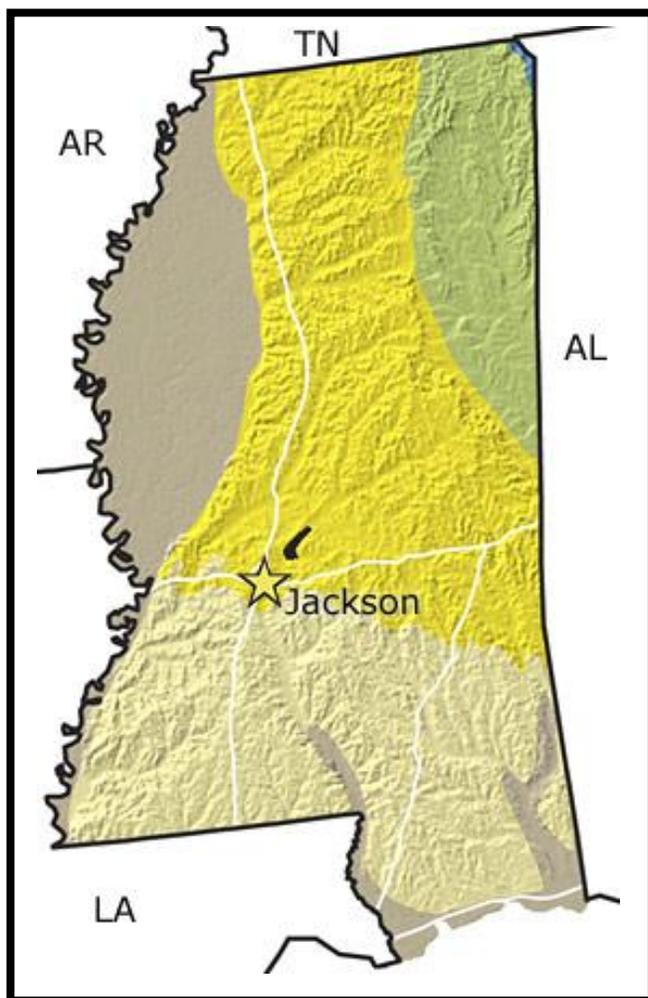


Mississippi – Paleontology and Geology



Geologic Time Periods

0-1.8	Quaternary
1.8-65	Tertiary
65-145	Cretaceous
145-200	Jurassic
200-251	Triassic
251-299	Permian
299-359	Carboniferous
359-416	Devonian
416-444	Silurian
444-488	Ordovician
488-542	Cambrian
542-4650	Precambrian

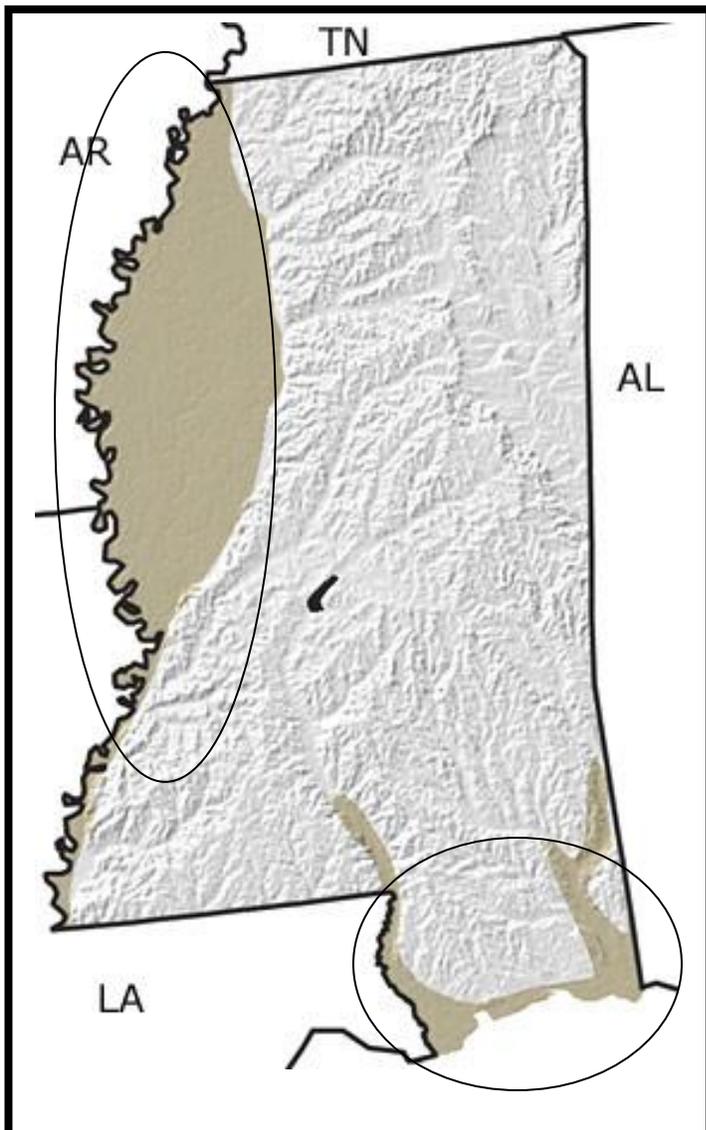
The Precambrian: There are no Precambrian rocks in Mississippi. The state, as such, did not exist during this time.

