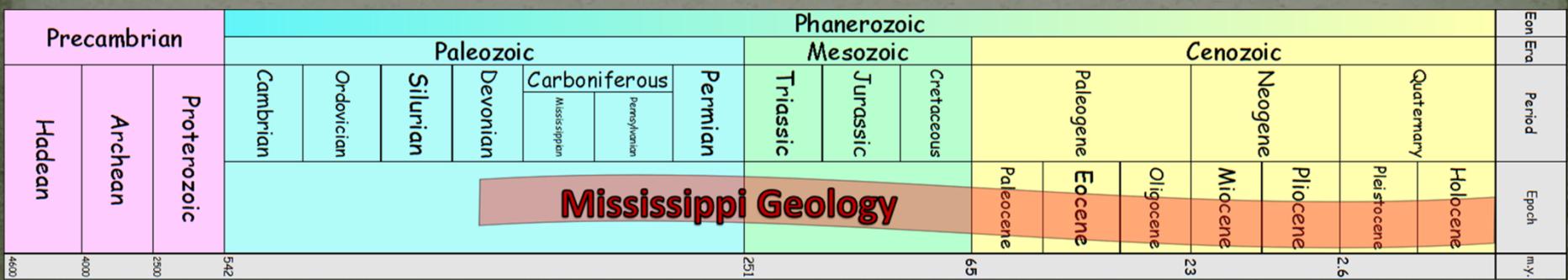


Mississippi's Geologic Past at the Dunn-Seiler Museum

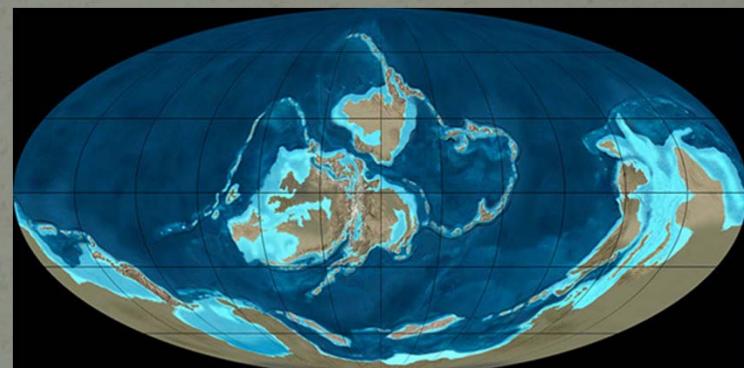


MISSISSIPPI STATE UNIVERSITY

Pre-Cambrian through Silurian

4.6 Billion Years to 416 Million Years

- During the Precambrian, Mississippi was under the ocean. These conditions persisted for approximately 126 million years in the Phanerozoic Eon, encompassing three periods: the Cambrian 542-488 mya, the Ordovician 448-443 mya, and the Silurian 443-416 mya.

