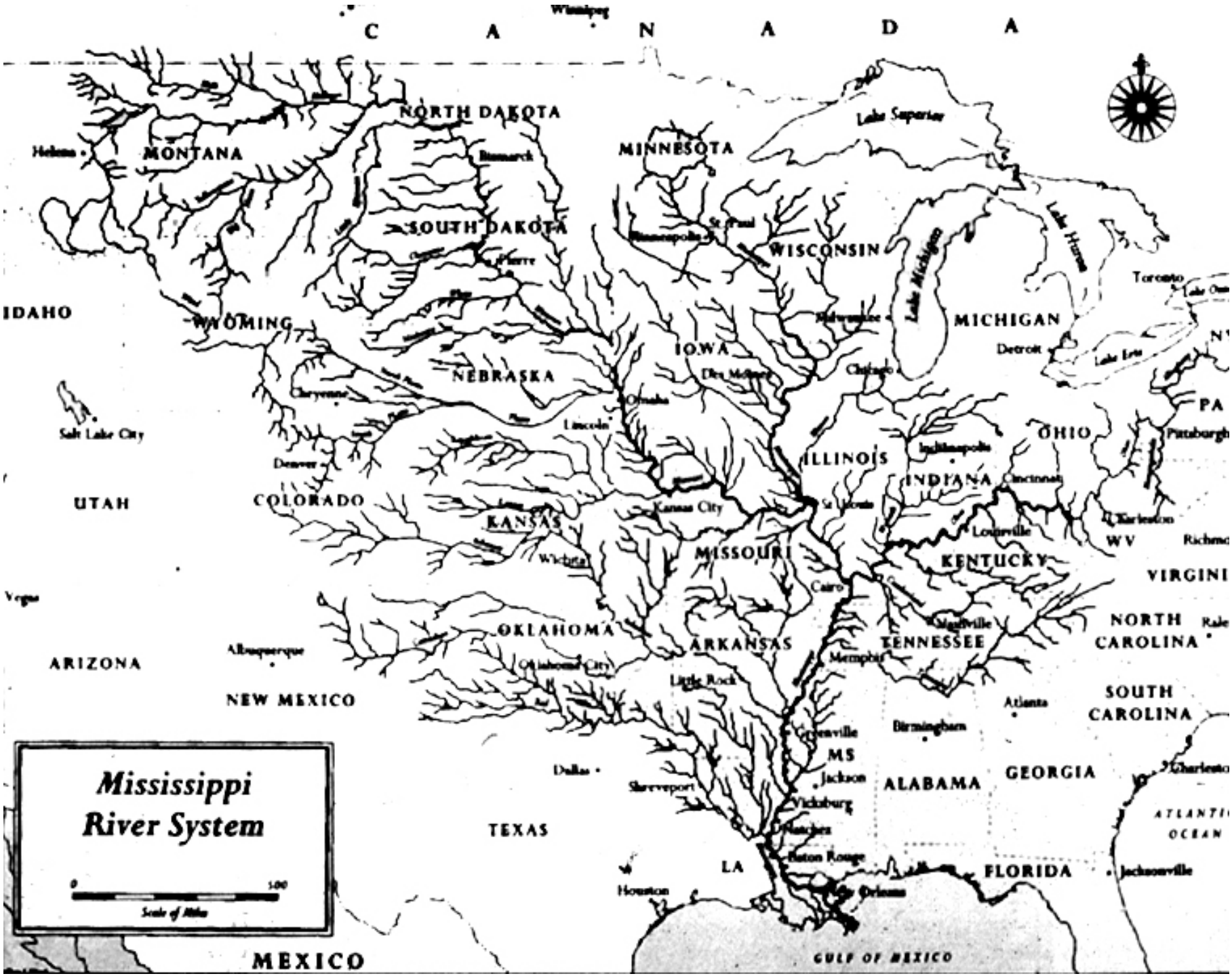
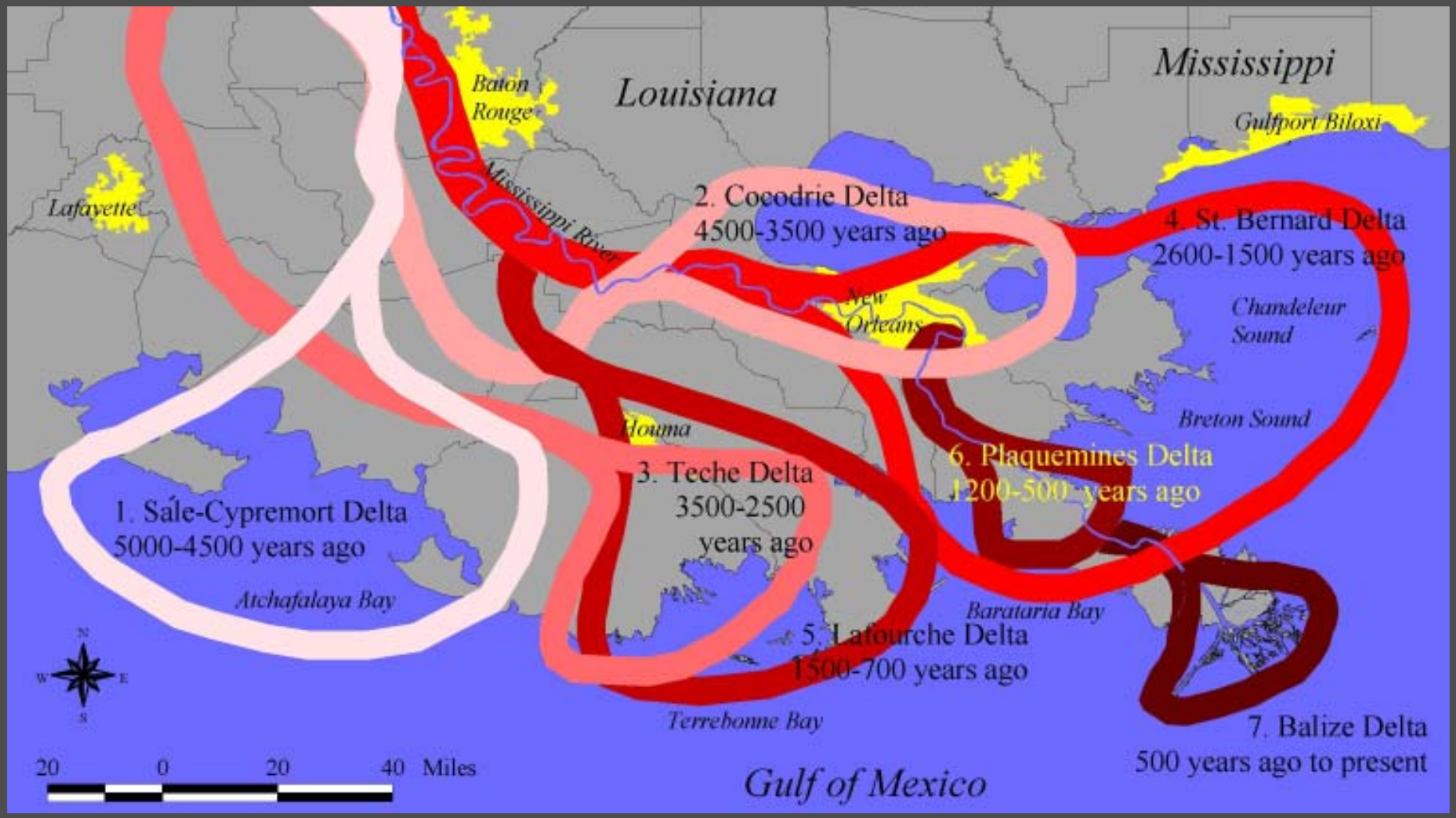
