

Ancient Landscapes

Exploring South Texas through Time



The goal of this map is to explore the landscape of South Texas through time. The map should be viewed from left to right, which is generally from present to past, except for features of very recent features. The features presented are geologically, archeologically, and historically unique to South Texas. Viewers are encouraged to visit these unique places.

Clues to the Past!

Resources on Earth's surface
Soils, rocks, and volcanic ash!!

4.7A Science, 4.8B Social Studies

- <2000000000 Zapata
- 2000000000 - 7500000000
- 7500000000 - 15000000000
- 15000000000 - 25000000000
- Cuenca
- Las Cuevas Colonia
- University of Texas RGV
- Edinburg Campus
- Brownsville Campus
- Coastal Studies Laboratory
- Museum of South Texas History
- World Birding Centers
- USFWS Visitor Centers
- TPWS - WMA
- USFWS - Wildlife Refuges
- Eocene (56 - 34 Million Years Ago)**
- 43 MYA Shoreline (approximated)
- Roma Sandstone Outcrop
- Oligocene (34 - 23 MYA)**
- Catahoula Formation
- 27 MYA Shoreline (approximated)
- Catahoula Ash Outcrops
- Roma area petrified wood & El Sauz chert outcrops

- Pleistocene (2.6 MYA - 10,000 yrs ago)**
- Ancient River Delta
- Fossil Find - Mammoth
- Fossil Find - Bison anticus
- Fossil Find - Mammoth
- Holocene (10,000 yrs ago to present)**
- South Texas Sand Sheet
- Stabilized Sand Dunes
- Sand Sheet Deposits
- Active Dunes

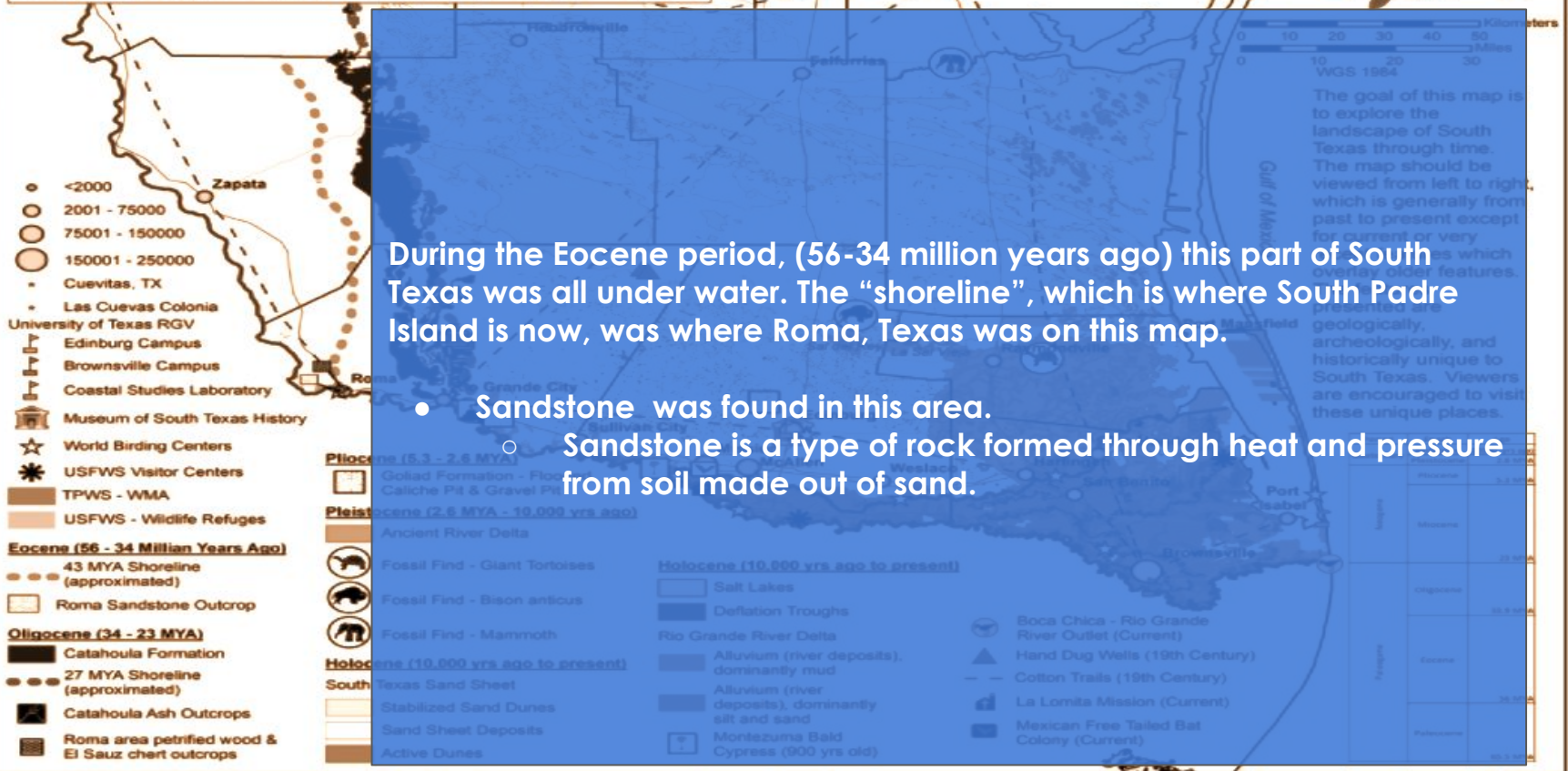
- Salt Lakes
- Deflation Troughs
- Rio Grande River Delta
- Alluvium (river deposits), dominantly mud
- Alluvium (river deposits), dominantly silt and sand
- Montezuma Bald Cypress (900 yrs old)

