Perspectives on Socio-Economic Study Needs in the Gulf of Mexico

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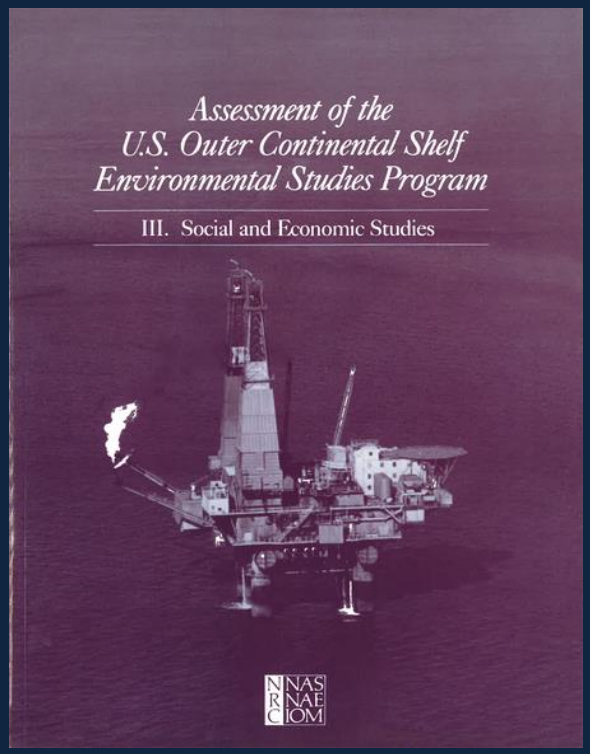
A Little History



National Research Council report from 1992 on social and economic studies conducted or funded by MMS

TABLE 1-1 OCS Revenue by Region, 1990

Region	Amount
Gulf of Mexico	$3,237,287,758
Pacific	113,932,232
Atlantic	1,179,648
Alaska	15,339,181
Total	$3,367,738,819

Source: MMS, 1991b

"The panel found no documentation of a systematic program for identifying and analyzing important socioeconomic issues for study in the Gulf of Mexico Region."

…a list of studies that had be conducted (n=11 from 1974 – 1989)

TABLE 4-2 Socioeconomic Studies in the Gulf of Mexico Region

Environmental Consultants, Inc., 1974. Socioeconomic Inventory and Analysis of the Gulf of Mexico Region.

Coastal Environments, Inc., 1977. Cultural Resources Evaluation of the Northern Gulf of Mexico Continental Shelf.

Larson et al., 1980. Mississippi Deltaic Plain Region Ecological Characterization: A Socioeconomic Study.

Liebow et al., 1982. Texas Barrier Islands Region Ecological Characterization: A Socioeconomic Study.

Restrepo et al., 1982. *IXTOC I* Oil Spill Economic Impact Study.

Friend et al., 1982. Alabama Coastal Region Ecologic Characterization: A Socioeconomic Study.

French and Parsons, 1983. Florida Coastal Ecological Characterization: A Socioeconomic Study of the Northwestern Region.

