



OKLAHOMA

Defined by Diversity

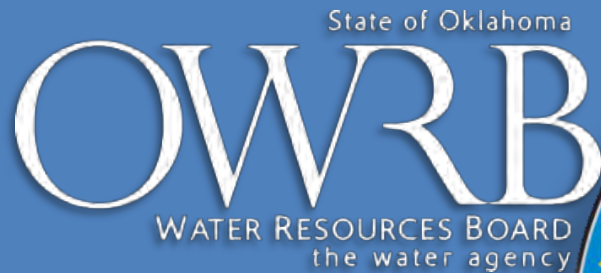
J. D. Strong

Secretary of Environment





Oklahoma's Environmental Agencies



Corporation Commission
Department of Agriculture
Conservation Commission
Dept of Mines



O K L A H O M A
DEPARTMENT OF ENVIRONMENTAL QUALITY



Dept of Public Safety
Dept of Labor
Dept of Civil Emergency
Management

Oklahoma History

- Recorded history Coronado, 1541
- Part of the Louisiana Purchase, 1803
- 5 Civilized Tribes relocated, 1820s
- Reservations allotted to individual members post-Civil War
- 6 land runs from 1889-1895 opened western territory
- Oklahoma becomes **46th state, November 16, 1907**



Oklahoma Almanac

- Largest **American Indian** population of any state (49 Tribal headquarters)
- 69,898 mi² and over 3.5 million people
- 3rd largest **gas** producing state
- 4th in nation in **wheat, cattle** and calf production
- More **reservoirs** than any other state with over 1 million ac (404,686 ha)
- 55,646 mi **shoreline**, almost as much as all U.S. coasts combined



Sequoyah by Charles Banks Wilson



Will Rogers

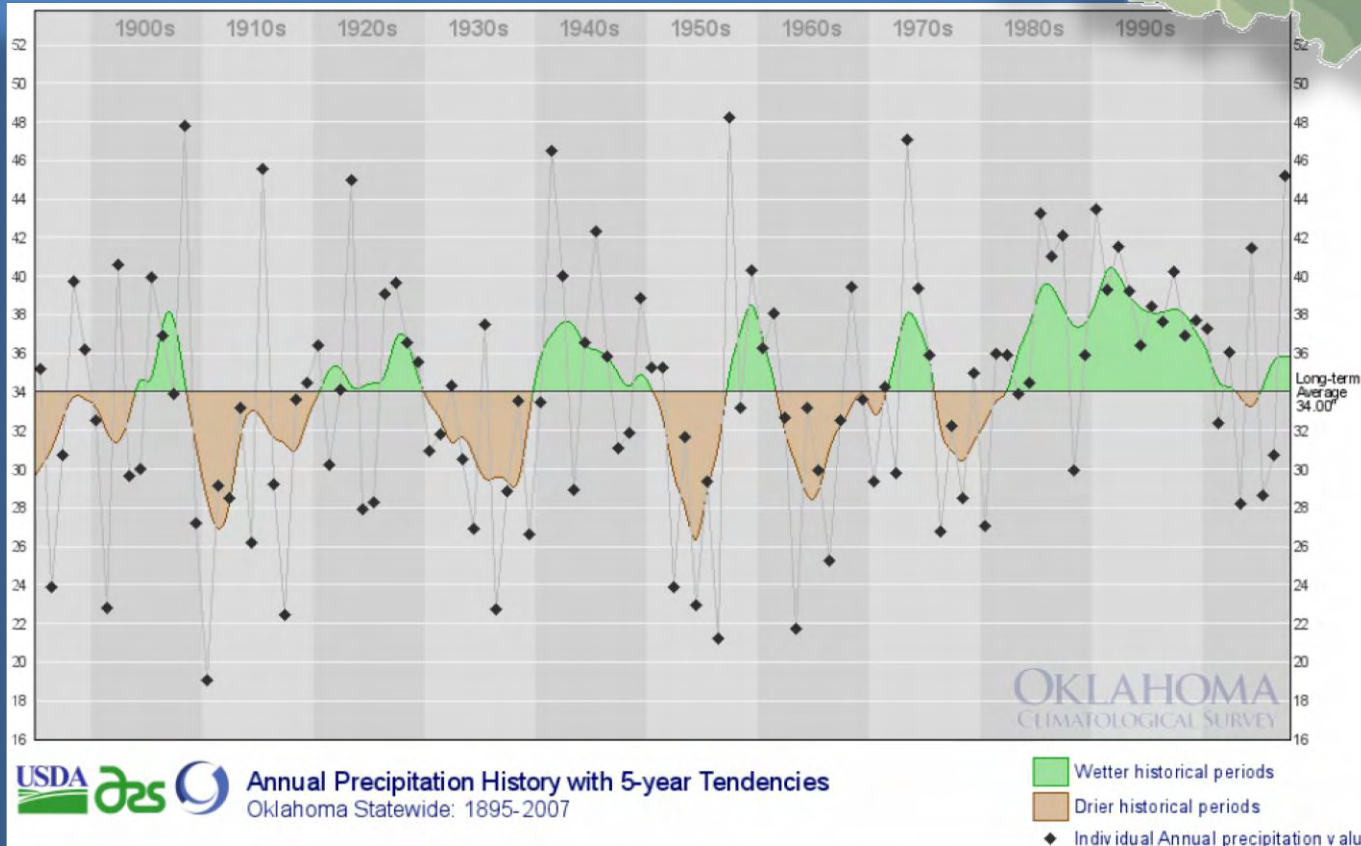
The Dust Bowl in Oklahoma

Cimarron County, 1936



Rainfall

← 15 in to 57 in →



Annual Rainfall (1895-2007)