- Boca Chica - Rio Grande River Outlet (Current)
- Hand Dug Wells (19th Century)
- Cotton Trails (19th Century)
- La Lomita Mission (Current)
- Mexican Free Tailed Bat Colony (Current)

Period	Epoch	Age
Quaternary	Holocene	10,000 yrs ago to present
	Pleistocene	2.6 MYA
Tertiary	Miocene	23 MYA
	Oligocene	33.9 MYA
	Eocene	56 MYA
Paleogene	Paleocene	66 MYA
	Cretaceous	145 MYA

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During the Eocene period, (56-34 million years ago) this part of South Texas was all under water. The “shoreline”, which is where South Padre Island is now, was where Roma, Texas was on this map.

- Sandstone was found in this area.
 - Sandstone is a type of rock formed through heat and pressure from soil made out of sand.

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Period	Age
Pliocene	5.3 MYA
	2.6 MYA
Pleistocene	2.6 MYA
	10,000 yrs ago
Holocene	10,000 yrs ago
	Present
	19th Century
	Present

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Roma Sandstone

- 43 million years old
- Cemented fine grain sand into rock "stone"
- 90 % quartz (meaning beach-type of sand) similar to that found in Padre Island
- Found in Starr County

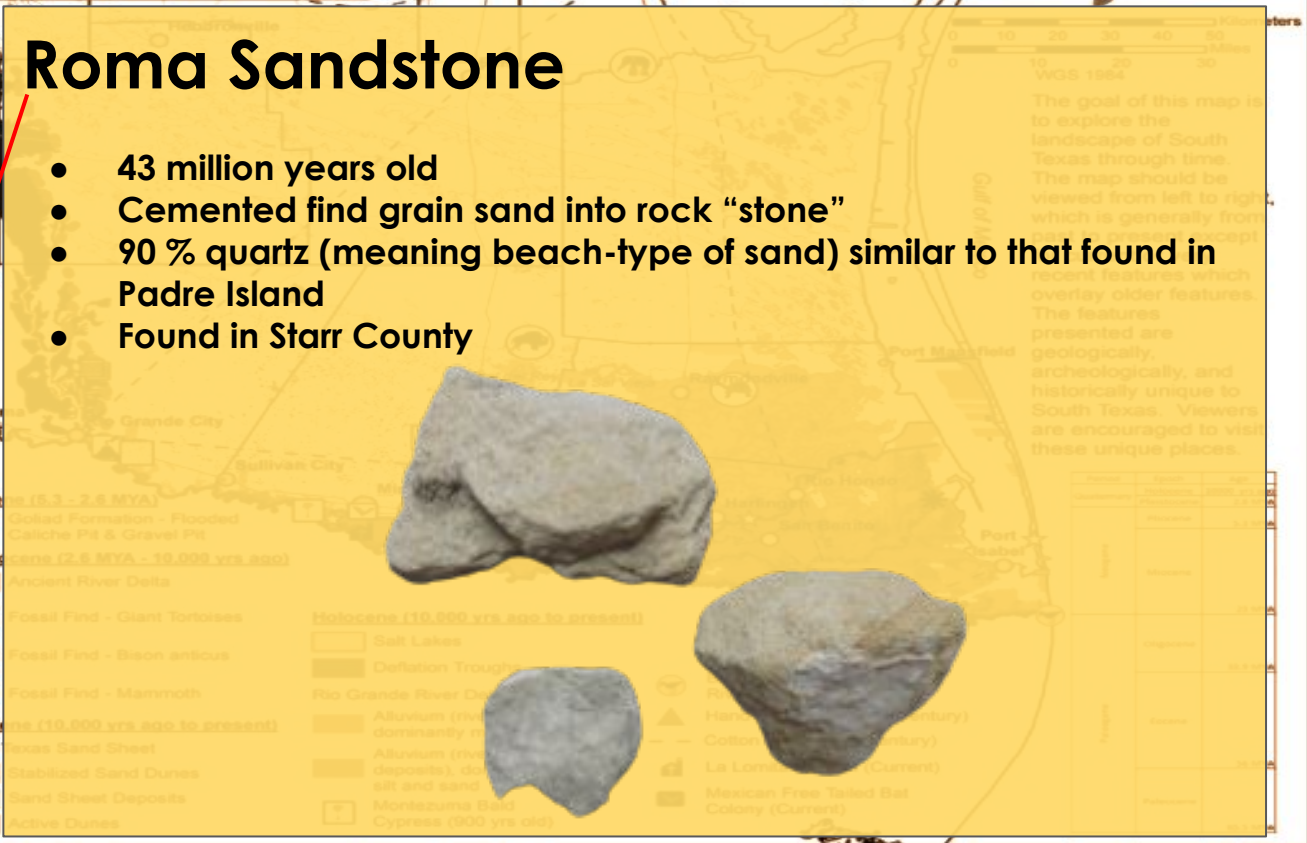


Legend

- <2000
- 2001 - 75000
- 75001 - 150000
- 150001 - 250000
- Cuevitas, TX
- Las Cuevas Colonia
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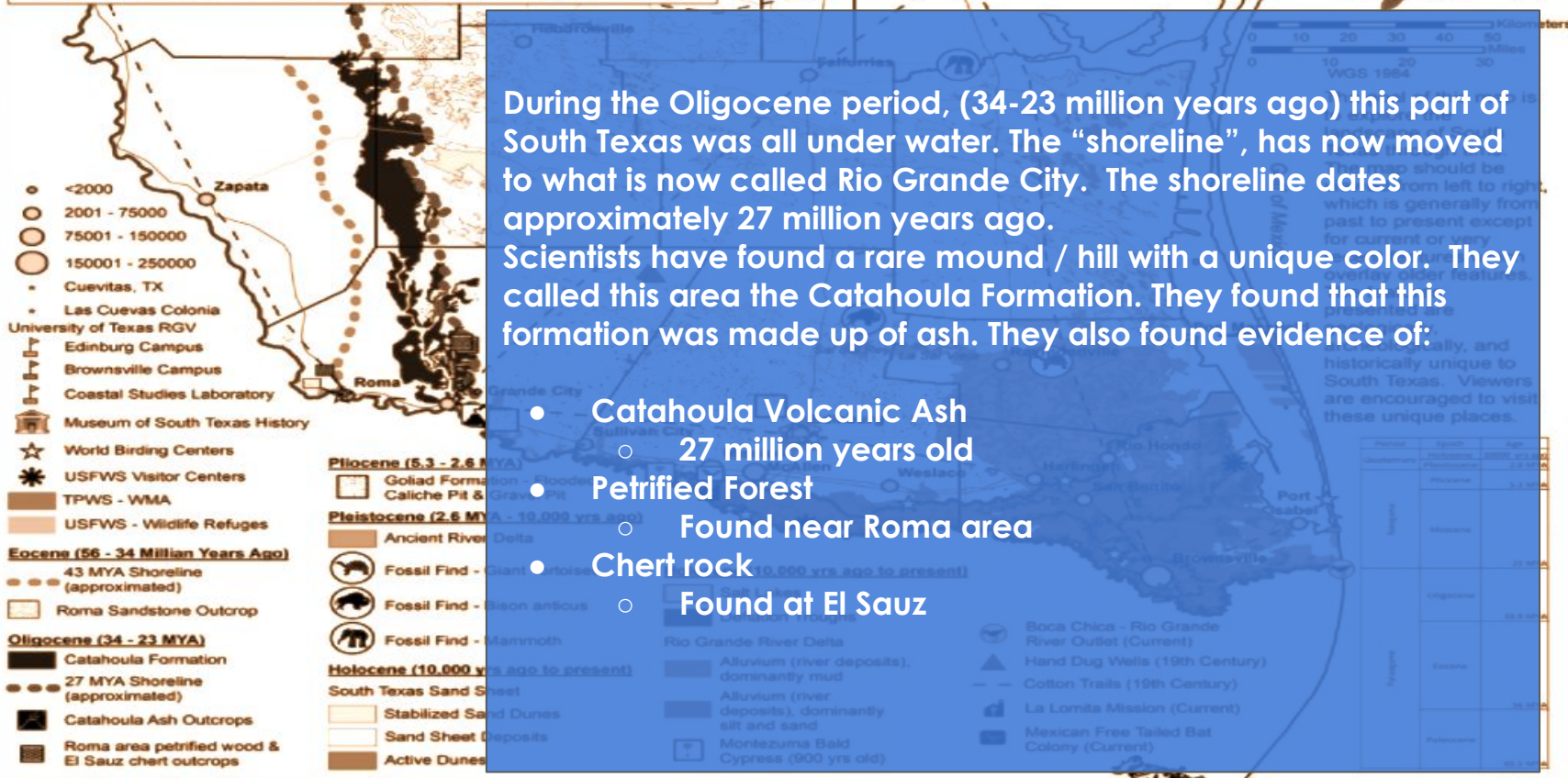
Geological Features

- Pliocene (2.6 - 2.8 MYA)
