



The SECAS Third Thursday Web Forum

TNC's climate resilience analysis: Upgrades to landcover and local connectedness

Agenda

- Introduction
- Monthly topic
- Q&A and discussion
- Preview of next webinar
- Staff updates



TNC's climate resilience analysis – Upgrades to landcover and local connectedness

Mark Anderson & Melissa Clark, The Nature Conservancy

1-20-2022

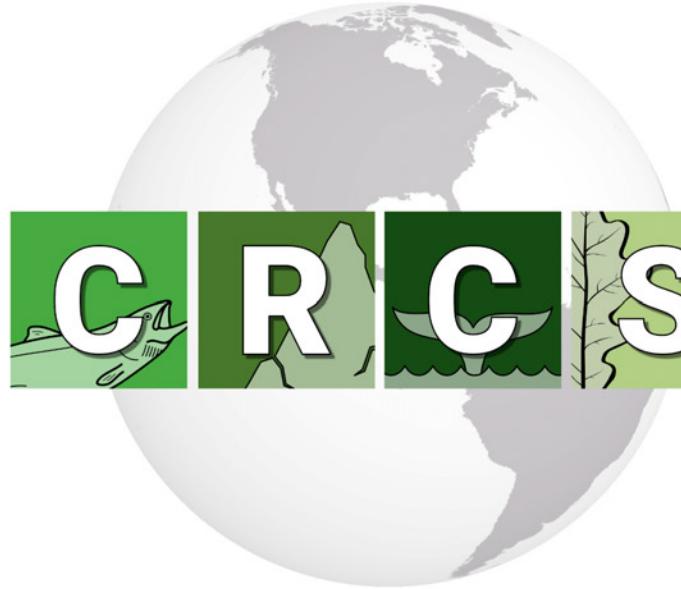


MELISSA CLARK

THE NATURE
CONSERVANCY

Resilient and Connected Landscapes -2022 Updates-



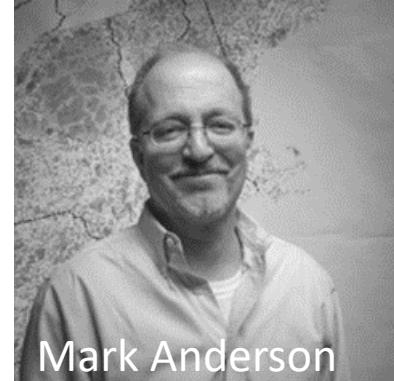


**CENTER FOR
RESILIENT
CONSERVATION
SCIENCE**

The Nature Conservancy



Analie Barnett



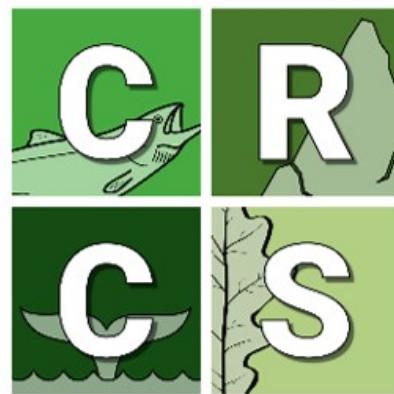
Mark Anderson



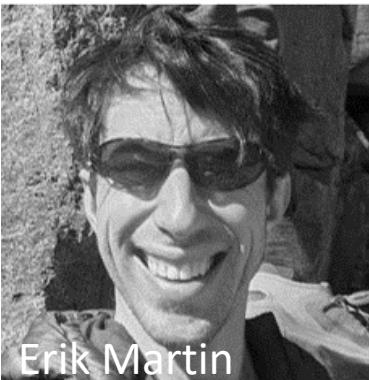
Arlene Olivero



Marta Ribera



Retired ☺.
John Prince



Erik Martin



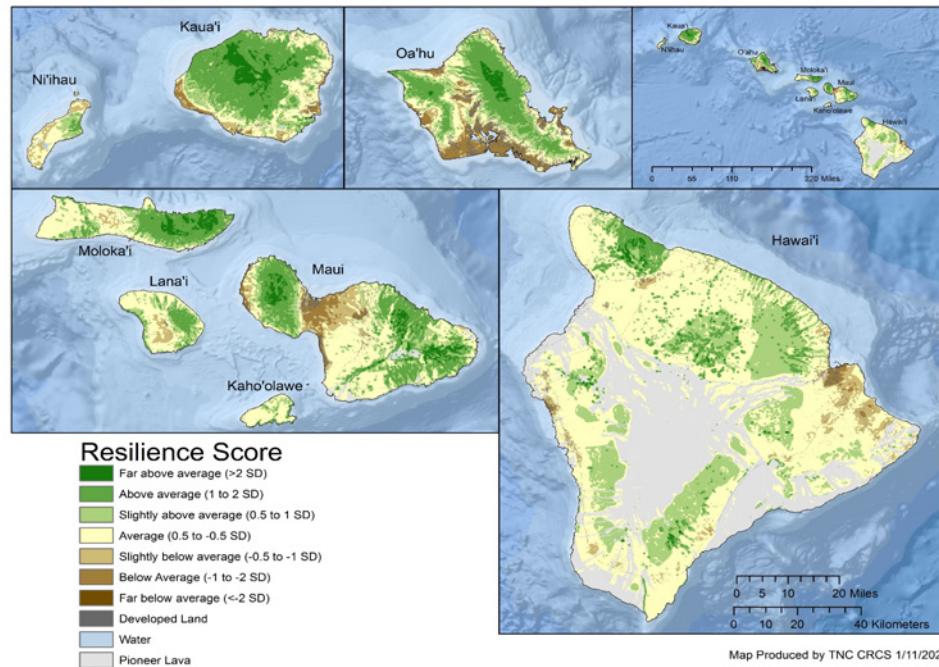
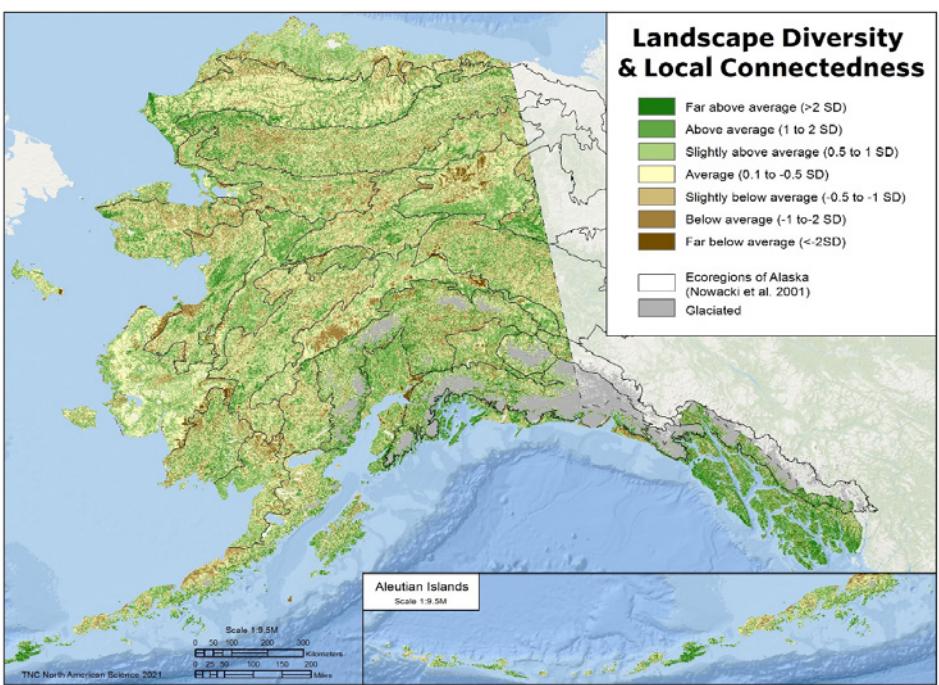
Melissa Clark



Mary Khoury

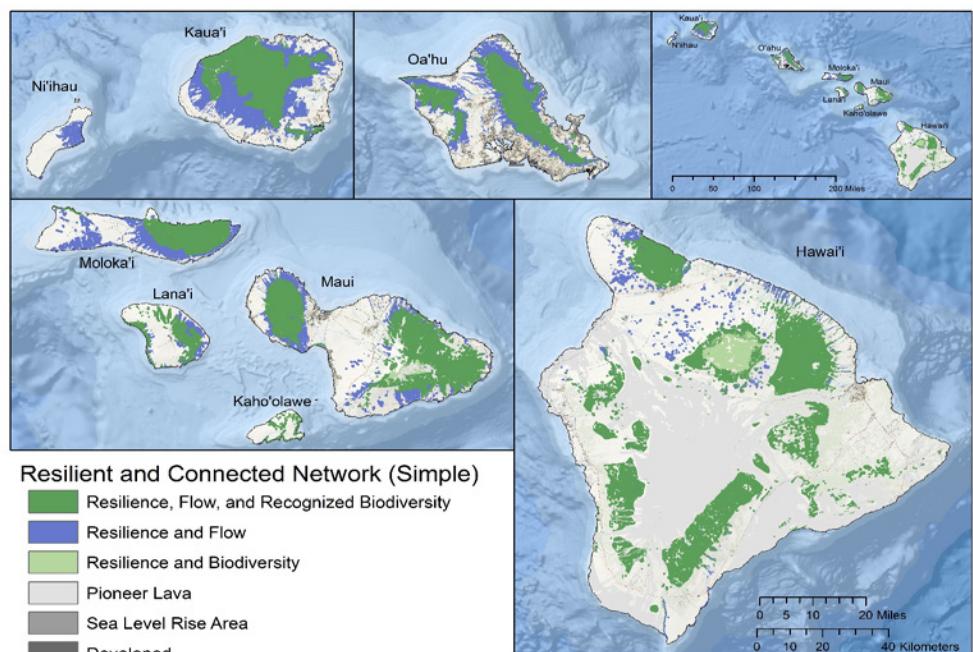
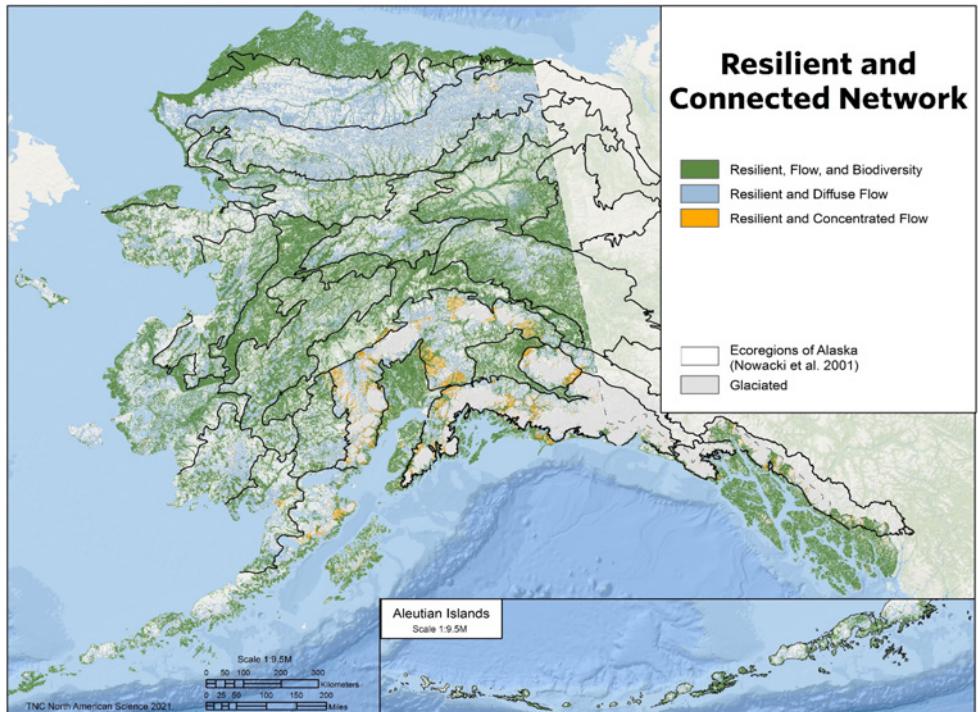
Over 250 scientists!