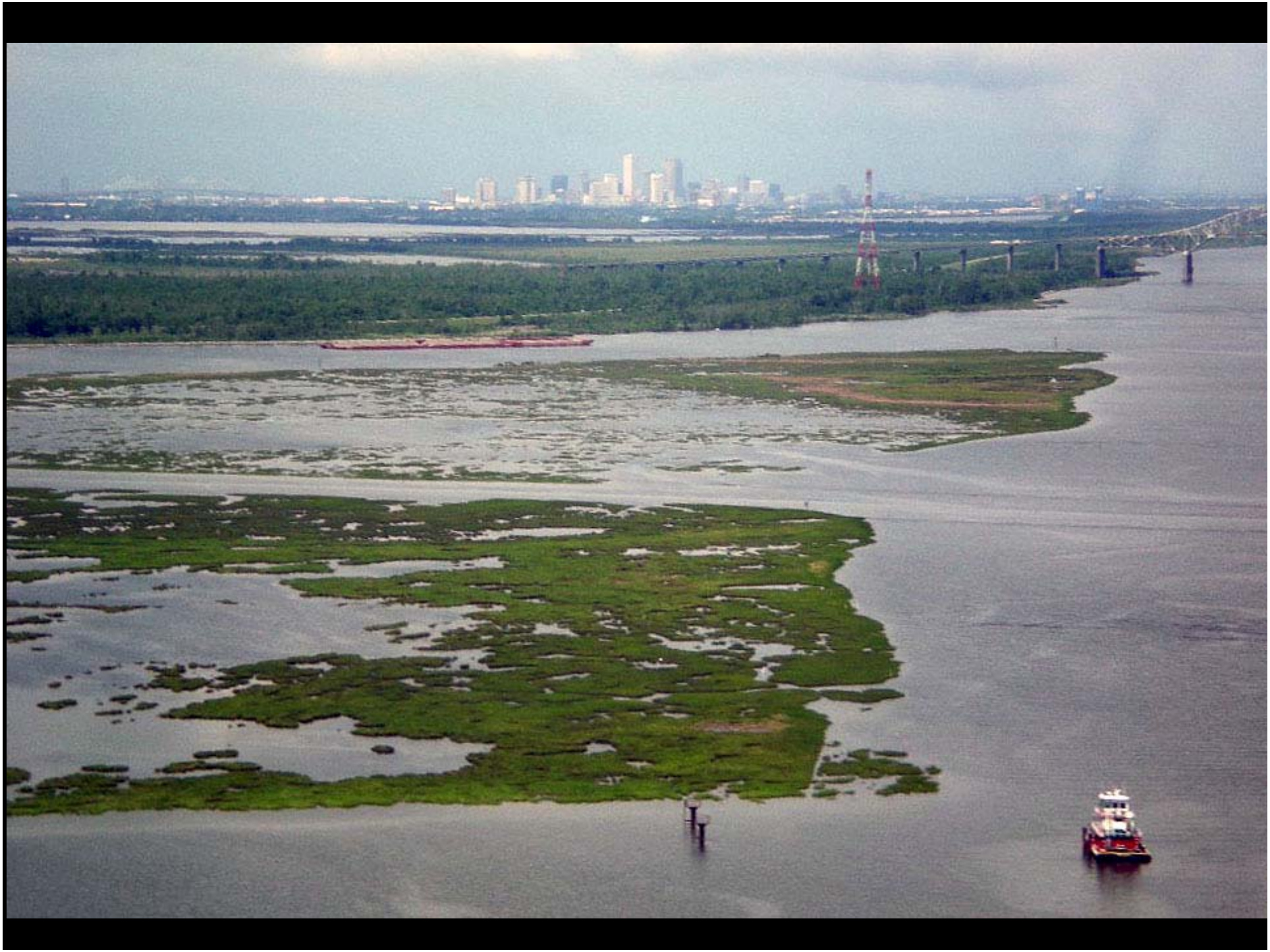