Oklahoma has a long history of disastrous droughts and devastating floods

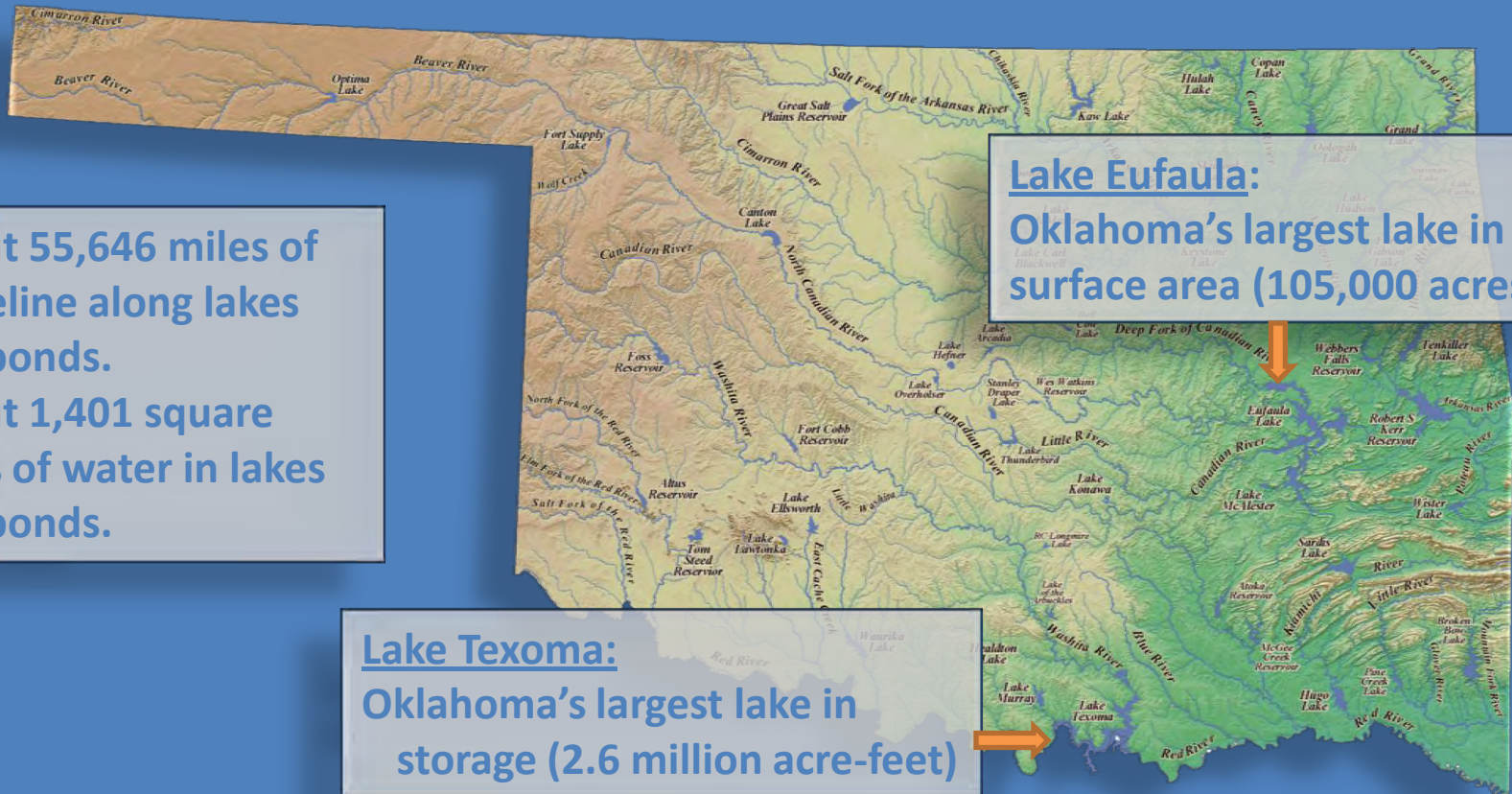
Oklahoma: Land of ~~Lakes~~ Reservoirs

- 34 major reservoirs store 13 million AF of water
- 4,300 public/private & watershed protection lakes

- About 55,646 miles of shoreline along lakes and ponds.
- About 1,401 square miles of water in lakes and ponds.

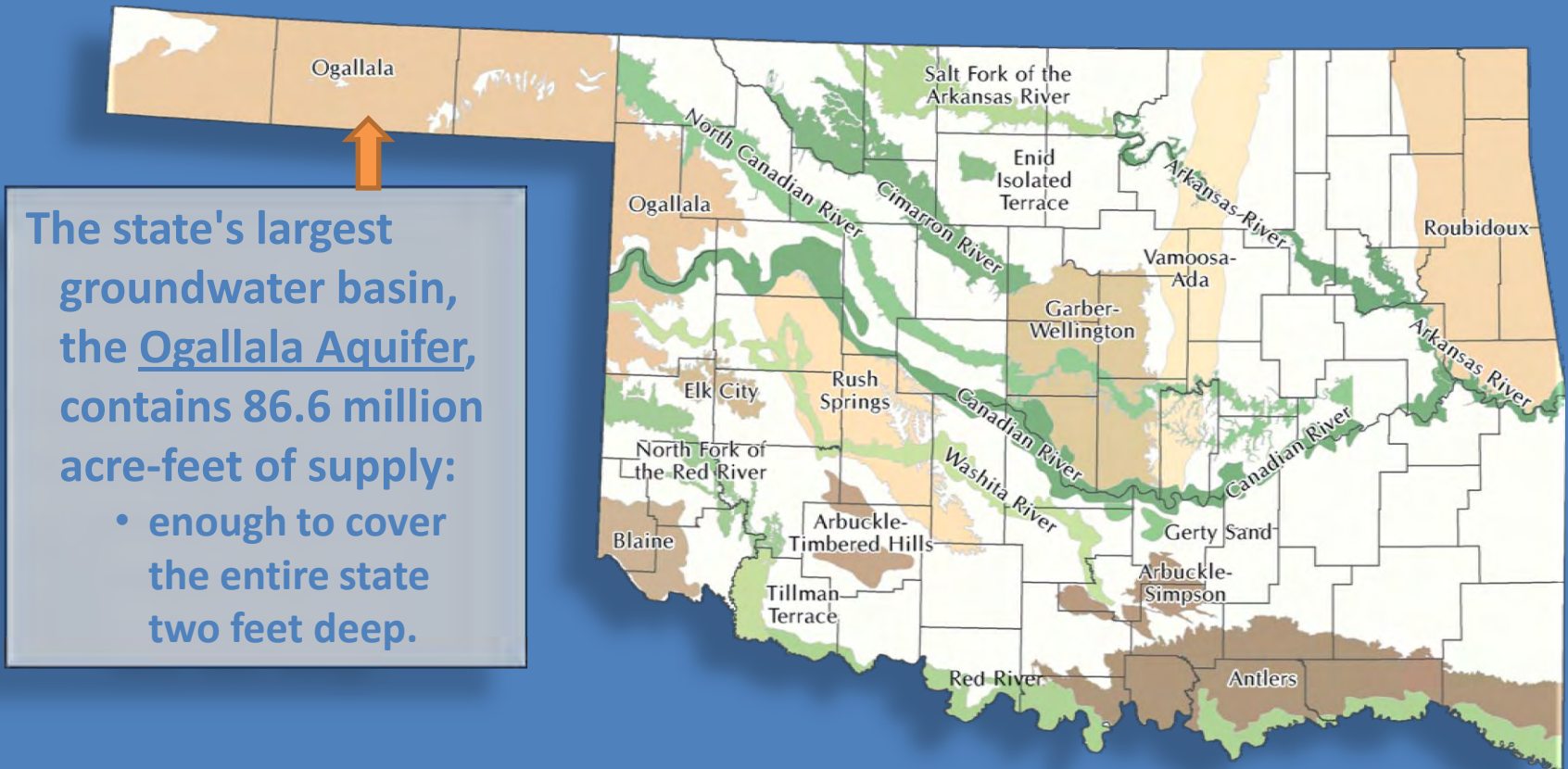
Lake Eufaula:
Oklahoma's largest lake in surface area (105,000 acres)

Lake Texoma:
Oklahoma's largest lake in storage (2.6 million acre-feet)



Oklahoma's Groundwater

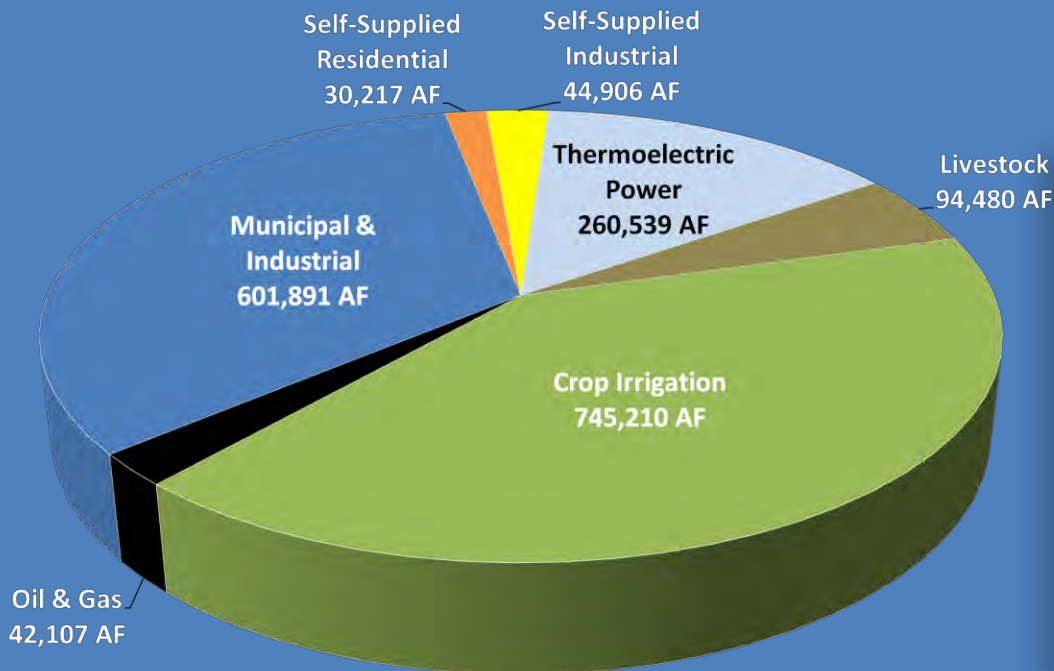
- 23 major groundwater aquifers store 320 million acre-feet of water