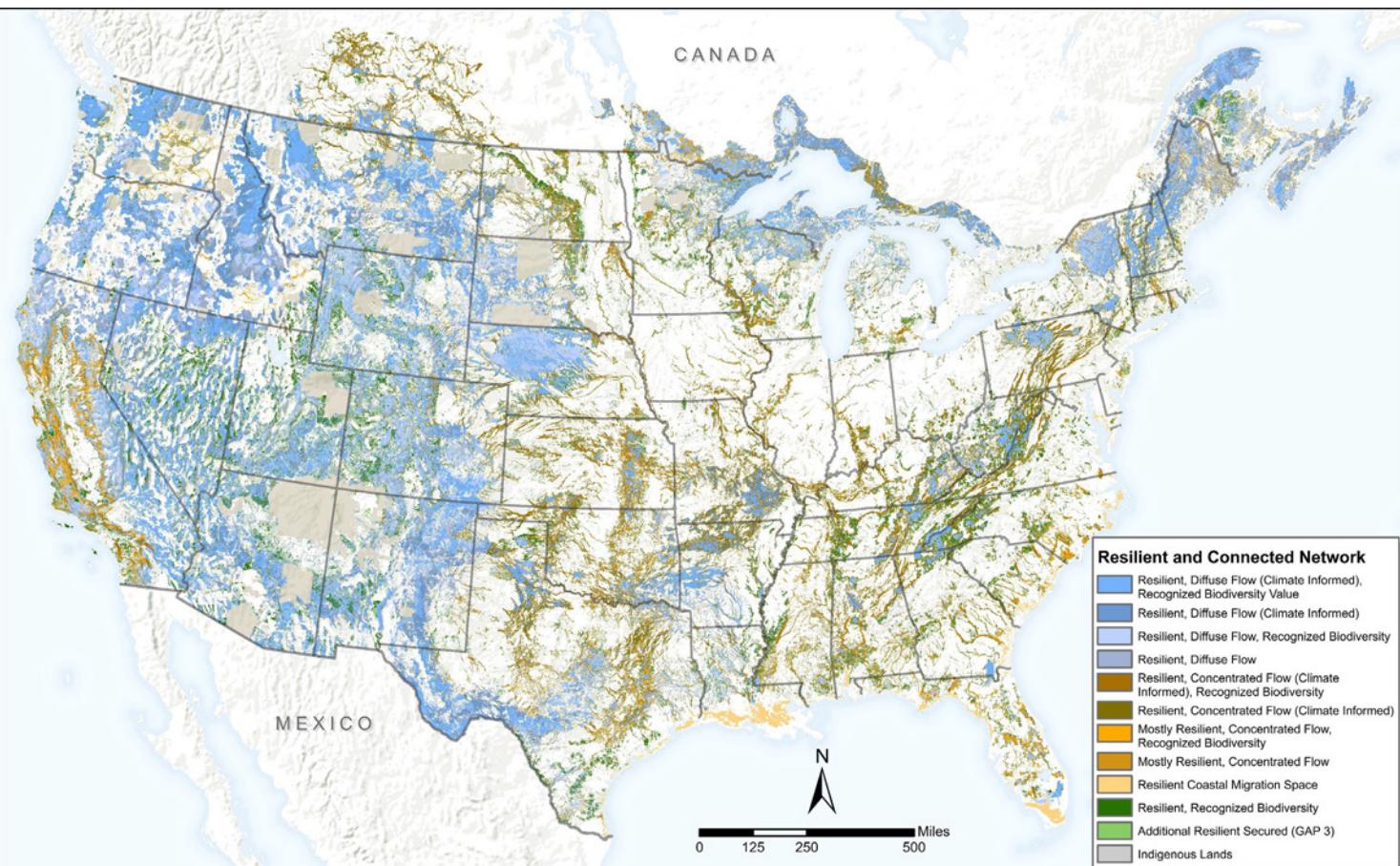


Resilient Sites for all 50 States!



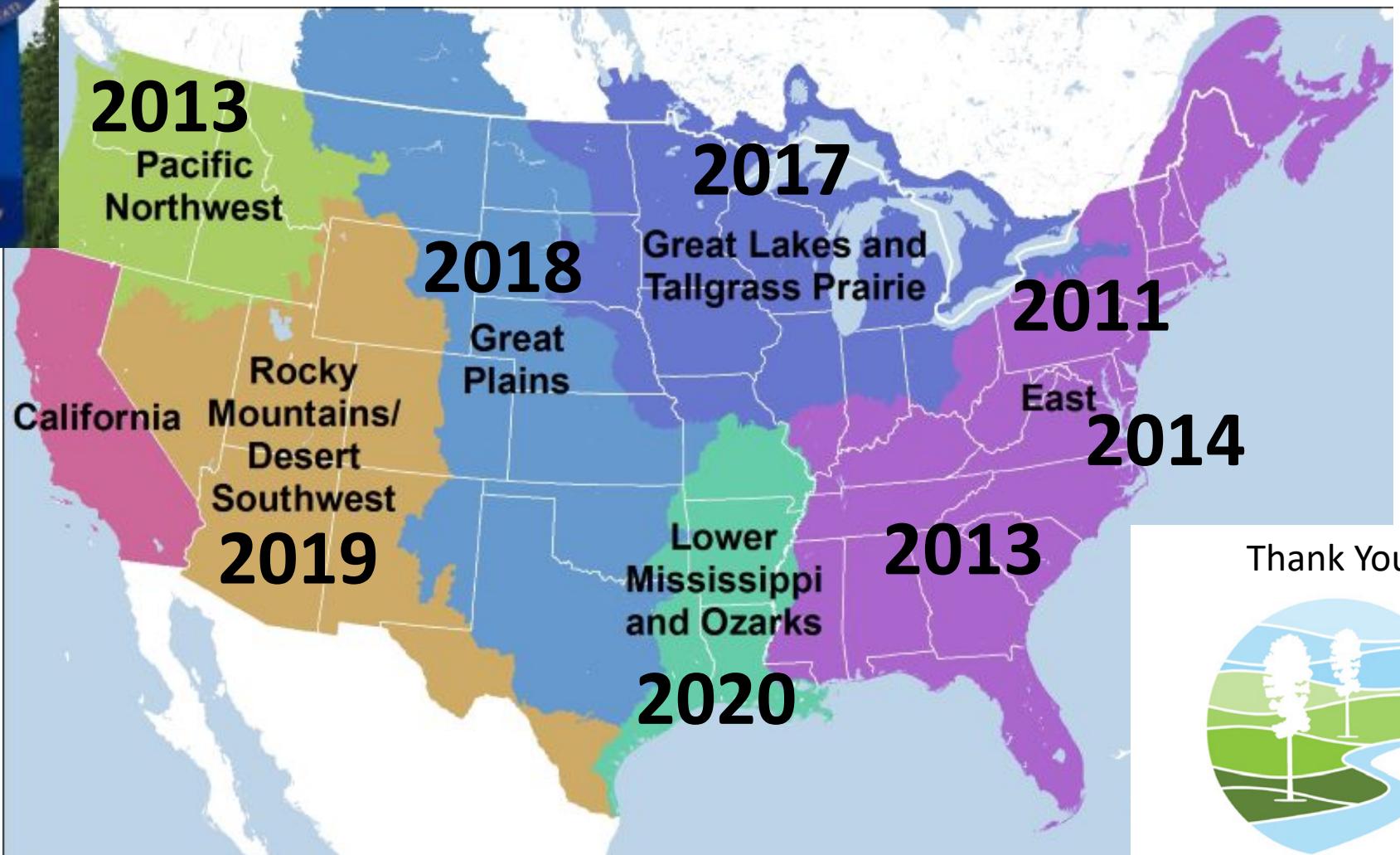


Resilient and Connected Network for all 50 States!





Regional RCN Completion Dates



Updates:

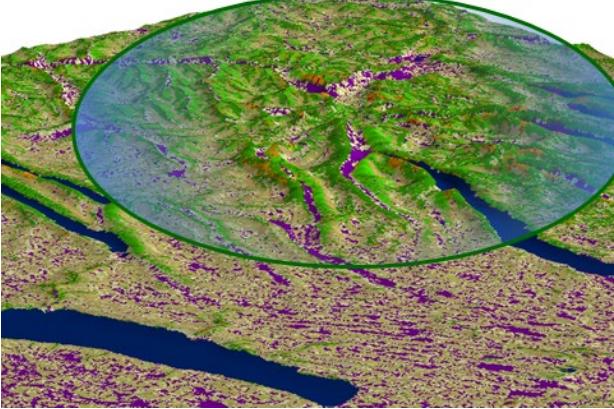
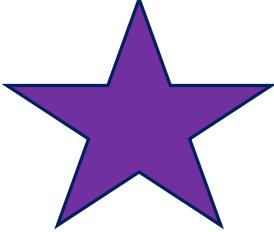
- Update Wetland Scoring
- Update to the 2019 NLCD

Thank You!!