- Pleistocene (2.8 MYA - 10,000 yrs ago)
- Holocene (10,000 yrs ago to present)
- South



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During the Oligocene period, (34-23 million years ago) this part of South Texas was all under water. The “shoreline”, has now moved to what is now called Rio Grande City. The shoreline dates approximately 27 million years ago.

Scientists have found a rare mound / hill with a unique color. They called this area the Catahoula Formation. They found that this formation was made up of ash. They also found evidence of:

- Catahoula Volcanic Ash
 - 27 million years old
- Petrified Forest
 - Found near Roma area
- Chert rock
 - Found at El Sauz

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Period	Event	Approx. Age
Quaternary	Hand Dug Wells (19th Century)	1800-1900 A.D.
	Cotton Trails (19th Century)	1800-1900 A.D.
Holocene	La Lomita Mission (Current)	1600-1800 A.D.
	Mexican Free Tailed Bat Colony (Current)	1900-2000 A.D.
Pleistocene	Montezuma Bald Cypress (900 yrs old)	1000-2000 A.D.
	Active Dunes	10,000 yrs ago to present
Pliocene	Goliad Formation (Flooded Caliche Pit & Gravels)	5.3 - 2.6 MYA
	Ancient River Delta	5.3 - 2.6 MYA
Eocene	43 MYA Shoreline (approximated)	43 MYA
	Roma Sandstone Outcrop	34 - 56 MYA
Oligocene	Catahoula Formation	34 - 23 MYA
	27 MYA Shoreline (approximated)	27 MYA

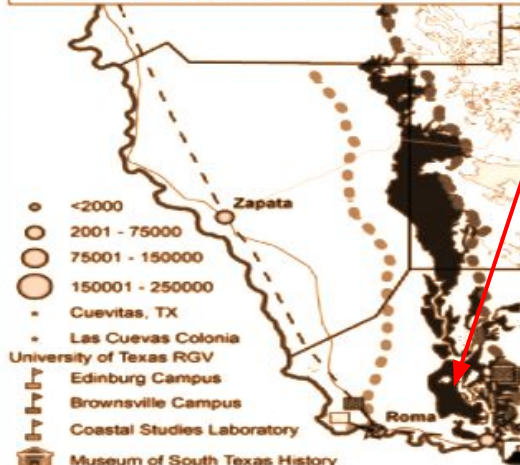
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Catahoula Volcanic Ash