Oklahoma's Water Use

Annual Withdrawals (USGS, 2005):

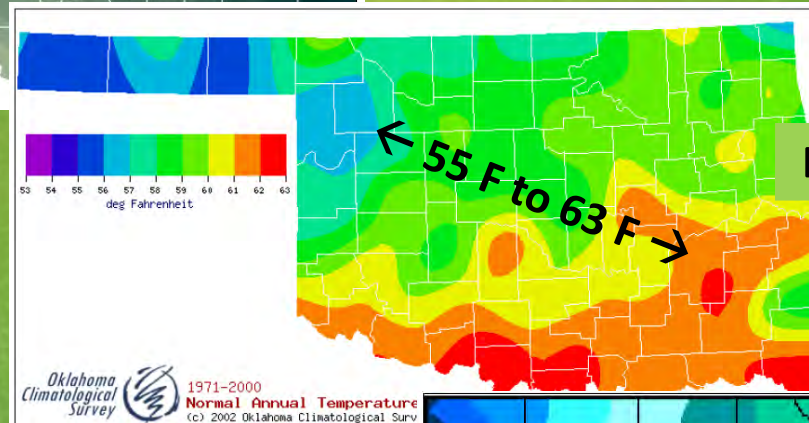
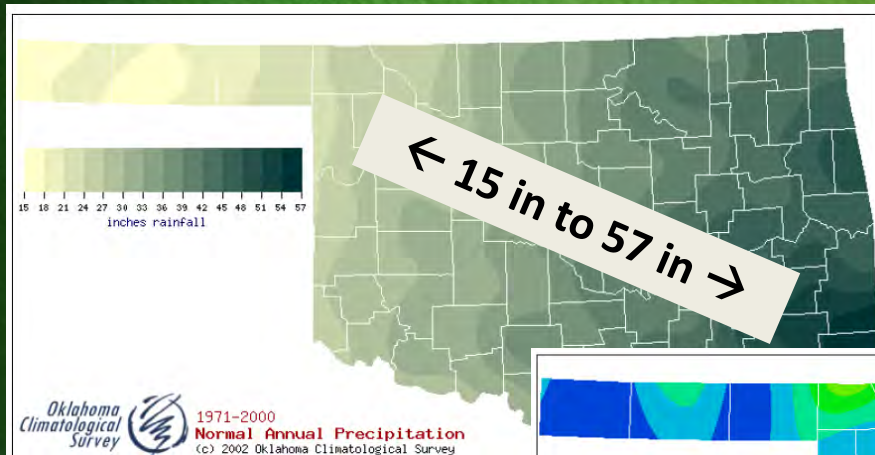
State Total Water Use = 1,746,080 ac-ft
Surface Water = 1,107,680 ac-ft
Groundwater = 638,400 ac-ft



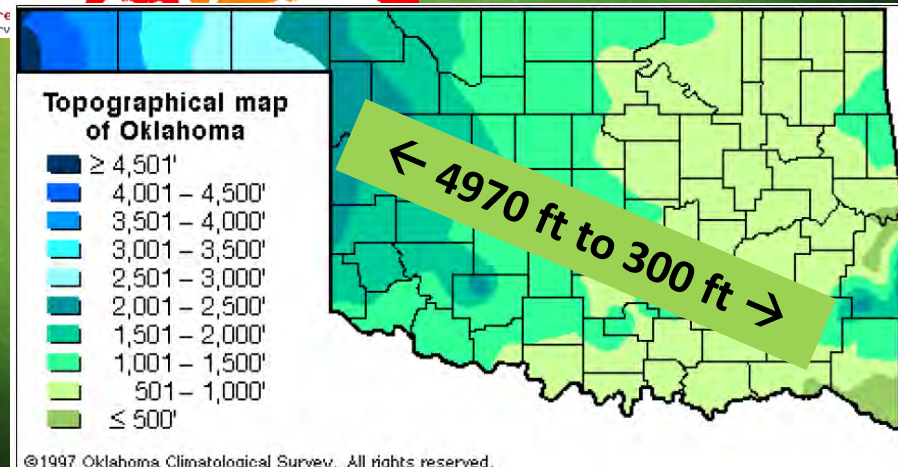
• Irrigation:

- Accounts for 63% of all groundwater withdrawals
- 166,970 ac-ft used each year in Texas County alone:
 - During a peak irrigation day, Texas County uses as much water as New York City during an average day

