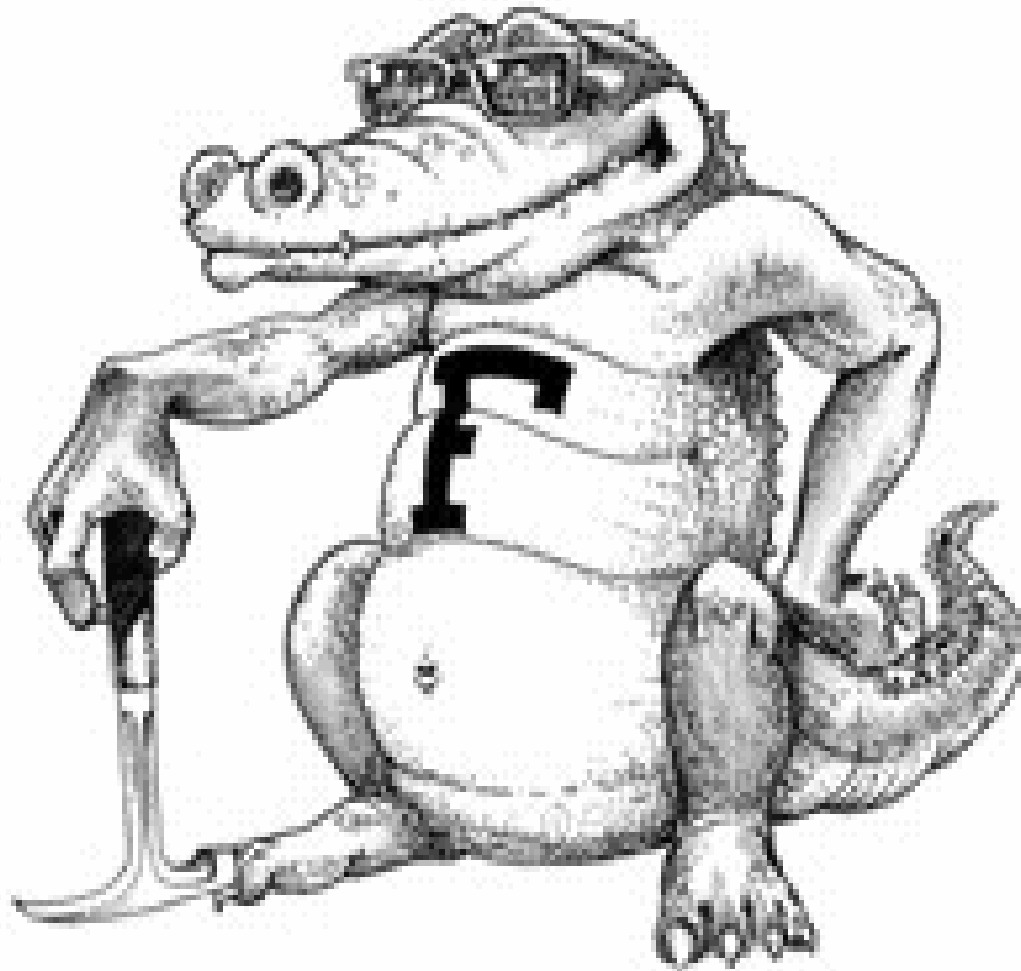


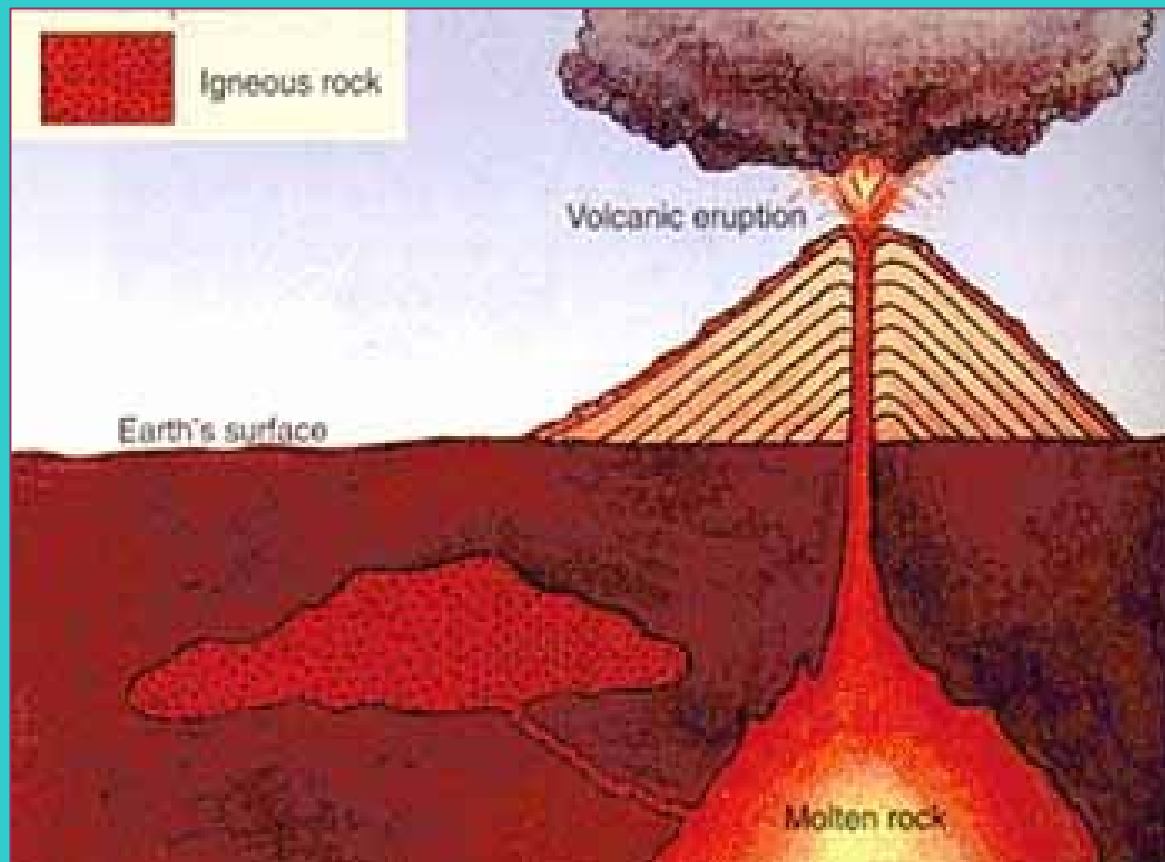


Donna Burmeister, P.G.
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Team 2
Tallahassee

