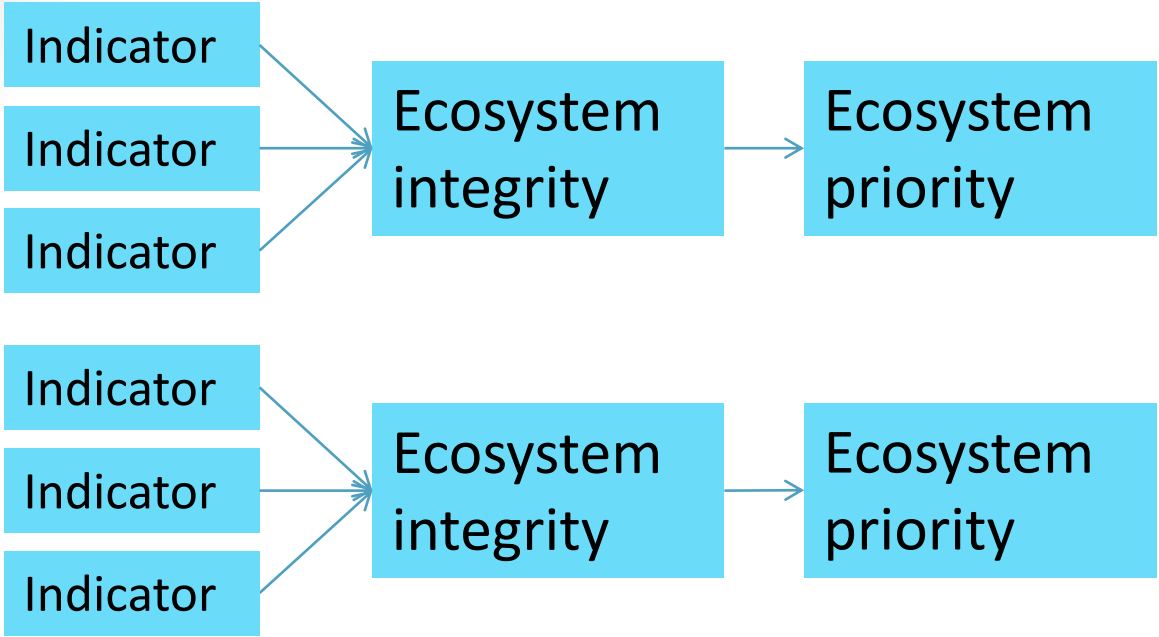
Indicator

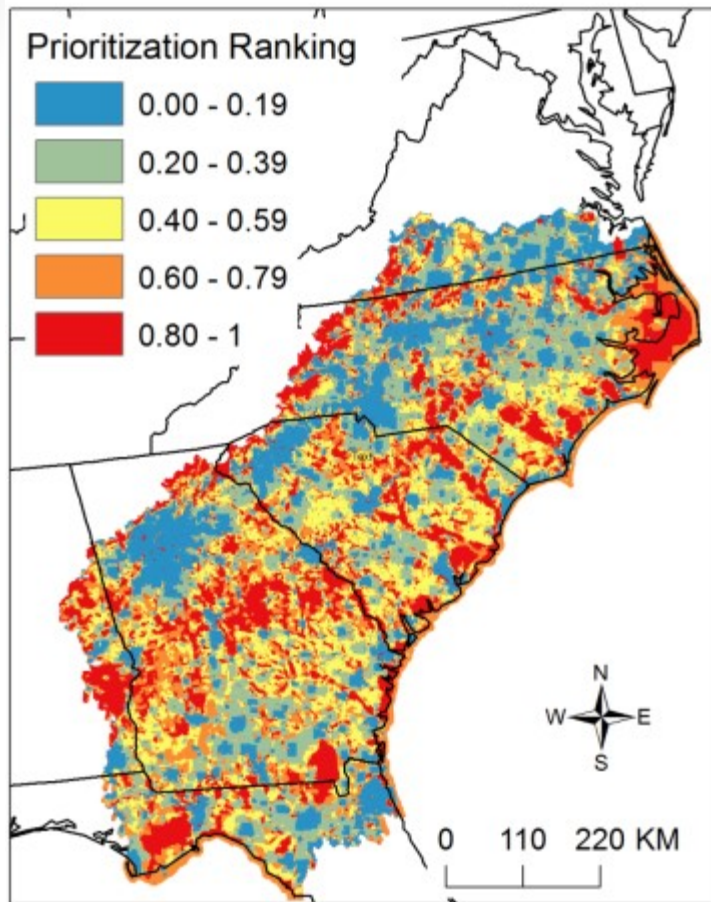
Indicator



Estuarine integrity

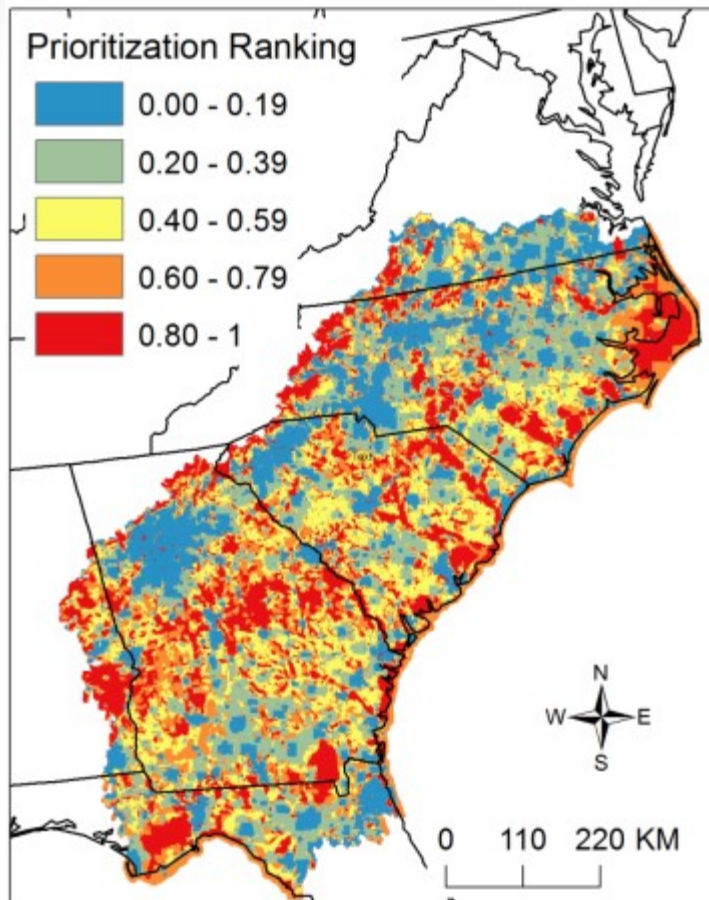






