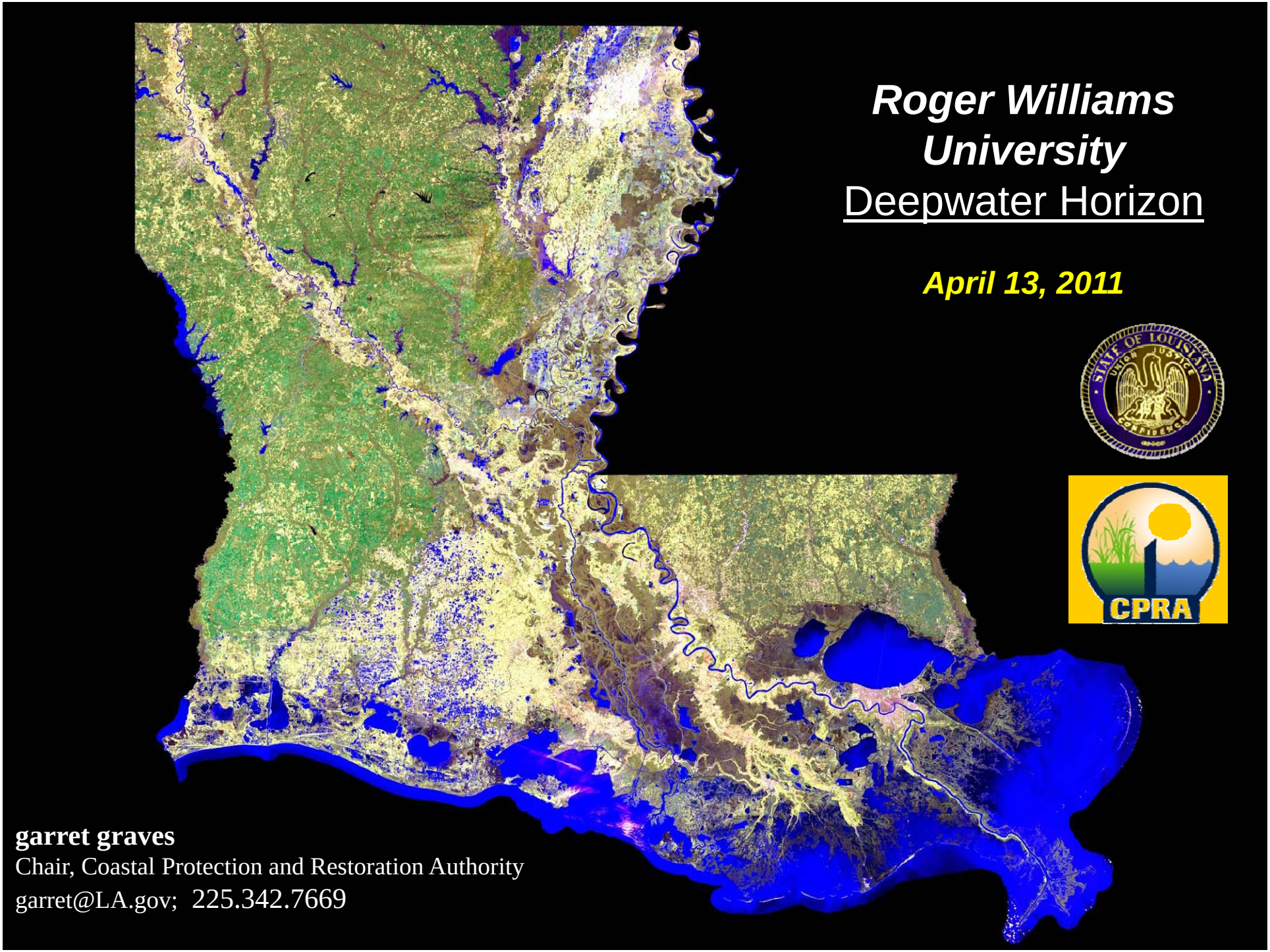


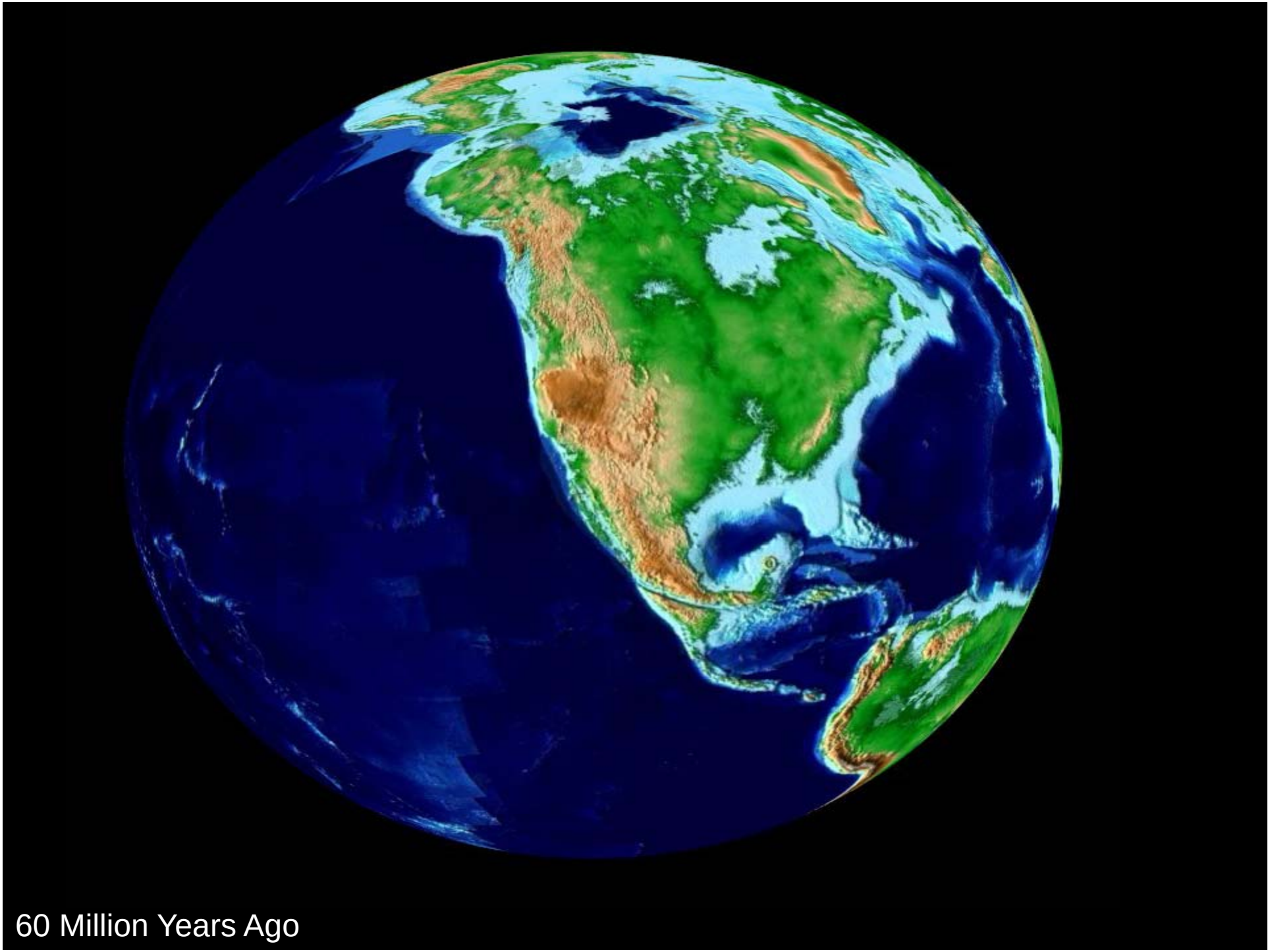
Roger Williams University

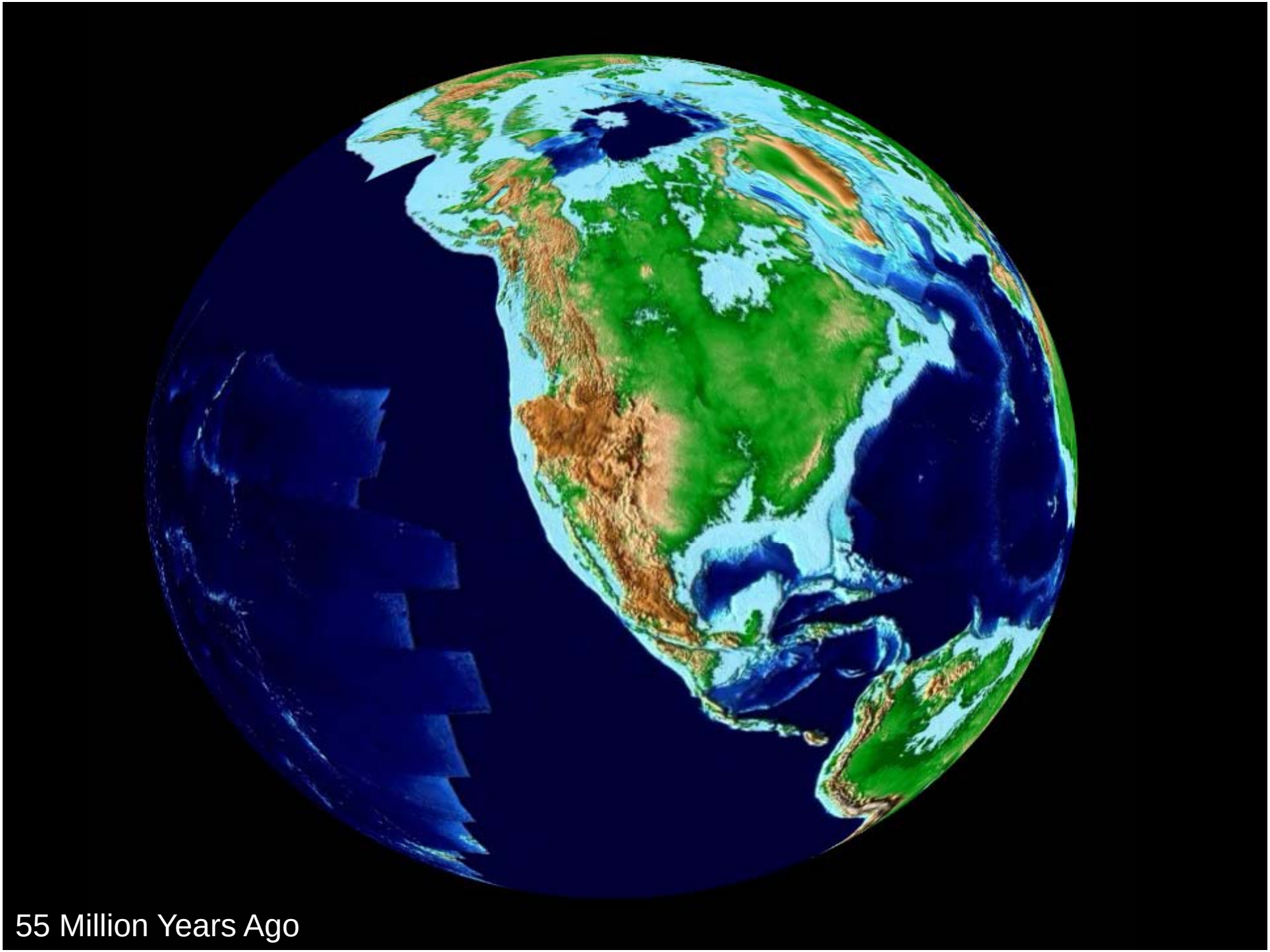
Deepwater Horizon

April 13, 2011

garret graves
Chair, Coastal Protection and Restoration Authority
garret@LA.gov; 225.342.7669