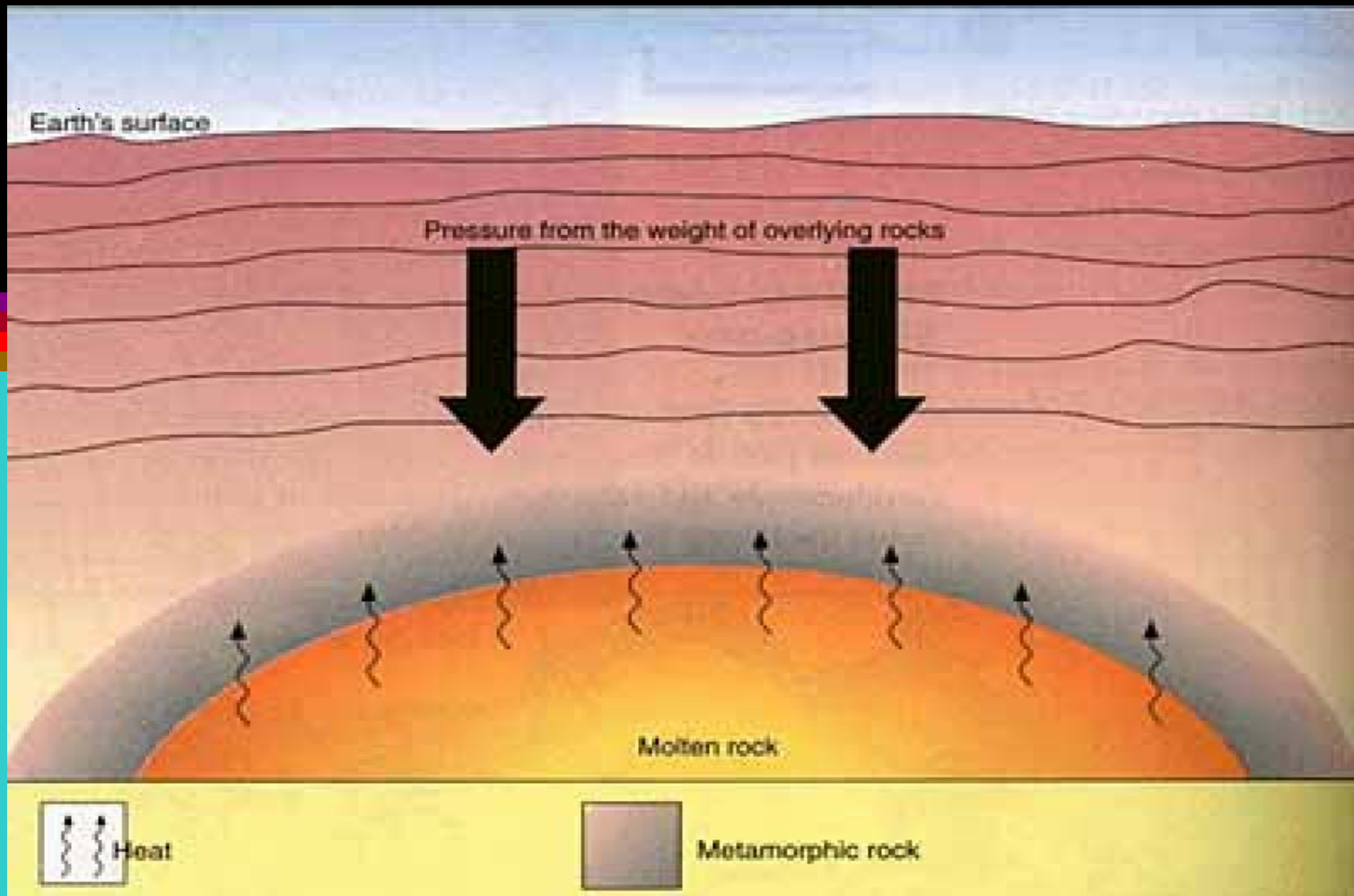
Geology of Florida



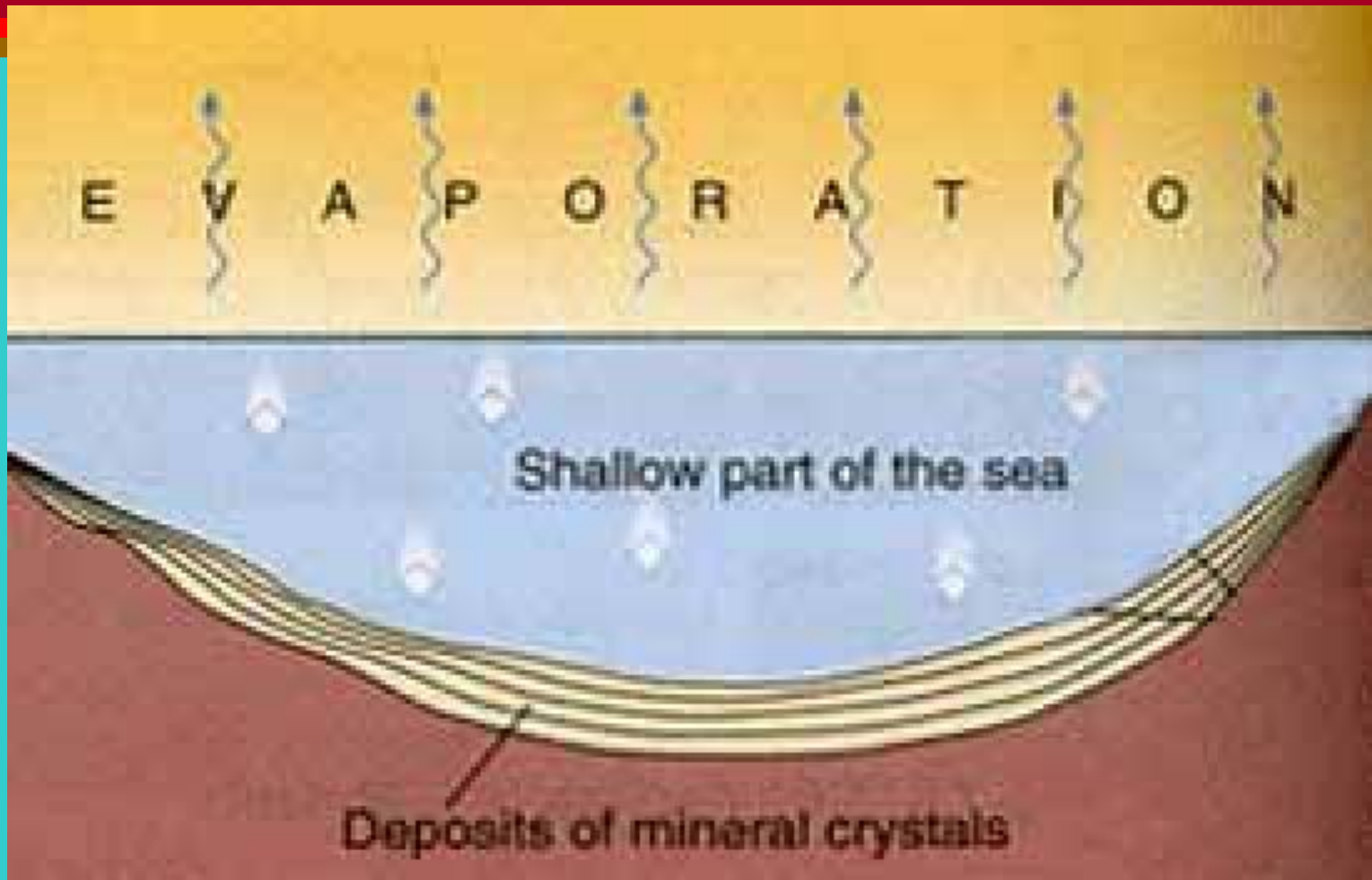
Igneous Rocks (Latin for “fire”)