Mississippi River System
0
500
Scale of Miles
C A N A D A
Winnipeg
NORTH DAKOTA
MONTANA
Helena
Bismarck
MINNESOTA
Lake Superior
SOUTH DAKOTA
Pierre
St. Paul
Minneapolis
WISCONSIN
Lake Michigan
Lake Huron
Toronto
IDAHO
WYOMING
Milwaukee
MICHIGAN
Detroit
Lake Erie
IOWA
Des Moines
Chicago
NEBRASKA
Cheyenne
Omaha
Lincoln
PA
Pittsburgh
Salt Lake City
OHIO
Indianapolis
ILLINOIS
Denver
INDIANA
Cincinnati
UTAH
COLORADO
Kansas City
St. Louis
KANSAS
Louisville
Charleston
WV
Richmond
Wichita
MISSOURI
KENTUCKY
VIRGINIA
Cairo
Vegas
OKLAHOMA
Nashville
NORTH CAROLINA
Raleigh
ARKANSAS
TENNESSEE
Albuquerque
ARIZONA
Oklahoma City
Memphis
Little Rock
NEW MEXICO
Atlanta
SOUTH CAROLINA
Greenville
Birmingham
MS
Dallas
Jackson
ALABAMA
GEORGIA
Charleston
Shreveport
Vicksburg
ATLANTIC OCEAN
TEXAS
Natchez
Baton Rouge
LA
FLORIDA
Jacksonville
Houston
New Orleans
GULF OF MEXICO
MEXICO