Today
Source: Earth Systems Research Laboratory


60 Million Years Ago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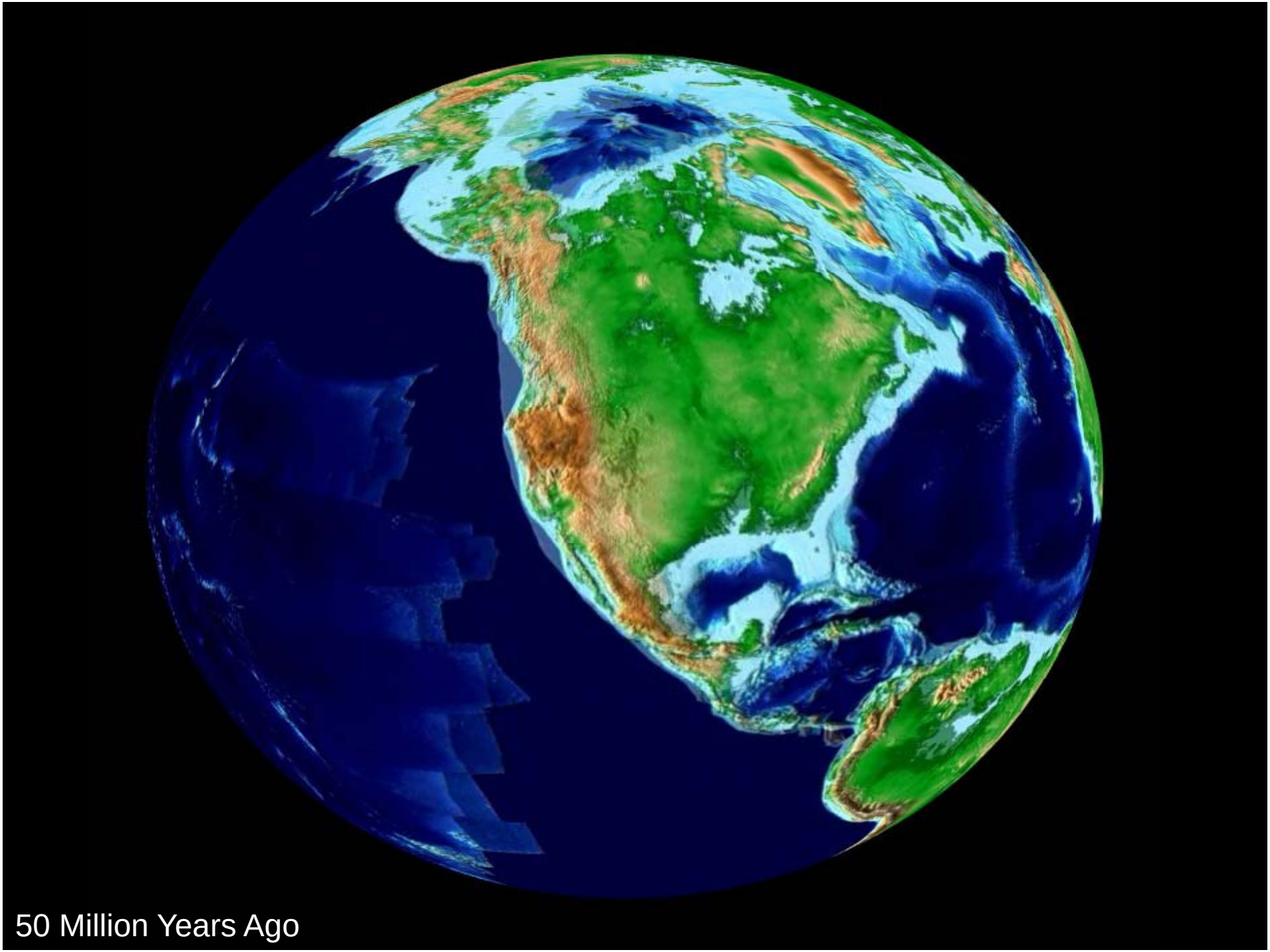
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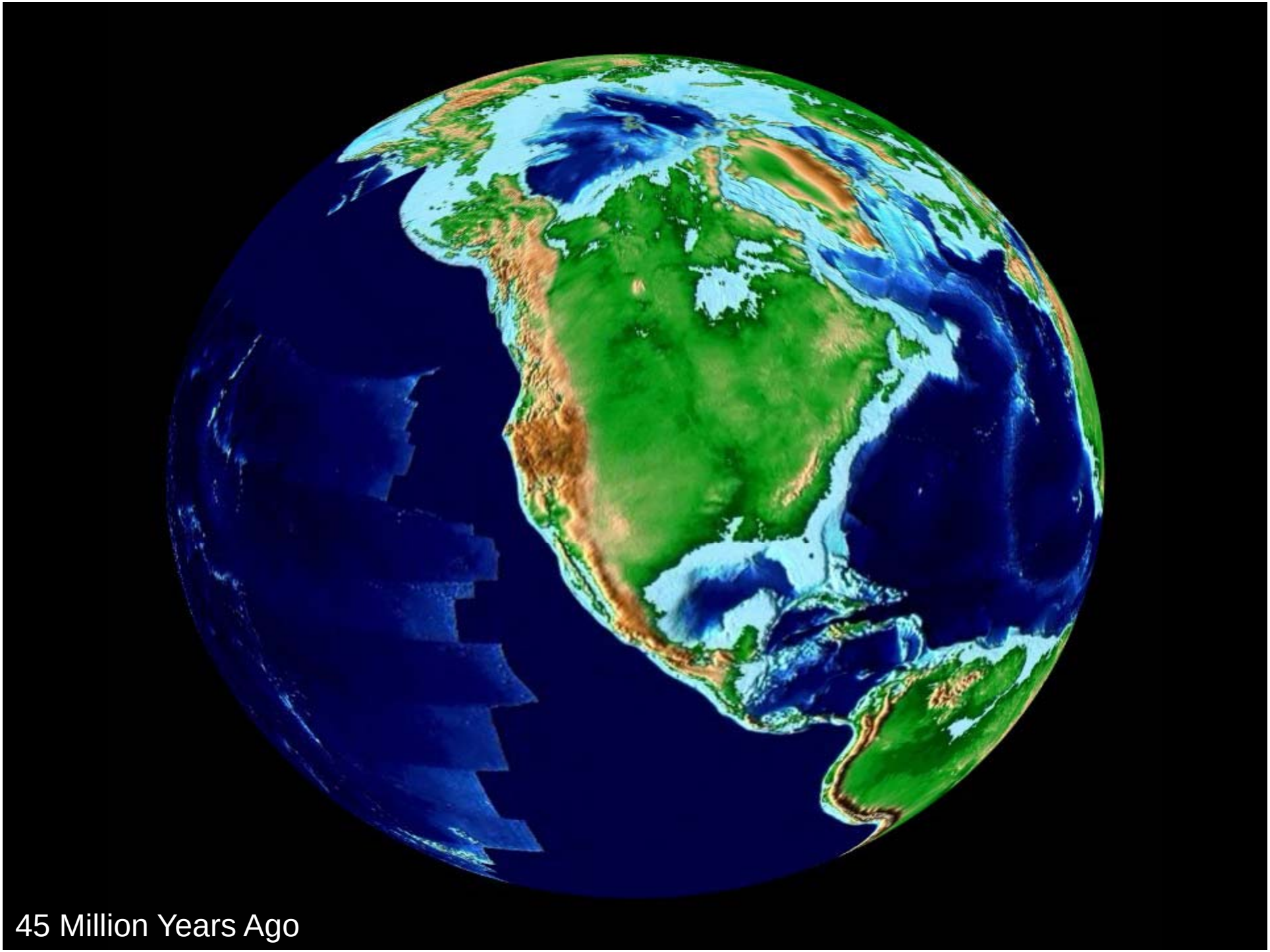