Metamorphic Rocks (Greek for “changed in form”)

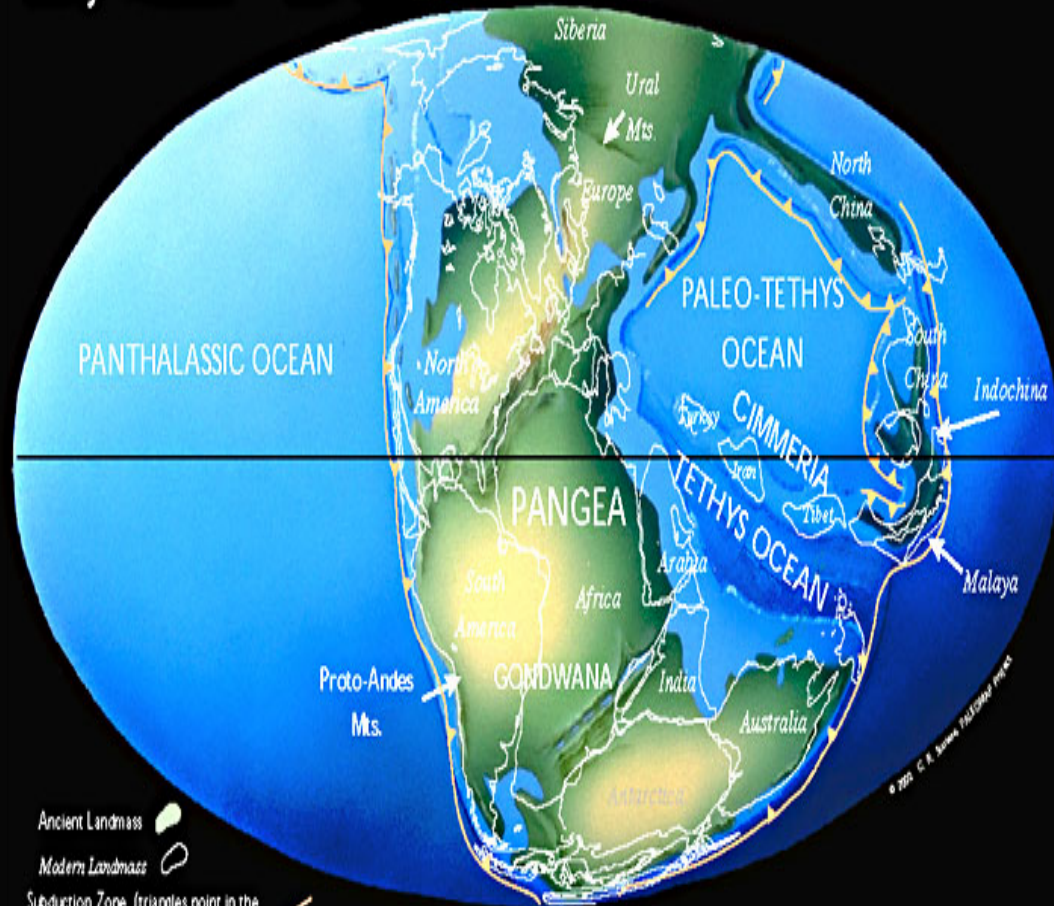


Sedimentary Rocks



Early Triassic 237 Ma

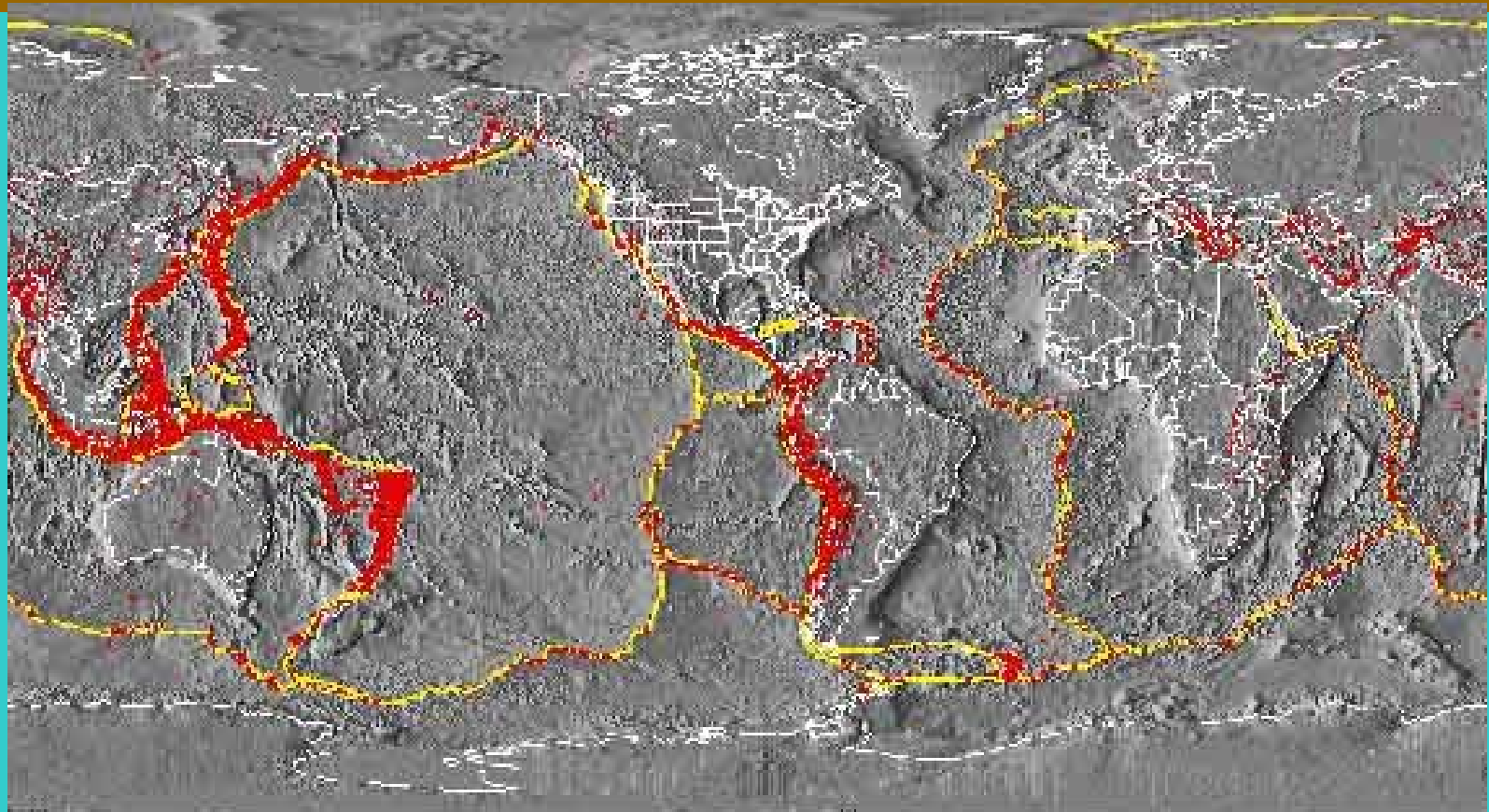
Pangea



- Ancient Landmass
- Modern Landmass
- Subduction Zone (triangles point in the direction of subduction)
- Sea Floor Spreading Ridge

© 2001 C. R. James Paleogeographic Project

During the Late Triassic as Pangea pulled apart



Crustal Plate Boundaries



Earthquake Epicenters, M_{2.5}, 1980-1990
Coastlines, Political Boundaries

The Mesozoic Era 250 million years ago to 65 million years ago

The Age of the Dinosaurs



The Cenozoic Era is what site managers must contend with.