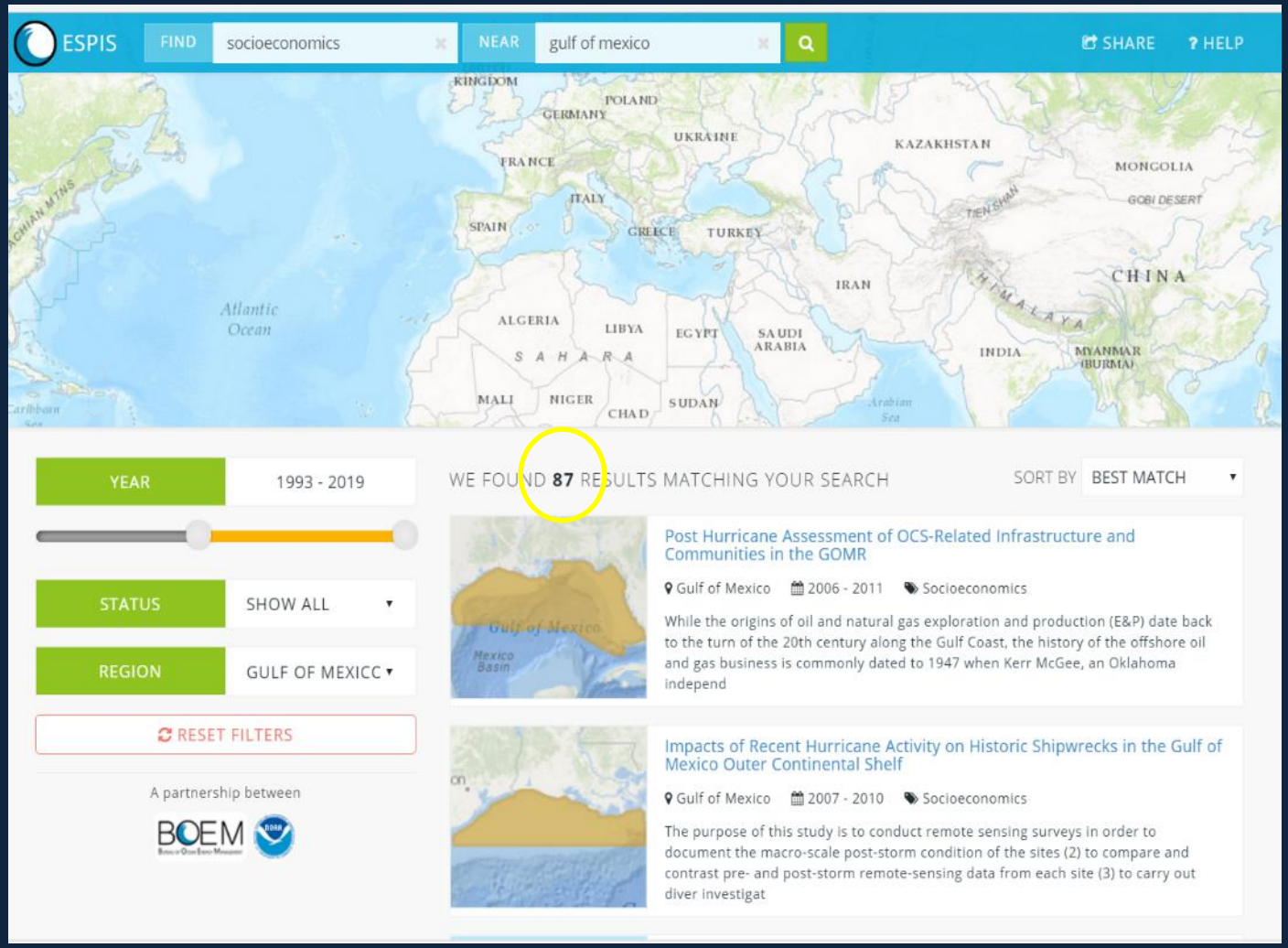
Resource Economics & Management Analysis, Inc., 1987. Analysis of Indicators for Socioeconomic Impacts Due to OCS Oil and Gas Activities in the Gulf of Mexico, Year II.

Centaur Associates, Inc., 1986. Indicators of the Direct Economic Impacts Due to Oil and Gas Development in the Gulf of Mexico.

Coastal Environments, Inc., 1986. Archeological Investigations on the Outer Continental Shelf: A Study Within the Sabine River Valley Offshore Lousiana and Texas.

Texas A&M Research Foundation, 1989. Historic Shipwrecks and Magnetic Anomalies of the Northern Gulf of Mexico: Reevaluation of the Archeological Resource Management Zone 1.