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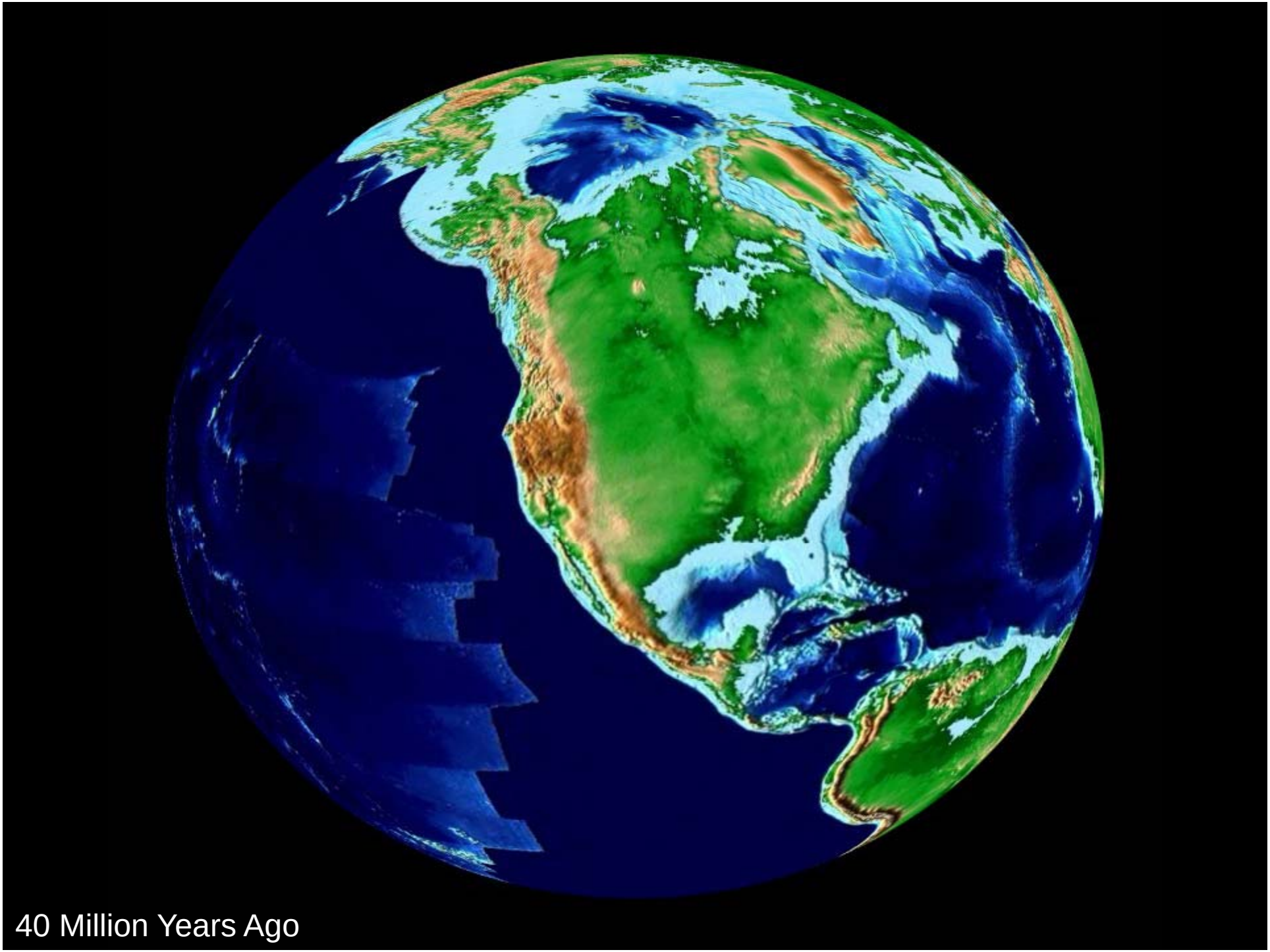
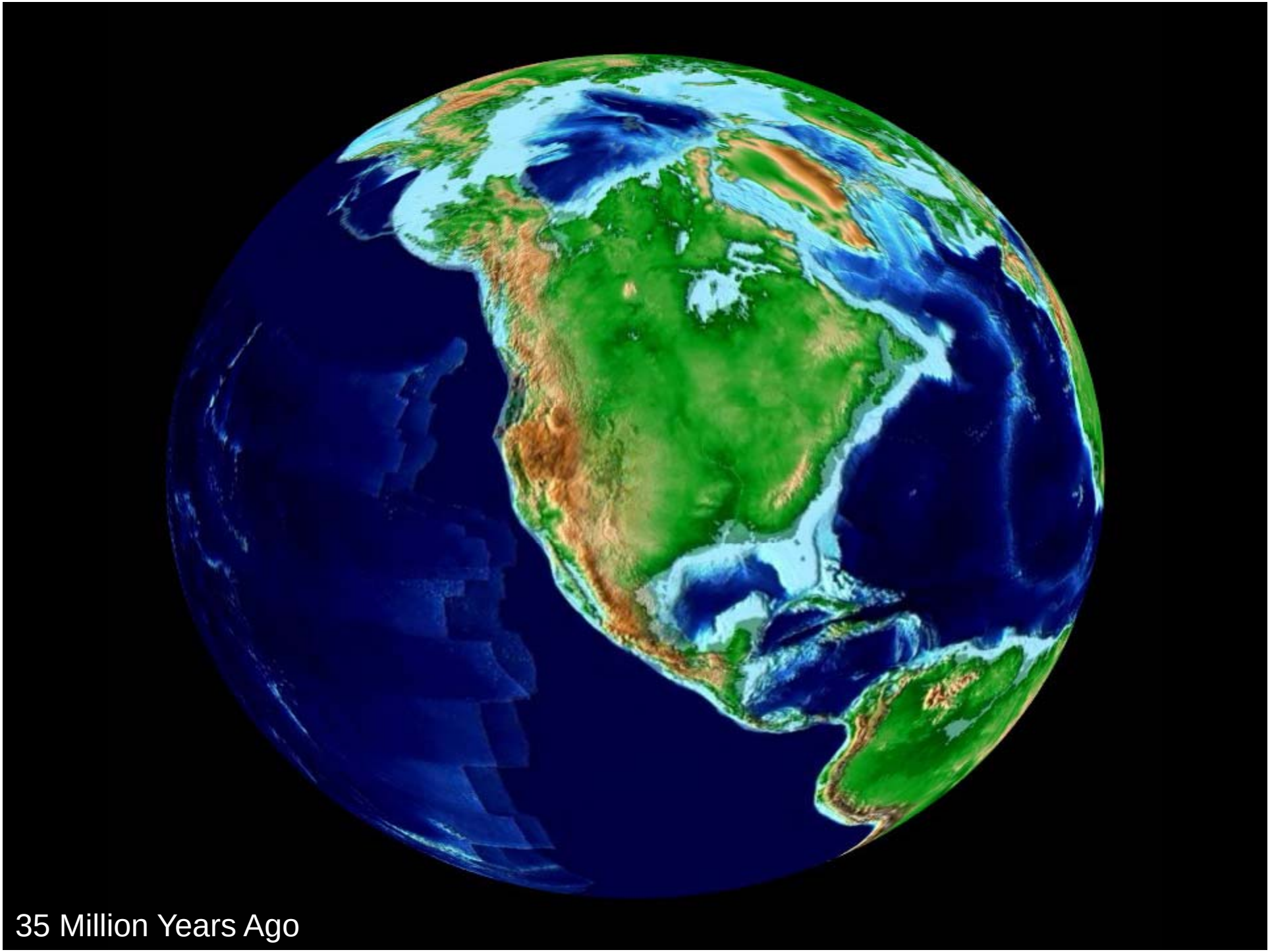
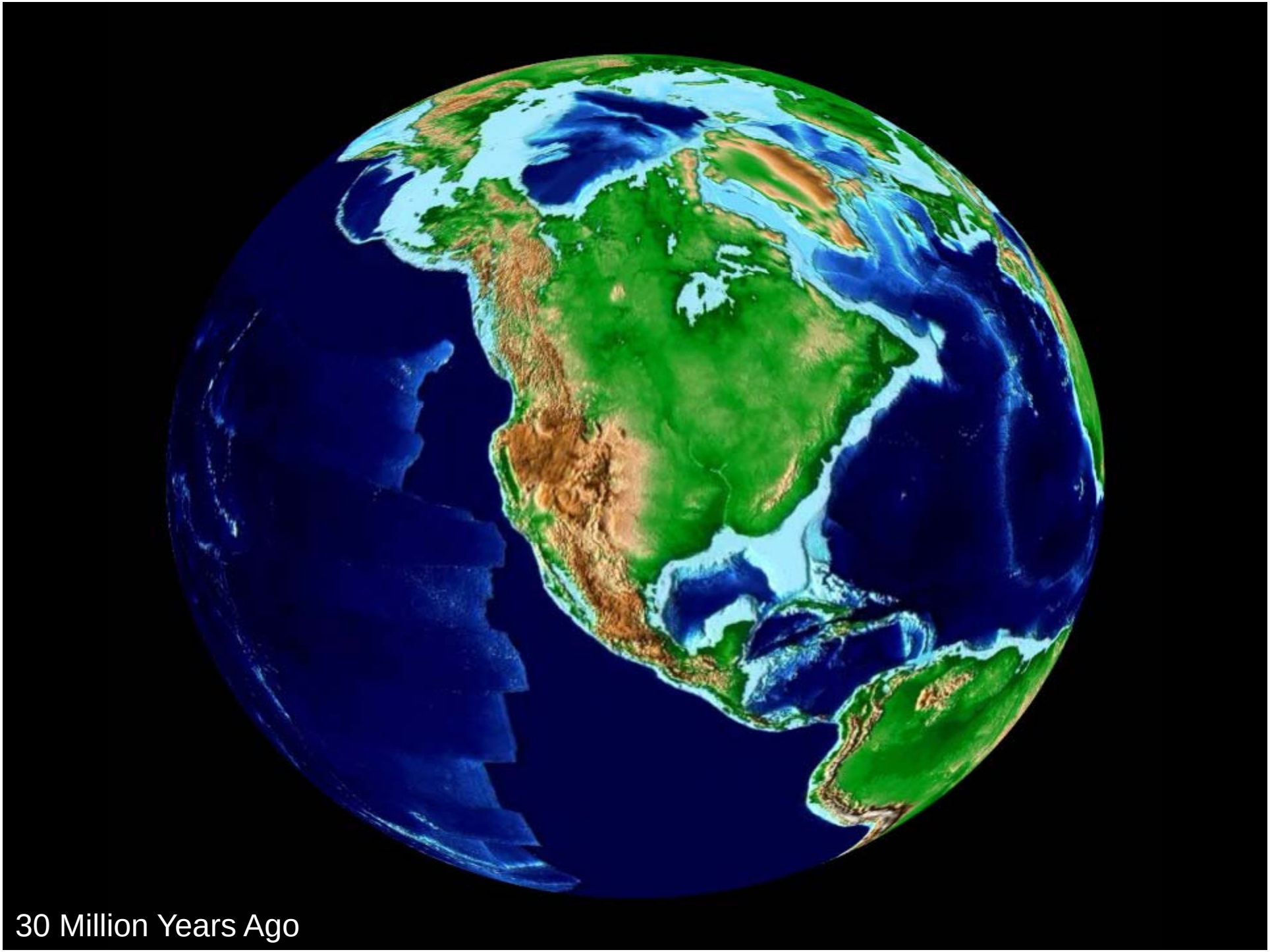
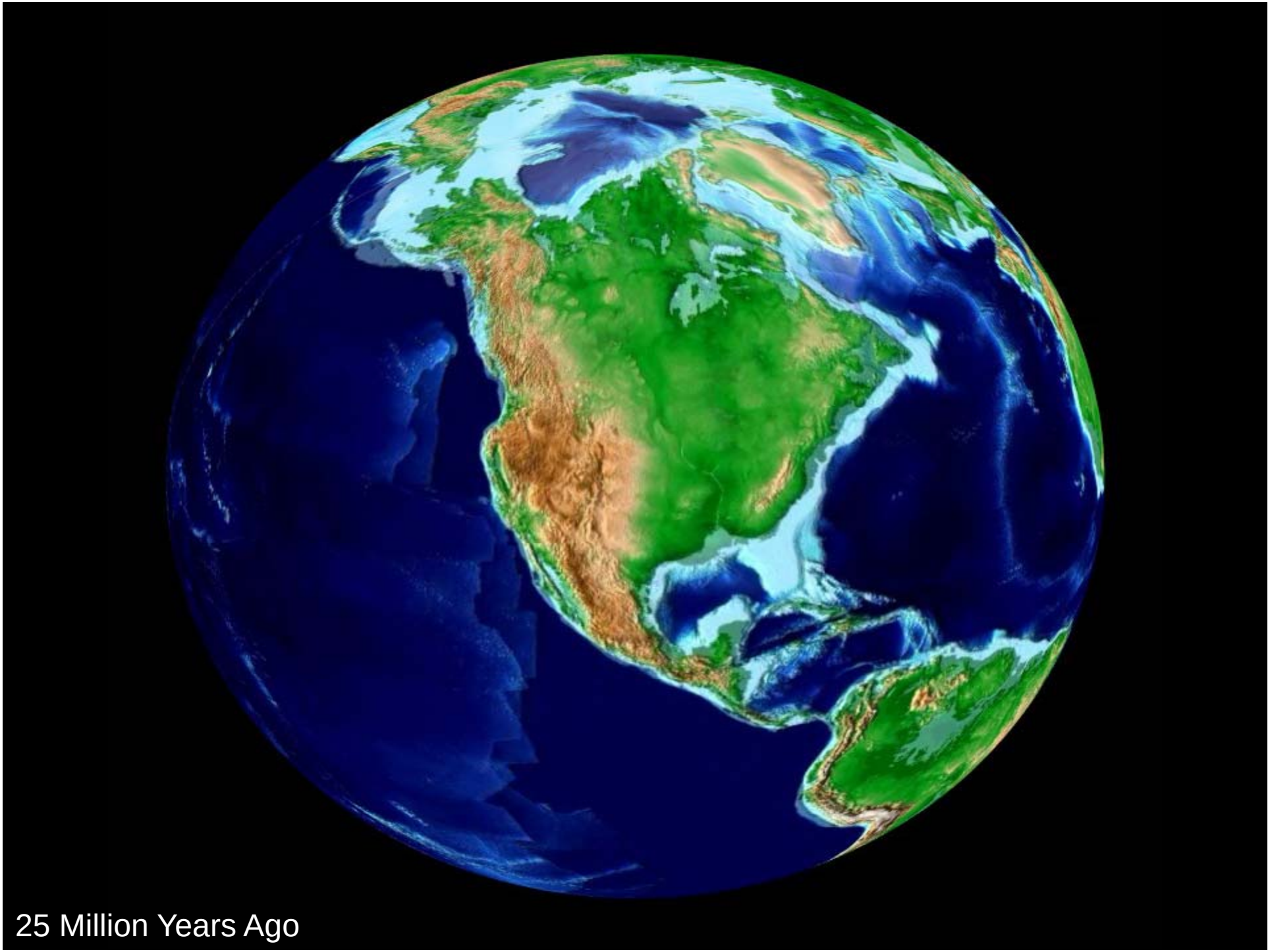
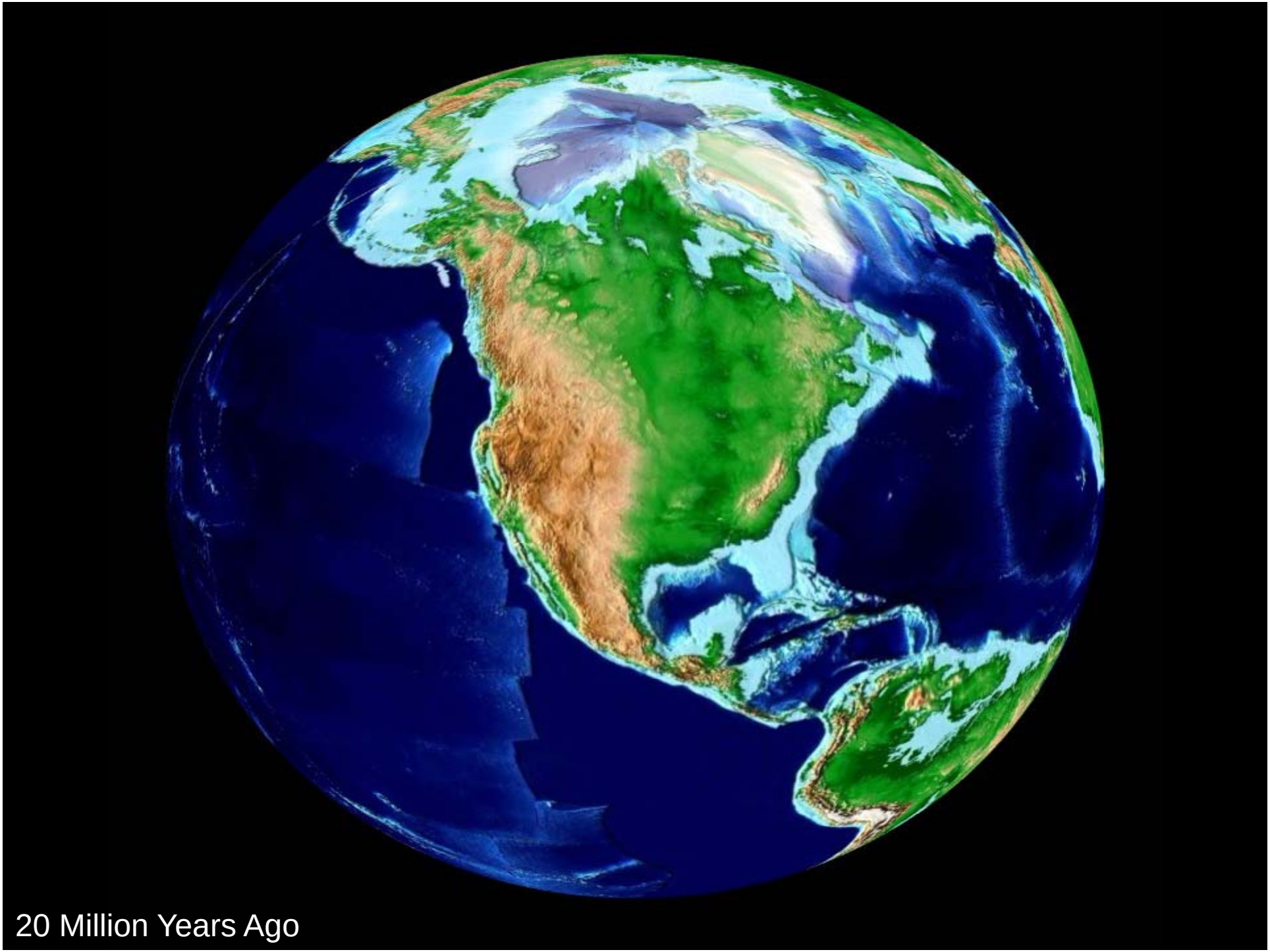

