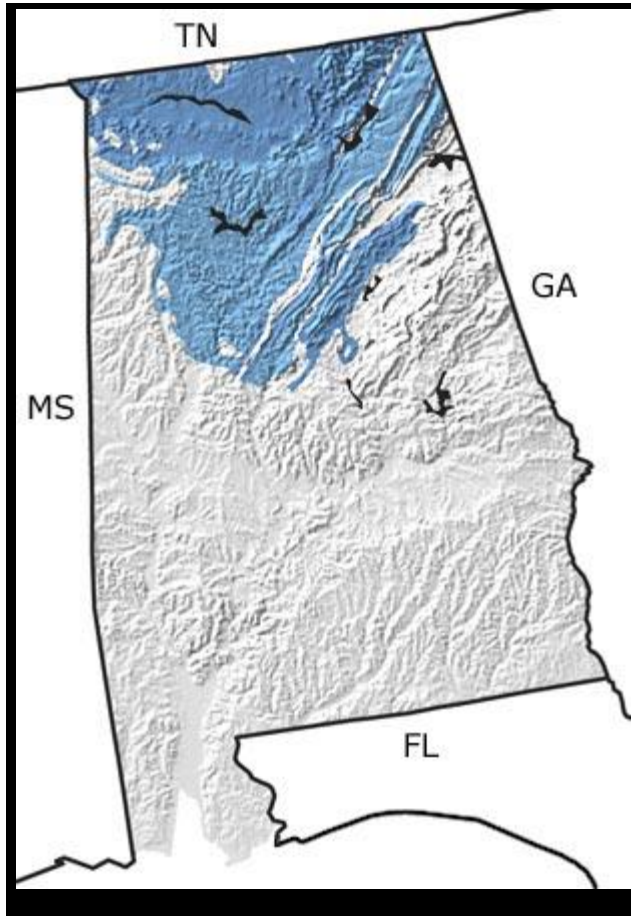


## Alabama – Paleozoic and Precambrian Eras

The **Permian** in **Alabama, US** – (245 to 286 million years ago)

The **Carboniferous** in **Alabama, US** – (286 to 360 million years ago)



### Permian Period

There are no Permian rocks preserved in Alabama. This is probably due to the fact that the Alabama landscape was uplifted above sea level and exposed to erosion.

### Carboniferous Period

During the Early Carboniferous (Mississippian), seas teeming with crinoids and brachiopods covered most of the state.

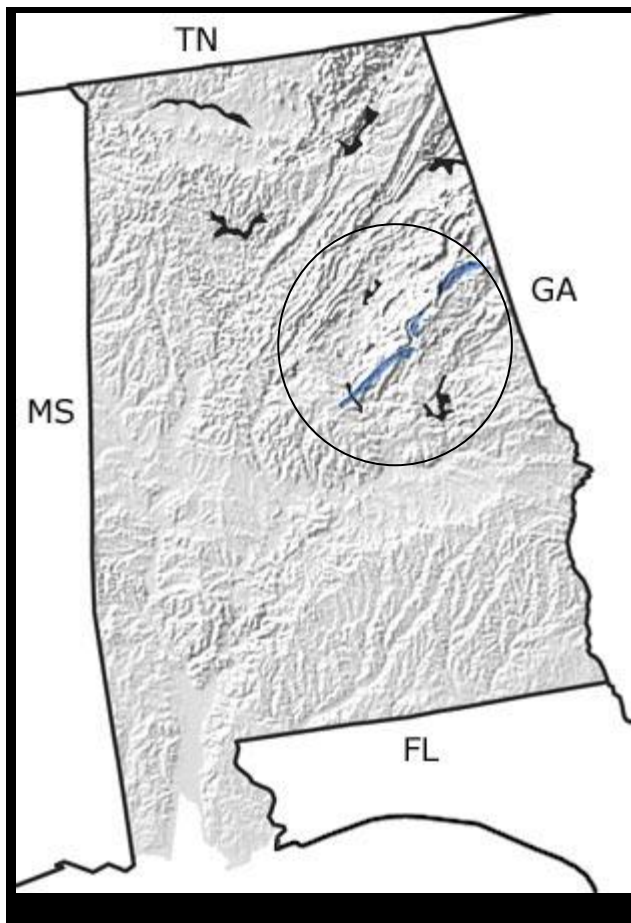
Tectonic activity in the Late Carboniferous (Pennsylvanian) caused Gondwana to collide with the southern edge of Laurentia, forming the supercontinent of Pangea.

This resulted in a mountain-building event (Alleghenian Orogeny) and the formation of the Southern Appalachian Mountains.

Subsequent erosion of these mountains produced vast amounts of sediments that were swept into the sea, creating broad, coastal plains where forests of primitive trees and fern-like plants thrived.

These forests are preserved today as the many coal seams and rocks rich with Coal Age fossils that are found throughout much of northern Alabama.