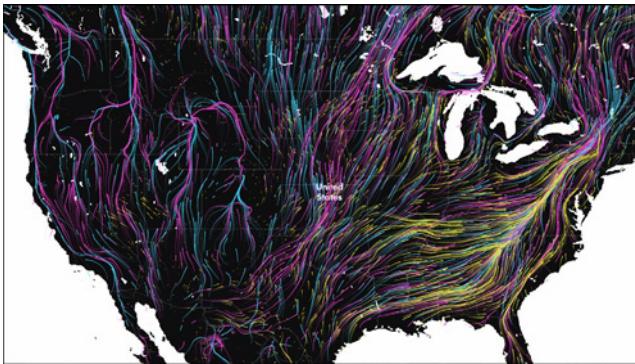
SOUTH ATLANTIC
LANDSCAPE CONSERVATION COOPERATIVE

Three Ingredients



Resilient Land

Land with many *connected* microclimates representing all physical environments



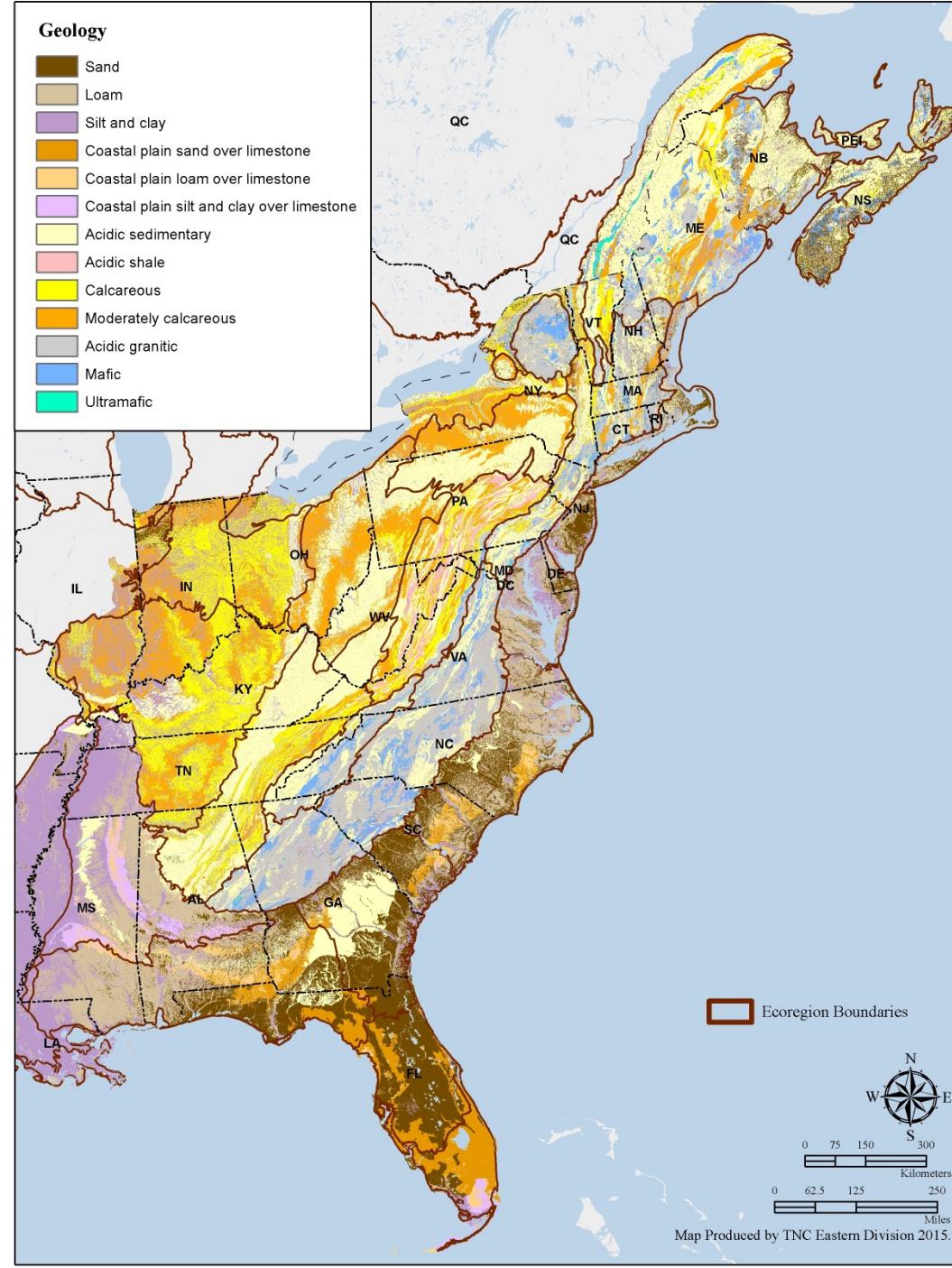
Permeable Landscape

A *connected* landscape that allows movement and facilitates range shifts



Resilient Systems & Species

Intact habitats, unique communities and rare species populations



Conserving Nature's Stage

Representative Land

Biological diversity is highly correlated with **Land Properties** (Geology, Soil, Elevation, Topography, Hydrology)

**Many
Microclimates**

Create climate options

**Locally
Connected**

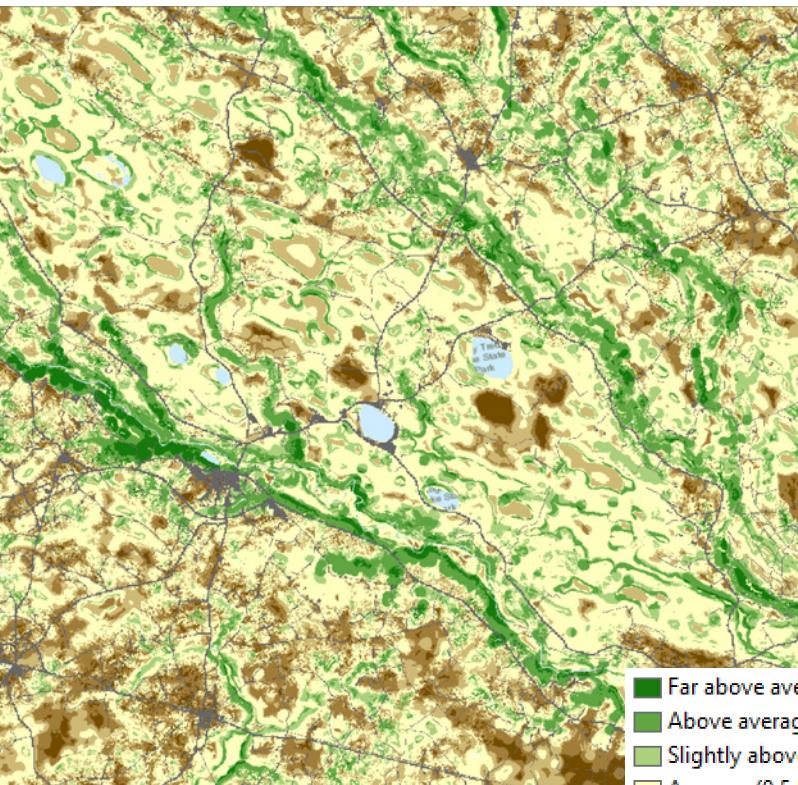
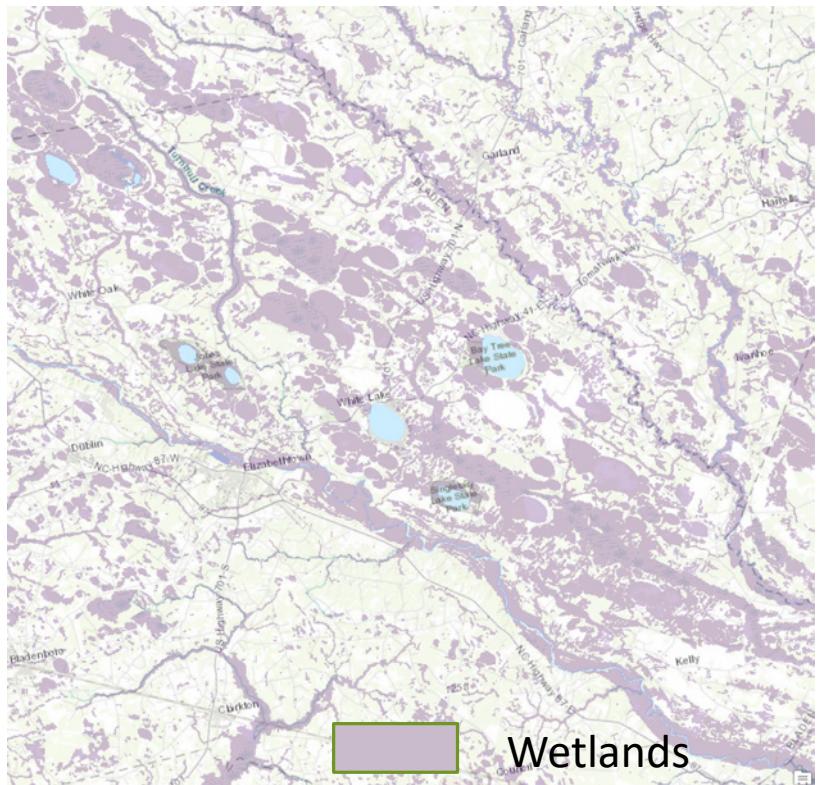
Allows species to move



