

Southeast Conservation Blueprint Summary

for Georgia

Created 10/02/2024

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[The Southeast Conservation Blueprint 2024](#)



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About the Southeast Blueprint

The Southeast Conservation Blueprint is the primary product of the [Southeast Conservation Adaptation Strategy](#) (SECAS). It is a living, spatial plan to achieve the SECAS vision of a connected network of lands and waters across the Southeast and Caribbean. The Blueprint is regularly updated to incorporate new data, partner input, and information about on-the-ground conditions.

The Blueprint identifies priority areas based on a suite of natural and cultural resource indicators representing terrestrial, freshwater, and marine ecosystems. A connectivity analysis identifies corridors that link coastal and inland areas and span climate gradients.

For more information:

- Visit the [Blueprint webpage](#)
- Review the [Blueprint 2024 Development Process](#)
- View and download the Blueprint data and make maps on the [Blueprint page of the SECAS Atlas](#)

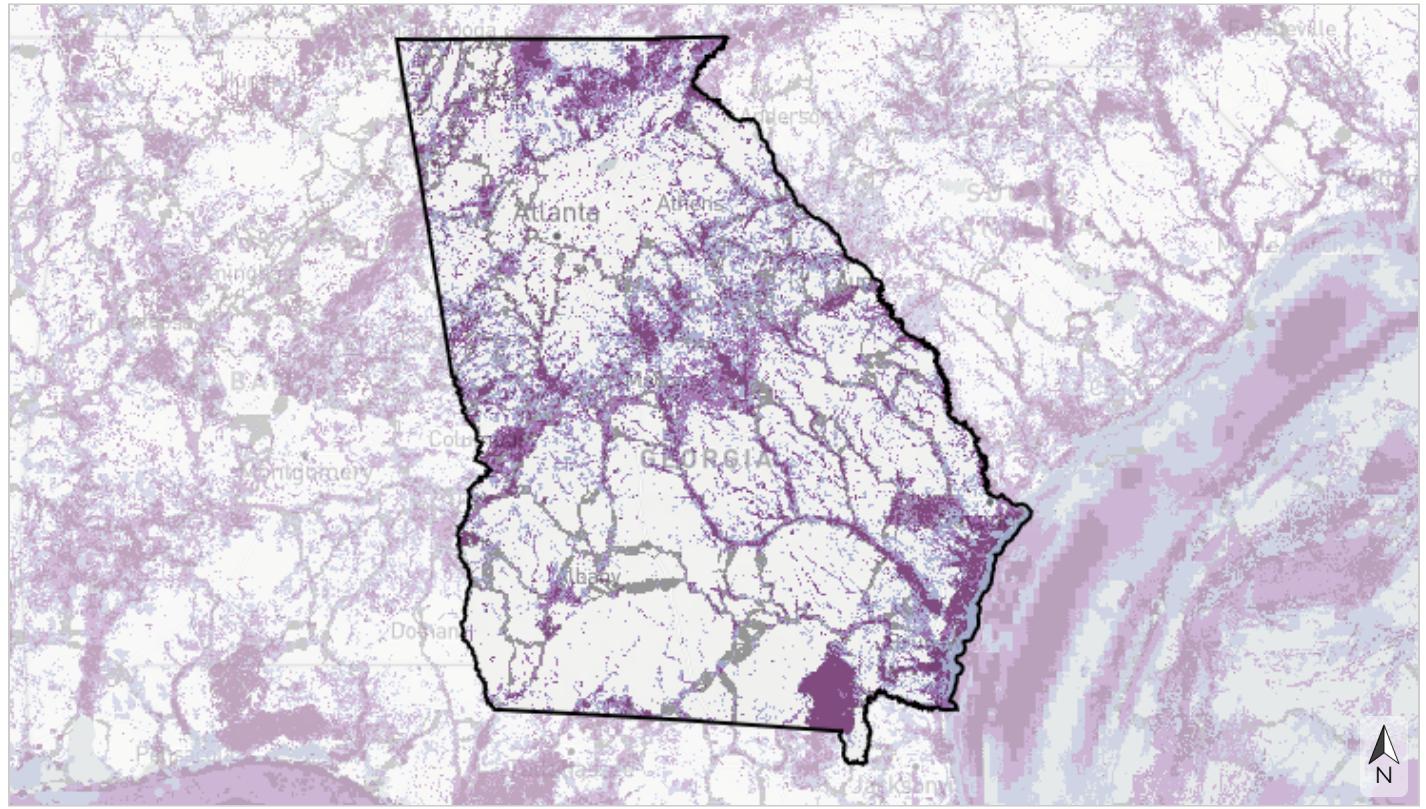
We're here to help!

- Do you have a question about the Blueprint?
- Would you like help using the Blueprint to support a proposal or inform a decision?
- Do you have a suggestion on how to improve the Blueprint? The Blueprint and its inputs are regularly revised based on input from people like you.
- Do you have feedback on how to improve the Blueprint Explorer interface?

If you need help or have questions, [contact Southeast Blueprint staff](#) by reaching out to a member of the user support team.

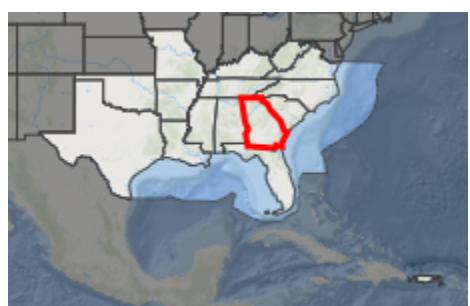
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Southeast Blueprint Priorities



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62 123 246 miles



Priorities for a connected network of lands and waters

- Highest priority
- High priority
- Medium priority
- Priority connections

Priority Categories

For a connected network of lands and waters

In total, Blueprint priorities and priority connections cover roughly 50% of the Southeast Blueprint geography.

Highest priority

Areas where conservation action would make the biggest impact, based on a suite of natural and cultural resource indicators. This class covers roughly 10% of the Southeast Blueprint geography.

High priority

Areas where conservation action would make a big impact, based on a suite of natural and cultural resource indicators. This class covers roughly 15% of the Southeast Blueprint geography.

Medium priority

Areas where conservation action would make an above-average impact, based on a suite of natural and cultural resource indicators. This class covers roughly 20% of the Southeast Blueprint geography.

Priority connections

Connections between priority areas that cover the shortest distance possible while routing through as much Blueprint priority as possible. This class covers roughly 5% of the Southeast Blueprint geography.

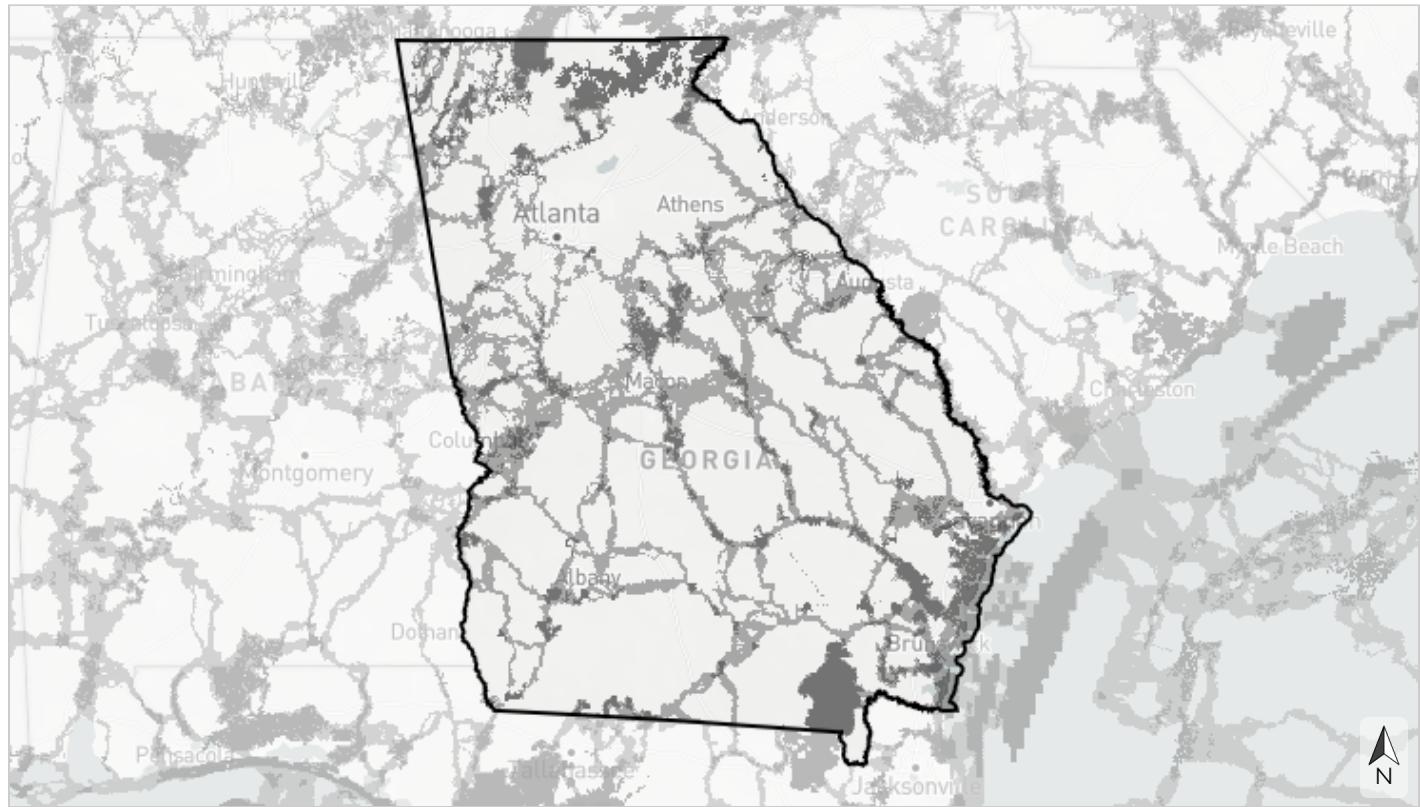
Table 1: Extent of each Blueprint priority category within Georgia.

Priority Category	Acres	Percent of Area
Highest priority	3,528,333	9.3%
High priority	4,727,505	12.4%
Medium priority	6,560,745	17.3%
Priority connections	2,808,202	7.4%
Lower priority	20,405,907	53.7%
Total area	38,030,692	100%

Hubs and Corridors

The Blueprint uses a least-cost path connectivity analysis to identify corridors that link hubs across the shortest distance possible, while also routing through as much Blueprint priority as possible.

In the continental Southeast, hubs are large patches (~5,000+ acres) of highest priority Blueprint areas and/or protected lands.



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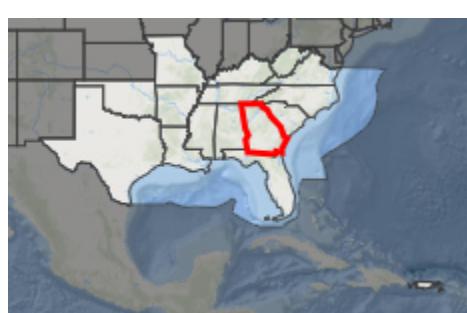


Table 2: Extent of hubs and corridors within Georgia.

Type	Acres	Percent of Area
Hubs	3,476,917	9.1%
Corridors	8,162,727	21.5%
Not a hub or corridor	26,391,048	69.4%
Total area	38,030,692	100%

Indicator Summary

Table 3: Terrestrial indicators.

Indicator	Present
Amphibian & reptile areas	✓
East Coastal Plain open pine birds	✓
Equitable access to potential parks	✓
Fire frequency	✓
Grasslands and savannas	✓
Greenways & trails	✓
Intact habitat cores	✓
Landscape condition	✓
Resilient terrestrial sites	✓
South Atlantic forest birds	✓
South Atlantic low-urban historic landscapes	✓
Urban park size	✓

Table 4: Freshwater indicators.

Indicator	Present
Atlantic migratory fish habitat	✓
Gulf migratory fish connectivity	✓
Imperiled aquatic species	✓
Natural landcover in floodplains	✓
Network complexity	✓
Permeable surface	✓

Table 5: Coastal & marine indicators.

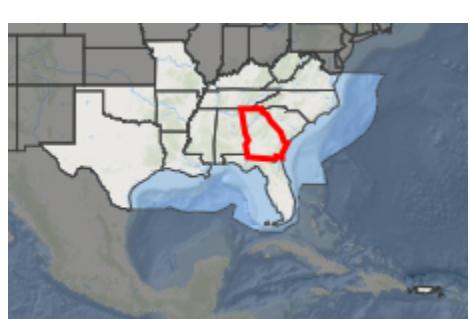
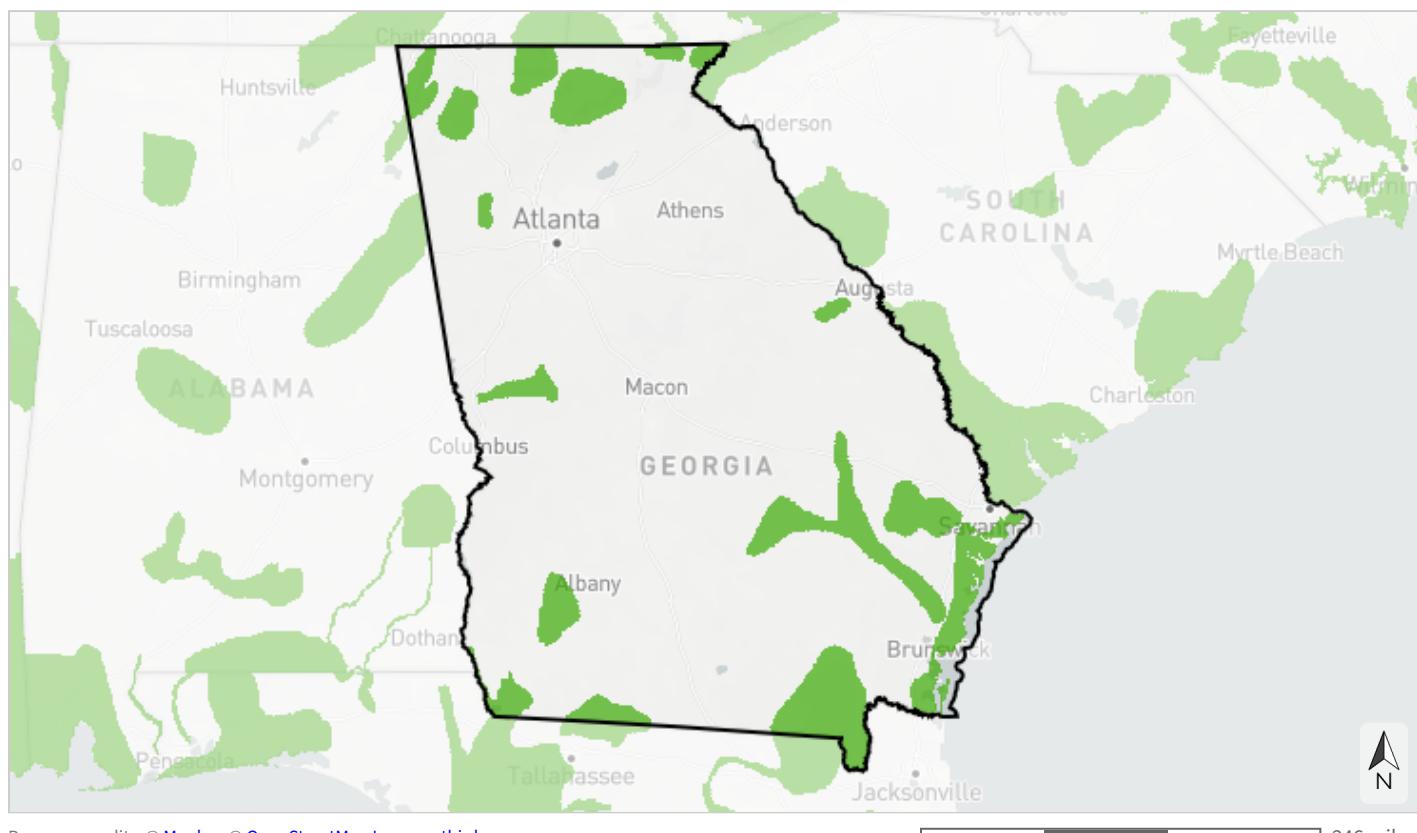
Indicator	Present
<u>Atlantic coral & hardbottom</u>	✓
Atlantic deep-sea coral richness	-
<u>Atlantic estuarine fish habitat</u>	✓
<u>Atlantic marine birds</u>	✓
<u>Atlantic marine mammals</u>	✓
<u>Coastal shoreline condition</u>	✓
<u>Estuarine coastal condition</u>	✓
Gulf coral & hardbottom	-
Gulf marine mammals	-
Gulf sea turtles	-
<u>Island habitat</u>	✓
<u>Marine highly migratory fish</u>	✓
<u>Resilient coastal sites</u>	✓
Seagrass	-
<u>South Atlantic beach birds</u>	✓
<u>South Atlantic maritime forest</u>	✓
<u>Stable coastal wetlands</u>	✓



Terrestrial

Amphibian & reptile areas

This indicator represents Priority Amphibian and Reptile Conservation Areas (PARCAs) across the Southeast. PARCA is an expert-driven, nonregulatory designation that includes places capable of supporting viable amphibian and reptile populations, places occupied by rare or imperiled species, and places rich in biodiversity or species unique to that geographic area (i.e., endemism). Reptiles and amphibians are a critical part of the Southeast region's rich biodiversity and many populations are declining in the face of threats like habitat loss, invasive species, and climate change. The PARCA dataset is maintained by the Amphibian and Reptile Conservancy and does not yet include Virginia or Kentucky.



Priority Amphibian and Reptile Conservation Area (PARCA)
 Not a PARCA (excluding Kentucky and Virginia)

Table 6: Indicator values for amphibian & reptile areas within Georgia. A good condition threshold is not yet defined for this indicator.

	Indicator Values	Acres	Percent of Area
↑ High	Priority Amphibian and Reptile Conservation Area (PARCA)	4,762,699	12.5%
↓ Low	Not a PARCA (excluding Kentucky and Virginia)	33,267,993	87.5%
	<i>Area not evaluated for this indicator</i>	0.22	<0.1%
Total area		38,030,692	100%

Priority Amphibian and Reptile Conservation Areas:

Altamaha Ocmulgee

The Altamaha Ocmulgee PARCA is named for the two river systems in South Georgia which are among the state's most important wild places. Aeolian sandhills on these rivers' north and east sides provide excellent longleaf and oak scrub habitat, while the adjacent bottomlands contain virgin cypress floodplain swamps. These habitats support genetically important populations of snakes such as the eastern indigo snake, eastern diamondback rattlesnake, and pine snake, each of which rely on gopher tortoise burrows for suitable habitat. The sandy ridges offer excellent burrowing habitat for fossorial (underground) amphibians and reptiles, while many of the ephemeral wetlands important for species like the spotted turtle are threatened by degraded and overgrown habitat.

Apalachicola

Apalachicola is an incredibly important area in the panhandle of Florida, containing thousands of acres of pine forests and old growth cypress swamps with an amazing diversity of species. Although most of this land is contained within Apalachicola National Forest, there exist serious threats from land degradation and the pressure of invasive species for several high priority species that live here, such as the Barbour's map turtle, gopher tortoise, diamondback terrapin, and eastern diamondback rattlesnake, to name a few. There is a monumental effort taking place between state, federal, and nonprofit organizations to ensure the threats in these forests and wetlands are remediated, and this PARCA remains a global biodiversity hotspot.

Armuchee Ridges

The dry, rocky Armuchee Ridges in northwest Georgia starkly contrast the spring-abundant valleys between them. The region features long mountainous uplifts forming parallel valleys, creating diverse hardwood forests. The ridges have shallow, fast-draining soil, leading to rocky outcrops and a xeric environment. This elevation gradient supports a variety of species of salamanders.

Barrier Islands and Marshes

Georgia's Barrier Islands and Marshes PARCA is made up of unique features that are vital to the coastal ecosystem. The miles of salt marsh, filled with Juncus and Spartina grasses, create a distinctive matrix of marsh grasses, mud flats, and tidal creeks, separating the mainland from the barrier islands. The islands feature maritime forests dominated by live oak trees and palmettos, transitioning to scrub-filled coastal

dunes. Nesting and foraging habitats for sea turtles are found on island beaches, estuaries, and nearshore waters. Diamondback terrapins inhabit estuaries and embedded marsh islands, while rare species of reptiles are found in upland areas.

Blue Ridge Escarpment

South Carolina's Blue Ridge Escarpment is a region where the Blue Ridge Mountains meet the Atlantic Piedmont ecoregion. This region is characterized by high rainfall, lush cove forests, bare rocky cliffs and numerous small streams and rivers. This is the southern extent of the distribution for a wide variety of rare salamanders that find refuge in the cool and moist conditions provided by the Appalachian Mountains. These populations are increasingly fragmented from development.

Chickasaw Ichuway

Most of the Chickasaw Ichuway PARCA was historically dominated by longleaf pine, now a mix of old-growth longleaf pine, restored longleaf pine, and planted loblolly, with a well-managed herbaceous understory. Blackwater rivers and streams with rocky limestone layers create karst features like springs and caves. The PARCA includes the Chickasawhatchee Swamp, the second-largest wetland in Georgia. This habitat supports a diverse array of reptiles and amphibians.

Cohutta

The Cohutta PARCA, located in the southern extent of the Blue Ridge in North Georgia, is perhaps the largest contiguously forested region in the state, boasting high salamander diversity. This area features some of the state's highest mountains, lush hardwood forests, and thick leaf litter, creating a moist environment ideal for amphibians. The rocky, clear streams are the headwaters of the Conasauga River on the western side, while the eastern streams support important aquatic salamander species.