Oklahoma Climate/Terrain

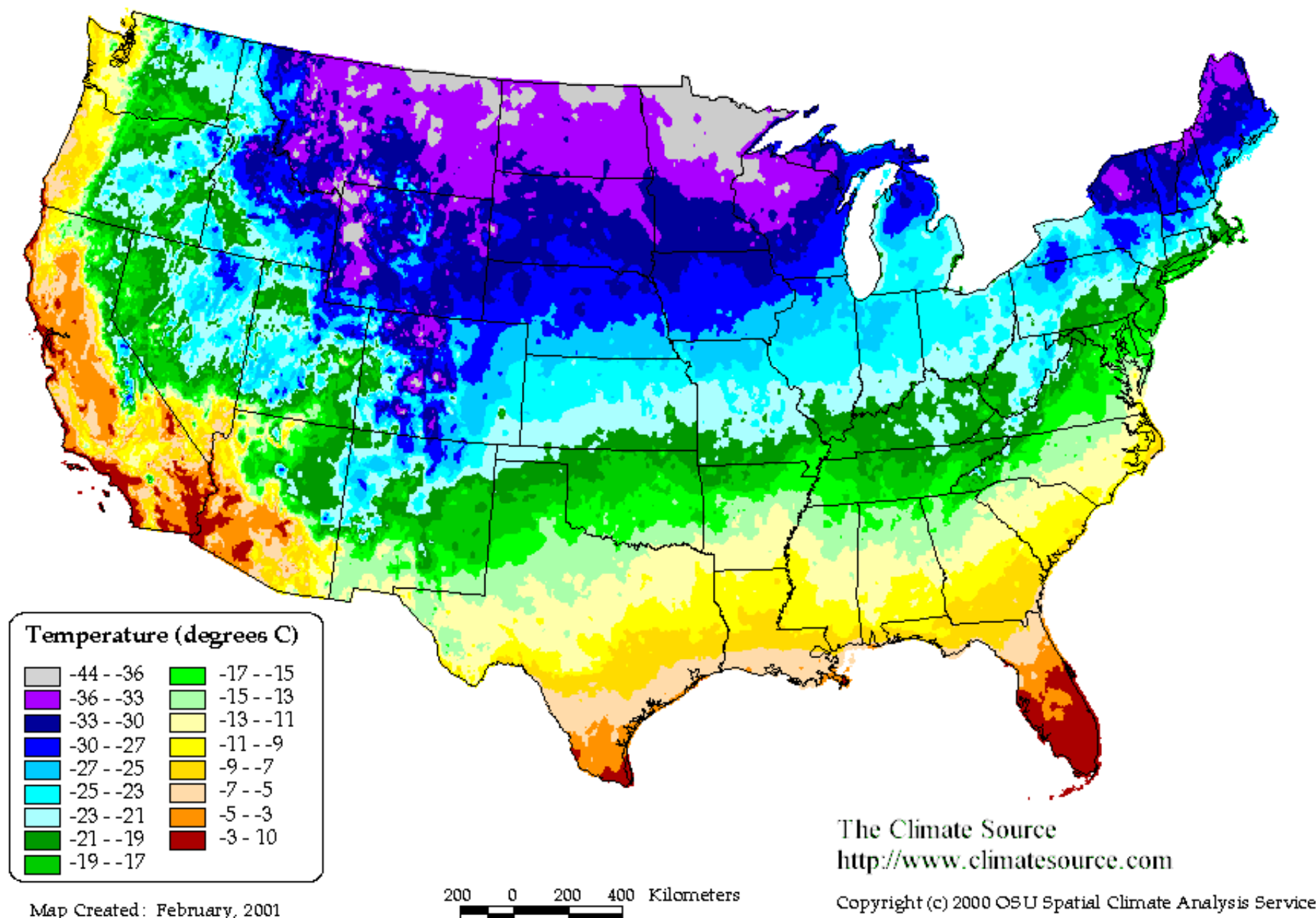


Extremes: -27 F to 110 F



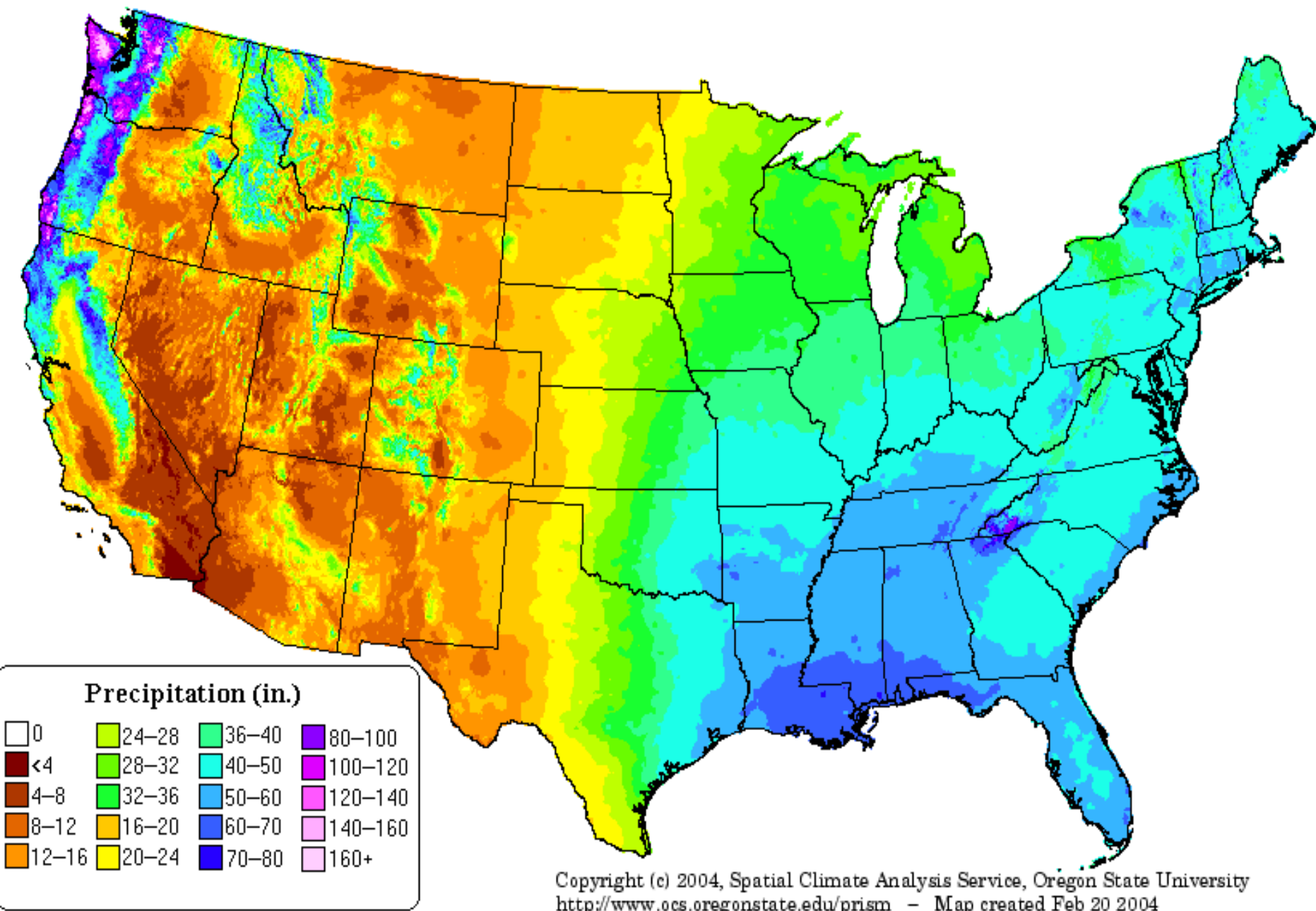
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1961-1990 PRISM Mean Annual Extreme Minimum Temperature, United States

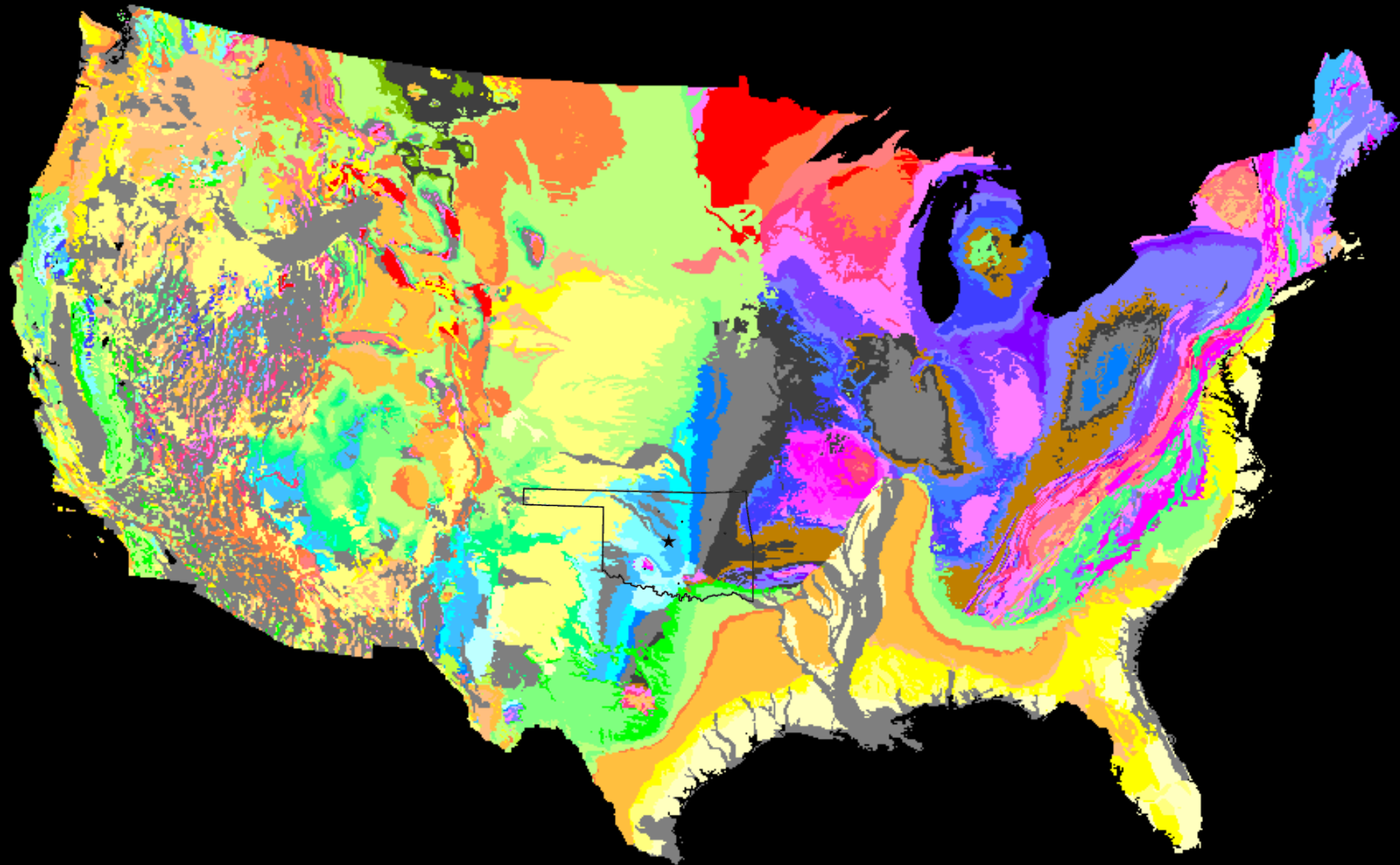


Map Created: February, 2001

Precipitation: Annual Climatology (1971–2000)