Since the NRC report



87 studies (at least) since the NRC report was issued

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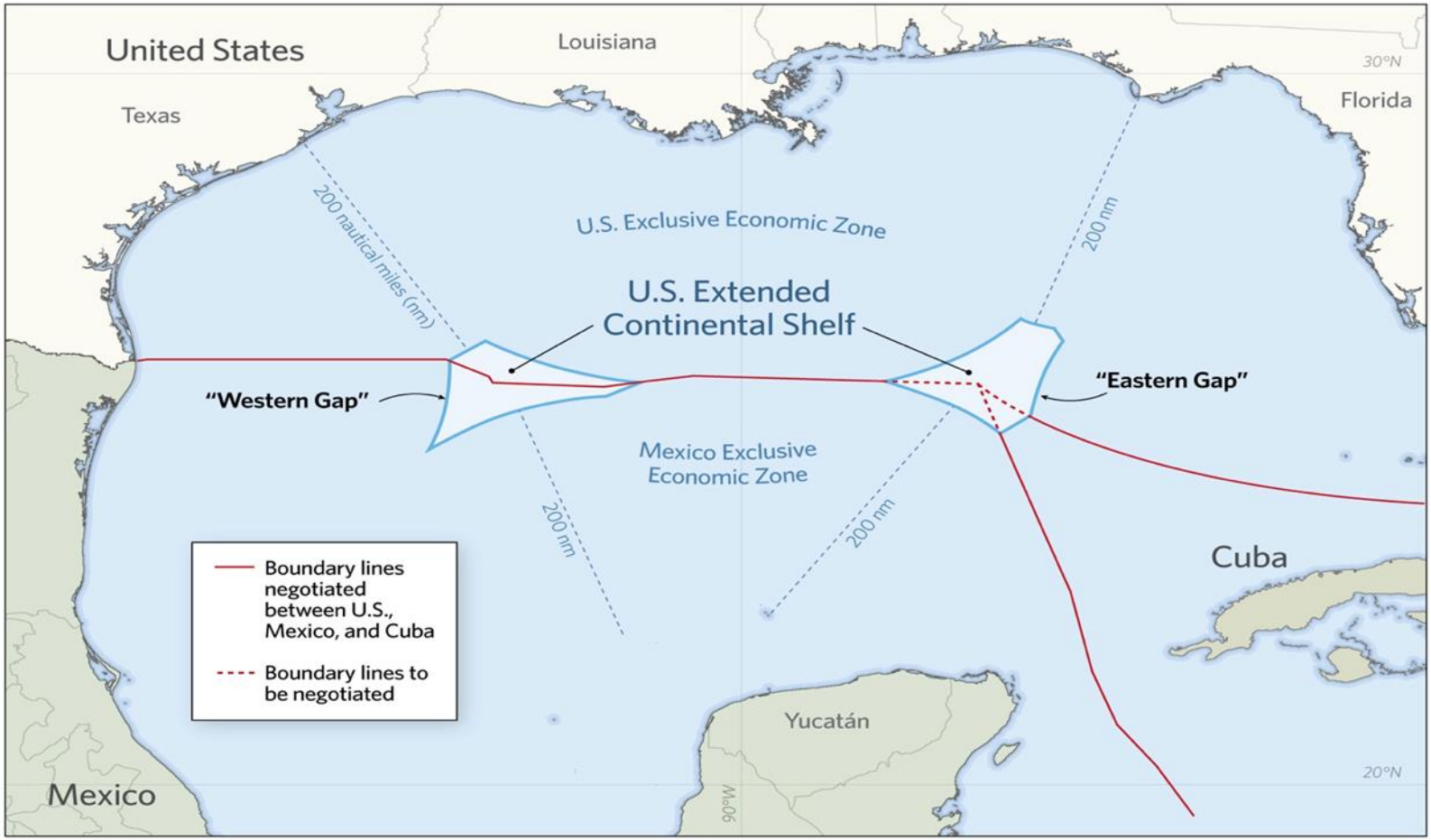
MAP 2

U.S. Extended Continental Shelf in Gulf of Mexico

The Gulf of Mexico contains two areas of submerged continental shelf that extend beyond the 200-nautical-mile exclusive economic zones (EEZ) of Mexico and the United States—the "western gap" and the "eastern gap." The U.S. and Mexico signed a treaty in June 2000 that divides the area of extended continental shelf within the "western gap" between the two nations.