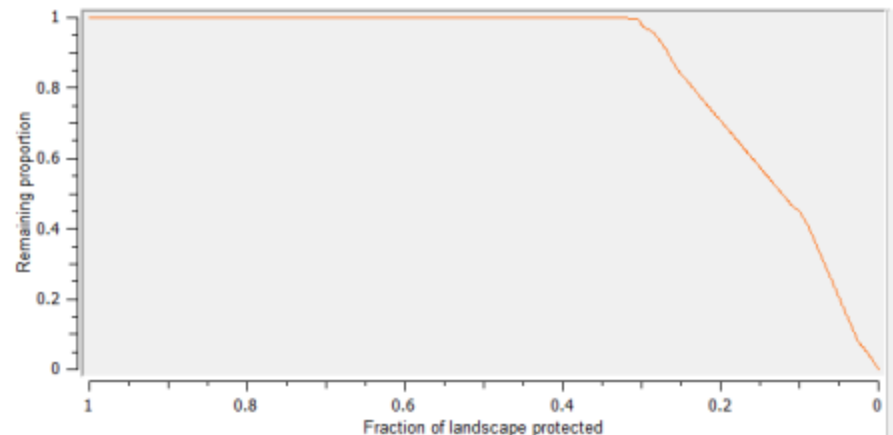
Example using 3 landscape indicators

- Start with all lands & waters included (clean slate)
- Iteratively remove cells that result in as little indicator loss as possible