Era	Period	Epoch	Time Scale
CENOZOIC	QUATERNARY	HOLOCENE	Present
		PLEISTOCENE (ICE AGE)	10,000 years ago
	TERTIARY	PLIOCENE	1.8 million years ago
		MIOCENE	5.3 million years ago
		OLIGOCENE	23.8 million years ago
		EOCENE	33.7 million years ago
		PALEOCENE	54.8 million years ago
			65 million years ago

The CENOZOIC ERA

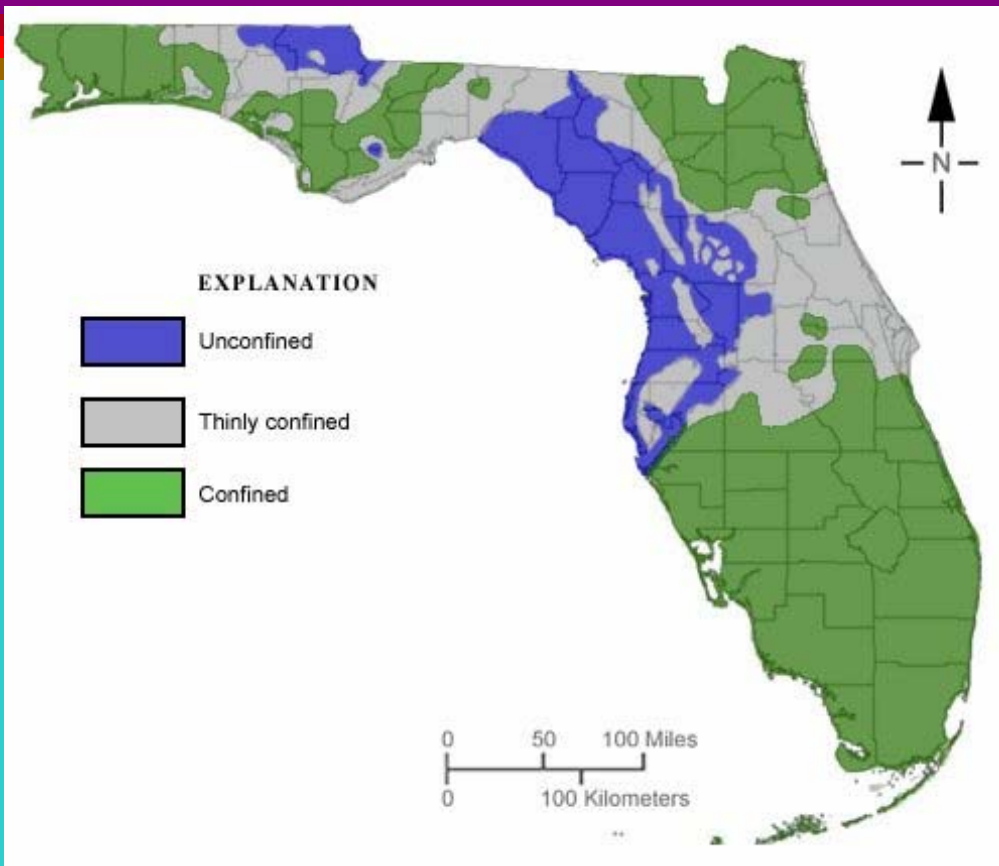
CENOZOIC	Quat.		Pleistocene	1.8
	Tertiary	NEOGENE	Pliocene	5
			Miocene	23
		PALEOGENE	Oligocene	38
			Eocene	54
			Paleocene	65

is represented by two groups of sediments:

The Paleogene and the Neogene-Quaternary

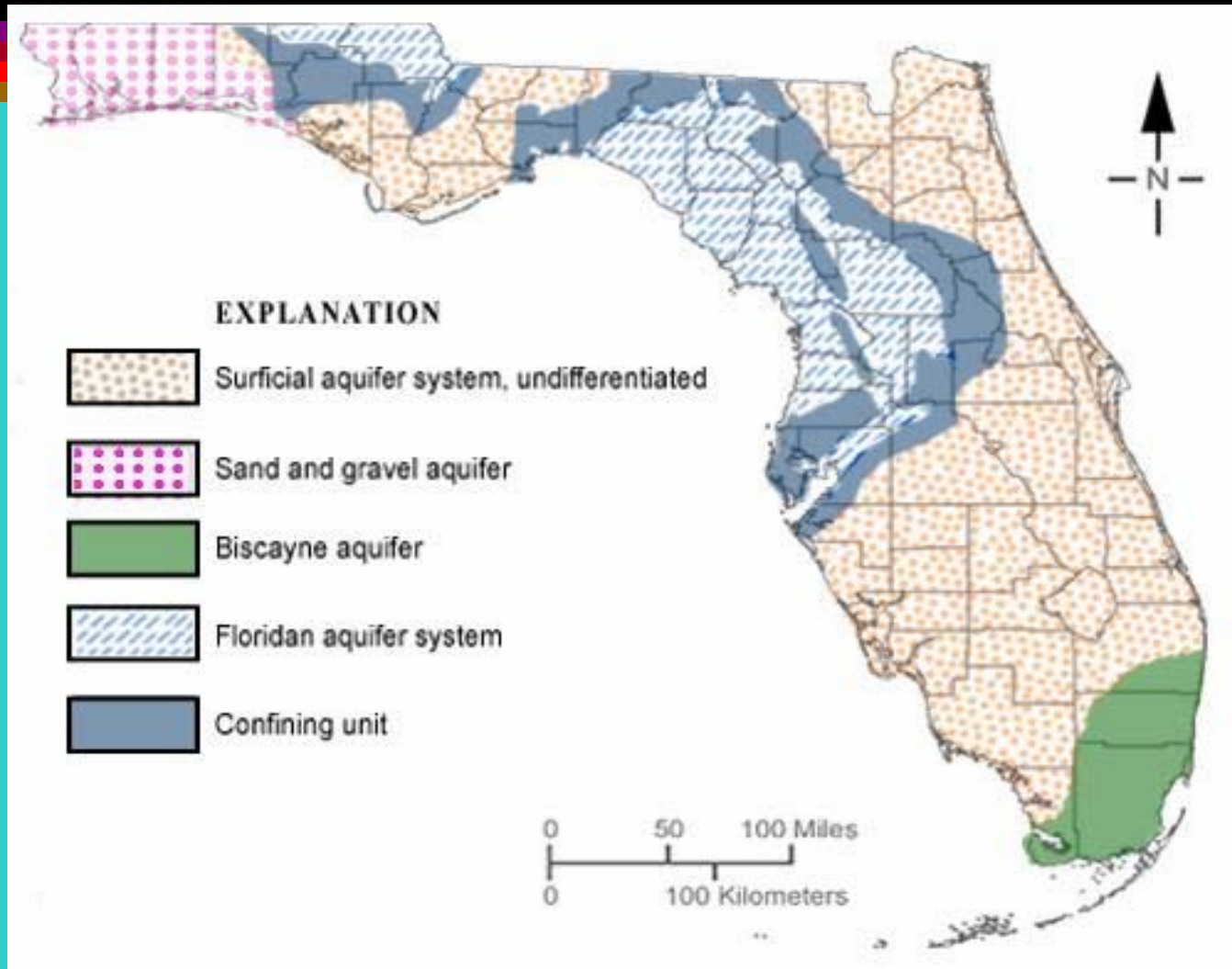
Much of life as we know it today evolved during this era.