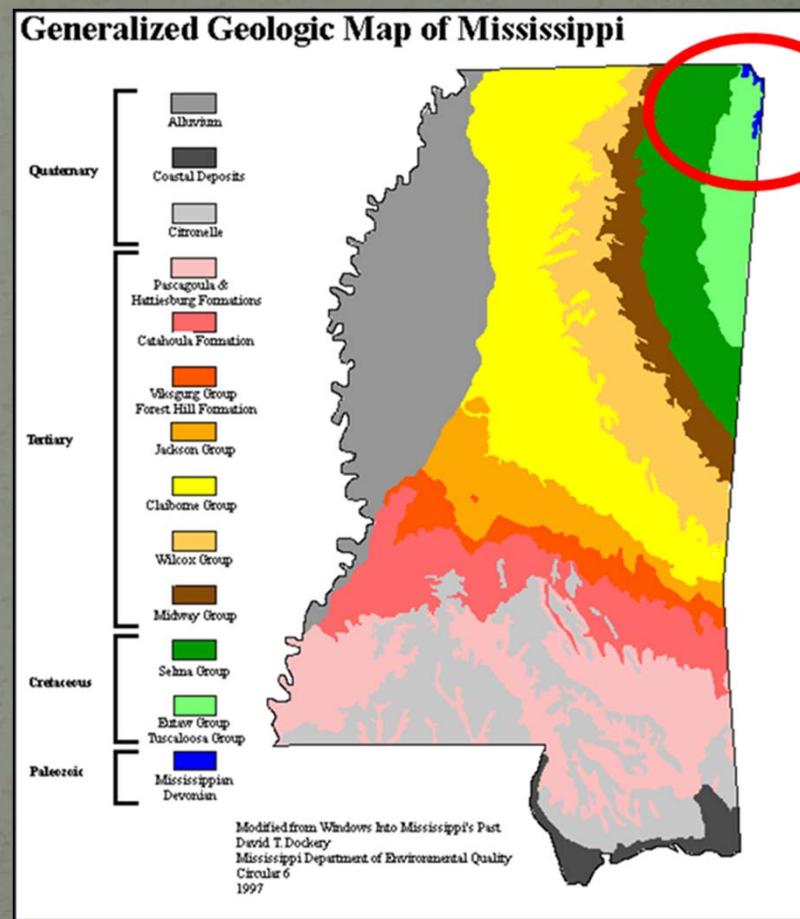


Wikipedia

Devonian Period

416-359 Million Years Ago

- During this time, most of Mississippi was covered by a deep ocean with oxygen-poor water in which few organisms could live. However at the very northeastern corner of our state, there is a spot called the Black Warrior Basin that was covered in a shallow, more tropical, sea. It is in this area that we find the oldest fossils in Mississippi.



Trilobites

- **What is a Trilobite?** The name “trilobite” means three-lobed. Trilobites are arthropods, so they periodically molted (shed their exoskeletons) in order to grow—just as crabs do today! You can often find trilobites that are preserved rolled up in a ball. This was a defense mechanism, and a technique still used today by the trilobite’s distant relative, the pill bug.



Cretaceous Period

145-65 Million Years ago

- During the Cretaceous Period, most of Mississippi was under a shallow sea. The fossils you see here lived in that sea and help us reconstruct what the sea floor might have looked like at that time.



sciencedaily.com

Crocodiles, Sharks, and Mosasaurs Oh my!!

- *Thoracosaurus neocesariensis*. This is an extinct crocodile that lived during the Cretaceous Period. They had long bony snouts that they would use to scoop fish out of the water and then carry on land to eat. They grew to be around 15 feet (4.6 meters) long. Modern day relatives include both crocodiles and alligators.

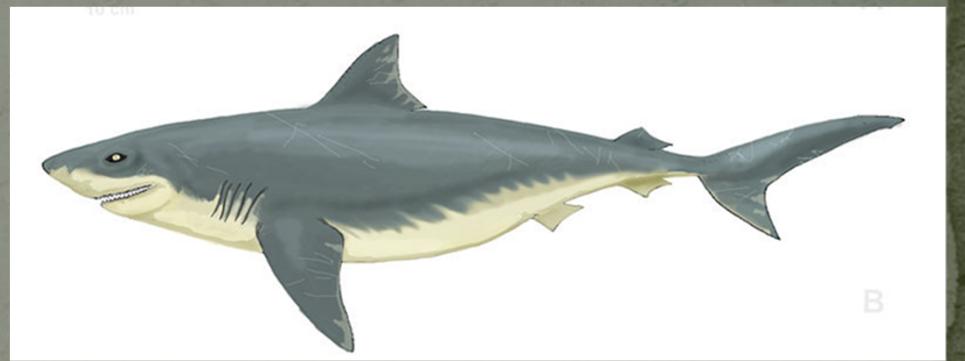


- This specimen was the first crocodile of its kind to be found. It was discovered in Oktibbeha County.

Crocodiles, Sharks, and Mosasaurs

Oh my!!

- A large assortment of sharks and rays lived in the shallow sea during the Cretaceous Period. Scientists think that most extinct sharks belonged to the order Lamniform. Sharks belonging to the Lamniform order today include great whites and megamouth sharks.



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Crocodiles, Sharks, and Mosasaurs

Oh my!!