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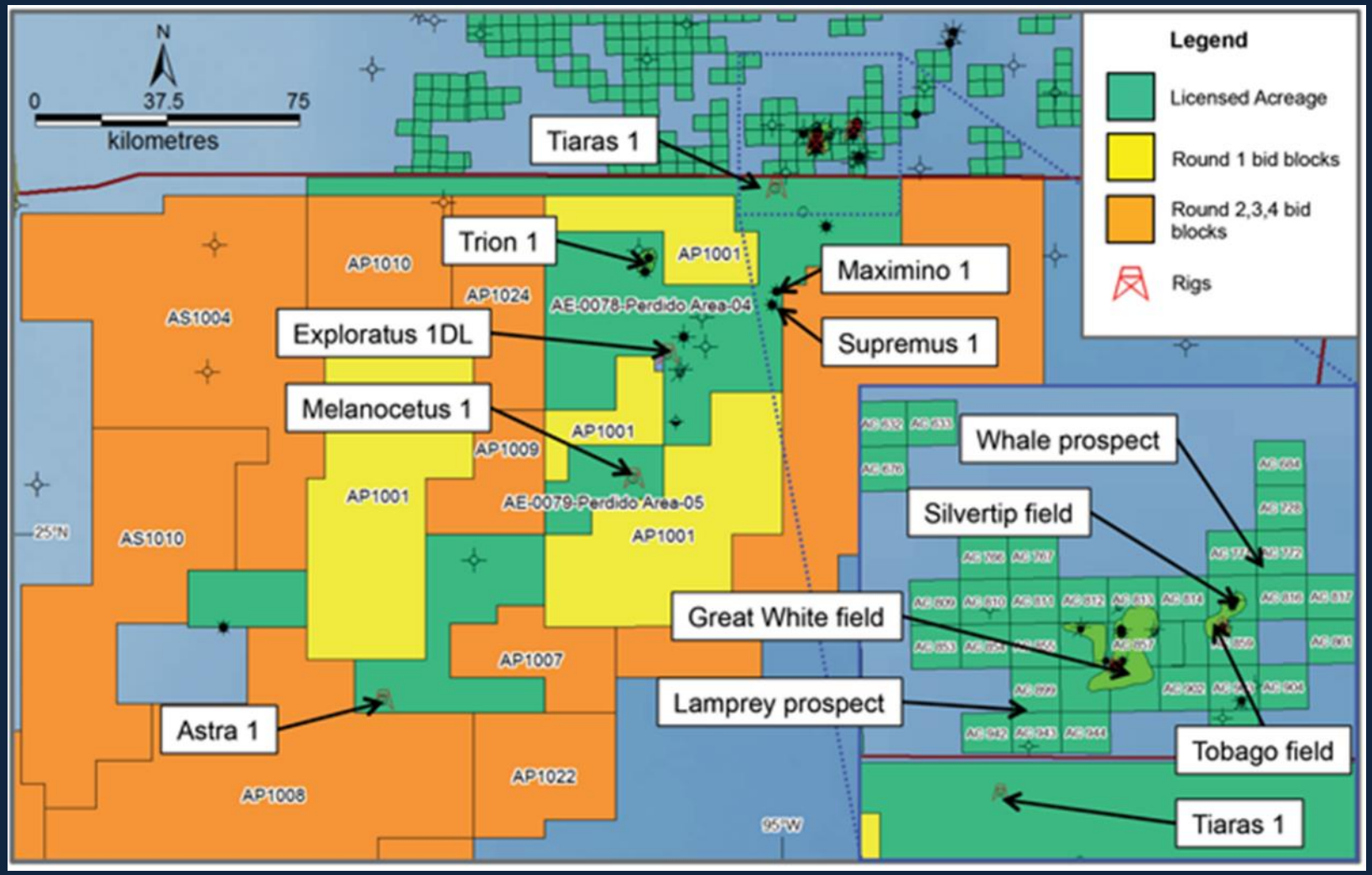
