

Southeast Conservation Blueprint Summary

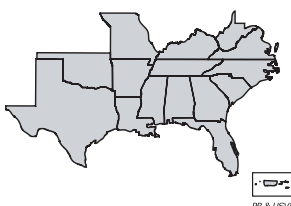
for Oklahoma

Created 01/23/2023

Table of Contents

1. About the Southeast Blueprint	3
2. Southeast Blueprint Priorities	4
3. Hubs and Corridors	6
4. Indicator Summary	8
5. Threats	41
6. Ownership and Partners	44
7. Credits	49

**The Southeast
Conservation
Adaptation Strategy
SECAS**



The Southeast Conservation Blueprint 2022

[THIS PAGE INTENTIONALLY LEFT BLANK]

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.

Across 15 states of the Southeast, 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. This portion of the Southeast Blueprint is referred to as the "Base Blueprint".

To provide more complete coverage of the SECAS geography, the Blueprint incorporates two additional input plans: the Florida Marine Blueprint for marine areas in Florida and the Caribbean Landscape Conservation Design for inland areas in Puerto Rico.

For more information:

- Visit the [Blueprint webpage](#)
- Review the [Blueprint 2022 Development Process](#)
- View and download the Blueprint data and make maps on the [Blueprint page of the SECAS Atlas](#)

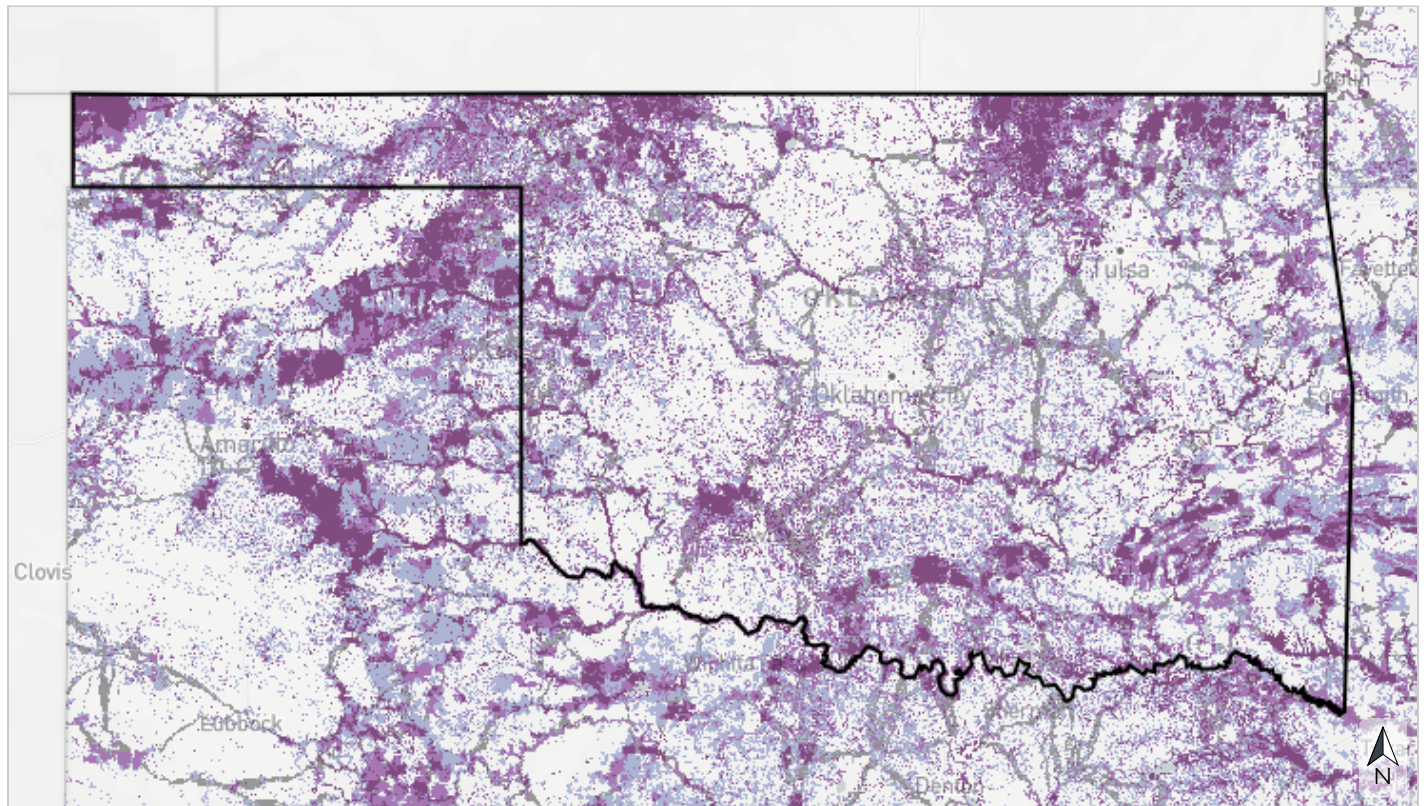
We're here to help!

- 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 Simple Viewer interface?

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

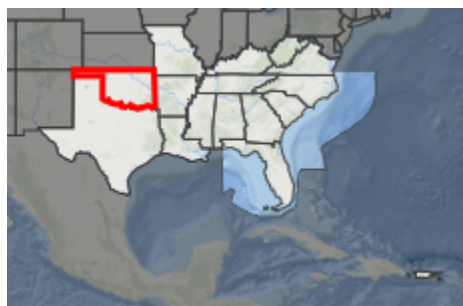
We're here to support you. We really mean it. It's what we do!

Southeast Blueprint Priorities



Basemap credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

54 108 217 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.

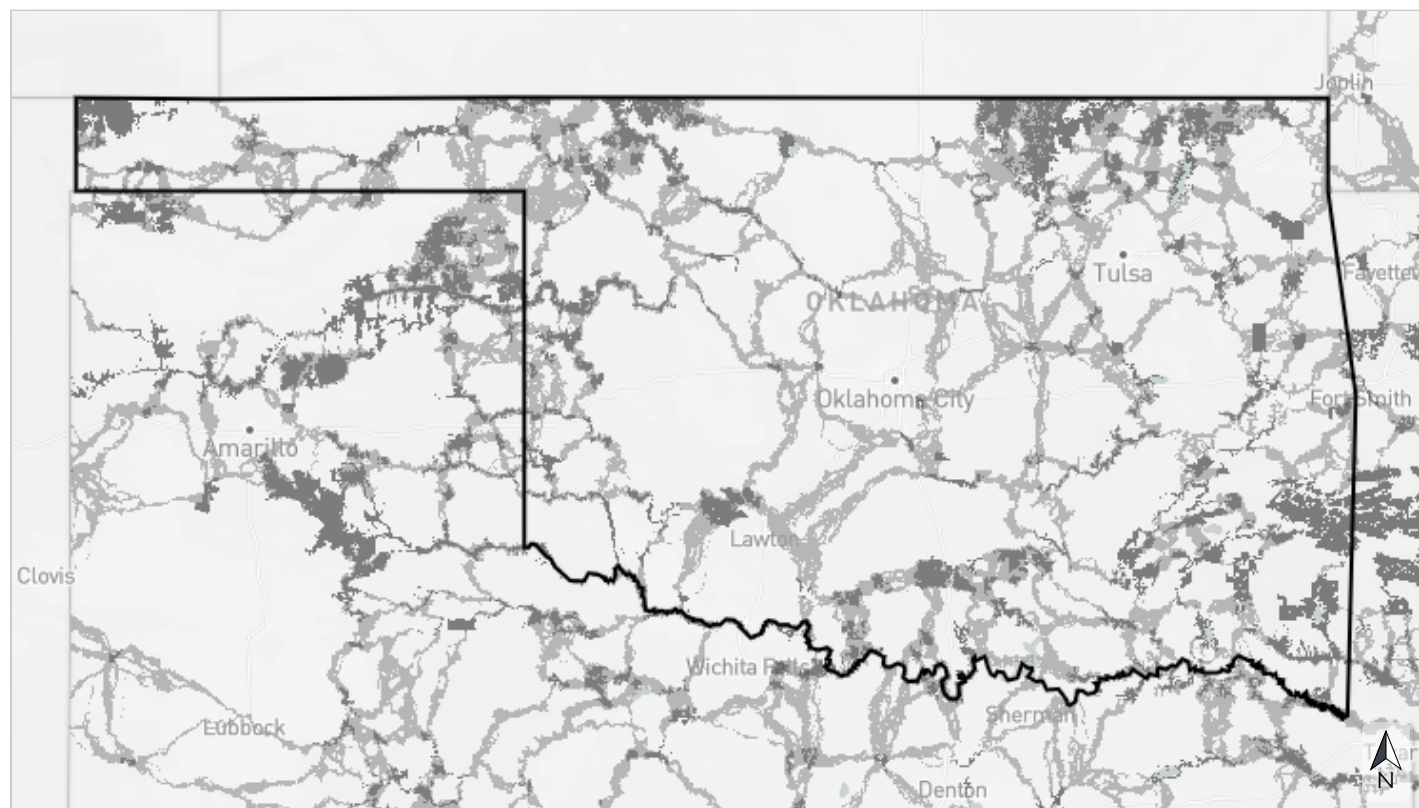
Table 1: Extent of each Blueprint priority category.

Priority Category	Acres	Percent of Area
Highest priority	5,477,230	12.2%
High priority	7,862,017	17.6%
Medium priority	7,728,669	17.3%
Priority connections	2,543,132	5.7%
Lower priority	21,123,940	47.2%
<i>Outside Southeast Blueprint</i>	416	<0.1%
Total area	44,735,404	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.

Inland hubs are large patches (~5,000+ acres) of highest priority Blueprint areas and/or protected lands, connected by inland corridors. Marine and estuarine hubs are large estuaries and large patches (~5,000+ acres) of highest priority Blueprint areas. Marine and estuarine corridors connect those hubs within broad marine mammal movement areas.



Basemap credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

54 108 217 miles



- Inland hubs
- Inland corridors
- Marine & estuarine hubs
- Marine & estuarine corridors
- Not a hub or corridor

Table 2: Extent of hubs and corridors.

Type	Acres	Percent of Area
Inland hubs	4,071,034	9.1%
Inland corridors	9,168,118	20.5%
Not a hub or corridor	31,495,836	70.4%
<i>Outside Southeast Blueprint</i>	416	<0.1%
Total area	44,735,404	100%

Indicator Summary

Table 3: Terrestrial indicators.

Indicator	Present
East Coastal Plain open pine birds	-
Equitable access to potential parks	✓
Fire frequency	✓
Great Plains perennial grasslands	✓
Greenways & trails	✓
Intact habitat cores	✓
Interior Southeast grasslands	✓
Mississippi Alluvial Valley forest birds (protection)	-
Mississippi Alluvial Valley forest birds (reforestation)	-
Playas	✓
Resilient terrestrial sites	✓
South Atlantic amphibian & reptile areas	-
South Atlantic forest birds	-
South Atlantic low-urban historic landscapes	-
Urban park size	✓
West Coastal Plain & Ouachitas forested wetland birds	✓
West Coastal Plain & Ouachitas open pine birds	✓
West Gulf Coast mottled duck nesting	-

Table 4: Freshwater indicators.