Geologic Map of the United States

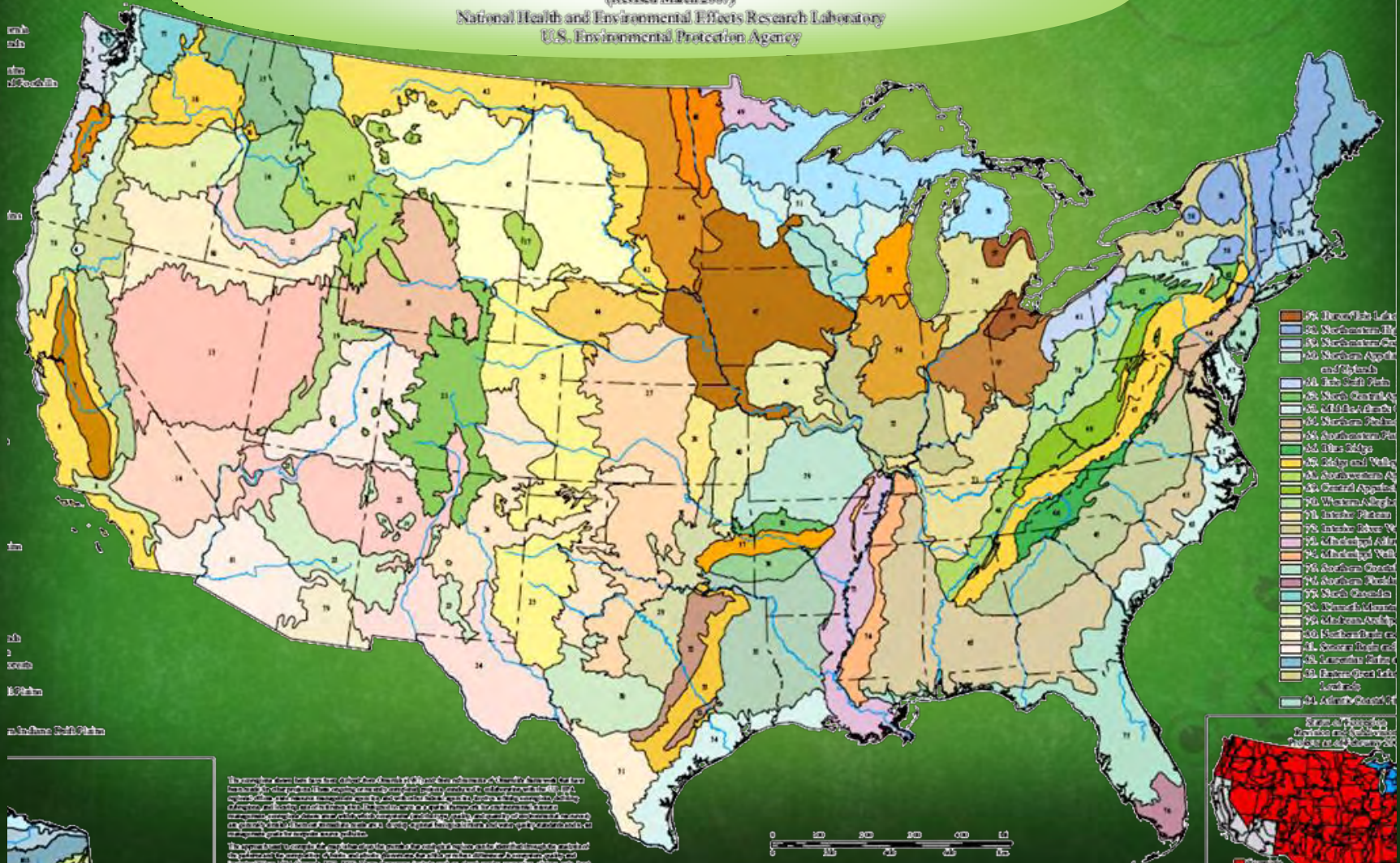


Most Ecodiversity Per Mile

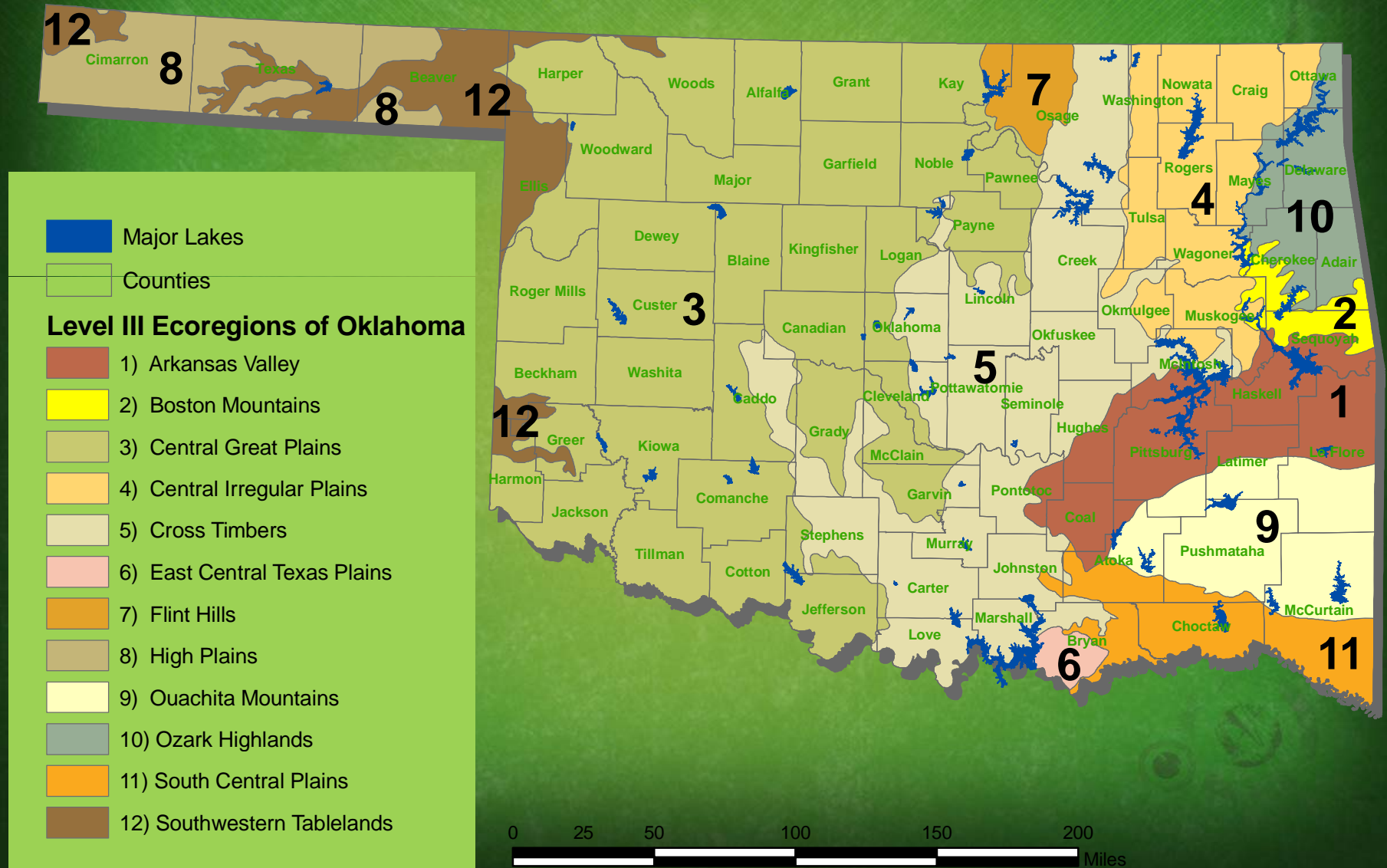
Level III Ecoregions of the Continental United States