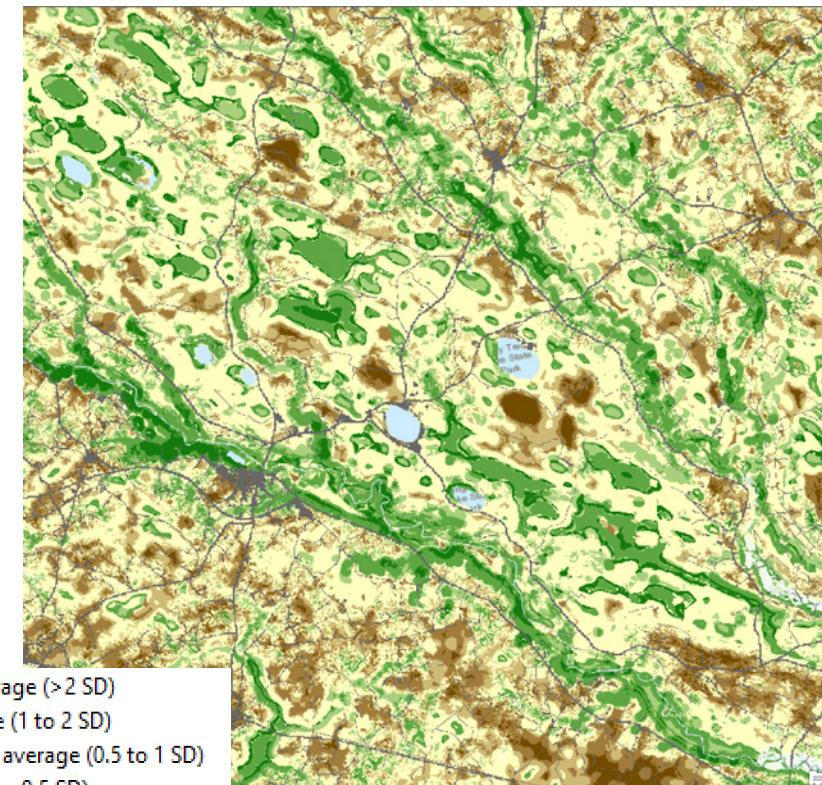


Landscape Diversity Update

Improving the Wetland Scores



Old Landscape Diversity



New Landscape Diversity

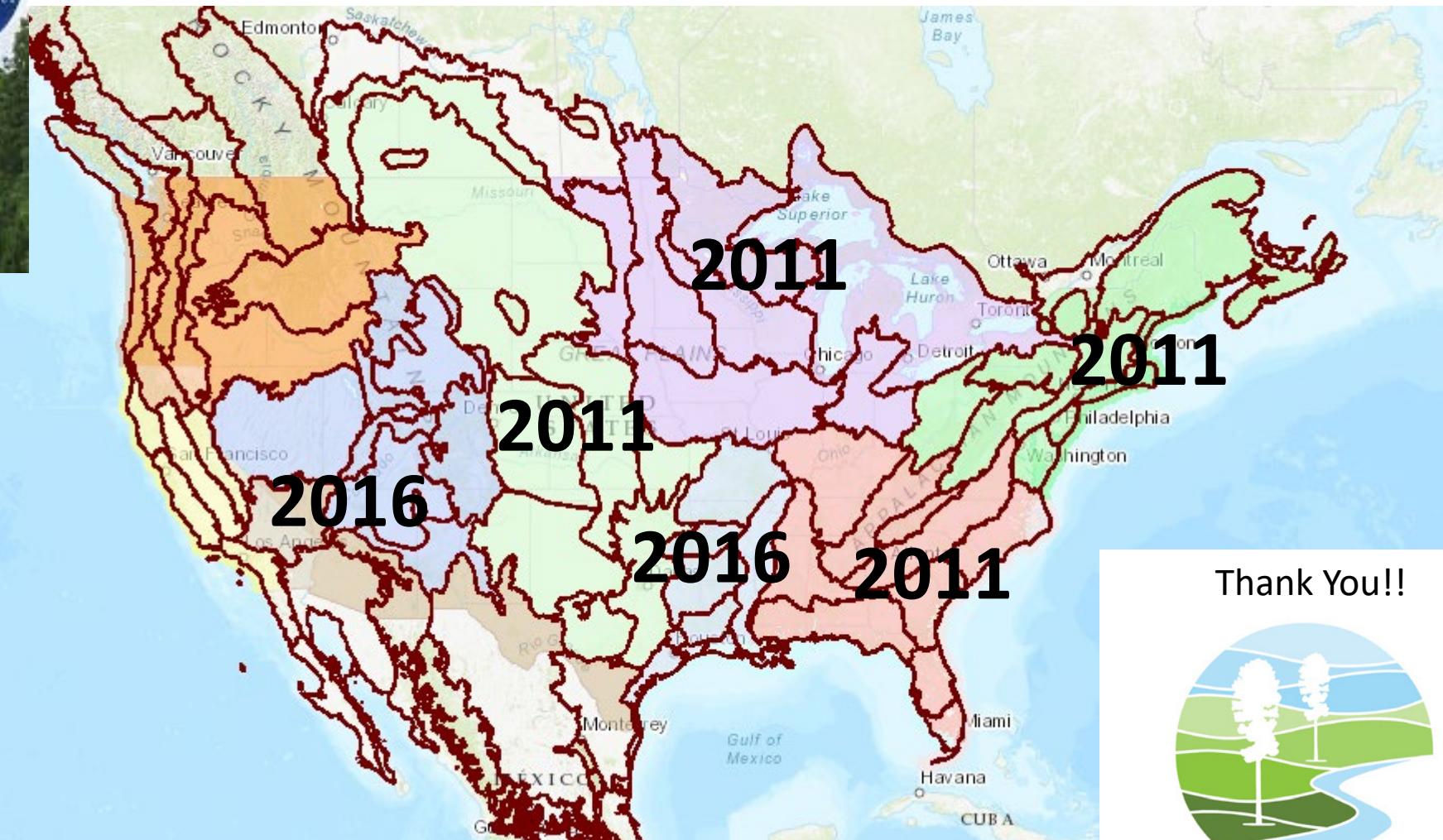
Far above average (> 2 SD)
Above average (1 to 2 SD)
Slightly above average (0.5 to 1 SD)
Average (0.5 to -0.5 SD)
Slightly below average (-0.5 to -1 SD)
Below average (-1 to -2 SD)
Far below average (<-2 SD)



NLCD Vintage

Updates:

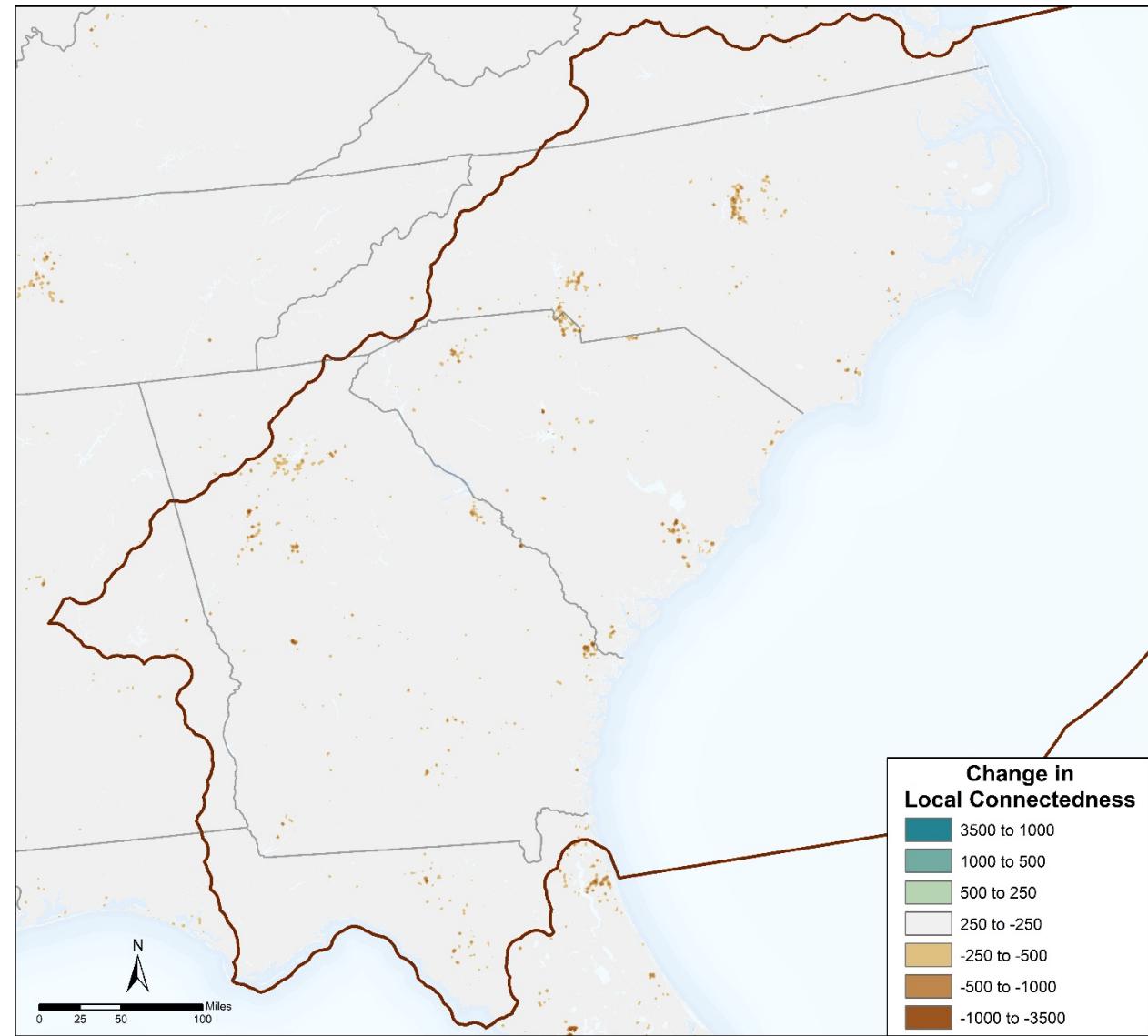
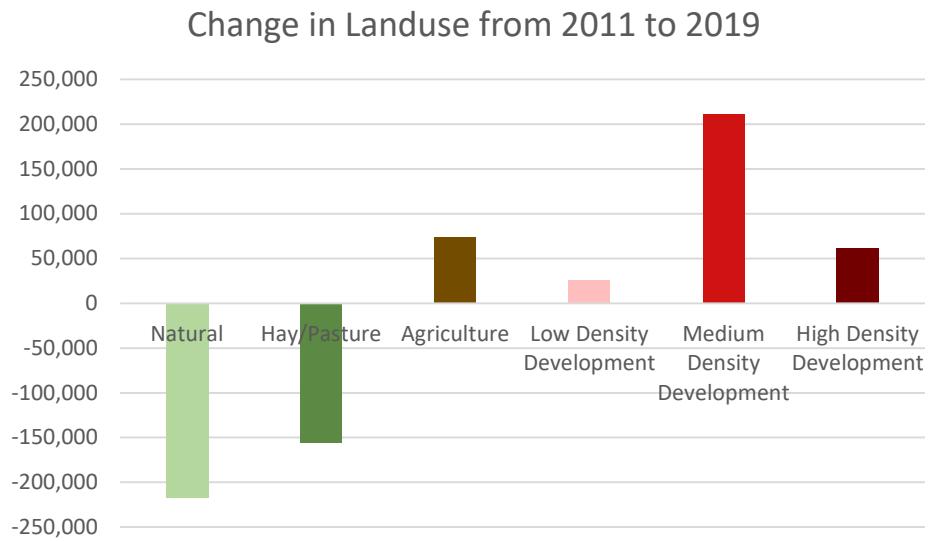
- Update Wetland Scoring
- Update to the 2019 NLCD



Thank You!!

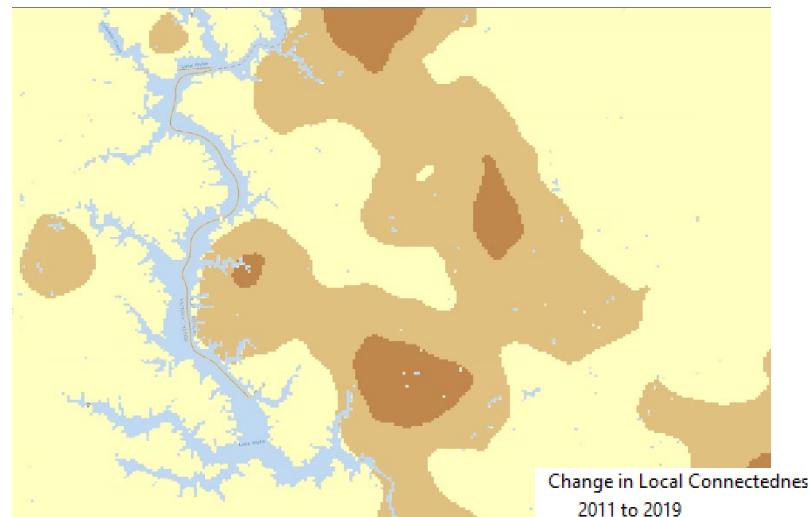
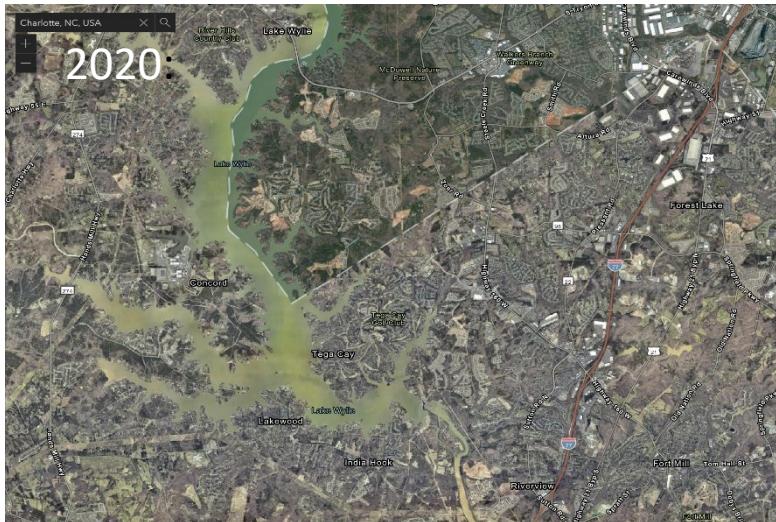


SOUTH ATLANTIC
LANDSCAPE CONSERVATION COOPERATIVE



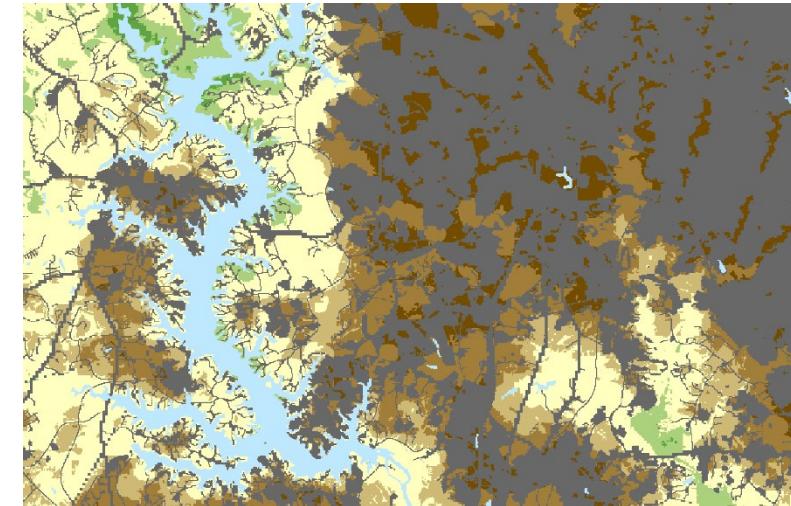


Change local connectedness around Lake Wylie, outside Charlotte, SC. The top left picture shows the aerial imagery from 2014 (the furthest back available) compared to the 2020 imagery on top right. The middle right shows the areas of change in local connectedness. In this area, you can see the development decreases the local connectedness. The bottom left picture in the local connectedness based on the 2011 NLCD. The bottom right is the new local connectedness based off the 2019 NLCD.