Composite Recent Deltas





Louisiana's Coastal Wetland Service Economic Values

- Infrastructure valued at more than $100 billion (insured up to $170 billion)
- More fishery landings than any other coterminous state ($750 million/year)
- 30% of U.S. oil & gas
- Protection for 25% of U.S. exported commodities ($30 billion/year)
- Agricultural value of $30 billion/year

1945

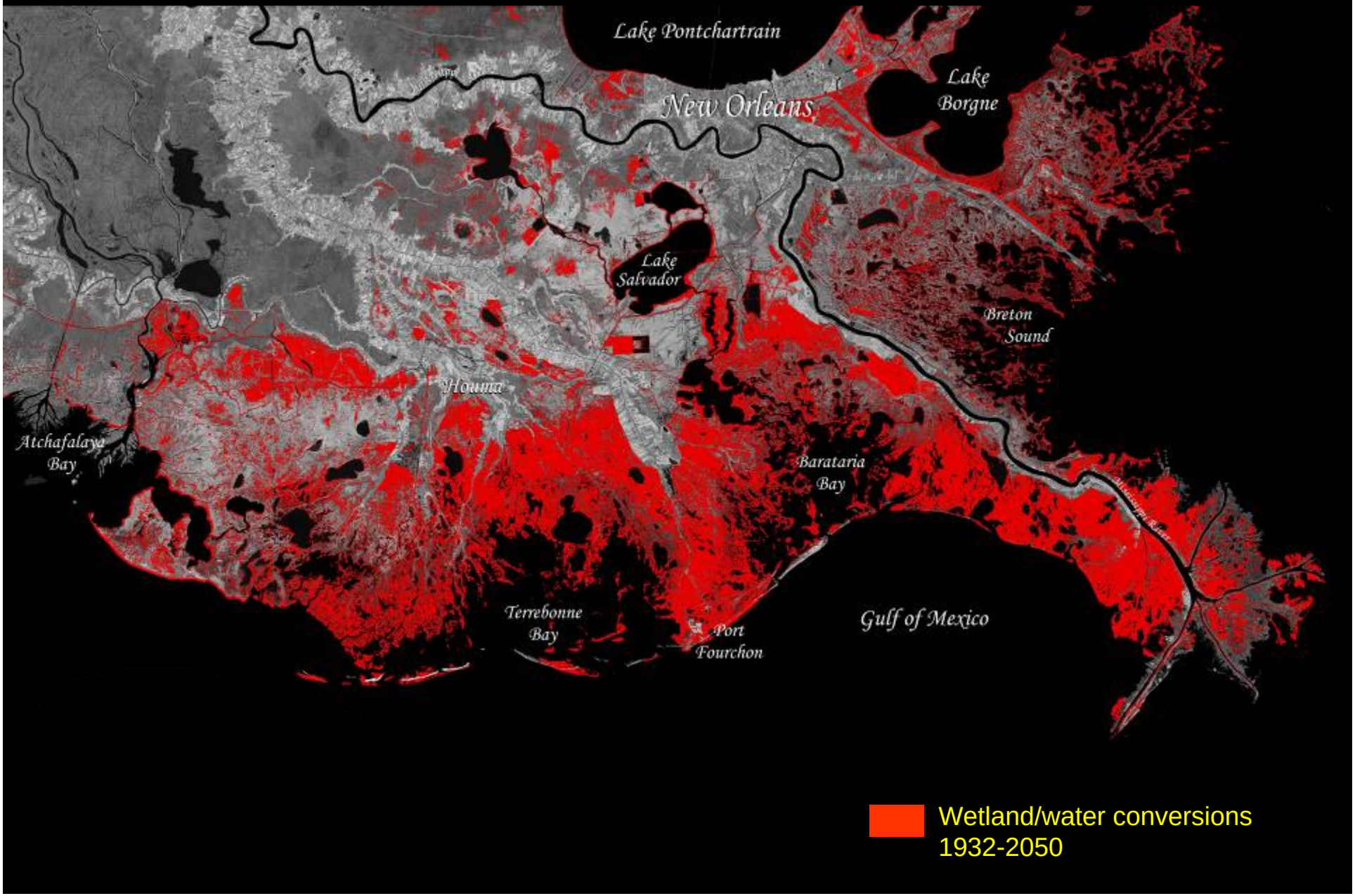
The impacts of oil and gas withdrawal are evident in these before and after shots of the Barataria Basin, where the first canals were cut in the 1940s.

