Louisiana Coastal Area Ecosystem Restoration and the Deepwater Horizon Oil Spill

NCER

4th National Conference on Ecosystem Restoration

The Spirit of Cooperation

August 06, 2011

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CPRA
Coastal Protection and Restoration Authority of Louisiana

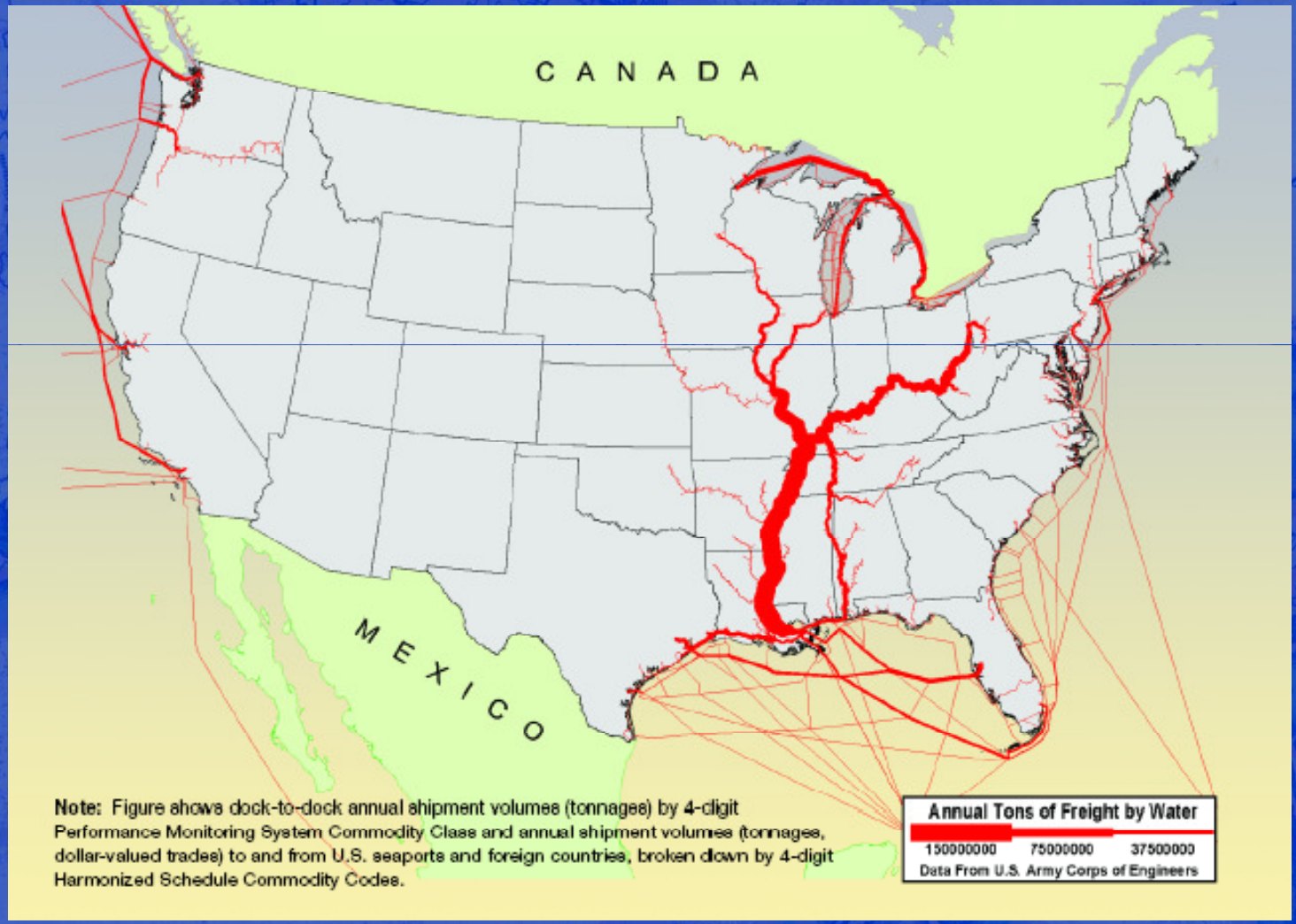
Ecosystem Services

- 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

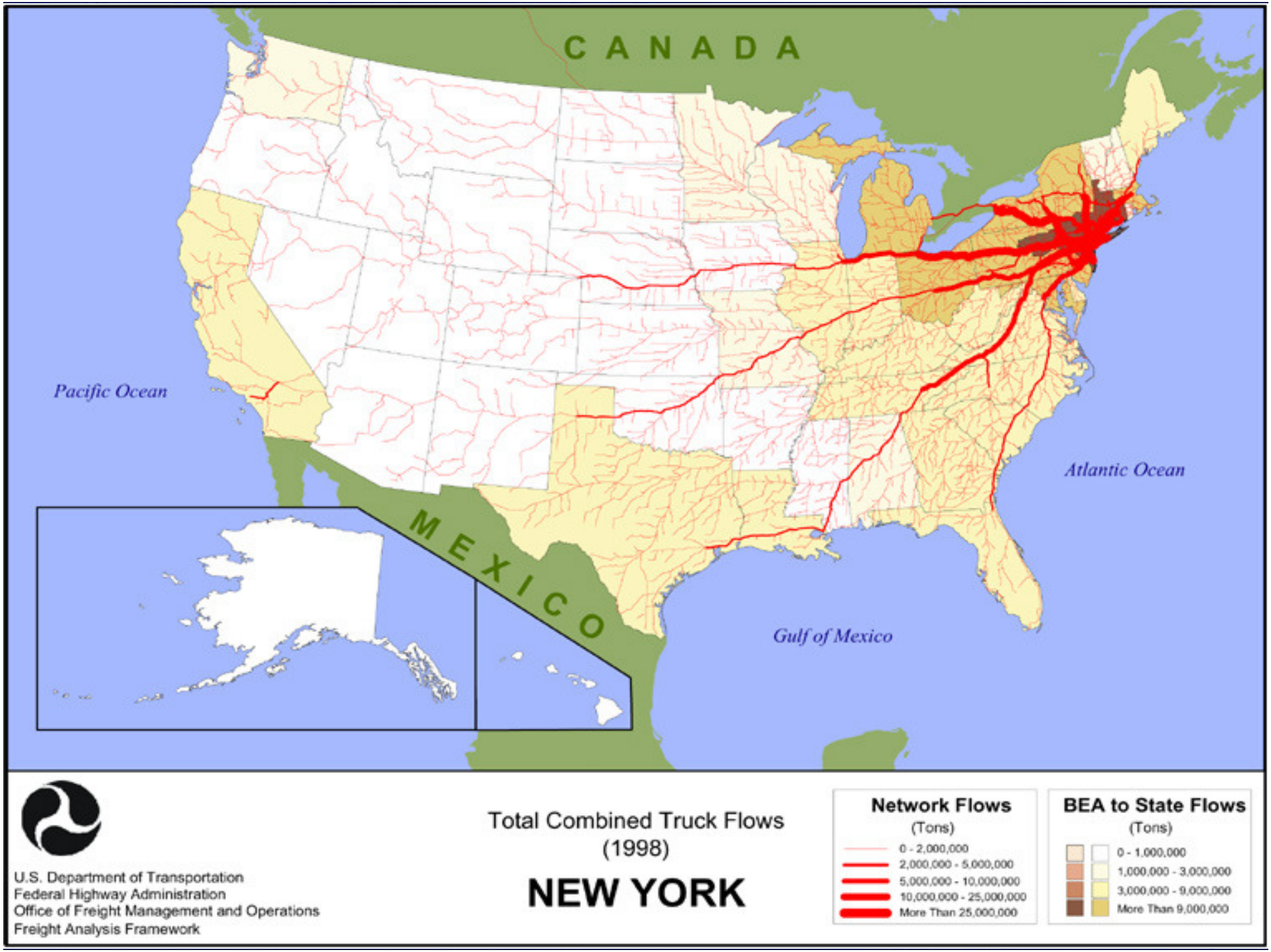
Ecosystem Services

- 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

Tonnage on Domestic Waterway Network



Note: Figure shows dock-to-dock annual shipment volumes (tonnages) by 4-digit Performance Monitoring System Commodity Class and annual shipment volumes (tonnages, dollar-valued trades) to and from U.S. seaports and foreign countries, broken down by 4-digit Harmonized Schedule Commodity Codes.


CANADA
Pacific Ocean
Atlantic Ocean
MEXICO
Gulf of Mexico
Total Combined Truck Flows
(1998)
NEW YORK
Network Flows
(Tons)
0 - 2,000,000
2,000,000 - 5,000,000
5,000,000 - 10,000,000
10,000,000 - 25,000,000
More Than 25,000,000
BEA to State Flows
(Tons)
0 - 1,000,000
1,000,000 - 3,000,000
3,000,000 - 9,000,000
More Than 9,000,000
U.S. Department of Transportation
Federal Highway Administration
Office of Freight Management and Operations
Freight Analysis Framework

U.S. Department of Transportation
Federal Highway Administration
Office of Freight Management and Operations
Freight Analysis Framework

Total Combined Truck Flows
(1998)

LOS ANGELES

Network Flows
(Tons)
- 0 - 2,000,000
- 2,000,000 - 5,000,000
- 5,000,000 - 10,000,000
- 10,000,000 - 25,000,000
- More Than 25,000,000

BEA to State Flows
(Tons)
- 0 - 1,000,000
- 1,000,000 - 3,000,000
- 3,000,000 - 9,000,000
- More Than 9,000,000

U.S. Department of Transportation
Federal Highway Administration
Office of Freight Management and Operations
Freight Analysis Framework

Total Combined Truck Flows
(1998)

HOUSTON

Network Flows
(Tons)
- 0 - 2,000,000
- 2,000,000 - 5,000,000
- 5,000,000 - 10,000,000
- 10,000,000 - 25,000,000
- More Than 25,000,000