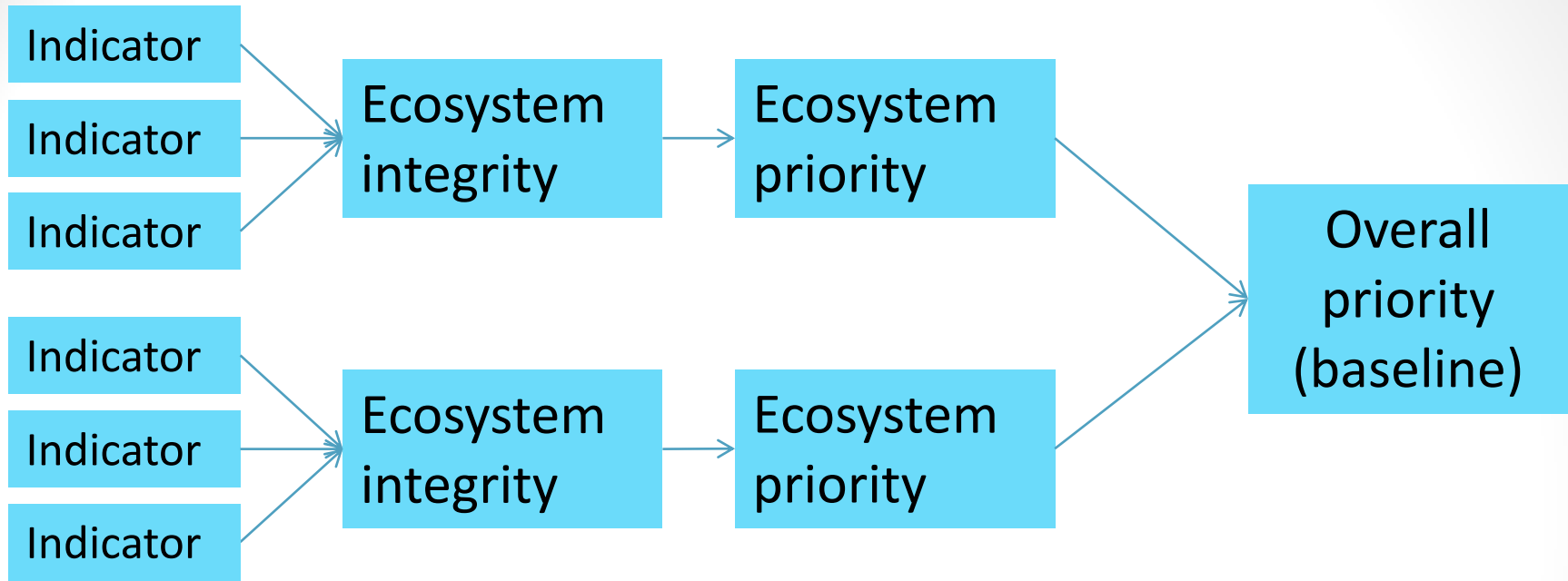


Example using 3 landscape indicators

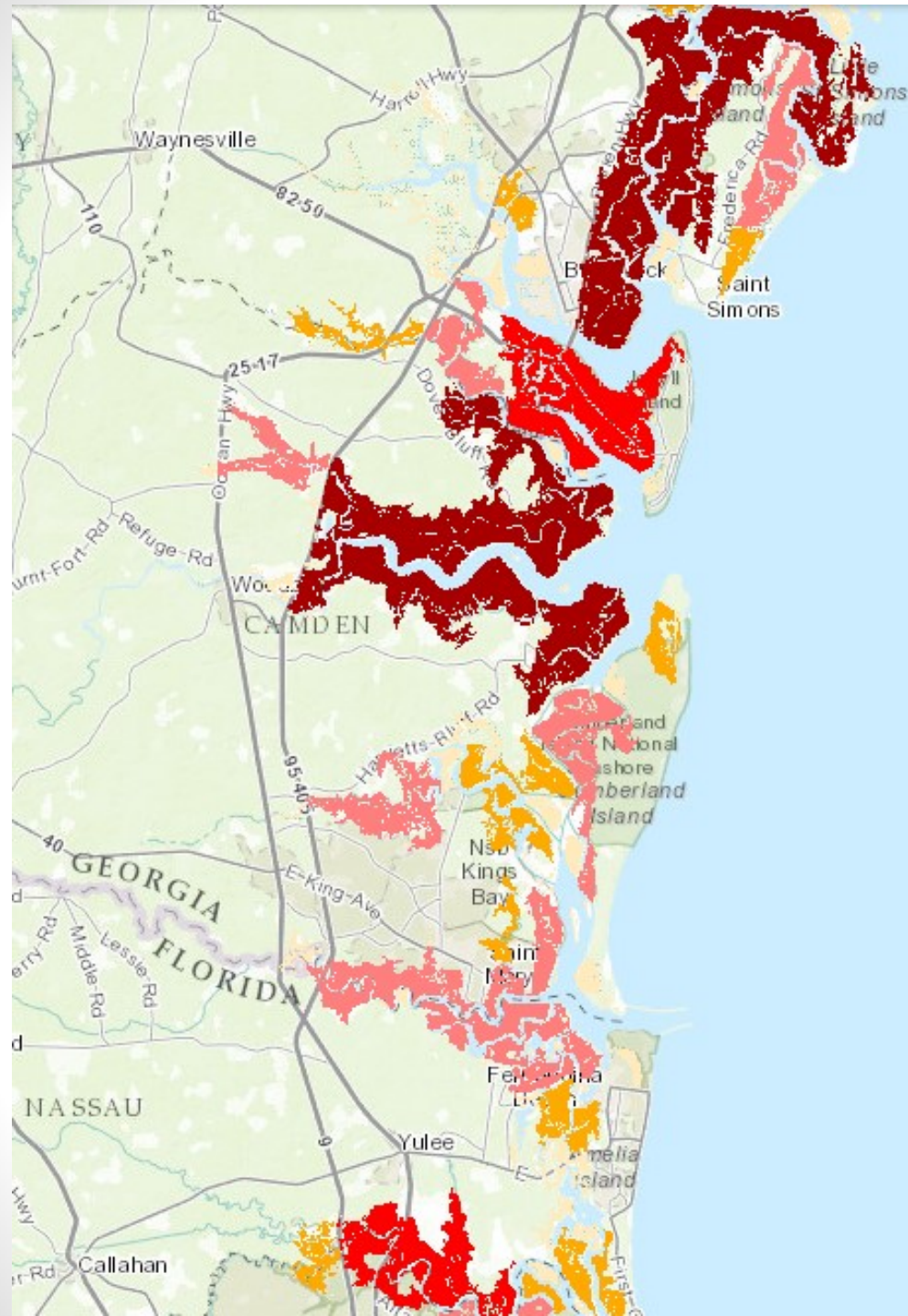
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