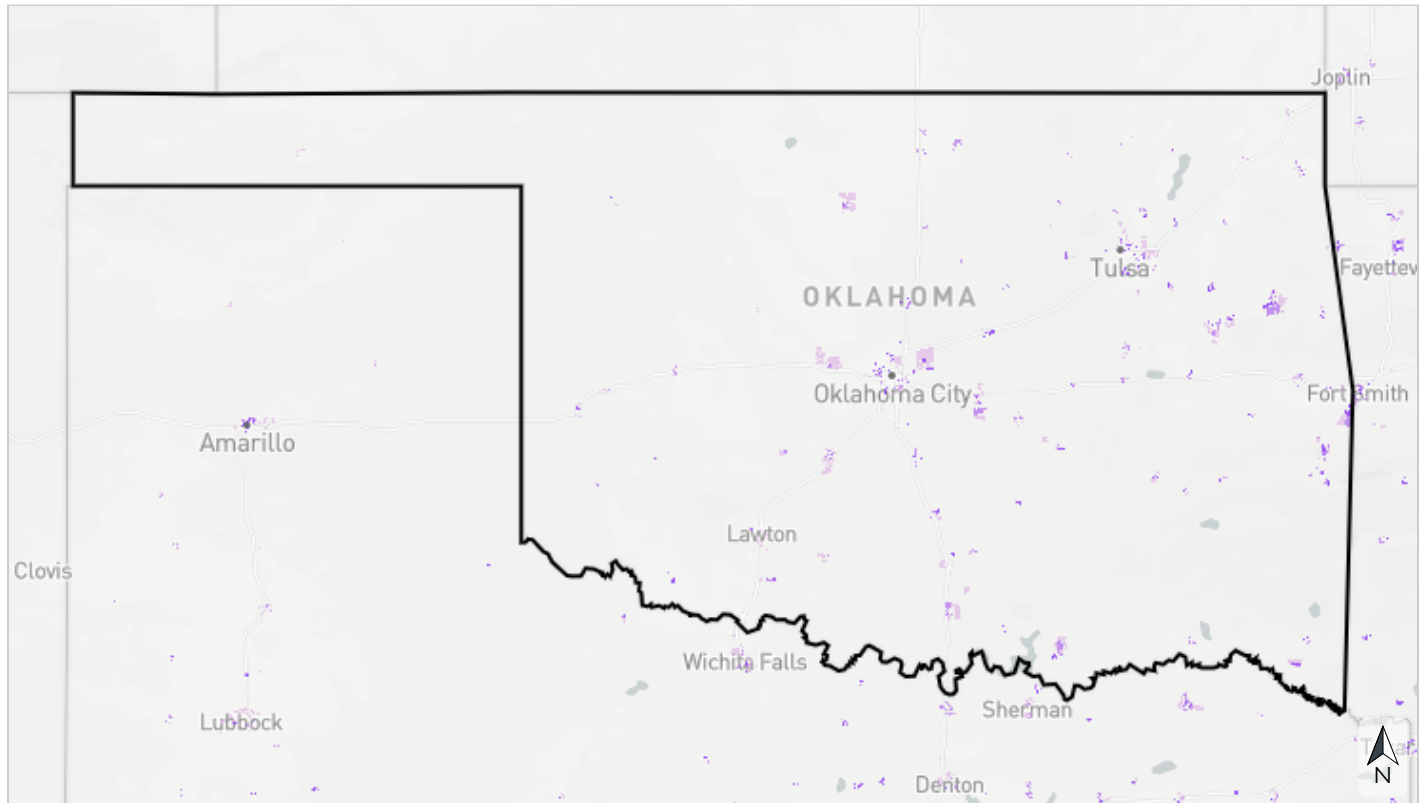
Indicator	Present
Atlantic migratory fish habitat	-
Gulf migratory fish connectivity	-
Imperiled aquatic species	✓
West Virginia imperiled aquatic species	-
Natural landcover in floodplains	✓
Network complexity	✓
Permeable surface	✓



Terrestrial

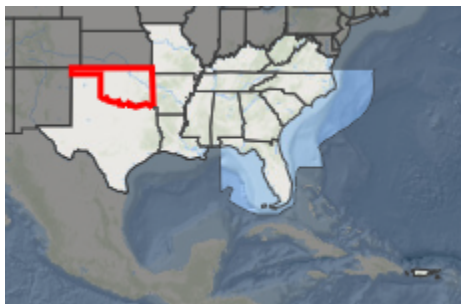
Equitable access to potential parks

This cultural resource indicator prioritizes places to create new parks that would fill gaps in equitable access to open space within socially vulnerable communities. 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.



Basemap credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

54 108 217 miles



- Very high priority for a new park that would create nearby equitable access
- High priority for a new park that would create nearby equitable access
- Moderate priority for a new park that would create nearby equitable access

Table 5: Indicator values for equitable access to potential parks in this area. A good condition threshold is not yet defined for this indicator.

	Indicator Values	Acres	Percent of Area
↑ High	Very high priority for a new park that would create nearby equitable access	64,105	0.1%
	High priority for a new park that would create nearby equitable access	108,556	0.2%
↓ Low	Moderate priority for a new park that would create nearby equitable access	221,501	0.5%
	<i>Area not evaluated for this indicator</i>	44,340,826	99.1%
	<i>Outside Southeast Blueprint</i>	416	<0.1%
	Total area	44,735,404	100%

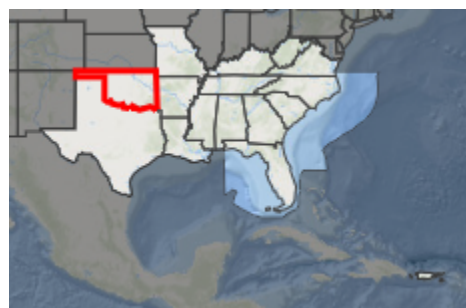
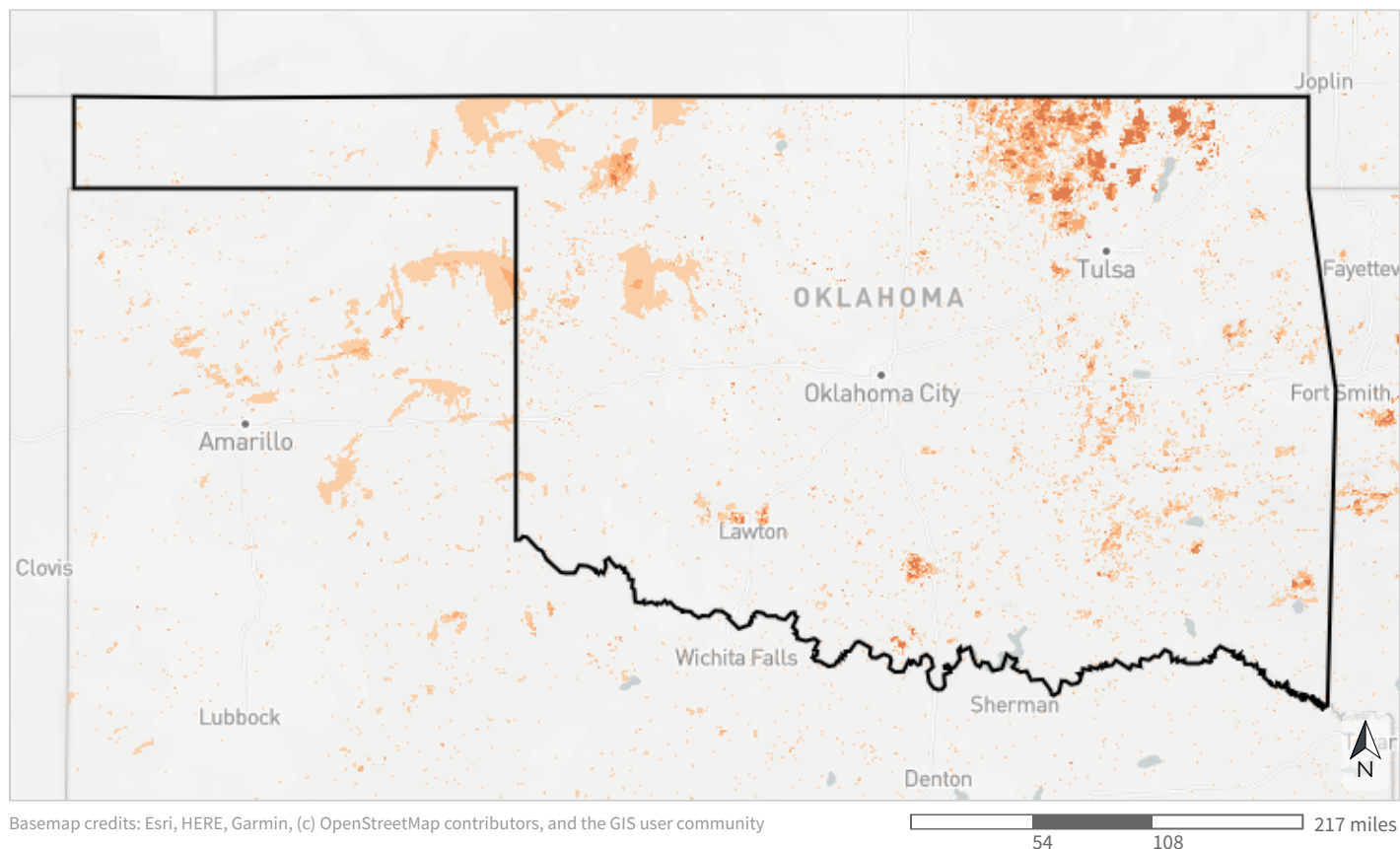
To learn more and explore the GIS data, [view this indicator in the SECAS Atlas](#).



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 both 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.



- Burned 3+ times from 2013-2021
- Burned 2 times from 2013-2021
- Burned 1 time from 2013-2021
- Not burned from 2013-2021 or row crop

Table 6: Indicator values for fire frequency in this area. 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	400,009	0.9%	↑ In good condition
	Burned 2 times from 2013-2021	627,152	1.4%	
	Burned 1 time from 2013-2021	2,759,106	6.2%	
↓ Low	Not burned from 2013-2021 or row crop	40,948,721	91.5%	↓ Not in good condition
	<i>Outside Southeast Blueprint</i>	416	<0.1%	
	Total area	44,735,404	100%	