BEA to State Flows
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- 0 - 1,000,000
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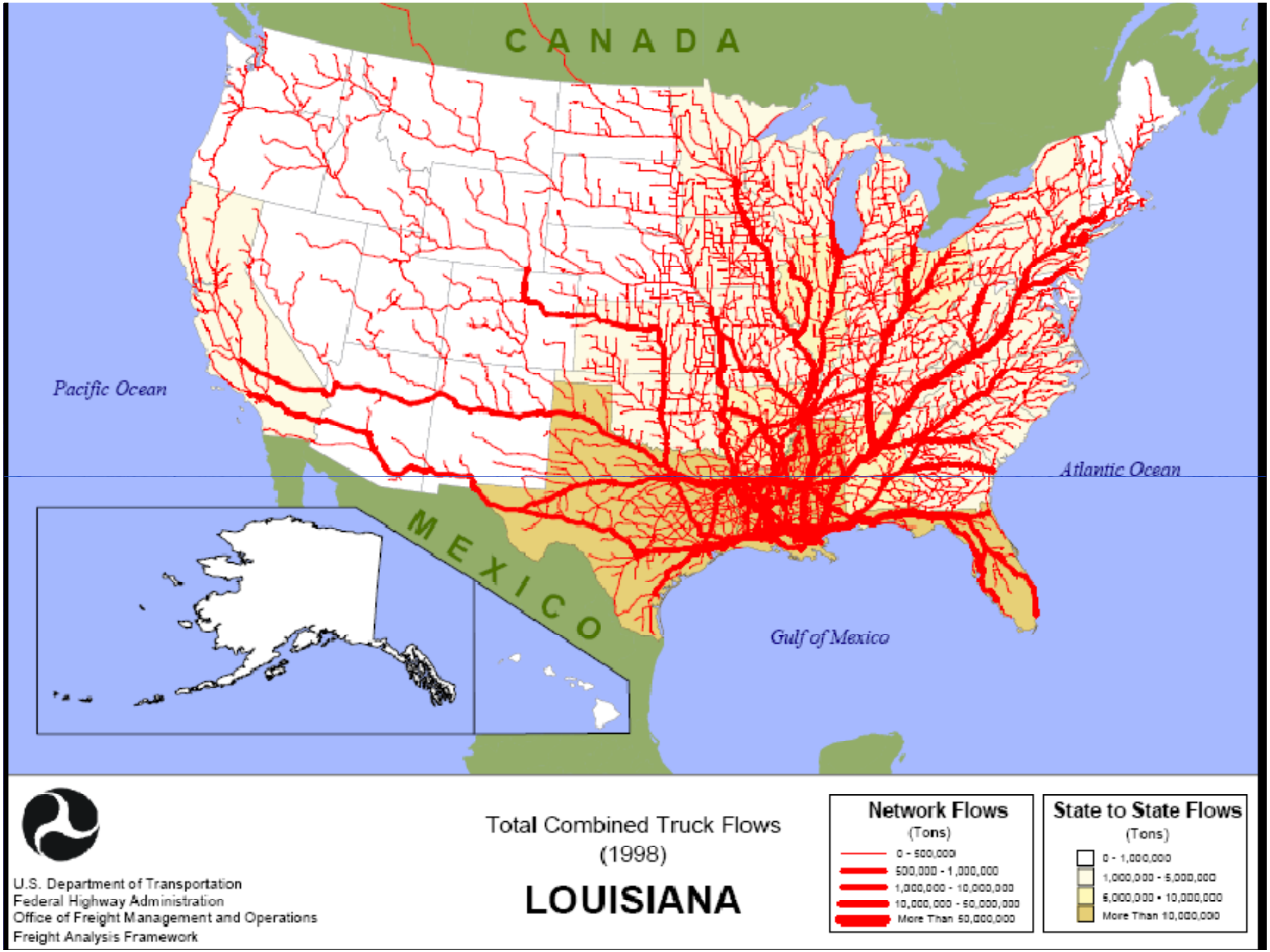
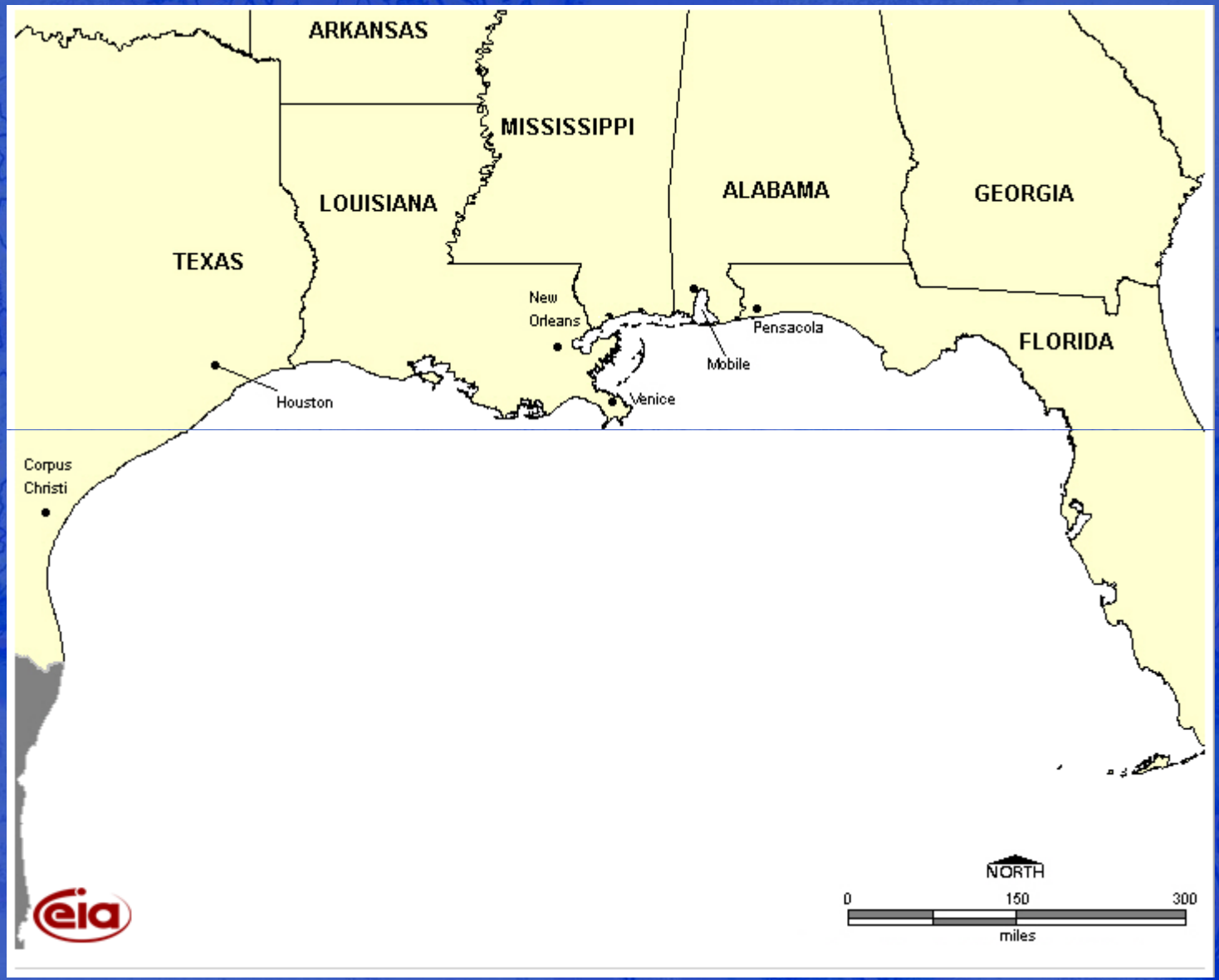

CANADA
Pacific Ocean
Atlantic Ocean
MEXICO
Gulf of Mexico
U.S. Department of Transportation
Federal Highway Administration
Office of Freight Management and Operations
Freight Analysis Framework
Total Combined Truck Flows
(1998)
LOUISIANA
Network Flows
(Tons)
0 - 500,000
500,000 - 1,000,000
1,000,000 - 10,000,000
10,000,000 - 50,000,000
More Than 50,000,000
State to State Flows
(Tons)
0 - 1,000,000
1,000,000 - 5,000,000
5,000,000 - 10,000,000
More Than 10,000,000

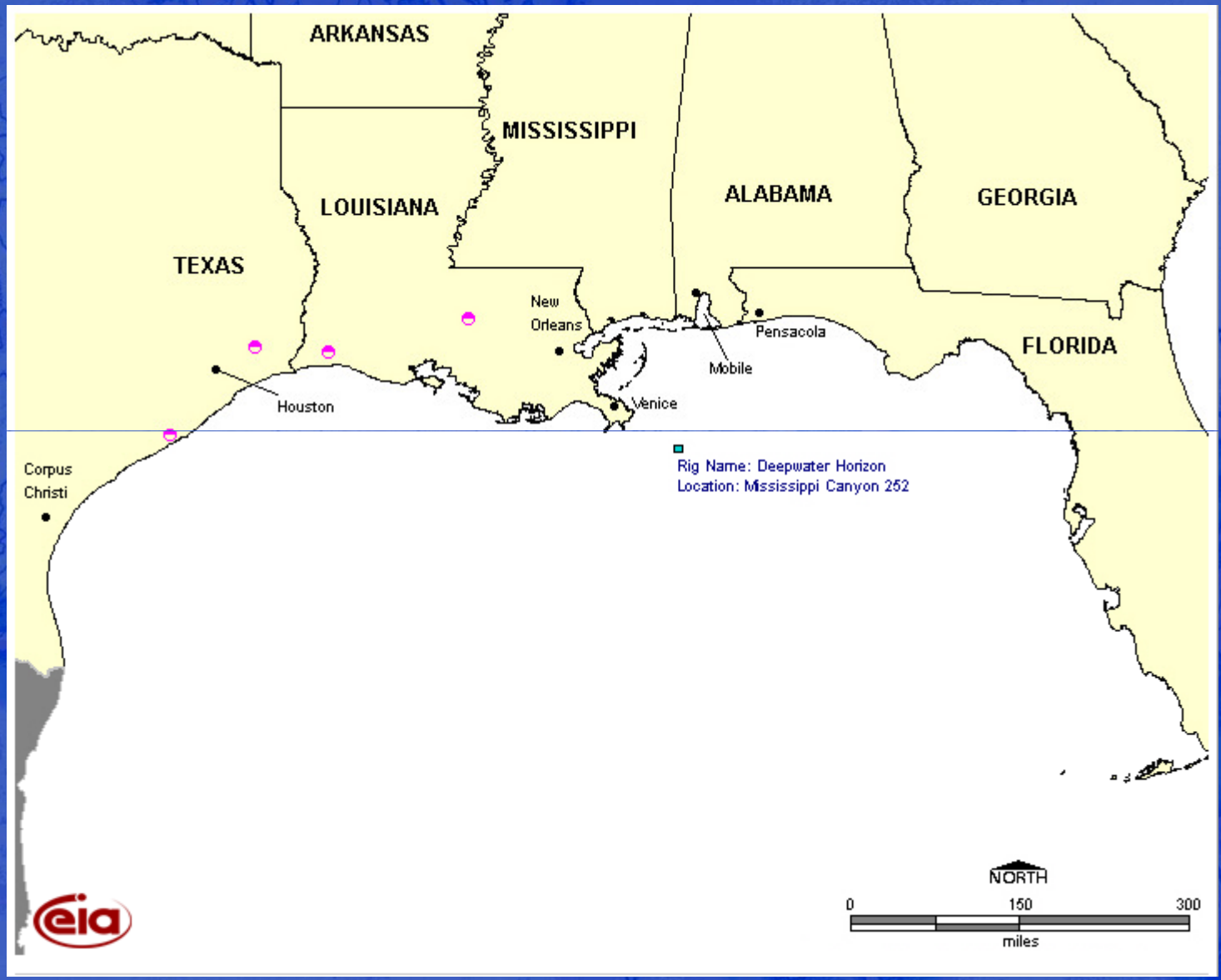
Gulf of Mexico-Energy



Deepwater Horizon Well Site

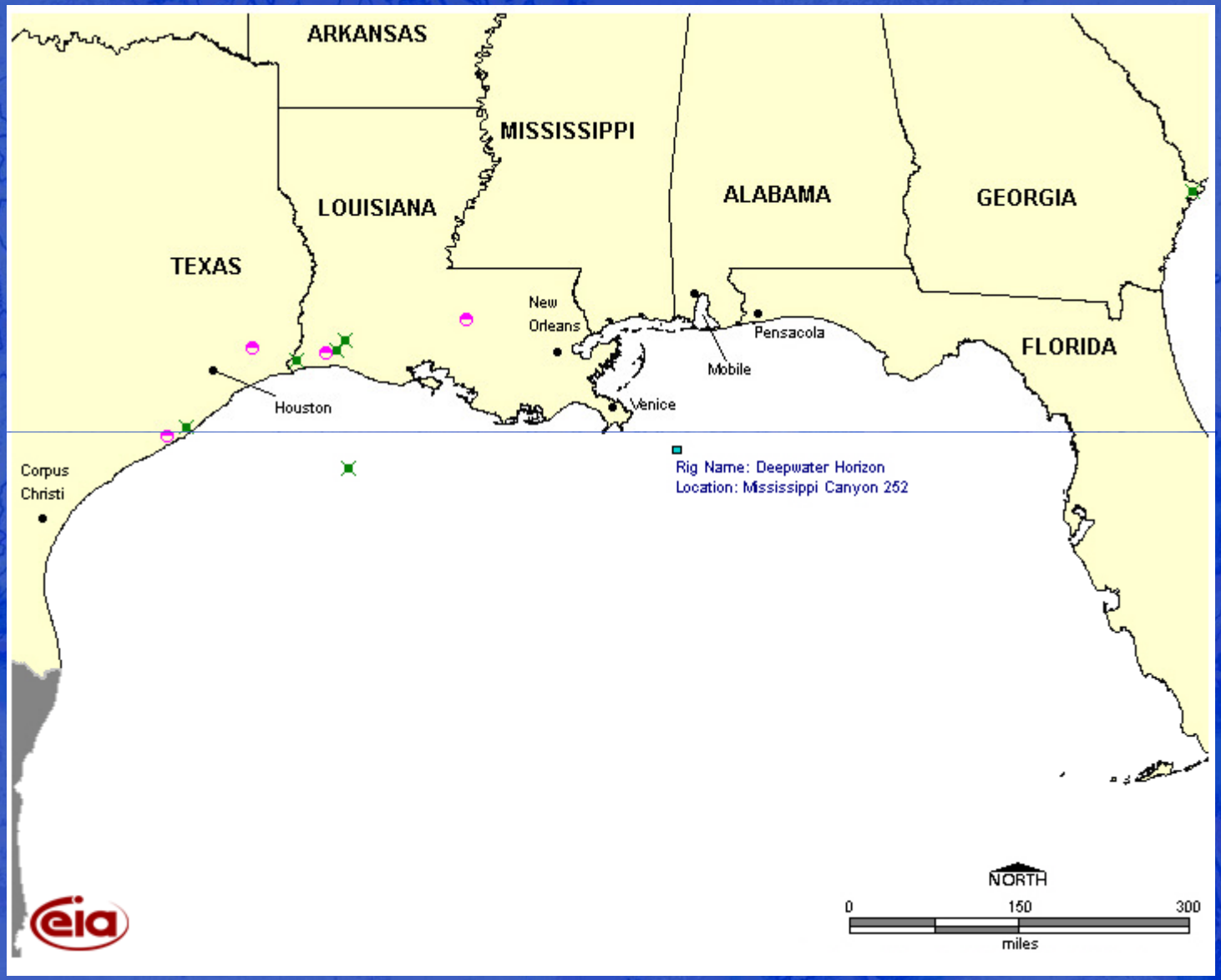
Strategic Petroleum Reserves

[Pink]