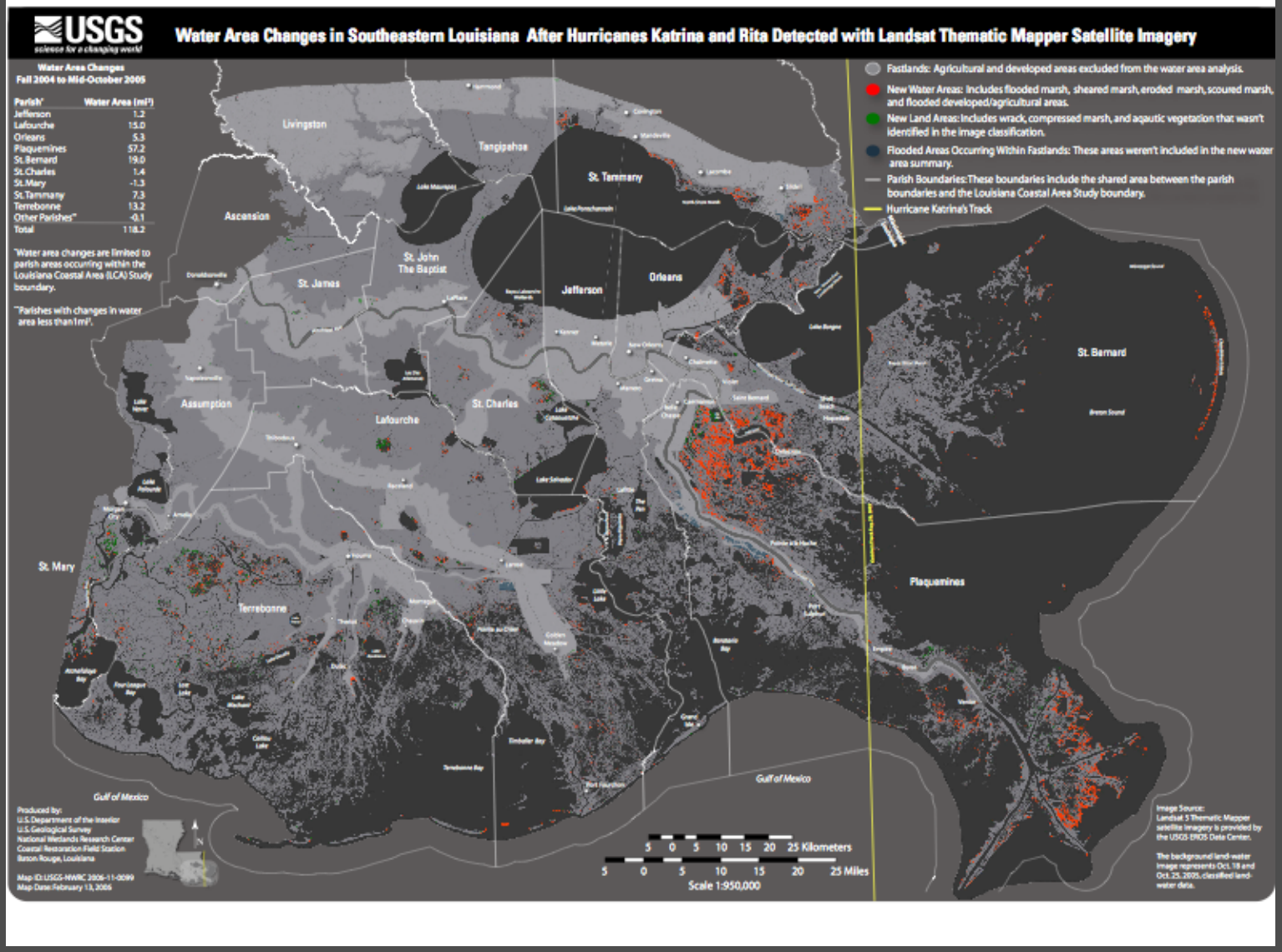
1998

By the late 1990s most of the marsh was gone, due to erosion, saltwater intrusion, and subsidence accelerated by oil and gas withdrawals.