The Paleozoic: The youngest rocks found in Mississippi are marine in origin, formed during the Late Devonian. A sea with pockets of deep, oxygen-poor water covered the northeastern part of the state at this time. The fossils in these dark-colored rocks are primarily plant fragments and the remains of animals that could swim above the oxygen-starved depths. The sea continued to cover portions of the state into the later part of the Paleozoic and provided a home to molluscs, crinoids, brachiopods, and trilobites. During the Late Carboniferous, the water retreated as vast amounts of sediments were poured into the sea from the erosion of newly formed mountains. Forests of primitive trees and fern-like plants grew on the resulting broad coastal plains. By the end of the Paleozoic, the entire state was above sea level and exposed to erosion.

The Mesozoic: Mississippi remained above sea level for much of the Mesozoic. During the later part of this era, however, a shallow sea flooded the region as North and South America moved farther apart during the breakup of the supercontinent of Pangea. The rocks originally deposited as sediment on the floor of this sea contain abundant fossils of both invertebrates and vertebrates. Pieces of petrified wood are also common.

The Cenozoic: Warm, tropical seas periodically flooded southern Mississippi during the early part of the Cenozoic, while the northern part of the state remained above sea level. Marine fossils include whales, sharks, and bony fish, as well as numerous molluscs and other invertebrates. Fossilized wood found in northern Mississippi provides evidence of the forests and swamps that existed there at this time. In the Late Cenozoic, most of the state was covered by coastal plain and shallow sea. Glaciers far to the north of the state affected the climate and caused fluctuations in sea level. Blankets of wind-blown silt (loess) eroded from the Mississippi River floodplain cover large areas in the northwestern part of the state. Fossil shells of various terrestrial and freshwater molluscs, as well as the fossil bones of a number of terrestrial mammals, have been recovered from the loess deposits.