(Revised March 2007)

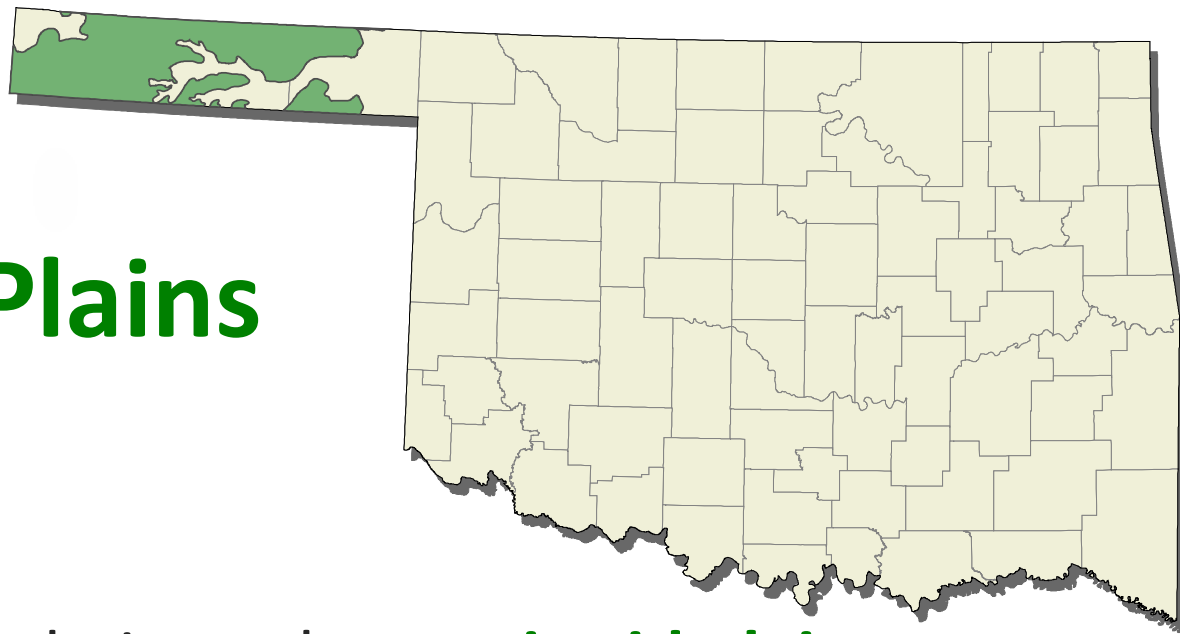
National Health and Environmental Effects Research Laboratory
U.S. Environmental Protection Agency



12 Ecoregions of Oklahoma



High Plains



- Smooth, irregular **semi-arid plains**
- Elevation ranges 2,400 to 4,800-ft
- Erratic precipitation (17-20 in/yr)
- Grama-buffalograss prairie with some sagebrush-bluestem
- Rangeland and **irrigated cropland**
- Intermittent streams mostly dry



Southwestern Tablelands

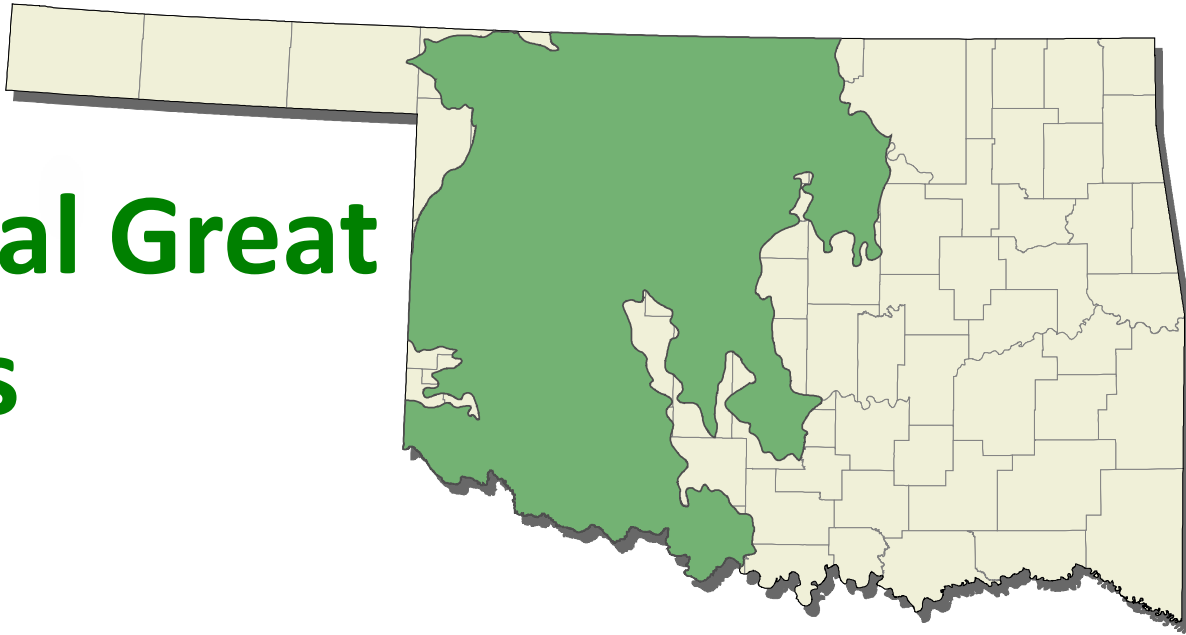


- **Rugged** plains, canyons & mesas
- Black Mesa at **4,973-ft**
- Erratic precipitation (16-28 in/yr)
- Short-grass prairie, sagebrush-bluestem, mesquite-buffalograss, juniper-pinyon in the west
- Very little cropland; **easily overgrazed**
- Intermittent streams; some springs





Central Great Plains



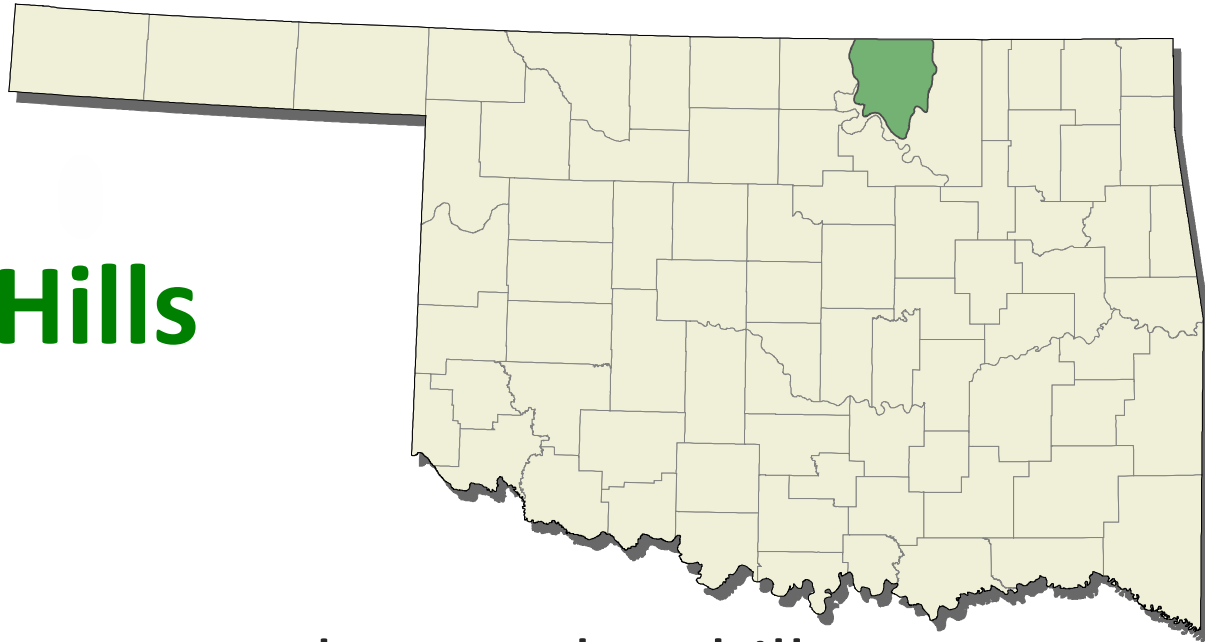
- **Highly diverse** hills, breaks, plains, flats, dunes, low mountains
- Precipitation varies (22-38 in/yr)
- Mixed-grass prairie, mesquite-buffalograss, some shinnery
- Extensively cropped (**wheat**, alfalfa, sorghum, cotton)
- Wide, sandy-bottom streams & rivers