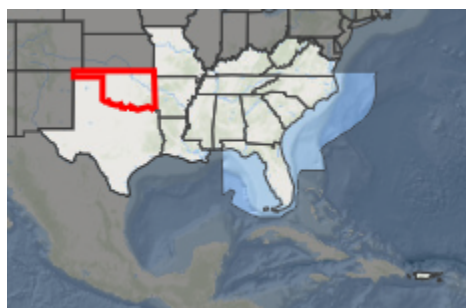
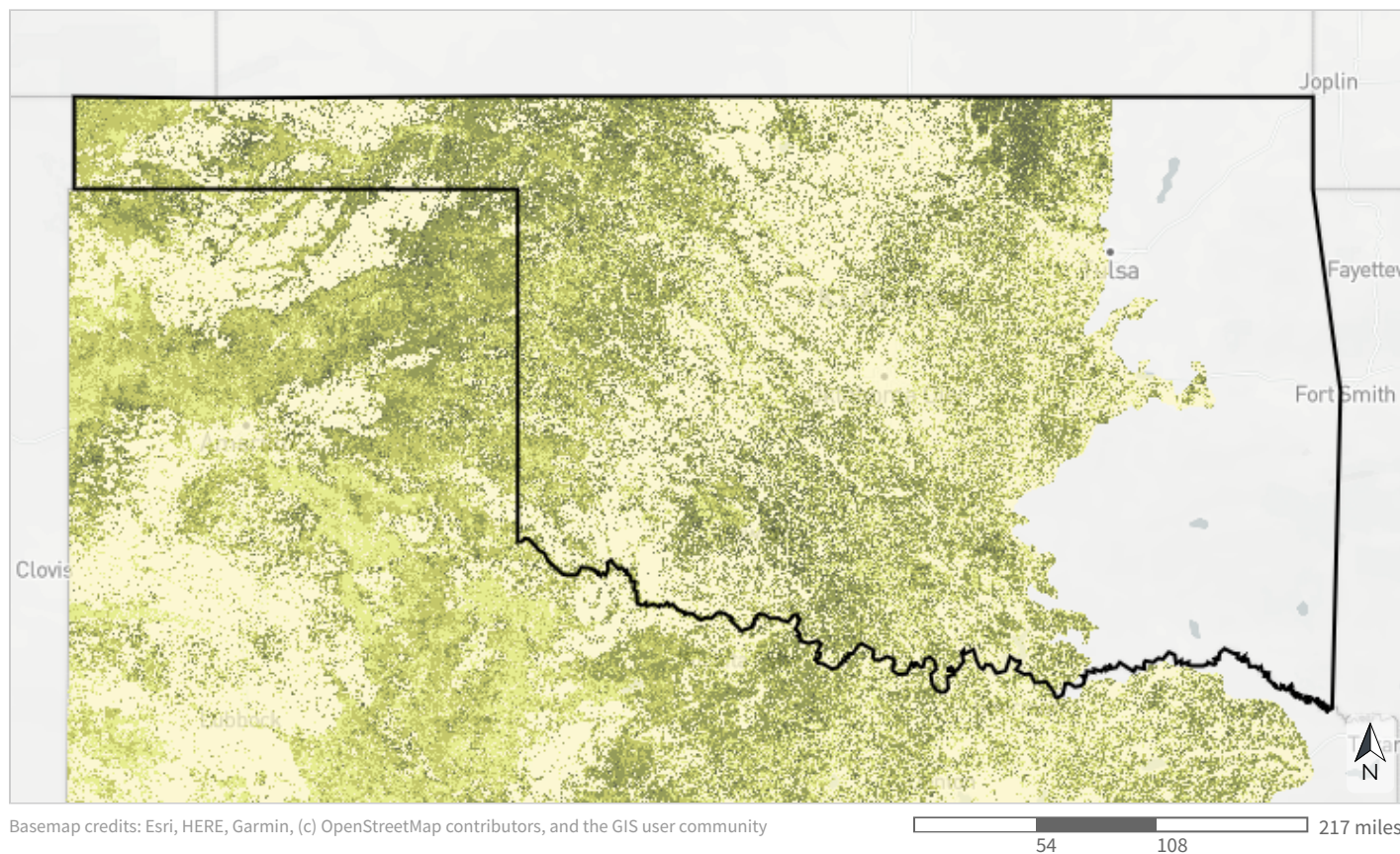
To learn more and explore the GIS data, [view this indicator in the SECAS Atlas](#).



Terrestrial

Great Plains perennial grasslands

This indicator measures the percent of perennial forbs and perennial grass to evaluate grassland condition across the Great Plains. Grasslands in this area with a high percentage of perennials are less likely to be impacted by woody encroachment, less susceptible to non-native annual grasses, and more likely to support important plants, birds, and pollinators. This indicator originates from Rangeland Analysis Platform vegetation cover data.



- 81-100% perennial forbs and perennial grass
- 61-80% perennial forbs and perennial grass
- 41-60% perennial forbs and perennial grass
- 21-40% perennial forbs and perennial grass
- 0-20% perennial forbs and perennial grass

Table 7: Indicator values for Great Plains perennial grasslands in this area. A good condition threshold is not yet defined for this indicator.

	Indicator Values	Acres	Percent of Area
↑ High	81-100% perennial forbs and perennial grass	1,778,287	4.0%
	61-80% perennial forbs and perennial grass	8,555,976	19.1%
	41-60% perennial forbs and perennial grass	4,800,625	10.7%
	21-40% perennial forbs and perennial grass	3,085,372	6.9%
↓ Low	0-20% perennial forbs and perennial grass	13,779,967	30.8%
	Area not evaluated for this indicator	12,734,761	28.5%
	Outside Southeast Blueprint	416	<0.1%
	Total area	44,735,404	100%

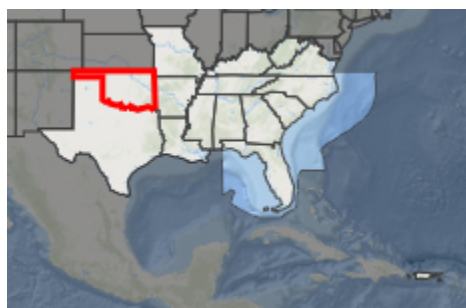
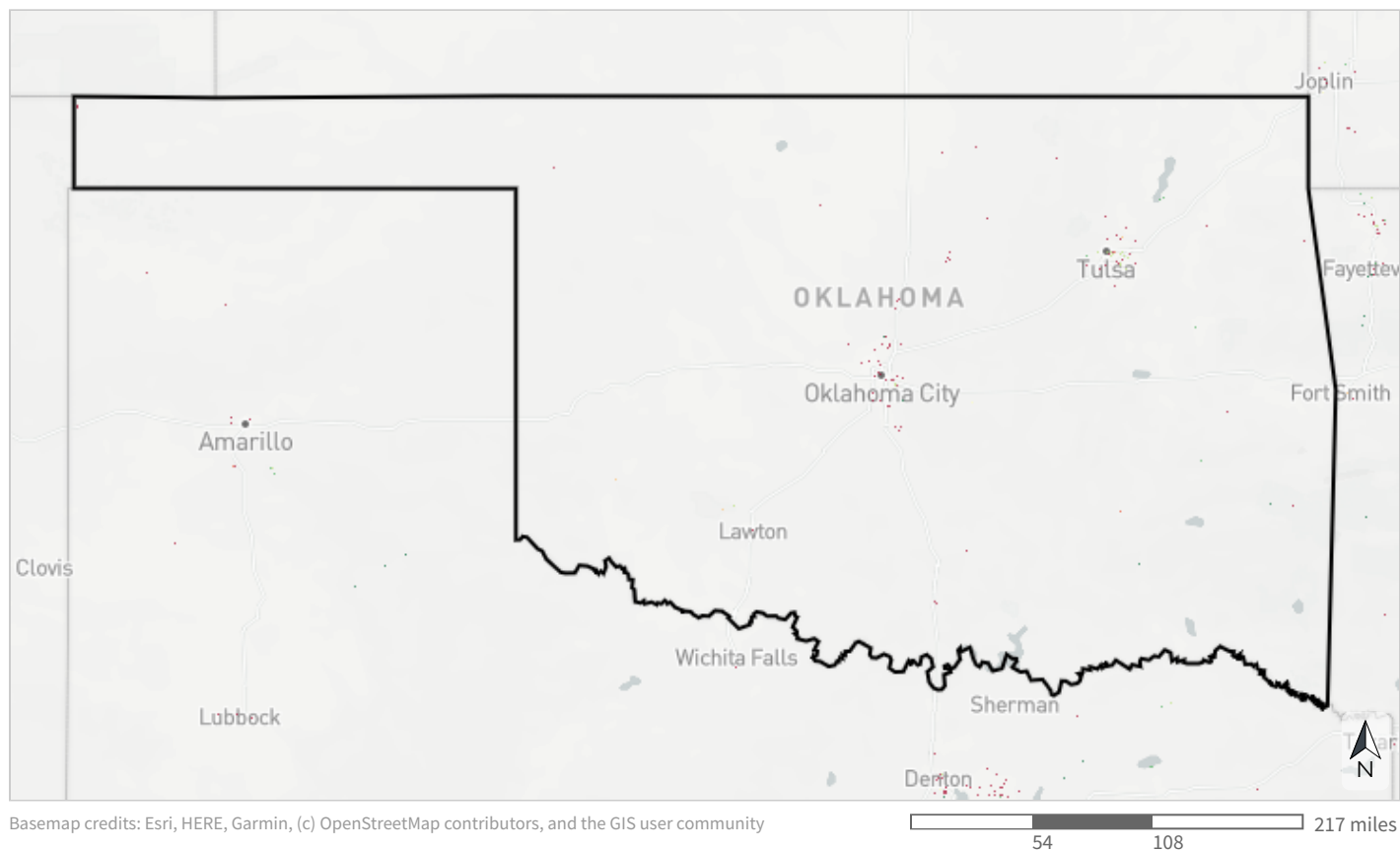
To learn more and explore the GIS data, [view this indicator in the SECAS Atlas](#).



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.



- 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 ≥ 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 or other path

Table 8: Indicator values for greenways & trails in this area. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

	Indicator Values	Acres	Percent of Area	
↑ High	Mostly natural and connected for ≥ 40 km	1,410	<0.1%	
	Mostly natural and connected for 5 to <40 km or partly natural and connected for ≥ 40 km	1,940	<0.1%	
	Mostly natural and connected for 1.9 to <5 km, partly natural and connected for 5 to <40 km, or developed and ≥ 40 km	6,155	<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	747	<0.1%	↑ In good condition
↓ Low	Partly natural and connected for <1.9 km or developed and connected for 1.9 to <5 km	616	<0.1%	↓ Not in good condition
	Developed and connected for <1.9 km	503	<0.1%	
	Sidewalk or other path	21,913	<0.1%	
	Area not evaluated for this indicator	44,701,703	99.9%	
	Outside Southeast Blueprint	416	<0.1%	
	Total area	44,735,404	100%	

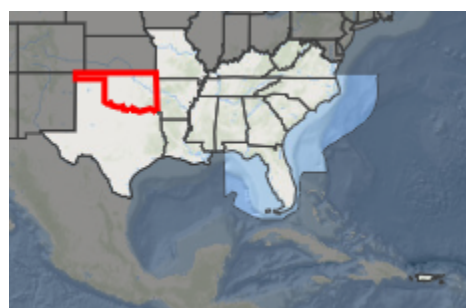
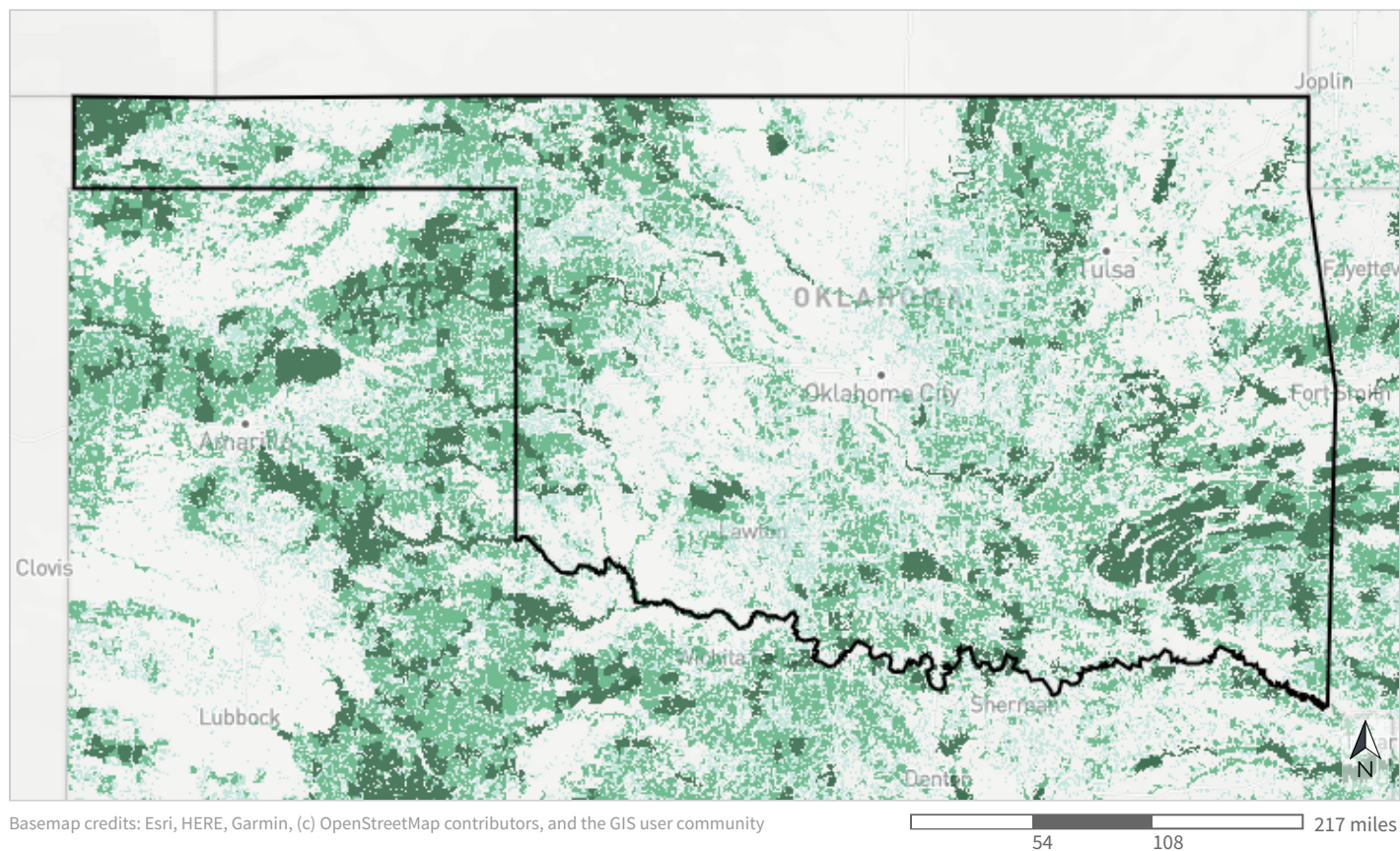
To learn more and explore the GIS data, [view this indicator in the SECAS Atlas](#).