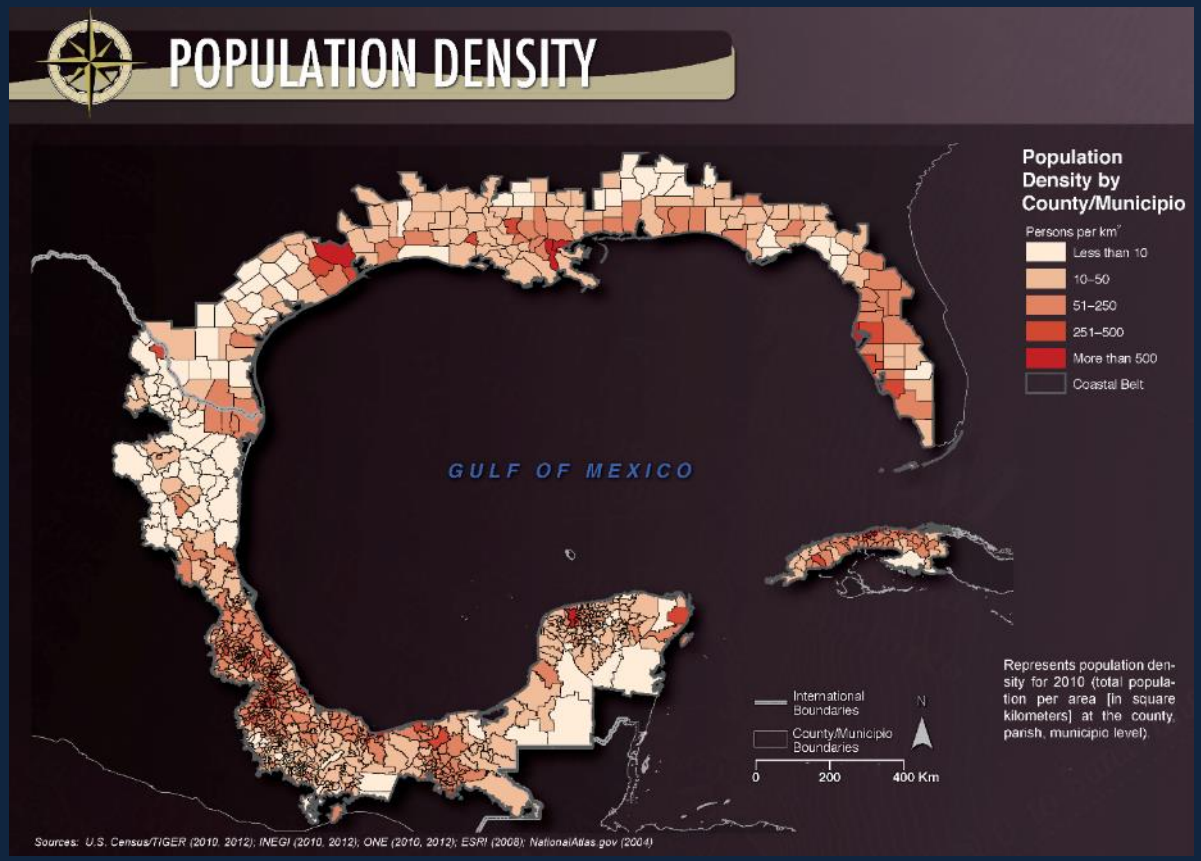
Drilling Along the Maritime Boundary