source: USGS

Coastal Wetland Loss in Louisiana

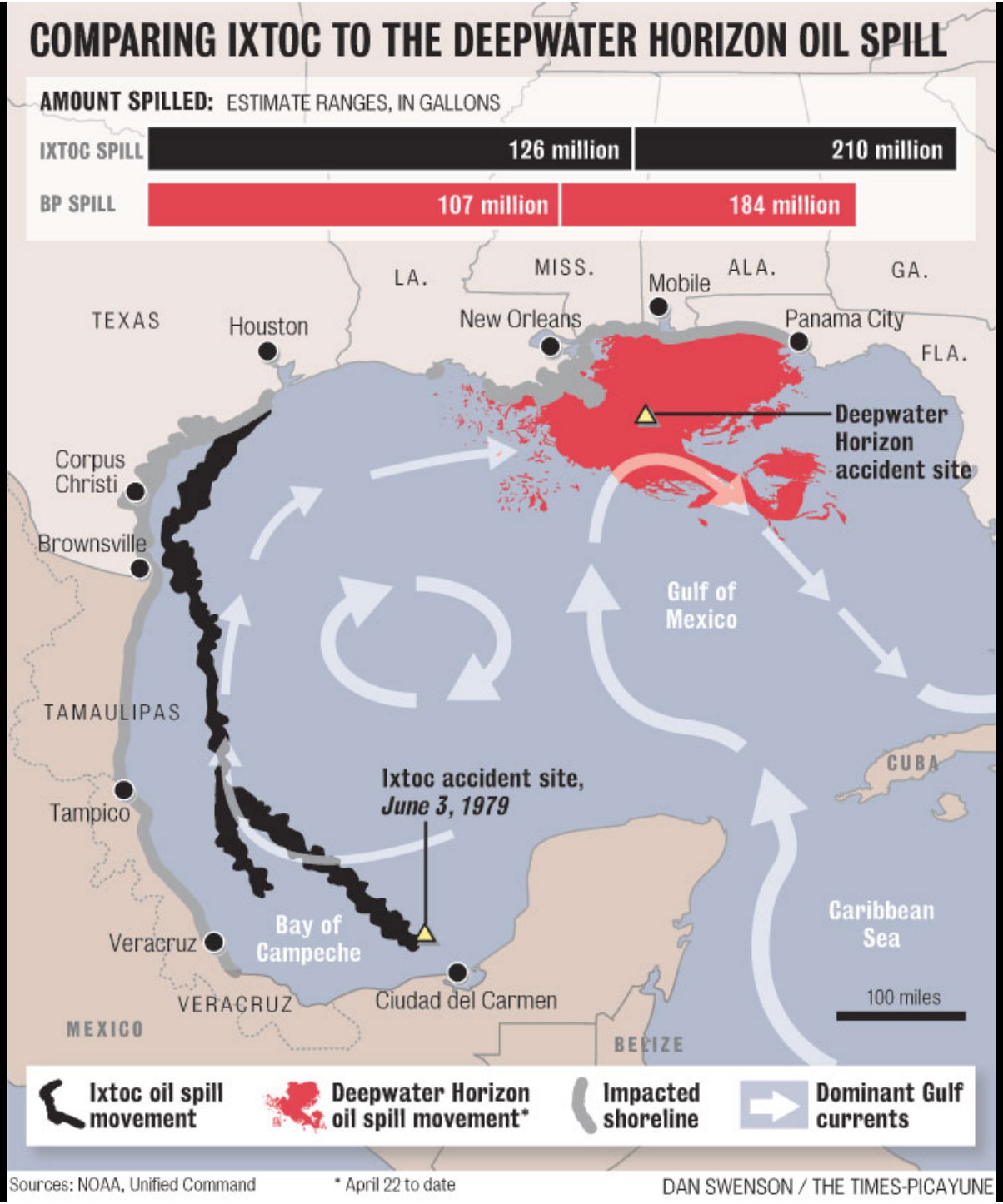




217 square miles (562 km^2) of wetland to water conversion

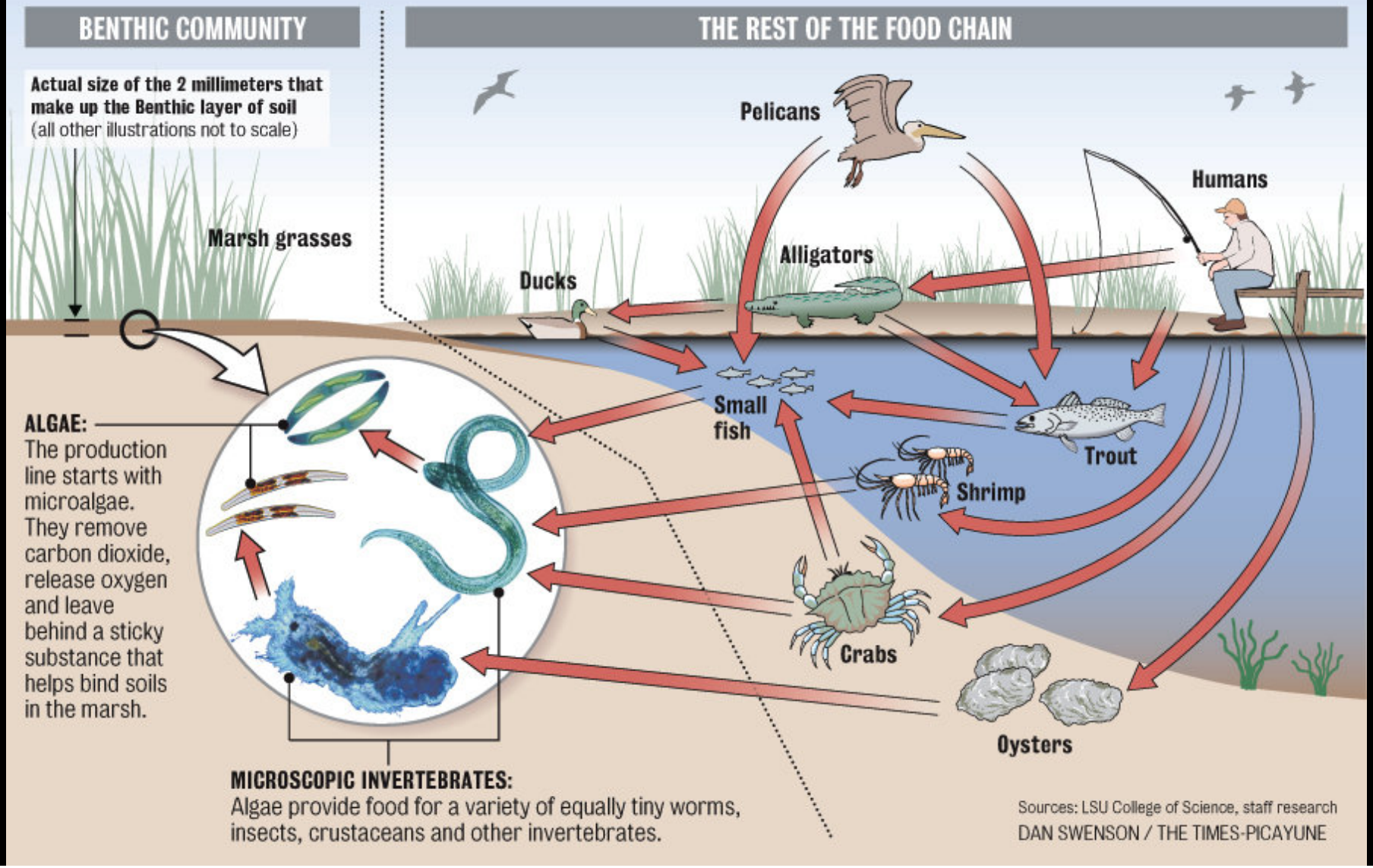
$1.1 billion acute loss to commercial fisheries

$150 million near-term loss to oyster harvests


COMPARING IXTOC TO THE DEEPWATER HORIZON OIL SPILL
AMOUNT SPILLED: ESTIMATE RANGES, IN GALLONS
IXTOC SPILL
126 million
210 million
BP SPILL
107 million
184 million
TEXAS
LA.
MISS.
ALA.
GA.
FLA.
Houston
New Orleans
Mobile
Panama City
Deepwater Horizon accident site
Corpus Christi
Brownsville
Gulf of Mexico
TAMAULIPAS
CUBA
Ixtoc accident site, June 3, 1979
Tampico
Bay of Campeche
Caribbean Sea
Veracruz
VERACRUZ
Ciudad del Carmen
100 miles
MEXICO
BELIZE
Ixtoc oil spill movement
Deepwater Horizon oil spill movement*
Impacted shoreline
Dominant Gulf currents
Sources: NOAA, Unified Command
* April 22 to date
DAN SWENSON / THE TIMES-PICAYUNE

THE BENTHIC COMMUNITY'S IMPORTANCE TO COASTAL ESTUARIES

The **top 2 millimeters of marsh mud** is host to a teeming community of micro-organisms that make up the food base that drives the entire coastal estuary. While many are concerned with oil-covered birds, scientists are just as concerned about the less photogenic algae and invertebrates living in that top layer that account for half of all life within Louisiana's coastal marshes. If the oil spill seeps its way into the estuaries and smothers the micro-organisms and nutrients, all other animals and plants, assuming they escape the oil themselves, could starve and die.