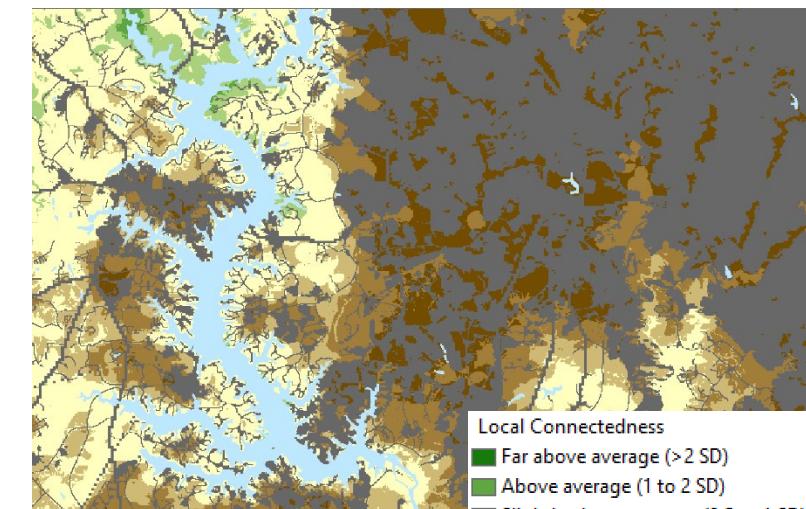


Change in Local Connectedness
2011 to 2019

Range
3500 to 1000
1000 to 500
500 to 250
250 to -250
-250 to -500
-500 to -1000
-1000 to -3500



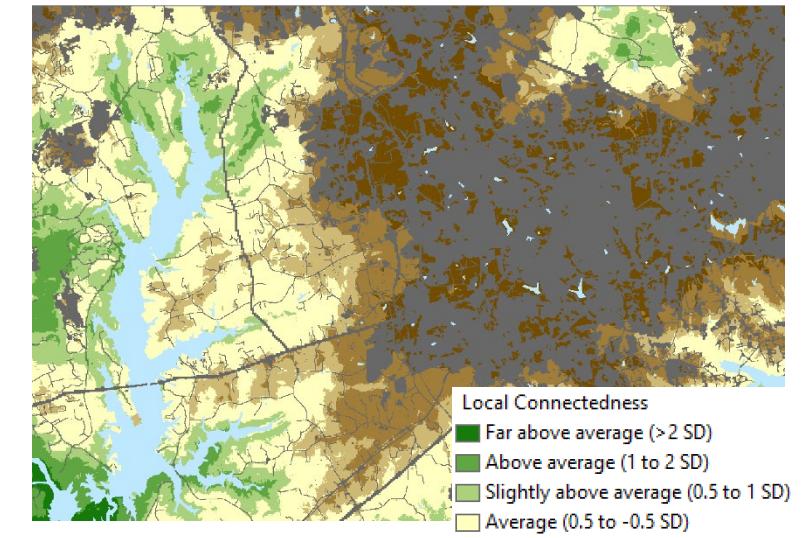
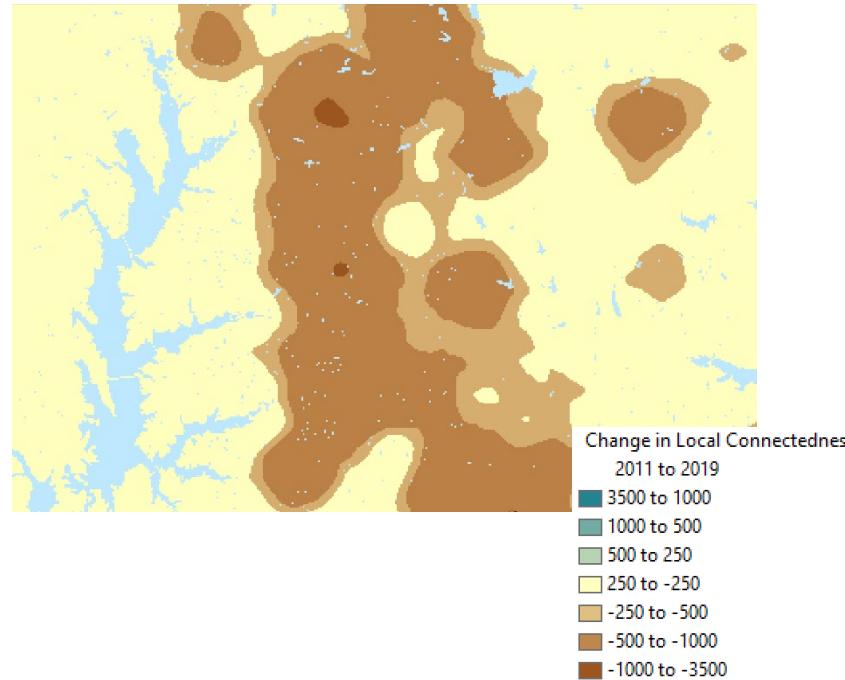
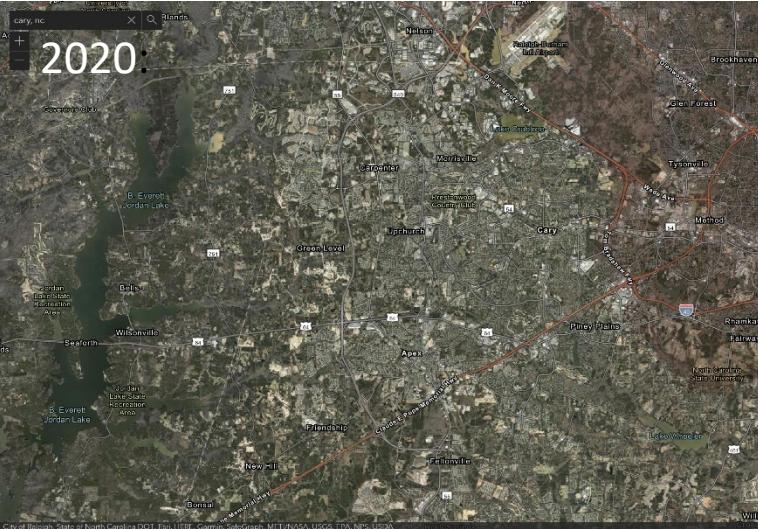
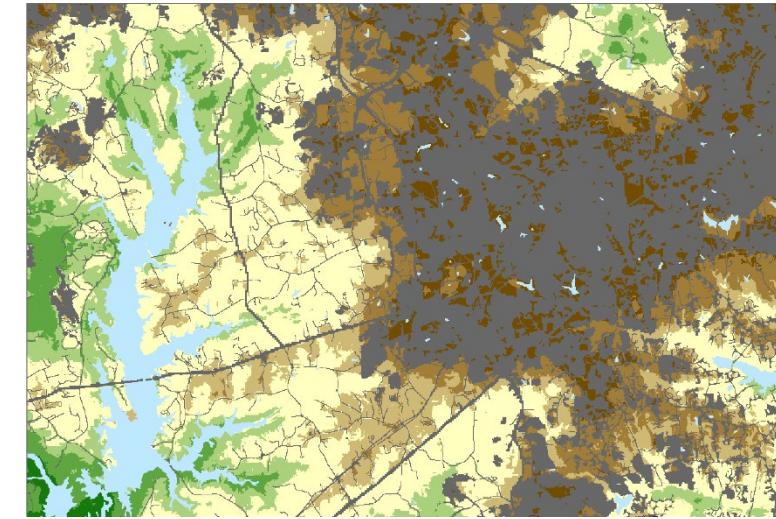
Local Connectedness based off 2011 NLCD



NEW Local Connectedness
based off 2019 NLCD



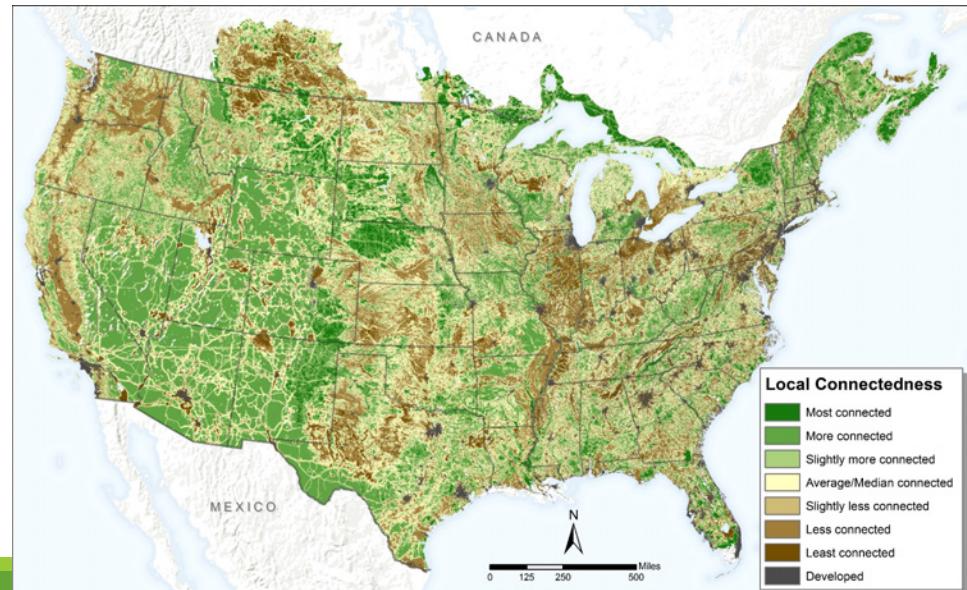
Change local connectedness around Cary, NC. The top left picture shows the aerial imagery from 2014 (the furthest back available) compared to the 2020 imagery on top right. The middle right shows the areas of change in local connectedness. In this area, you can see the development decreases the local connectedness. The bottom left picture in the local connectedness based on the 2011 NLCD. The bottom right is the new local connectedness based off the 2019 NLCD.