Source: DrillingInfo

A Jumping off Point

Gulf 360°
State of the Gulf of Mexico



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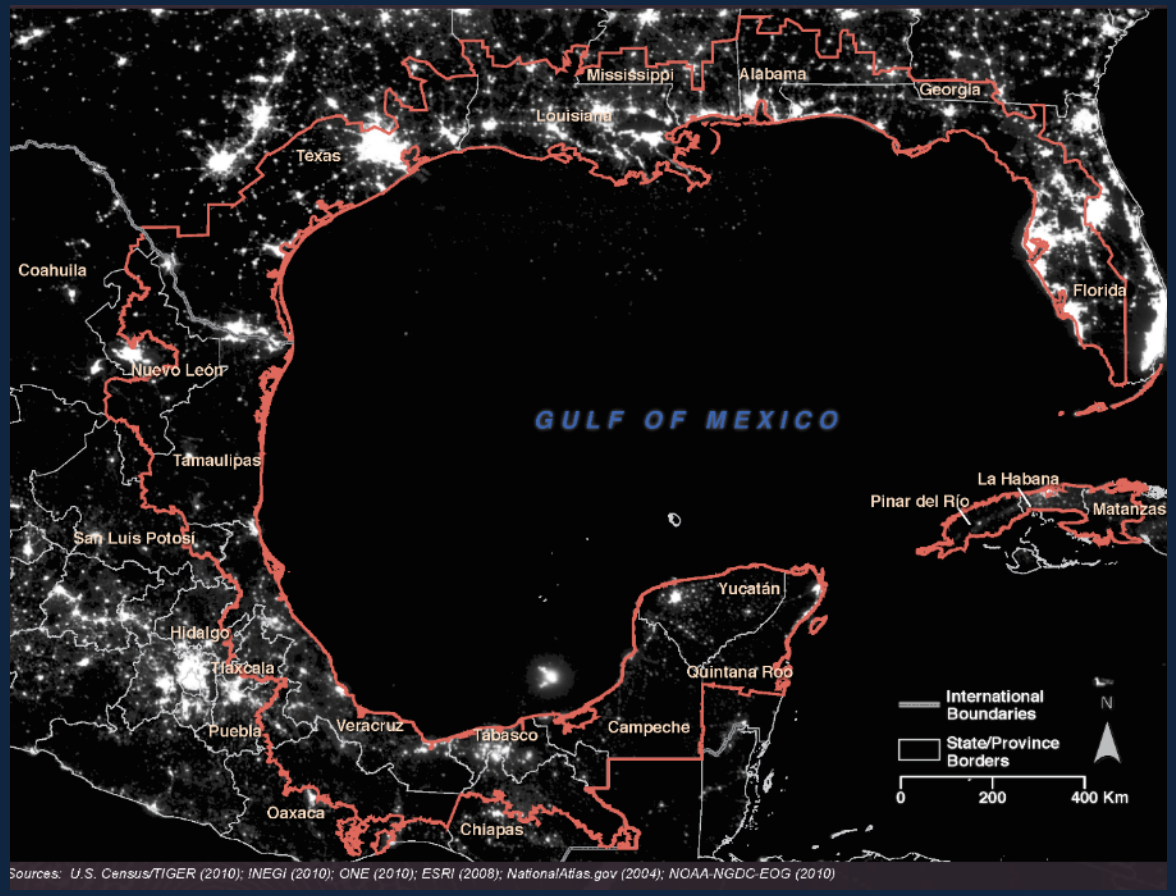
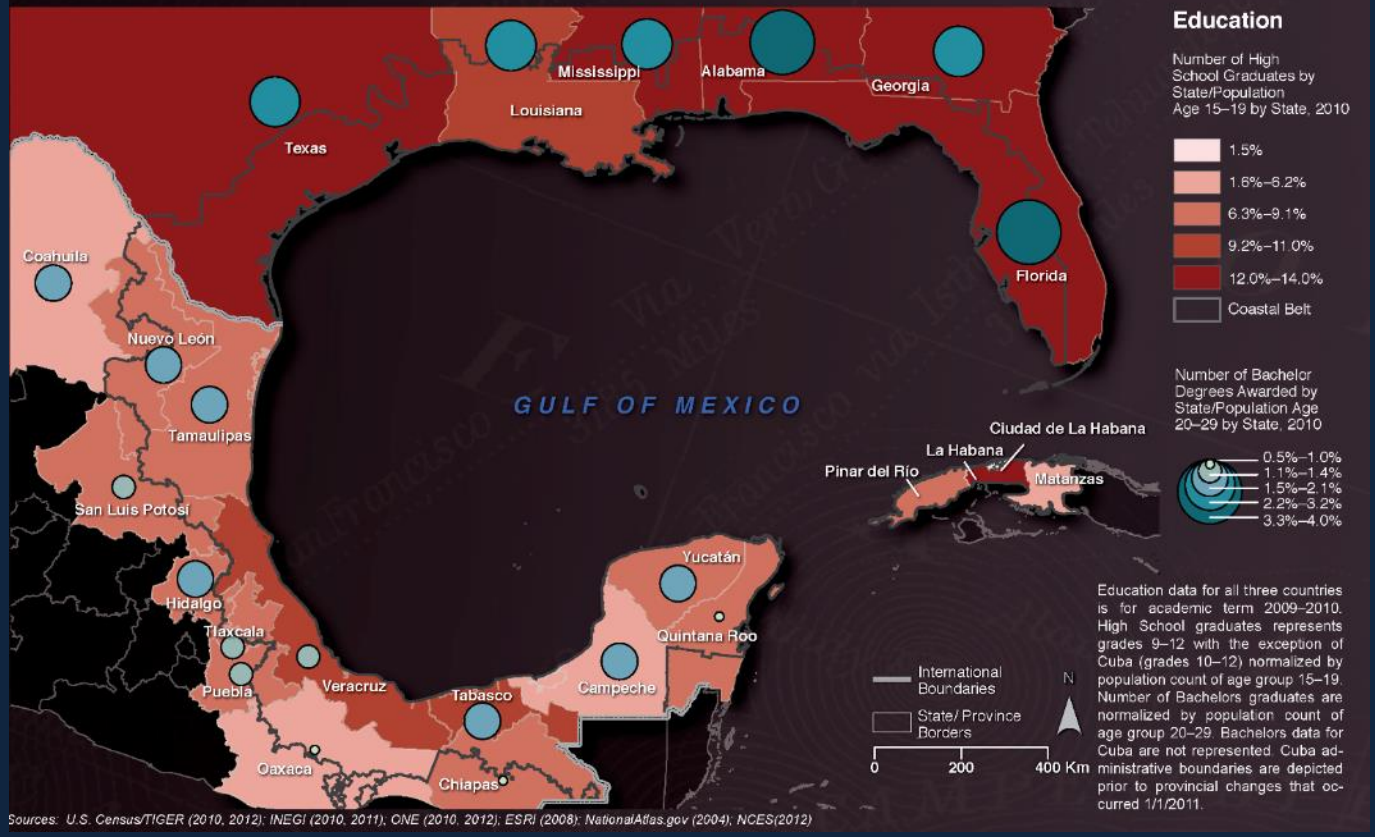
A Jumping off Point