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 9: Indicator values for intact habitat cores in this area. 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)	4,519,000	10.1%	
	Medium core (>1,000-10,000 acres)	9,472,253	21.2%	
	Small core (>100-1,000 acres)	7,178,261	16.0%	↑ In good condition
↓ Low	Not a core	23,565,474	52.7%	↓ Not in good condition
	<i>Outside Southeast Blueprint</i>	416	<0.1%	
	Total area	44,735,404	100%	

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



Terrestrial

Interior Southeast grasslands

This indicator represents grasslands in the interior southeastern United States, which support important plants, birds, and pollinators. It includes grasslands with and without trees that are historically maintained by geology (e.g., outcrops, glades, and barrens), fire (e.g., Piedmont prairies), and/or the regular violent flooding on the banks of high-energy rivers known as “riverscours” (e.g., riverscours prairies). Known grasslands receive the highest scores, followed by bumble bee habitat buffers around known sites, areas in potentially compatible management, and restoration opportunities within grassland geology. This indicator combines data from multiple sources, including the Southeastern Grasslands Initiative, the Central Hardwoods Joint Venture, the Rangeland Analysis Platform, and The Nature Conservancy.



Basemap credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

54 108 217 miles



- Known grassland
- Known grassland buffer
- Potentially compatible management within grassland geology (undeveloped powerline right-of-way or perennial forbs and grasses)
- Potentially compatible management outside of grassland geology (undeveloped powerline right-of-way or perennial forbs and grasses)
- Grassland geology
- Grassland less likely

Table 10: Indicator values for Interior Southeast grasslands in this area. A good condition threshold is not yet defined for this indicator.

	Indicator Values	Acres	Percent of Area
↑ High	Known grassland	1,079	<0.1%
	Known grassland buffer	3,797	<0.1%
	Potentially compatible management within grassland geology (undeveloped powerline right-of-way or perennial forbs and grasses)	1,844,047	4.1%
	Potentially compatible management outside of grassland geology (undeveloped powerline right-of-way or perennial forbs and grasses)	677,727	1.5%
↓ Low	Grassland geology	1,184,399	2.6%
	Grassland less likely	1,133,056	2.5%
	<i>Area not evaluated for this indicator</i>	39,890,883	89.2%
	<i>Outside Southeast Blueprint</i>	416	<0.1%
	Total area	44,735,404	100%

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



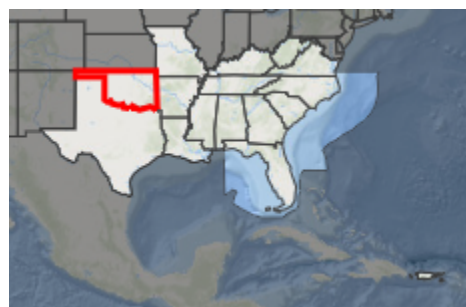
Terrestrial

Playas

This indicator represents the condition and location of playas, which are round, shallow depressions found primarily in the western Great Plains that serve as temporary wetlands by collecting water from rainfall and runoff. It defines a healthy playa as one that is not farmed, hydrologically modified, within a wind farm, or impacted by sediment accumulation due to agriculture. It also considers the increased benefits to wildlife provided by clusters of nearby playas, compared to more sparsely distributed playas. Playas play a critical role in recharging the Ogallala aquifer and provide habitat and food for birds and other animals. This indicator originates from the Playa Lakes Joint Venture's probable playas dataset.



Basemap credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

217 miles
54 108

- Healthy playa and part of a larger cluster
- Healthy playa
- Other playa

Table 11: Indicator values for playas in this area. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

	Indicator Values	Acres	Percent of Area	
↑ High	Healthy playa and part of a larger cluster	4,752	<0.1%	
	Healthy playa	240	<0.1%	↑ In good condition
↓ Low	Other playa	8,187	<0.1%	↓ Not in good condition
	Area not evaluated for this indicator	44,721,809	100.0%	
	Outside Southeast Blueprint	416	<0.1%	
	Total area	44,735,404	100%	

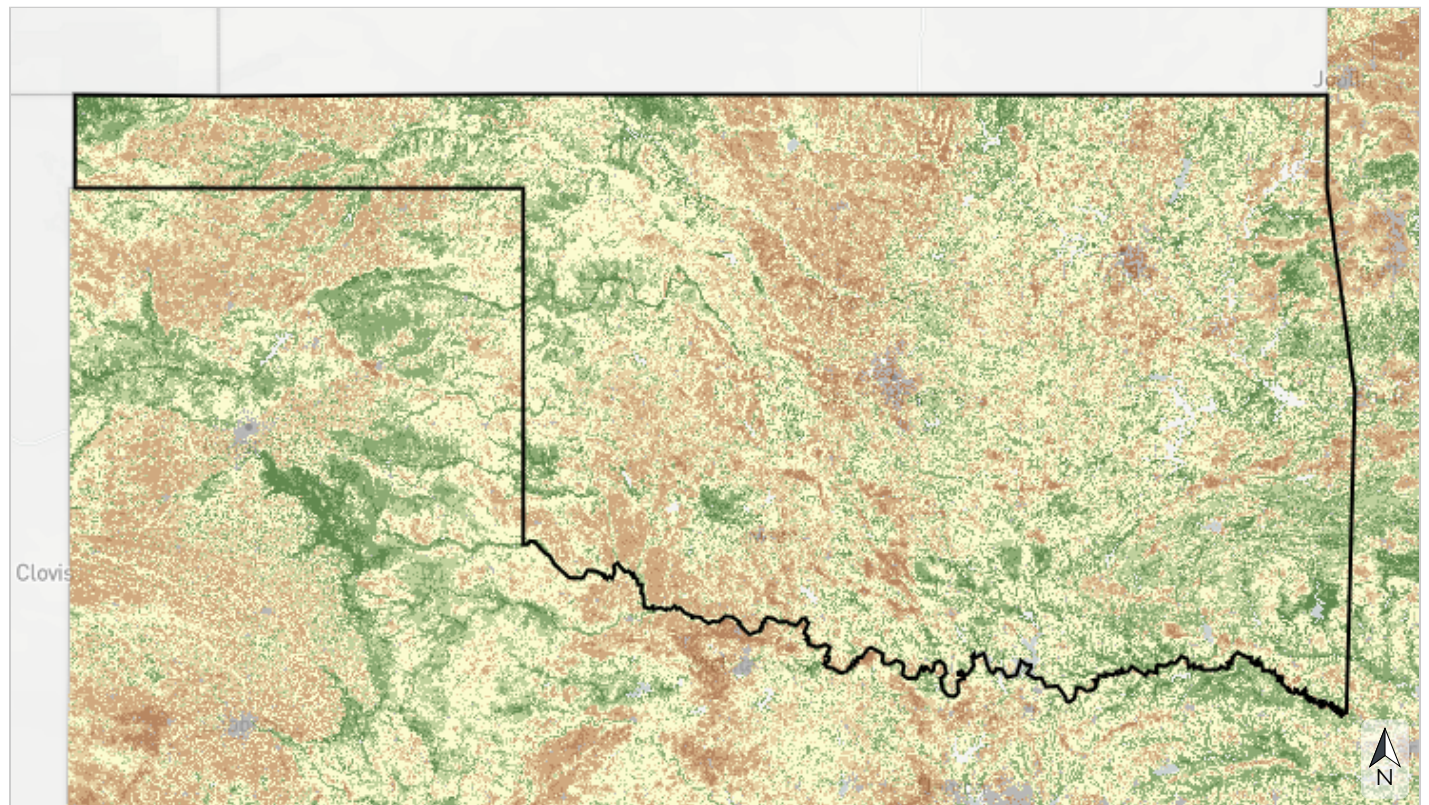
To learn more and explore the GIS data, [view this indicator in the SECAS Atlas](#).



Terrestrial

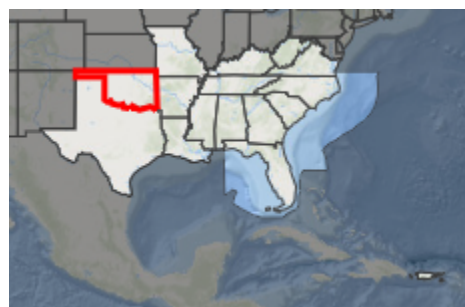
Resilient terrestrial sites

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.



Basemap credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

54 108 217 miles



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

Table 12: Indicator values for resilient terrestrial sites in this area. A good condition threshold is not yet defined for this indicator.

	Indicator Values	Acres	Percent of Area
↑ High	Most resilient	1,148,497	2.6%
	More resilient	6,391,426	14.3%
	Slightly more resilient	7,553,020	16.9%
	Average/median resilience	14,219,124	31.8%
	Slightly less resilient	7,102,299	15.9%
	Less resilient	6,137,567	13.7%
	Least resilient	922,784	2.1%
↓ Low	Developed	519,700	1.2%
	<i>Area not evaluated for this indicator</i>	<i>740,572</i>	<i>1.7%</i>
	<i>Outside Southeast Blueprint</i>	<i>416</i>	<i><0.1%</i>
	Total area	44,735,404	100%