## The Devonian in Alabama, US – (360 to 410 million years ago)



### Devonian Period

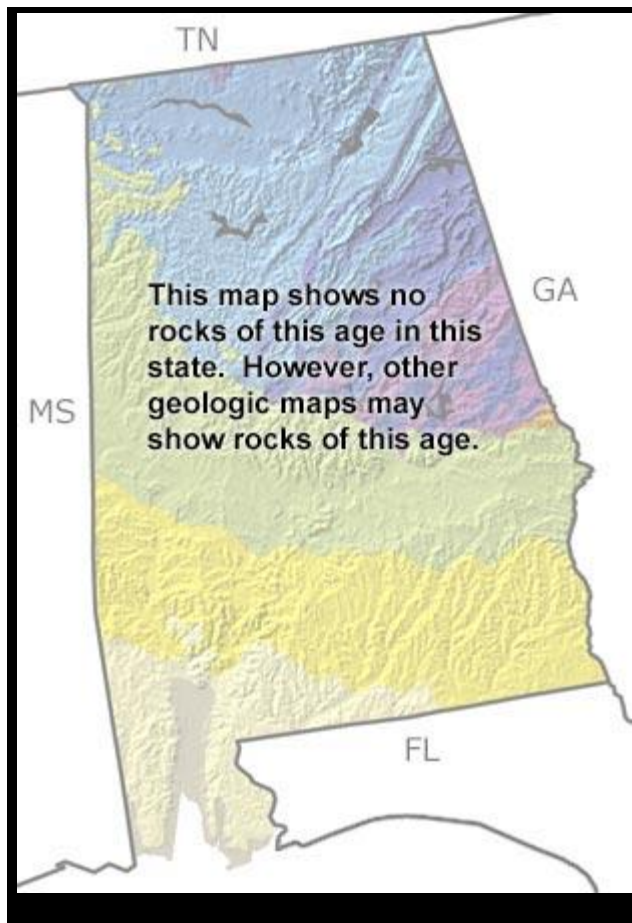
The Devonian is not well represented in Alabama rocks, as at least some of the state was above sea level and subject to erosion.

However, a stretch of Devonian rocks called the Frog Mountain Sandstone occurs in eastern Alabama. Formed nearshore in a marine environment, these rocks are reported to contain the first fragmentary traces of land plants in Alabama.

Dark-colored marine rocks in northern Alabama (known as the Chattanooga Shale) show that the sea covering most of the state in the Late Devonian contained large areas of deeper, oxygen-poor water.

Few organisms could tolerate these conditions. Fossils from these rocks are limited primarily to plant fragments and the remains of animals that swam above the deep, oxygen-starved waters.

## The Silurian in Alabama, US – (410 to 440 million years ago)



### Silurian Period

Most of Alabama lay beneath the sea throughout much of the Silurian, as evidenced by fossils of brachiopods, trilobites, crinoids, and other marine creatures.

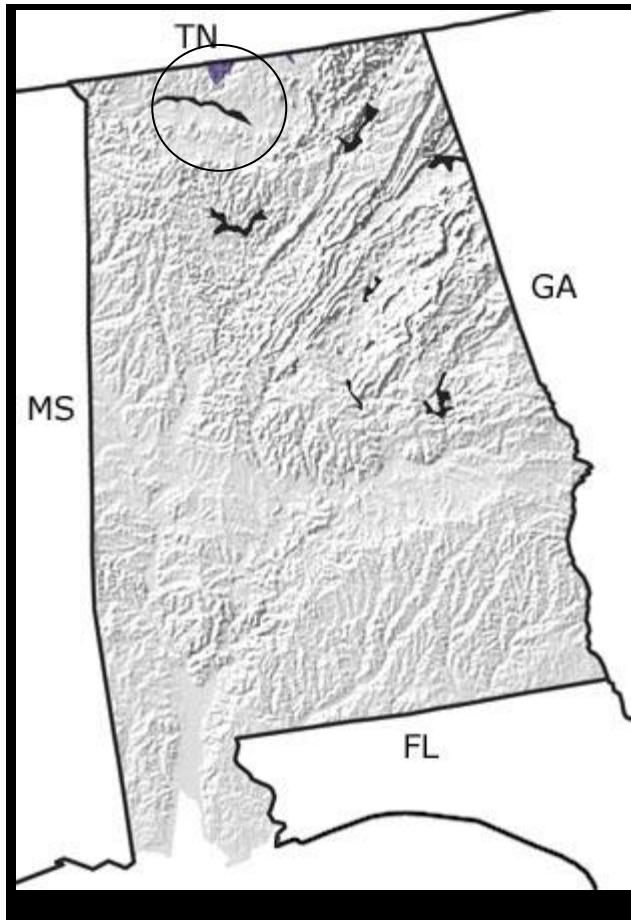
Erosion of the Taconic Mountains to the east deposited sediments in these shallow seas.

One particular type of sediment produced layers of hematite iron ore, which has played an important role in Alabama's industrial history.

Although not shown on this map, these hematite layers are exposed in the Valley and Ridge Province near Birmingham and Gadsden in central Alabama.

Their easy accessibility led to the state's once thriving iron and steel industries.

