Science, Service, Stewardship

REPORT TO CONGRESS ON THE IMPACTS OF HURRICANES KATRINA, RITA, AND WILMA ON ALABAMA, LOUISIANA, FLORIDA, MISSISSIPPI, AND TEXAS FISHERIES

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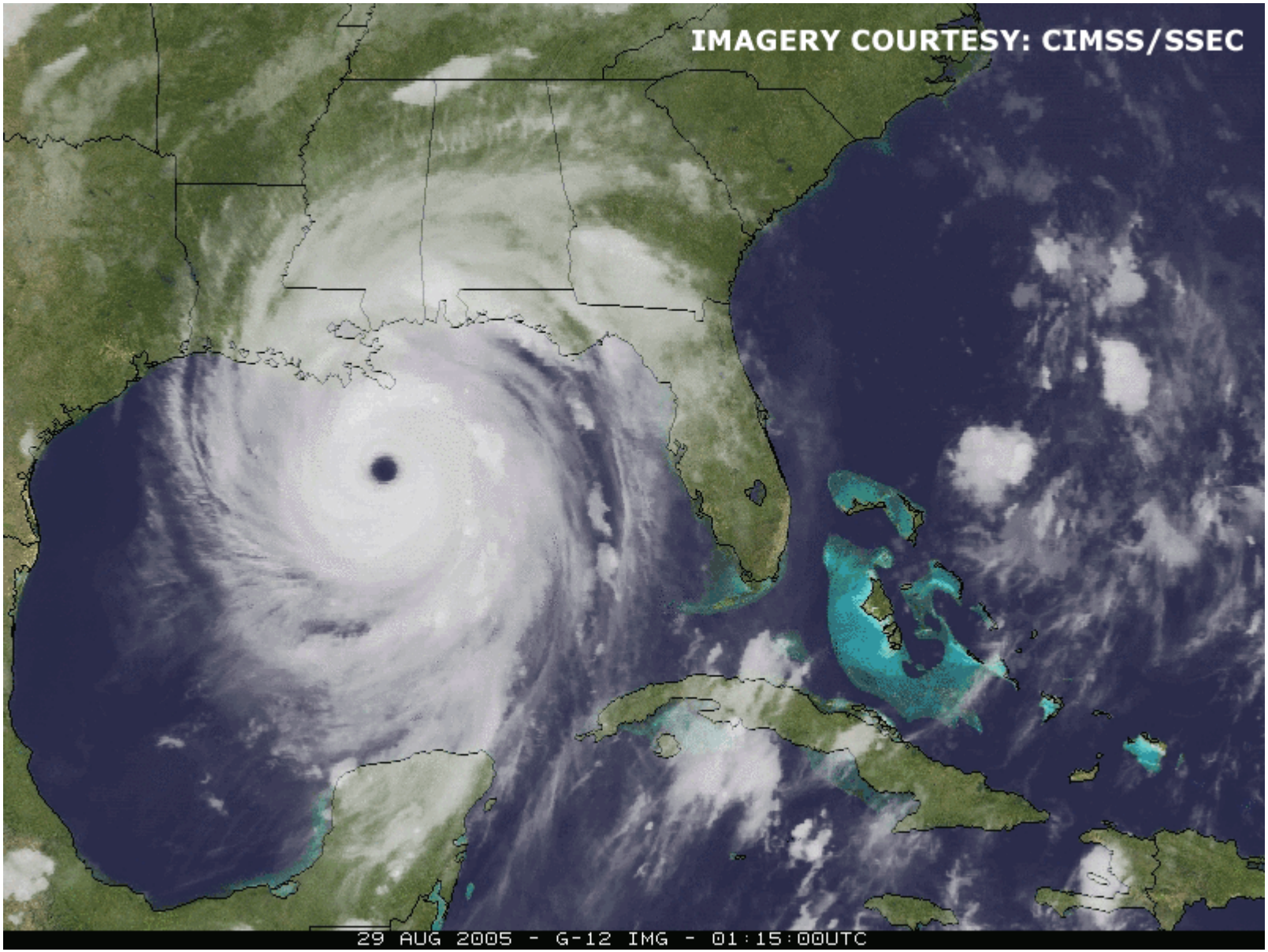
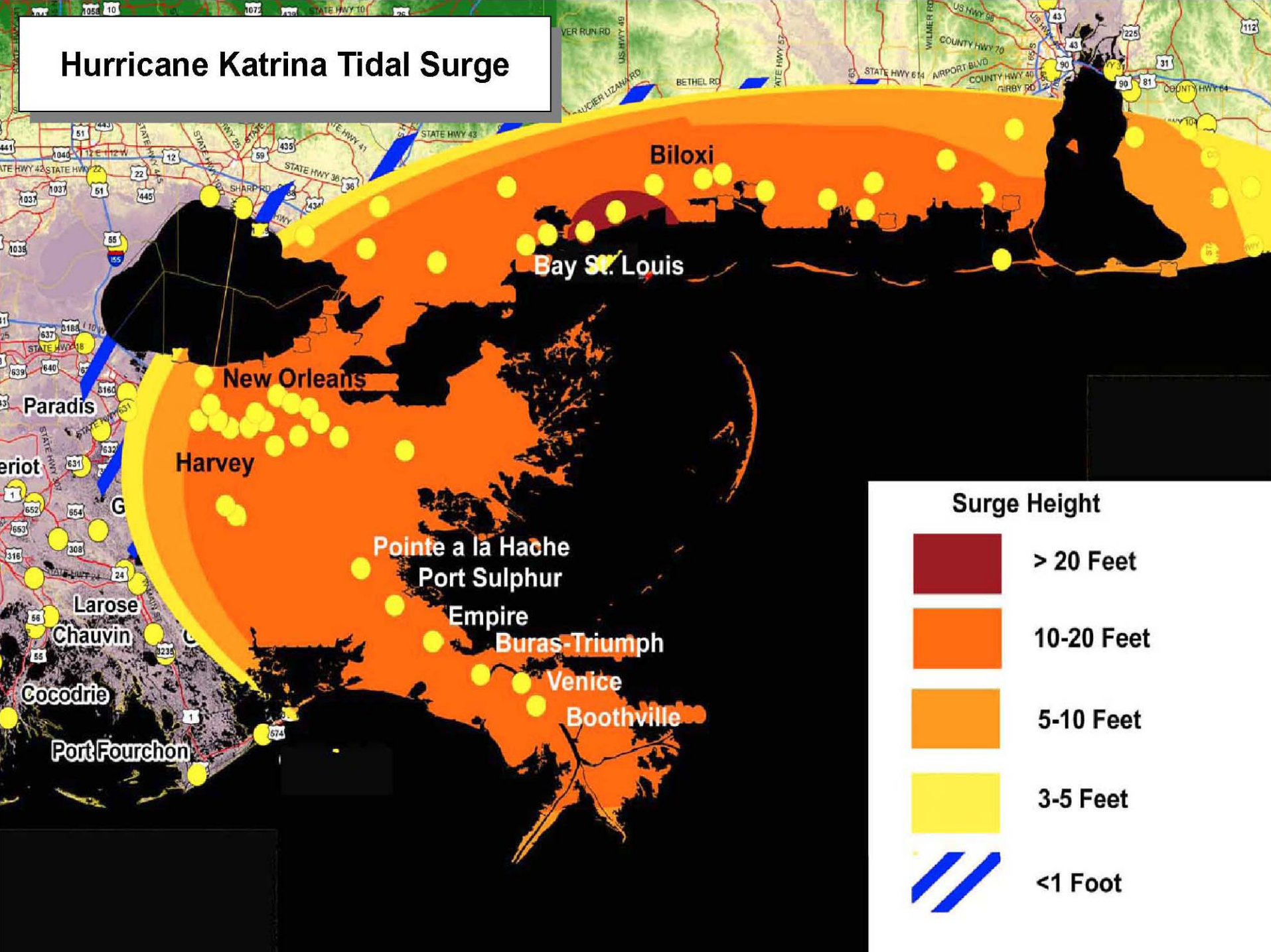
2007 Report to Congress on Hurricane Impacts