Florida Red Hills

The red clay soil and rolling hills of this region contain some of the last remaining native longleaf pine forests in the Southeast and characterize the Florida Red Hills PARCA. Expansive quail plantations and other private lands make up a large portion of the wildlands here, hosting numerous threatened and endangered plant and animal species. Management by this network of cooperative landowners and organizations has resulted in selective timber harvest and decades of prescribed fire application. While intended mainly to benefit bobwhite quail, these management practices have created an excellent matrix of ephemeral wetlands within longleaf pine habitat, home to imperiled species like the gopher tortoise, eastern tiger salamander, and ornate chorus frog.

Fort Eisenhower

The Fort Eisenhower PARCA is located in the western section of the geologic region known as the "Fall Line" just outside of Augusta. Historically dominated by longleaf pine, it is now a mixture of fire-suppressed forests and restored fire-maintained longleaf pine. Uplands support populations of important amphibian and reptile species, and streams contain excellent populations of aquatic salamanders.

Fort Stewart

The Fort Stewart PARCA, encompassing Fort Stewart Army Base, hosts the largest contiguous old-growth longleaf pine-dominated ecosystem in the state, home to the only known extant population of frosted flatwoods salamanders in Georgia. This diverse habitat also supports many other rare or unique

amphibians and reptiles. The area features mature stands of longleaf pine with isolated wetlands and borrow pits, a diverse herbaceous understory maintained by good fire regimes, and uplands with clay-rich soil. The Canoochee and Ogeechee Rivers, along with miles of blackwater streams lined with cypress and tupelo, provide essential wildlife corridors.

Georgia Red Hills

The Georgia Red Hills PARCA consists of pine forests, old fields, and quail plantations, defined by its rolling hills and red clay soil. Large connected tracts of land support longleaf pine and numerous associated amphibian and reptile species.

Hiwassee

The Hiwassee PARCA is located in the southwest corner of North Carolina and includes unique vegetation communities, blending mountain physiography with sandy soils from more pine-associated ecoregions and supporting a rich diversity of Piedmont and Coastal Plain ecotone species. Some of these unique species include the mountain chorus frog, stripe-neck musk turtle, common map turtle, northern pine snake, eastern slender glass lizard, Chattahoochee salamander, and eastern hellbender. Nantahala National Forest covers a significant portion of this PARCA, along with the Hiwassee River and its many dams and reservoirs. This area is impacted by habitat degradation, sedimentation, erosion, and water quality issues from surrounding agricultural land and rural roads. Researchers should work with producers to establish best management practices to reduce negative effects of land use changes on aquatic systems.

Lake Seminole

The Lake Seminole PARCA is an extension of the Red Hills formation with clay-rich soil. It boasts mature longleaf pine savannas with diverse herbaceous ground cover, good structure from stump holes and tortoise burrows, and extensive open wetlands fed by springs. The longleaf pine communities and embedded isolated wetlands provide habitat for upland reptile species. The Lower Chattahoochee and Flint Rivers, as well as Spring Creek, support robust turtle populations, while seepages in the region harbor several salamander species.

Little River Canyon

The Little River Canyon offers a diverse ecosystem of forested uplands, waterfalls, canyon rims, pools, boulders, and sandstone cliffs to amphibians and reptiles in the Southern Appalachians, including the rare and elusive northern pine snake. The core area of this PARCA is protected along the Little River Canyon National Preserve. However, because wildlife species have no knowledge of map boundaries, they face threats from upstream water quality issues, private forestry operations, and recreation. For this reason, this PARCA is bordered upstream by Lookout/Pigeon Mountain PARCA in Georgia.

Long Cane Sumter

The Long Cane Sumter PARCA, encompassing the Sumter National Forest and a few state parks, spans the Southern Outer Piedmont and Carolina Slate Belt ecoregions. This area features dissected plains, low hills, and ridges with diverse rock types and soils, supporting pine plantations, mixed oak forests, and oak-hickory-pine forests. These habitats are vital for the conservation of various reptile and amphibian species that thrive in the low- to moderate-gradient streams and mixed forest ecosystems.

Lookout Pigeon Mountain

Part of the Cumberland Plateau, both Lookout and Pigeon Mountains rise sharply from the valley floor with steep sandstone cliff faces. Forests transition from dense mesic hardwoods to pines and fire-adapted oaks on top. The sandstone caprock forms a flat, broad ridge that occasionally traps water, creating ephemeral wetlands. This region boasts the highest salamander species richness in Georgia, including rare and endemic species.

Nantahala

The Nantahala PARCA is nestled in the heart of the Southern Appalachians, an area that is a hotspot for some of the world's highest salamander, fish and mussel biodiversity. Many of the endemic species here rely on disappearing habitats such as rock outcrops, grassy balds, and bogs, which are experiencing region-wide threats from fragmentation, water pollution, and wetland draining. Important work is taking place to restore forest and wetlands to their natural conditions while we continue learning about the habitat requirements of the area's rare focal species.

Nantahala South

Located in the middle of some of the most continuous patches of forest in the Southeast, this PARCA is made up of steep mountains and high ridges. The forests in this region are predominantly hardwood with conifers intermingled on rocky ridges and in cool, moist stream valleys. This region receives abundant rainfall throughout the year and stays cool in the hotter summer months. Mountain coves form the high-gradient, rocky headwaters of the Tennessee and Savannah Rivers. This PARCA is home to high salamander diversity, including multiple species of the genus (group) *Desmognathus*.

Okefenokee Swamp

The Okefenokee Swamp PARCA contains the largest blackwater swamp in the United States with very acidic water that feeds several major rivers in the region. Cypress and tupelo trees are abundant throughout the swamp, with xeric islands dotting the interior with pitch pine and palmetto. A sandy ridge forms the eastern edge of the swamp with longleaf pine and upland ephemeral wetlands. Multiple amphibian and reptile species found in very few other places in southeast Georgia thrive here.

Paulding Forest

Just outside the Atlanta metro area, the Paulding Forest PARCA is a uniquely intact Piedmont region with ridge-tops characterized by montane longleaf habitats. Many of the ridges are fire-maintained with an open understory. Multiple species of notable herpetofauna, in addition to more common species, are found here.

Pine Mountain Flint

The Pine Mountain Flint PARCA is an isolated Appalachian-origin ridge in the lower Piedmont that harbors species more characteristic of montane regions, as well as species typically found in the Coastal Plain. Just north of the geologic region known as the "Fall Line", the ridges in this area are surprisingly rocky. The forest type on these ridges and slopes is fire-adapted oaks and shortleaf pine. Montane longleaf pine is scattered throughout in low numbers. The stream valleys are thick with shrubs and contain gravel bed streams.

Rich Mountain Snake Nation

The Rich Mountain Snake Nation PARCA contains some of the last high peaks of the Blue Ridge and is covered in lush hardwood forests. Like much of North Georgia, the topography is steep, reaching above 3,000 ft with the occasional granitic rock outcrop. Very little light reaches the forest floor, and dense layers of leaf litter cover the ground. The streams in this region are rocky and have excellent water quality, eventually feeding into the Hiwassee, Etowah, and Chattahoochee Rivers. The area has high salamander diversity, along with many other amphibian and reptile species that can be found here.

Savannah River Low Country

The large Savannah River Low Country PARCA comprises a wide variety of habitats, including longleaf pine flatwoods, mesic savannas and sandhills, blackwater and brownwater rivers and streams, a variety of isolated freshwater wetlands (like Carolina bays), and maritime communities (including maritime forest, beach, dune and swale, and hammocks). This region is home to a significant number of rare and declining amphibian and reptile species and is one of South Carolina's most diverse areas for herpetofauna.

South Cumberland

The South Cumberland PARCA occurs within the Southwestern Appalachians ecoregion and includes portions of the Southern Cumberland Plateau, Plateau Escarpment, and Sequatchie Valley. The Cumberland Plateau is diverse in habitat, ranging from predominantly acidic, well-drained soils where hardwood forests thrive to diverse boulder fields, rock outcrops, vertical rock faces, and cliffs along the Plateau Escarpment. The Sequatchie Valley is generally open, rolling terrain drained by the Sequatchie River with mixed oak-hickory, maple forest, pastureland, and cropland. The unique habitat diversity throughout this region includes species of conservation concern like the eastern pine snake. They are often associated with well-drained, sandy soils in pine or mixed pine-hardwood forests, which are common throughout this region. However, unsustainable timber management, urban encroachment, and persecution by humans are just some of the threats that have led to their decline.

Southern Blue Ridge

The Southern Blue Ridge PARCA occurs in the Blue Ridge Mountains ecoregion and is most diverse PARCA in Tennessee. It consists of narrow, forested mountain ridges that are highly dissected with elevation ranging from 300-1,500 m and primary vegetation consisting of oak forests with some mixed mesic and northern hardwood forests. Streams are high-gradient with clear, cool water with bedrock and boulder substrates and are drained by the Ocoee, Hiwassee, Tellico, and Little Tennessee Rivers that feed into the Tennessee River. The Conasauga River briefly flows through the PARCA along the Georgia-Tennessee state line before ultimately flowing into the Coosa River. Due to the diversity of habitat within this region, the PARCA contains more than 80 different species of herpetofauna. Some threats include dams and impoundments, sedimentation/water pollution, unsustainable timber practices, bait bucket invasives, illegal poaching, and direct persecution of hellbenders, eastern pine snakes, and timber rattlesnakes.

Suwannee/Santa Fe/Osceola

Sprawling across much of North Florida, the Suwannee/Santa Fe/Osceola PARCA includes the expansive Osceola National Forest and winds around the Suwannee and Santa Fe Rivers. The extensive pine flatwoods and swamps of Osceola National Forest are home to many reptiles and amphibians, including the alligator snapping turtle and many-lined salamander. The southern tendrils of the PARCA snake along

the Suwannee and Santa Fe Rivers and their surrounding freshwater forested wetlands, floodplain swamps, and mixed hardwood-coniferous forests, which provide riverine and upland sandhill habitat for Suwannee cooters and gopher tortoises.

Talladega

Talladega is the second-largest PARCA in Alabama, with the Talladega National Forest running right through its core. Largely forested with deciduous trees, this site is important for reptiles and amphibians alike; however, it faces threats from fragmentation and human development, which creates more challenges for species already experiencing declines here, like the eastern slender glass lizard.

Upper Chattooga

Situated within the Blue Ridge, the Upper Chattooga PARCA is a sanctuary of hardwoods covering rugged terrain. The Chattooga River, carving its way south, is a high-quality watershed. The area is home to some of the highest peaks within the state and is notably cooler than other areas at the same latitude. The region has high salamander diversity, including multiple species found nowhere else in Georgia.

To learn more and explore the GIS data, [view this indicator in the SECAS Atlas](#).



Terrestrial

East Coastal Plain open pine birds

This indicator identifies areas within the historic longleaf pine range east of the Mississippi River where creating or maintaining open pine habitat would most benefit six focal species of birds (Bachman's sparrow, red-cockaded woodpecker, Henslow's sparrow, red-headed woodpecker, Northern bobwhite, brown-headed nuthatch). It prioritizes areas for open pine conservation based on suitability for longleaf pine, feasibility of prescribed burning, proximity to protected lands, habitat suitability for focal bird species, and proximity to bird source populations. It originates from the East Gulf Coastal Plain Joint Venture's prioritization of areas for open pine ecosystem restoration.

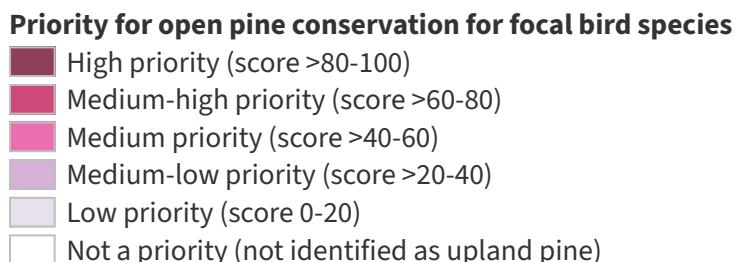
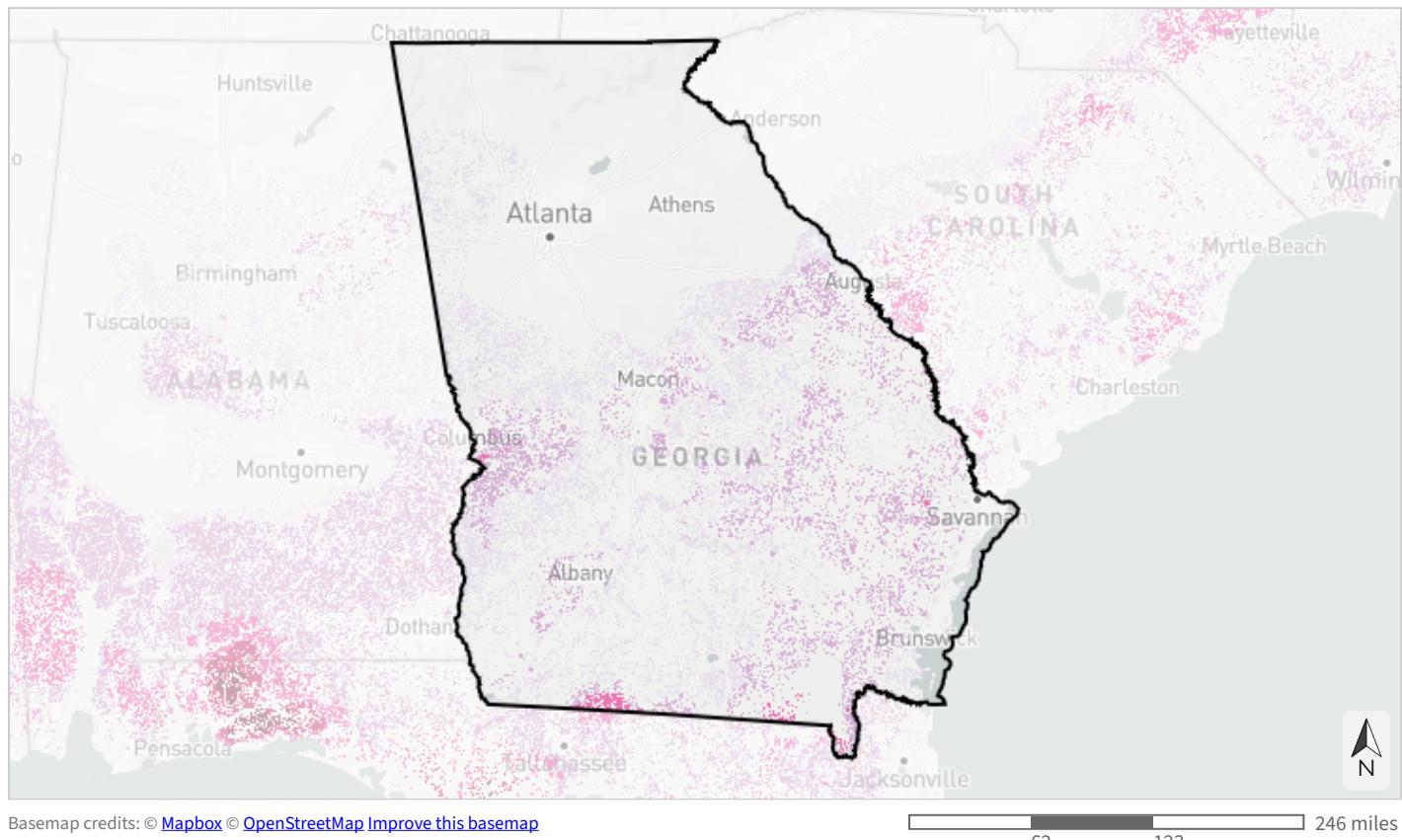


Table 7: Indicator values for East Coastal Plain open pine birds within Georgia. A good condition threshold is not yet defined for this indicator.

Indicator Values: Priority for open pine conservation for focal bird species		Acres	Percent of Area
↑ High	High priority (score >80-100)	0	0%
	Medium-high priority (score >60-80)	0	0%
	Medium priority (score >40-60)	138,560	0.4%
	Medium-low priority (score >20-40)	2,931,974	7.7%
	Low priority (score 0-20)	4,882,702	12.8%
	Not a priority (not identified as upland pine)	19,940,517	52.4%
<i>Area not evaluated for this indicator</i>		10,136,938	26.7%
Total area		38,030,692	100%

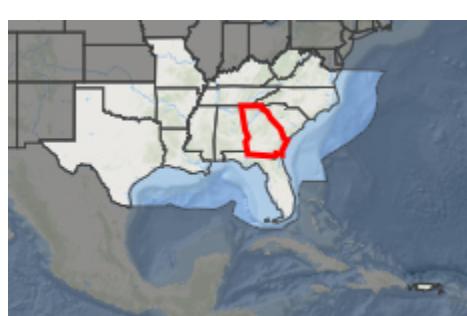
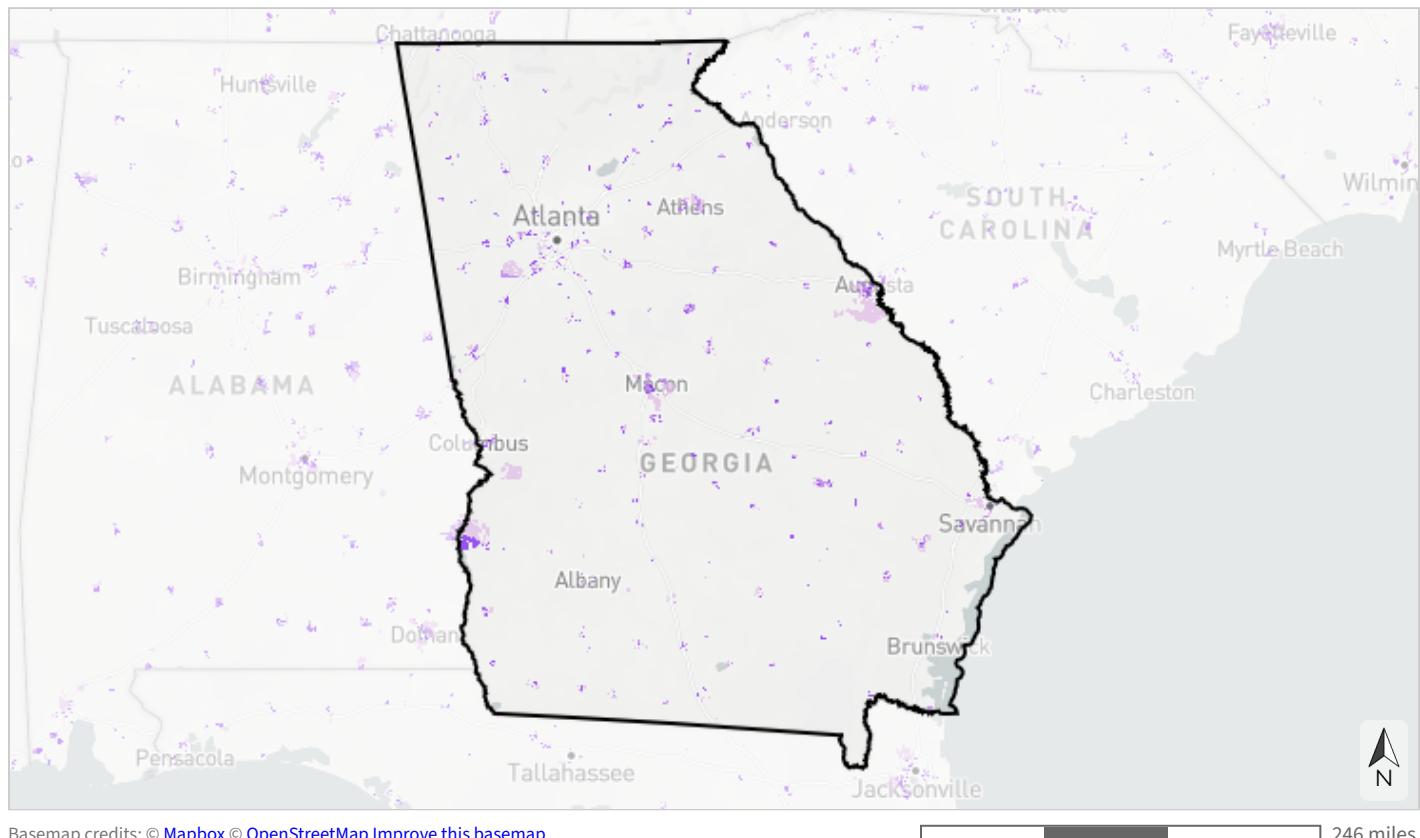
To learn more and explore the GIS data, [view this indicator in the SECAS Atlas](#).



Terrestrial

Equitable access to potential parks

This cultural resource indicator prioritizes places to create new parks that would fill gaps in equitable access to open space within socially vulnerable communities in urban areas. It identifies areas where residents currently lack access to parks within a 10-minute walk (accounting for walkable road networks and access barriers like highways and fences), then prioritizes based on park need using demographic and environmental metrics. Parks help improve public health, foster a conservation ethic by providing opportunities for people to connect with nature, and support critical ecosystem services. This indicator originates from the Trust for Public Land's ParkServe park priority areas and the Center for Disease Control's Social Vulnerability Index.



Priority for a new park that would create nearby equitable access

- Very high priority
- High priority
- Moderate priority
- Not identified as a priority (within urban areas)

Table 8: Indicator values for equitable access to potential parks within Georgia. A good condition threshold is not yet defined for this indicator.

Indicator Values: Priority for a new park that would create nearby equitable access		Acres	Percent of Area
↑ High	Very high priority	189,201	0.5%
	High priority	203,262	0.5%
	Moderate priority	395,097	1.0%
↓ Low	Not identified as a priority (within urban areas)	36,917,723	97.1%
	<i>Area not evaluated for this indicator</i>	325,409	0.9%
Total area		38,030,692	100%

To learn more and explore the GIS data, [view this indicator in the SECAS Atlas](#).