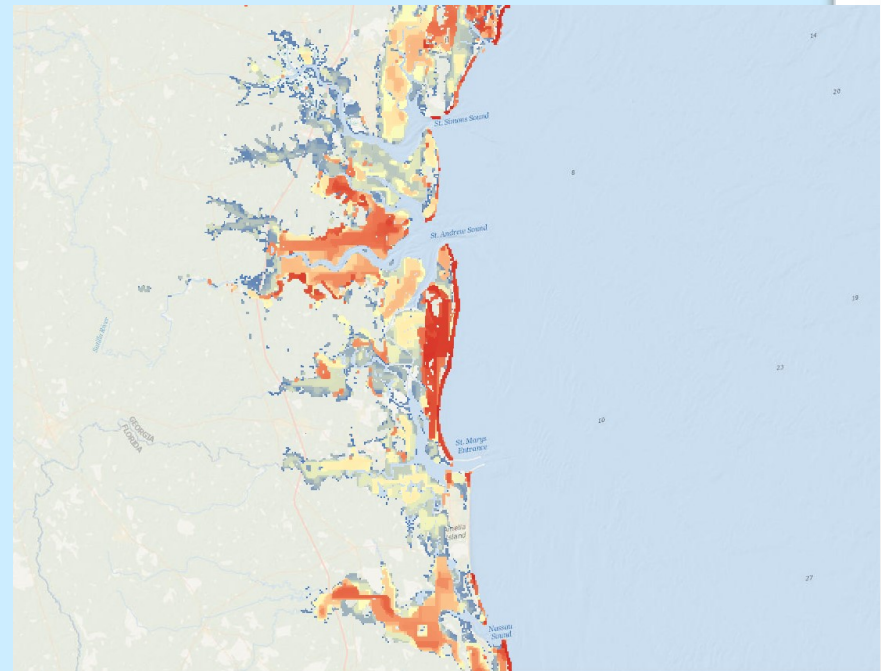
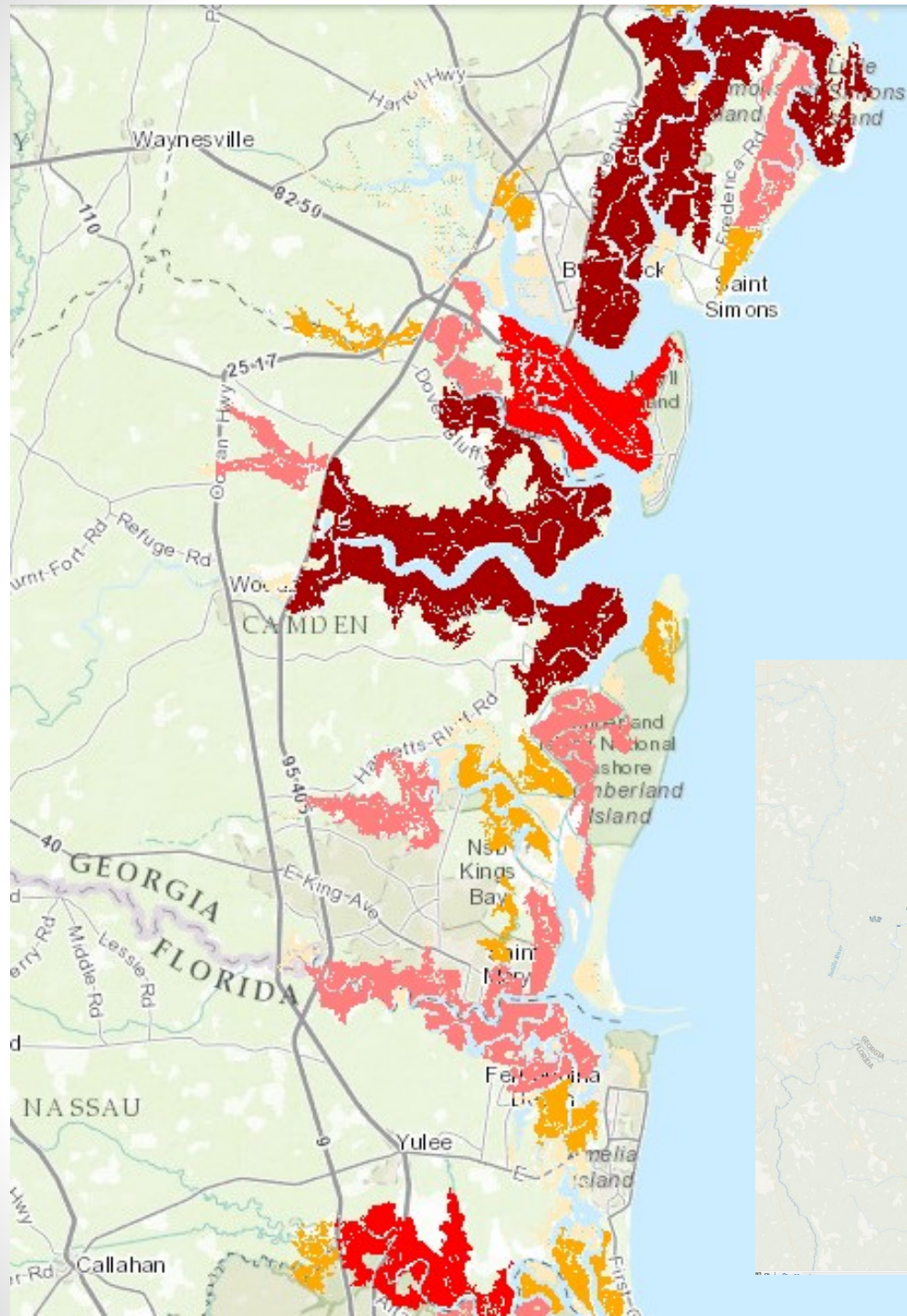
Impact on one indicator as more and more of the landscape is removed from the Blueprint