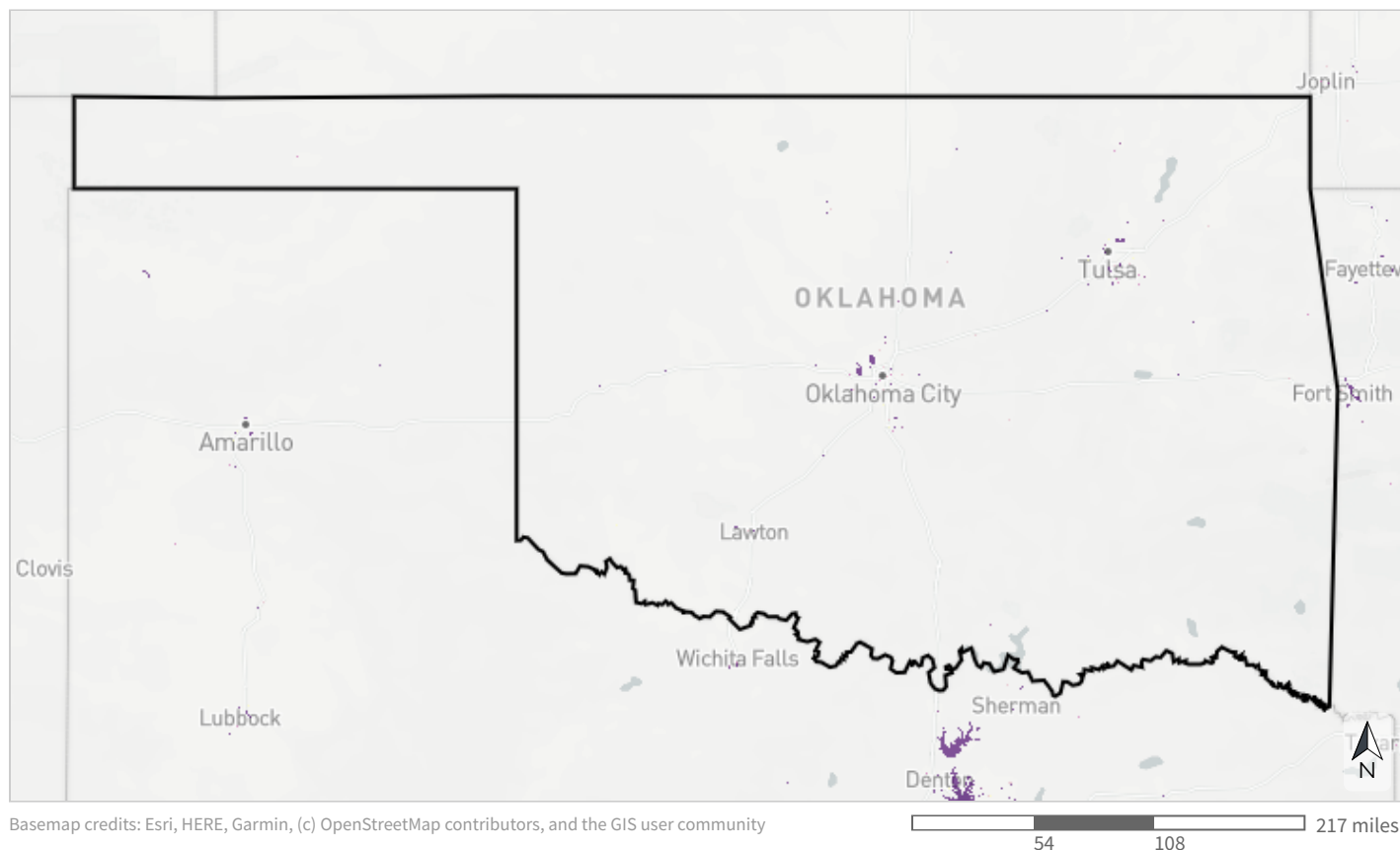
To learn more and explore the GIS data, [view this indicator in the SECAS Atlas](#).



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 U.S. Geological Survey's Protected Areas Database and 2019 National Land Cover Database percent developed impervious layer.



- >75 acre urban park
- >50-75 acre urban park
- >30-50 acre urban park
- >10-30 acre urban park
- 5-10 acre urban park

Table 13: Indicator values for urban park size in this area. A good condition threshold is not yet defined for this indicator.

	Indicator Values	Acres	Percent of Area
↑ High	>75 acre urban park	22,233	<0.1%
	>50-75 acre urban park	1,857	<0.1%
	>30-50 acre urban park	2,580	<0.1%
	>10-30 acre urban park	3,778	<0.1%
↓ Low	5-10 acre urban park	1,440	<0.1%
	Area not evaluated for this indicator	44,703,101	99.9%
	Outside Southeast Blueprint	416	<0.1%
	Total area	44,735,404	100%

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

Terrestrial



West Coastal Plain & Ouachitas forested wetland birds

This indicator is an index of habitat suitability for five forested wetland bird species (Acadian flycatcher, Kentucky warbler, yellow-throated warbler, prothonotary warbler, red-shouldered hawk) within bottomland hardwood forests and riparian areas in the West Gulf Coastal Plain and Ouachitas Bird Conservation Region. It uses metrics like patch size, dispersal distance, distance to water, and more to assess the potential for habitat to support sustainable populations of these birds. This indicator originates from the Lower Mississippi Valley Joint Venture's forested wetland decision support model for the West Gulf Coastal Plain and Ouachitas region.



Basemap credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

54 108 217 miles



- High habitat suitability for forested wetland bird umbrella species (Acadian flycatcher, Kentucky warbler, yellow-throated warbler, prothonotary warbler, red-shouldered hawk) (score >80)
- Medium-high habitat suitability (score >60-80)
- Medium habitat suitability (score >40-60)
- Medium-low habitat suitability (score >20-40)
- Low habitat suitability for forested wetland bird umbrella species (score 0-20)

Table 14: Indicator values for West Coastal Plain & Ouachitas forested wetland birds in this area. A good condition threshold is not yet defined for this indicator.

	Indicator Values	Acres	Percent of Area
↑ High	High habitat suitability for forested wetland bird umbrella species (Acadian flycatcher, Kentucky warbler, yellow-throated warbler, prothonotary warbler, red-shouldered hawk) (score >80)	17	<0.1%
	Medium-high habitat suitability (score >60-80)	4,775	<0.1%
	Medium habitat suitability (score >40-60)	10,043	<0.1%
	Medium-low habitat suitability (score >20-40)	12,346	<0.1%
↓ Low	Low habitat suitability for forested wetland bird umbrella species (score 0-20)	20,671	<0.1%
	Area not evaluated for this indicator	44,687,136	99.9%
	Outside Southeast Blueprint	416	<0.1%
	Total area	44,735,404	100%

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



Terrestrial

West Coastal Plain & Ouachitas open pine birds

This indicator identifies areas with existing pine trees that, if managed for open condition, could support a population of three umbrella bird species (brown-headed nuthatch, Bachman's sparrow, red-cockaded woodpecker). It evaluates potential habitat based on each species' habitat needs and population dynamics, prioritizing opportunities to restore and manage habitat to benefit open pine birds. Final scores reflect both the selectiveness of the species and whether an area meets the habitat requirements through one large patch, or clusters of smaller patches in sufficiently close proximity for breeding pairs to disperse. This indicator updates the Lower Mississippi Valley Joint Venture's open pine decision support model for the West Gulf Coastal Plain and Ouachitas region.

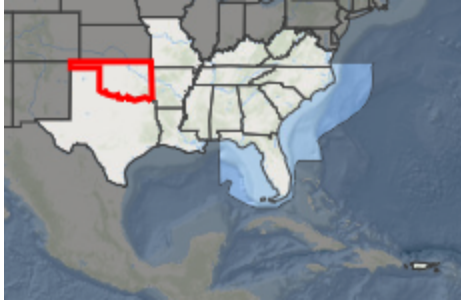


Basemap credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

54

108

217 miles



- Pine patch large enough to support a population of all 3 umbrella bird species (brown-headed nuthatch, Bachman's sparrow, red-cockaded woodpecker) if managed in open condition
- Pine patch large enough to support a population of 2 umbrella bird species if managed in open condition
- Pine patch large enough to support a population of 1 umbrella bird species if managed in open condition
- Pine patch part of a cluster of nearby patches able to support a population of all 3 umbrella bird species if managed in open condition
- Pine patch part of a cluster of nearby patches able to support a population of 2 umbrella bird species if managed in open condition
- Pine patch part of a cluster of nearby patches able to support a population of 1 umbrella bird species if managed in open condition
- Pine patch too small and isolated to support a population of any umbrella bird species or not an upland pine patch

Table 15: Indicator values for West Coastal Plain & Ouachitas open pine birds in this area. A good condition threshold is not yet defined for this indicator.

	Indicator Values	Acres	Percent of Area
↑ High	Pine patch large enough to support a population of all 3 umbrella bird species (brown-headed nuthatch, Bachman's sparrow, red-cockaded woodpecker) if managed in open condition	823,548	1.8%
	Pine patch large enough to support a population of 2 umbrella bird species if managed in open condition	364,892	0.8%
	Pine patch large enough to support a population of 1 umbrella bird species if managed in open condition	81,592	0.2%
	Pine patch part of a cluster of nearby patches able to support a population of all 3 umbrella bird species if managed in open condition	56,138	0.1%
	Pine patch part of a cluster of nearby patches able to support a population of 2 umbrella bird species if managed in open condition	182,772	0.4%
	Pine patch part of a cluster of nearby patches able to support a population of 1 umbrella bird species if managed in open condition	11,906	<0.1%
↓ Low	Pine patch too small and isolated to support a population of any umbrella bird species or not an upland pine patch	5,812,679	13.0%
	Area not evaluated for this indicator	37,401,461	83.6%
	Outside Southeast Blueprint	416	<0.1%
	Total area	44,735,404	100%

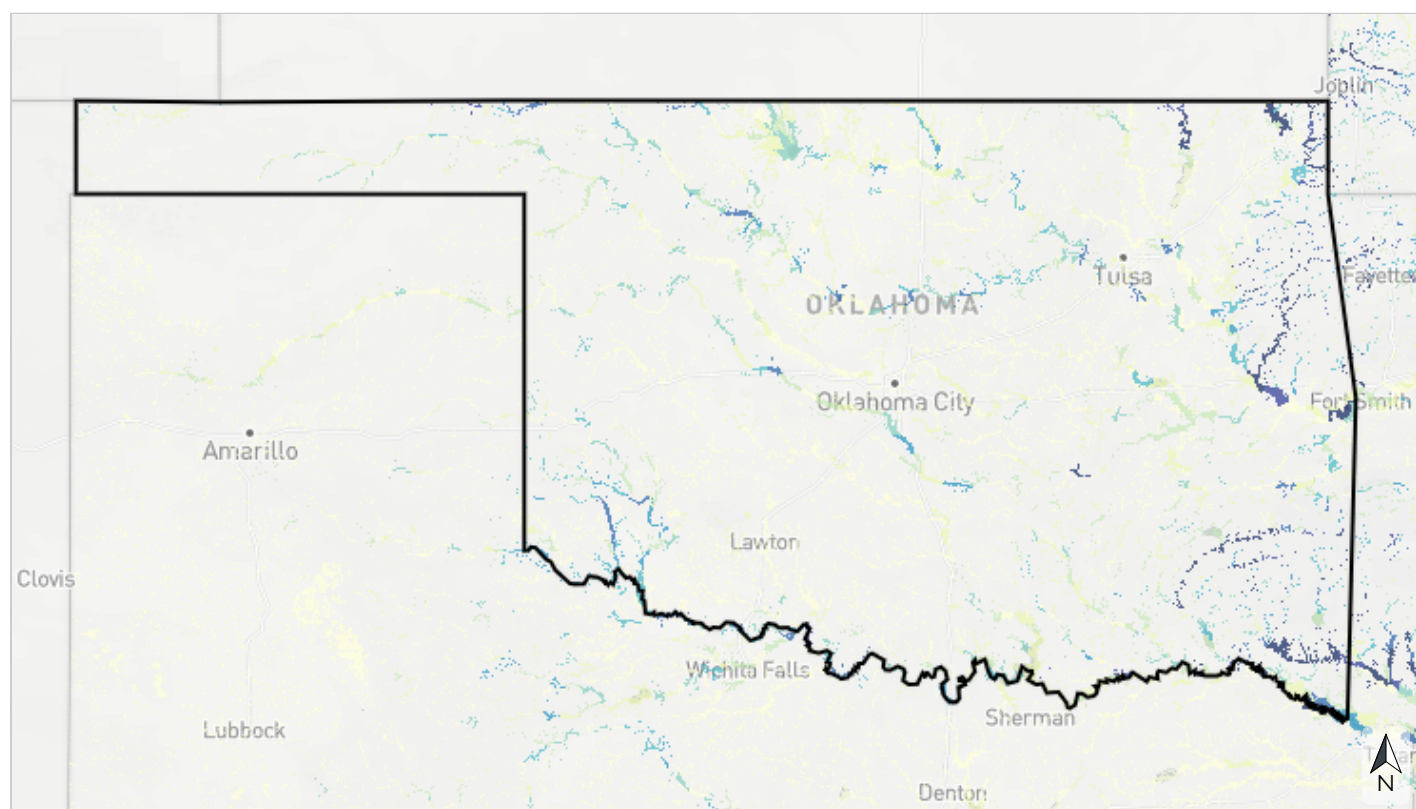
To learn more and explore the GIS data, [view this indicator in the SECAS Atlas](#).