Terrestrial

Fire frequency

This indicator uses remote sensing to estimate the number of times an area has been burned from 2013 to 2021. Many Southeastern ecosystems rely on regular, low-intensity fires to maintain habitat, encourage native plant growth, and reduce wildfire risk. This indicator combines burned area layers from U.S. Geological Survey Landsat data and the inter-agency Monitoring Trends in Burn Severity program. Landsat-based fire predictions within the range of longleaf pine are also available through Southeast FireMap.

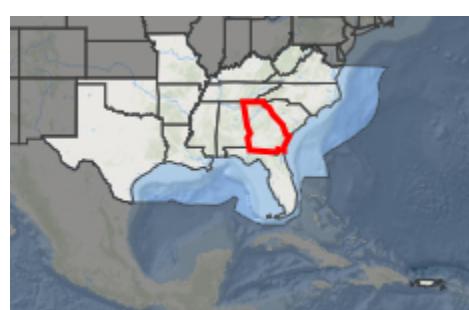
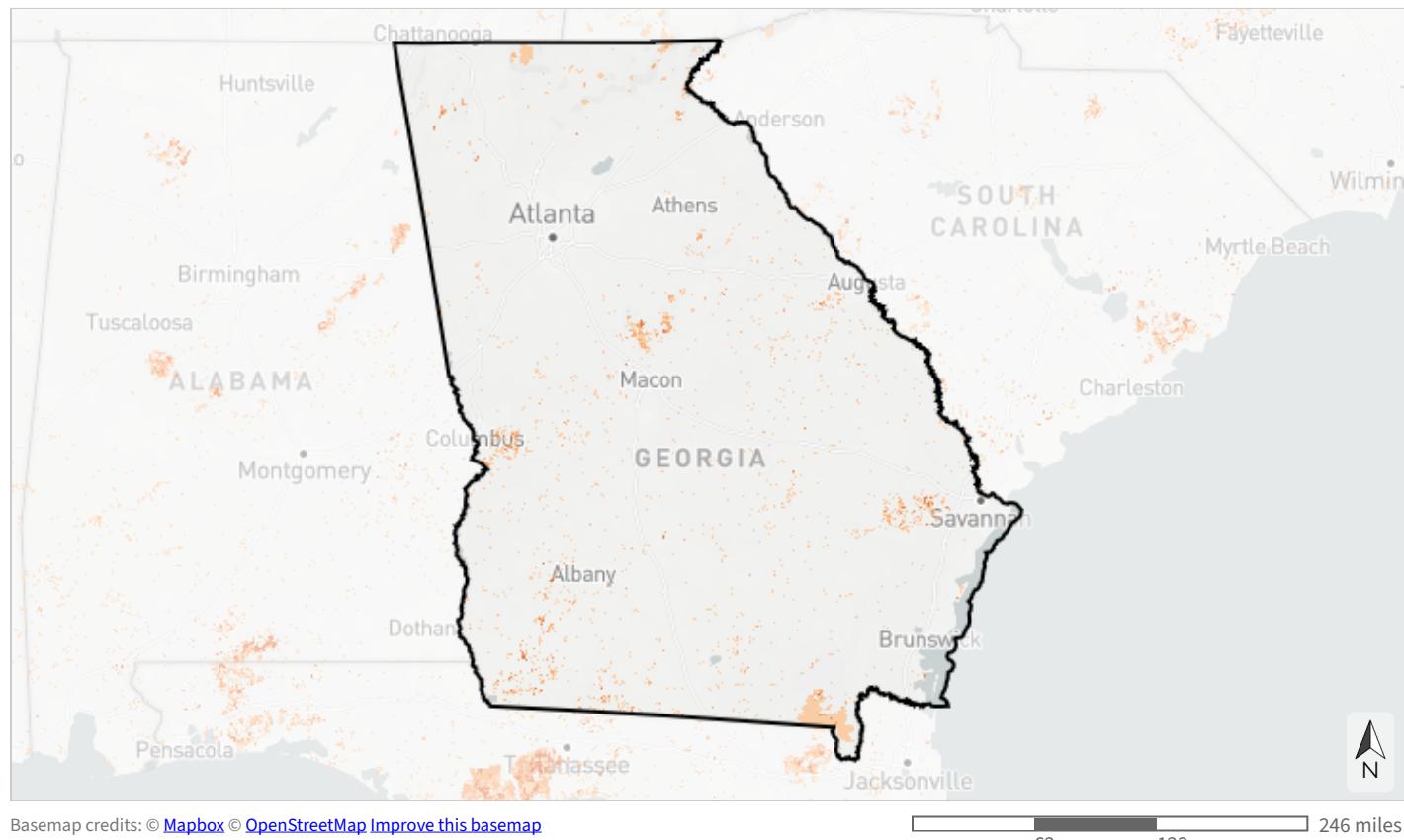


Table 9: Indicator values for fire frequency within Georgia. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

	Indicator Values	Acres	Percent of Area
↑ High	Burned 3+ times from 2013-2021	43,861	0.1%
	Burned 2 times from 2013-2021	195,872	0.5%
	Burned 1 time from 2013-2021	1,304,005	3.4%
↓ Low	Not burned from 2013-2021 or row crop	36,476,951	95.9%
	<i>Area not evaluated for this indicator</i>	10,004	<0.1%
Total area		38,030,692	100%

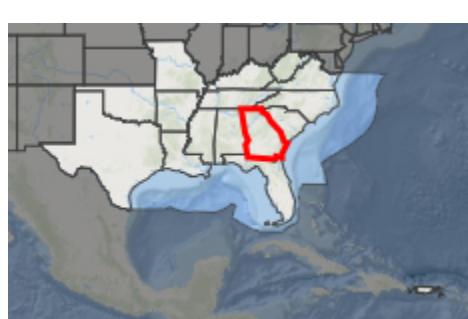
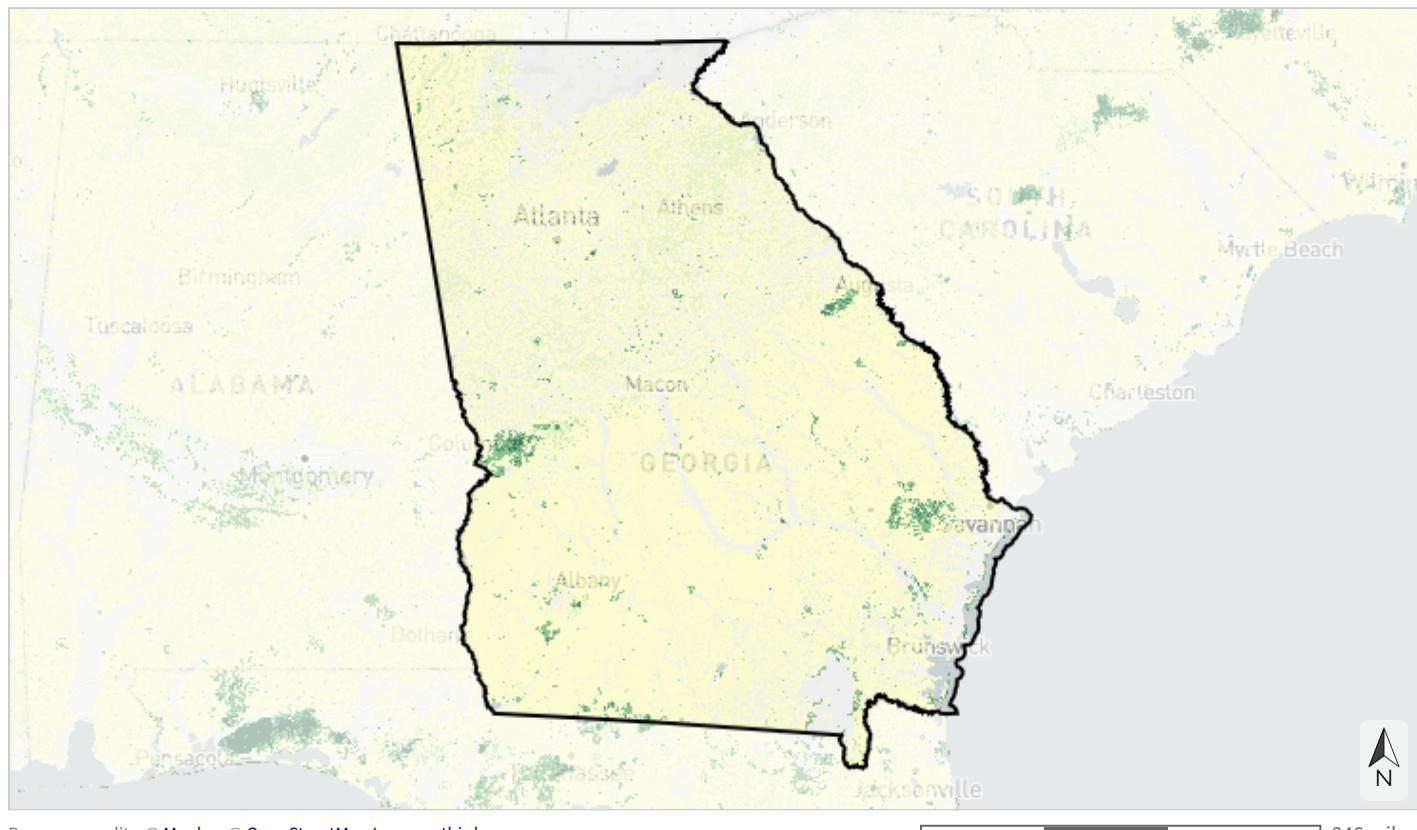
To learn more and explore the GIS data, [view this indicator in the SECAS Atlas](#).



Terrestrial

Grasslands and savannas

This indicator represents grasslands and savannas in the southeastern United States, which support important plants, reptiles, amphibians, mammals, birds, and pollinators. It considers known grassland and savanna locations, likely locations managed for biodiversity, and surrounding pollinator buffers. It also incorporates other potential grassland and savanna locations within natural and altered landscapes, and restoration opportunities within historic locations based on past fire intervals and historic ecosystem predictions. This indicator combines data from multiple sources, including the Southeastern Grasslands Institute, the National Land Cover Database, LANDFIRE biophysical settings, Oklahoma and Texas ecological systems maps, and more.



- Known grassland/savanna
- Likely grassland/savanna >10 acres
- Likely grassland/savanna ≤10 acres
- Pollinator buffer around known or likely grassland/savanna
- Potential grassland/savanna in mostly natural landscape
- Potential grassland/savanna in more altered landscape
- Historic grassland/savanna
- Not identified as grassland/savanna

Table 10: Indicator values for grasslands and savannas within Georgia. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

	Indicator Values	Acres	Percent of Area
↑ High	Known grassland/savanna	2,532	<0.1%
	Likely grassland/savanna >10 acres	163,456	0.4%
	Likely grassland/savanna ≤10 acres	54,619	0.1%
↓ Low	Pollinator buffer around known or likely grassland/savanna	646,755	1.7%
	Potential grassland/savanna in mostly natural landscape	806,193	2.1%
	Potential grassland/savanna in more altered landscape	4,025,582	10.6%
↓ Low	Historic grassland/savanna	21,582,226	56.7%
	Not identified as grassland/savanna	10,422,937	27.4%
	<i>Area not evaluated for this indicator</i>	326,391	0.9%
Total area		38,030,692	100%

To learn more and explore the GIS data, [view this indicator in the SECAS Atlas](#).



Terrestrial

Greenways & trails

This cultural resource indicator measures both the natural condition and connected length of greenways and trails to characterize the quality of the recreational experience. Natural condition is based on the amount of impervious surface surrounding the path. Connected length captures how far a person can go without leaving a dedicated path, based on common distances for walking, running, and biking. This indicator originates from OpenStreetMap data and the National Land Cover Database.

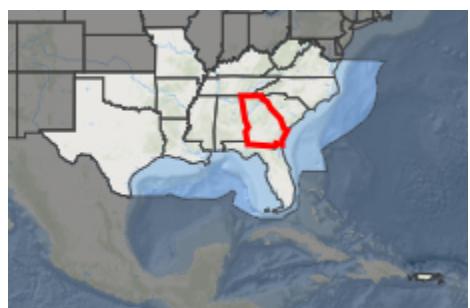


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246 miles

62

123



- Mostly natural and connected for ≥ 40 km
- Mostly natural and connected for 5 to < 40 km or partly natural and connected for ≥ 40 km
- Mostly natural and connected for 1.9 to < 5 km, partly natural and connected for 5 to < 40 km, or developed and connected for ≥ 40 km
- Mostly natural and connected for < 1.9 km, partly natural and connected for 1.9 to < 5 km, or developed and connected for 5 to < 40 km
- Partly natural and connected for < 1.9 km or developed and connected for 1.9 to < 5 km
- Developed and connected for < 1.9 km
- Sidewalk
- Not identified as a trail, sidewalk, or other path

Table 11: Indicator values for greenways & trails within Georgia. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

Indicator Values	Acres	Percent of Area
Mostly natural and connected for ≥ 40 km	10,327	<0.1%
Mostly natural and connected for 5 to <40 km or partly natural and connected for ≥ 40 km	17,769	<0.1%
Mostly natural and connected for 1.9 to <5 km, partly natural and connected for 5 to <40 km, or developed and connected for ≥ 40 km	13,472	<0.1%
Mostly natural and connected for <1.9 km, partly natural and connected for 1.9 to <5 km, or developed and connected for 5 to <40 km	9,968	<0.1%
Partly natural and connected for <1.9 km or developed and connected for 1.9 to <5 km	5,887	<0.1%
Developed and connected for <1.9 km	7,218	<0.1%
Sidewalk	36,308	<0.1%
Not identified as a trail, sidewalk, or other path	37,929,716	99.7%
<i>Area not evaluated for this indicator</i>	26	<0.1%
Total area	38,030,692	100%

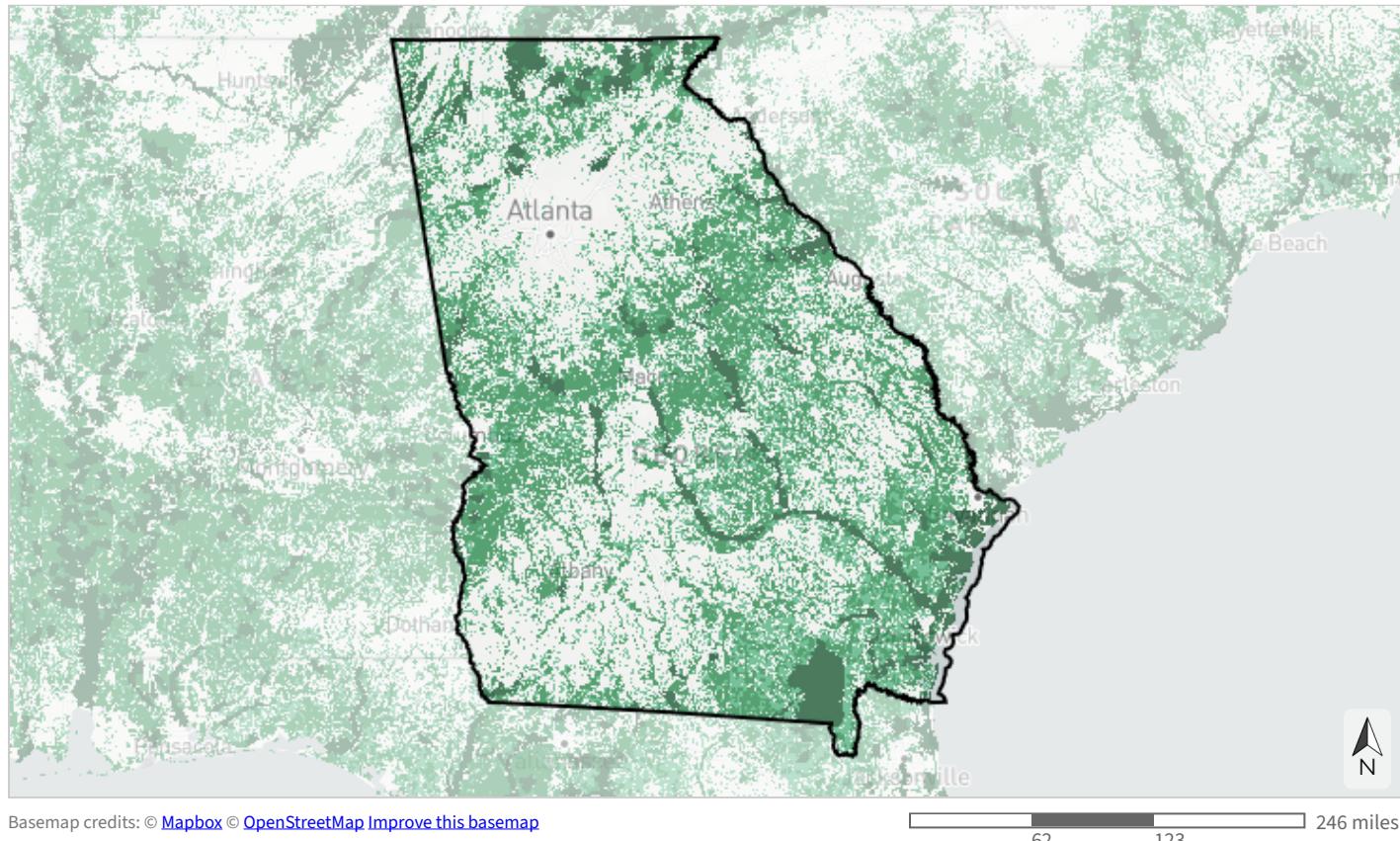
To learn more and explore the GIS data, [view this indicator in the SECAS Atlas](#).



Terrestrial

Intact habitat cores

This indicator represents the size of large, unfragmented patches of natural habitat. It identifies minimally disturbed natural areas at least 100 acres in size and greater than 200 meters wide. Large areas of intact natural habitat are important for many wildlife species, including reptiles and amphibians, birds, and large mammals. This indicator originates from Esri's green infrastructure data.



- Large core (>10,000 acres)
- Medium core (>1,000-10,000 acres)
- Small core (>100-1,000 acres)
- Not a core

Table 12: Indicator values for intact habitat cores within Georgia. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

	Indicator Values	Acres	Percent of Area
↑ High	Large core (>10,000 acres)	3,090,932	8.1%
	Medium core (>1,000-10,000 acres)	9,461,617	24.9%
	Small core (>100-1,000 acres)	6,105,800	16.1%
↓ Low	Not a core	19,372,317	50.9%
	<i>Area not evaluated for this indicator</i>	26	<0.1%
Total area		38,030,692	100%

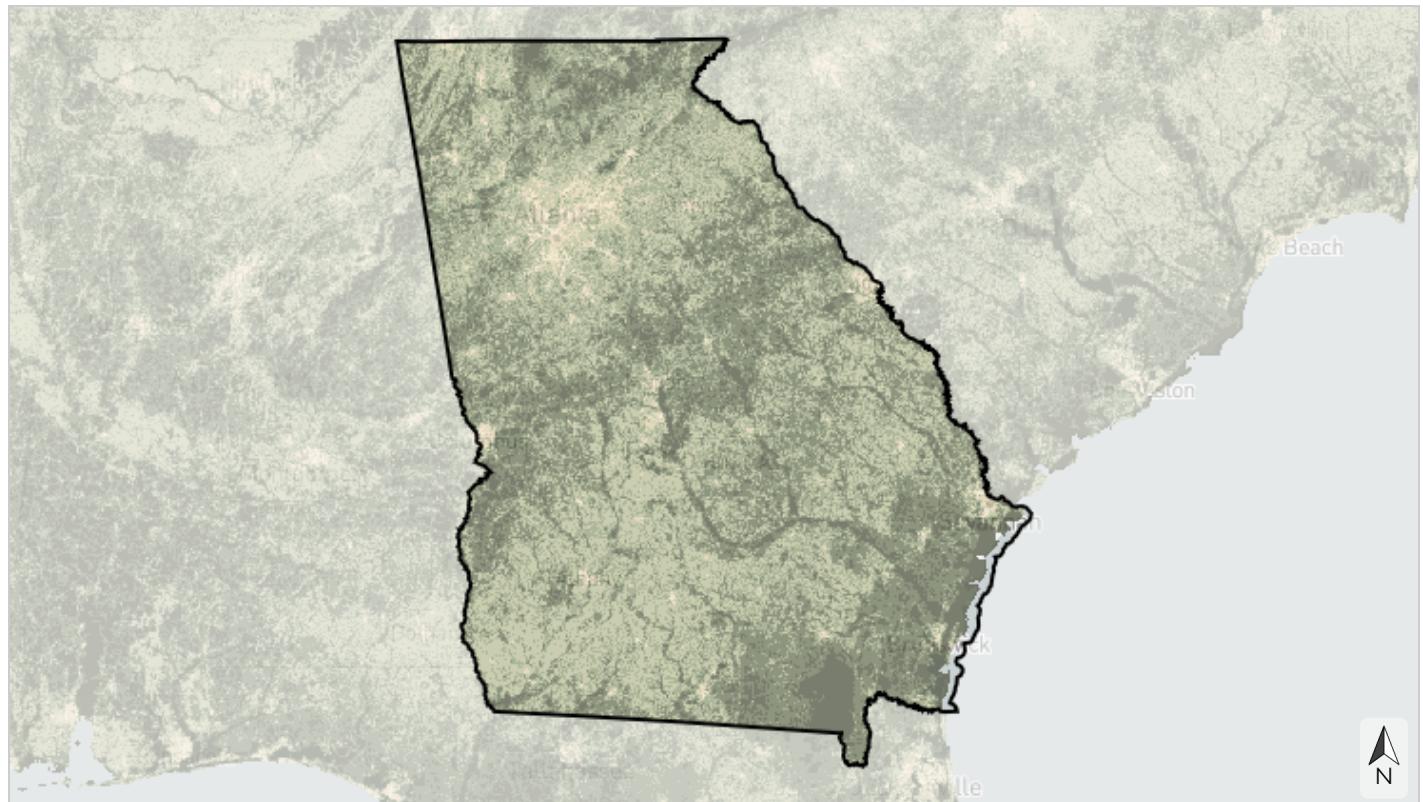
To learn more and explore the GIS data, [view this indicator in the SECAS Atlas](#).