Resilient Land



Landscape Diversity

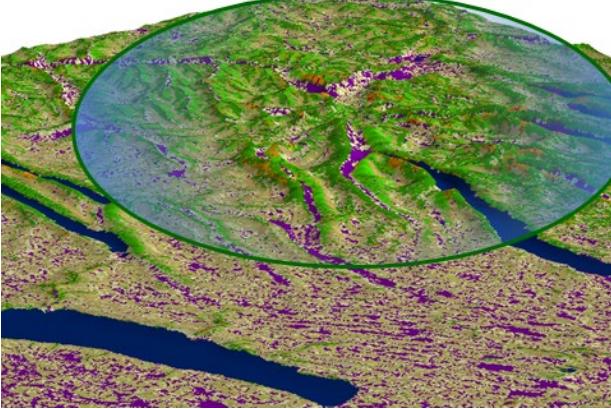


Local Connectedness

Resilient sites = sites that continue to support biological diversity, productivity and ecological function even as they change in response to climate change.

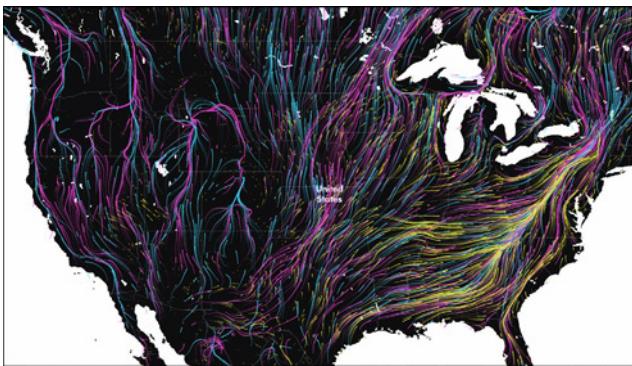


Three Ingredients



Resilient Land

Land with many *connected* microclimates representing all physical environments



Permeable Landscape

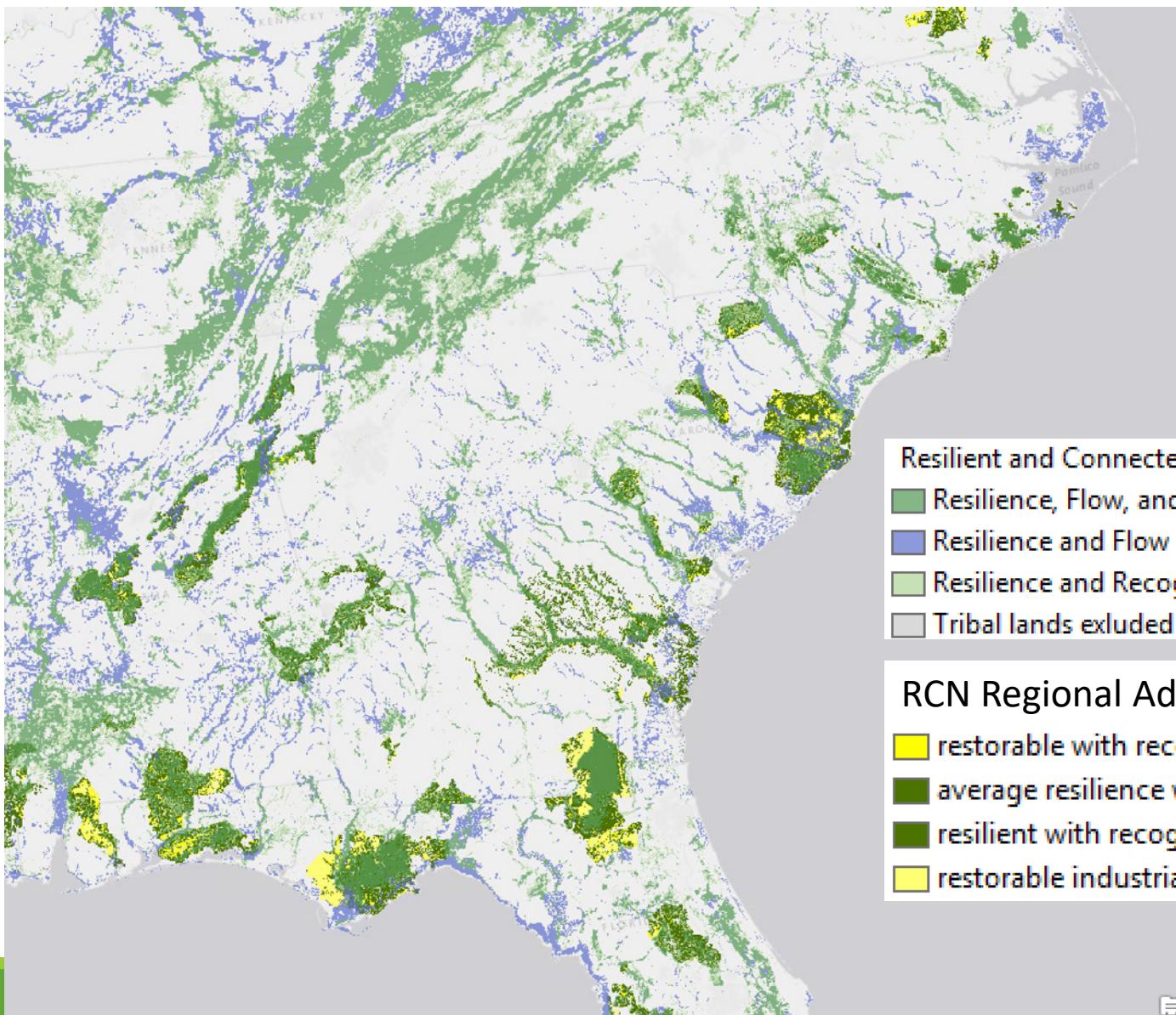
A *connected* landscape that allows movement and facilitates range shifts



Resilient Systems & Species

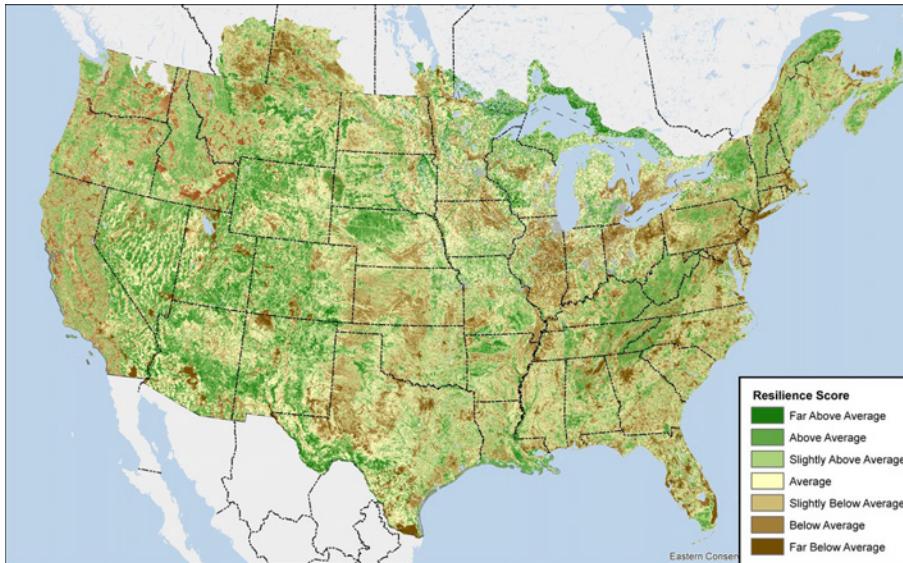
Intact habitats, unique communities and rare species populations