- 27 million years old
- Found near Gulf coast plain of Texas and Louisiana
- Large Caldera eruption in Mexico's Sierra Madre occidental
- Created El Sauz Chert, petrified forests and uranium deposits
- The ash was used by Native Americans to make bricks.
- Found in Starr County

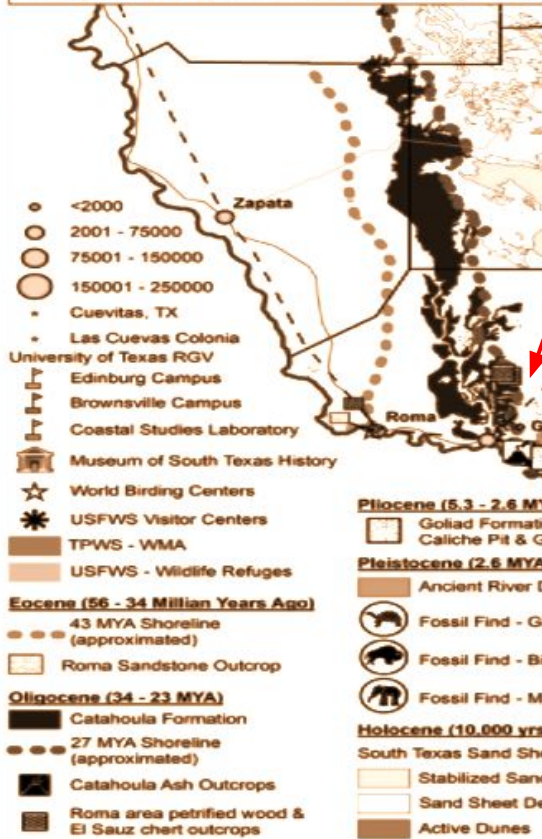


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Sauz Chert

- 27 million years old
- Found near Rio Grande City in a place called El Sauz
- It is a microcrystalline quartz
- Formed from Volcanic ash
- Used by Native Americans to create Clovis points (arrowheads)
- Found in Starr County