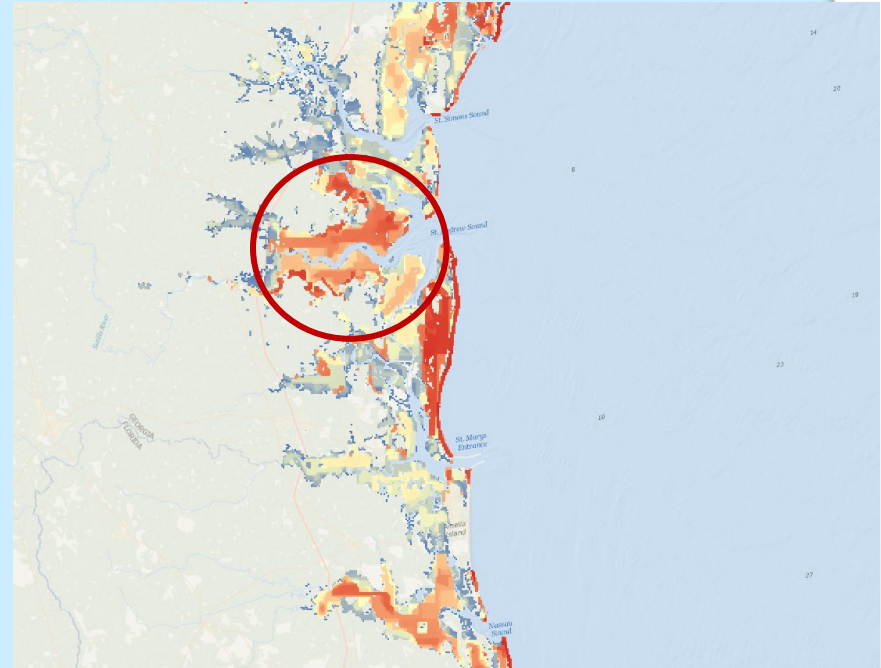
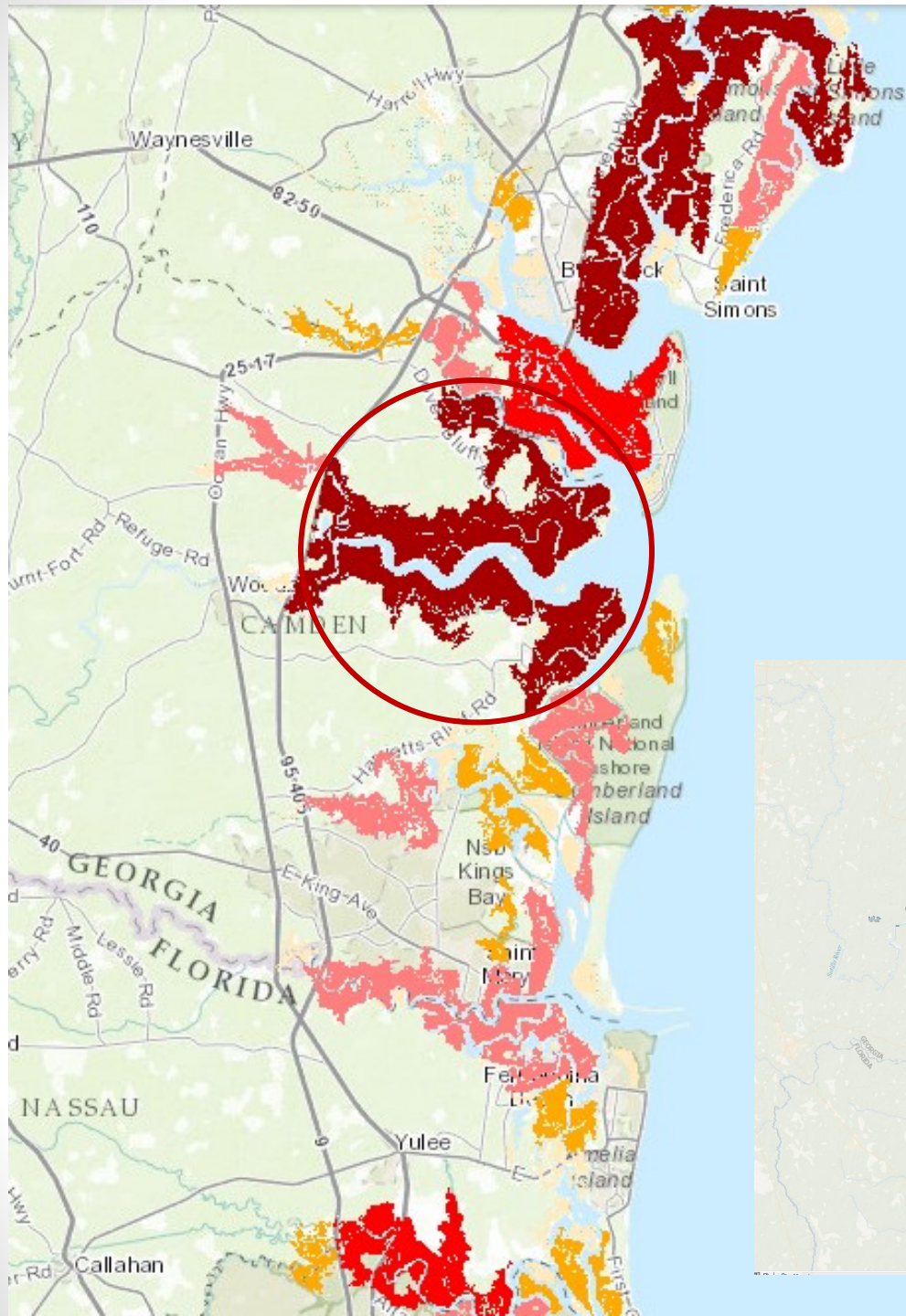
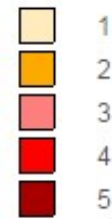
▼ Draft Indicator: Estuaries
Estuarine patch size index