Flint Hills

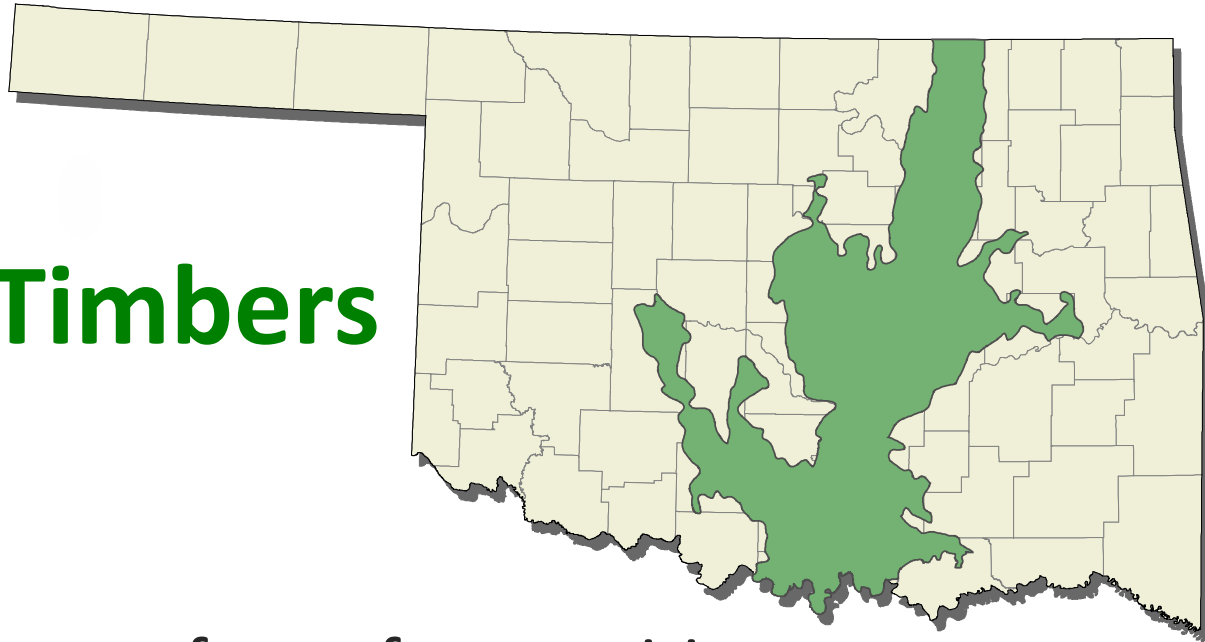


- Grass-covered, open, low hills, cuestas and plains
- Precipitation (38-42 in/yr)
- Rolling **tallgrass prairie**
- Prime **grazing** land; limited cropping
- River valleys; some spring-fed streams





Cross Timbers



- Separates forest from prairie
- Western limit of many mammals/insects
- **Post oak-blackjack oak** woodland and savanna
- Rangeland/pastureland with limited cropping; oil & **gas exploration**
- Diverse streams, rivers, and reservoirs





East Central Texas Plains



- Level to **rolling plains**
- Moist, sub-humid (42-45 in/yr)
- Tallgrass prairie and oak savanna
- **Cropland** (soybeans, sorghum, hay, cotton) and pastureland common
- Large streams with muddy or fine-sand substrates



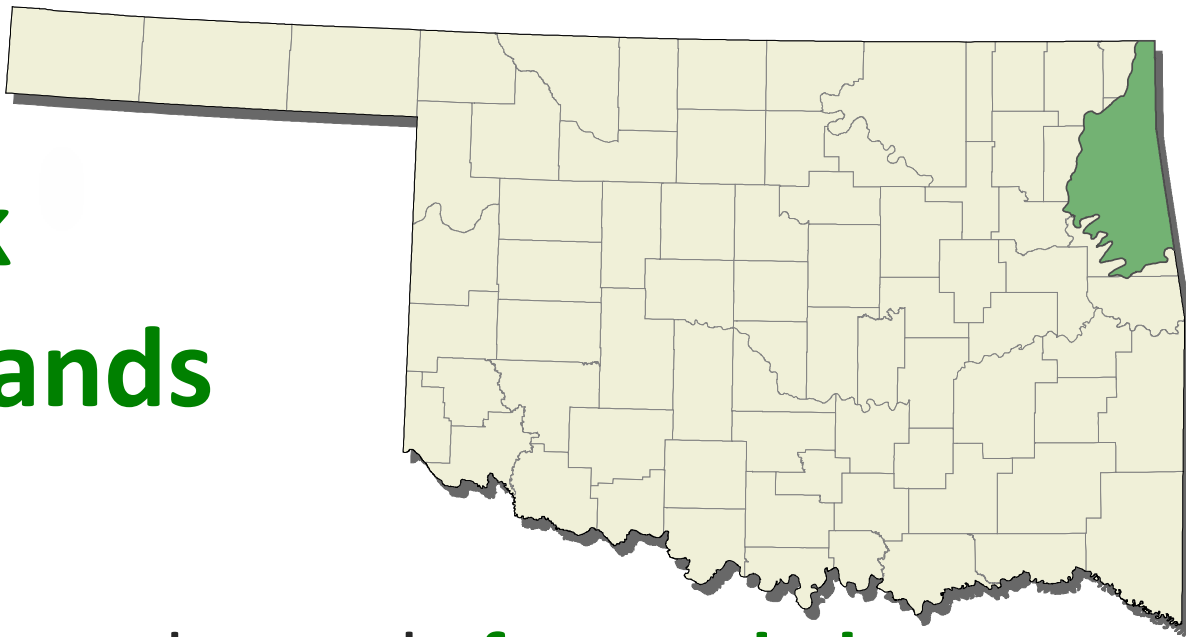
Central Irregular Plains



- Belt of prairie between cross timbers and forested uplands
- Landform **mosaic** of tallgrass prairie, forest and woodland
- **Extensively mined** for lead, zinc, and coal, particularly in past
- Low gradient, slow moving streams