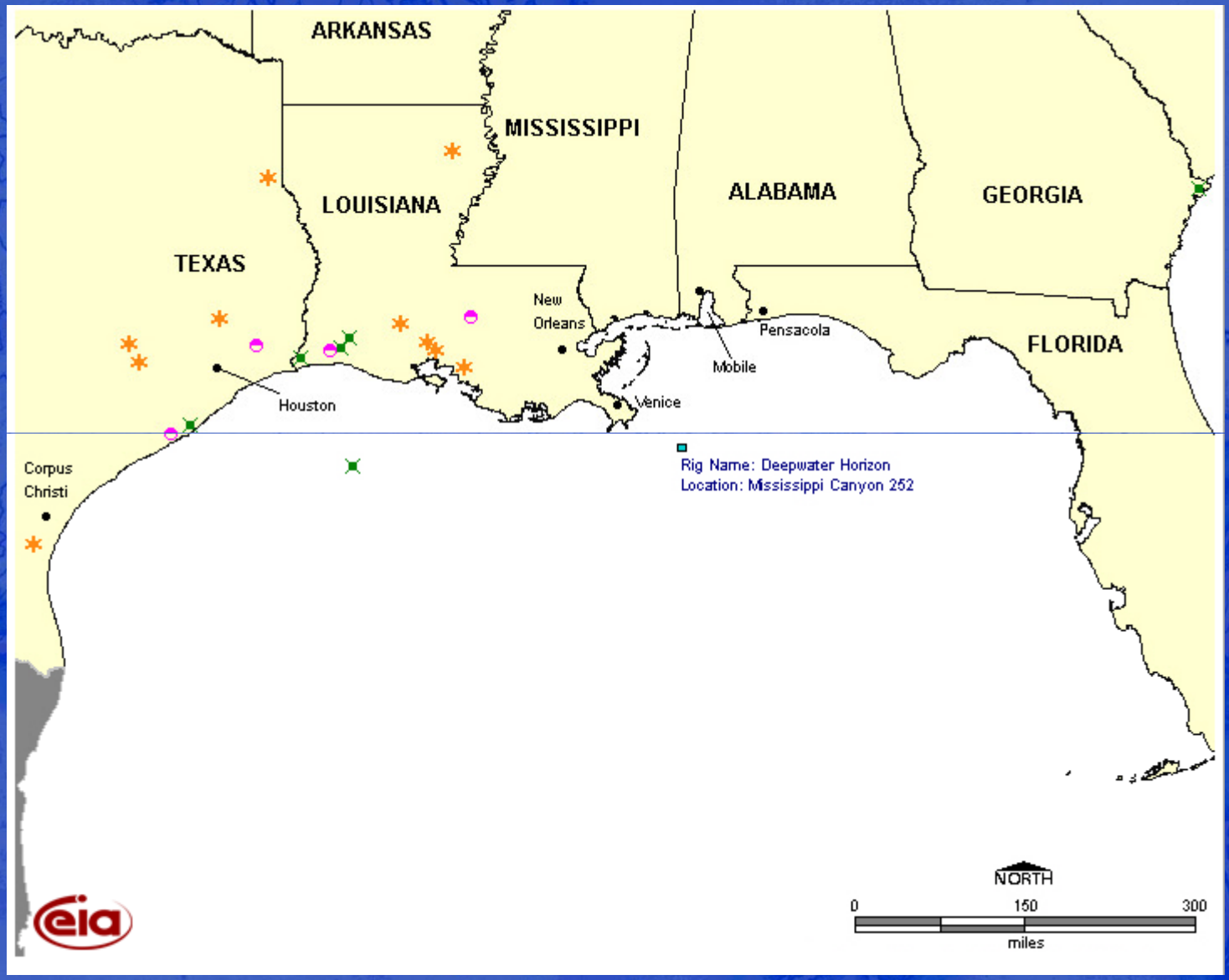
LNG Terminals

[Green]



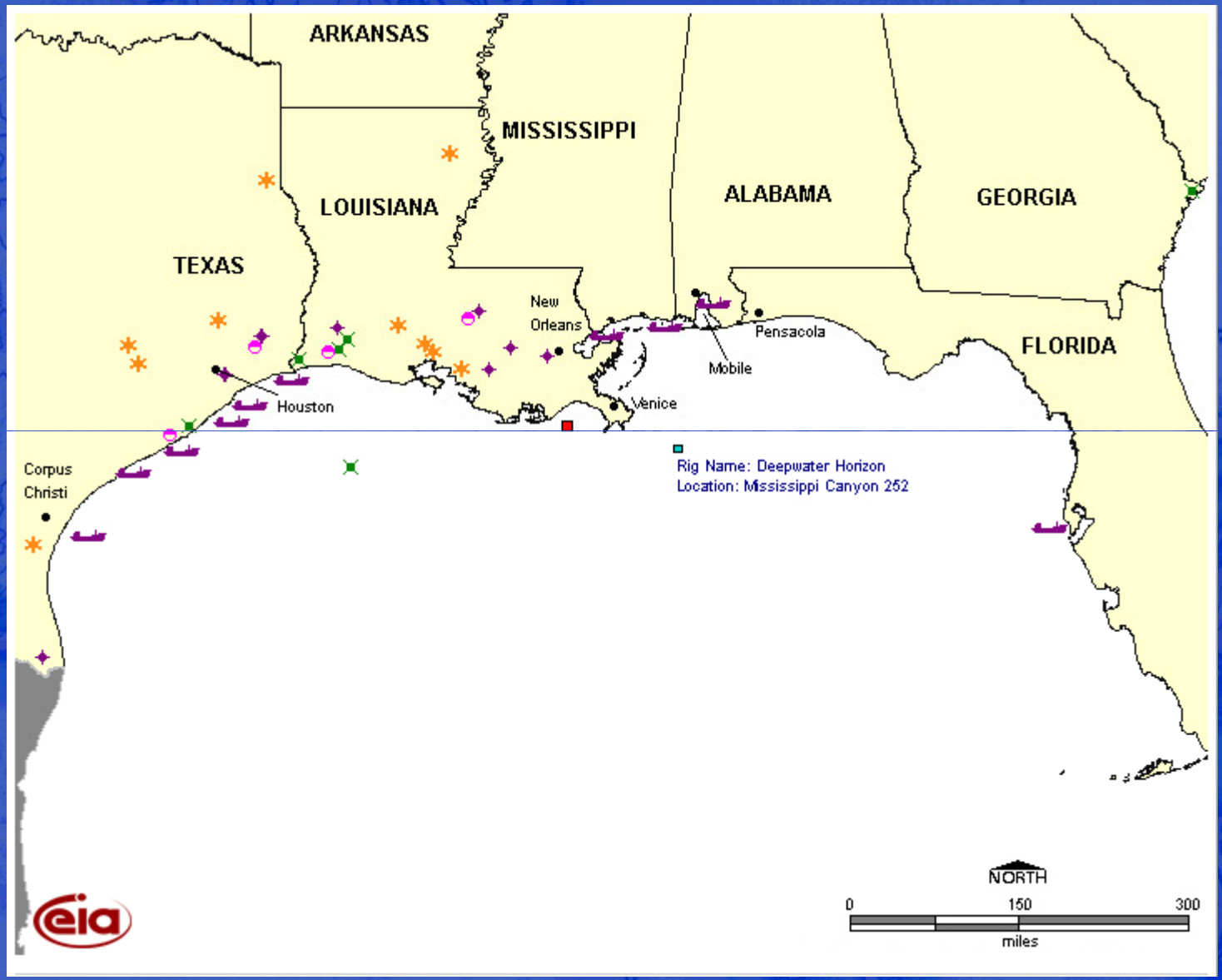
Natural Gas Market Center (Hubs)

[Orange]



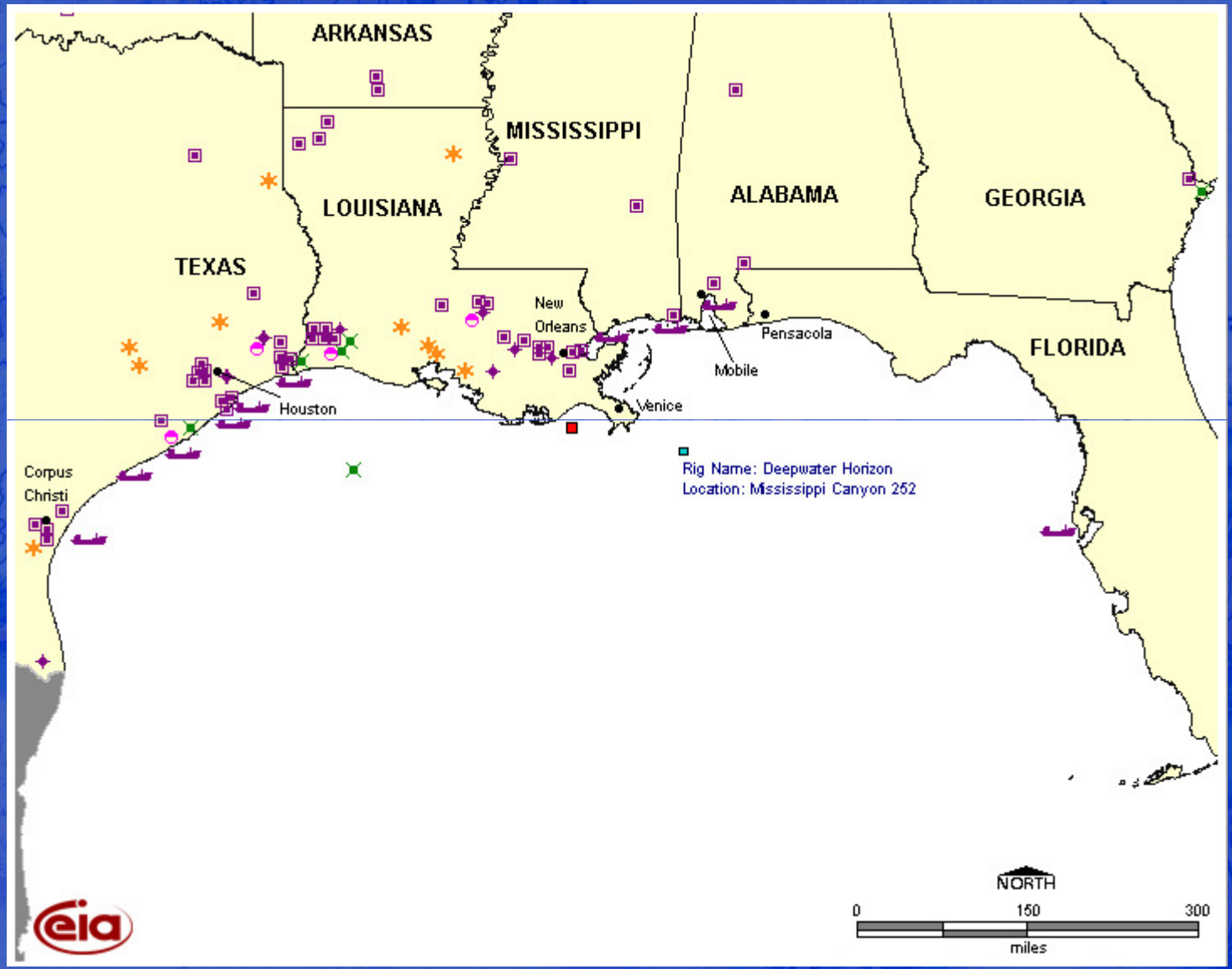
Oil Import Sites/Seaports

[Purple/Red]