Terrestrial

Landscape condition

This indicator represents natural areas with limited human alteration while also considering the naturalness of the surrounding landscape. Examples of human alteration include urban development and intense agricultural use. The degree of naturalness across the landscape is a key ecological condition for sustaining species and ecosystem services that are sensitive to habitat fragmentation at multiple scales. This indicator uses the National Land Cover Dataset, various data on grasslands, mines, and quarries, and ideas from the Florida Critical Lands and Waters Identification Project's approach for evaluating landscape integrity.



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- Very natural landscape
- Natural landscape
- Mostly natural landscape
- Partly natural landscape
- Altered landscape
- Heavily altered landscape

Table 13: Indicator values for landscape condition within Georgia. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

	Indicator Values	Acres	Percent of Area
↑ High	Very natural landscape	4,068,394	10.7%
	Natural landscape	11,601,371	30.5%
	Mostly natural landscape	11,572,477	30.4%
	Partly natural landscape	9,277,745	24.4%
↓ Low	Altered landscape	928,984	2.4%
	Heavily altered landscape	255,330	0.7%
	<i>Area not evaluated for this indicator</i>	326,391	0.9%
	Total area	38,030,692	100%

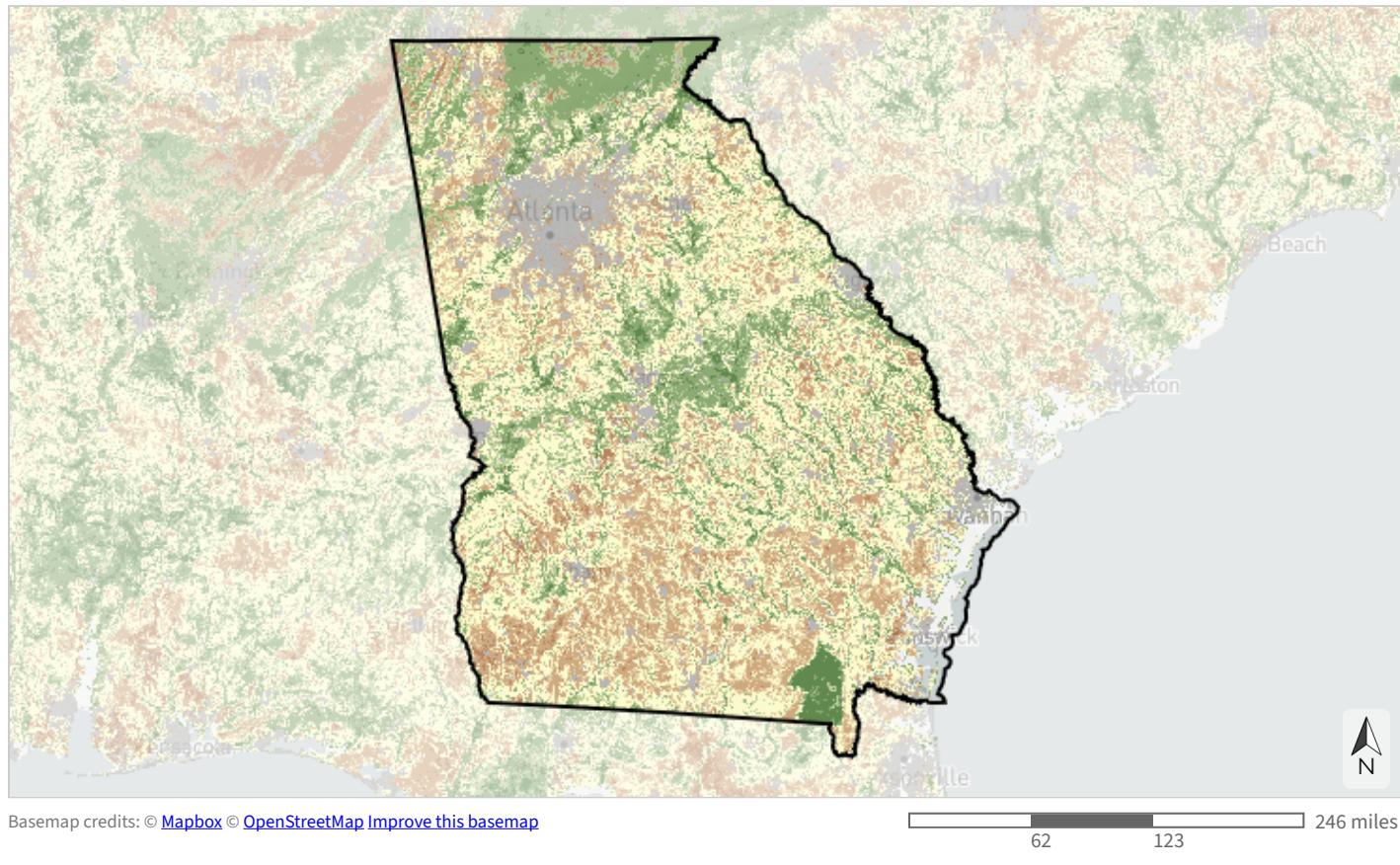
To learn more and explore the GIS data, [view this indicator in the SECAS Atlas](#).



Terrestrial

Resilient terrestrial sites

This indicator depicts an area's capacity to maintain species diversity and ecosystem function in the face of climate change. It measures two factors that influence resilience. The first, landscape diversity, reflects the number of microhabitats and climatic gradients created by topography, elevation, and hydrology. The second, local connectedness, reflects the degree of habitat fragmentation and strength of barriers to species movement. Highly resilient sites contain many different habitat niches that support biodiversity, and allow species to move freely through the landscape to find suitable microclimates as the climate changes. This indicator originates from The Nature Conservancy's Resilient Land data.



- Most resilient
- More resilient
- Slightly more resilient
- Average/median resilience
- Slightly less resilient
- Less resilient
- Least resilient
- Developed

Table 14: Indicator values for resilient terrestrial sites within Georgia. A good condition threshold is not yet defined for this indicator.

	Indicator Values	Acres	Percent of Area
↑ High	Most resilient	910,665	2.4%
	More resilient	4,505,234	11.8%
	Slightly more resilient	4,428,908	11.6%
	Average/median resilience	11,103,941	29.2%
	Slightly less resilient	5,137,885	13.5%
	Less resilient	4,597,852	12.1%
	Least resilient	706,274	1.9%
	Developed	4,688,478	12.3%
↓ Low	<i>Area not evaluated for this indicator</i>	1,951,455	5.1%
	Total area	38,030,692	100%

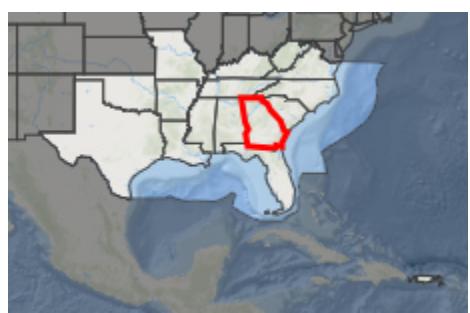
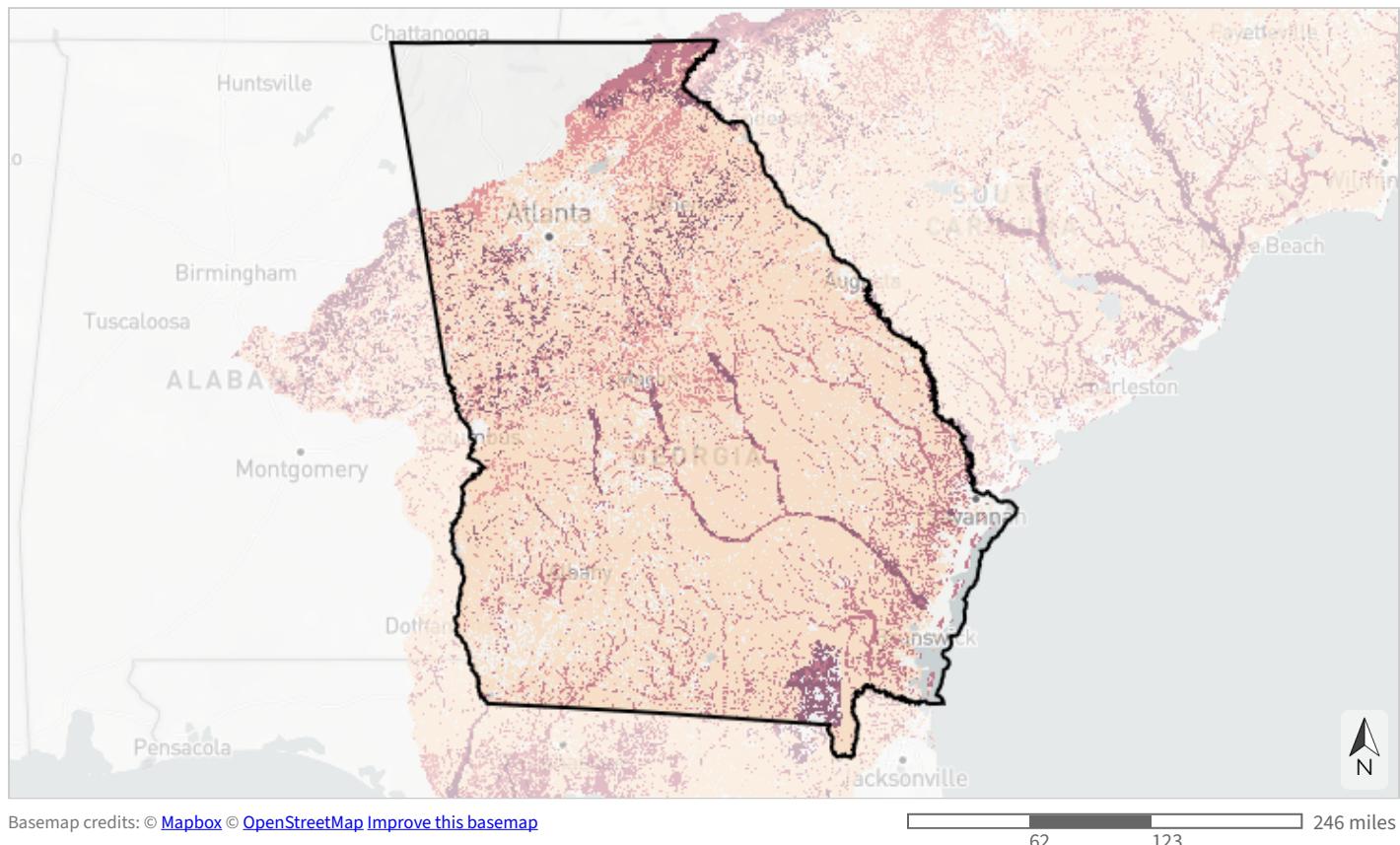
To learn more and explore the GIS data, [view this indicator in the SECAS Atlas](#).



Terrestrial

South Atlantic forest birds

This indicator is an index of habitat suitability for twelve upland hardwood and forested wetland bird species (wood thrush, whip-poor-will, American woodcock, red-headed woodpecker, Chuck-will's widow, hooded warbler, Kentucky warbler, Acadian flycatcher, Northern parula, black-throated green warbler, prothonotary warbler, Swainson's warbler) based on patch size and other ecosystem characteristics such as proximity to water and proximity to forest and ecotone edge. The needs of these species are increasingly restrictive at higher index values, reflecting better quality habitat. It originates from Southeast Gap Analysis Program and Designing Sustainable Landscapes bird habitat models.



Potential for presence of forest bird index species

- Very large patches near water (potential for Swainson's warbler)
- Large patches often near water (potential for Northern parula, black-throated green warbler, or Prothonotary warbler)
- Medium patches (potential for Acadian flycatcher)
- Small patches often near water (potential for hooded warbler or Kentucky warbler)
- Very small patches or near open areas (potential for wood thrush, whip-poor-will, red-headed woodpecker, Chuck-will's widow, or American woodcock)
- Less potential

Table 15: Indicator values for South Atlantic forest birds within Georgia. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

Indicator Values: Potential for presence of forest bird index species		Acres	Percent of Area
↑ High	Very large patches near water (potential for Swainson's warbler)	1,345,981	3.5%
	Large patches often near water (potential for Northern parula, black-throated green warbler, or Prothonotary warbler)	3,130,773	8.2%
	Medium patches (potential for Acadian flycatcher)	2,530,659	6.7%
	Small patches often near water (potential for hooded warbler or Kentucky warbler)	930,086	2.4%
			↑ In good condition
↓ Low	Very small patches or near open areas (potential for wood thrush, whip-poor-will, red-headed woodpecker, Chuck-will's widow, or American woodcock)	20,346,926	53.5%
	Less potential	6,471,137	17.0%
	<i>Area not evaluated for this indicator</i>	3,275,130	8.6%
Total area		38,030,692	100%

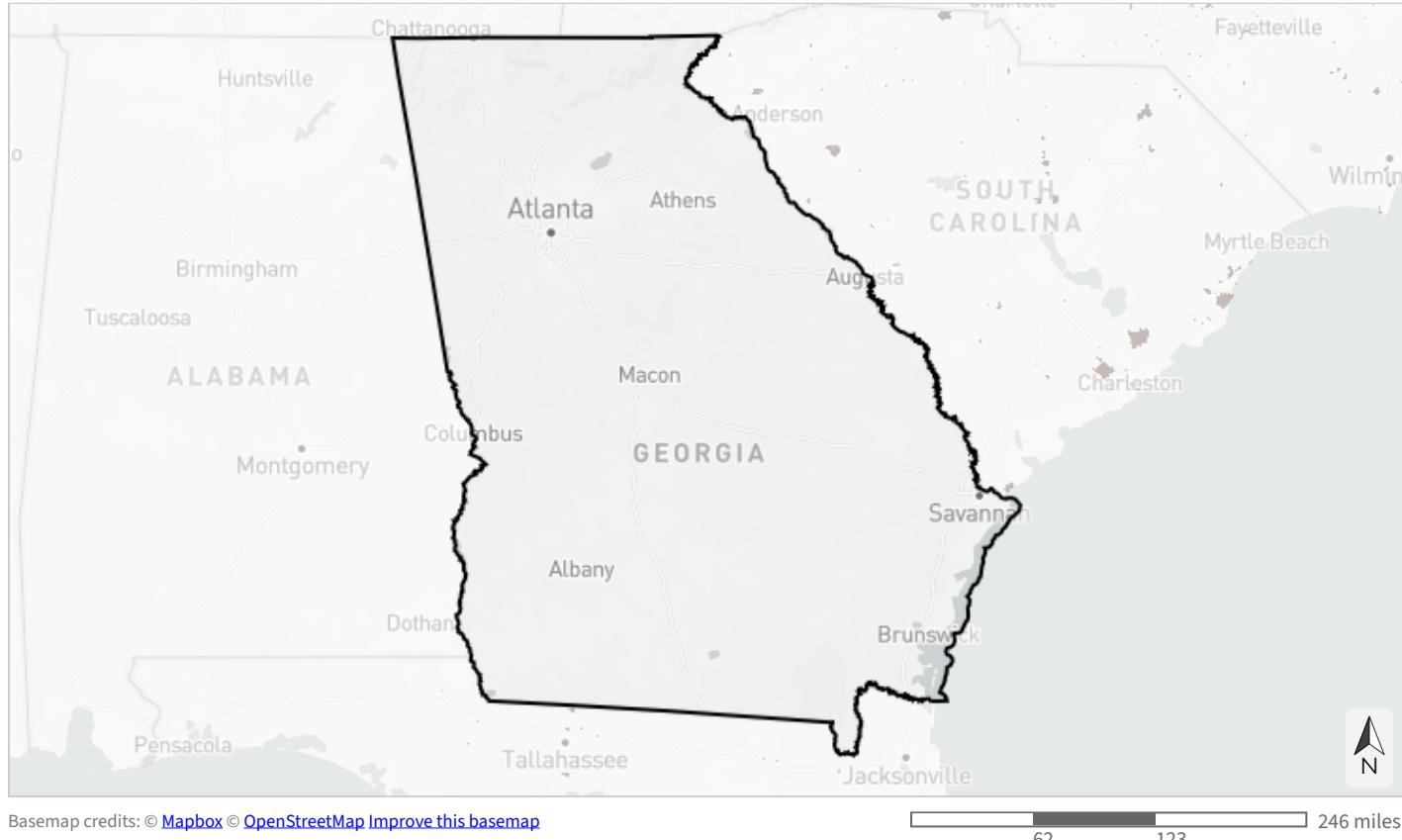
To learn more and explore the GIS data, [view this indicator in the SECAS Atlas](#).



Terrestrial

South Atlantic low-urban historic landscapes

This cultural resource indicator is an index of sites on the National Register of Historic Places surrounded by limited urban development. It identifies significant historic places that remain connected to their context in the natural world. It uses the National Land Cover Database and historic places data from the National Park Service and various state historic resource agencies.



- Historic place with nearby low-urban buffer
- Historic place with nearby high-urban buffer
- Not in the National Register of Historic Places

Table 16: Indicator values for South Atlantic low-urban historic landscapes within Georgia. A good condition threshold is not yet defined for this indicator.

	Indicator Values	Acres	Percent of Area
↑ High	Historic place with nearby low-urban buffer	1,942	<0.1%
	Historic place with nearby high-urban buffer	6,500	<0.1%
↓ Low	Not in the National Register of Historic Places	34,346,096	90.3%
	<i>Area not evaluated for this indicator</i>	3,676,155	9.7%
Total area		38,030,692	100%

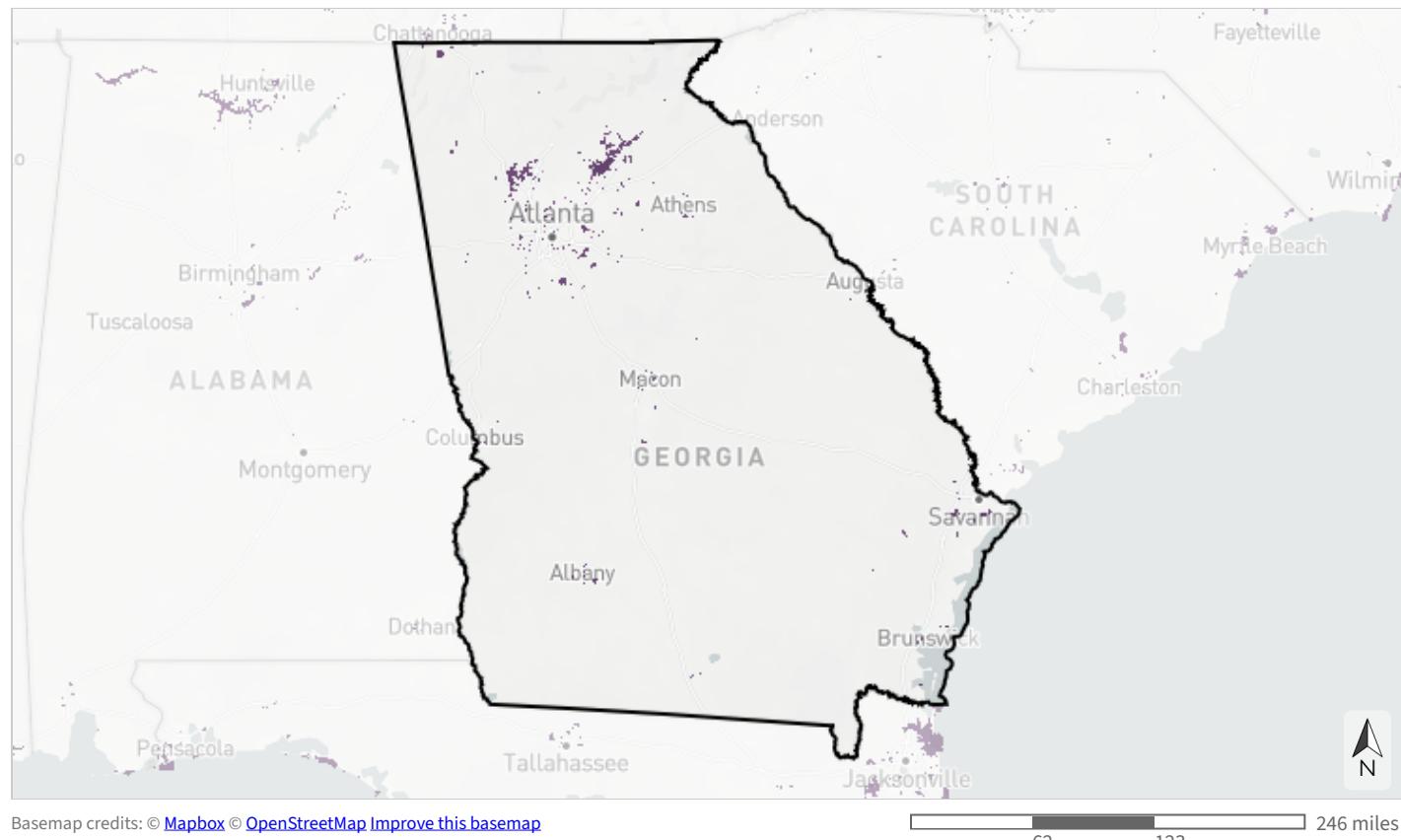
To learn more and explore the GIS data, [view this indicator in the SECAS Atlas](#).



Terrestrial

Urban park size

This cultural resource indicator measures the size of parks larger than 5 acres in the urban environment. Protected natural areas in urban environments provide urban residents a nearby place to connect with nature, and offer refugia for some species. This indicator complements the equitable access to potential parks indicator by capturing the value of existing parks. It originates from the Protected Areas Database of the United States, Census urban areas, and the National Land Cover Database.



- █ 75+ acre urban park
- █ 50 to <75 acre urban park
- █ 30 to <50 acre urban park
- █ 10 to <30 acre urban park
- █ 5 to <10 acre urban park
- █ <5 acre urban park
- █ Not identified as an urban park

Table 17: Indicator values for urban park size within Georgia. A good condition threshold is not yet defined for this indicator.