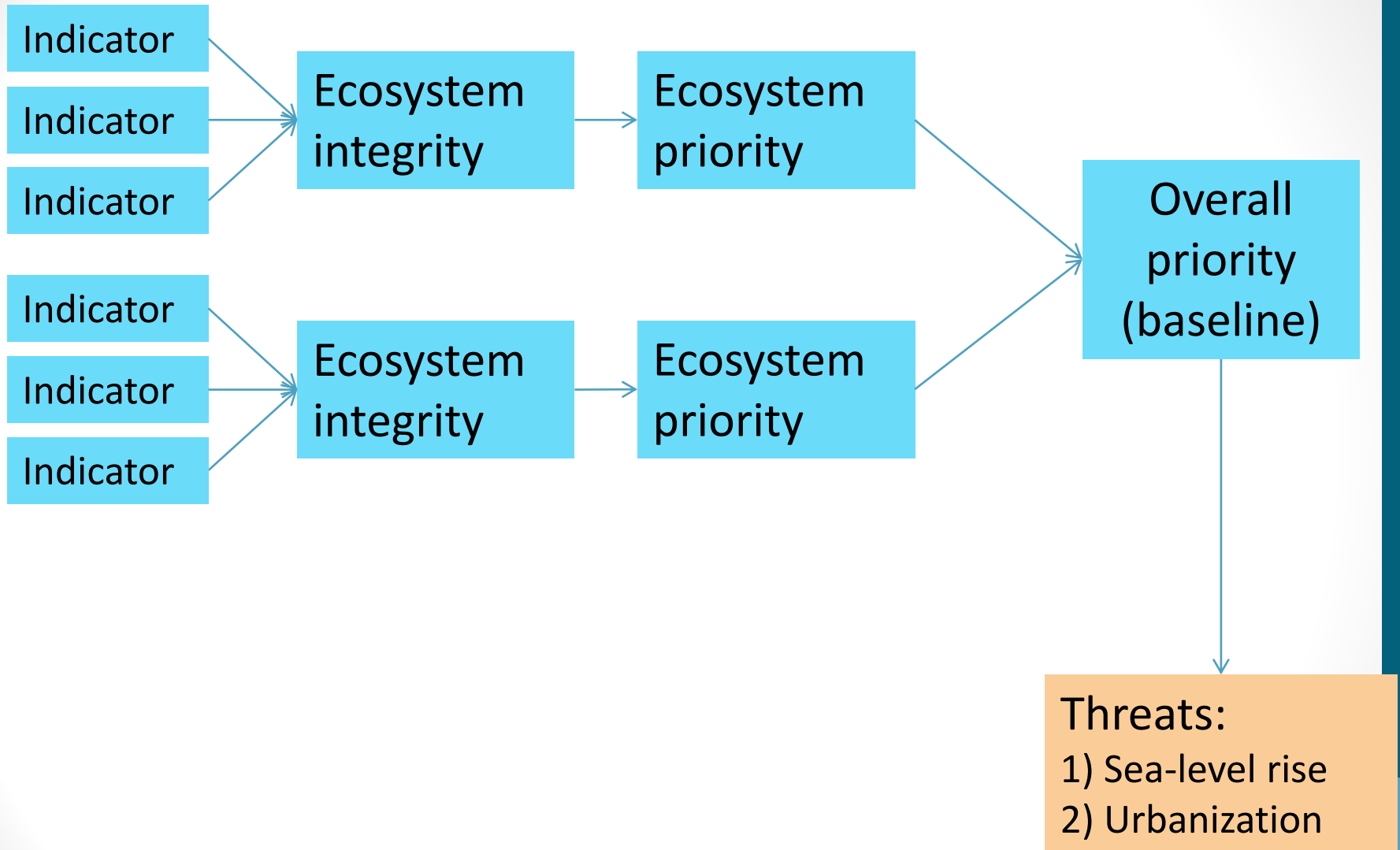


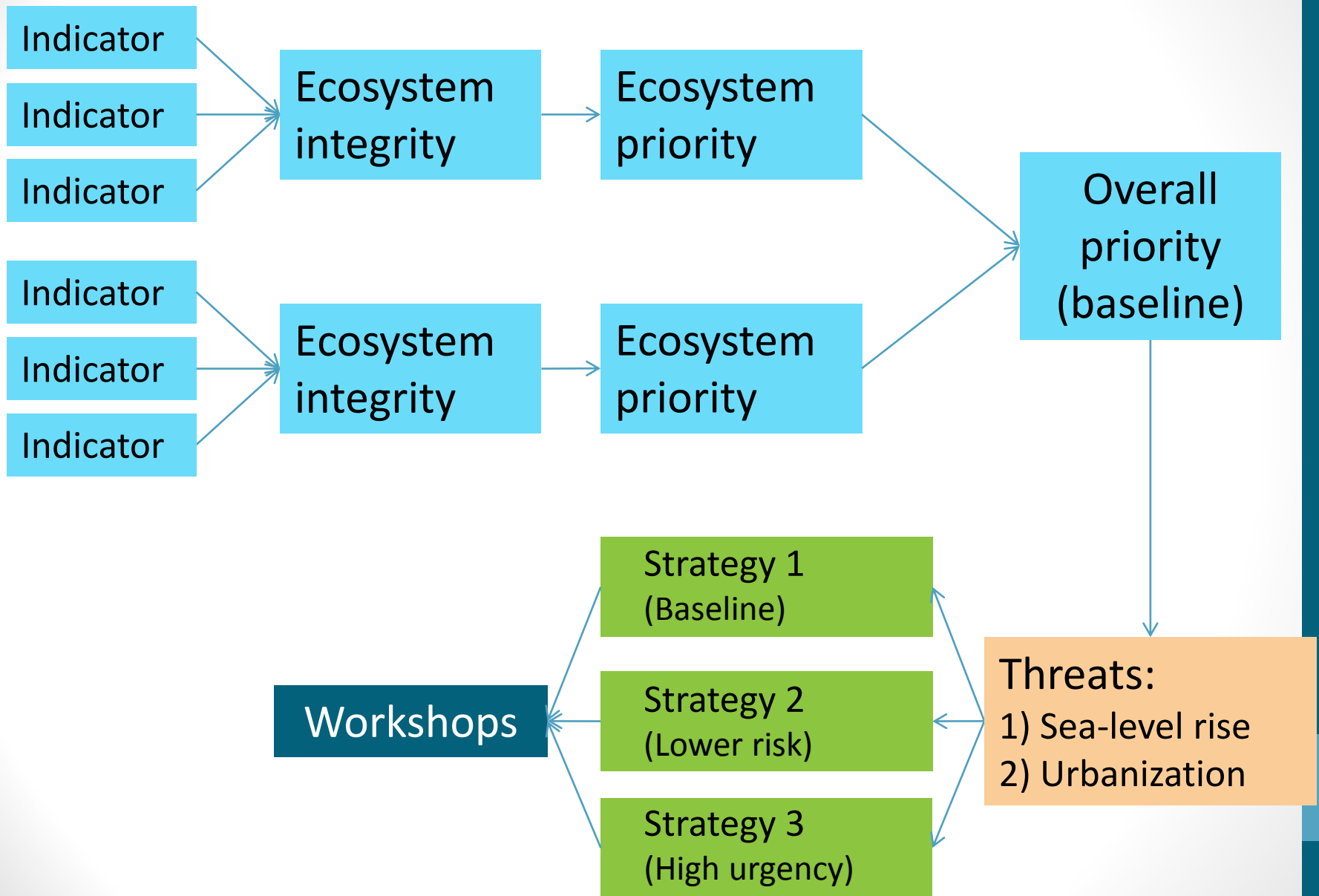
▼ Draft Indicator: Estuaries
Estuarine patch size index