Mississippi – Cenozoic Eras

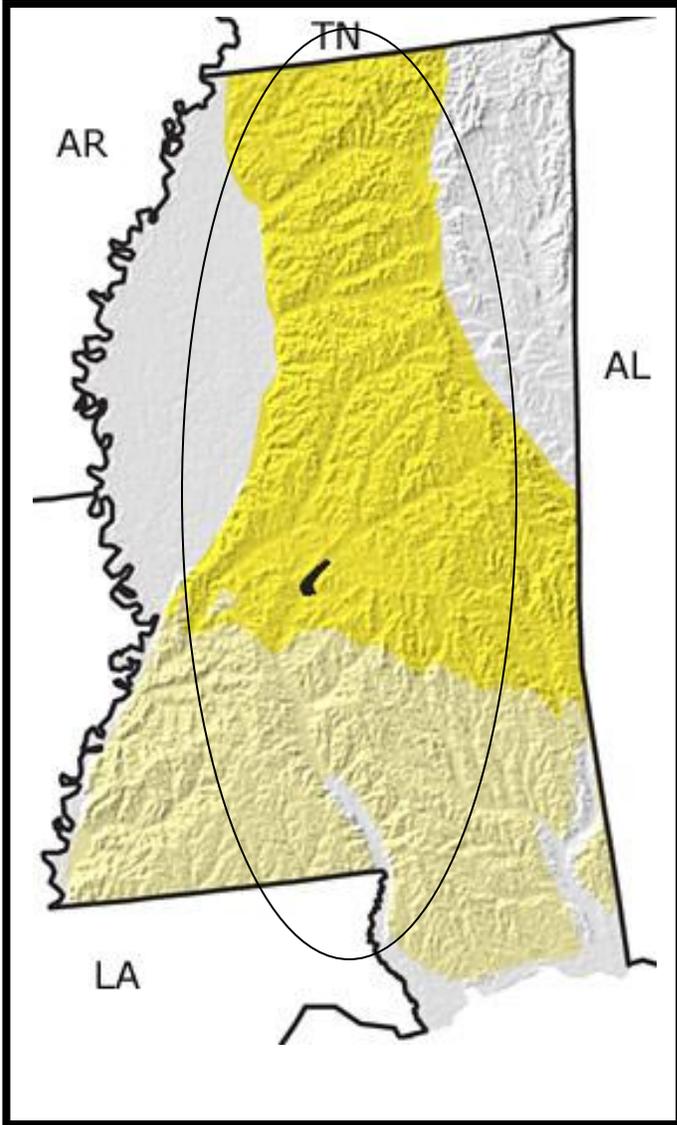


Quaternary Period

Most of the state was coastal plain and shallow sea during the Quaternary, but glaciers further north affected the climate and caused fluctuations in sea level.

Loess (wind-blown silt) blankets large areas in the northwestern part of the state. This silty sediment was eroded from the Mississippi River floodplain when strong winds scoured the landscape during the Pleistocene.

Fossils of shells of various terrestrial and freshwater snails and other molluscs, as well as fossil of manatees, hippos, and the short-faced bear have been recovered from the loess deposits.



Tertiary Period

A warm, tropical sea periodically flooded southern Mississippi during the Tertiary. Fossils of molluscs, whales, sharks, bony fish, and dugongs (relatives of manatees) can be found in these marine sediments.

The northern part of the state was above sea level. The landscape was dominated by large rivers, swamps, and forests.

The remains of one of these forests can be seen by visiting the Mississippi Petrified Forest, located about twenty miles northwest of Jackson.

MUSEUMS OF INTEREST TO ROCKHOUNDERS IN MISSISSIPPI

Dunn-Seiler Museum - *Mississippi State University – Department of Geosciences, Starkville, Mississippi*

The Dunn-Seiler Geology Museum houses mineral and rock collections, meteorites, and fossil displays including a Cretaceous crocodile skull, and many fossils from Mississippi and the Southeast.

Mississippi Museum of Natural Science - *Jackson, Mississippi*

The museum's 'Stories in Stone' exhibit displays local fossils.

PLACES TO VISIT - INTERESTING SITES TO SEE IN MISSISSIPPI

Mississippi Petrified Forest - *Flora, Mississippi*

The Mississippi Petrified Forest is a privately operated commercial park and museum near Flora. The petrified wood is believed to have been formed about 36 million years ago when fir and maple logs washed down an ancient river channel to the current site where they later became petrified. The site was registered as a National Natural Landmark in 1965. There is a small museum with examples of petrified wood from other localities.

Plymouth Bluff - *South of Columbus, Mississippi*

Plymouth Bluff is a well-known Cretaceous fossil bed composed of marine sediments deposited when the area was part of a vast inland sea. The Mississippi University for Women's Plymouth Bluff Visitor Center has an excellent display of local fossils.

Tupelo Meteorite ... err Meteorwong - *Tupelo, Mississippi*

On East Main Street, Tupelo Mississippi (the birthplace of Elvis) displays – on a pedestal – the 1,100-pound 'Tupelo Meteorite.' The 'meteorite' is reported to have 'fell' near Tupelo in 1870 where it was 'discovered' by Tupelo Mayor H.C. Medford. The specimen has been publicly displayed outside the Leake & Goodlett building since about 1965, but has been 'borrowed' or stolen on occasion. In 1980, however, a NASA scientist determined that the specimen is not a meteorite; rather, it is just a sandstone concretion.

ROCKHOUNDING SITES IN MISSISSIPPI FOR CHILDREN & FAMILIES

Petrified Wood - *Northern Mississippi*

Petrified wood is fairly common in Mississippi and occurs in streams.

Fossils - *Prentiss County, Mississippi*

In northeast Mississippi, fossils are fairly abundant. Twenty Mile Creek is a well-known location for fossilized shark teeth. Fossils in the area also include mollusks, brachiopods, and sponges.

Fossil Shark Teeth - *Northeast Mississippi*

The Tombigbee River Valley is full of chalk and sand outcroppings that contain a variety of fossils. In the Golden Triangle area, these deposits are mostly from the Cretaceous Period (about 82 to 70 million years ago). Throughout the area, there are fossilized teeth from sharks, giant fish, and sea going reptiles.