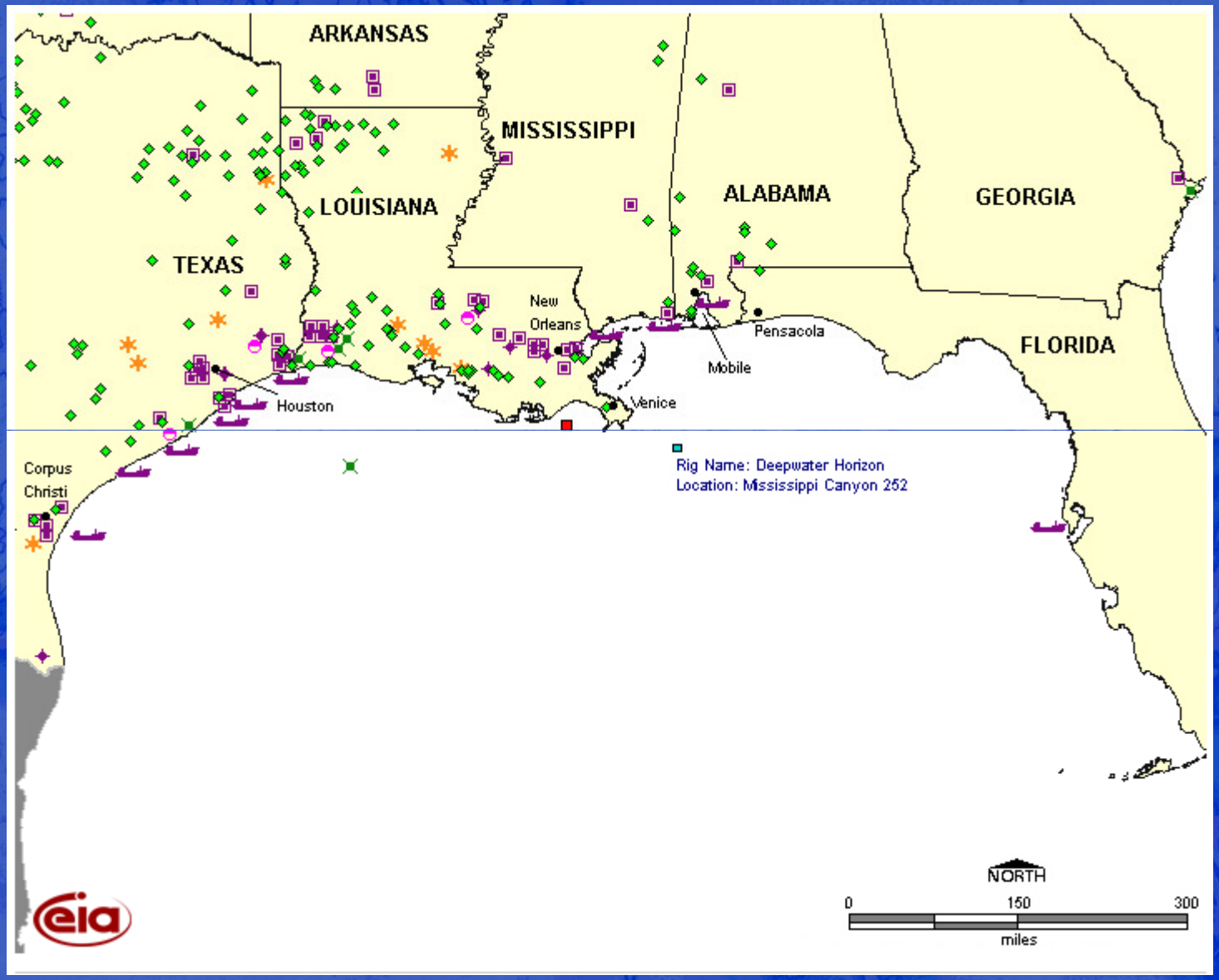
Petroleum Refineries

[Purple Squares]



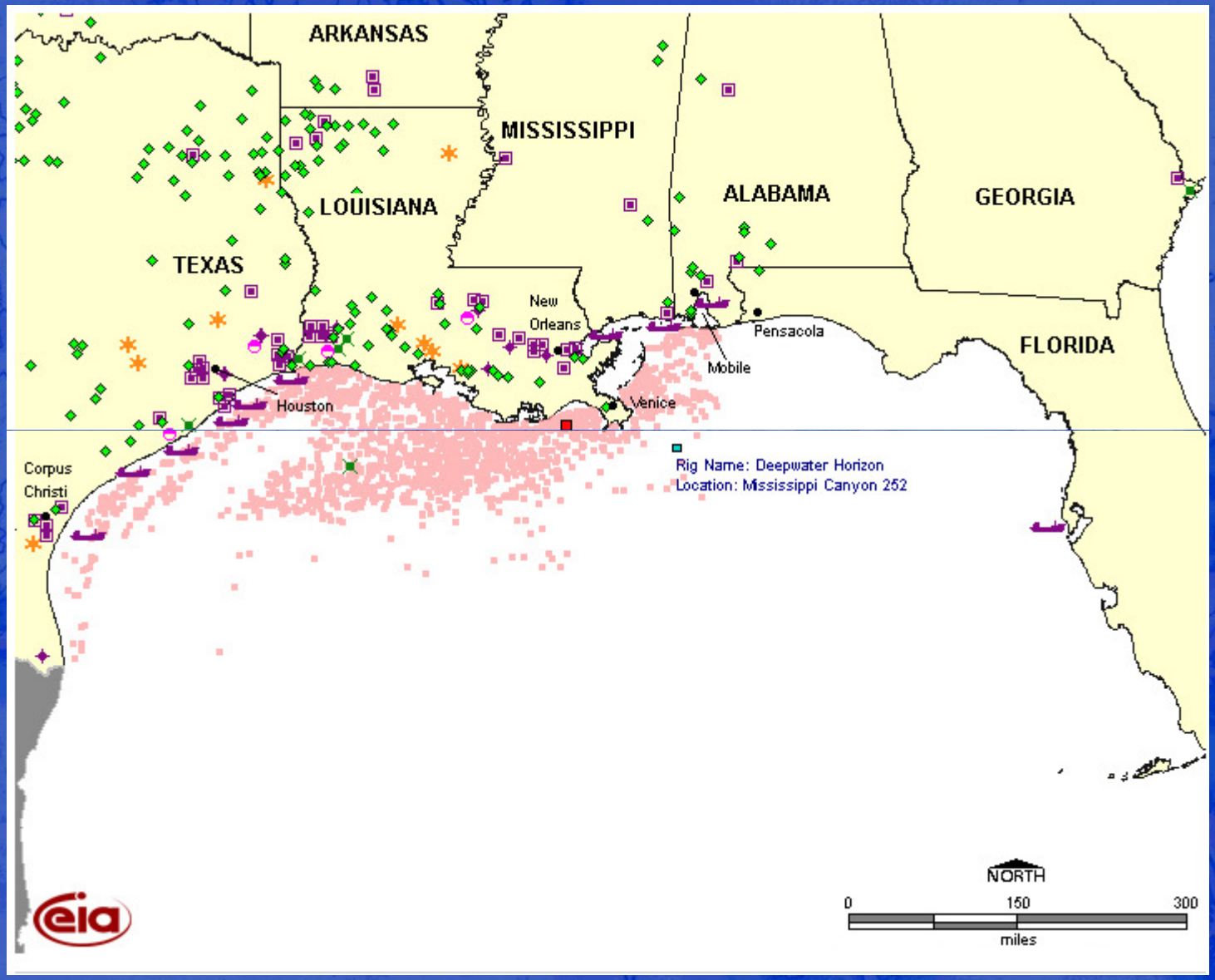
Natural Gas Processing Facilities

[Green Diamonds]