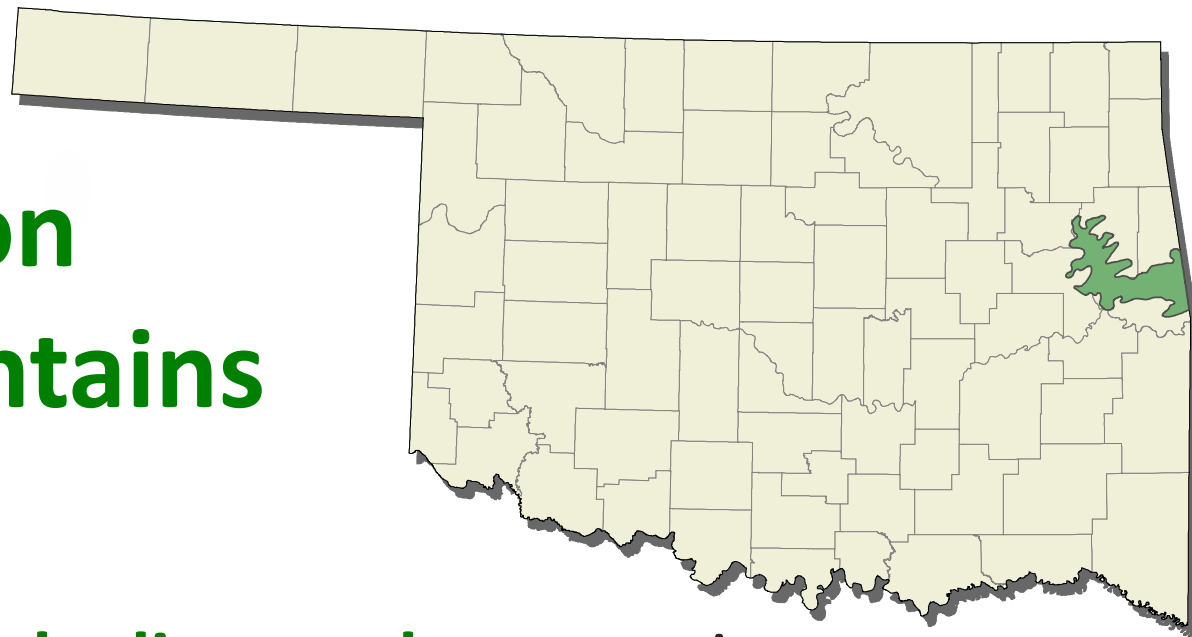
Ozark Highlands



- Dissected, mostly **forested plateau**
- Humid (41-49 in/yr)
- Native **oak-hickory** forest (some pine) largely still intact
- Logging and CAFO land uses
- **Karst**, cool, spring-fed streams



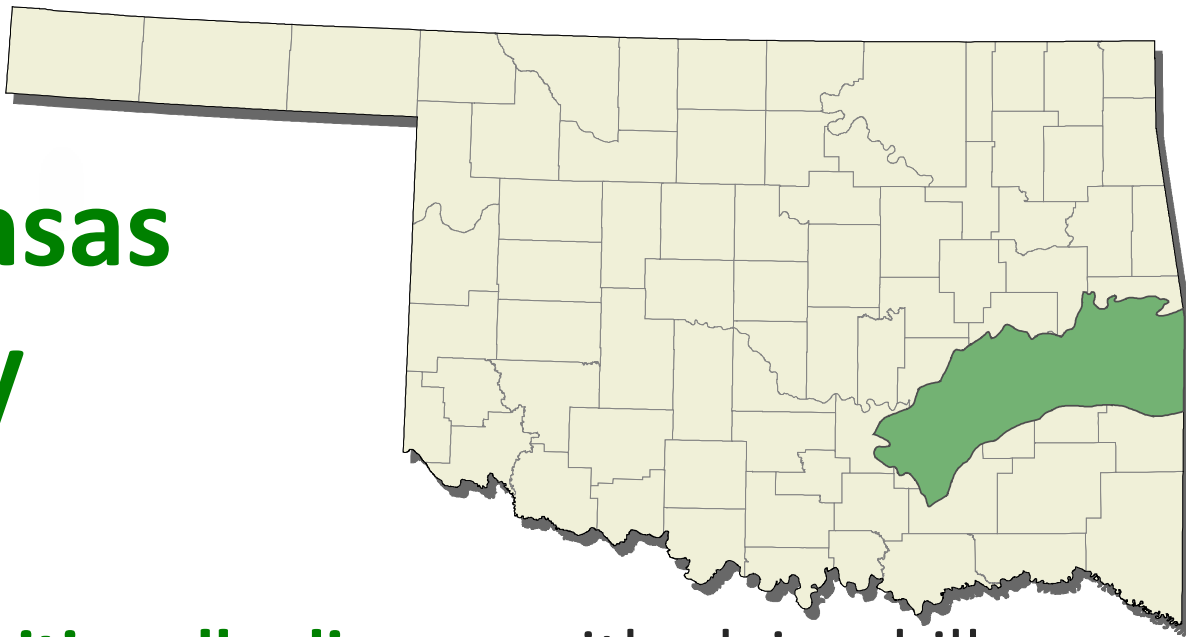
Boston Mountains



- **Deeply dissected**, mountainous plateau
- Humid (44-51 in/yr)
- Oak-hickory forest predominates
- **Recreation** is popular land use
- More limited spring-fed streams with lower summer flows



Arkansas Valley

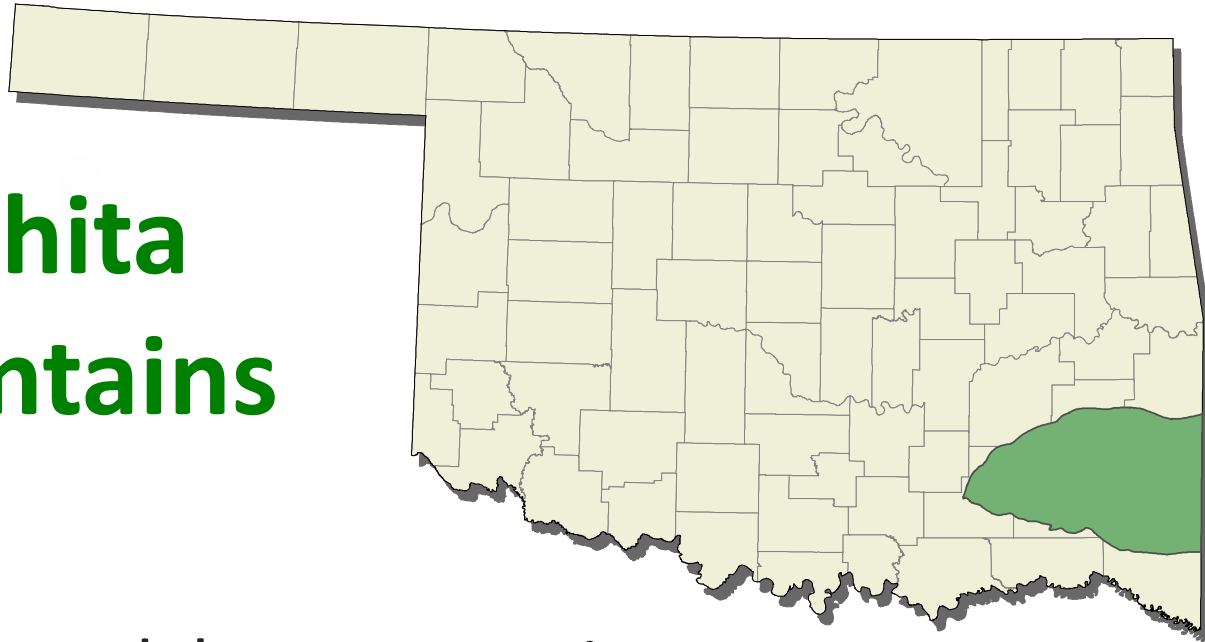


- **Transitionally diverse** with plains, hills, valleys, and scattered mountains
- Mix of oak savanna, oak-hickory-pine forest, bottomland forest
- **Diverse land uses** include cropland, pasture, timber, farming, and mining
- Lower stream gradients; water quality affected by surrounding land uses





Ouachita Mountains



- Forested, low mountains
- Humid (43-57 in/yr)
- **Oak-hickory-shortleaf pine** forests with some pastureland in low valleys
- **Logging** and recreation predominate
- Steeper stream gradients with cobble, boulder, bedrock substrate





Southcentral Plains



- Irregular, **forested plain** cut by shallow valleys
- Lowest elevation in state (**287-ft**)
- Humid (45-55 in/yr)
- Oak-hickory-pine forested uplands with **poorly drained, forested lowlands**
- Timber, recreation and lowland farming