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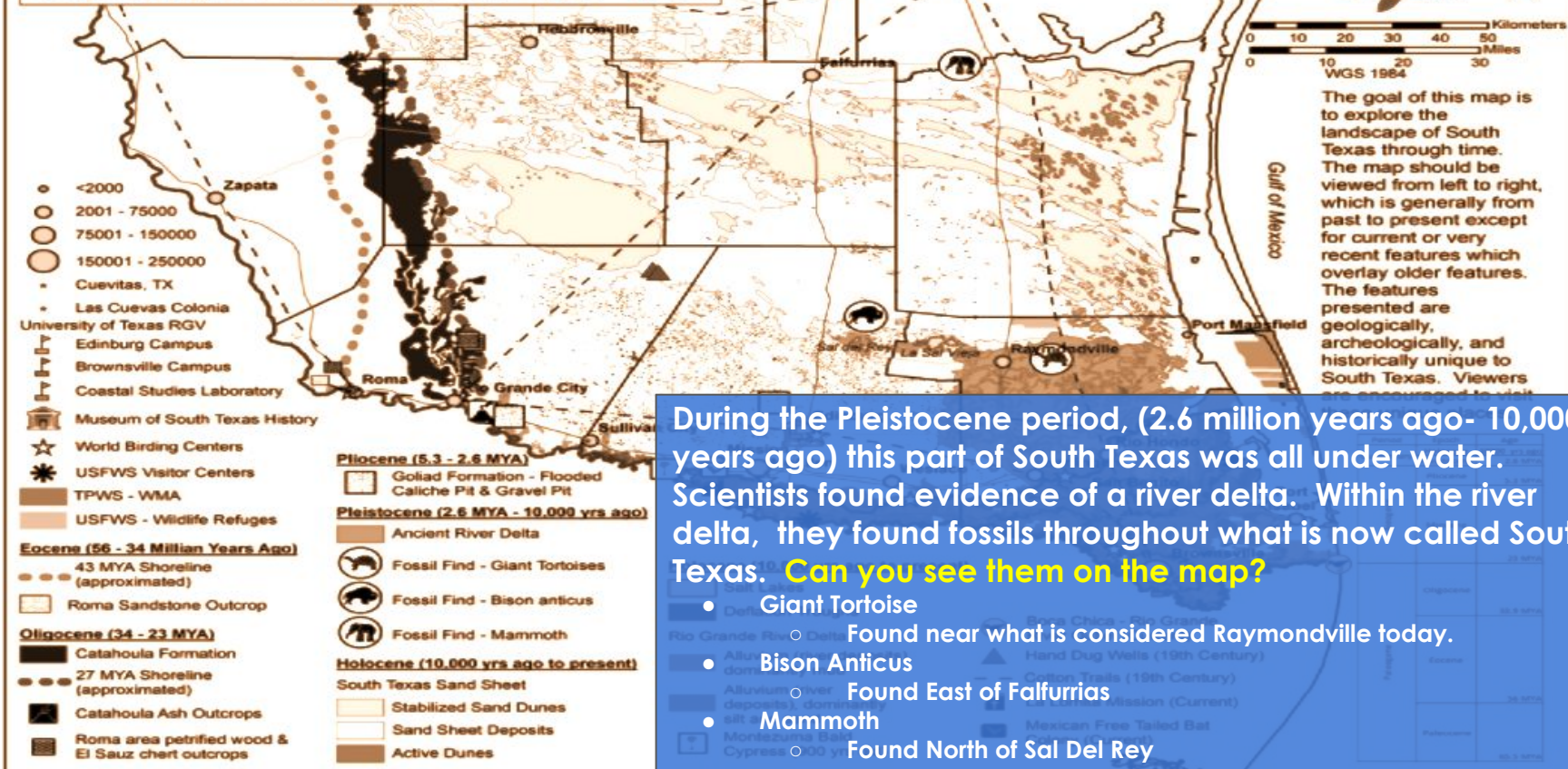
Petrified Forest

- 27 million years old
- Found near Rio Grande City in a place called El Sauz
- Petrified wood was used by Native Americans to create Clovis points (arrowheads)
- There is a few petrified trees standing in front of a home in Roma, Texas.
- Found in Starr county