Freshwater

Imperiled aquatic species

This indicator measures the number of aquatic animal Species of Greatest Conservation Need (SGCN) observed within each 12-digit HUC subwatershed, including fish, mussels, snails, crayfish, and amphibians. SGCN are identified in State Wildlife Action Plans as most in need of conservation action. This indicator captures patterns of rare and endemic species diversity not well-represented by other freshwater aquatic indicators. It 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.



Basemap credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

54 108 217 miles

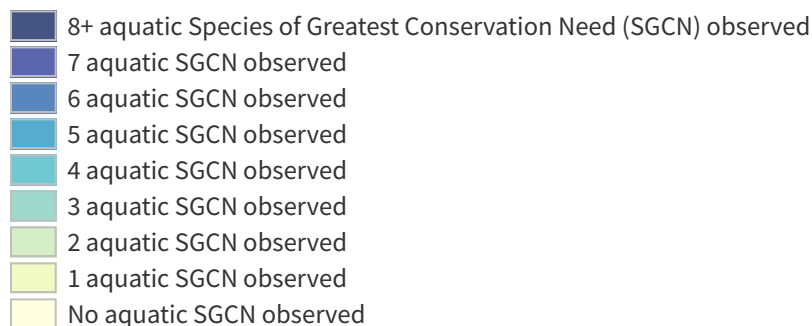
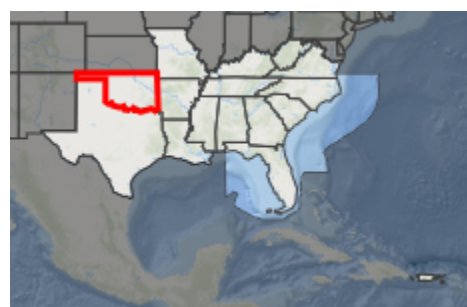


Table 16: Indicator values for imperiled aquatic species in this area. A good condition threshold is not yet defined for this indicator.

	Indicator Values	Acres	Percent of Area
↑ High	8+ aquatic Species of Greatest Conservation Need (SGCN) observed	273,054	0.6%
	7 aquatic SGCN observed	73,024	0.2%
	6 aquatic SGCN observed	158,868	0.4%
	5 aquatic SGCN observed	165,570	0.4%
	4 aquatic SGCN observed	296,391	0.7%
	3 aquatic SGCN observed	467,813	1.0%
	2 aquatic SGCN observed	718,903	1.6%
	1 aquatic SGCN observed	1,163,635	2.6%
↓ Low	No aquatic SGCN observed	3,225,426	7.2%
	<i>Area not evaluated for this indicator</i>	38,192,304	85.4%
	<i>Outside Southeast Blueprint</i>	416	<0.1%
	Total area	44,735,404	100%

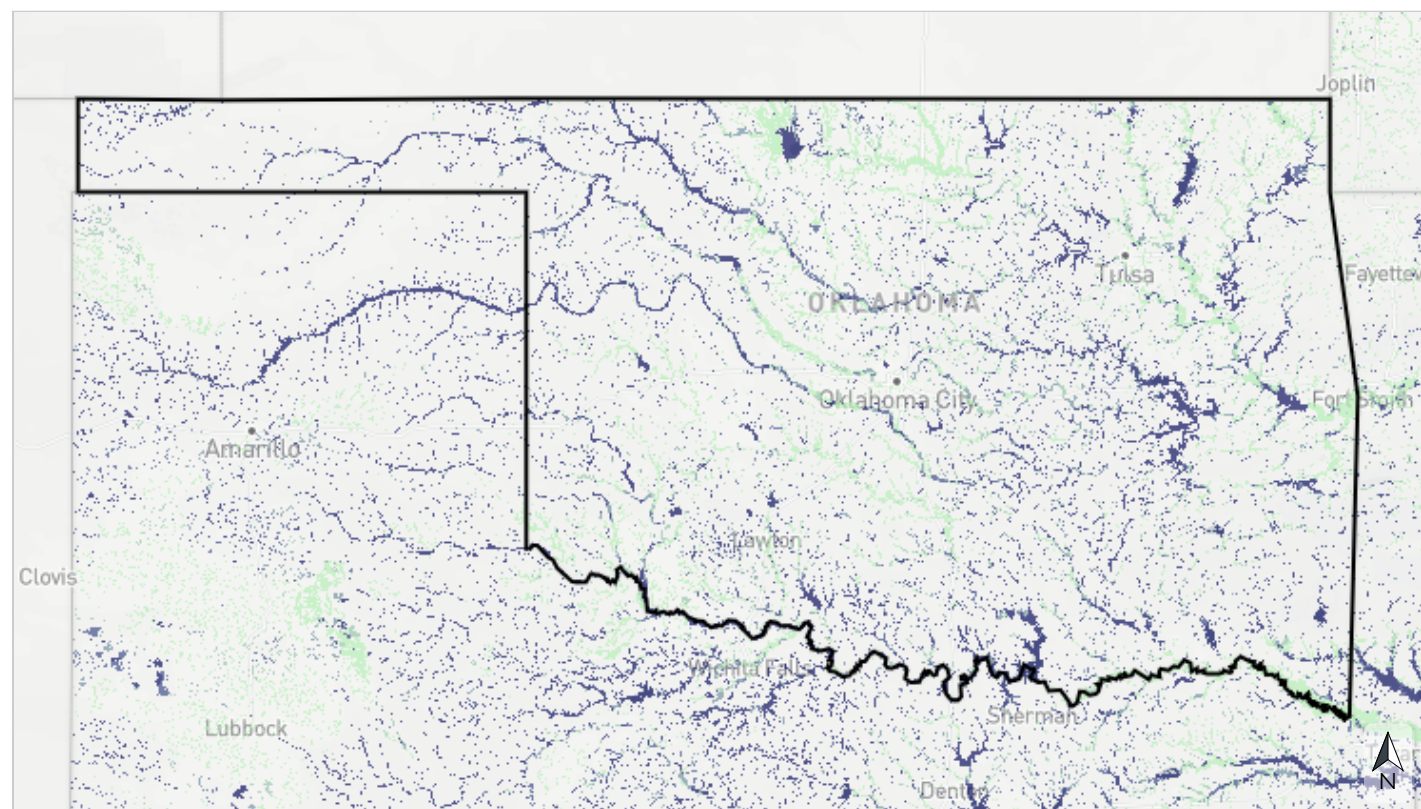
To learn more and explore the GIS data, [view this indicator in the SECAS Atlas](#).



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 2019 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.



Basemap credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

54 108 217 miles



- >90% natural habitat within the estimated floodplain, by catchment
- >80-90%
- >70-80%
- >60-70%
- ≤60% natural habitat within the estimated floodplain, by catchment

Table 17: Indicator values for natural landcover in floodplains in this area. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

	Indicator Values	Acres	Percent of Area	
↑ High	>90% natural habitat within the estimated floodplain, by catchment	2,194,435	4.9%	↑ In good condition
	>80-90%	752,945	1.7%	
	>70-80%	646,002	1.4%	
	>60-70%	601,066	1.3%	↓ Not in good condition
↓ Low	≤60% natural habitat within the estimated floodplain, by catchment	2,348,237	5.2%	
	Area not evaluated for this indicator	38,192,304	85.4%	
	Outside Southeast Blueprint	416	<0.1%	
	Total area	44,735,404	100%	

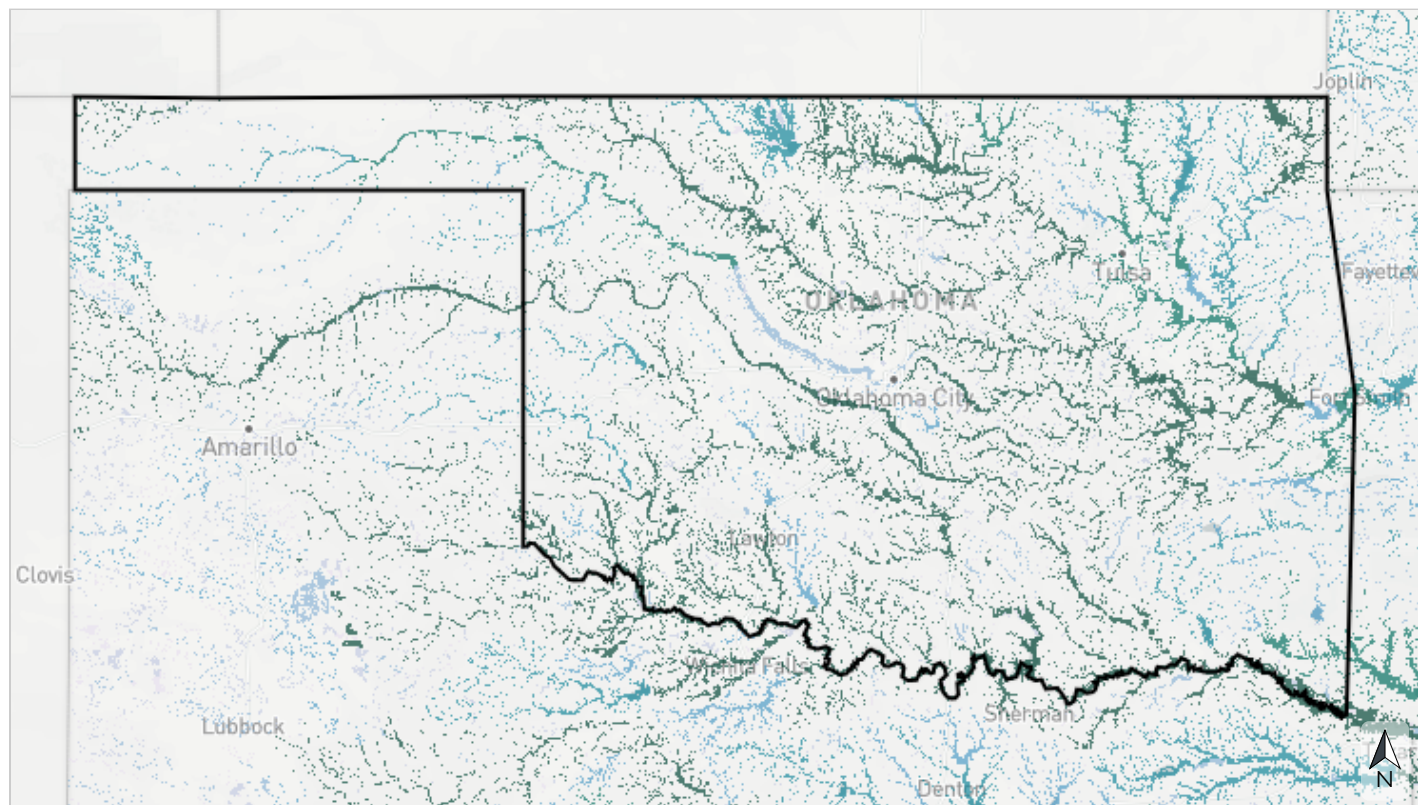
To learn more and explore the GIS data, [view this indicator in the SECAS Atlas](#).



Freshwater

Network complexity

This indicator depicts the number of different stream size classes in a river network not separated by 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.