40 Million Years Ago


35 Million Years Ago

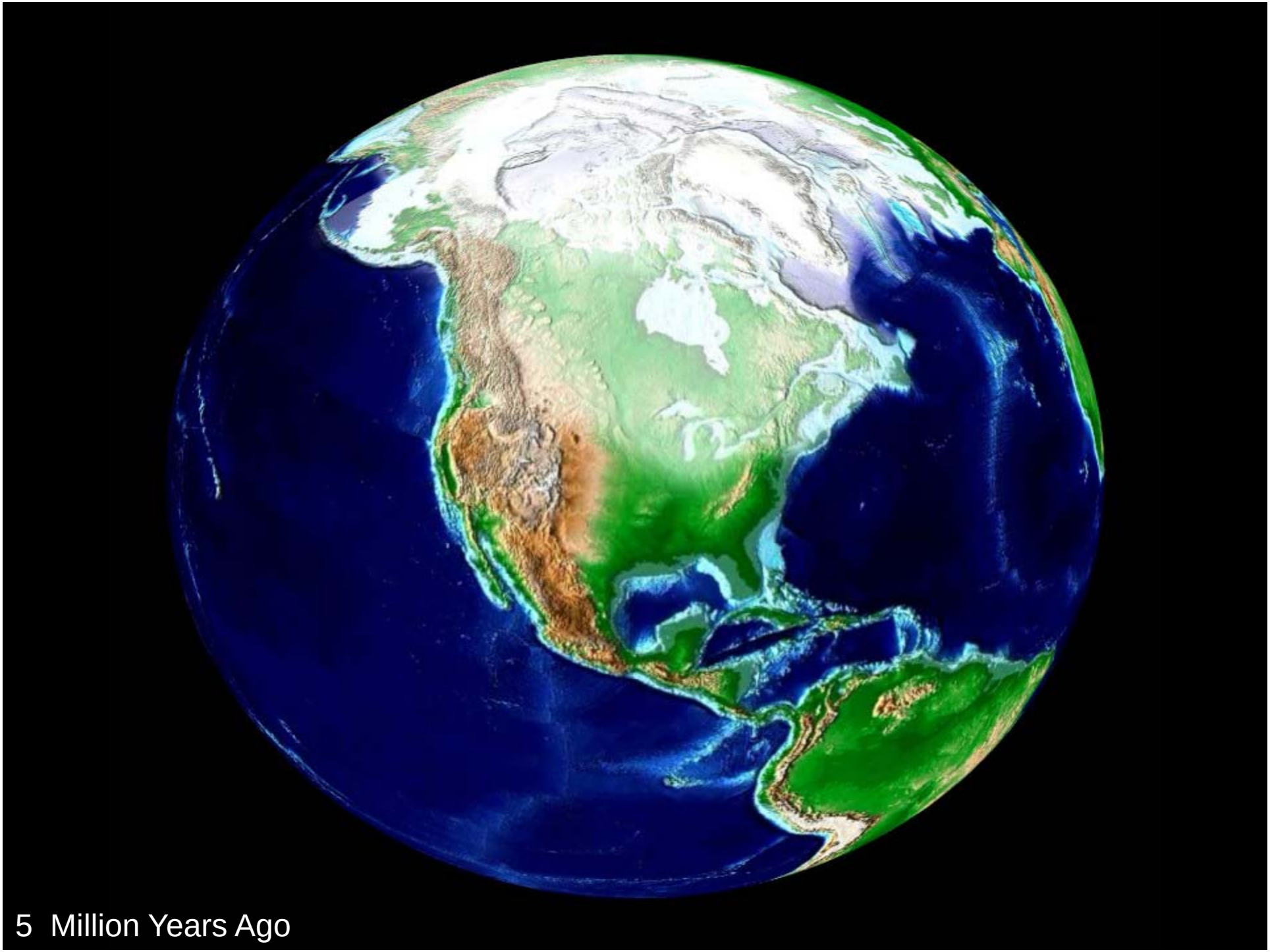

30 Million Years Ago


25 Million Years Ago


20 Million Years Ago

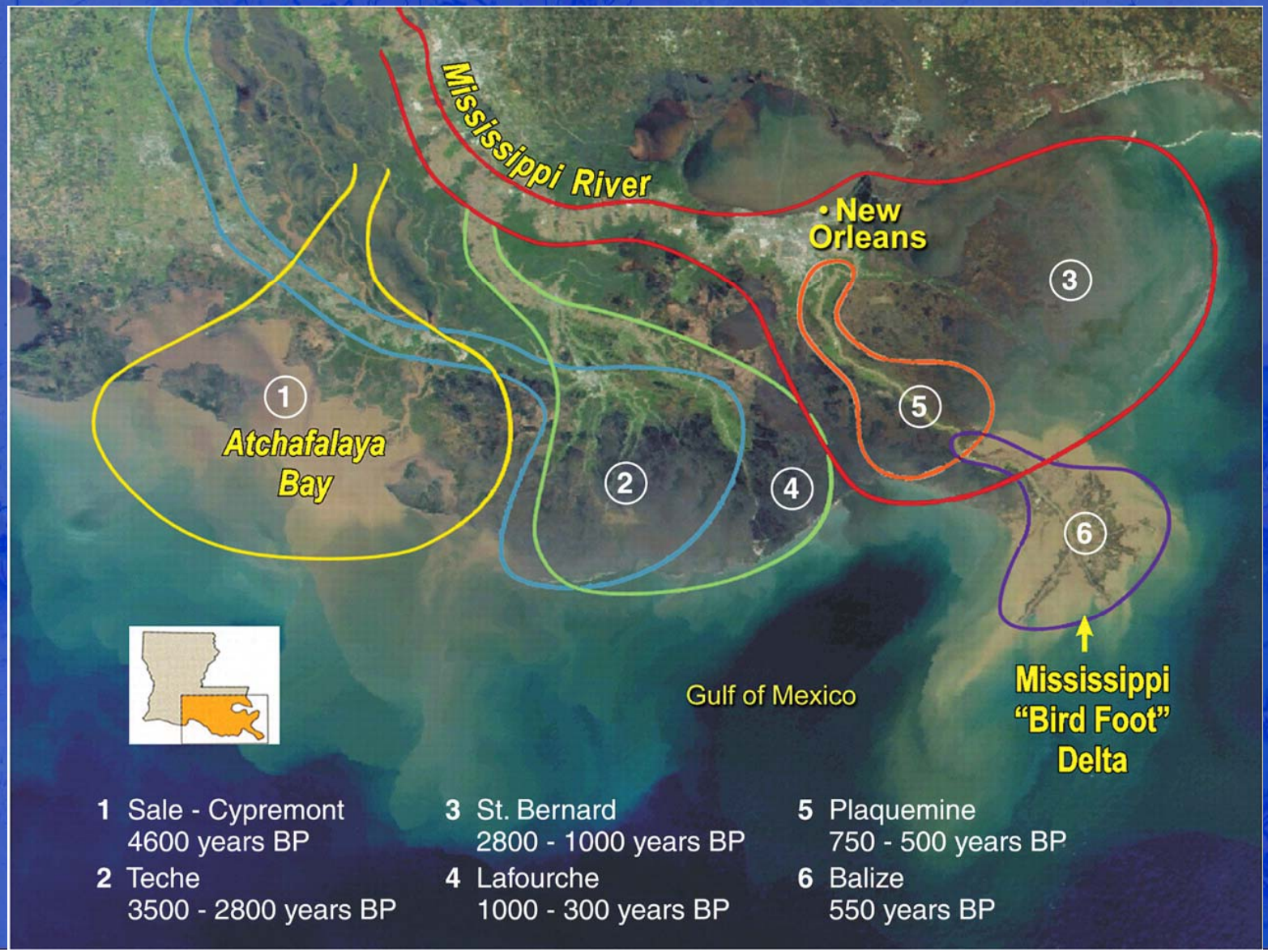

15 Million Years Ago


10 Million Years Ago

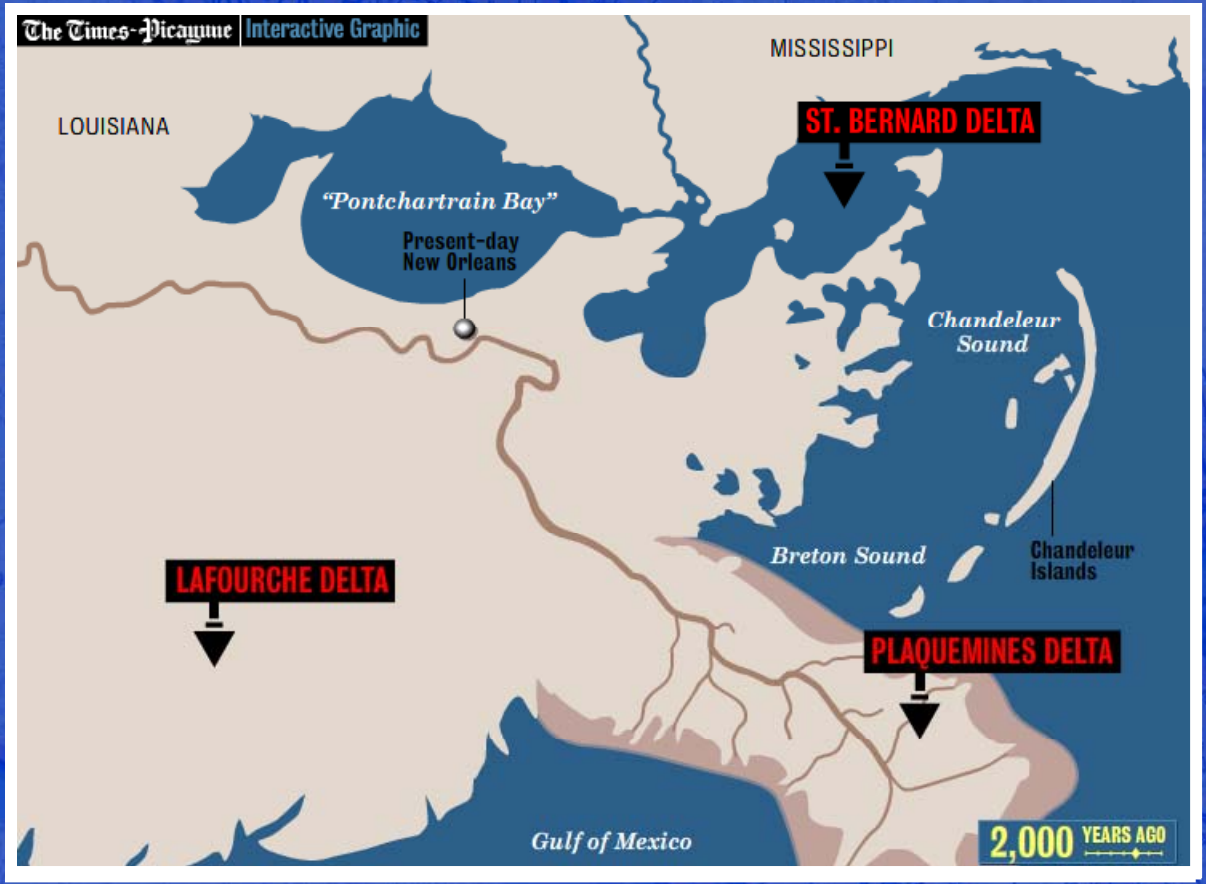

5 Million Years Ago


Today
Source: Earth Systems Research Laboratory

Mississippi River & Tributaries (MRT)



A healthy, accreting coastal system – Before river levees



A system that was building ~ 1 square mile of land a year is now collapsing and unsustainable

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THEN, THE FLOODS CAME…

Coastal Protection and Restoration Authority of Louisiana