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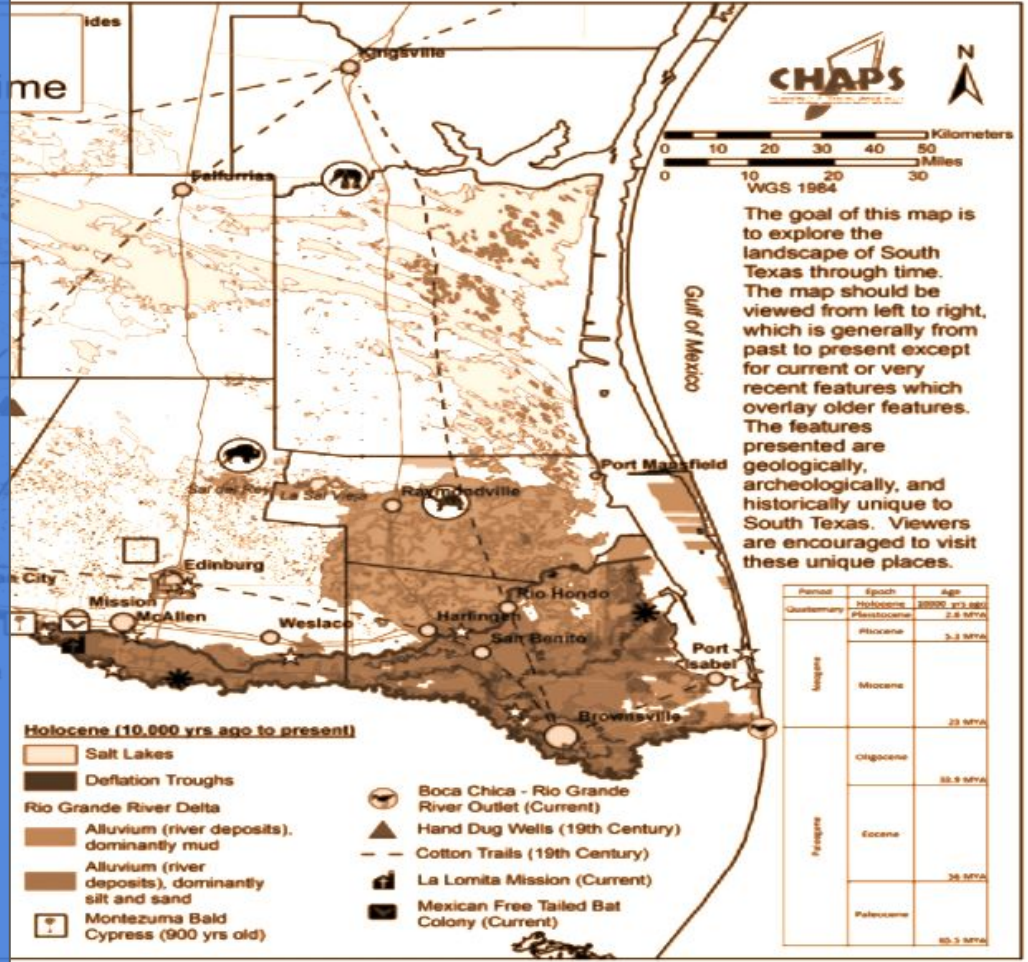
During the Pleistocene period, (2.6 million years ago- 10,000 years ago) this part of South Texas was all under water. Scientists found evidence of a river delta. Within the river delta, they found fossils throughout what is now called South Texas. **Can you see them on the map?**