Basemap credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

54 108 217 miles



- 7 connected stream classes
- 6 connected stream classes
- 5 connected stream classes
- 4 connected stream classes
- 3 connected stream classes
- 2 connected stream classes
- 1 connected stream class

Table 18: Indicator values for network complexity in this area. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

	Indicator Values	Acres	Percent of Area	
↑ High	7 connected stream classes	3,888,682	8.7%	
	6 connected stream classes	741,381	1.7%	
	5 connected stream classes	781,682	1.7%	
	4 connected stream classes	408,411	0.9%	↑ In good condition
	3 connected stream classes	237,427	0.5%	↓ Not in good condition
	2 connected stream classes	292,613	0.7%	
↓ Low	1 connected stream class	146,366	0.3%	
	Area not evaluated for this indicator	38,238,426	85.5%	
	Outside Southeast Blueprint	416	<0.1%	
	Total area	44,735,404	100%	

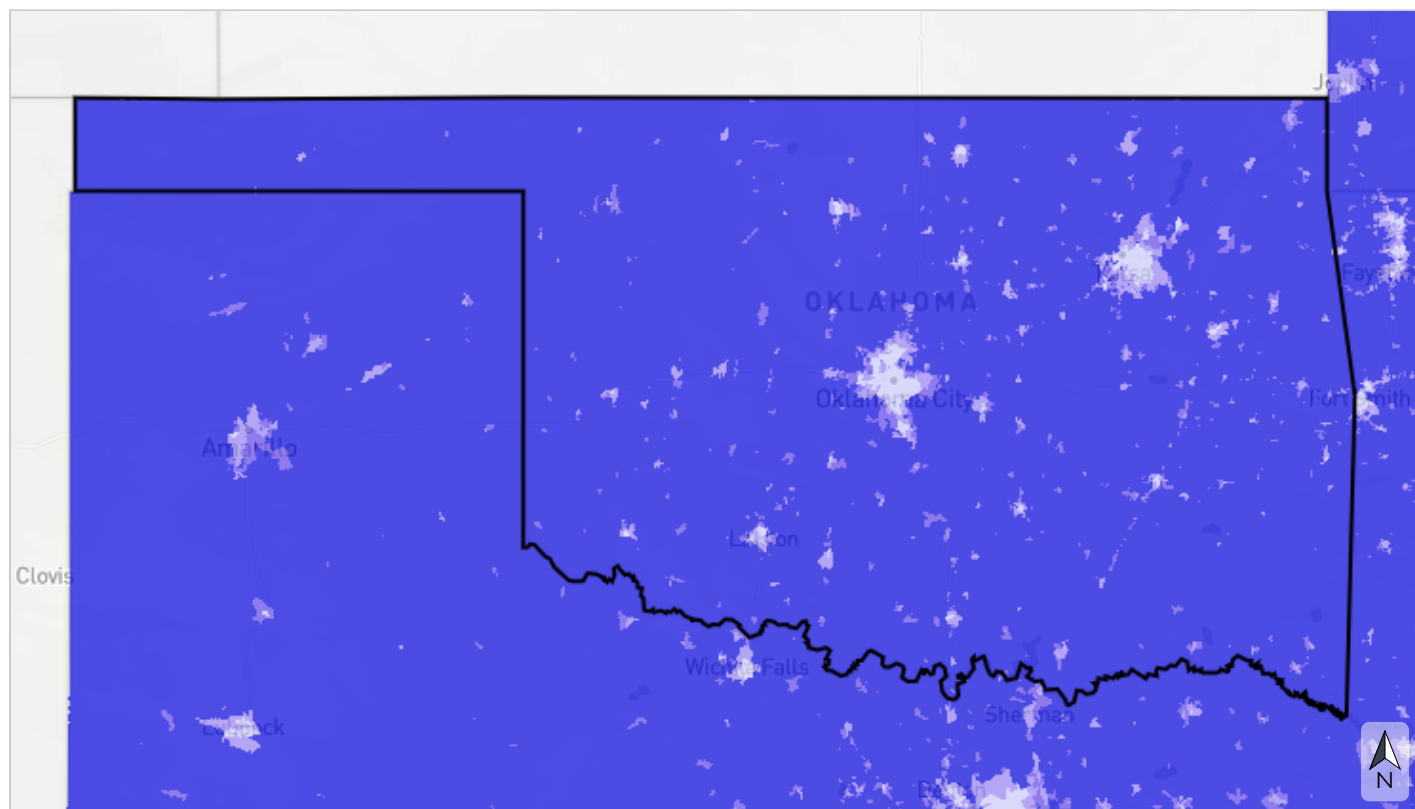
To learn more and explore the GIS data, [view this indicator in the SECAS Atlas](#).



Freshwater

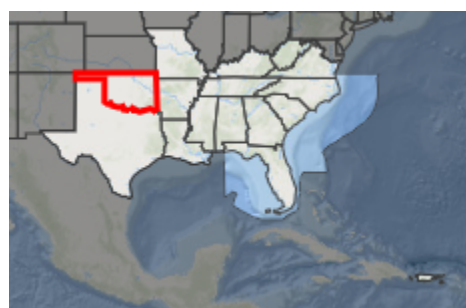
Permeable surface

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 2019 National Land Cover Database percent developed impervious layer.



Basemap credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

54 108 217 miles



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

Table 19: Indicator values for permeable surface in this area. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

	Indicator Values	Acres	Percent of Area	
↑ High	>95% of catchment permeable (likely high water quality and supporting most sensitive aquatic species)	42,715,031	95.5%	↑ In good condition
	>90-95% of catchment permeable (likely declining water quality and supporting most aquatic species)	864,534	1.9%	↓ Not in good condition
	>70-90% of catchment permeable (likely degraded water quality and not supporting many aquatic species)	786,356	1.8%	
↓ Low	≤70% of catchment permeable (likely degraded instream flow, water quality, and aquatic species communities)	369,067	0.8%	
	<i>Outside Southeast Blueprint</i>	416	<0.1%	
	Total area	44,735,404	100%	

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

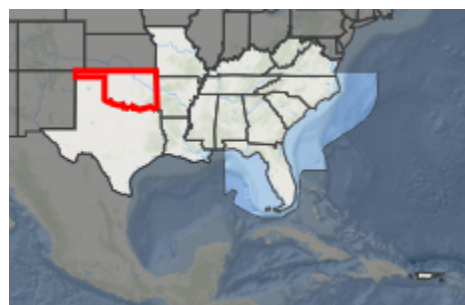
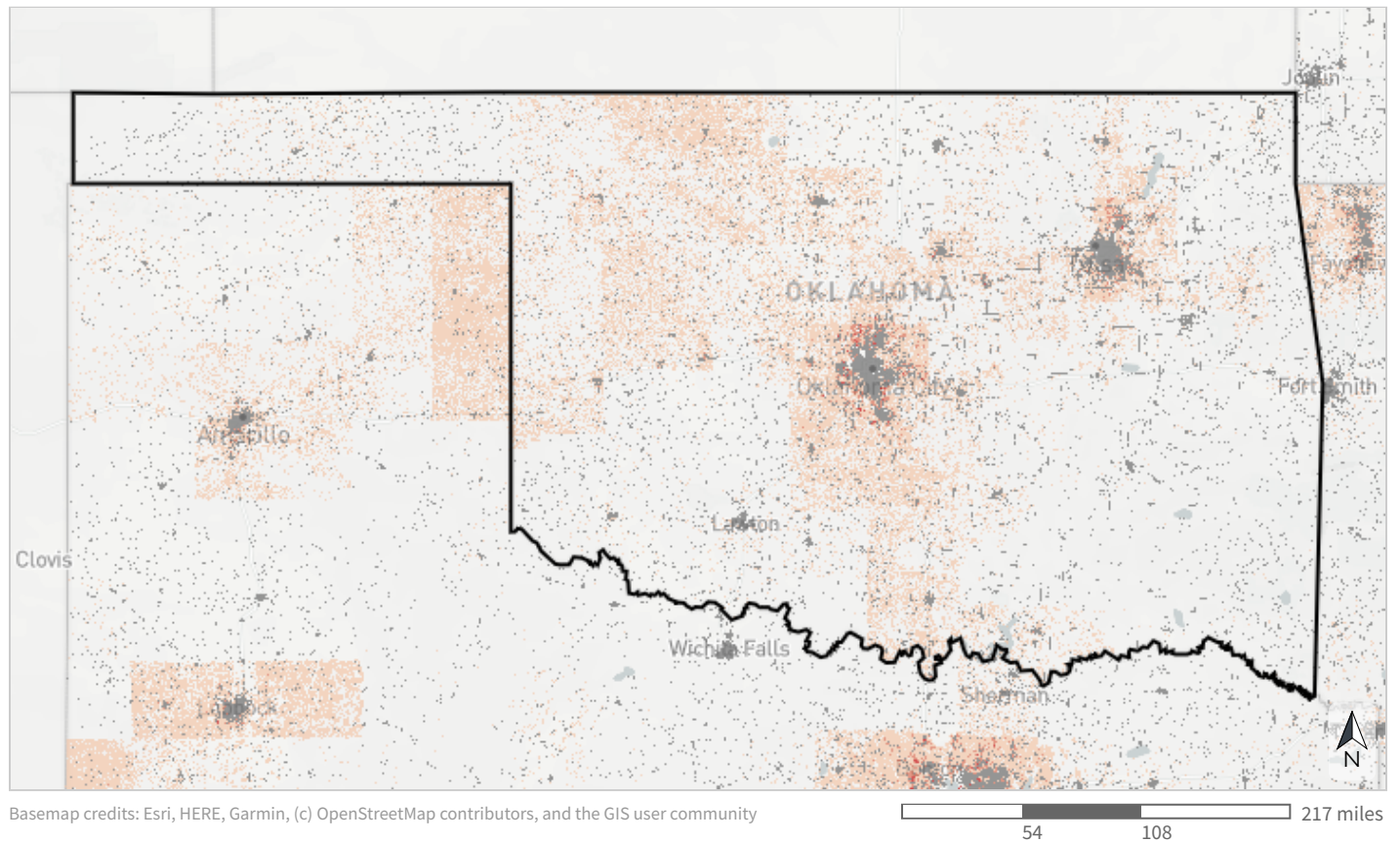
Threats

Sea-level rise

Sea-level rise unlikely to be a threat (inland counties).

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 2019 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.