	Indicator Values	Acres	Percent of Area
↑ High	75+ acre urban park	234,143	0.6%
	50 to <75 acre urban park	9,013	<0.1%
	30 to <50 acre urban park	10,984	<0.1%
	10 to <30 acre urban park	14,976	<0.1%
	5 to <10 acre urban park	4,693	<0.1%
	<5 acre urban park	5,097	<0.1%
↓ Low	Not identified as an urban park	37,728,669	99.2%
	<i>Area not evaluated for this indicator</i>	23,118	<0.1%
Total area		38,030,692	100%

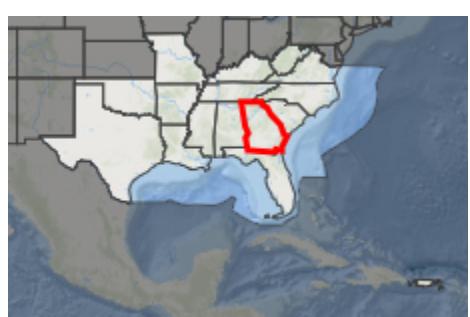
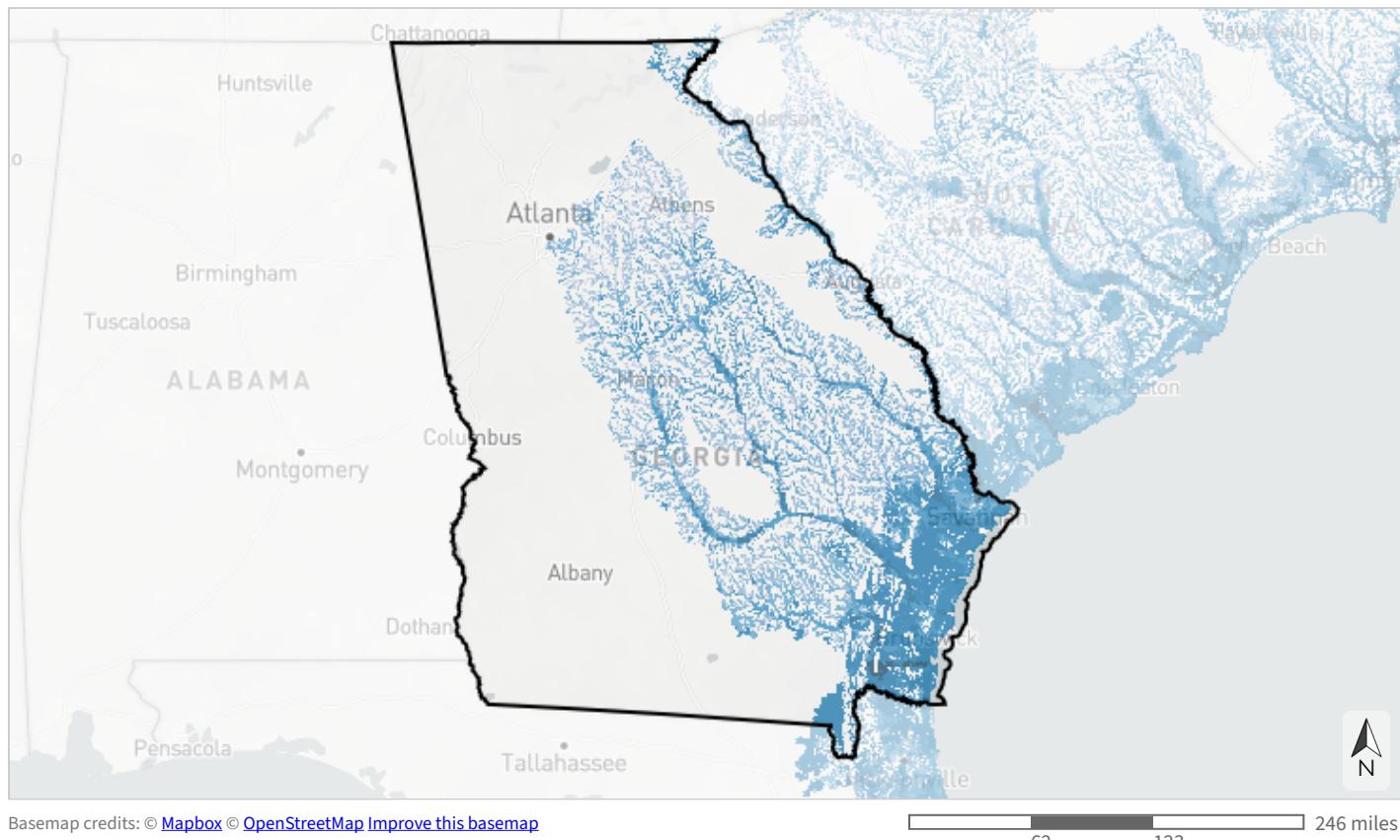
To learn more and explore the GIS data, [view this indicator in the SECAS Atlas](#).



Freshwater

Atlantic migratory fish habitat

This indicator measures the condition of migratory fish habitat along the Atlantic coast within each catchment, using metrics of water quality, aquatic connectivity, habitat fragmentation, flow alteration, and more. Areas of excellent fish habitat are already in good condition and face few threats. Restoration opportunity areas are doing well in some respects, but restoration projects could significantly improve them. Degraded areas of opportunity face many challenges, and restoration projects are unlikely to increase available fish habitat unless particularly large in scope and scale. This indicator originates from the Atlantic Coast Fish Habitat Partnership's fish habitat conservation area mapping and prioritization project.



- Final score of 80 (areas of excellent fish habitat)
- Final score of 70 (areas of excellent fish habitat)
- Final score of 60 (restoration opportunity areas)
- Final score of 50 (restoration opportunity areas)
- Final score of 40 (restoration opportunity areas)
- Final score of 30 (restoration opportunity areas)
- Final score of 20 (restoration opportunity areas)
- Final score of 10 (degraded areas of opportunity)
- Final score of 0 (degraded areas of opportunity)

Table 18: Indicator values for Atlantic migratory fish habitat within Georgia. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

Indicator Values	Acres	Percent of Area
Final score of 80 (areas of excellent fish habitat)	57,497	0.2%
Final score of 70 (areas of excellent fish habitat)	228,695	0.6%
Final score of 60 (restoration opportunity areas)	1,178,953	3.1%
Final score of 50 (restoration opportunity areas)	563,259	1.5%
Final score of 40 (restoration opportunity areas)	437,278	1.1%
Final score of 30 (restoration opportunity areas)	389,798	1.0%
Final score of 20 (restoration opportunity areas)	118,565	0.3%
Final score of 10 (degraded areas of opportunity)	24,259	<0.1%
Final score of 0 (degraded areas of opportunity)	1,029	<0.1%
<i>Area not evaluated for this indicator</i>	35,031,358	92.1%
Total area	38,030,692	100%

To learn more and explore the GIS data, [view this indicator in the SECAS Atlas](#).



Freshwater

Gulf migratory fish connectivity

This indicator captures how far upstream migratory fish in the Gulf of Mexico have been observed. How far upstream migratory fish can travel reflects not just the presence of dams and other barriers, but also the presence of measures like fish ladders that allow specific species to access habitat upstream of dams. This indicator originates from The Nature Conservancy's Southeast Aquatic Connectivity Assessment Project and applies to the Environmental Protection Agency's estimated floodplain, which spatially defines areas estimated to be inundated by a 100-year flood (also known as the 1% annual chance flood).



- Presence of Gulf sturgeon
- Presence of Alabama shad, American shad, or striped bass
- Not identified as Gulf migratory fish habitat (east of the Mississippi River)

Table 19: Indicator values for Gulf migratory fish connectivity within Georgia. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

	Indicator Values	Acres	Percent of Area
↑ High	Presence of Gulf sturgeon	26,519	<0.1%
	Presence of Alabama shad, American shad, or striped bass	52,339	0.1%
↓ Low	Not identified as Gulf migratory fish habitat (east of the Mississippi River)	17,077,083	44.9%
	<i>Area not evaluated for this indicator</i>	20,874,751	54.9%
Total area		38,030,692	100%

↑ In good condition

↓ Not in good condition

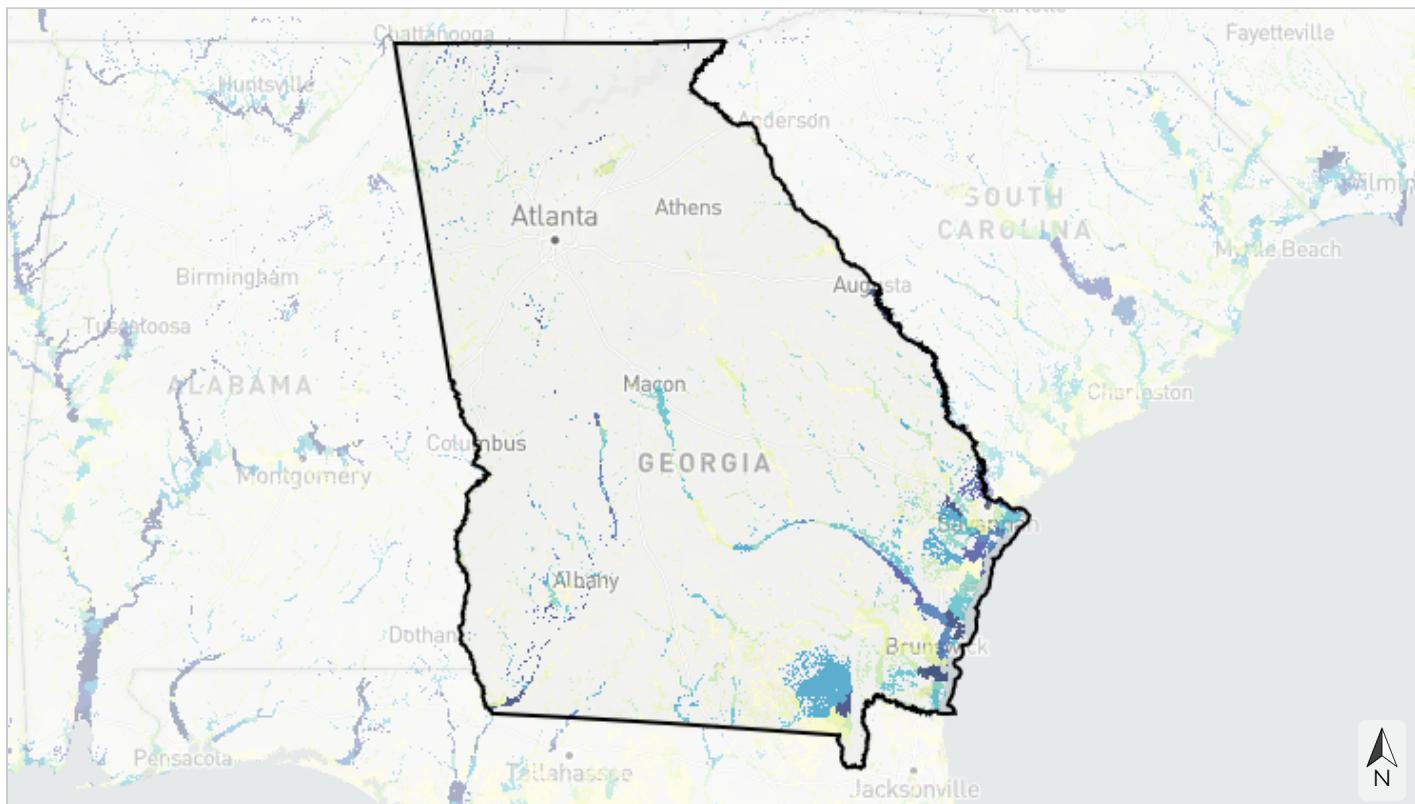
To learn more and explore the GIS data, [view this indicator in the SECAS Atlas](#).



Freshwater

Imperiled aquatic species

This indicator measures the number of aquatic animal Regional Species of Greatest Conservation Need (RSGCN) observed within each 12-digit HUC subwatershed, including fish, mussels, snails, crayfish, and amphibians. RSGCN are regional priority species derived from the list of SGCN identified in Southeast State Wildlife Action Plans as most in need of conservation action. RSGCN were chosen based on consistent criteria, such as level of conservation concern, regional stewardship responsibility, and ecological significance. This indicator originates from state Natural Heritage Program data collected by the Southeast Aquatic Resources Partnership and applies to the Environmental Protection Agency's estimated floodplain, which spatially defines areas estimated to be inundated by a 100-year flood (also known as the 1% annual chance flood).



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62 123 246 miles



Number of aquatic animal Regional Species of Greatest Conservation Need (RSGCN) observed

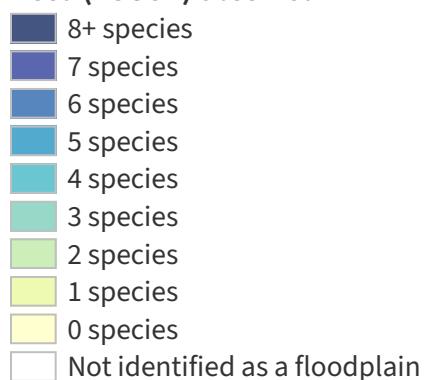


Table 20: Indicator values for imperiled aquatic species within Georgia. A good condition threshold is not yet defined for this indicator.

	Indicator Values: Number of aquatic animal Regional Species of Greatest Conservation Need (RSGCN) observed	Acres	Percent of Area
↑ High	8+ species	312,040	0.8%
	7 species	178,550	0.5%
	6 species	200,369	0.5%
	5 species	548,793	1.4%
	4 species	494,016	1.3%
	3 species	402,968	1.1%
	2 species	681,863	1.8%
	1 species	1,152,211	3.0%
	0 species	1,618,167	4.3%
	Not identified as a floodplain	32,021,974	84.2%
↓ Low	<i>Area not evaluated for this indicator</i>	419,742	1.1%
	Total area	38,030,692	100%

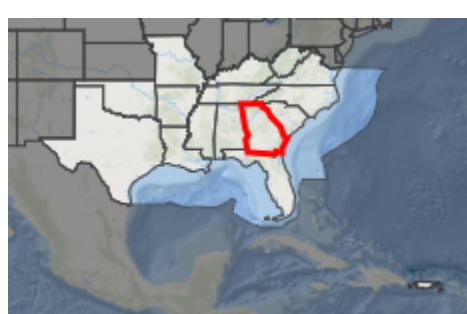
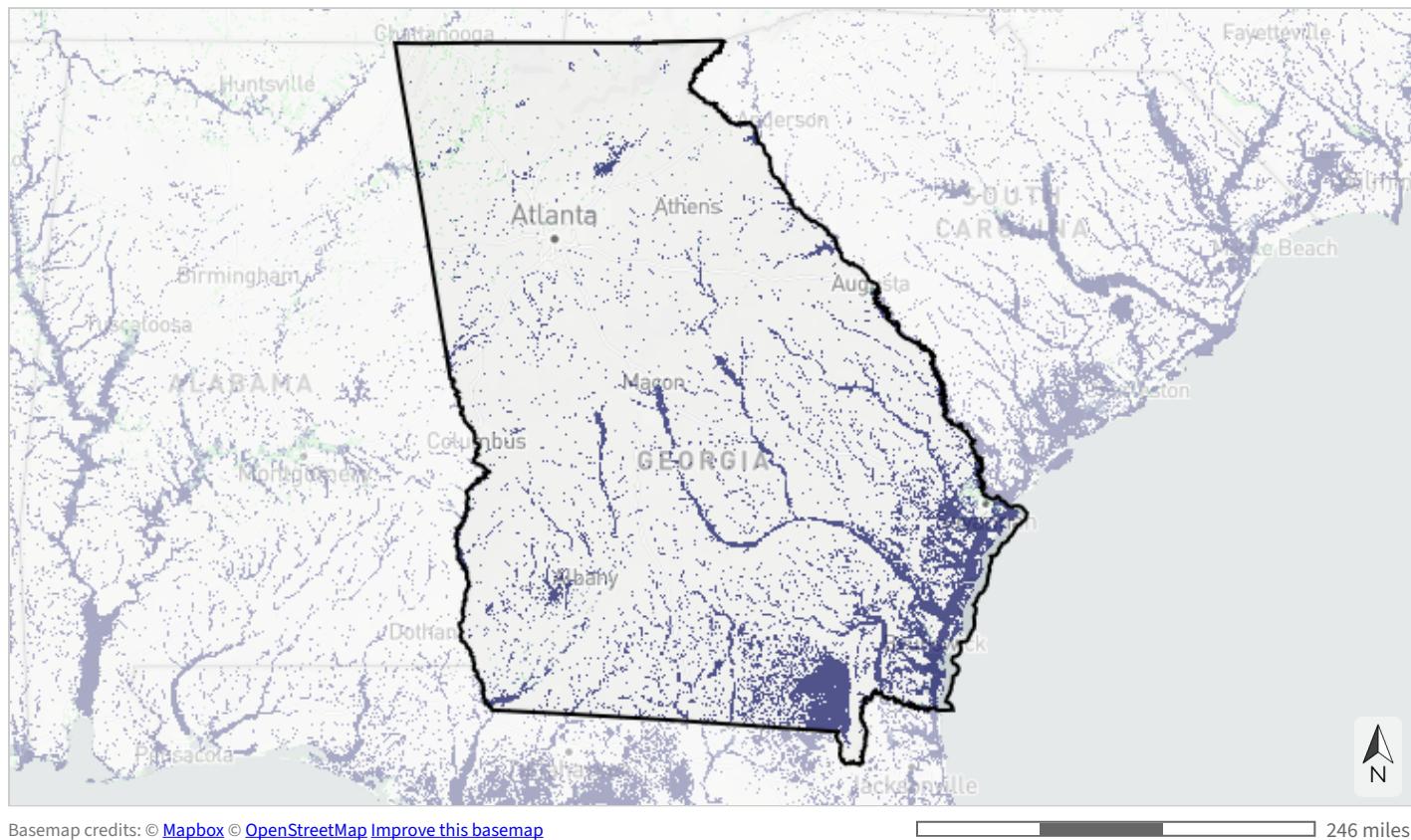
To learn more and explore the GIS data, [view this indicator in the SECAS Atlas](#).



Freshwater

Natural landcover in floodplains

This indicator measures the amount of natural landcover in the estimated floodplain of rivers and streams within each catchment. It assesses the stream channel and its surrounding riparian buffer, measuring the percent of unaltered habitat like forests, wetlands, or open water (rather than agriculture or development). Intact vegetated buffers within the floodplain of rivers and streams provide aquatic habitat, improve water quality, reduce erosion and flooding, recharge groundwater, and more. This indicator originates from the National Land Cover Database and applies to the Environmental Protection Agency's estimated floodplain, which spatially defines areas estimated to be inundated by a 100-year flood (also known as the 1% annual chance flood).



Percent natural landcover within the estimated floodplain, by catchment

- >90% natural landcover
- >80-90% natural landcover
- >70-80% natural landcover
- >60-70% natural landcover
- ≤60% natural landcover
- Not identified as a floodplain

Table 21: Indicator values for natural landcover in floodplains within Georgia. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

Indicator Values: Percent natural landcover within the estimated floodplain, by catchment		Acres	Percent of Area
↑ High	>90% natural landcover	4,803,927	12.6%
	>80-90% natural landcover	310,762	0.8%
	>70-80% natural landcover	140,791	0.4%
	>60-70% natural landcover	92,925	0.2%
	≤60% natural landcover	276,746	0.7%
	Not identified as a floodplain	32,065,073	84.3%
	<i>Area not evaluated for this indicator</i>	340,467	0.9%
Total area		38,030,692	100%

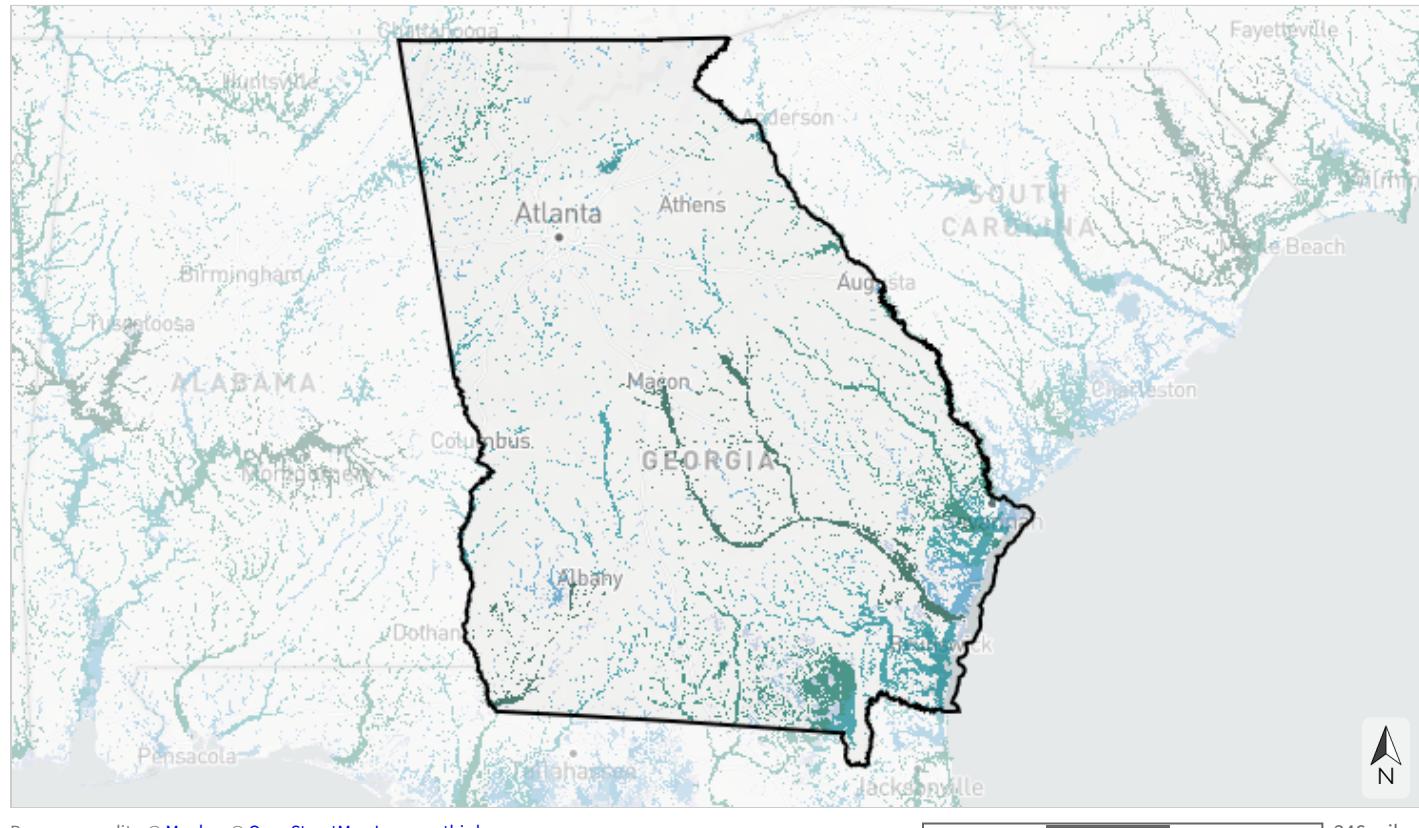
To learn more and explore the GIS data, [view this indicator in the SECAS Atlas](#).