Sources: LSU College of Science, staff research

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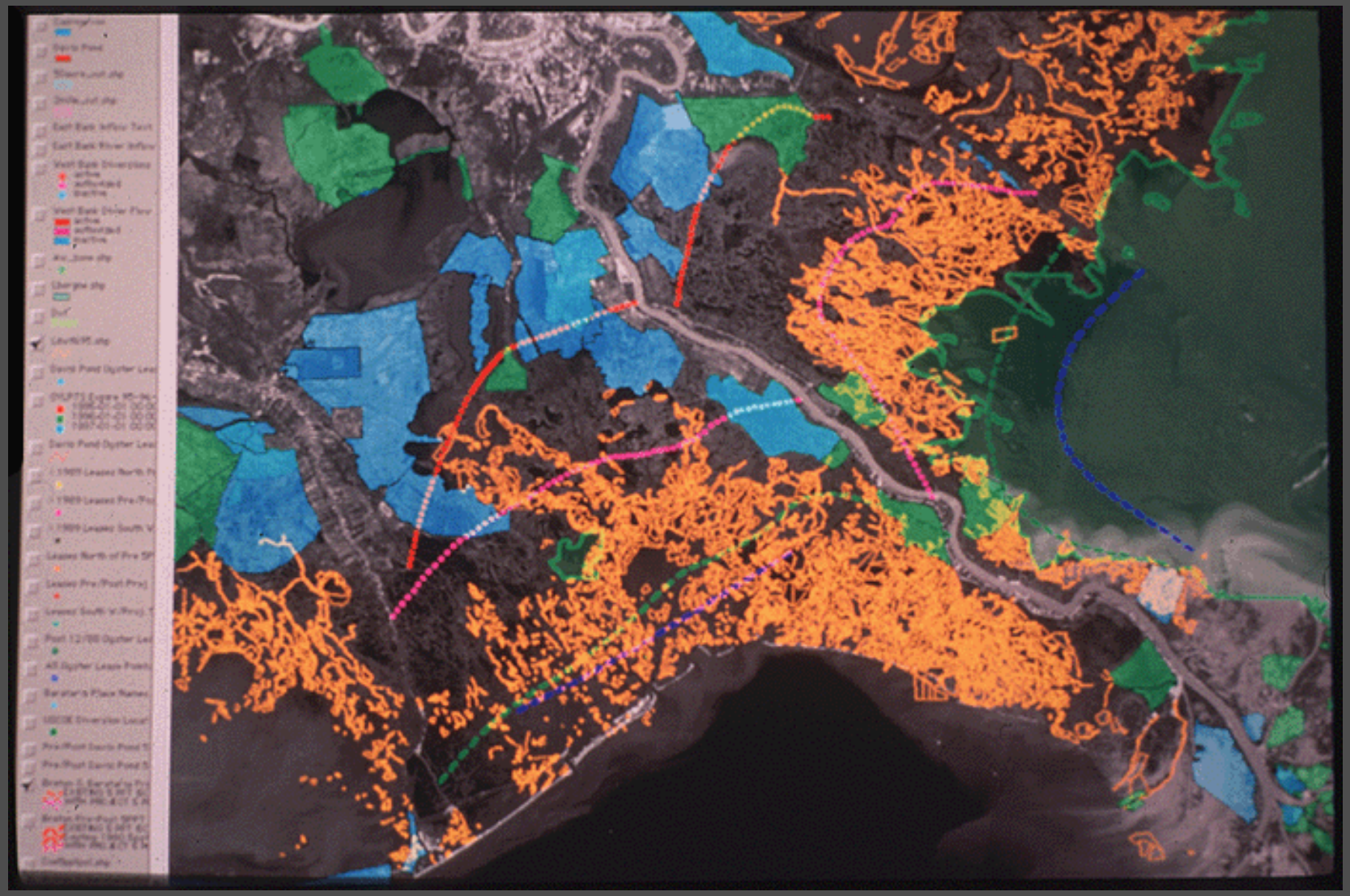
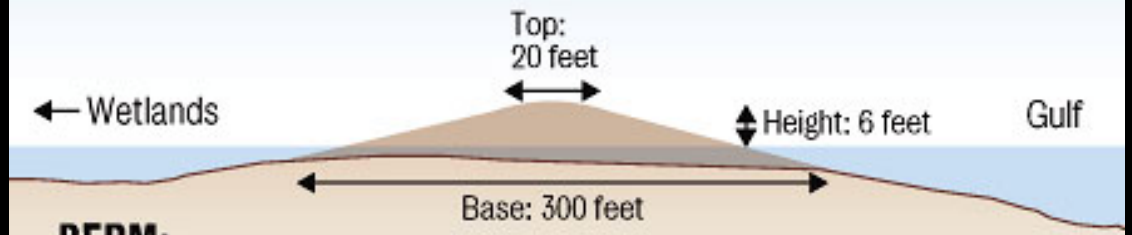
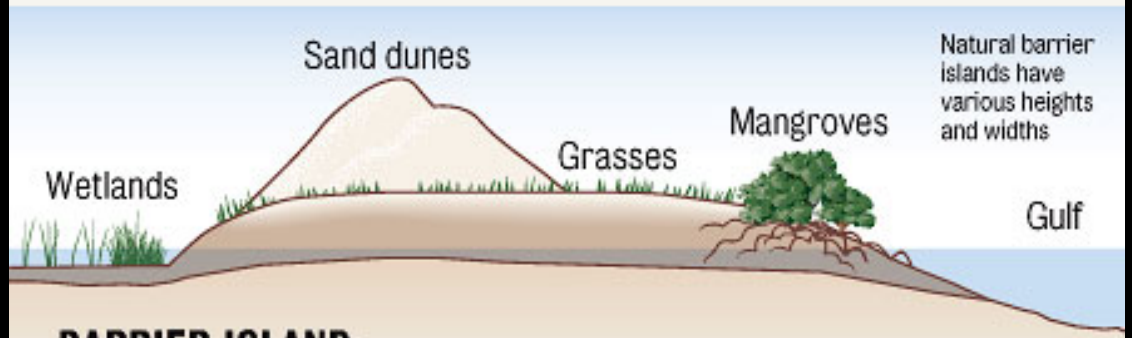
Oyster Leases in Louisiana