POPULATION DEMOGRAPHICS



Sources: U.S. Census/TIGER (2010, 2012); INEGI (2010, 2011); ONE (2010, 2012); ESRI (2008); NationalAtlas.gov (2004); NCES(2012)

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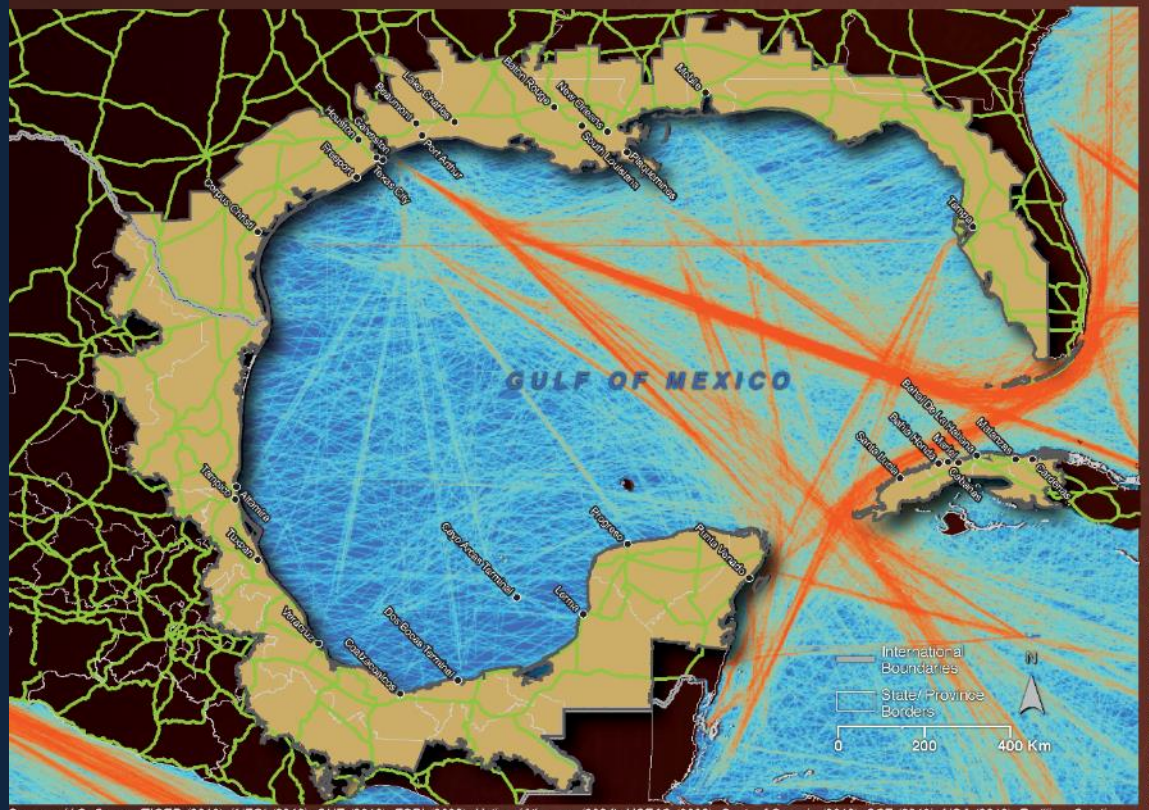
TRANSPORTATION



Transportation: Roads and Commercial Shipping

- Major Ports
- Major Roads
- Coastal Belt

Commercial Shipping Activity October 2004 to October 2005

# of vessel tracks per km²

Low : 0

High : 184

Roads connect major centers of population or selected frontier roads. Roads under construction are not shown. Ports for U.S. and Mexico represent major ports by tonnage in 2010. Cuban ports represent all known ports in the study area. Commercial shipping activity is based on World Meteorological Organization Voluntary Observing Ships (VOS) observations.