The Great Flood of 1927

- Most destructive river flood
- 145 levee breaks
- 27,000 square miles flooded
- 246 deaths

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Mississippi River & Tributaries (MRT)

The Flood Control Act of 1928 put flood control on par with other major projects of its time with the largest public works appropriation ever.

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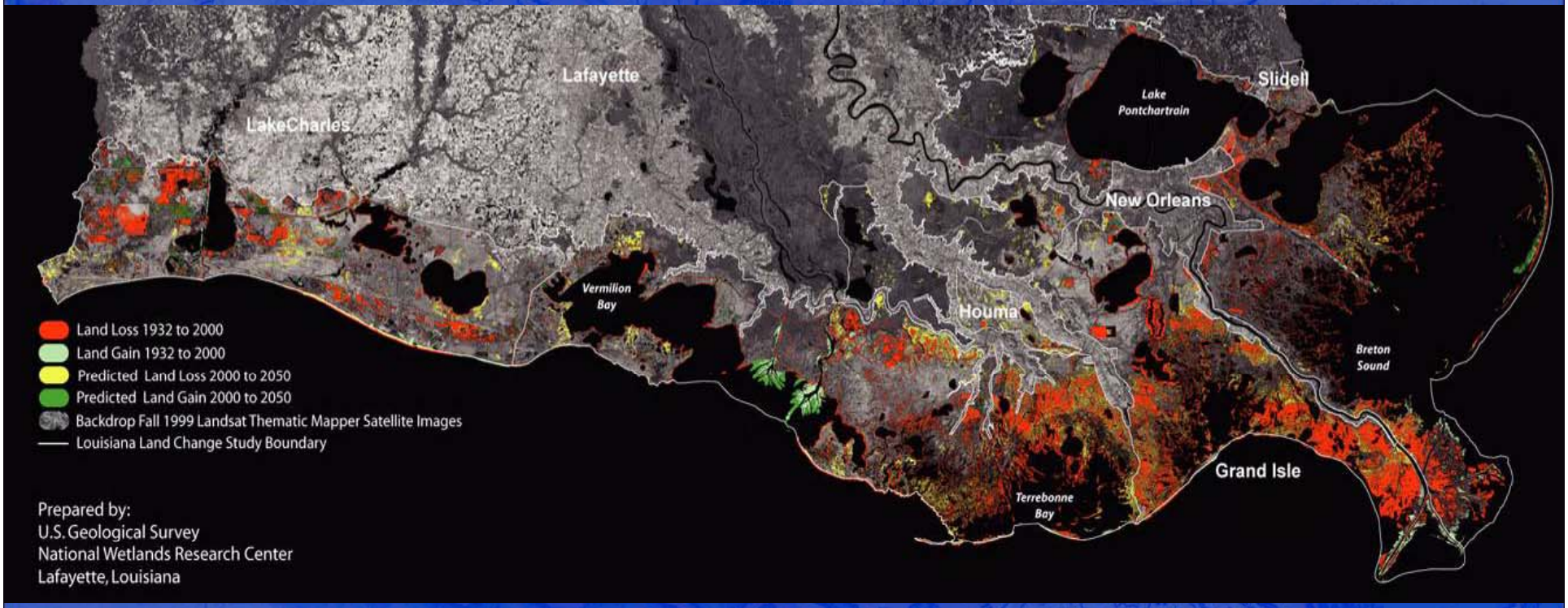
Coastal Land Loss



Over 2300 square miles lost since 1930

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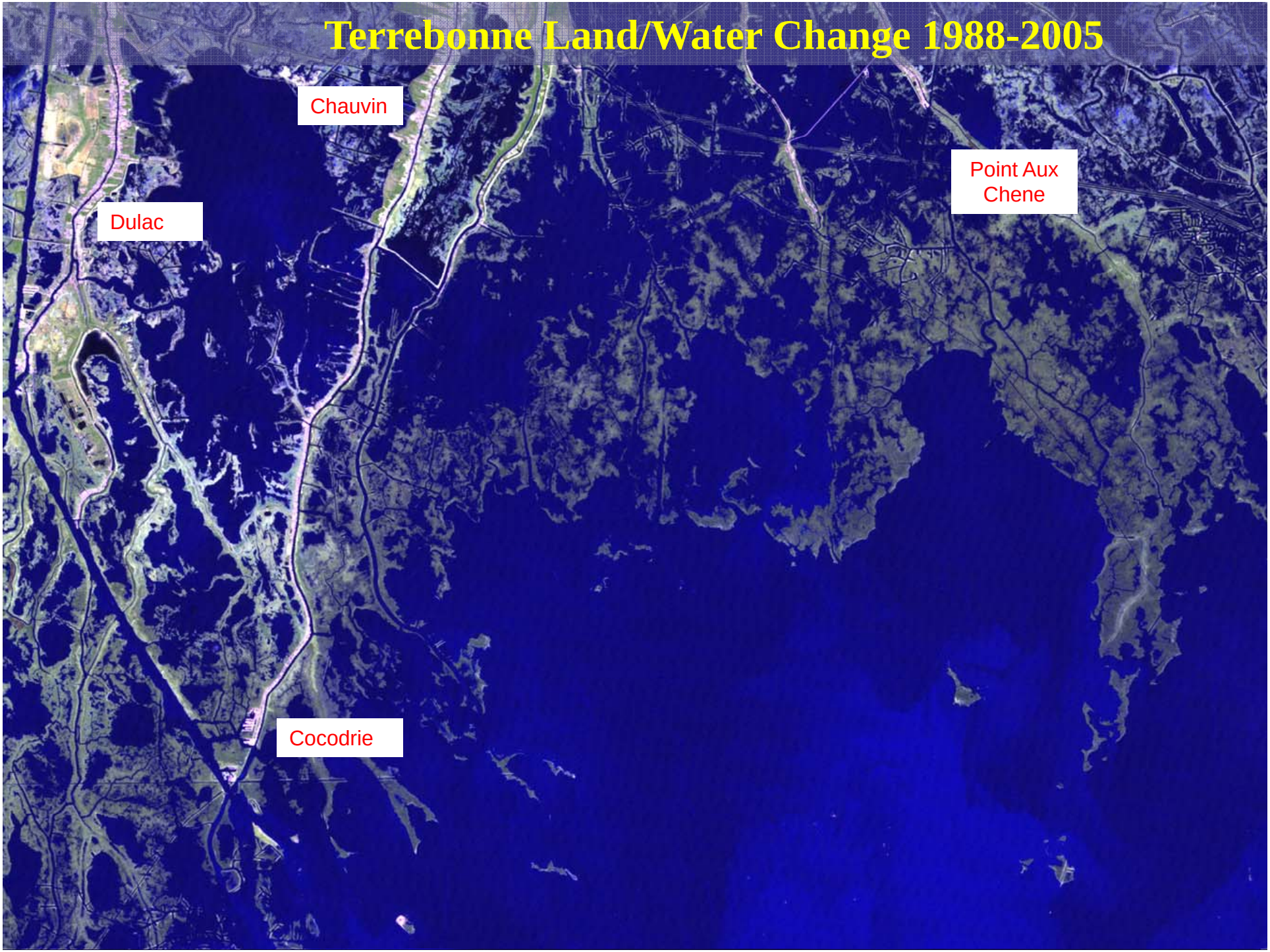
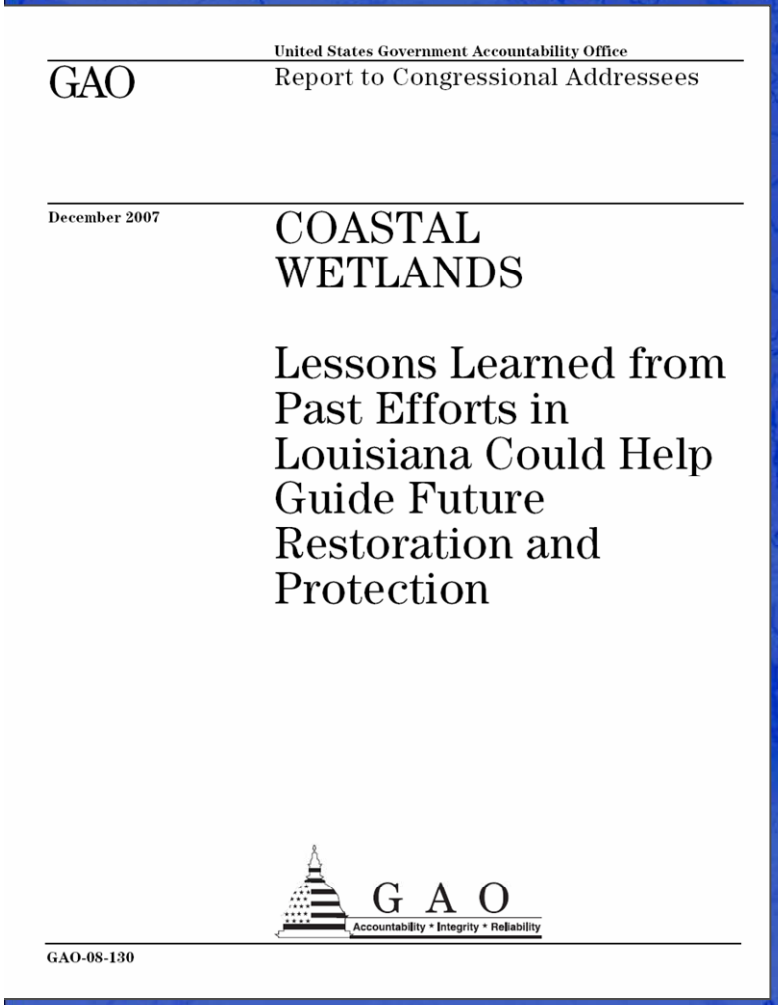
Terrebonne Land/Water Change 1988-2005