Freshwater

Network complexity

This indicator depicts the number of connected stream size classes in a river network between dams or waterfalls. River networks with a variety of connected stream classes help retain aquatic biodiversity in a changing climate by allowing species to access climate refugia and move between habitats. This indicator originates from the Southeast Aquatic Resources Partnership and applies to the Environmental Protection Agency's estimated floodplain, which spatially defines areas estimated to be inundated by a 100-year flood (also known as the 1% annual chance flood).



Number of connected stream size classes

- 7 size classes
- 6 size classes
- 5 size classes
- 4 size classes
- 3 size classes
- 2 size classes
- 1 size class
- Not identified as a floodplain

Table 22: Indicator values for network complexity within Georgia. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

	Indicator Values: Number of connected stream size classes	Acres	Percent of Area
↑ High	7 size classes	773,481	2.0%
	6 size classes	1,516,122	4.0%
	5 size classes	1,772,200	4.7%
	4 size classes	456,126	1.2%
	3 size classes	340,920	0.9%
	2 size classes	470,037	1.2%
	1 size class	293,611	0.8%
	Not identified as a floodplain	32,065,776	84.3%
↓ Low	<i>Area not evaluated for this indicator</i>	342,419	0.9%
	Total area	38,030,692	100%

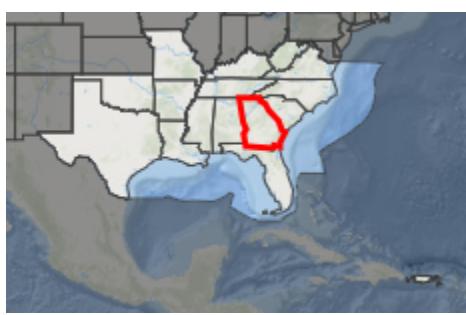
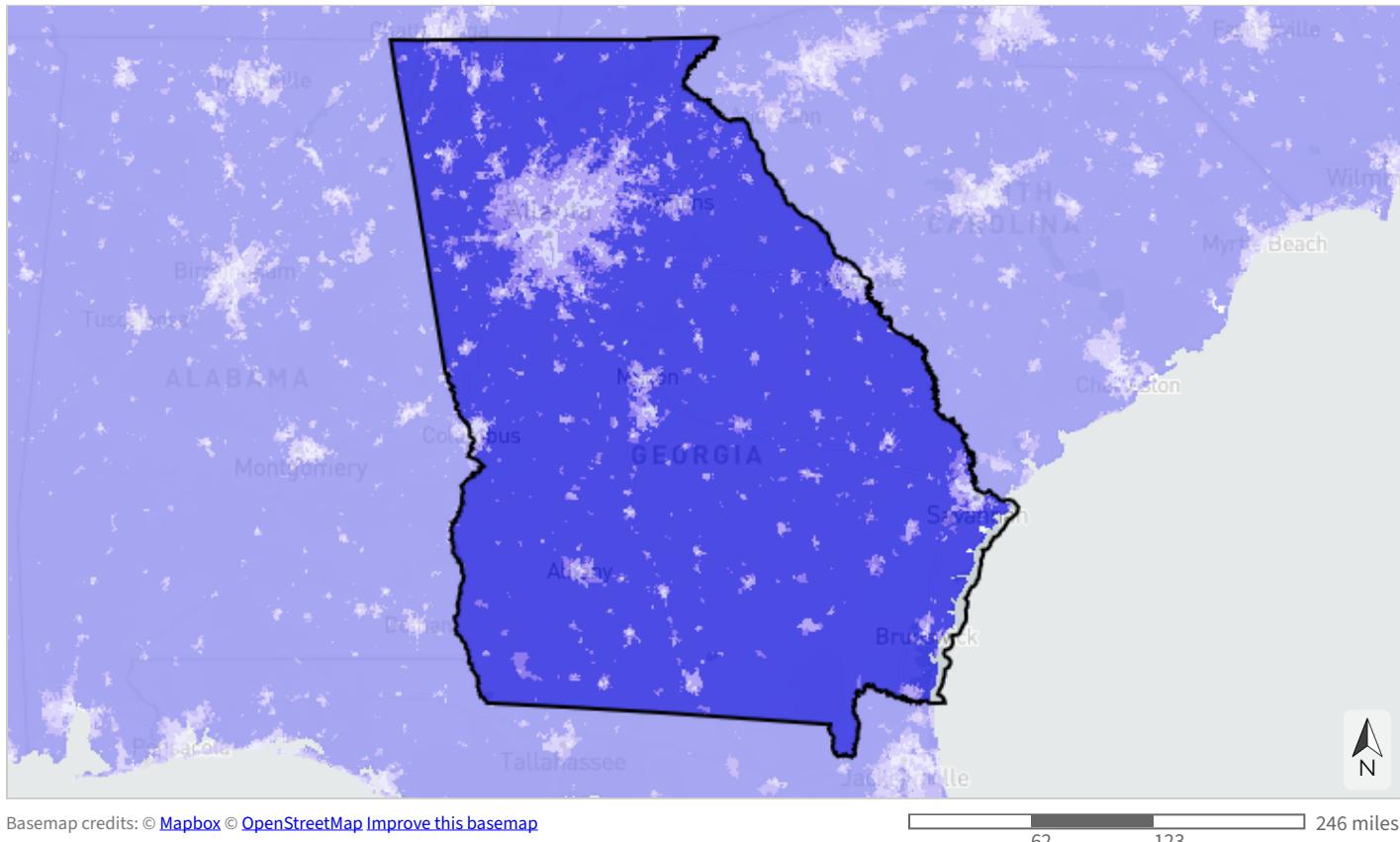
To learn more and explore the GIS data, [view this indicator in the SECAS Atlas](#).



Freshwater

Permeable surface

This indicator measures the average percent of non-impervious cover within each catchment. High levels of impervious surface degrade water quality and alter freshwater flow, impacting both aquatic species communities and ecosystem services for people, like the availability of clean drinking water. This indicator originates from the National Land Cover Database.



Percent of catchment permeable

- >95% permeable (likely high water quality and supporting most sensitive aquatic species)
- >90-95% permeable (likely declining water quality and supporting most aquatic species)
- >70-90% permeable (likely degraded water quality and not supporting many aquatic species)
- ≤70% permeable (likely degraded instream flow, water quality, and aquatic species communities)

Table 23: Indicator values for permeable surface within Georgia. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

	Indicator Values: Percent of catchment permeable	Acres	Percent of Area	
↑ High	>95% permeable (likely high water quality and supporting most sensitive aquatic species)	32,946,000	86.6%	↑ In good condition
	>90-95% permeable (likely declining water quality and supporting most aquatic species)	1,825,034	4.8%	↓ Not in good condition
	>70-90% permeable (likely degraded water quality and not supporting many aquatic species)	2,308,657	6.1%	
↓ Low	≤70% permeable (likely degraded instream flow, water quality, and aquatic species communities)	610,508	1.6%	
	<i>Area not evaluated for this indicator</i>	340,492	0.9%	
	Total area	38,030,692	100%	

To learn more and explore the GIS data, [view this indicator in the SECAS Atlas](#).



Coastal & marine

Atlantic coral & hardbottom

This indicator predicts the presence of coral and hardbottom in the Atlantic Ocean based on direct observations, distribution models, and known locations of artificial reefs and shipwrecks. The models use hardbottom observations and a suite of environmental predictors including measures of depth, seafloor topography and substrate, oceanography, and geography. Hardbottom provides an anchor for important seafloor habitats such as deep-sea corals, plants, and sponges, providing valuable structure that supports a wide range of invertebrate and fish species. This indicator combines data from multiple sources, including The Nature Conservancy's South Atlantic Bight Marine Assessment, several National Oceanic and Atmospheric Administration datasets, Florida state data, and more.



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Scale: 62 123 246 miles
N



- Confirmed hardbottom-associated species (corals, sponges)
- Confirmed natural hardbottom
- Artificial reefs
- Shipwrecks
- Predicted cold-water coral mounds (Blake Plateau)
- Highest probability of hardbottom (>80th percentile)
- High probability of hardbottom (>60th-80th percentile)
- Medium probability of hardbottom (>40th-60th percentile)
- Not identified as hardbottom

Table 24: Indicator values for Atlantic coral & hardbottom within Georgia. A good condition threshold is not yet defined for this indicator.

	Indicator Values	Acres	Percent of Area
↑ High	Confirmed hardbottom-associated species (corals, sponges)	0	0%
	Confirmed natural hardbottom	0	0%
	Artificial reefs	670	<0.1%
	Shipwrecks	878	<0.1%
	Predicted cold-water coral mounds (Blake Plateau)	0	0%
	Highest probability of hardbottom (>80th percentile)	0	0%
	High probability of hardbottom (>60th-80th percentile)	0	0%
	Medium probability of hardbottom (>40th-60th percentile)	232	<0.1%
↓ Low	Not identified as hardbottom	948,043	2.5%
	<i>Area not evaluated for this indicator</i>	37,080,869	97.5%
Total area		38,030,692	100%

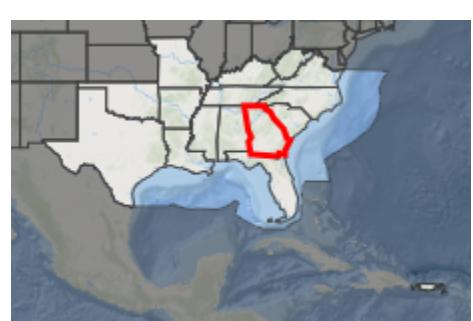
To learn more and explore the GIS data, [view this indicator in the SECAS Atlas](#).



Coastal & marine

Atlantic estuarine fish habitat

This indicator measures the condition of estuarine fish habitat along the Atlantic coast using metrics of water quality, marsh edges, seagrass and oyster reefs, fragmentation, human development, and more. Areas of excellent fish habitat are already in good condition and face few threats. Restoration opportunity areas are doing well in some respects, but restoration projects could significantly improve them. Degraded areas of opportunity face many challenges, and restoration projects are unlikely to increase available fish habitat unless particularly large in scope and scale. This indicator originates from the Atlantic Coast Fish Habitat Partnership's fish habitat conservation area mapping and prioritization project.



- Final score of 80 (areas of excellent fish habitat)
- Final score of 70 (areas of excellent fish habitat)
- Final score of 60 (restoration opportunity areas)
- Final score of 50 (restoration opportunity areas)
- Final score of 40 (restoration opportunity areas)
- Final score of 30 (restoration opportunity areas)
- Final score of 20 (restoration opportunity areas)
- Final score of 10 (degraded areas of opportunity)
- Final score of 0 (degraded areas of opportunity)

Table 25: Indicator values for Atlantic estuarine fish habitat within Georgia. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

	Indicator Values	Acres	Percent of Area
↑ High	Final score of 80 (areas of excellent fish habitat)	2,952	<0.1%
	Final score of 70 (areas of excellent fish habitat)	15,300	<0.1%
	Final score of 60 (restoration opportunity areas)	59,683	0.2%
	Final score of 50 (restoration opportunity areas)	169,394	0.4%
	Final score of 40 (restoration opportunity areas)	287,312	0.8%
	Final score of 30 (restoration opportunity areas)	161,177	0.4%
	Final score of 20 (restoration opportunity areas)	57,145	0.2%
	Final score of 10 (degraded areas of opportunity)	11,643	<0.1%
	Final score of 0 (degraded areas of opportunity)	0	0%
	<i>Area not evaluated for this indicator</i>	37,266,086	98.0%
Total area		38,030,692	100%

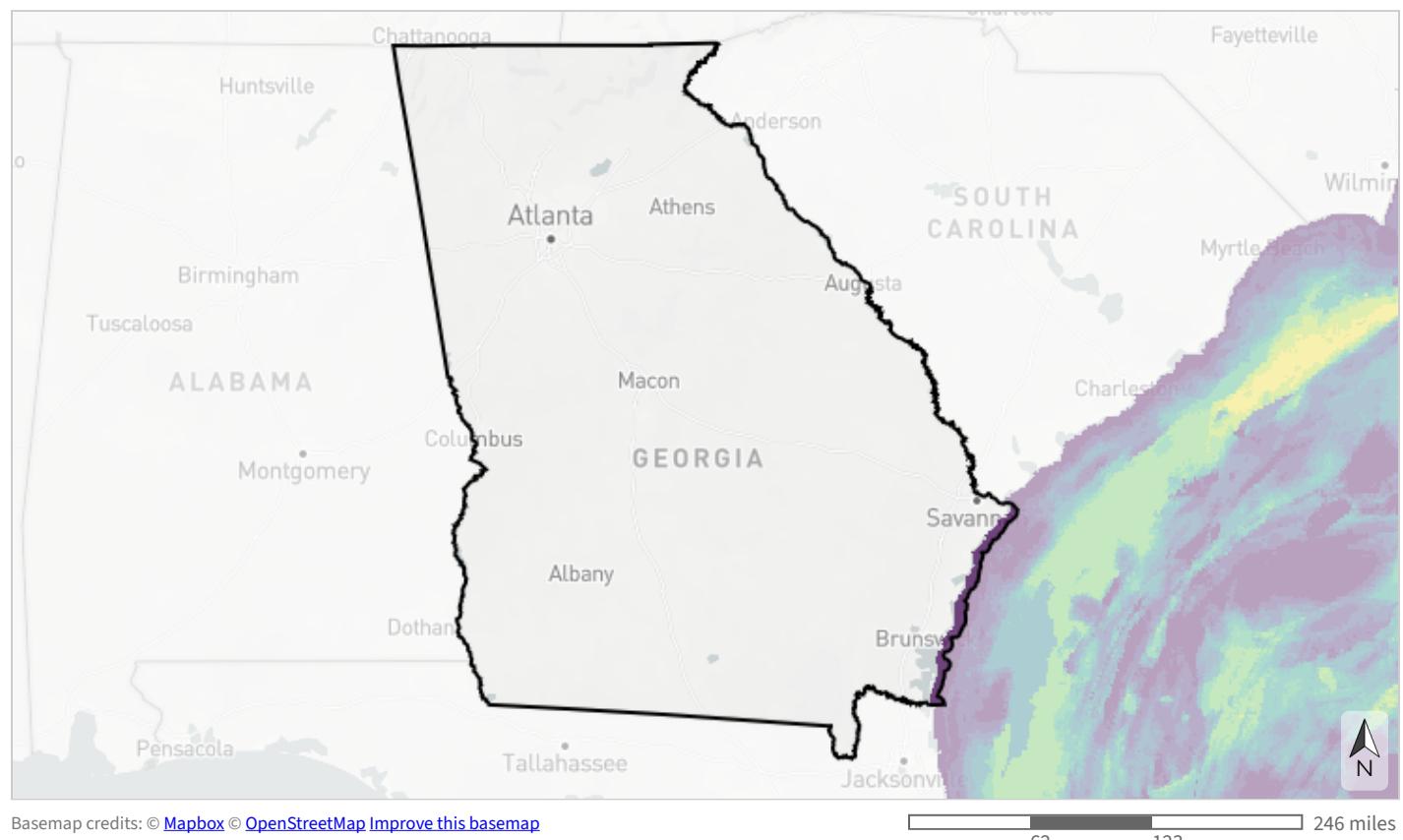
To learn more and explore the GIS data, [view this indicator in the SECAS Atlas](#).



Coastal & marine

Atlantic marine birds

This indicator identifies important areas in the Atlantic Ocean for birds that feed exclusively or mainly at sea. It uses seasonal predictions of relative abundance for 19 species of marine birds (Audubon's shearwater, band-rumped storm petrel, black-capped petrel, black scoter, Bonaparte's gull, bridled tern, brown pelican, common loon, common tern, Cory's shearwater, great shearwater, Manx shearwater, Northern gannet, parasitic jaeger, red-throated loon, royal tern, sooty shearwater, sooty tern, white-winged scoter) based on sightings from boat-based surveys and marine environmental data like fronts, primary productivity, and ocean currents. This indicator originates from Duke University's Marine-life Data and Analysis Team marine bird models.



Percentile of importance for marine bird index species (across the full East Coast study area)

- >90th percentile
- >80th-90th percentile
- >70th-80th percentile
- >60th-70th percentile
- >50th-60th percentile
- >40th-50th percentile
- >30th-40th percentile
- >20th-30th percentile
- >10th-20th percentile
- ≤10th percentile
- Land

Table 26: Indicator values for Atlantic marine birds within Georgia. A good condition threshold is not yet defined for this indicator.

	Indicator Values: Percentile of importance for marine bird index species (across the full East Coast study area)	Acres	Percent of Area
↑ High	>90th percentile	256,989	0.7%
	>80th-90th percentile	0	0%
	>70th-80th percentile	0	0%
	>60th-70th percentile	0	0%
	>50th-60th percentile	0	0%
	>40th-50th percentile	0	0%
	>30th-40th percentile	0	0%
	>20th-30th percentile	0	0%
	>10th-20th percentile	0	0%
	≤10th percentile	0	0%
↓ Low	Land	2,155	<0.1%
	<i>Area not evaluated for this indicator</i>	37,771,548	99.3%
Total area		38,030,692	100%

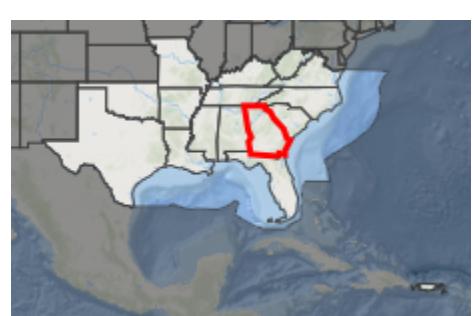
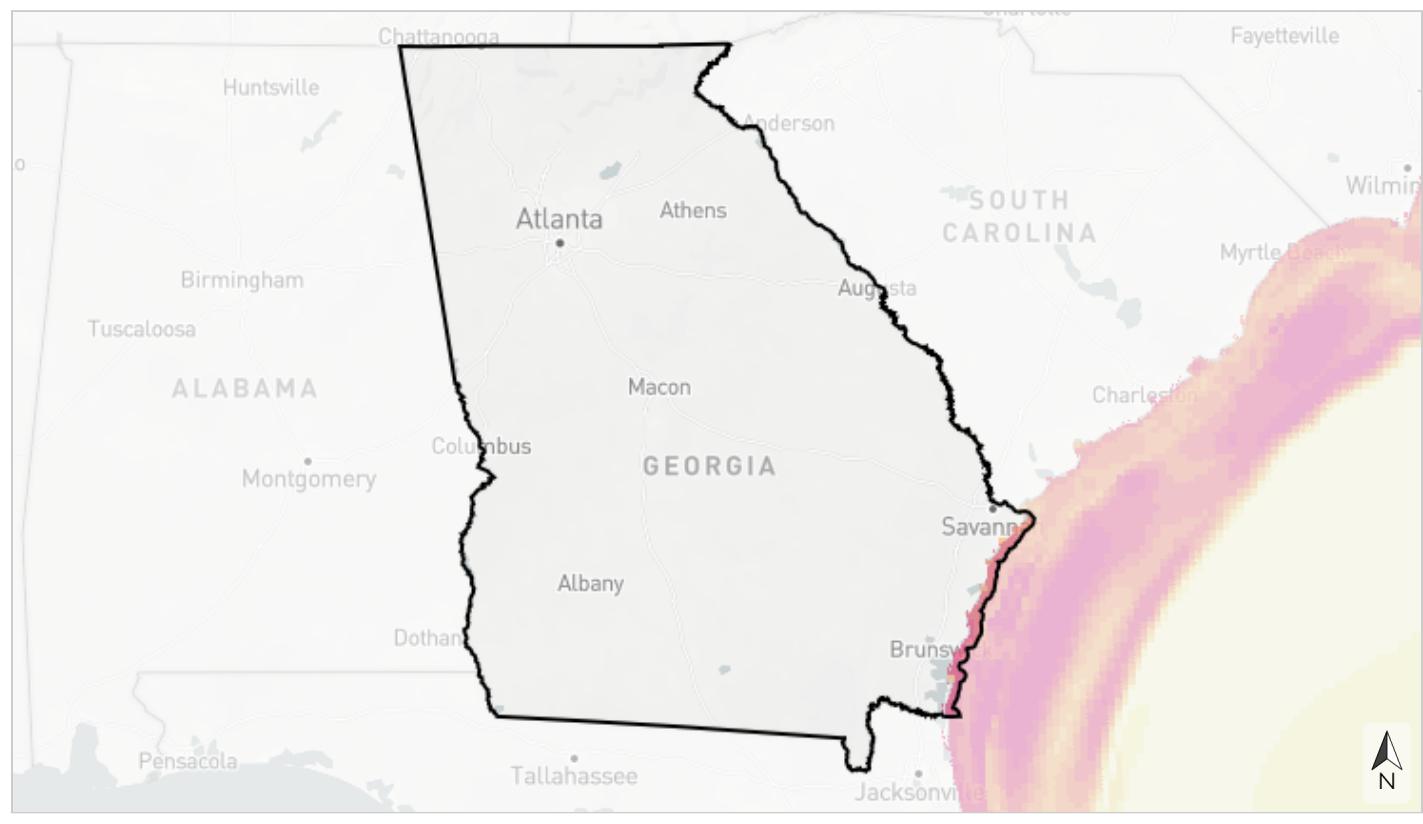
To learn more and explore the GIS data, [view this indicator in the SECAS Atlas](#).