Sources: U.S. Census/TIGER (2010); INEGI (2010); ONE (2010); ESRI (2008); NationalAtlas.gov (2004); NCEAS (2008); Govt. of Canada (2010); SCT (2010); NGA (2012); Padilla y Sotelio, L.S. (2010); USACE (2012)

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PROTECTED AREAS

Protected Areas: Terrestrial and Marine

- Protected Areas Inside Coastal Belt
- Protected Areas Outside Coastal Belt
- Coastal Belt

This map represents designated terrestrial and marine protected areas on the international, national, and local levels as of September 2012 for U.S./Mexico and 2010 for Cuba. U.S. marine protected areas that have been designated as gear-restricted areas, fishery closures, and reef fish stressed areas by the National Marine Fisheries Service (NMFS) have been excluded. Most Cuban protected areas on the local level are not shown due to data unavailability.

Sources: U.S. Census/TIGER (2010); INEGI (2010); ONE (2010); ESRI (2008); NationalAtlas.gov (2004); USGS, NGA, NASA, GEBCO, CGIAR, Intermap, Oregon Metro (2012); SNAP (2010); IUCN and UNEP-WCMC (2012); FNAI (2004)

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Northern Gulf Study Needs
(only a few examples and woefully incomplete)

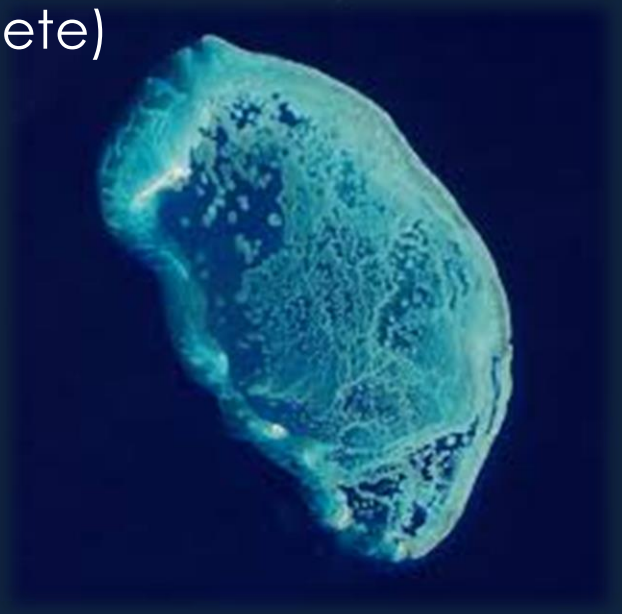
Examine the public's perception of sea level change; evaluate hazard-related communications and people's change in behavior in relation to hazard mitigation; and identify approaches that local governments are employing to adapt to sea level change

Determine how storm surge, subsidence and sea-level change affects ecosystems, native coastal habitat, wetland composition, saltwater intrusion, coastal flooding, cultures, agriculture and human health

Goal 2: Improve understanding of the connections between human health and the environment to support the development of healthy and resilient Gulf communities.

Goal 3: Advance understanding of the Gulf of Mexico region as a dynamic system with complex, interconnecting human and environmental systems, functions, and processes to inform the protection and restoration of ecosystem services.

Southern Gulf Study Needs
(only a few examples and really incomplete)



- Lack of communication between municipalities and higher institutions (researchers, community organizations)
- Many of the indicators for climate change monitoring are vague, hard to measure, and don't connect with people in the community.

Adaptacion y mitigacion urbana del cambio climatico en mexico. - Delgado Ramos, De Luca Zuria, and Vazquez Zentella (2015)

- There needs to be a better understanding of coastal squeeze – such as in Veracruz - which in turn could endanger ecosystems and livelihoods.
- Research that supports the development of community appropriate urbanization programs and strategies that balance natural dynamics and human interests must be implemented

Martínez et al 2014

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- More research is needed on long-term impact of climate change on low resilience and marginalized communities.
- How do communities think about climate change and keeping in mind that it's not always the immediate (hurricane) changes but gradual change.
- Development of techniques to reach "into" the communities and have more informed decision making at the local level (not just high level stakeholders)

Soares and Sandoval-Ayala 2016

1. Consider connections between bio-physical structure, function, and processes and community and human well-being

2. Consider the "why" and the "who".

3. Figure out a way to communicate the "impact of investment" (IOI) in the science and not the "return on investment" (ROI)