- Giant Tortoise
Found near what is considered Raymondville today.
- Bison Anticus
Found East of Falfurrias
- Mammoth
Found North of Sal Del Rey

During the Holocene period, (10,000 to present) scientists have found evidence of a large “Sand Sheet” across the South Texas plains found as north towards Hebbronville, as south as Weslaco, and east towards Port Mansfield. They found evidence of a “beach like area” predominantly made of salt which is called now Sal Del Rey. Additionally, they have found river deposits where the soil has changed color near the Rio Grande River.

Can you see them on the map?

- Salt Lake (Sal Del Rey)
 - North of Edinburg
- Stabilized Sand Dunes
 - light colored on map
- Active Sand Dunes
 - Dark colored on map
- Alluvium river deposit
 - mud (mudstone)
- Alluvium river deposit
 - (silt / sand)



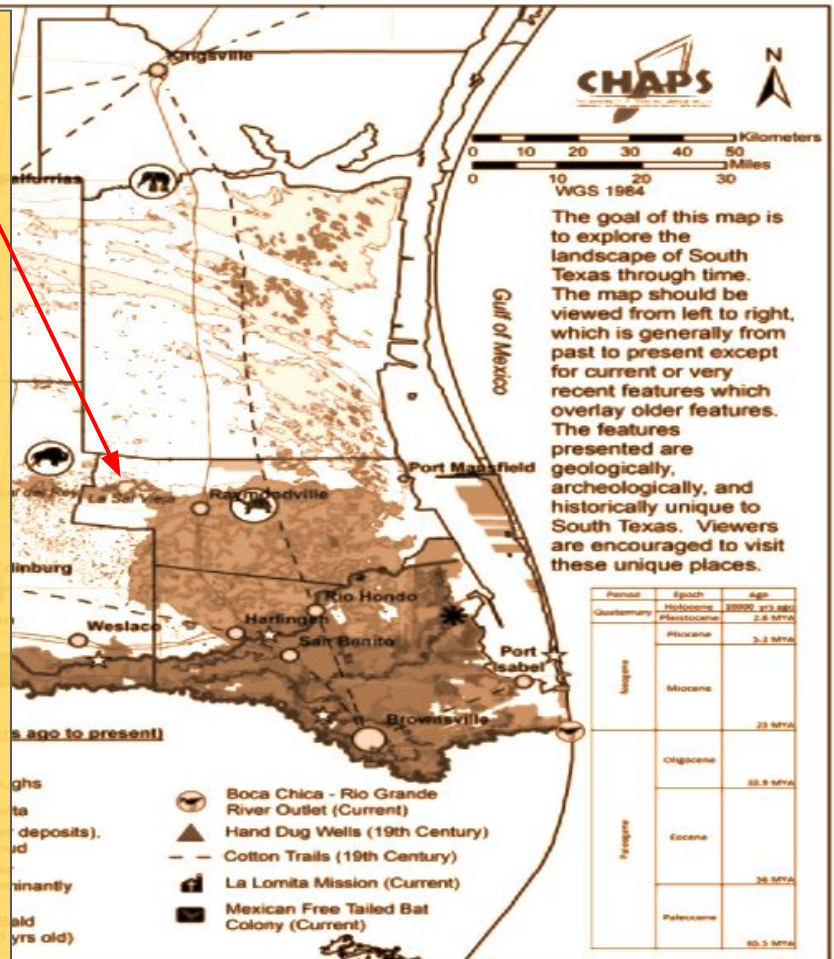
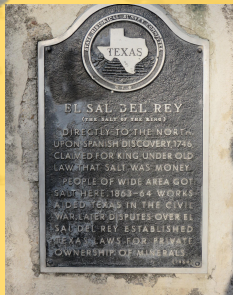
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Sal Del Rey