Greatest Ecosystem Loss



United States Government Accountability Office

GAO

Report to Congressional Addressees

December 2007

COASTAL WETLANDS

Lessons Learned from Past Efforts in Louisiana Could Help Guide Future Restoration and Protection

G A O

Accountability * Integrity * Reliability

GAO-08-130

"Coastal wetland losses in Louisiana account for up to 90 percent of the total coastal wetlands loss occurring in the lower 48 states today and expose the state's coastal areas to the devastating effects of hurricane storm surges."

Coastal Wetlands: Lessons Learned From Past Efforts in Louisiana Could Help Guide Future Restoration and Protection
GAO, December 2007

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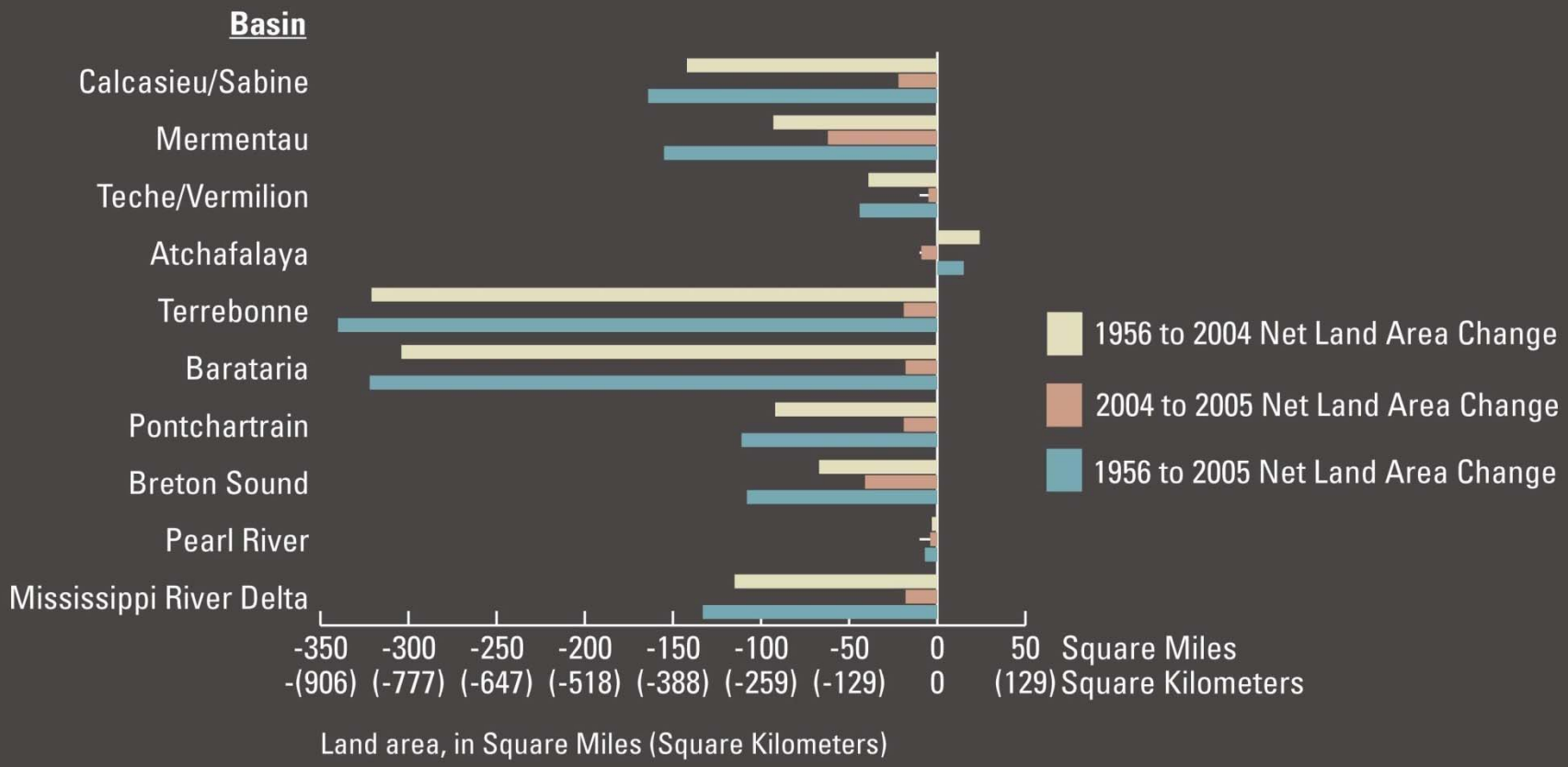
Coastal Protection and Restoration Authority of Louisiana

USGS
science for a changing world

1956 to 2004 and 2004 to 2005 Net Land Area Changes Graph*



*The 1956 to 2004 net land decrease is 1,149 mi^2 (2,975.91 km^2). The 2004 to 2005 net land decrease is 218 mi^2 (564.62 km^2), which slightly varies from the 217 mi^2 given elsewhere in this report. The variation results from matching the CZB (1956) and LCA (2004 to 2005) data sets, as discussed in this methodology.

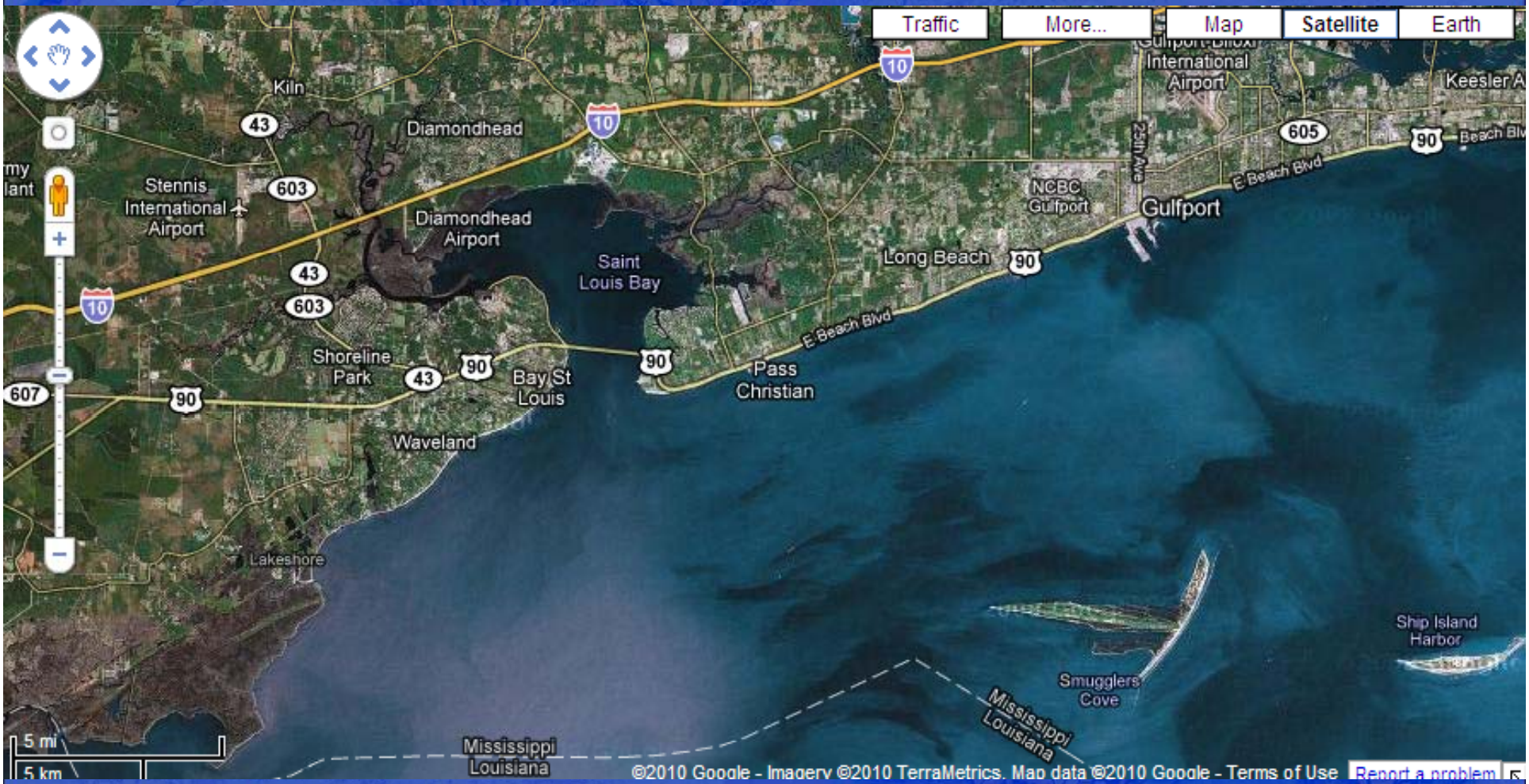
Source: Open-File Report 2006-1274, Land Area Change in Coastal Louisiana After the 2005 Hurricanes: A Series of Three Maps

Land Area Change in Coastal Louisiana After the 2005 Hurricanes: A Historical Perspective (from 1956)