Divisional Updates to the RCN

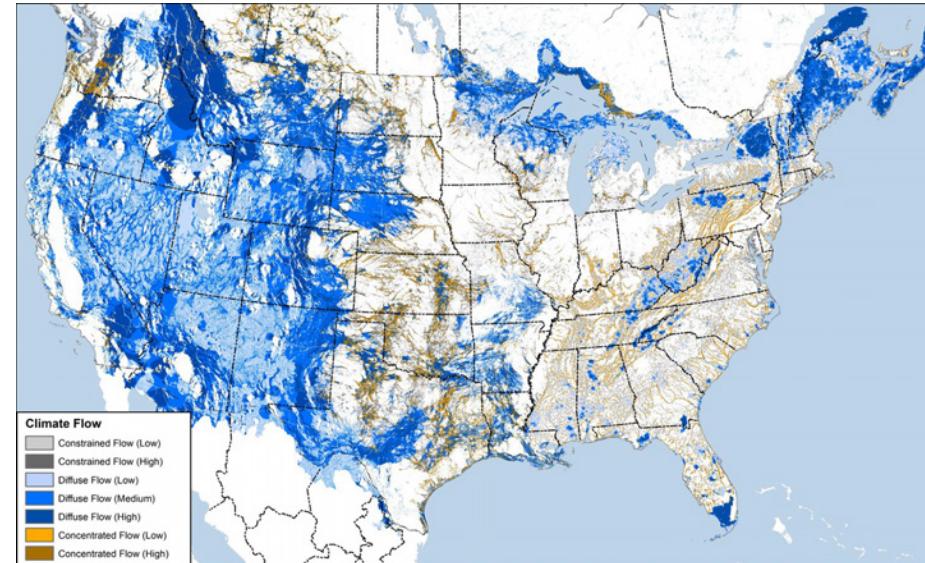


Resilient and Connected Network

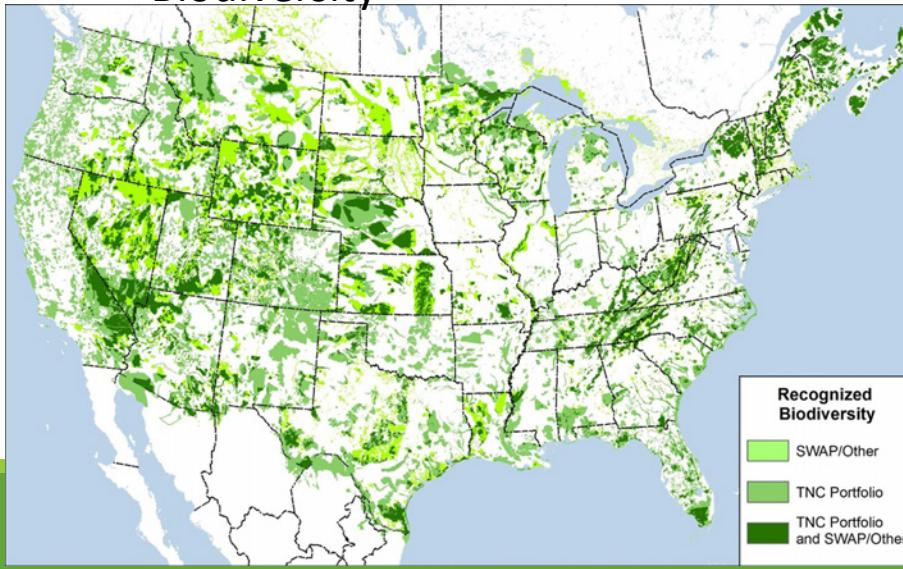
Site Resilience



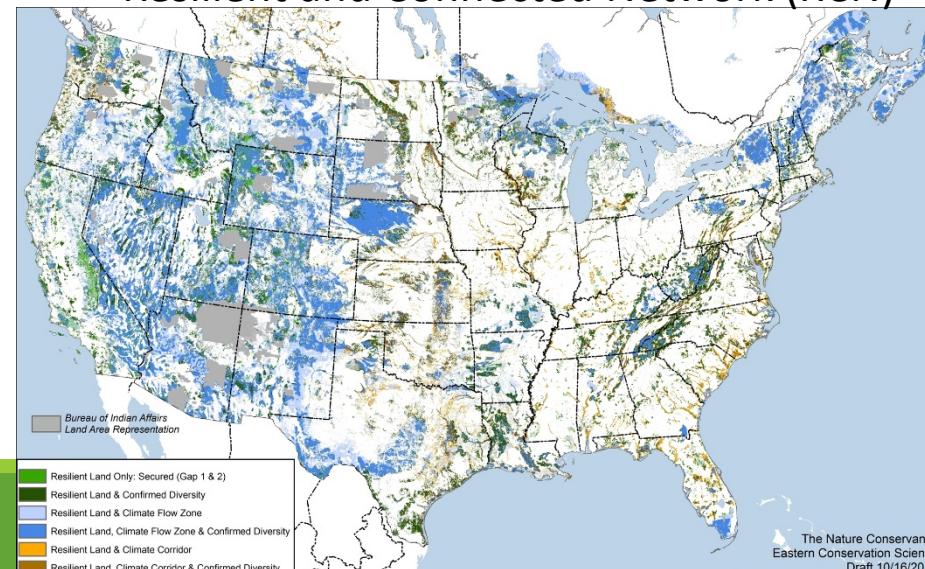
Climate Flow



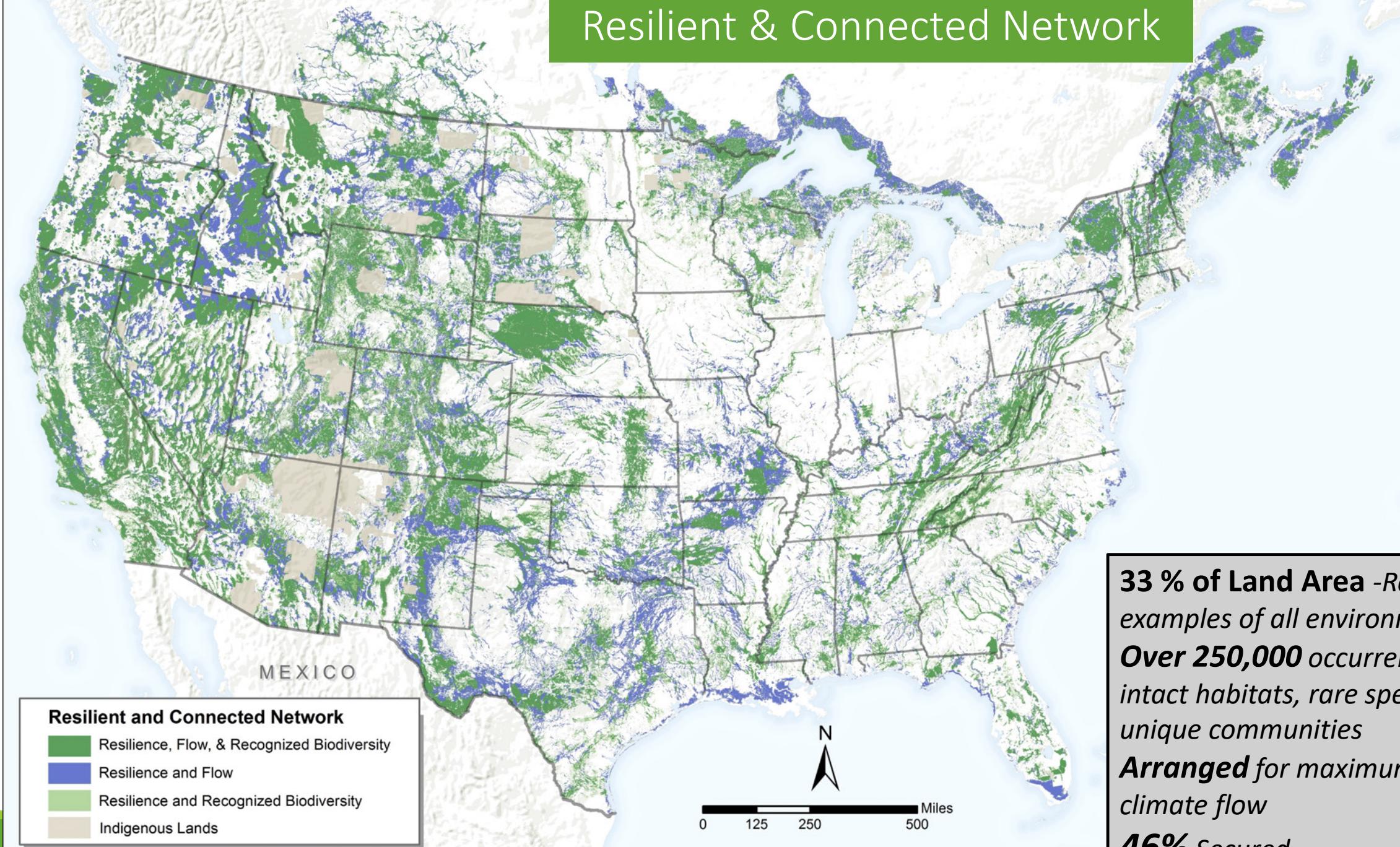
Biodiversity



Resilient and Connected Network (RCN)



Resilient & Connected Network



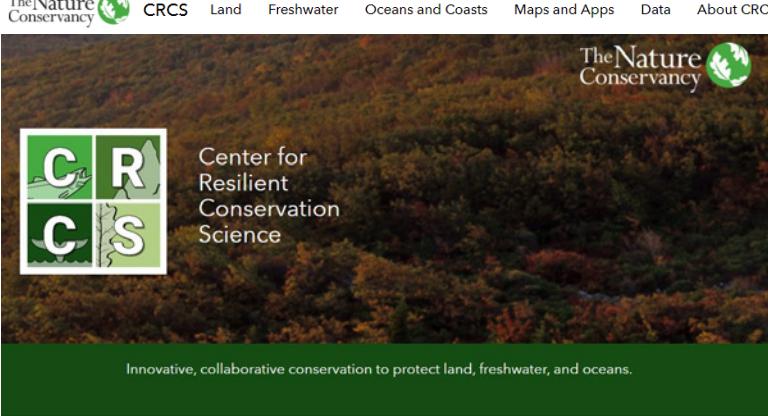
33 % of Land Area -Resilient examples of all environments
Over 250,000 occurrences of intact habitats, rare species, unique communities
Arranged for maximum climate flow
46% Secured

Resilient and Connected Network

Updates Product Distribution Timeline

- Alaska and Hawaii Report and Data Available for Download – End of January 2022
- Resilient Sites Data Available for Download – End of February 2022
- Resilient and Connected Network Data Available for Download (includes updated resilience and regional committee edits) – February/March 2022
- Incorporation of all new data into the Resilient Land Mapping Tool – April 2022

New CRCS Website – <https://crcs.tnc.org>



Center for Resilient Conservation
Science

We provide the science, data, tools, and leadership needed to enable and achieve continental-scale land and water conservation to sustain biodiversity in the face of climate change and other threats.



CRCS Highlights



Congratulations Mark Anderson
and the CRCS Team!

Director of The Nature Conservancy's Center for Resilient Conservation Science, Mark Anderson, has received the distinguished Kingsbury Browne Conservation Leadership Award from the Land Trust Alliance.

Anderson was recognized for his ground-breaking work to identify a network of climate resilient landscapes across the United States that can provide plant and animal species refuge from climate change. This work is now being used by hundreds of land trusts and agencies to inform their planning and decision making. View the [award video](#), read [Mark's acceptance speech](#), or listen to his [plenary talk](#): Reanimating the Land

Managing for Climate Resilience

on The Nature Conservancy Preserves and Managed Lands in the Eastern United States

Good land stewardship includes a range of activities from boundary protection to restoration of habitat. Incorporating climate change impacts



INTERACTIVE WEB APPLICATIONS

Explore storymaps and web applications showcasing the results of CRCs projects.

Use the search bar to narrow down the results by keywords.

Search		Menu
 CRCS The Nature Conservancy Eastern US: Resilient and Connected Landscapes A storymap explaining the components of the Resilient and Connected Networks in the eastern US. melissa_clark_TNC	 CRCS The Nature Conservancy Resilient and Connected Landscapes	 CRCS The Nature Conservancy Conserving Plant Diversity in New England The goal of the study was to assess the region's status in meeting targets in the Global Strategy for... melissa_clark_TNC
 CRCS The Nature Conservancy Northeast Coastal Resilience Strategies This story map illustrates results from the study Resilient Coastal Sites for Conservation in the No... melissa_clark_TNC	 CRCS The Nature Conservancy Northeast Habitat Map As both a practical tool for conservation professionals, and an educational resource for nature enth... melissa_clark_TNC	 CRCS The Nature Conservancy Northeast Lakes and Ponds Classification Northeast Lakes and Pond Classification System Report Summary melissa_clark_TNC
 CRCS The Nature Conservancy Great Lakes and Tallgrass Prairie Region: Resilient Sites for Terrestrial Conservation Climate change is creating an increasingly dynamic natural world and conservationists need a way to ... melissa_clark_TNC	 CRCS The Nature Conservancy The South Atlantic Bight Marine Assessment This web application allows you to explore the results of the Great Plains Site Resilience analysis.... melissa_clark_TNC	 CRCS The Nature Conservancy South Atlantic Bight - Seafloor Story Map (ver. 2) Cached images of bathymetry, seabed forms, substrate and Ecological Marine Units for the S. Atlantic... elizabeth.fly@tnc.org ... melissa_clark_TNC



Conservation Data

Explore authoritative conservation data showcasing the results of CRCs projects.

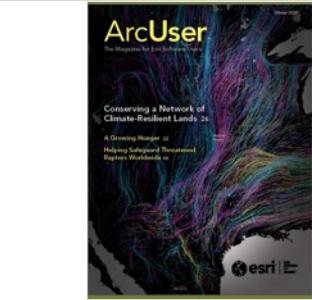
Use the search bar to narrow down the results by keywords.