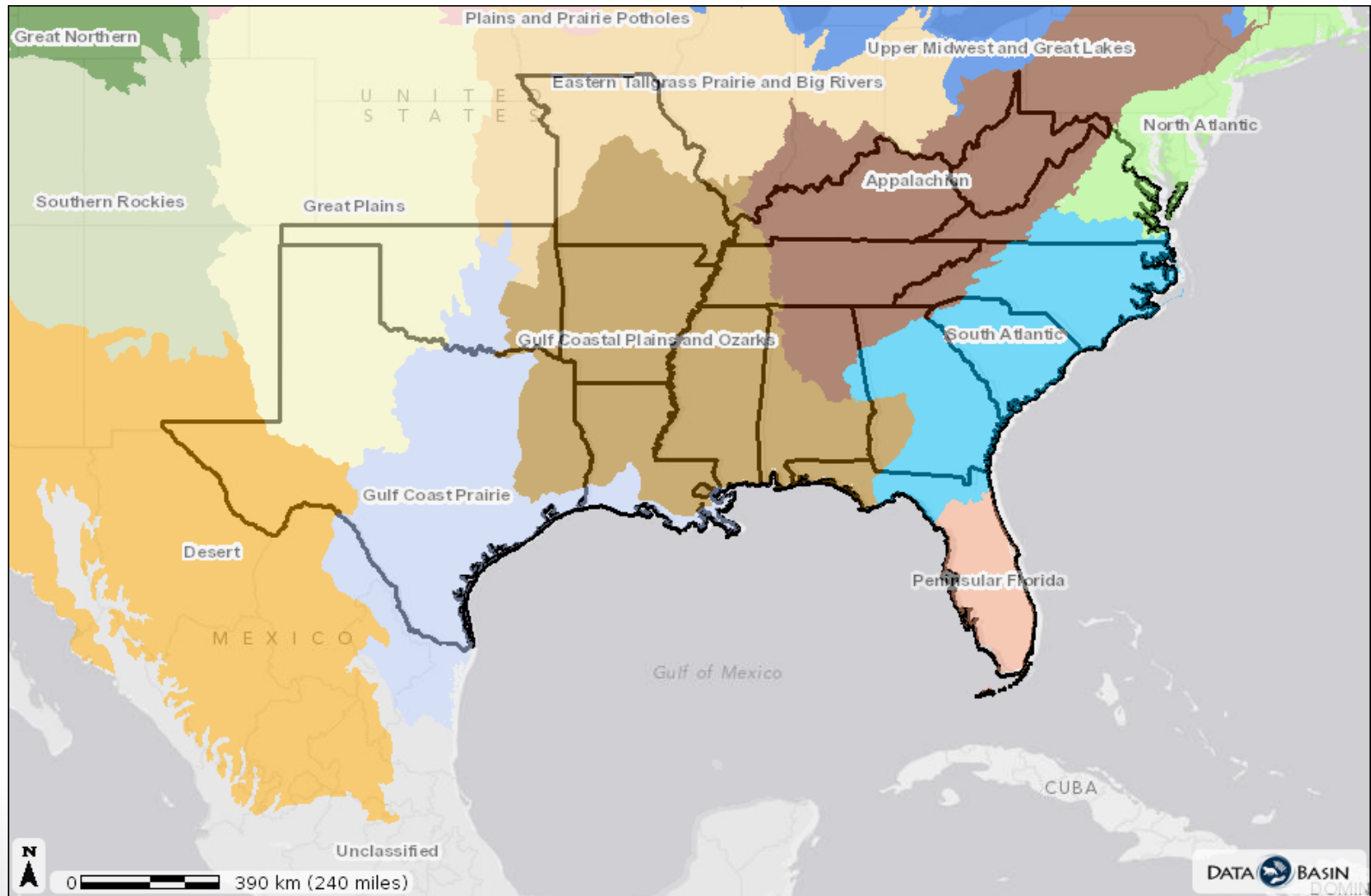
▼ Draft Indicator: Estuaries
Estuarine patch size index







Southeast Conservation Adaptation Strategy



Blueprint Workshops

- Atlanta, GA
 - Workshop #1: March 9, 2015 (9:00am – 3:30pm)
 - Workshop #2: March 10, 2015 (9:00am – 3:30pm)
- Tallahassee, FL
 - Workshop #3: March 11, 2015 (9:00am – 3:30pm)
 - Workshop #4: March 12, 2015 (9:00am – 3:30pm)
- Charleston, SC
 - Workshop #5: March 17, 2015 (9:00am – 3:30pm)
 - Workshop #6: March 18, 2015 (9:00am – 3:30pm)
- Raleigh, NC
 - Workshop #7: April 1 (9:00am – 3:30pm)
 - Workshop #8: April 2 (9:00am – 3:30pm)

How to get involved in your Cooperative

- Join the South Atlantic LCC web community
- Connect with a staff member
- Communicate with a Steering Committee member
- Join a team

<http://southatlanticlcc.org>

Questions?

- Hilary Morris, Blueprint User Support & Communications
- (919) 707-0252
- hilary_morris@fws.gov
- South Atlantic LCC webpage: www.southatlanticlcc.org
- LCC Network webpage: www.lccnetwork.org