- **What is a Mosasaur?**

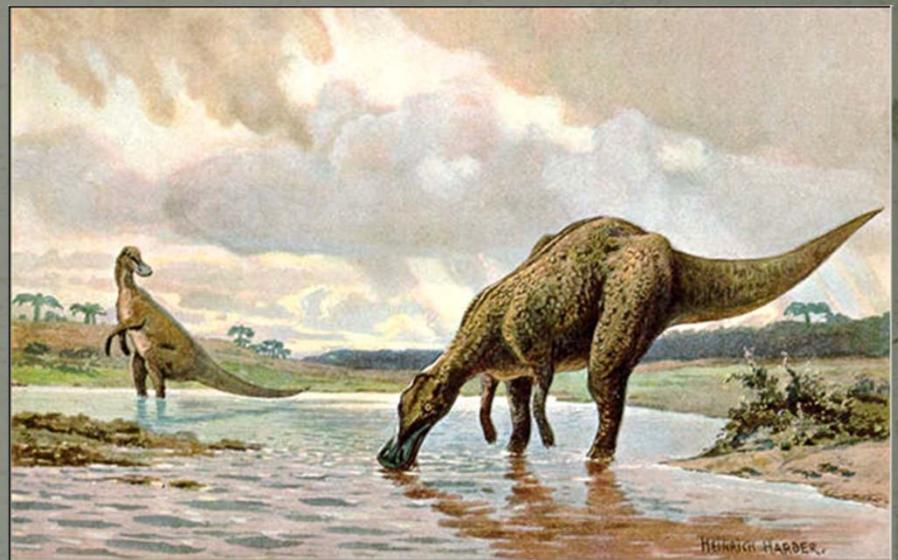
Mosasaurus were marine reptiles that grew up to a little over 20 feet (6 meters) long! They would stay very still and wait until their prey swam close to them. Then they would ambush their prey and swallow it whole with jaws of up to six feet long. They ate anything they could swallow including ammonites, birds, fish, and even small sharks!



blog.webosaurs.com

Hadrosaur

- A hadrosaur is an extinct dinosaur that lived during the Cretaceous Period. It was called the duck-billed dinosaur because its head was shaped like a modern day duck! Hadrosaurs were herbivores and their diet consisted mostly of leaves and twigs.
- They were the most common dinosaur of North America.



csm.org.uk

Heinrich Harder.

Hadrosaur

- These are bones that had been on loan to the Mississippi Museum of Natural Science.



Exogyra

- *Exogyra* are extinct bivalves that are closely related to the modern day oysters. Several different species of *Exogyra* have been found in Mississippi including *Exogyra ponderosa*, *E. costata*, and *E. cancellata*.



Wikipedia

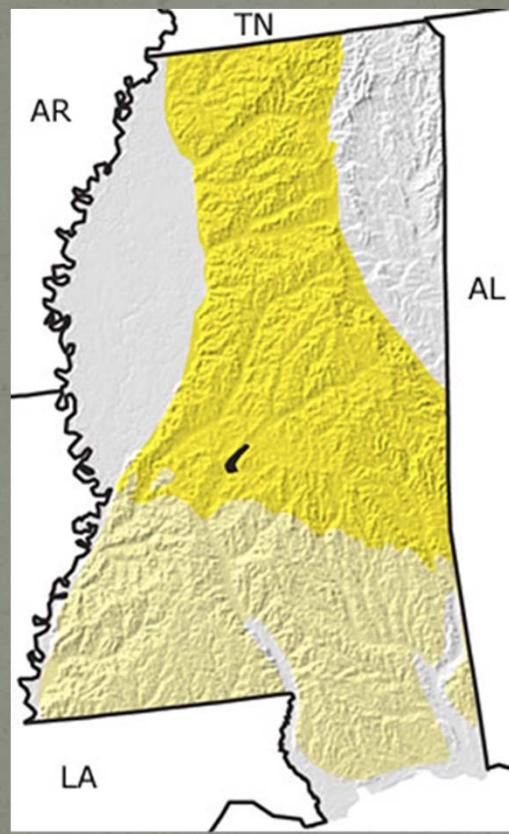
Paleogene Period

65-23 Million Years Ago

- In the Paleogene Period, Mississippi was divided into two sections. Southern Mississippi was covered with warm shallow seas while the northern part of Mississippi was covered in dense forests, large rivers, and murky swamps.



geolsoc.org.uk



Paleoportal.net

What is a *Basilosaurus*?

- *Basilosaurus* was a prehistoric whale that could grow to 60 feet (18.3 meters) long! That's the length of one school bus plus half of another! Because of their long vertebrae, they almost looked like a very long snake.
- *Basilosaurus*, along with its cousin *Zygorhiza*, are the state fossils of Mississippi!