- Gulf of Mexico fisheries produce nearly 20 percent of U.S. commercial landings and support over 30 percent of marine recreational fishing trips.
- In 2005, a large fraction of the fishing and fishing-related businesses of the northern Gulf and southwest Florida were devastated by Hurricanes Katrina, Rita, and Wilma.

Katrina



Hurricane Katrina Tidal Surge

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Rita

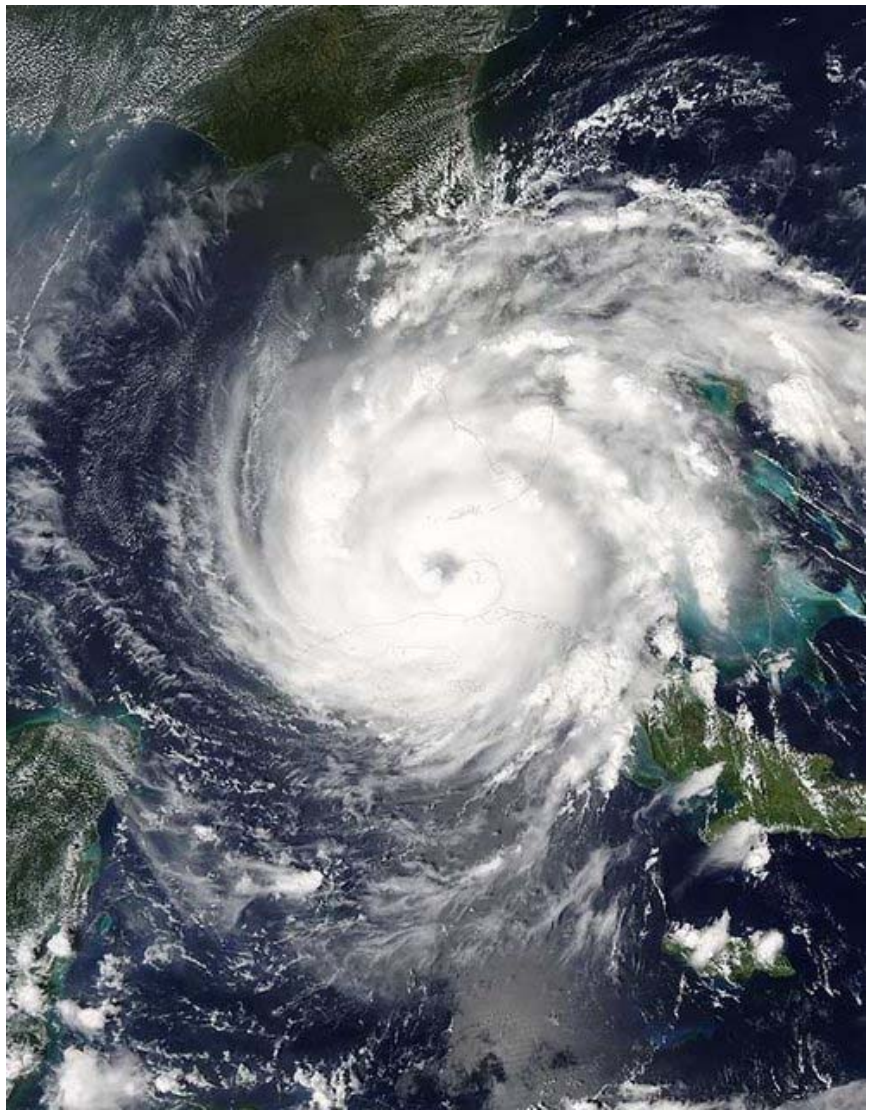

Photo courtesy of: Satellite Imaging Corp

Wilma

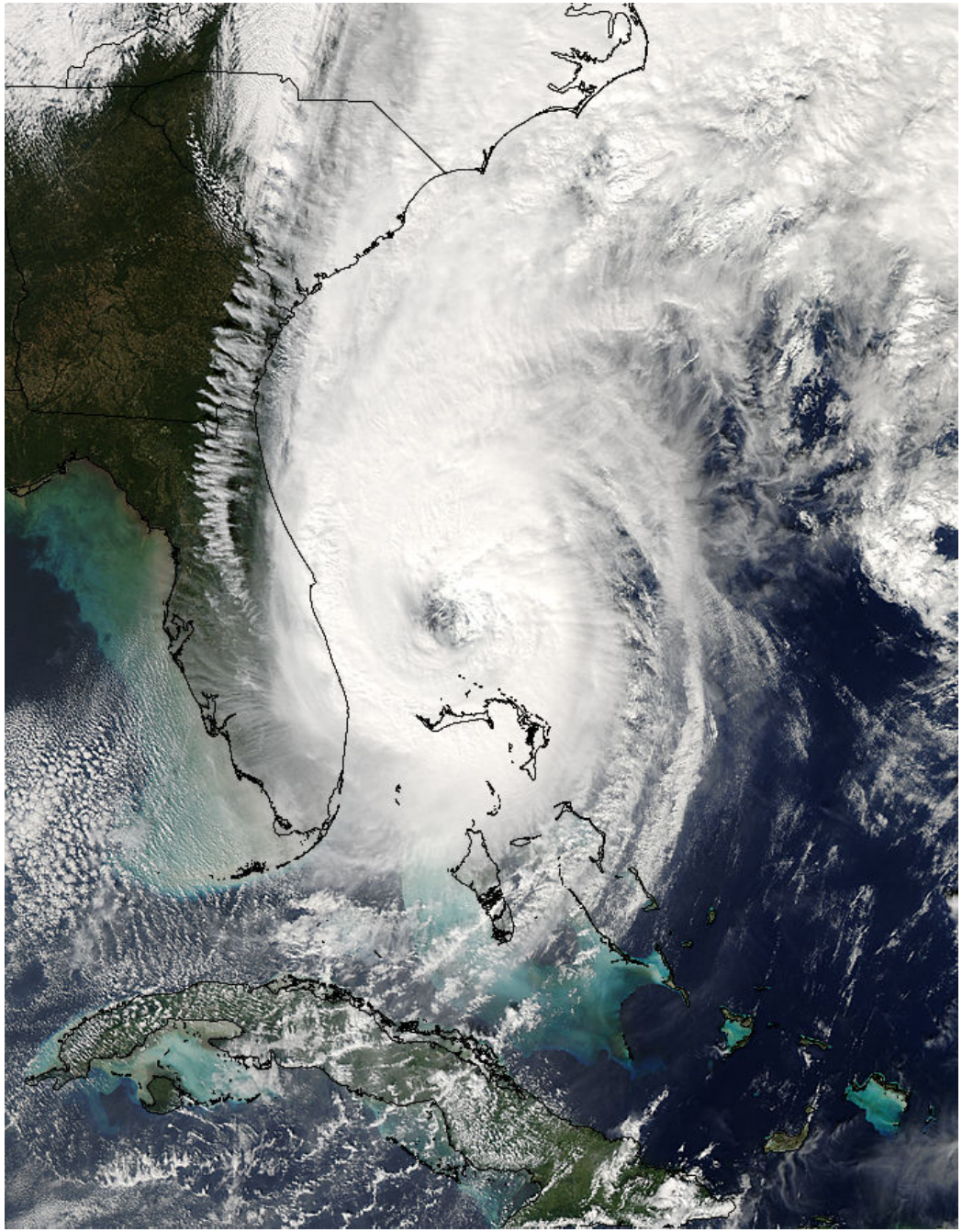

Photo courtesy of: Nasa

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Fishery Failure Determinations

- U.S. Commerce Secretary Carlos Gutierrez made two formal fishery failure determinations in recognition of the storms' impacts.

- These determinations authorized Congress to appropriate fishery disaster relief funds through multiple emergency supplemental appropriations bills.