BERMS VERSUS BARRIER ISLANDS



BERM:
Quickly built with sediment dredged from offshore underwater locations, the berms would be long and narrow and could be breached or washed away by tropical storms before they can be colonized by grasses or other plants, whose roots might hold them together.



BARRIER ISLAND:
Made of sand and sediment reworked over decades or centuries at the coastal delta's edge, the islands often have well-developed sand dune ridges, and well-established grasses and black mangroves on shorelines facing the Gulf of Mexico. Several also are on top of ancient oyster shell deposits. Well-developed wetlands often stretch inland.

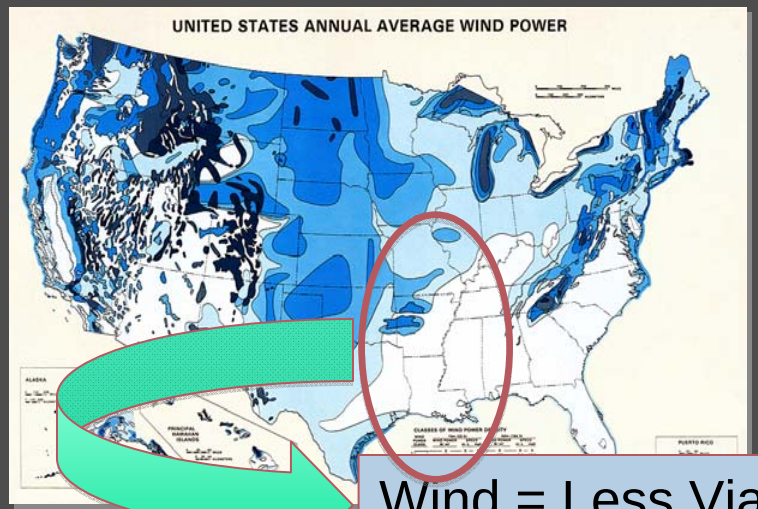
Source: Staff research

Illustrations are not to scale

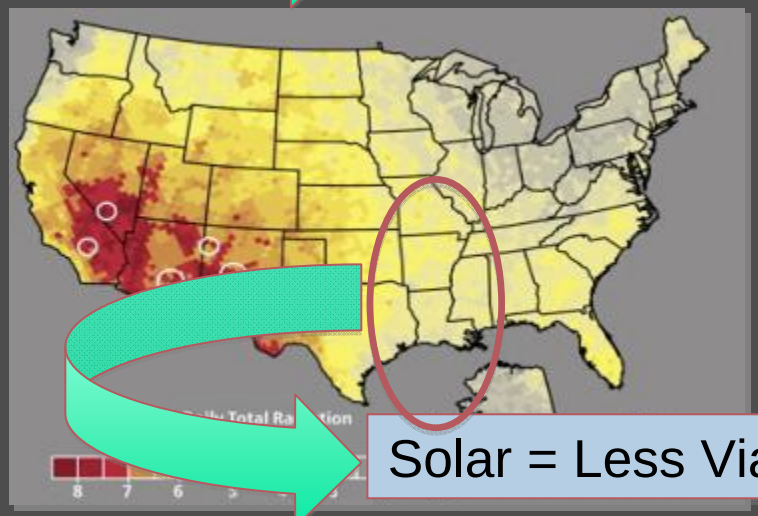
DAN SWENSON / THE TIMES-PICAYUNE

Chandeleur Sand Berm
July 30, 2010

Secretary Mabus Energy Transition Plan: strategic advanteges of the Gulf South



Wind = Less Viable



Solar = Less Viable

- 500 miles on Mississippi, Missouri, and Ohio Rivers
- 3,300 MW powers 2.3 mm homes
- Capacity for 300,000 turbines

ONE GULF.
ONE NATION.
ONE PROMISE.