Search

≡ Menu

				
Ecoregion Boundaries All results in the Resilient and Connected Network are presented within a framework of ecological regions or "ecoregions" as defined by TNC based on the subsections delineated by the US Forest Service (USDA Forest Service ECOMAP Team 2007). Because e... melissa_clark_TNC	Geology and Soils Final CRCS dataset. Geology and Soils refer to the variety of soils and bedrock geology that explain basic biodiversity patterns of a region, 5/4/2021. melissa_clark_TNC	Local Connectedness Final CRCS dataset. Local connectedness is degree of fragmentation and strength of barriers that create resistance to movement within a landscape melissa_clark_TNC	Landscape Diversities Final CRCS dataset. Landscapes diversity is the amount of micro-habitats and climatic gradients available in the immediate neighborhood surrounding any 30-m cell of land. melissa_clark_TNC	Secured Areas The secured areas dataset shows public and private lands that are permanently secured against conversion to development through conservation easements, or permanent conservation restrictions. Each parcel is classified by its GAP status: a class... melissa_clark_TNC
				
Connectivity and Climate Flow (Continuous) Final CRCS dataset. Connectivity and climate flow is one component of three component of resilient and connected landscapes. The Resilient and Connected Networks are a representative, connected network of climate resilient sites that if conserved, co... melissa_clark_TNC	Recognized Biodiversity Value Final CRCS dataset. Recognized Biodiversity Value is one of three components of the Resilient and Connected Network. The Resilient and Connected Networks are a representative, connected network of climate resilient sites that if conserved, could help... melissa_clark_TNC	Resilient and Connected Networks (One Color) Final CRCS dataset. The Resilient and Connected Networks are a representative, connected network of climate resilient sites that if conserved, could help us sustain biodiversity into the future. Resilient and Connected Networks are a representative, connected network of climate resilient sites that if conserved, co... melissa_clark_TNC		
				

MEDIA



Conserving a Network of Climate Resilient Sites

ArcUser Article



Preserving not just the most beautiful landscapes, but the most resilient

Boston Globe Ideas Op Ed

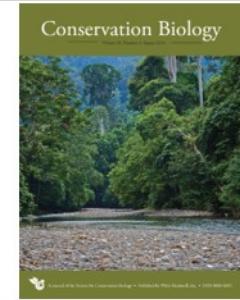


Natural Highways and Neighborhoods:
Conserving a Network of Climate-Resilient Lands

Nature.org Story



Road Map to Refuge
Nature Conservancy Magazine Article

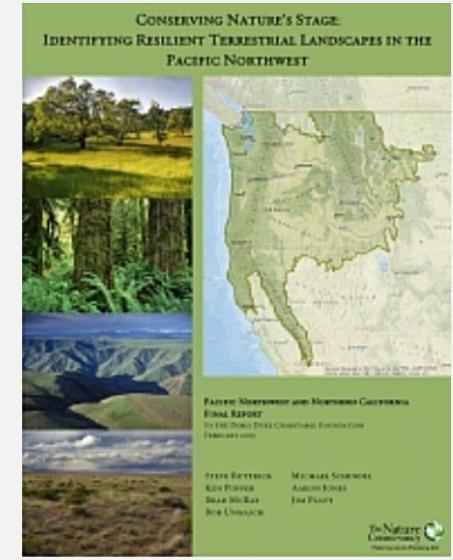
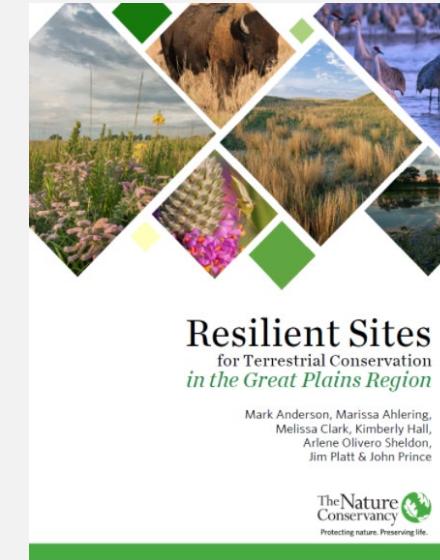
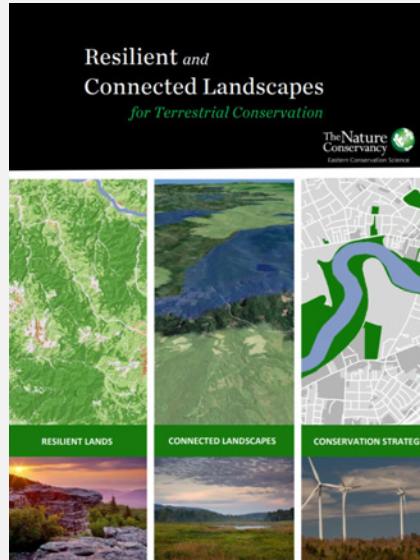
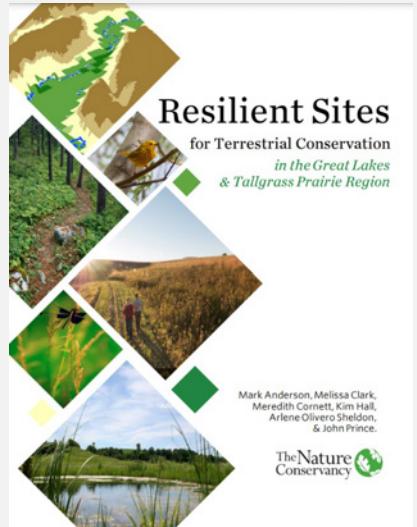


Estimating Climate Resilience for Conservation across Geophysical Settings

Conservation Biology

Learn More

REPORTS



<http://nature.org/climateresilience>

Access the Data

<http://nature.org/climateresilience>

<http://maps.tnc.org/resilientland>

--Easiest--

Resilient Land
Mapping Tool



--Intermediate--

ArcGIS Online
Authoritative
data

--Advanced--

Download the
Data

<http://maps.tnc.org/resilientland>

<http://CRCS.tnc.org>

<http://nature.org/resilience>

Resilient Land Mapping Tool

The Nature Conservancy Resilient Land Mapping Tool

Learn more about the TNC resilient land project and download data [here](#)
Get a quick primer on the [Core Concepts](#)

Visualize

Resilient and Connected Networks

- Resilient and Connected Network
- Resilient Sites (Terrestrial and Coastal)

Component Data

- Landscape Diversity
- Local Connectedness
- Geophysical Setting
- Landforms
- Regional Flow (Wall to Wall)
- Regional Flow (Categorized)
- Climate Flow (Wall to Wall) - Central US
- Climate Flow (Categorized) - Central US

Reference Layers

- Basemap
- Ecoregions
- States
- Secured Areas

Set Transparency

Resilient Land Summary

Total area: 31,097 acres

Resilient and Connected Network Results

- Resilient Area with Confirmed Diversity: 16,981.8 Acres
- Climate Corridor with Confirmed Diversity: 4,179.7 Acres
- Climate Flow Zone with Confirmed Diversity: 861.3 Acres
- Climate Corridor: 417 Acres
- Resilient Only (Secured): 313.6 Acres
- Outside Prioritized Network: 8,343.6 Acres

Terrestrial Resilience

Resilience	Landscape Diversity	Local Connectedness
Above Average (1.41 SD)	Above Average (1.51 SD)	Above Average (1.25 SD)

Resilience: Above Average (1.41 SD)

Landscape Diversity: Above Average (1.51 SD)

Local Connectedness: Above Average (1.25 SD)

<http://maps.tnc.org/resilientland>

Questions?

crcs@tnc.org or

melissa_clark@tnc.org

<http://crcs.tnc.org>

<http://nature.org/climateresilience>

<http://maps.tnc.org/resilientland>





Next Third Thursday
Web Forum

2-17-2022

10:00 am

Hugh Sullivan, U.S.
Environmental
Protection Agency

The National Coastal Condition Assessment: Survey design and 2015 results

A photograph of a waterfall in a lush, green forest. The waterfall flows down several tiers of dark, mossy rocks, creating a misty spray at the bottom. The surrounding trees are dense and green, with sunlight filtering through the canopy.

Staff updates

- Mallory Martin retired as SECAS Coordinator at the end of 2021
- 2022 Southeast Blueprint underway
- New event calendar on the SECAS website
- South Atlantic Blueprint transition underway

Mallory Martin retired as SECAS Coordinator

- Rua is currently Acting Coordinator
- In the process of hiring a new coordinator to start in mid-February

2022 Southeast Blueprint underway

- Right now, primary focus on indicator development
- Start running prioritization models in March
- Workshops planned for late spring

New event calendar on SECAS website

SECAS Southeast

Today January 2022

Print Week Month Agenda

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Jan 1
26	27	28	29	30	31		
2	3	4	5	6	7		8
9	10	11	12	13	14		15
16	17	18	19	20	21		22
23	24	25	26	27	28		29
30	31	Feb 1	2	3	4		5

Events shown in time zone: Eastern Time - New York + Google Calendar

South Atlantic Blueprint transition underway

- Expanding South Atlantic Blueprint indicators and methods Southeast-wide for Southeast Blueprint 2022
- This new Blueprint will take the place of the standalone South Atlantic Blueprint
- Transitioning many South Atlantic resources (like this Third Thursday Web Forum) over to SECAS
- Read more: <https://www.southatlanticlcc.org/2021/11/05/what-does-the-new-2022-southeast-blueprint-approach-mean-for-the-south-atlantic-blueprint/>

How to get involved in the Blueprint

- Sign up for the SECAS newsletter

secassoutheast.org

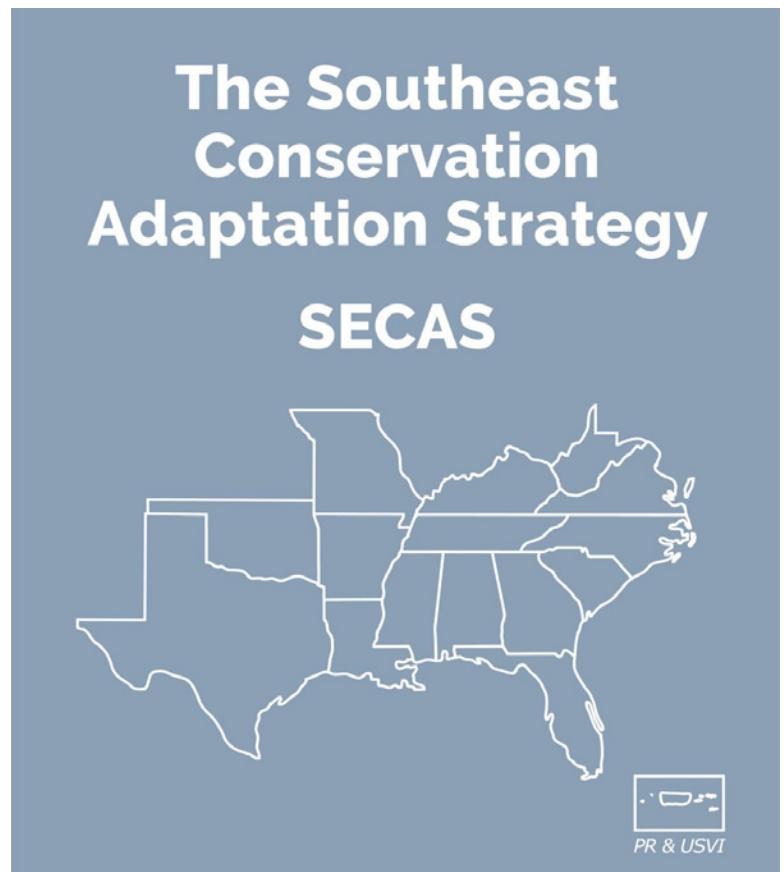
- Connect with SECAS staff or partners

secassoutheast.org/staff

secassoutheast.org/partners

- Explore the Southeast Conservation Blueprint

secassoutheast.org/blueprint



The background of the slide is a photograph of a sunset or sunrise over a body of water. The sky is filled with wispy clouds colored in shades of orange, yellow, and blue. On the right side of the image, a white lighthouse stands on a grassy, slightly elevated hill. The foreground is dark, out-of-focus vegetation, possibly tall grass or reeds.

Questions?