Coastal & marine

Atlantic marine mammals

This indicator identifies important areas in the Atlantic Ocean for dolphins, whales, and seals. It incorporates density predictions for 20 marine mammal species or species groups (Atlantic spotted dolphin, Atlantic white-sided dolphin, Clymene dolphin, common bottlenose dolphin, Cuvier's beaked whale, dwarf and pygmy sperm whales, fin whale, harbor porpoise, humpback whale, mesoplodont beaked whales, North Atlantic right whale, pantropical spotted dolphin, pilot whales, Risso's dolphin, rough-toothed dolphin, seals, short-beaked common dolphin, sperm whale, striped dolphin, unidentified beaked whales) based on sightings from boat-based and aerial surveys and data on oceanographic conditions. It uses marine mammal models developed by the Duke Marine Lab.



Percentile of importance for marine mammal index species (across the full East Coast study area)

- >90th percentile
- >80th-90th percentile
- >70th-80th percentile
- >60th-70th percentile
- >50th-60th percentile
- >40th-50th percentile
- >30th-40th percentile
- >20th-30th percentile
- >10th-20th percentile
- ≤10th percentile
- Land

Table 27: Indicator values for Atlantic marine mammals within Georgia. A good condition threshold is not yet defined for this indicator.

	Indicator Values: Percentile of importance for marine mammal index species (across the full East Coast study area)	Acres	Percent of Area
↑ High	>90th percentile	0	0%
	>80th-90th percentile	103,262	0.3%
	>70th-80th percentile	149,568	0.4%
	>60th-70th percentile	42,779	0.1%
	>50th-60th percentile	6,749	<0.1%
	>40th-50th percentile	8,039	<0.1%
	>30th-40th percentile	1,060	<0.1%
	>20th-30th percentile	0	0%
	>10th-20th percentile	0	0%
	≤10th percentile	0	0%
	Land	50,804	0.1%
↓ Low	<i>Area not evaluated for this indicator</i>	37,668,432	99.0%
	Total area	38,030,692	100%

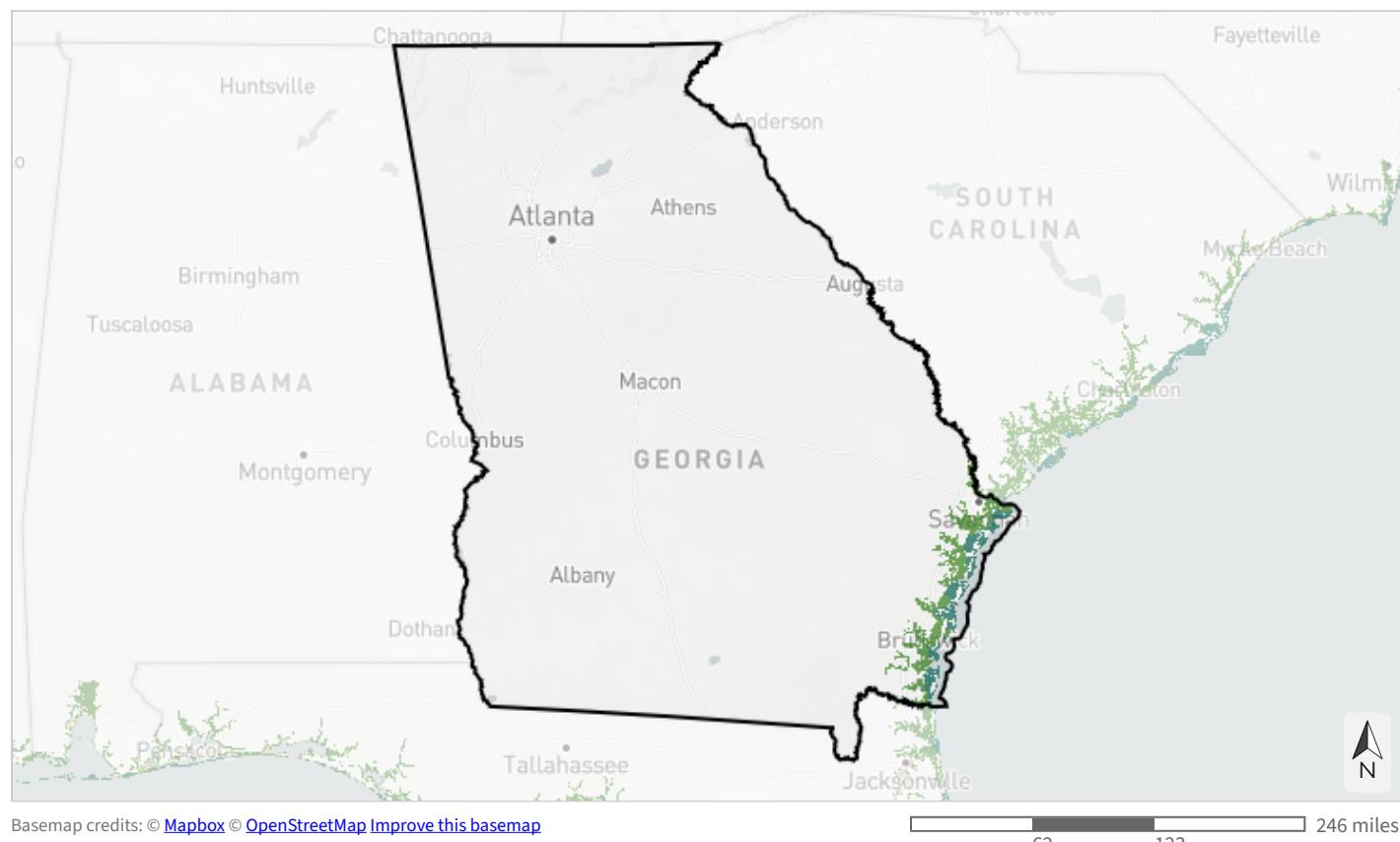
To learn more and explore the GIS data, [view this indicator in the SECAS Atlas](#).



Coastal & marine

Coastal shoreline condition

This indicator assesses shoreline condition based on the presence of hardened structures like jetties, groins, and riprap, as well as other human development. By restricting the natural movement of sediment, shoreline armoring increases erosion, prevents the inland migration of coastal ecosystems in response to sea-level rise, and degrades habitat for birds, sea turtles, fish, plants, and other species both on and offshore. Natural shorelines in harder-to-develop coastal areas receive the highest shoreline condition scores, while hardened shorelines receive the lowest scores. This indicator originates from the National Oceanic and Atmospheric Administration's Environmental Sensitivity Index dataset.



- Natural and harder to develop
- Natural
- Partially armored and harder to develop
- Partially armored
- Armored

Table 28: Indicator values for coastal shoreline condition within Georgia. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

	Indicator Values	Acres	Percent of Area
↑ High	Natural and harder to develop	24,347	<0.1%
	Natural	53,558	0.1%
	Partially armored and harder to develop	33	<0.1%
↓ Low	Partially armored	331	<0.1%
	Armored	949	<0.1%
	<i>Area not evaluated for this indicator</i>	37,951,475	99.8%
Total area		38,030,692	100%

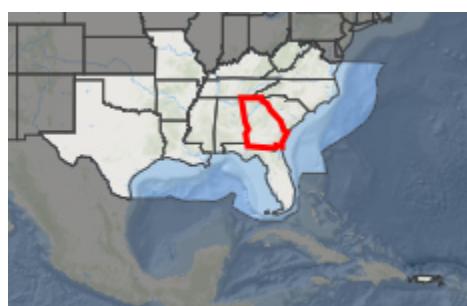
To learn more and explore the GIS data, [view this indicator in the SECAS Atlas](#).



Coastal & marine

Estuarine coastal condition

This indicator combines measures of water quality, sediment quality, contaminants in fish tissue, and benthic community condition to create an overall index of coastal estuarine condition. Estuaries serve as important nursery habitat for wildlife, including many species of fish and shellfish eaten as seafood. They also improve water quality by filtering out sediments and pollutants, provide recreational opportunities, and support coastal economies. This indicator originates from the Environmental Protection Agency's National Coastal Condition Assessment data.



- Good
- Fair to good
- Fair
- Poor to fair
- Poor
- Shallow estuary not assessed for condition

Table 29: Indicator values for estuarine coastal condition within Georgia. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

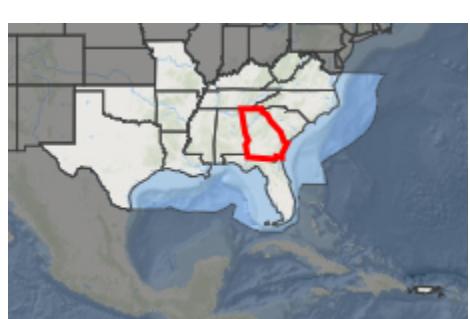
	Indicator Values	Acres	Percent of Area
↑ High	Good	39,971	0.1%
	Fair to good	371,624	1.0%
	Fair	20,884	<0.1%
	Poor to fair	570	<0.1%
	Poor	0	0%
	Shallow estuary not assessed for condition	22,187	<0.1%
↓ Low	<i>Area not evaluated for this indicator</i>	37,575,457	98.8%
	Total area	38,030,692	100%

To learn more and explore the GIS data, [view this indicator in the SECAS Atlas](#).



Coastal & marine Island habitat

This indicator represents important habitat for coastal island-dependent species across the Southeast. Because the isolation of islands can make them ecologically unique and protect them from disturbance and mainland predators, they often serve as important habitat for many species of mammals, plants, and insects, as well as breeding coastal birds and sea turtles. The highest scores go to island critical habitat for six threatened and endangered animal and plant species: piping plover, loggerhead sea turtle, Cape Sable thoroughwort, Florida semaphore cactus, silver rice rat, and Bartram's hairstreak butterfly. This indicator uses U.S. Fish and Wildlife Service critical habitat data and island boundaries from the U.S. Geological Survey and Esri.



- █ Island critical habitat for any of six threatened and endangered species (piping plover, loggerhead sea turtle, Cape Sable thoroughwort, Florida semaphore cactus, silver rice rat, or Bartram's hairstreak butterfly)
- █ Other island area
- █ Not a coastal island

Table 30: Indicator values for island habitat within Georgia. A good condition threshold is not yet defined for this indicator.

	Indicator Values	Acres	Percent of Area
↑ High	Island critical habitat for any of six threatened and endangered species (piping plover, loggerhead sea turtle, Cape Sable thoroughwort, Florida semaphore cactus, silver rice rat, or Bartram's hairstreak butterfly)	11,021	<0.1%
	Other island area	234,499	0.6%
↓ Low	Not a coastal island	2,835,804	7.5%
	<i>Area not evaluated for this indicator</i>	34,949,368	91.9%
Total area		38,030,692	100%

To learn more and explore the GIS data, [view this indicator in the SECAS Atlas](#).



Coastal & marine

Marine highly migratory fish

This indicator identifies important foraging and spawning areas for highly migratory fish in the Atlantic Ocean and Gulf of Mexico. It uses physical capture and satellite tag observations, remote sensing of environmental variables, and physical oceanographic data to analyze the habitat preferences of three species (skipjack tuna, bluefin tuna, and blue shark) at various life stages. It originates from European Commission Joint Research Centre global fish models.



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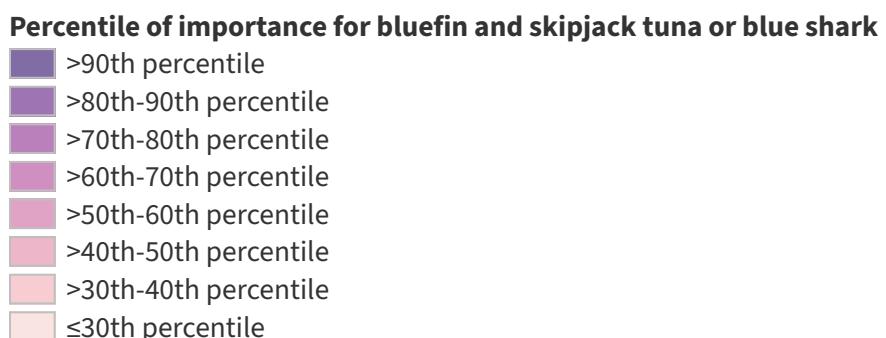


Table 31: Indicator values for marine highly migratory fish within Georgia. A good condition threshold is not yet defined for this indicator.

Indicator Values: Percentile of importance for bluefin and skipjack tuna or blue shark		Acres	Percent of Area
↑ High	>90th percentile	0	0%
	>80th-90th percentile	0	0%
	>70th-80th percentile	0	0%
	>60th-70th percentile	1.3	<0.1%
	>50th-60th percentile	0	0%
	>40th-50th percentile	0	0%
	>30th-40th percentile	0	0%
	≤30th percentile	0	0%
<i>Area not evaluated for this indicator</i>		38,030,691	100.0%
Total area		38,030,692	100%

To learn more and explore the GIS data, [view this indicator in the SECAS Atlas](#).



Coastal & marine

Resilient coastal sites

This indicator depicts the capacity of coastal habitats to migrate to adjacent lowlands in order to sustain biodiversity and natural services under increasing inundation from sea-level rise. It is based on the physical and condition characteristics of current tidal complexes, their predicted migration space, and surrounding buffer areas. These characteristics include marsh complex size, shared edge with migration space, sediment balance, water quality, natural landcover, landform diversity, and more. This indicator originates from The Nature Conservancy's Resilient Coastal Sites project.



- Most resilient
- More resilient
- Slightly more resilient
- Average/median resilience
- Slightly less resilient
- Less resilient
- Least resilient

Table 32: Indicator values for resilient coastal sites within Georgia. A good condition threshold is not yet defined for this indicator.

		Indicator Values	Acres	Percent of Area
↑ High	Most resilient		0	0%
	More resilient		512,349	1.3%
	Slightly more resilient		212,783	0.6%
	Average/median resilience		26,495	<0.1%
	Slightly less resilient		548	<0.1%
	Less resilient		1,108	<0.1%
	Least resilient		3,110	<0.1%
↓ Low		<i>Area not evaluated for this indicator</i>	37,274,299	98.0%
		Total area	38,030,692	100%

To learn more and explore the GIS data, [view this indicator in the SECAS Atlas](#).



Coastal & marine

South Atlantic beach birds

This indicator is an index of habitat suitability for four shorebird species (American oystercatcher, Wilson's plover, least tern, piping plover) in the South Atlantic, based on observed abundance. It assesses beaches and nearby onshore habitats. Shorebirds' relative use of beaches and neighboring habitats for nesting, foraging, and breeding is an indicator of ecosystem health and quality. This indicator combines bird data from the U.S. Geological Survey and state waterbird biologists in FL, GA, SC, and NC.



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Percentile of importance for beach bird index species

- >80th percentile
- >60th-80th percentile
- >40th-60th percentile
- >20th-40th percentile
- ≤20th percentile
- Open water or not identified as a priority

Table 33: Indicator values for South Atlantic beach birds within Georgia. A good condition threshold is not yet defined for this indicator.

	Indicator Values: Percentile of importance for beach bird index species	Acres	Percent of Area
↑ High	>80th percentile	8,720	<0.1%
	>60th-80th percentile	9,870	<0.1%
	>40th-60th percentile	5,503	<0.1%
	>20th-40th percentile	6,352	<0.1%
	≤20th percentile	3,435	<0.1%
↓ Low	Open water or not identified as a priority	1,427,753	3.8%
	<i>Area not evaluated for this indicator</i>	36,569,059	96.2%
Total area		38,030,692	100%

To learn more and explore the GIS data, [view this indicator in the SECAS Atlas](#).



Coastal & marine

South Atlantic maritime forest

This indicator depicts the maritime forest currently present in the South Atlantic. Since maritime forest has been substantially reduced from its historic extent, protecting the remaining acreage is particularly important. This ecosystem supports a unique suite of plants that tolerate wind, salt, and flooding, as well as many species of birds, mammals, and reptiles. It also helps buffer the coastline from storms. This indicator originates from LANDFIRE landcover.



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Maritime forest
 Not identified as maritime forest

Table 34: Indicator values for South Atlantic maritime forest within Georgia. A good condition threshold is not yet defined for this indicator.

	Indicator Values	Acres	Percent of Area
↑ High	Maritime forest	69,189	0.2%
↓ Low	Not identified as maritime forest	1,332,141	3.5%
	<i>Area not evaluated for this indicator</i>	36,629,362	96.3%
Total area		38,030,692	100%

To learn more and explore the GIS data, [view this indicator in the SECAS Atlas](#).



Coastal & marine

Stable coastal wetlands

This indicator uses remote sensing to calculate the unvegetated-vegetated ratio of tidal wetlands, which compares how much of a wetland is not covered by plants (e.g., sediment, rocks, open water) to how much is covered by plants. Marshes that maintain a higher proportion of vegetation tend to be more stable and resilient to threats like sea-level rise, erosion, and coastal development. This ratio, and how it changes over time, is a good surrogate for salt marsh degradation processes like sediment loss and conversion to open water. This indicator originates from a U.S. Geological Survey project on an unvegetated to vegetated ratio for coastal wetlands.



- █ Stable coastal wetlands
- █ Other coastal wetlands
- █ Not identified as coastal wetlands

Table 35: Indicator values for stable coastal wetlands within Georgia. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

	Indicator Values	Acres	Percent of Area
↑ High	Stable coastal wetlands	216,532	0.6%
	Other coastal wetlands	283,501	0.7%
↓ Low	Not identified as coastal wetlands	1,336,848	3.5%
	<i>Area not evaluated for this indicator</i>	36,193,811	95.2%
Total area		38,030,692	100%

↑ In good condition

↓ Not in good condition

To learn more and explore the GIS data, [view this indicator in the SECAS Atlas](#).

Threats

Sea-level rise

NOAA's sea-level rise (SLR) inundation models represent areas likely to experience flooding at high tide based on each foot of SLR above current levels. Darker blue areas will experience flooding first, and at greater depth, compared to lighter blue areas. These models are not linked to a future timeframe; see the projections below. NOAA calculates the inundation footprint at "mean higher high water", or the average highest daily tide. The area covered in each SLR scenario includes areas projected to be inundated at lower levels. For example, the area inundated by 4 ft of SLR also includes areas inundated by 3 ft, 2 ft, 1 ft, and 0 ft of SLR (where 0 ft represents current levels).

To explore additional SLR information, please see NOAA's [Sea Level Rise Viewer](#).

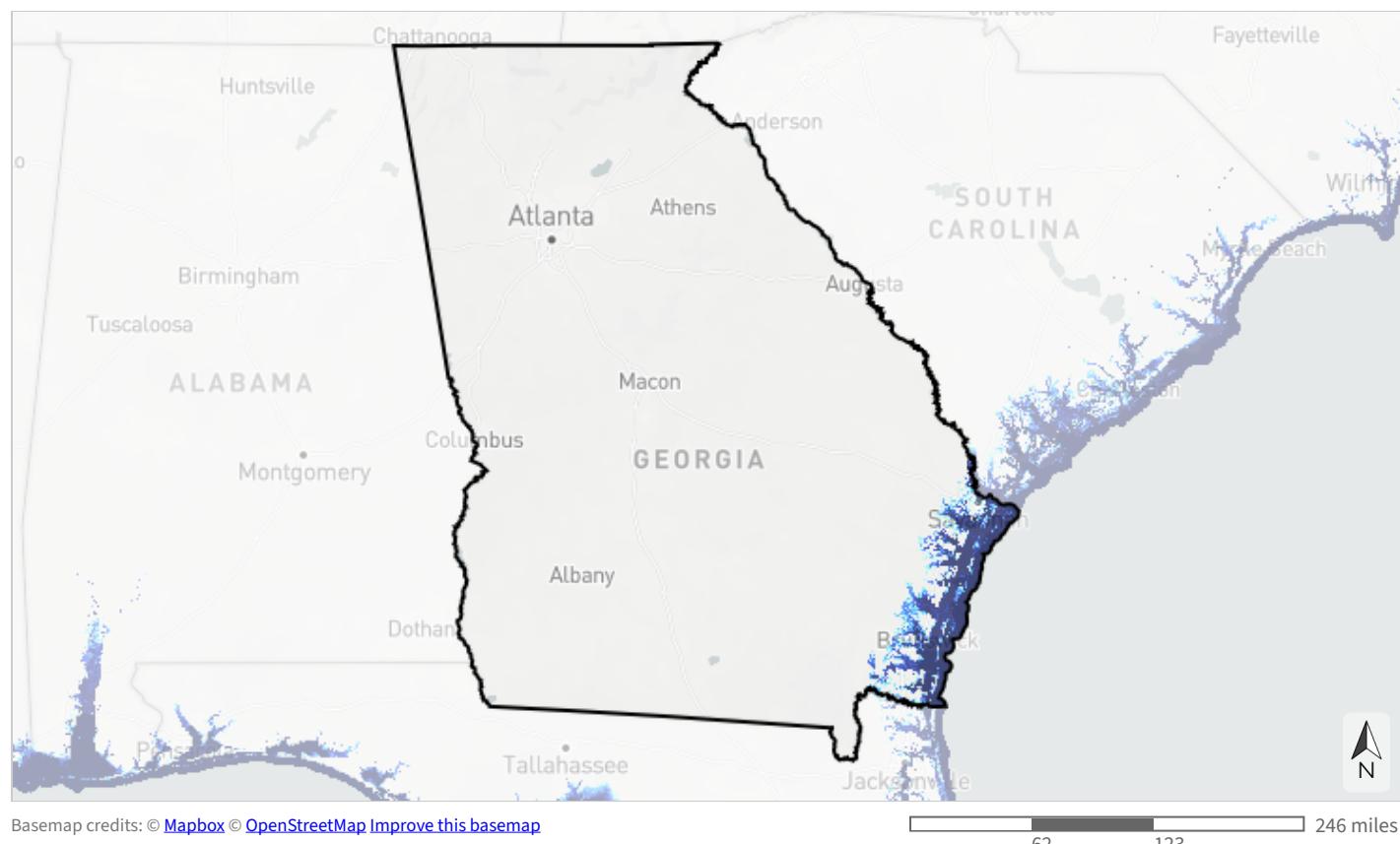


Table 36: Extent of flooding by projected average highest daily tide due to sea level rise within Georgia. Values from the [NOAA sea-level rise inundation data](#).