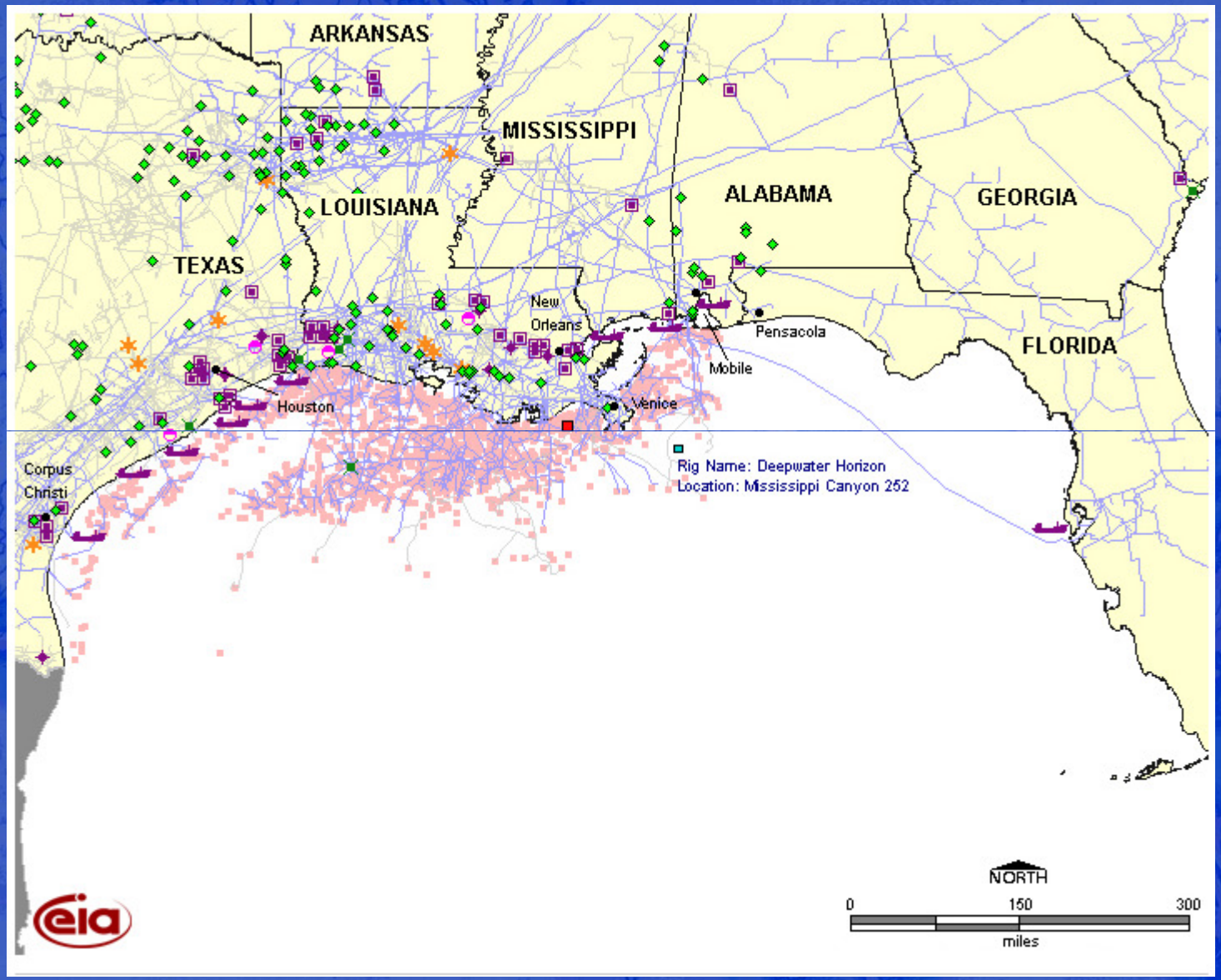


Active Offshore Oil/Gas Platforms

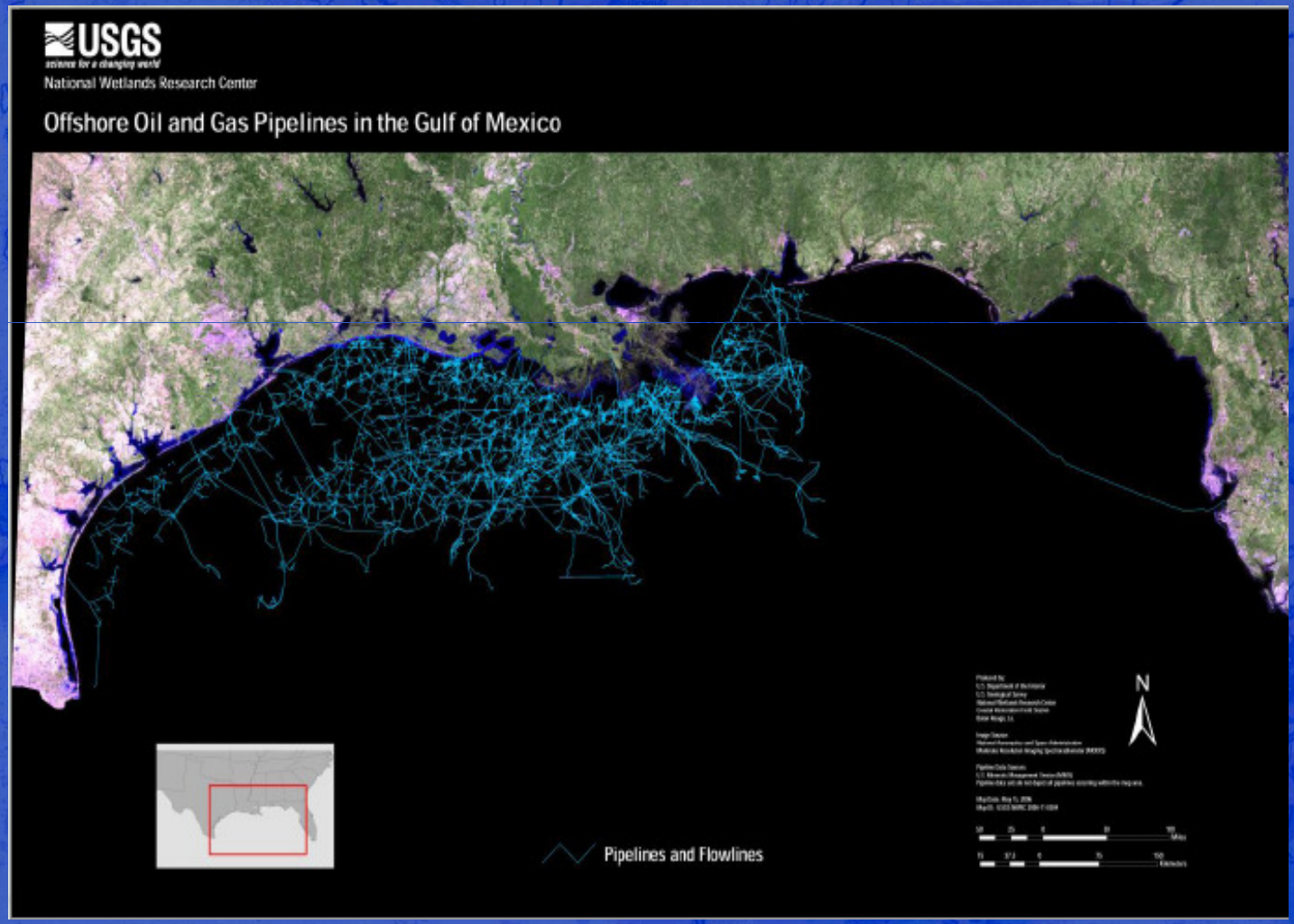
[Pink]



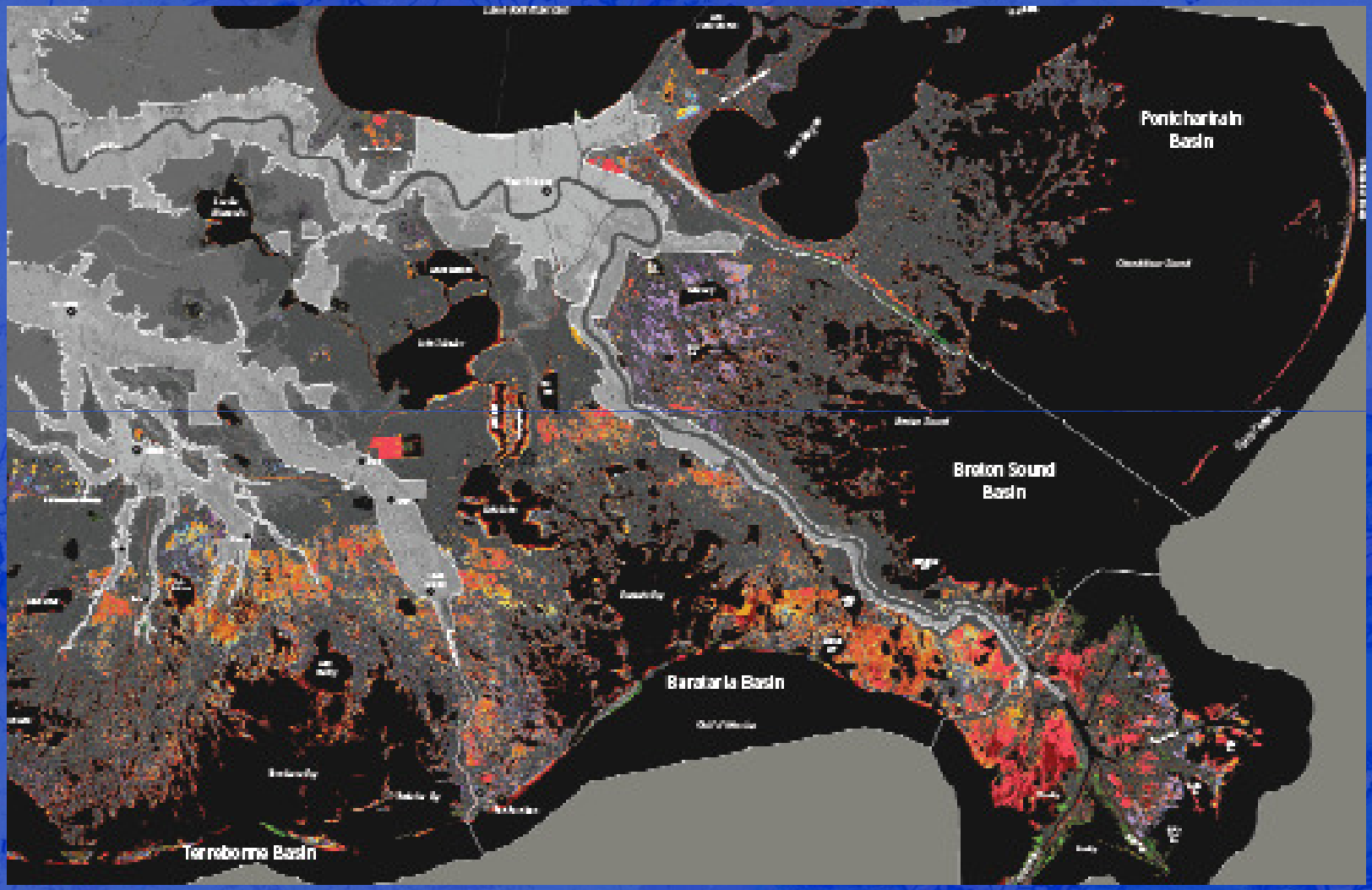
Natural Gas Gathering/Interstate Pipelines



Offshore oil and gas pipelines in Gulf of Mexico



Wetlands/Land Loss



1900 SQUARE MILES – LOST!

1900 SQUARE MILES OF JURISDICTIONAL WETLANDS

Before Levees/Channelization:

- Entire State of Louisiana is a deltaic plain – a product of the river
- New Orleans was under water less than 5000 years ago
- Louisiana was growing/accreting approximately .75 square miles/year

1900 SQUARE MILES OF JURISDICTIONAL WETLANDS

Rate of Loss:

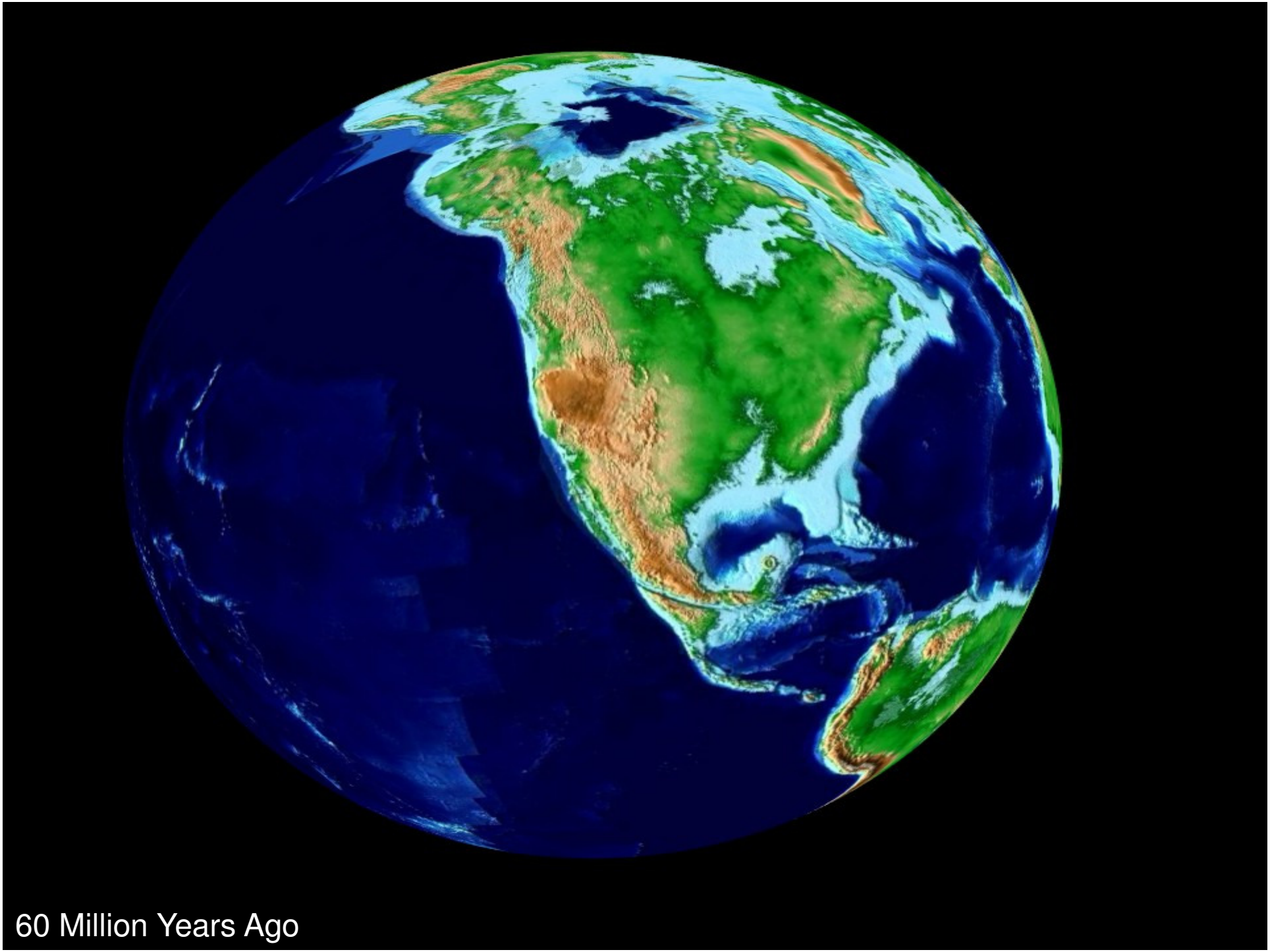
- Greater than the size of Manhattan annually
- Over one football field an hour since 1985