CENOZOIC ERA



The Neogene-Quaternary is characterized by Quartz Sand - Silts - Clays.

The surficial aquifer system



The Floridan Platform

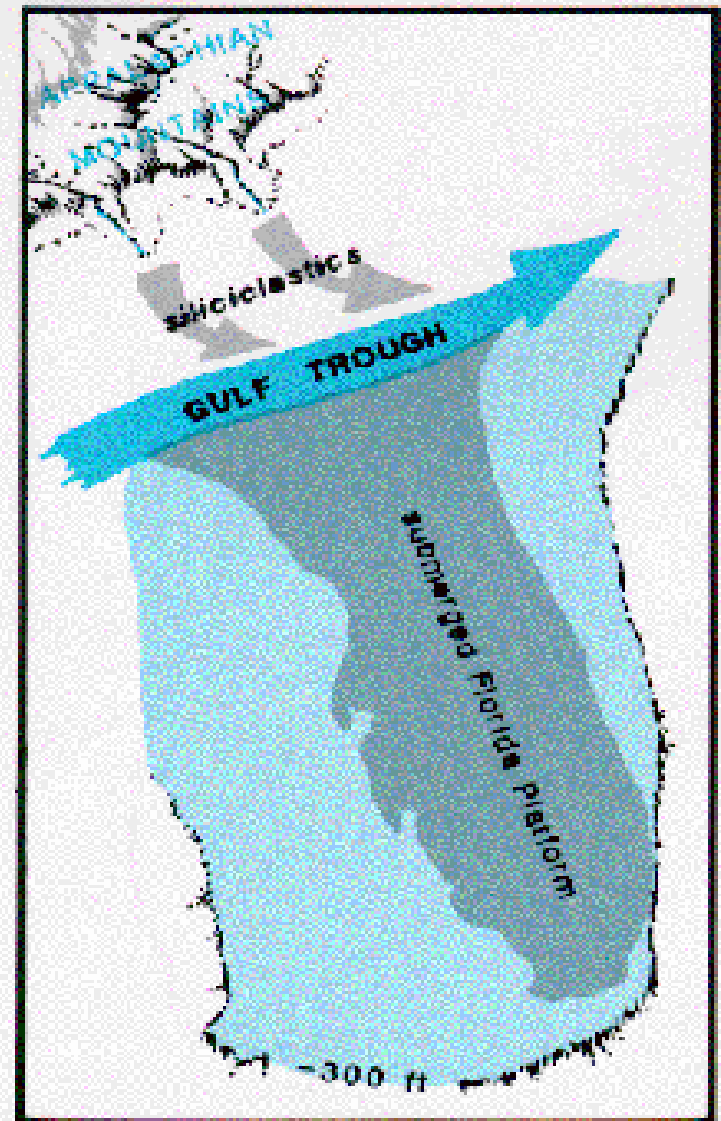


Figure 12. Through Oligocene time the Florida Platform was a shallow, marine limestone bank environment. Currents through the Gulf Trough diverled sands, silts and clays that were eroding off the Appalachian Mountains to the north.

But by 30 to 25 million years ago the Appalachians uplifted

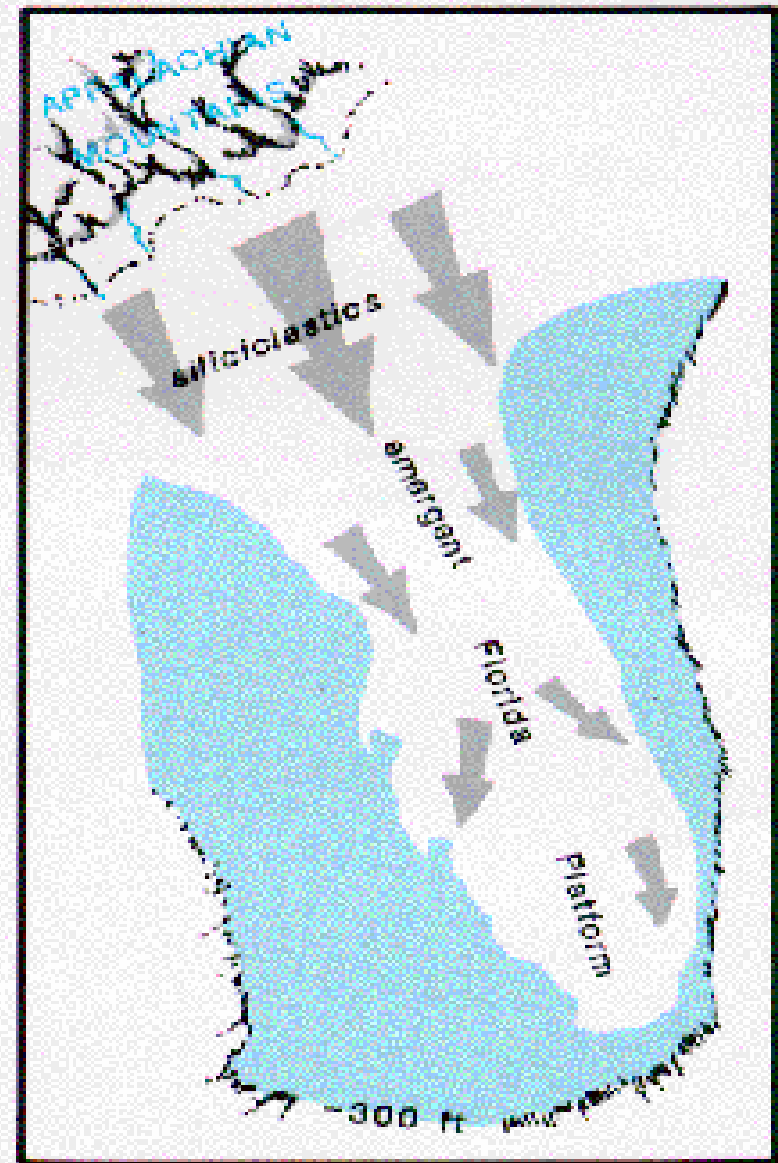


Figure 13. Siliciclastic sediments had filled the Gulf Trough by Miocene time and encroached down the peninsula, covering the limestone environments.