Probability of urbanization by 2060

- Urban in 2019
- Not likely to urbanize
- Moderate likelihood of urbanization (2 - 25% probability)
- High likelihood of urbanization (25 - 50% probability)
- Very high likelihood of urbanization (>50% probability)

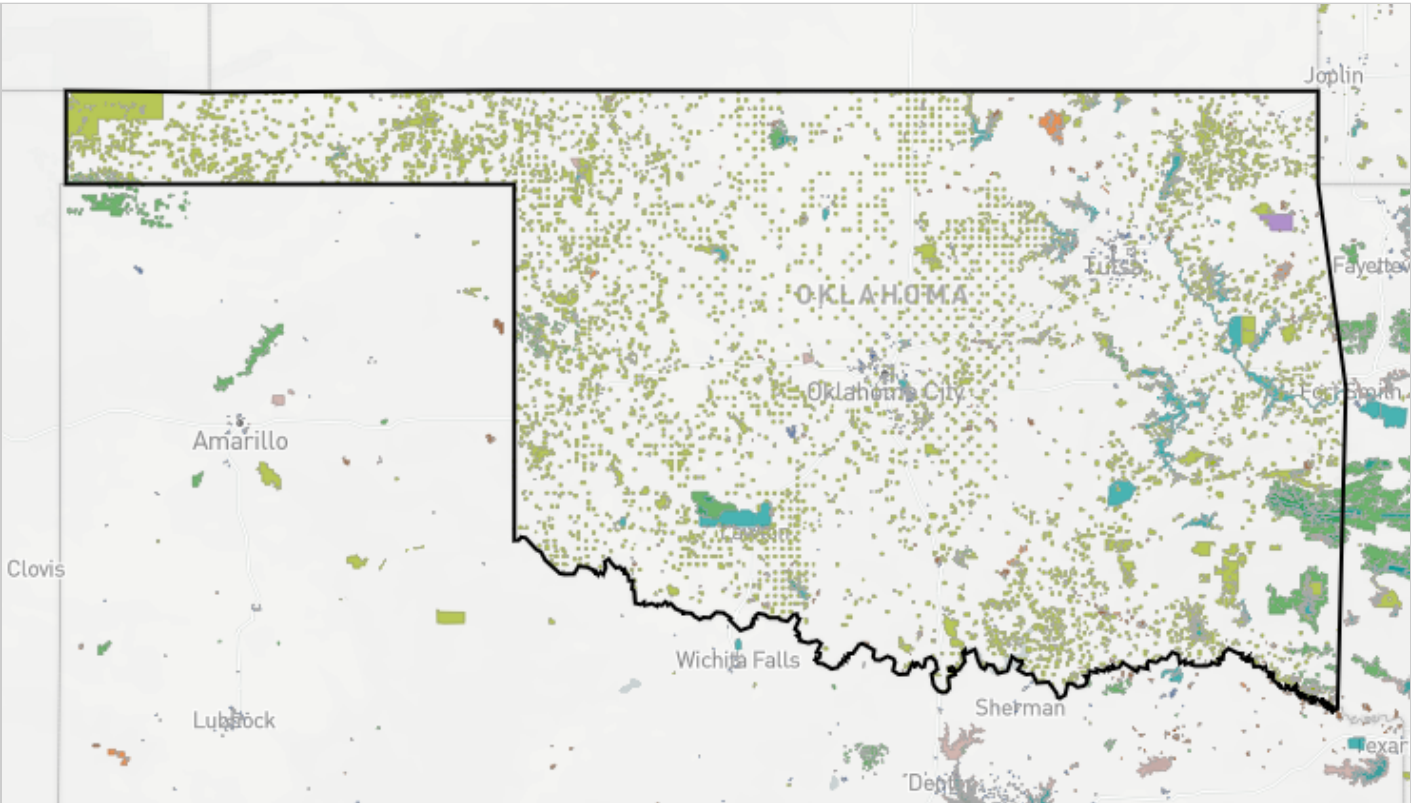
5.7% of this area is already urban in 2019, and an additional 15.0% has at least a moderate probability of urbanizing by 2060.

Table 20: Extent of projected urbanization by decade in this area. Values from the FUTURES urban growth model. Data provided 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.

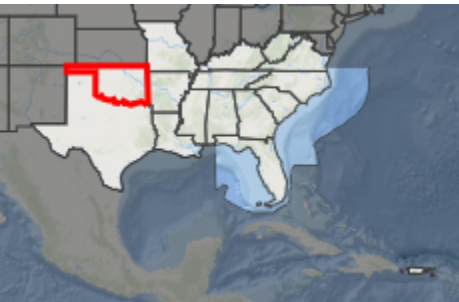
Decade	Acres	Percent of Area
Urban in 2019	2,545,357	5.7%
2020 projected extent	2,585,427	5.8%
2030 projected extent	2,657,388	5.9%
2040 projected extent	2,726,456	6.1%
2050 projected extent	2,792,442	6.2%
2060 projected extent	2,861,882	6.4%
2070 projected extent	2,923,844	6.5%
2080 projected extent	2,977,624	6.7%
2090 projected extent	3,021,002	6.8%
2100 projected extent	3,055,075	6.8%
<i>Not projected to urbanize by 2100</i>	33,369,630	74.6%
<i>Outside Southeast Blueprint</i>	416	<0.1%
Total area	44,735,404	100%

Ownership and Partners

Conserved lands ownership



Basemap credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

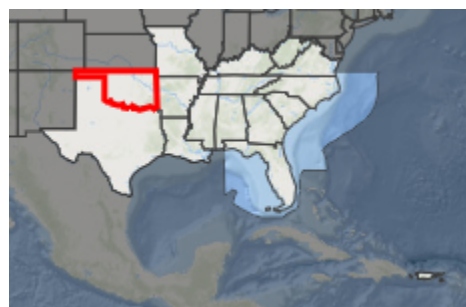
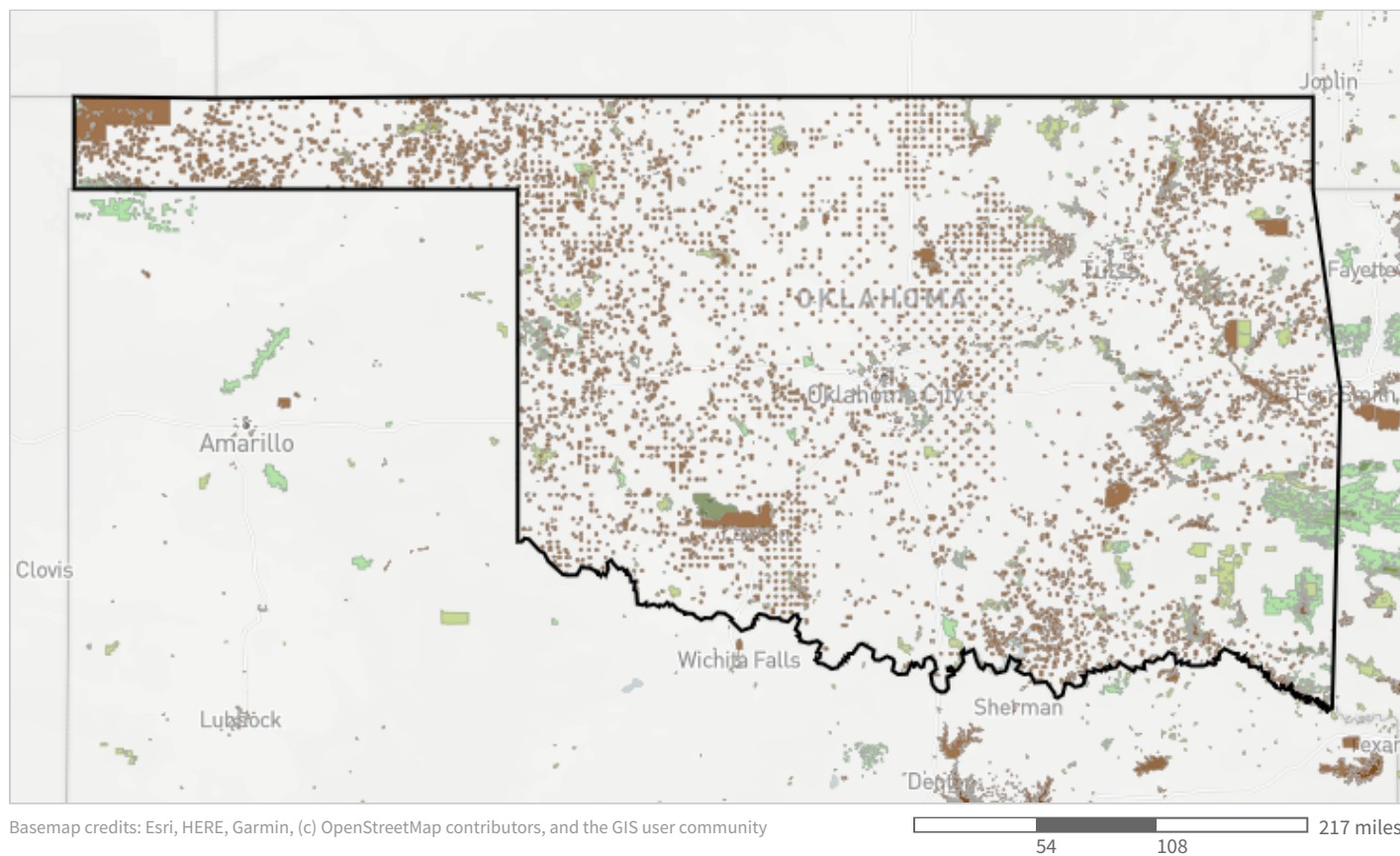


- | | |
|--|--|
|  Federal |  Joint |
|  State/province |  Private non-profit conserved lands |
|  Territorial |  Private conservation land |
|  Regional |  Tribal |
|  Local |  Designation |
| |  Ownership unknown |

Table 21: Extent of ownership class in this area. Protected areas are derived from the [Protected Areas Database of the United States](#) (PAD-US v3.0). 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.

Ownership	Acres	Percent of Area
Federal	522,103	1.2%
State/province	4,094,174	9.2%
Regional	723	<0.1%
Local	48,791	0.1%
Private non-profit conserved lands	72,120	0.2%
Private conservation land	104,069	0.2%
Tribal	37,001	<0.1%
Designation	678,702	1.5%
Ownership unknown	10,895	<0.1%
<i>Not conserved</i>	39,166,789	87.6%
Total area	44,735,368	100%

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 22: Extent of land protection status in this area. Protected areas are derived from the [Protected Areas Database of the United States](#) (PAD-US v3.0). 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.

Land Protection Status	Acres	Percent of Area
Managed for biodiversity (disturbance events proceed or are mimicked)	118,716	0.3%
Managed for biodiversity (disturbance events suppressed)	942,827	2.1%
Managed for multiple uses (subject to extractive uses such as mining or logging, or OHV use)	642,258	1.4%
No known mandate for biodiversity protection	3,864,777	8.6%
<i>Not conserved</i>	39,166,789	87.6%
Total area	44,735,368	100%

Protected Areas

- CLO Lands (The Commissioners of the Land Office; 3,238,963 acres)
- Ouachita National Forest (USDA FOREST SERVICE; 353,283 acres)
- Eufaula Lake (101,458 acres)
- Fort Sill (93,725 acres)
- Honobia Creek Wildlife Management Area (Department of Wildlife Conservation; 80,896 acres)
- Robert S. Kerr Lake (62,676 acres)
- WICHITA MOUNTAINS WILDLIFE REFUGE (Fee; 59,021 acres)
- Cibola National Forest (USDA FOREST SERVICE; 46,339 acres)
- McAlester AAP (44,913 acres)
- Indian Nations (44,642 acres)
- Kenwood Indian Reservation (Unknown; 36,817 acres)
- Wister Wildlife Management Area & Waterfowl Refuge (Department of Wildlife Conservation; 35,425 acres)
- NG Camp Gruber (33,482 acres)
- Greater Flint Hills (The Nature Conservancy; 28,570 acres)
- Oologah Lake (28,333 acres)
- Beaver River Wildlife Management Area (Department of Wildlife Conservation; 26,749 acres)
- Winding Stair Mountain (26,617 acres)

- Eufaula Wildlife Management Area (Department of Wildlife Conservation; 23,829 acres)
- Copan Wildlife Management Area (Department of Wildlife Conservation; 23,457 acres)
- Keystone Wildlife Management Area (Department of Wildlife Conservation; 22,405 acres)
- Keystone Lake (22,342 acres)
- James Collins Wildlife Management Area (Department of Wildlife Conservation; 21,498 acres)
- SALT PLAINS NATIONAL WILDLIFE REFUGE (Fee; 21,182 acres)
- Fort Gibson Public Hunting Area & Waterfowl Refuge Portion (Department of Wildlife Conservation; 20,575 acres)
- Packsaddle Wildlife Management Area (Department of Wildlife Conservation; 20,513 acres)
- ... and 1,491 more protected areas ...

Nearby land trusts

[Click here](#) to search for land trusts within 500 miles of this area on the Land Trust Alliance website.

Credits

This report was generated by the Southeast Conservation Blueprint Explorer, which was developed by [Astute Spruce, LLC](#) in partnership with the U.S. Fish and Wildlife Service under the [Southeast Conservation Adaptation Strategy](#).

Data credits

Urbanization data are derived from the FUTURES urban growth model. Data provided by the [Center for Geospatial Analytics](#), NC State University (June 2022).

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](#).

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