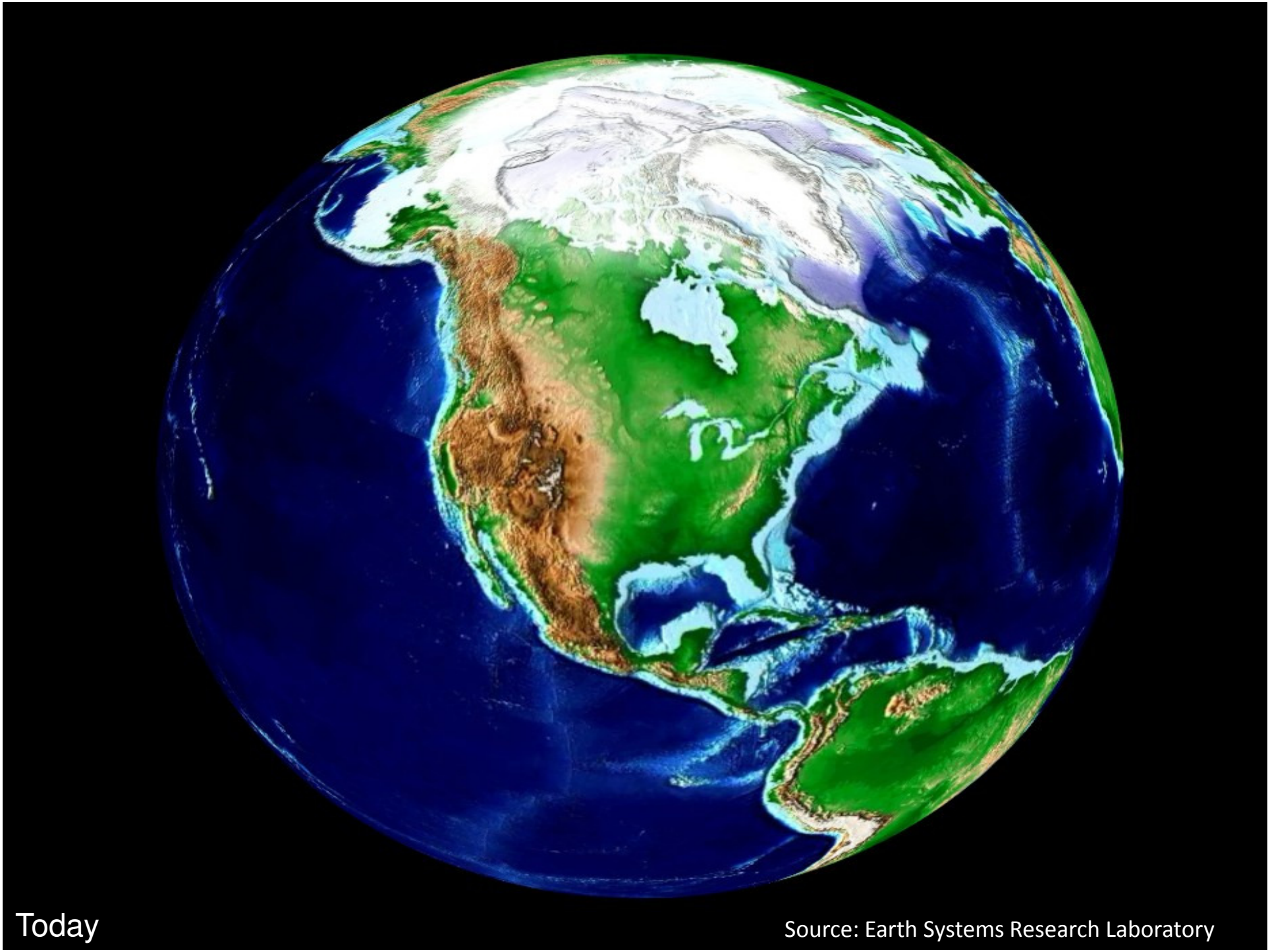
Cumulative Loss:

- 30 times the size of Washington, DC
- The State of Rhode Island (land area) plus 838 square miles
- The State of Delaware would consist of less than 72 sq. miles of land

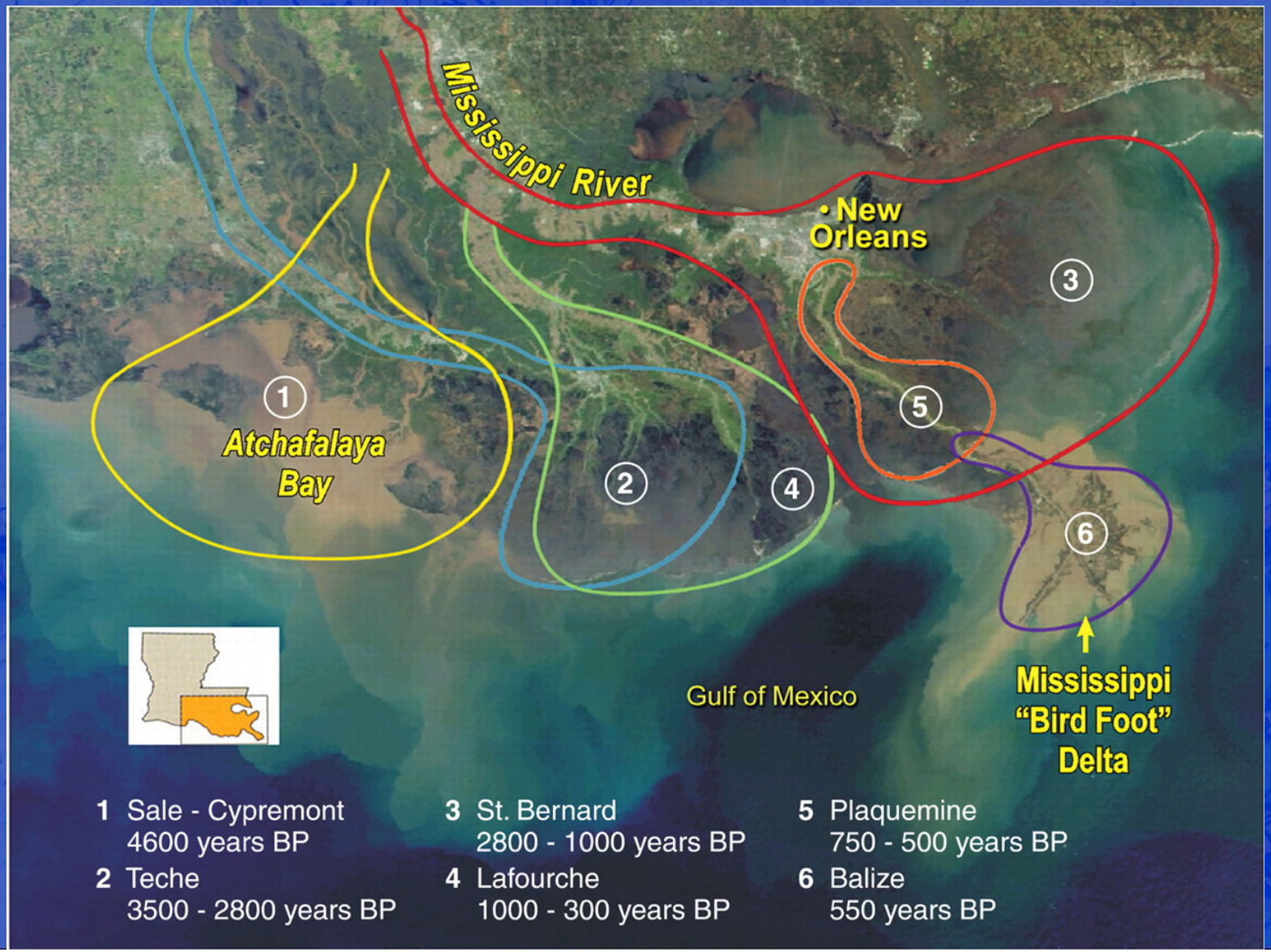
Hurricane Impacts:

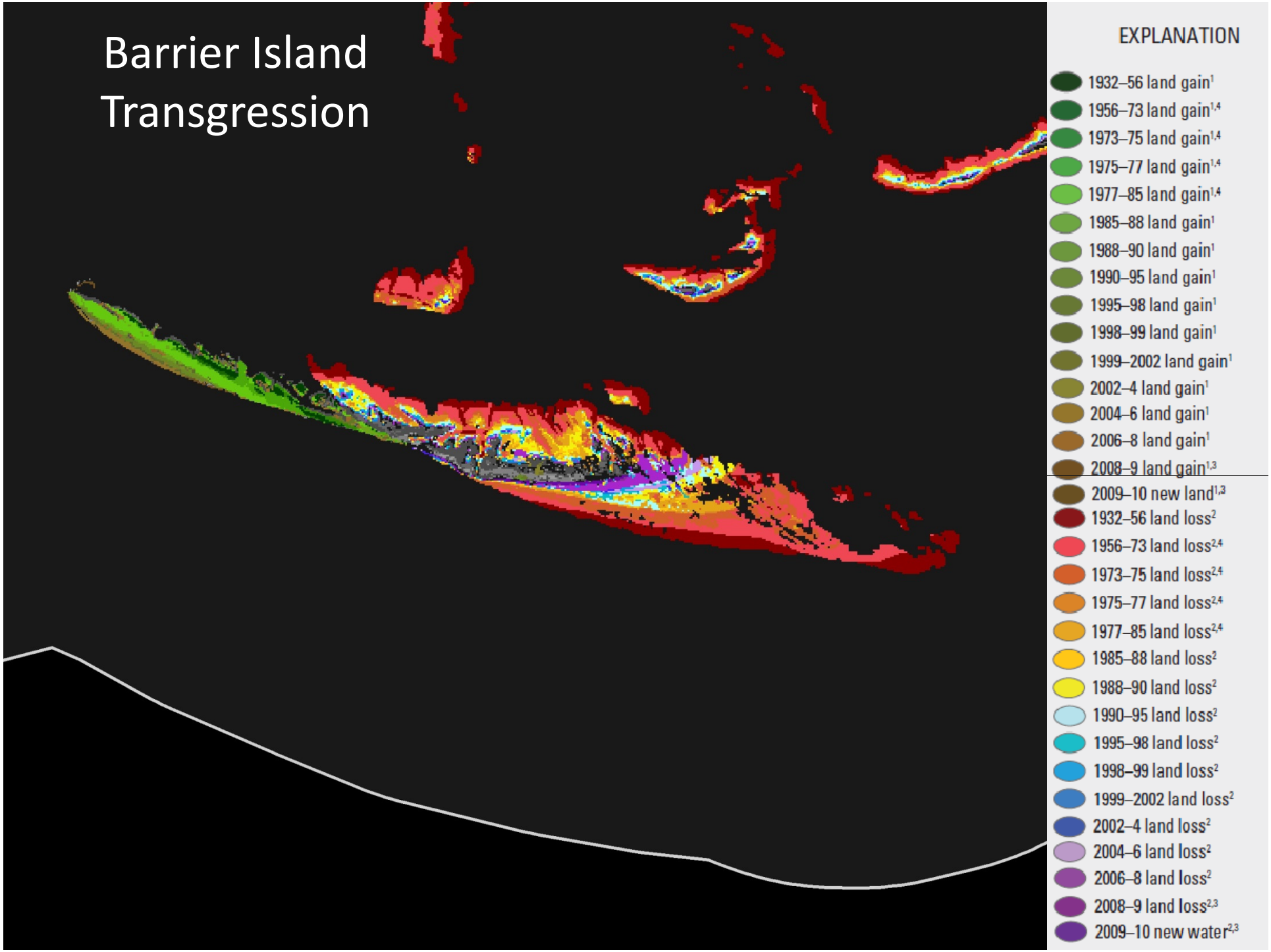
- Hurricanes Katrina/Rita in 2005: over 150 square miles lost

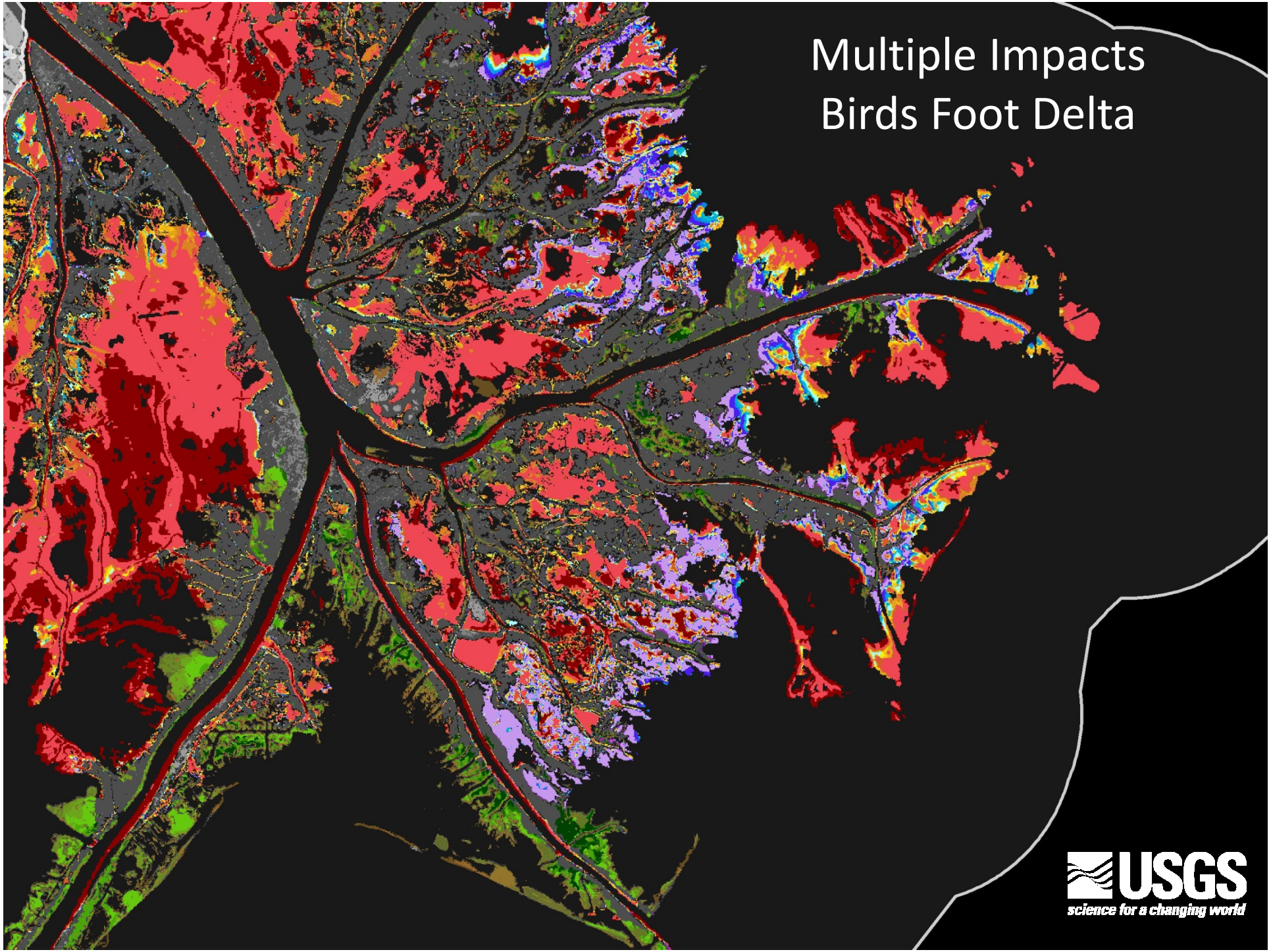

60 Million Years Ago


Today
Source: Earth Systems Research Laboratory

Mississippi River & Tributaries (MRT)