Petrified Wood

- Petrified wood forms when the soft organic parts of wood are replaced with solid fossilized minerals. This happens through a process called petrification. It takes at least 100,000 years for petrified wood to form. Petrified wood has been found in all fifty states and on every continent, including Antarctica!



statesymbolsusa.org

Petrified Wood

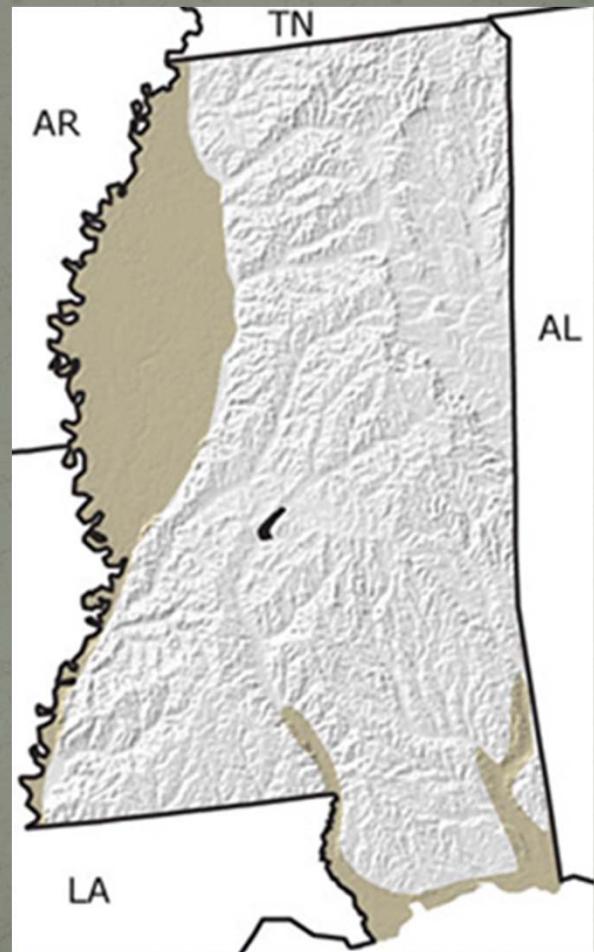


cabotlodgejacksonnorth.com

- Did you know that the Mississippi Petrified Forest has the largest collection of petrified wood east of the Mississippi River? Located near Flora, MS, the Mississippi Petrified Forest became a natural landmark in October, 1965. In 1976, Mississippi recognized petrified wood as the state stone of Mississippi.

Neogene and Quaternary periods 23 Million Years Ago - present

- During the Neogene and Quaternary periods, Mississippi was covered mostly by coastal plains with a small southern portion being underwater. Glaciers farther north of Mississippi were growing and melting, which caused constant fluctuations in the sea level. This led to recurrent flooding along the coasts.



Mastodons and Wooly Mammoths

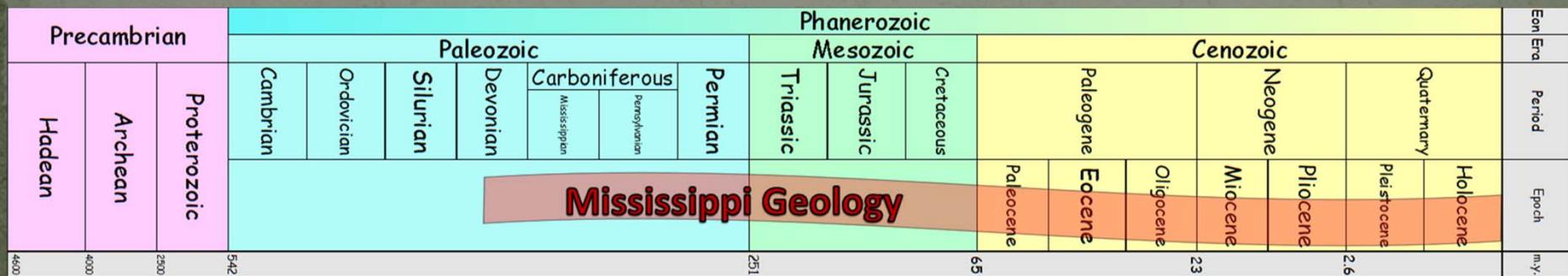
- There are two main differences that separate mastodons from wooly mammoths:
 - Different teeth structure: mastodons had teeth more suitable for tearing leaves from trees. Mammoths preferred to graze so their teeth were blunter (bottom).
 - Mastodon skulls are normally larger and flatter than mammoths.



Mastodons and Wooly Mammoths

- Mastodons and wooly mammoths both went extinct at the same time, around 10,000 yrs. ago. Does anyone know why?
- One hypothesis is that around 13,000 yrs. ago Paleo-Indians came to America and begin hunting the mastodons and mammoths for food and fur. This, along with disease, may have caused the extinction of the mastodons and mammoths.





Compiled by Jessica Kelly and Renee Clary

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