## The Ordovician in Alabama, US – (440 to 500 million years ago)



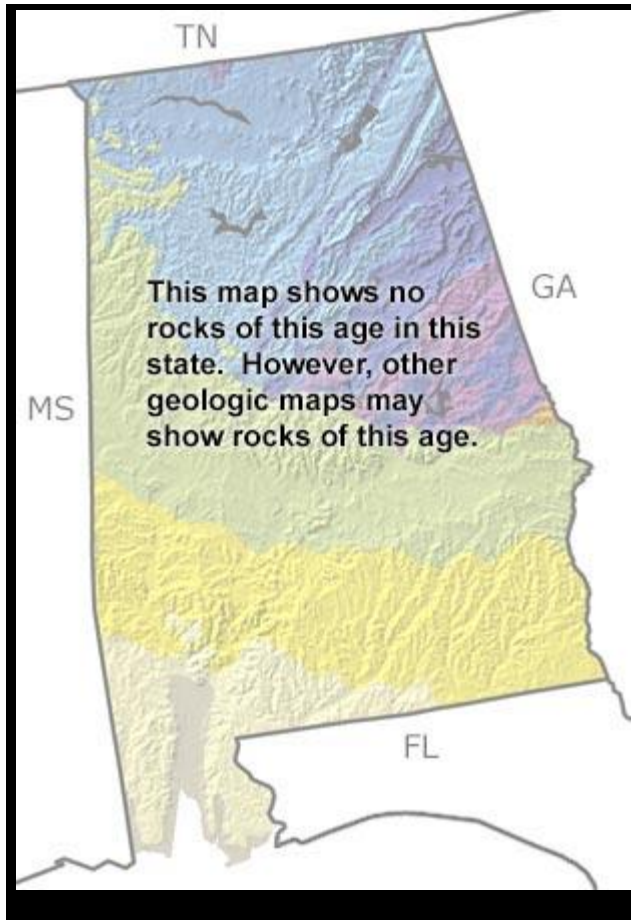
### Ordovician Period

During the Ordovician, most of the land that would become Alabama lay beneath a warm, tropical sea teeming with brachiopods, clams, trilobites, and other marine life. Rocks formed from sediments deposited on this sea floor are now exposed along the Tennessee border in the north-central part of the state.

A mountain-building event (Taconic Orogeny) occurred in the middle Ordovician. Layers of ash from associated volcanic activity and sediments eroding off the rising mountains were periodically deposited into the sea. Melting caused by the subduction of the crust during this orogeny produced massive plutons of granite-type rock.

Although not shown on this map, these granitic rocks are now exposed at the surface across Alabama's Piedmont Province in the east-central part of the state.

## The Cambrian in Alabama, US – (500 to 544 million years ago)



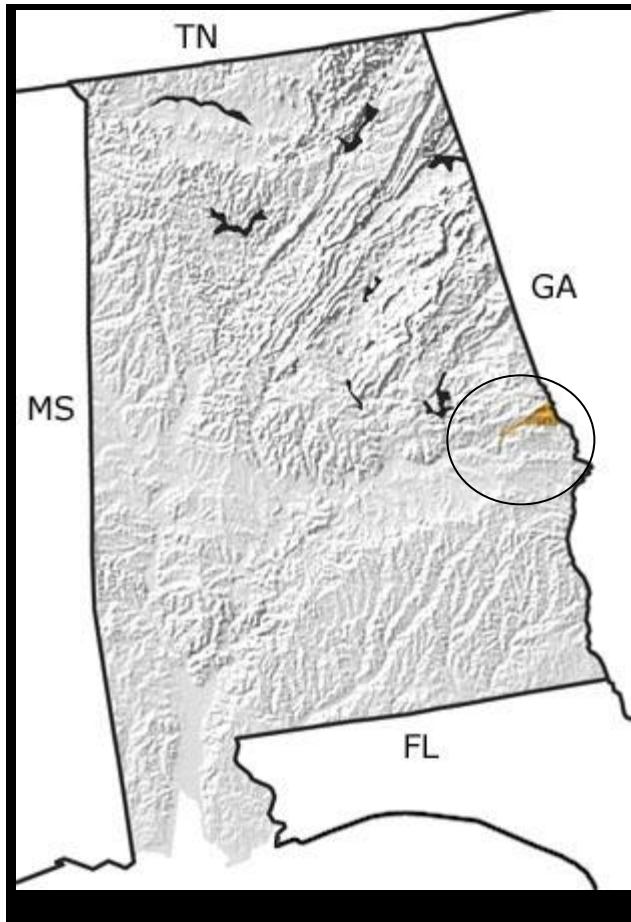
### Cambrian Period

During the Cambrian, the land that is now Alabama lay south of the Earth's equator along the edge of the Iapetus Ocean. Rising sea levels during the Late Cambrian produced a thick sequence of sedimentary rocks that contain a smattering of marine life, including fossils of trilobites and brachiopods.

Although not shown on this map, rocks formed from these marine sediments can be found across parts of northern Alabama



The Precambrian in Alabama, US – (544 to 4,500 million years ago)



**Precambrian Period**

Little is known about Alabama's Precambrian history because the few rocks that date to this time in the state have been highly altered through metamorphism.

Source: Photos and information courtesy of The Paleontology Portal ([www.paleoportal.org](http://www.paleoportal.org)).