Phosphates

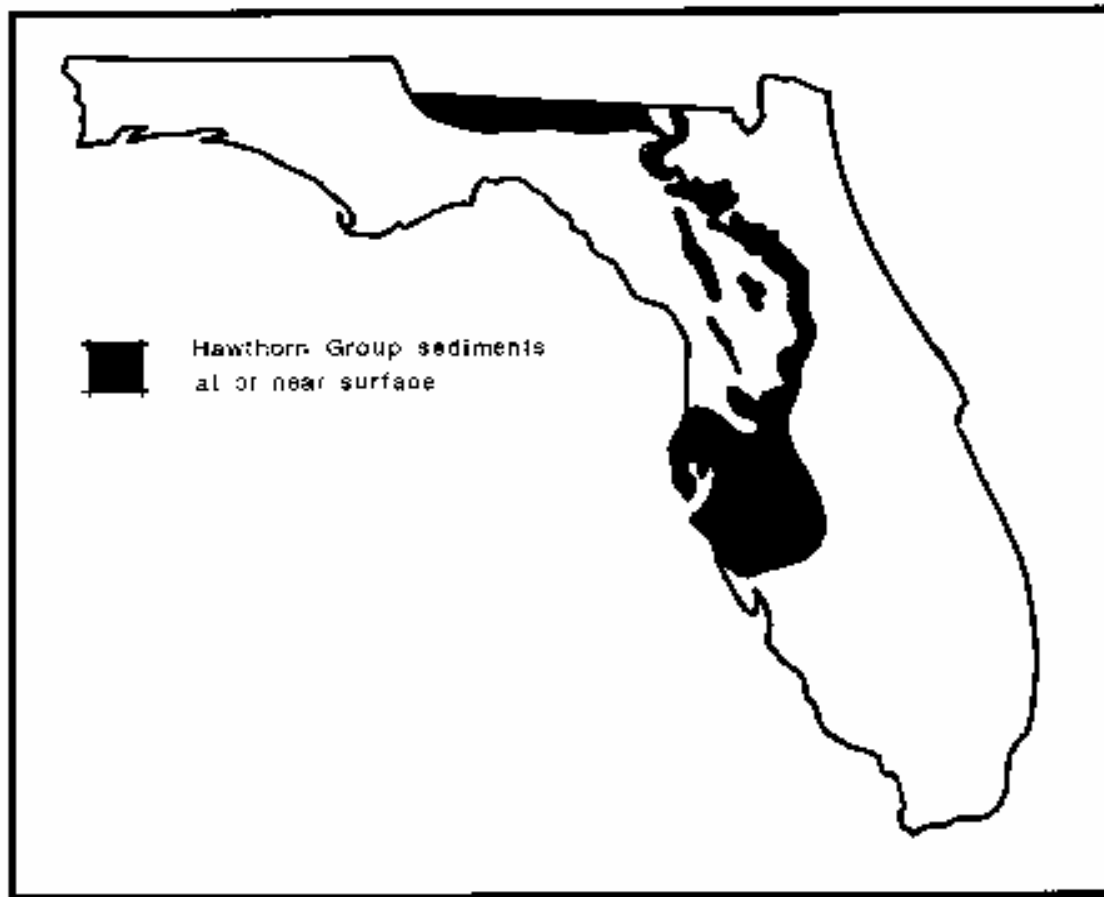
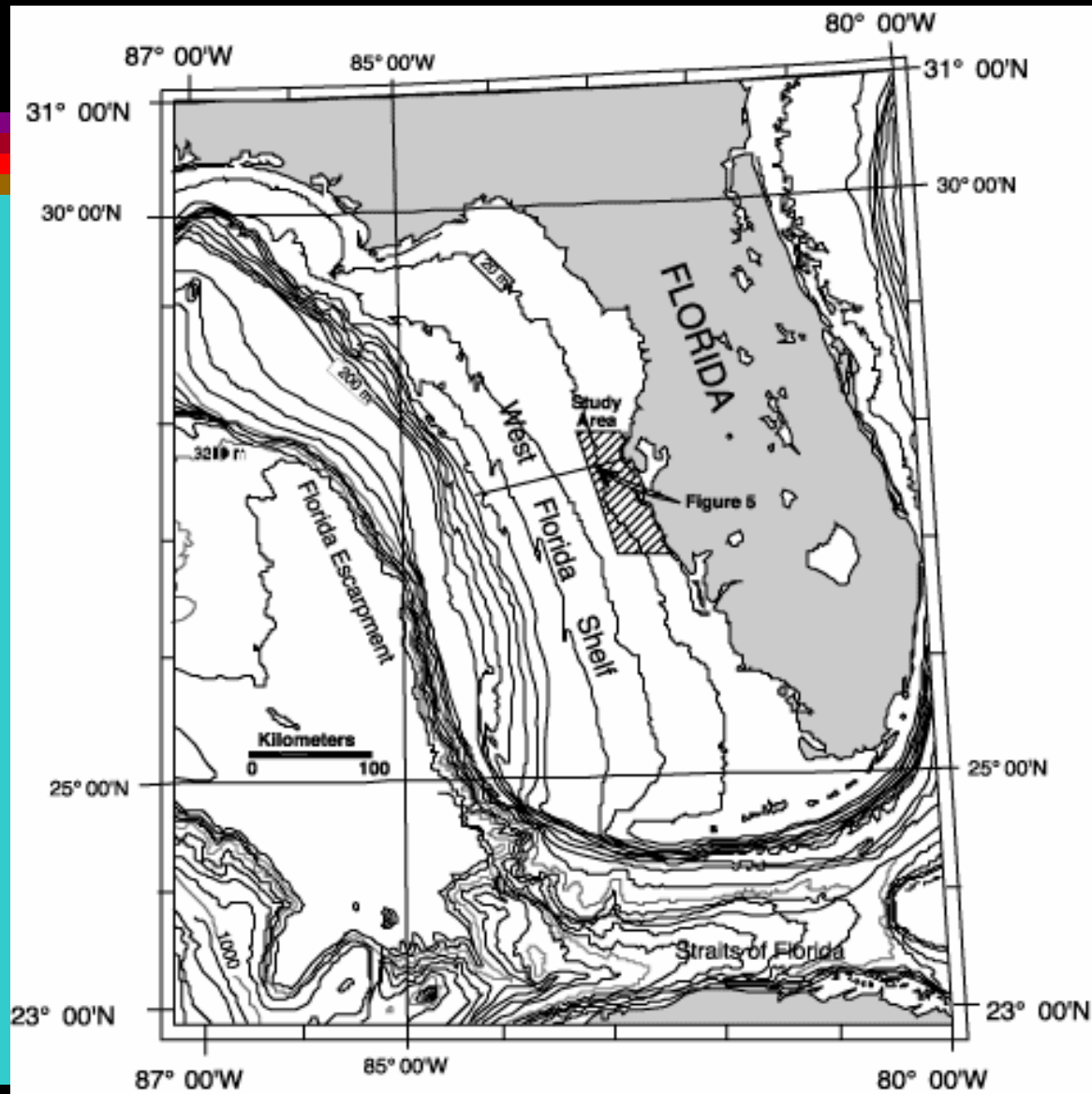


Figure 14. Hawthorn Group phosphatic sediments at or near the surface. Where this occurs, the possibility of radon problems exist.