OIL SPILL


© DubinskyPhotography.com for HealthyGulf.org

Coastal Mississippi

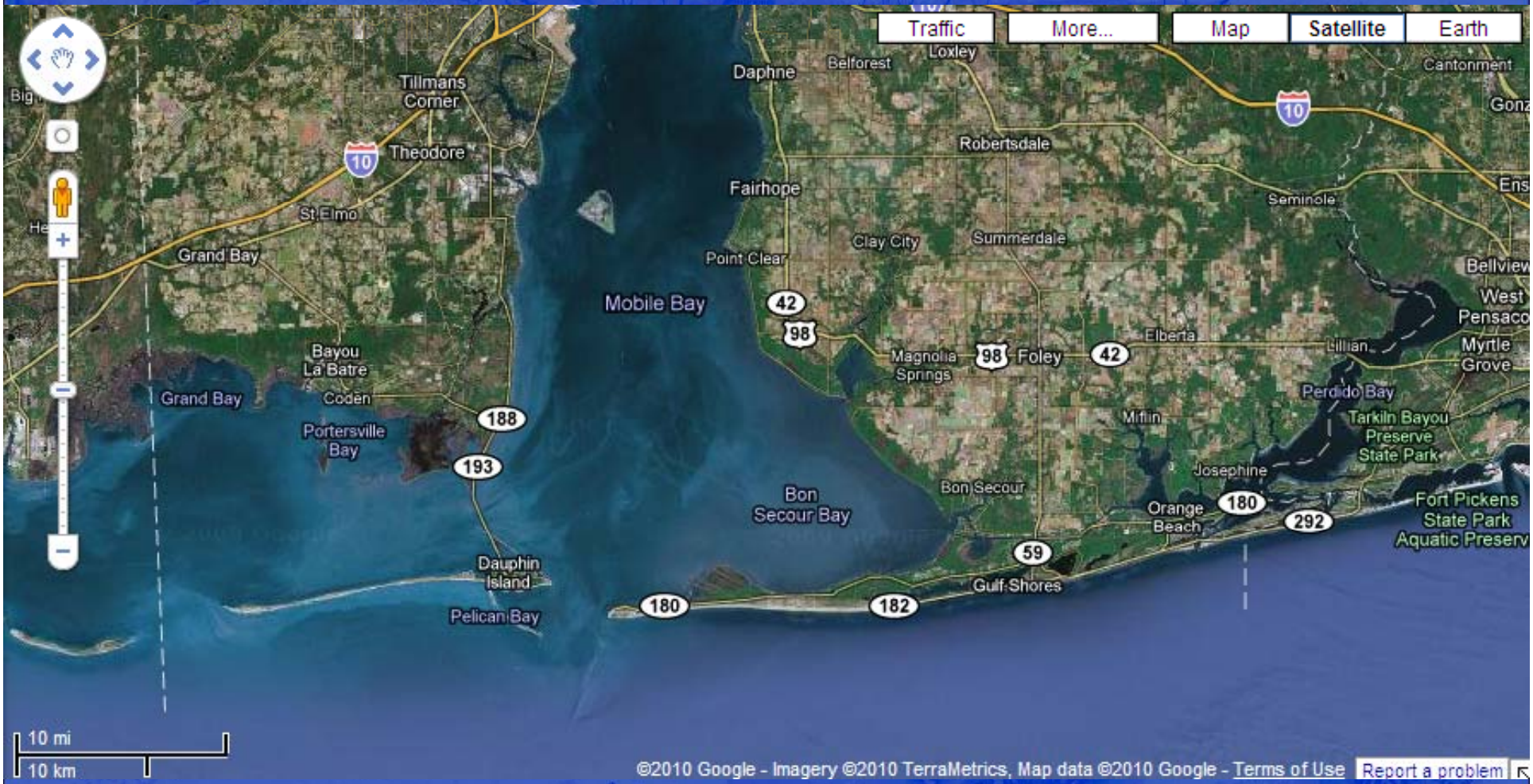


NOTE: smooth coastline

Coastal Louisiana

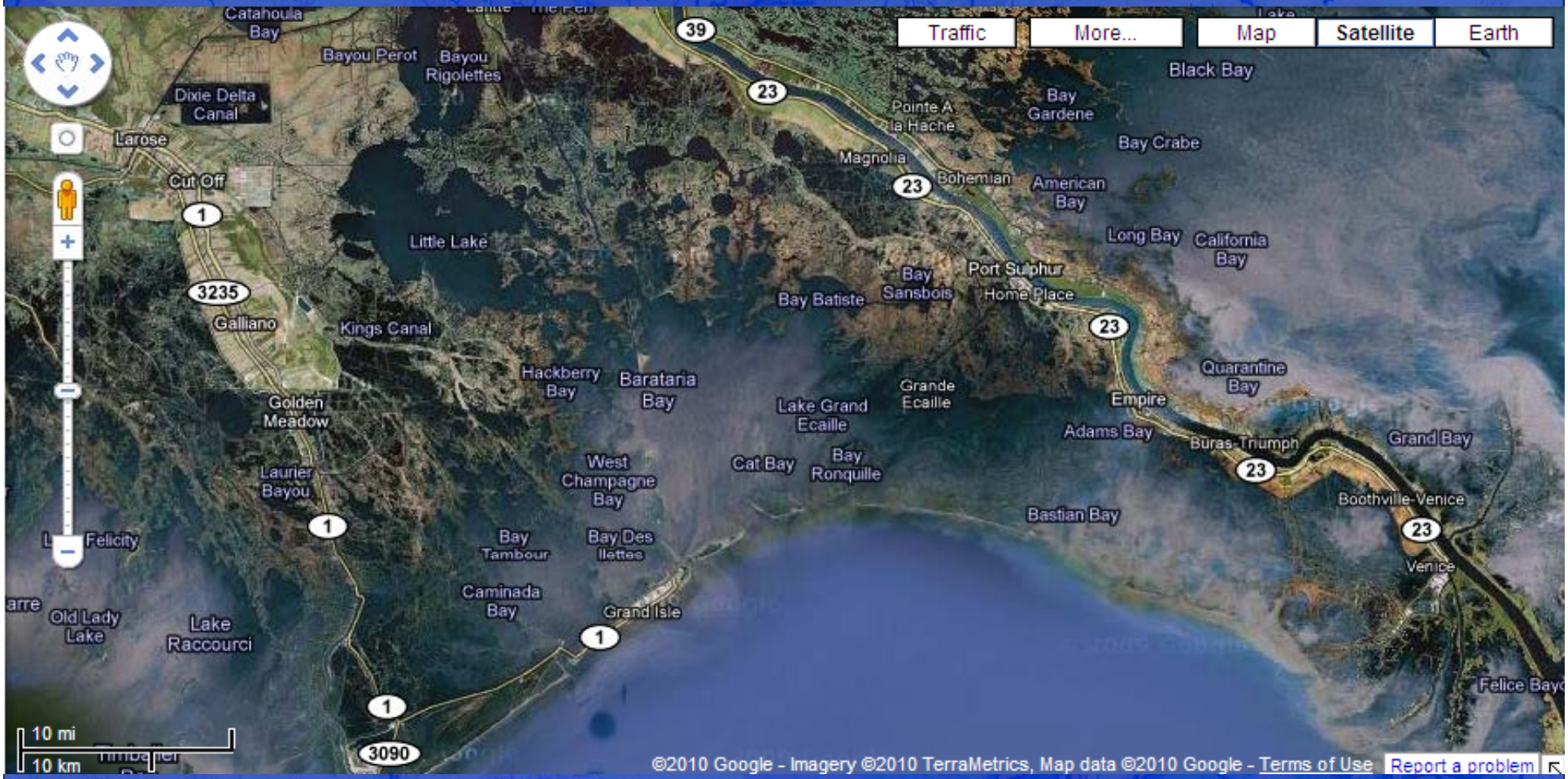
NOTE: fragmented shoreline and wetlands

Coastal Alabama



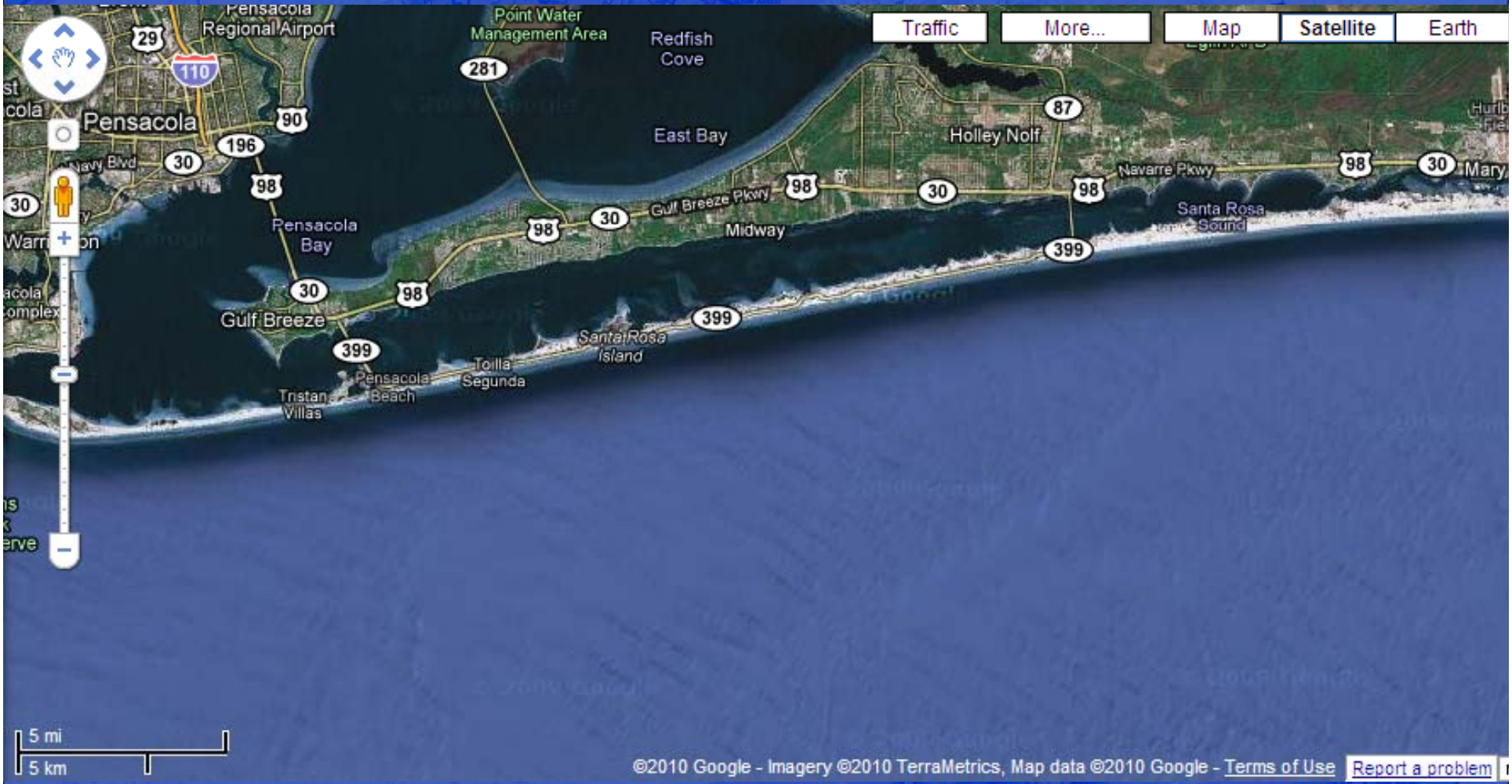
NOTE: smooth coastline and contiguous barrier islands