Feet of sea-level rise	Acres	Percent of Area
0 feet	800,264	2.1%
1 foot	914,499	2.4%
2 feet	979,825	2.6%
3 feet	1,016,910	2.7%
4 feet	1,057,462	2.8%
5 feet	1,102,857	2.9%
6 feet	1,146,645	3.0%
7 feet	1,197,235	3.1%
8 feet	1,253,629	3.3%
9 feet	1,318,750	3.5%
10 feet	1,394,629	3.7%
<i>Not projected to be inundated by up to 10 feet</i>	2,417,411	6.4%
<i>Sea-level rise unlikely to be a threat (inland counties)</i>	34,218,651	90.0%
<i>Sea-level rise data unavailable</i>	2	<0.1%
Total area	38,030,692	100%

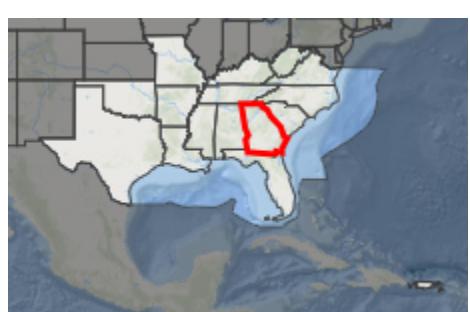
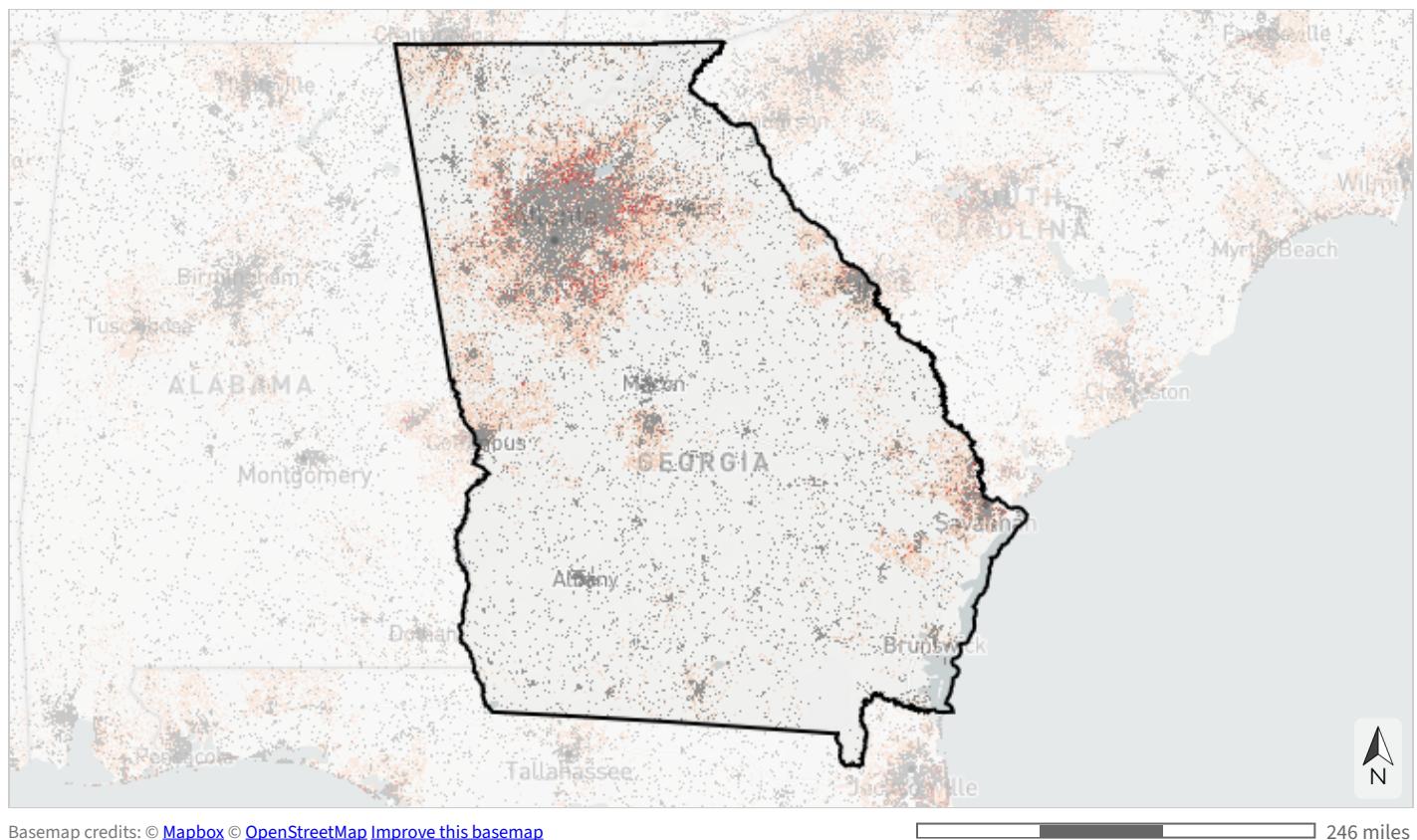
Table 37: Projected sea level rise by decade within Georgia. Values are based on area-weighted averages of decadal projections for 1-degree grid cells that overlap this area based on [NOAA's 2022 Sea Level Rise Report](#). 2060 corresponds to the [SECAS goal](#): a 10% or greater improvement in the health, function, and connectivity of Southeastern ecosystems by 2060.

SLR Scenario	2020 (ft)	2030 (ft)	2040 (ft)	2050 (ft)	2060 (ft)	2070 (ft)	2080 (ft)	2090 (ft)	2100 (ft)
Low	0.32	0.51	0.7	0.87	1	1.2	1.2	1.3	1.5
Intermediate-low	0.34	0.57	0.8	1	1.2	1.4	1.7	1.9	2.1
Intermediate	0.35	0.58	0.84	1.1	1.5	1.8	2.3	2.9	3.6
Intermediate-high	0.36	0.61	0.93	1.3	1.9	2.5	3.3	4.2	5.1
High	0.37	0.64	1	1.5	2.2	3.2	4.3	5.5	6.7

Urban growth

The FUTURES urban growth model predicts the likelihood that an area will urbanize at every decade from 2020 to 2100. Developed areas from the 2021 National Landcover Database serve as the baseline for current urban areas. The model simulates landscape change based on trends in population growth, local development suitability factors, and an urban patch-growing algorithm. It considers environmental drivers like distance to floodplain, slope, and available infrastructure, and even socio-economic status. The probability of urbanization for each area reflects how many times it urbanized out of 50 model runs.

To explore maps for additional time periods, [click here](#).



Probability of urbanization by 2060

- Urban in 2021
- Very high likelihood of urbanization (>50% probability)
- High likelihood of urbanization (25 - 50% probability)
- Moderate likelihood of urbanization (2 - 25% probability)
- Not likely to urbanize

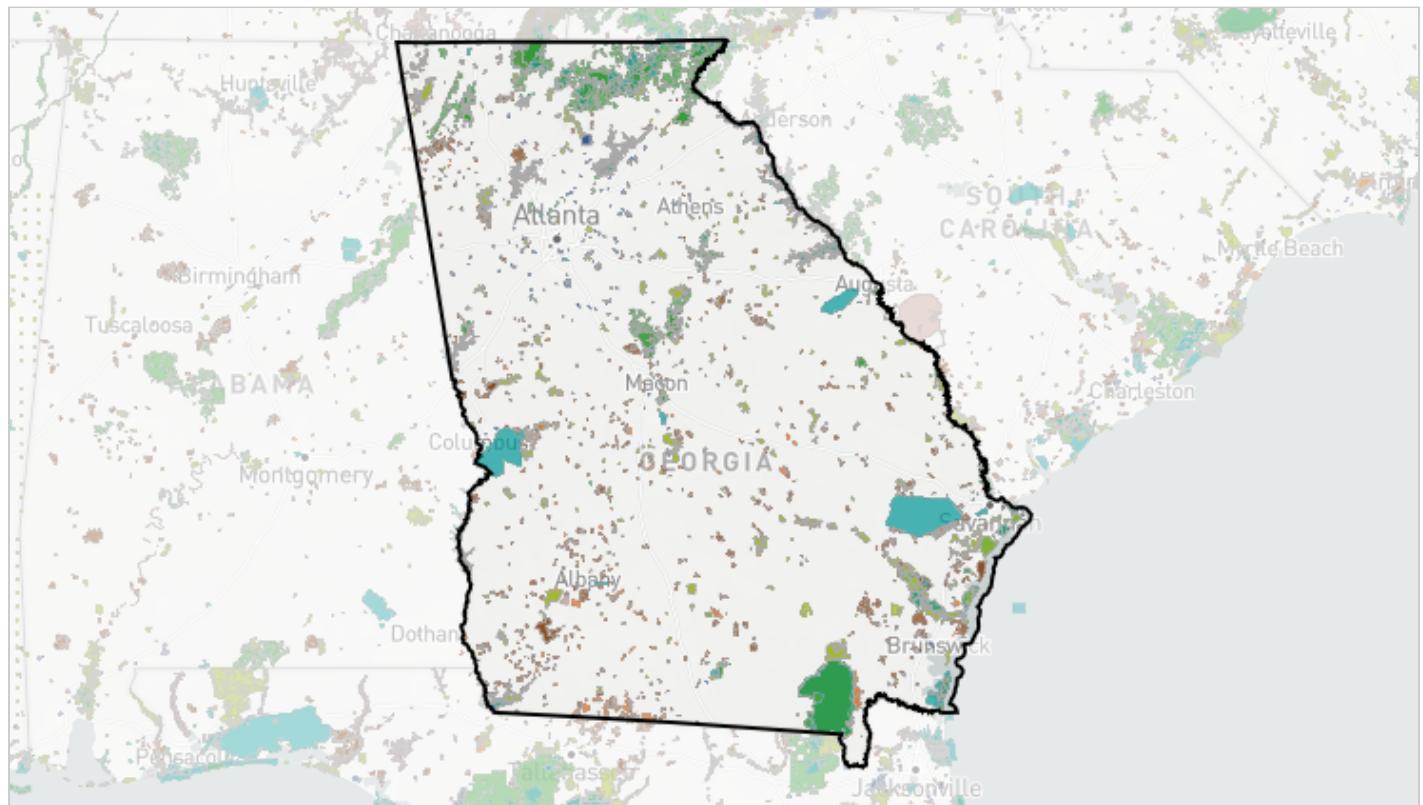
10.8% of this area is already urban in 2021, and an additional 12.1% has at least a moderate probability of urbanizing by 2060.

Table 38: Extent of projected urbanization by decade within Georgia. Values from [FUTURES model projections for the contiguous United States](#) developed by the [Center for Geospatial Analytics](#), NC State University. 2060 corresponds to the [SECAS goal](#): a 10% or greater improvement in the health, function, and connectivity of Southeastern ecosystems by 2060.

Decade	Acres	Percent of Area
Urban in 2021	4,098,589	10.8%
2030 projected extent	4,274,303	11.2%
2040 projected extent	4,391,944	11.5%
2050 projected extent	4,486,641	11.8%
2060 projected extent	4,567,901	12.0%
2070 projected extent	4,641,388	12.2%
2080 projected extent	4,697,619	12.4%
2090 projected extent	4,733,113	12.4%
2100 projected extent	4,756,417	12.5%
<i>Not projected to urbanize by 2100</i>	28,705,412	75.5%
Total area	38,030,692	100%

Ownership and Partners

Conserved lands ownership

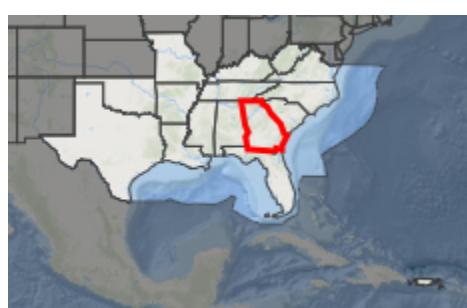


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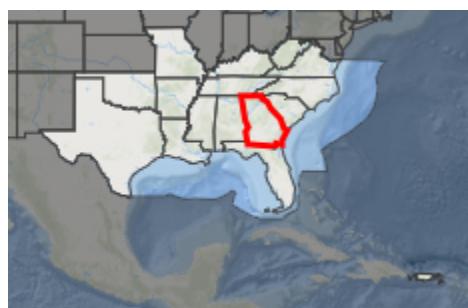
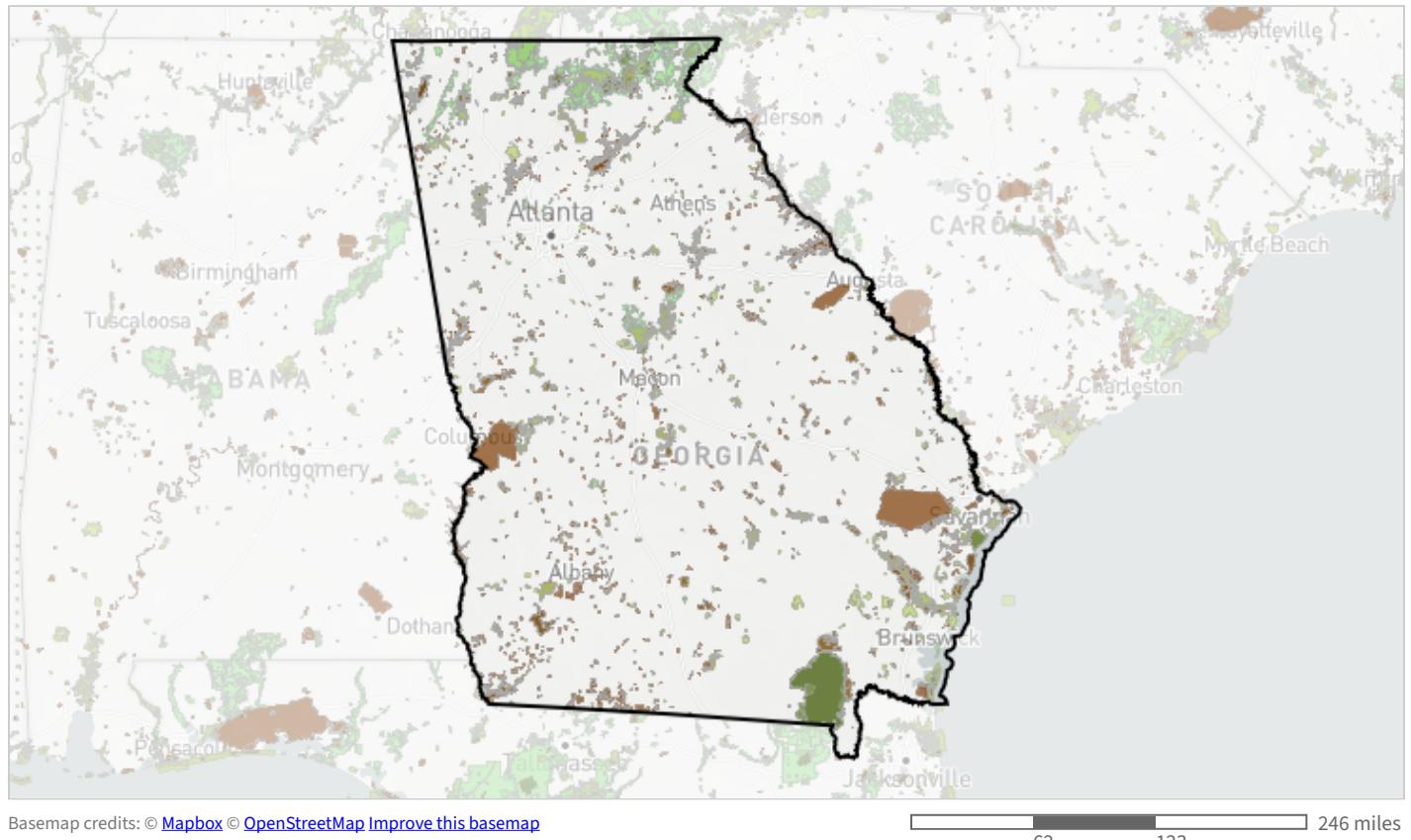


Federal	Joint
State/province	Private non-profit conserved lands
Territorial	Private conservation land
Regional	Tribal
Local	Designation
	Ownership unknown

Table 39: Extent of ownership class within Georgia. Protected areas are derived from the [Protected Areas Database of the United States](#) (PAD-US v4.0 and v3.0) and include Fee, Designation, Easement, Marine, and Proclamation (Dept. of Defense lands only) boundaries. Note: areas are based on the polygon boundary of this area compared to protected area polygons, rather than pixel-level analyses used elsewhere in this report. Also note: PAD-US includes protected areas that may overlap within a given area; this may cause the area within and between the following categories to be greater than the actual ground area.

Ownership	Acres	Percent of Area
Federal	2,773,416	7.3%
State/province	1,349,855	3.5%
Regional	49	<0.1%
Local	173,071	0.5%
Joint	751	<0.1%
Private non-profit conserved lands	206,732	0.5%
Private conservation land	905,684	2.4%
Designation	1,616,982	4.3%
Ownership unknown	522,816	1.4%

Land protection status



- Managed for biodiversity (disturbance events proceed or are mimicked)
- Managed for biodiversity (disturbance events suppressed)
- Managed for multiple uses (subject to extractive uses such as mining or logging, or OHV use)
- No known mandate for biodiversity protection

Table 40: Extent of land protection status within Georgia. Protected areas are derived from the [Protected Areas Database of the United States](#) (PAD-US v4.0 and v3.0) and include Fee, Designation, Easement, Marine, and Proclamation (Dept. of Defense lands only) boundaries. Note: areas are based on the polygon boundary of this area compared to protected area polygons, rather than pixel-level analyses used elsewhere in this report. Also note: PAD-US includes protected areas that may overlap within a given area; this may cause the area within and between the following categories to be greater than the actual ground area.

Land Protection Status	Acres	Percent of Area
Managed for biodiversity (disturbance events proceed or are mimicked)	1,148,281	3.0%
Managed for biodiversity (disturbance events suppressed)	2,194,374	5.8%
Managed for multiple uses (subject to extractive uses such as mining or logging, or OHV use)	1,052,652	2.8%
No known mandate for biodiversity protection	3,154,048	8.3%

Protected Areas

- Chattahoochee-Oconee National Forests (USDA FOREST SERVICE; 867,802 acres)
- OKEFENOKEE NATIONAL WILDLIFE REFUGE (Fee; 404,153 acres)
- Okefenokee National Wildlife Refuge (Fee; 403,527 acres)
- OKEFENOKEE NATIONAL WILDLIFE REFUGE (Unknown owner; 349,916 acres)
- Fort Stewart (Unknown owner; 279,404 acres)
- Fort Benning (Unknown owner; 169,223 acres)
- J. STROM THURMOND (Unknown; 100,445 acres)
- COHUTTA WMA (FED; 91,684 acres)
- COHUTTA WMA (US Forest Service; 91,682 acres)
- Atlantic Coast Conservancy (PVT; 61,185 acres)
- SIDNEY LANIER (Unknown; 56,718 acres)
- Fort Gordon (Unknown owner; 55,509 acres)
- TBR Main (Unknown owner; 55,120 acres)
- J. Strom Thurmond Lake (Unknown owner; 47,909 acres)
- Lake Sidney Lanier (Unknown owner; 40,928 acres)
- CEDAR CREEK WMA (US Forest Service; 40,488 acres)
- CEDAR CREEK WMA (FED; 40,483 acres)
- SEMINOLE (Unknown; 38,470 acres)
- ALLATOONA (Unknown; 38,047 acres)
- Cohutta Wildlife Management Area (Unknown owner; 37,043 acres)
- Cumberland Island National Seashore (Unknown; 36,431 acres)
- Cohutta Wilderness (Unknown owner; 35,313 acres)
- DIXON MEMORIAL WMA (STAT; 35,041 acres)
- DIXON MEMORIAL WMA (Georgia Forestry Commission; 35,041 acres)
- Piedmont National Wildlife Refuge (Fee; 34,924 acres)

Credits

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Data credits

Land ownership and conservation status is derived from the [Protected Areas Database of the United States](#) (PAD-US v4.0 and v3.0).

Future urban growth estimates derived from [FUTURES model projections for the contiguous United States](#) developed by the [Center for Geospatial Analytics](#), NC State University.

Sea level rise data are derived from the National Oceanic and Atmospheric Administration's [Sea Level Rise Inundation Depth Data](#) and the [2022 Sea Level Rise Technical Report](#).

Names and descriptions of public Priority Amphibian and Reptile Areas provided by the [Amphibian and Reptile Conservancy](#) on August 30, 2024 and edited slightly for clarity and consistency.