Early carbonate rocks of Florida



The Quaternary Period the last 1.8 Million years

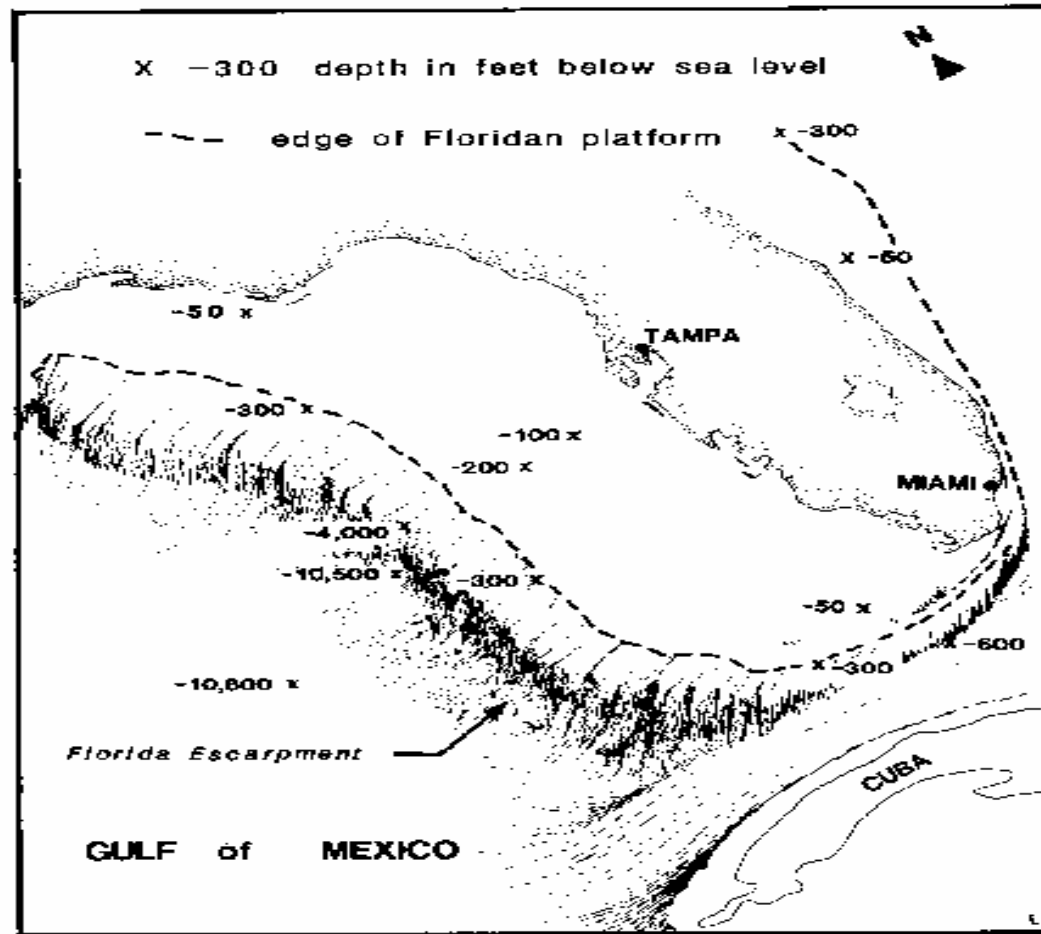


Figure 11. Oblique view of the Florida Platform and Florida Escarpment, showing the islands of the Florida Keys fringing its southern rim. The part above present sea level is Florida (Lane, 1986a).

The Ice Age

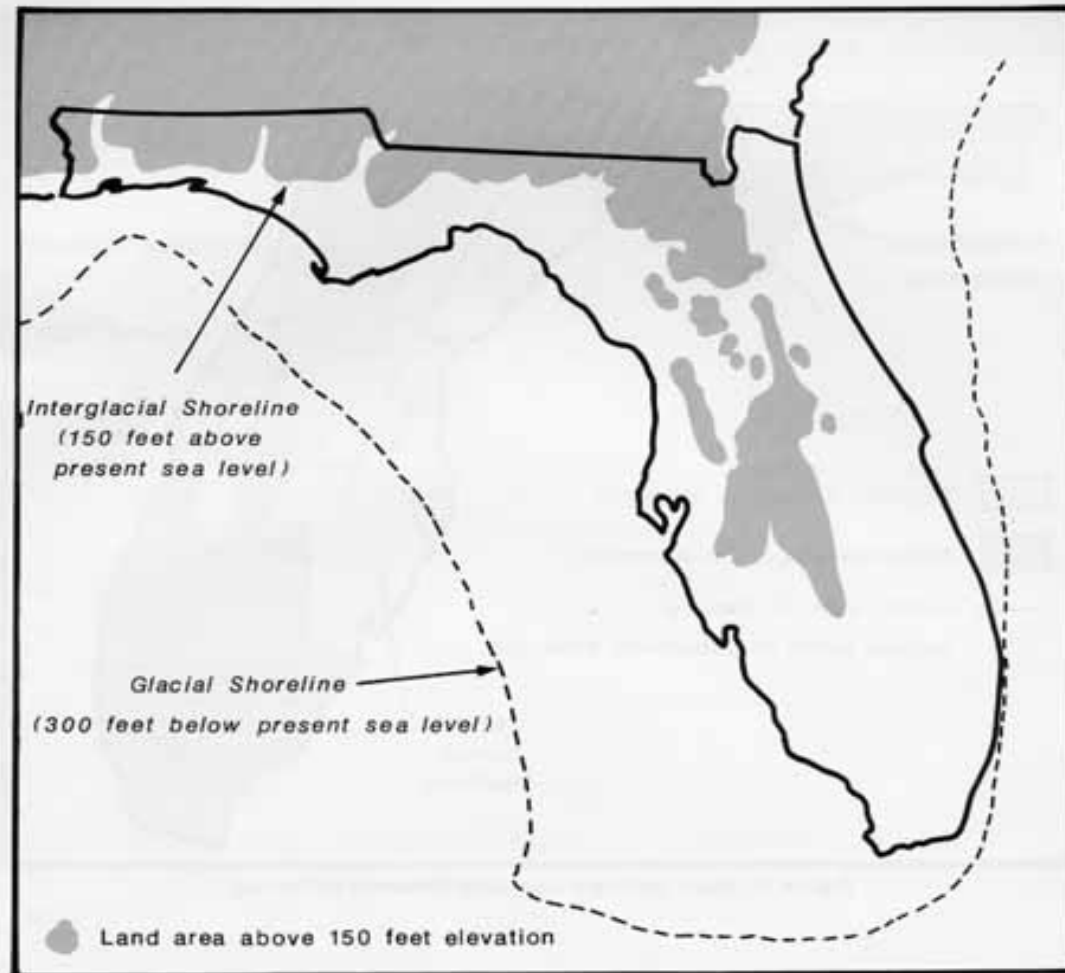


Figure 16. Pleistocene shorelines in Florida. Illustration by Frank R. Rupert.