Coastal Louisiana

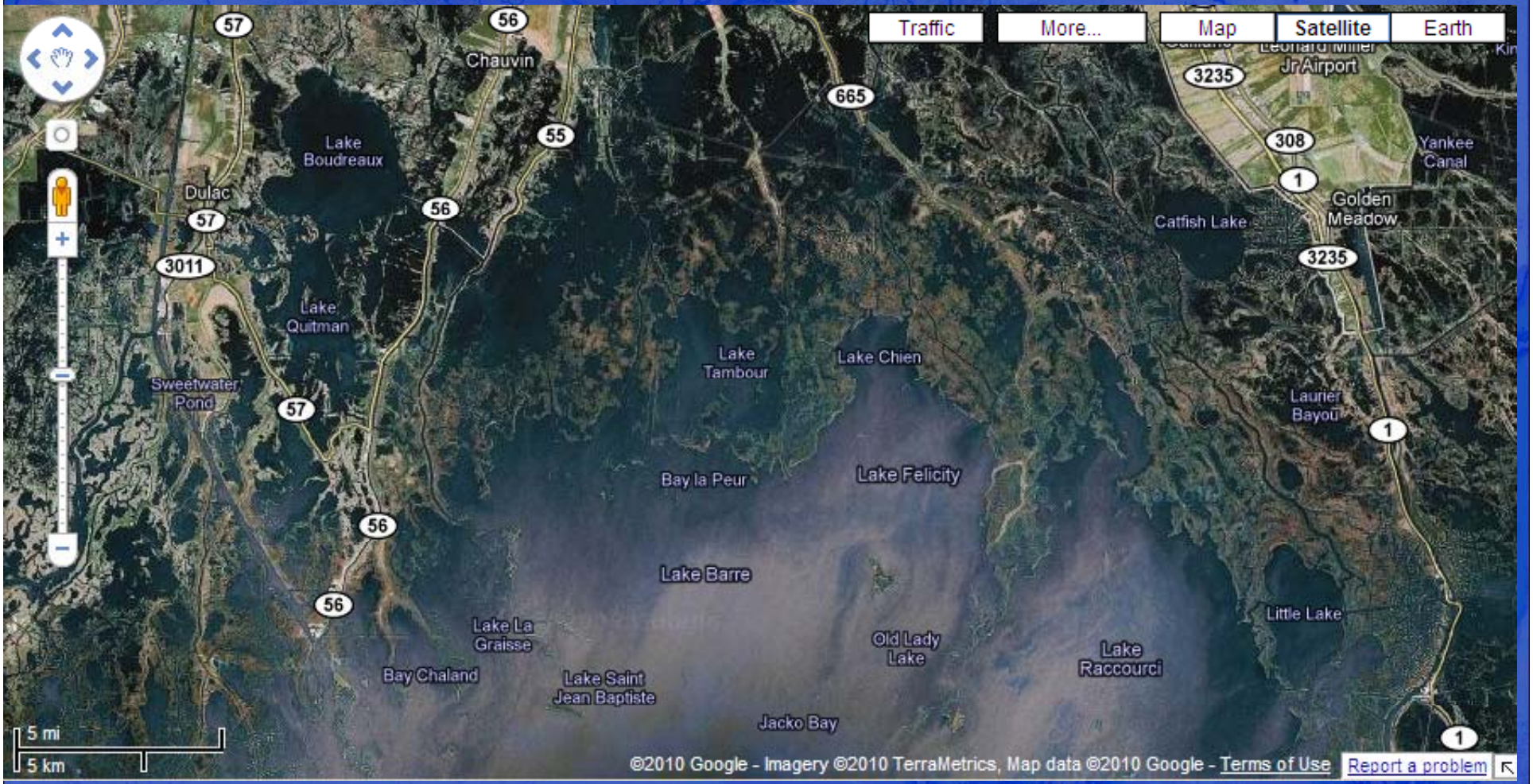


NOTE: oil shoring in coastal Louisiana will be much more difficult to ever clean and will have longer-term impacts on ecosystem

Coastal Florida



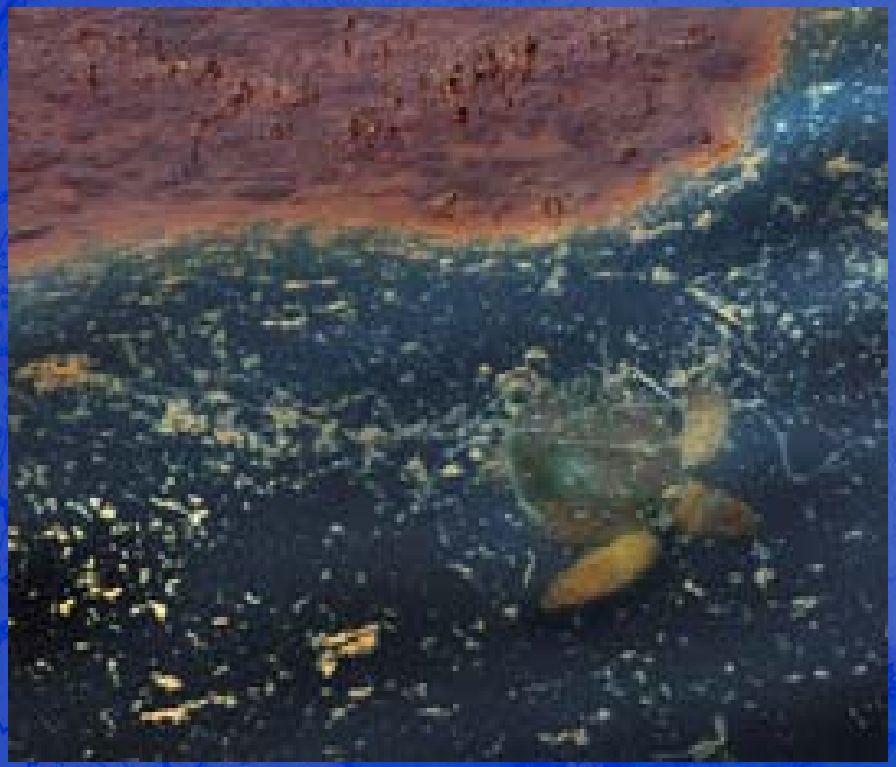
Coastal Louisiana



Coastline/Shoreline

STATE	Total Coastline (miles)	Tidal Shoreline (miles)	Tidal Shoreline (feet)	Threatened Shoreline (within 350 miles of incident site)
Louisiana	397	7,721	40,766,880	40,766,880
Mississippi	44	359	1,895,520	1,895,520
Alabama	53	607	3,204,960	3,204,960
Florida	770	8,402*	44,362,560	16,857,773

NOTE: compare coastline miles to shoreline miles. Louisiana has a disproportionate ratio



At Risk

- Commercial Fishermen
  - Hundreds of thousands of Louisianans
  - Unique culture
  - Best food in the nation/restaurants

- Most Productive Ecosystem
  - Oysters
  - Shrimp
  - Finfish
  - Crabs

At Risk

Top Recreational Fishing Destination

- Bait shops
- Marinas
- Tackle suppliers
- Restaurants
- Hotels

At Risk

- Reverses recovery from Hurricanes Katrina, Rita, Gustav and Ike
  - Communities
  - Coastal systems
  - Economies
- Threatens unique culture, heritage and way of life
- Fundamentally destroys ecosystems/coastal resources

At Risk

- 40% of the coastal marshlands in the continental United States
- 18% of all waterborne commerce in the United States
- USFWS: “fishery supported by this area remains the most productive in North America”
  - 90% of species
  - 98% of commercial fish and shellfish

At Risk

- Five million waterfowl
- 25 million songbirds
- America’s largest wintering habitat for migratory waterfowl and songbirds
- 70 rare, threatened, or endangered species
- Coastal wetlands serve as a buffer and retention area for storm surge
- Wetlands serve as part of the hurricane protection system

Oil in Wetlands Almost Impossible to Remove

- Burning wetlands
- Leaving oil in place
- NIC recognized preference of shoreline impact versus coastal wetland impact

Disproportionate Impacts to Louisiana

- In nearly all categories, the impacts to Louisiana's natural resources have been greater than all other states combined.
- An estimated 92% of the currently heavy to moderately oiled shorelines in the Gulf are Louisiana shorelines.
- Louisiana's shorelines have consistently represented over 80% of heavy to moderately oiled Gulf shorelines at any given time.
- Louisiana's shorelines have consistently represented over 50% of all total shoreline miles oiled, and over 50% of all shoreline miles oiled at any given time.
- Approximately 60% of all birds and 60% of all mammals collected in response to the spill were collected in Louisiana.
- Over 65% of all birds found visibly oiled and dead have been found in Louisiana.

Revisiting OPA 90

Examples:

- “Temper” role of the RPs in response and recovery
- Lift cap on “per incident” against OSLTF
- Improve role of state/locals in ICS
- Requiring a down payment against NRDA/fines
- Pre-positioning response resources
- Dedication of R&D funding
- Streamline technology/dispersant/remediation approvals
- Catastrophic disaster (Price-Anderson)

Future of Offshore Energy

- Hundreds of billions of barrels of oil produced over several decades
- Trillions of cubic feet of natural gas produced
- Risk associated with global transport/GhGs
- Moratorium: no corresponding reduction in demand
- Increasing imports/hundreds of billion$ to Venezuela, Nigeria, Middle East…
  - American Values
  - Environmental stewardship
- DWH was an anomaly/gross negligence
- Continue to pursue alternative energy sources

Examples of Lessons Learned

- *"No walrus or seals in the Gulf of Mexico*
- *Can't rely upon "those passed on" for help*
- *Oil can transport over 50 miles unimpeded to our shores"*
- Federal agencies must conduct more rigid reviews of response plans
- Oil spill response technologies need innovation
- Good contingency plans v. good implementation
- Improved integration of govt/response entities
- RPs SHOULD NOT RUN RESPONSE

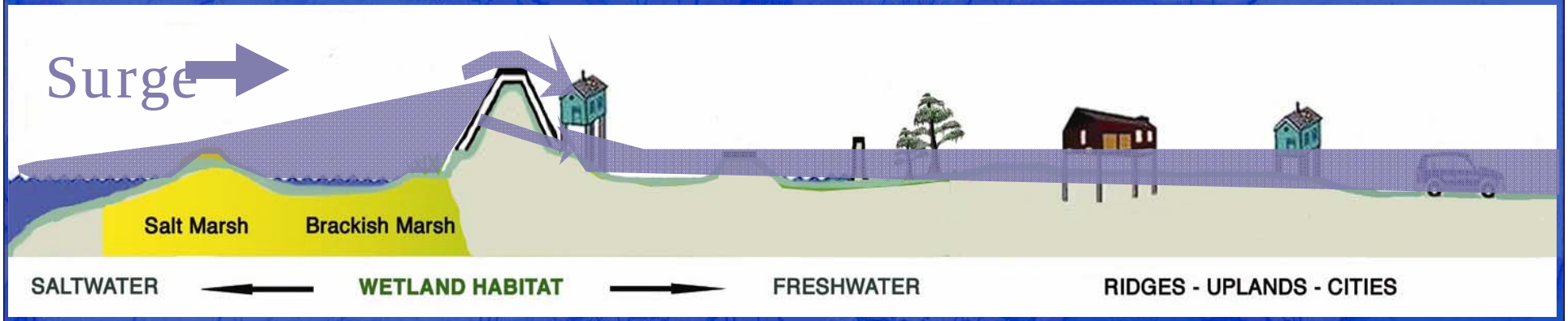
Thank You For the Opportunity

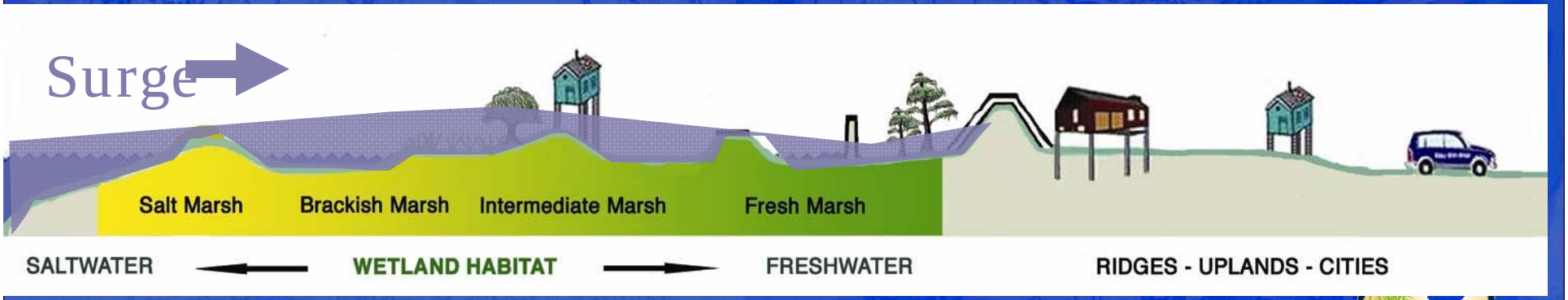
Garret Graves
garret@LA.gov
225.342.7669

Cannot Allow for Wasted Sediment (aka potential land)

Coastal Protection and Restoration Authority of Louisiana

Storm Surge Attenuation Benefits Provided by Coastal Wetlands





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