- Salt lake mineral found on Earth's surface
- Mined in prehistory during the Spanish and Mexican periods
- Used during the Civil War
- Native Americans used as a preservative and seasoning
- Found in Hidalgo County

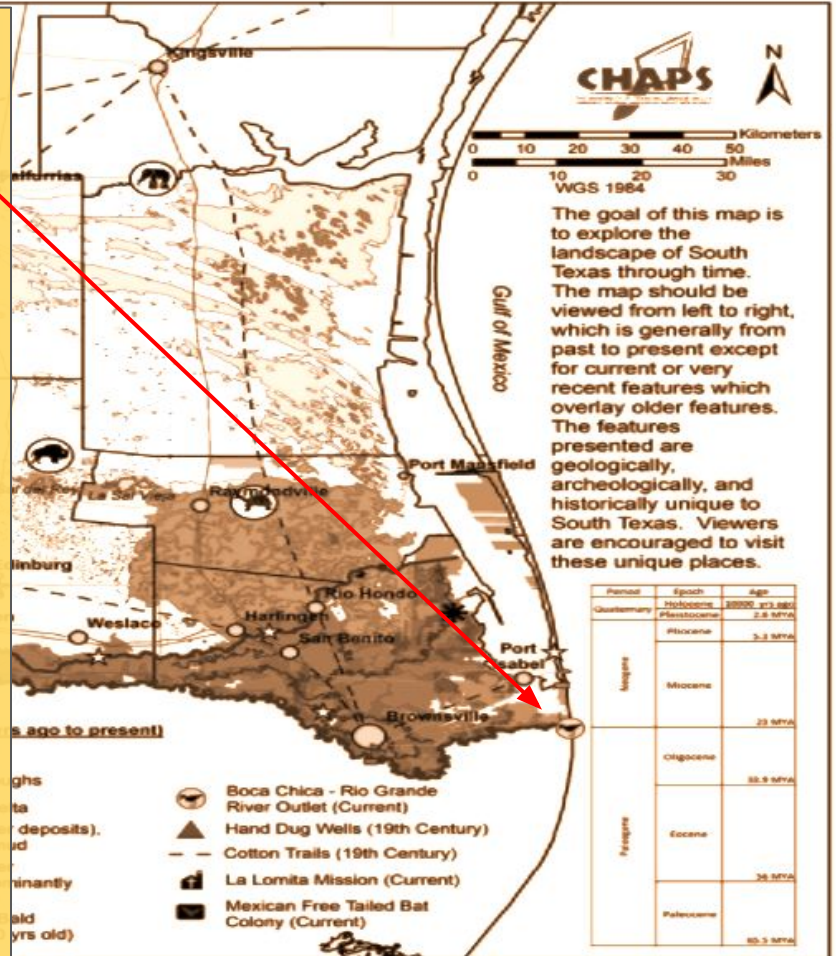


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Alluvium River Deposit

- Black Sand
- Washed down from the Rio Grande River
- Located near and on Boca Chica Beach
- Found in Cameron County



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Alluvium River Deposit

- Fine Sand
- Made up 97% quartz
- Active Sand Dunes at South Padre Island
- Found in Cameron County