During the Pleistocene

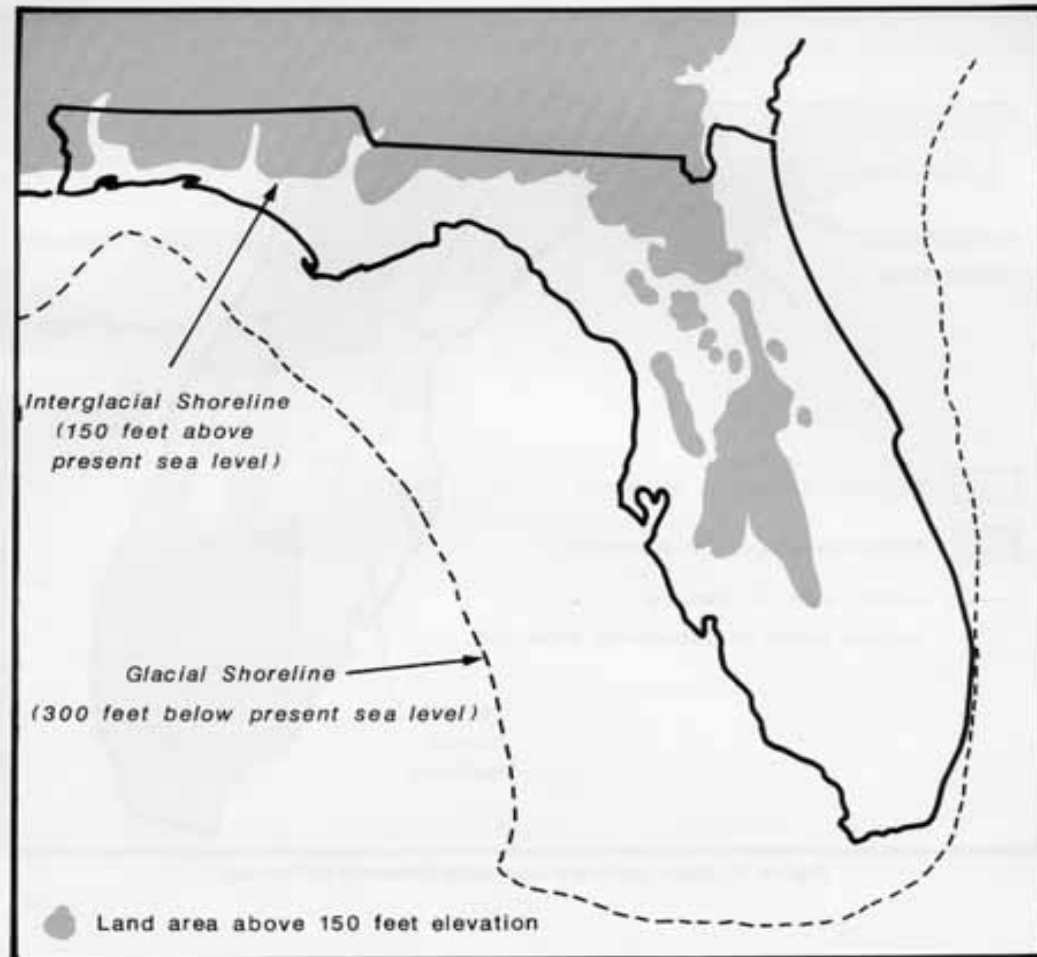


Figure 16. Pleistocene shorelines in Florida. Illustration by Frank R. Rupert.

The Pleistocene seas and

Florida's Gulf coast

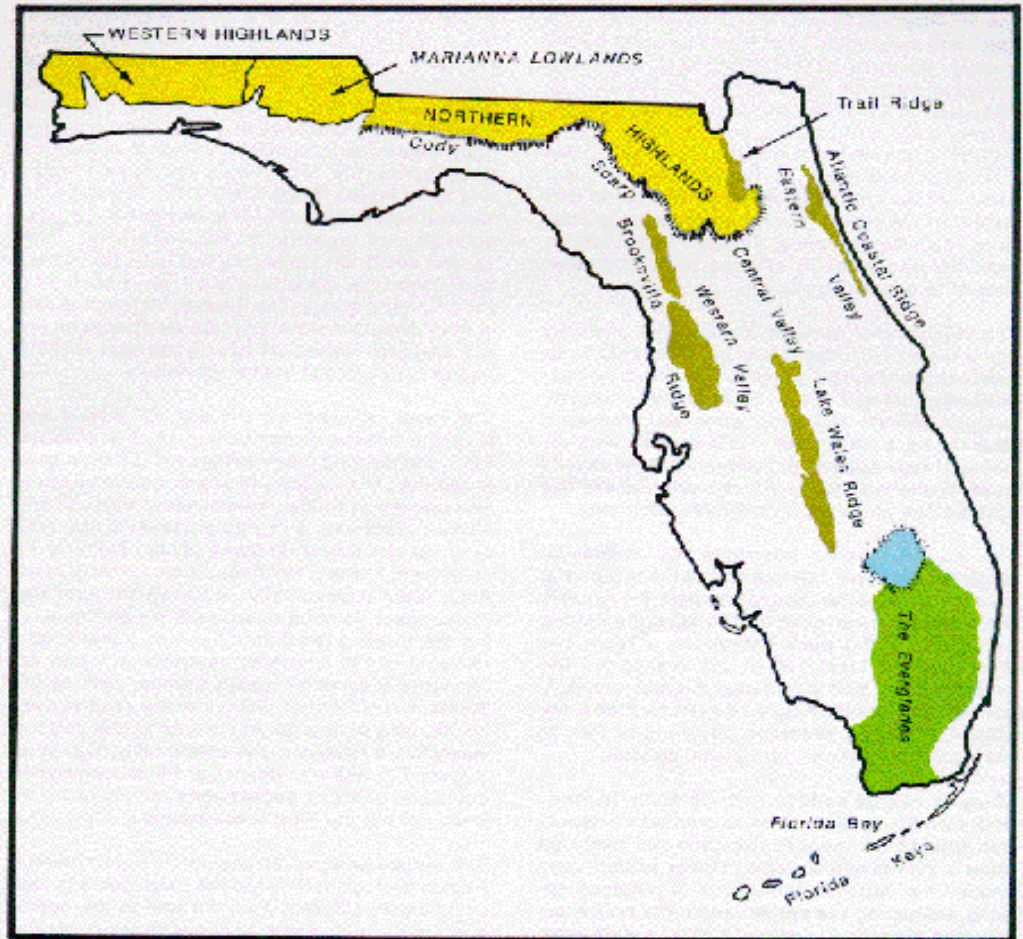


Figure 17. Major topographic features formed or shaped by Pleistocene seas. Illustration by Frank R. Rupert.

Karst activity



Where'd the Lakes Come From?



No Sandy Ridges South of Palm Beach





The End