Barrier Island
Transgression
EXPLANATION
1932–56 land gain[1]
1956–73 land gain[1,4]
1973–75 land gain[1,4]
1975–77 land gain[1,4]
1977–85 land gain[1,4]
1985–88 land gain[1]
1988–90 land gain[1]
1990–95 land gain[1]
1995–98 land gain[1]
1998–99 land gain[1]
1999–2002 land gain[1]
2002–4 land gain[1]
2004–6 land gain[1]
2006–8 land gain[1]
2008–9 land gain[1,3]
2009–10 new land[1,3]
1932–56 land loss[2]
1956–73 land loss[2,4]
1973–75 land loss[2,4]
1975–77 land loss[2,4]
1977–85 land loss[2,4]
1985–88 land loss[2]
1988–90 land loss[2]
1990–95 land loss[2]
1995–98 land loss[2]
1998–99 land loss[2]
1999–2002 land loss[2]
2002–4 land loss[2]
2004–6 land loss[2]
2006–8 land loss[2]
2008–9 land loss[2,3]
2009–10 new water[2,3]


Multiple Impacts
Birds Foot Delta
USGS
science for a changing world

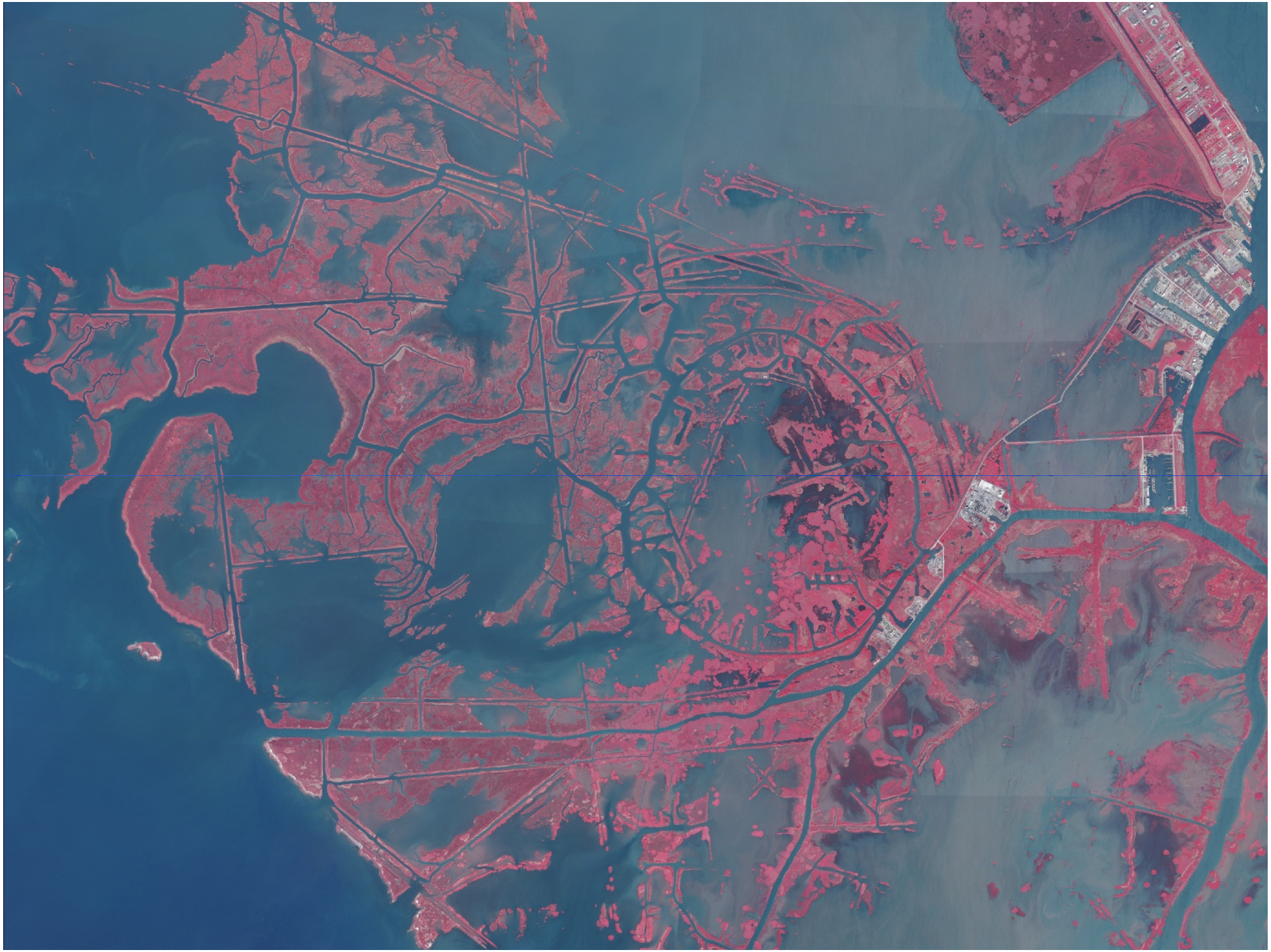



Photo by: Greg Steyer

Major Reforms

- Executive Order enforcing Master Plan for Sustainability
- Integration of coastal stovepipes within state government into one empowered organization – CPRA
- Coordination of over 40 funding sources to advance one common vision
- Improved stakeholder engagement (NGOs, navigation, energy, parishes, regional stakeholder workgroups)
- Improved coastal zone management strategies
- Exponential increases in financial and political support

Efforts to Date (2008-2011)

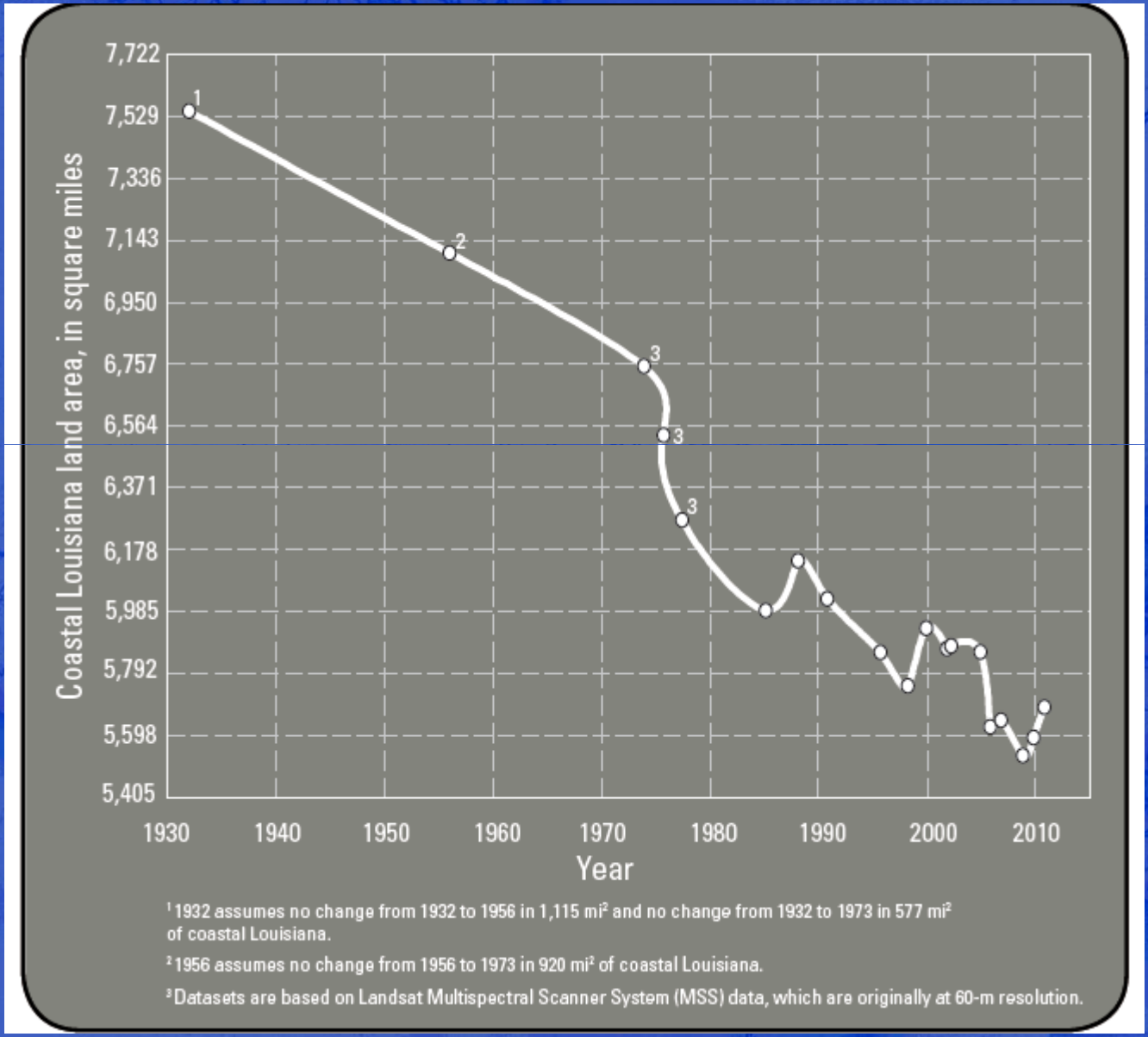
[Excluding Oil Spill Injury/Fines]

Funding:

- $1 billion: State Surplus Funds/State Trust Fund
- $490 million: Coastal Impact Assistance Program
- $550 million: other programs

TOTAL: Over $2.0 Billion

United States Geological Survey
Preliminary Land Loss/Gain 1930-2010



Deepwater Horizon Oil Spill

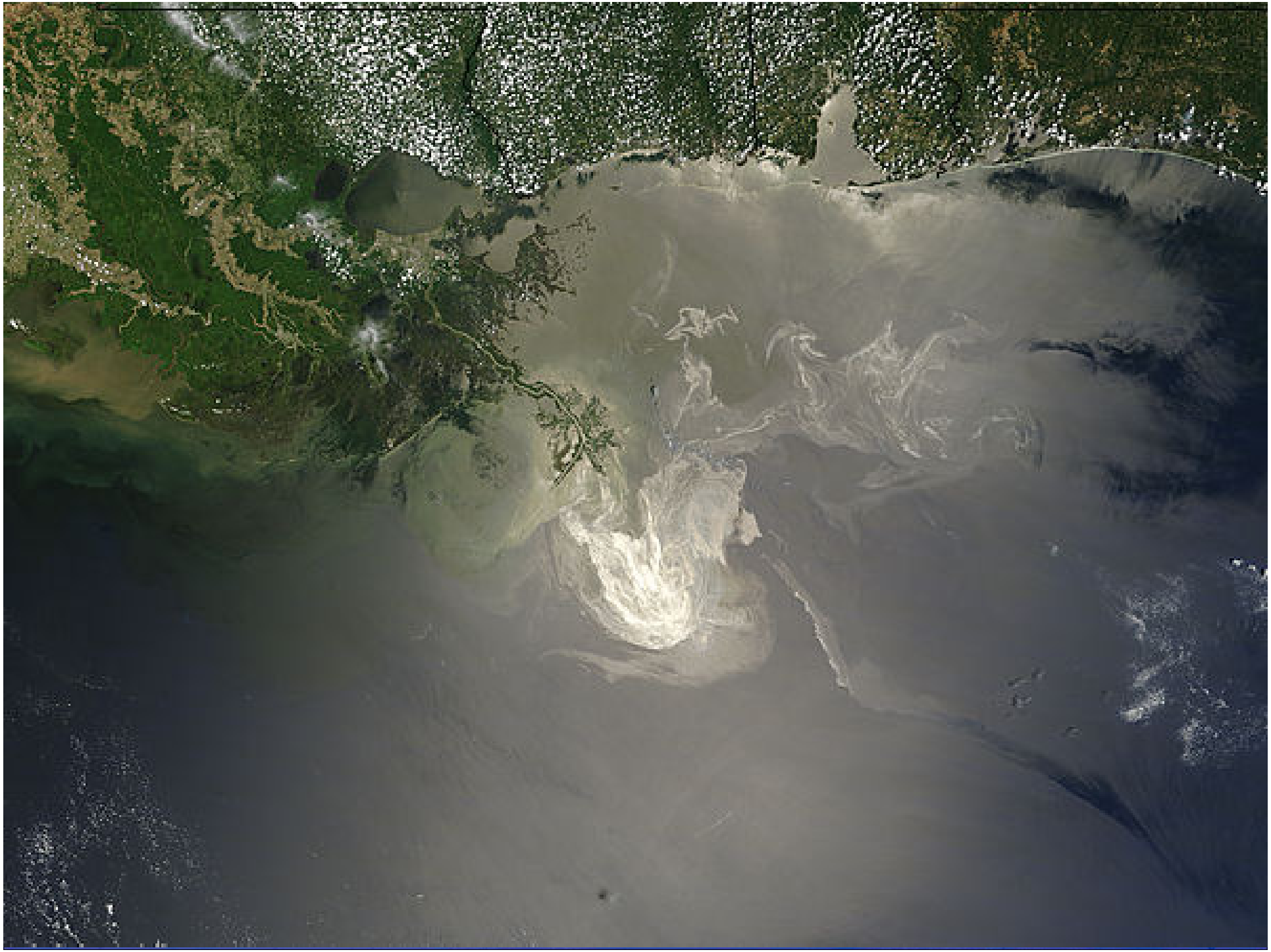
Coastline/Shoreline

State	Total Coastline (MILES)	Tidal Shoreline (MILES)	Tidal Shoreline (FEET)	Threatened Shoreline Within 350 miles of incident site*
LA	397	7,721	40,766,880	40,766,880
MS	44	359	1,895,520	1,895,520
AL	53	607	3,204,960	3,204,960
TX	367	3,359	17,735,520	n/a*
FL	770	8402	44,362,560	16,857,773

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


NAT'CHEZ
T E R
O F
M
E
X
I
C
O


© DubinskyPhotography.com for HealthyGulf.org



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.

Disproportionate Impacts to Louisiana

- 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.

Current Degree of Oiling Summary

As of July 9, 2011:

State	Heavy	Moderate	Light	Very Light	Trace (<1%)	Oiled as of Last Survey
	Miles	Miles	Miles	Miles	Miles	Miles
LA	12.8	26.3	75.8	64.7	86.2	265.8
AL, MS, FL	0	0.2	17.9	2.5	204.5	225.1
Totals	12.8	26.5	93.7	67.2	290.7	490.9
LA %	100%	99%	81%	96%	30%	54%


June 17, 2010


Aug. 28, 2010


Oct. 2, 2010


April 13, 2011

BP Deepwater Horizon Oil Spill 2010

Photos taken by Louisiana Department of Wildlife and Fisheries
the week of April 11, 2011

Types of Claims Under Oil Pollution Act

- Response and Removal Costs
- Natural Resource Damages
- Clean Water Act Fines
- Lost Revenue
- Increased Cost of Public Services
- Property Damage
- Lost Income
- Subsistence Use

Natural Resource Damage Assessment

- Goal: to make the environment and public whole for injuries to natural resources and services resulting from an incident involving a discharge or substantial threat of a discharge of oil

Clean Water Act

- Penalties authorized per day and per barrel of oil discharged
- Supplemental Environmental Projects
- Congressional Legislation Pending:
  - Current law directs fines to Oil Spill Liability Trust Fund
  - National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling Final Report recommended 80% dedication
  - Gulf Coast Ecosystem Restoration Task Force

NRDA/Oil Spill Down Payment

- April 21, 2011 - Deepwater Horizon Natural Resource Trustees announced **$1 billion** down payment for early restoration
- Louisiana first made the request July 2010
- Largest early restoration agreement ever reached
- Provides an opportunity to implement restoration projects prior to the completion of the natural resource damage assessment (NRDA) process

NRDA/Oil Spill Down Payment

- $500M will be split equally among the state trustees
  - Each of the Gulf states will receive $100 million
- $200M will be split equally among the federal trustees
  - NOAA and DOI will each receive $100 million
- $300M will be used to fund state sponsored restoration projects based upon impacts.

NRDA & Louisiana Criteria

- Project cost effectiveness
- Proximity to affected area
- Scalability
- Extent of benefit to injured resources/services
- Technical feasibility and likelihood of success
- Avoidance of future injury resulting from project
- Degree to which project addresses multiple injuries
- Ability to implement project with minimal delay
- Degree to which project supports existing strategies/plans
  - (i.e. State Master Plan)
- Project urgency
- Consideration of comments received

Future Funding for Ecosystem Restoration/ Oil Spill Injury

Water Resources Development Act of 2007

- authorized approximately 17 ecosystem restoration projects totaling $8 billion

Natural Resource Damage Assessment

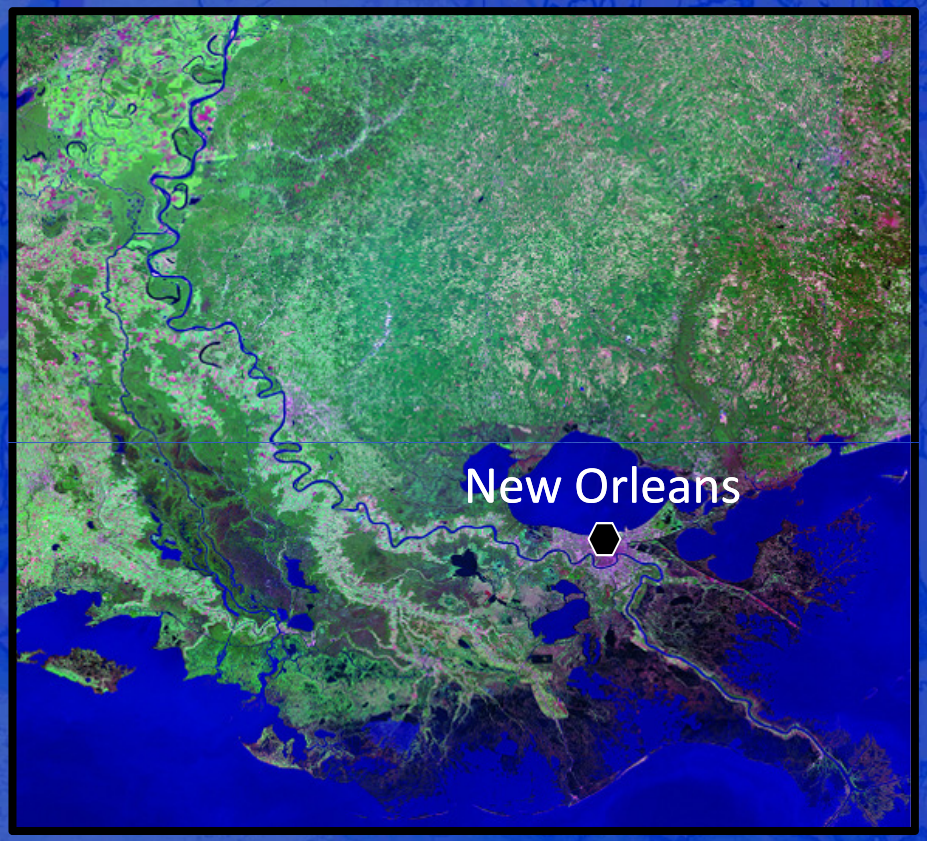
- quantifies injury of oil spill
- addresses all ecological and human use injury
- estimated damages in Louisiana **$10-20 billion**

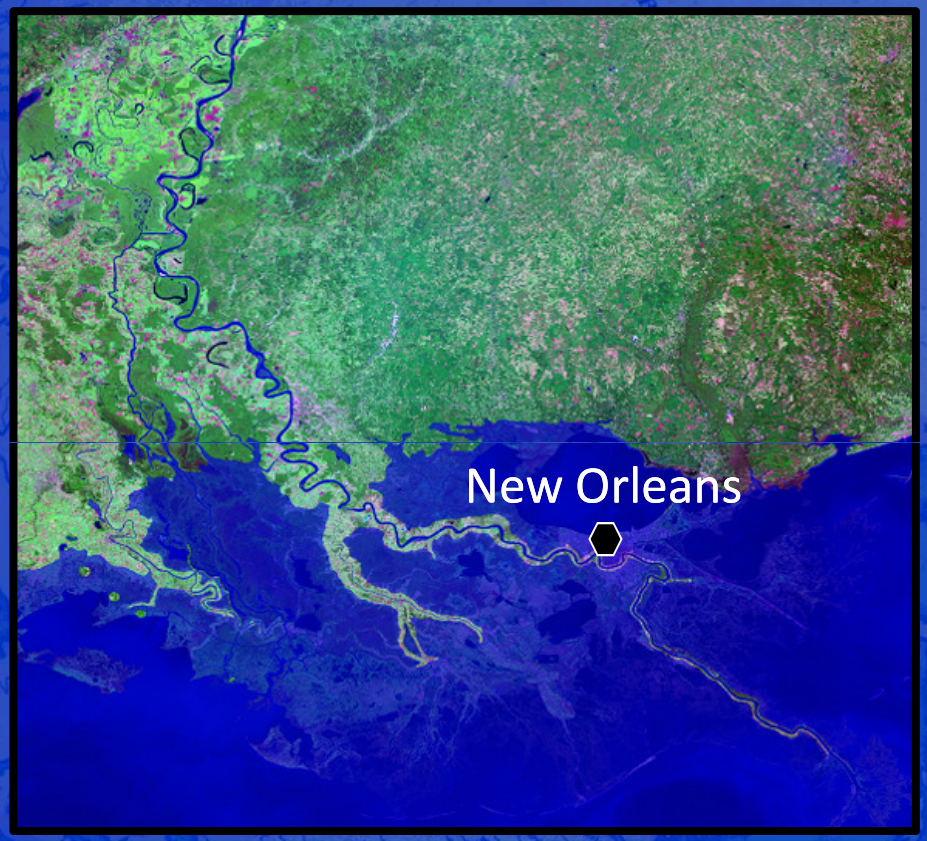
Clean Water Act

- civil penalties of approximately $1100/barrel for discharge into environment
- approximately $4300/barrel if due to gross negligence
- National Oil Spill Commission/Secretary Mabus
- legislation filed in Congress
- Supplemental Environmental Programs
- current estimate **Gulf-wide: $22 billion (80%= $17-18 billion)**
- Louisiana commits funding to ecosystem restoration efforts

CPRA
Coastal Protection and Restoration Authority of Louisiana

Two Choices





Blum, M. D., and H. H. Roberts (2009), Drowning of the Mississippi delta due to insufficient sediment supply and global sea-level rise, *Nat. Geosci., 2, 488–491.*

Project Delivery Mechanisms

Gulf Coast Ecosystem Restoration Task Force

- Current project delivery mechanism is insufficient to meet urgency of Louisiana's coastal crisis
  - Policy/legal conflicts
  - Lack of local, state and federal consistency (i.e. dredging/mitigation)
  - Time constraints (40 years or more/WRDA 07 delays)
  - Financial resources are insufficient (Corps' funding decreases)
- Gulf Coast Ecosystem Restoration Task Force
  - Comprehensive Gulf coast strategy
  - Address fundamental obstacles to ecosystem resilience
  - Opportunity to begin improving efficiency of project delivery

CPRA
Coastal Protection and Restoration Authority of Louisiana

Thank You For the Opportunity

Questions?

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