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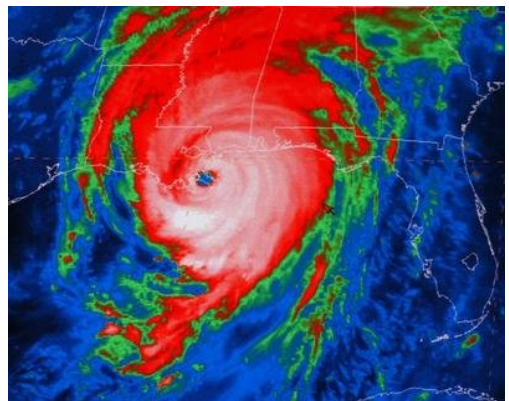
Partnerships

- Since then, NMFS has been partnering with existing fishery institutions and other interest groups to leverage available resources to conduct hurricane-related damage and impact assessments and to coordinate high-priority recovery and restoration efforts.

- Partners include state marine fishery agencies, the Gulf States Marine Fisheries Commission, the Gulf of Mexico Fishery Management Council, state universities, and affected fishermen.



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Impacts

- Derived from 2007 Report to Congress.
- Caution about making causal linkages between the hurricanes and fishery trends.
- Storms exacerbated various socioeconomic problems that existed prior to August 2005, accelerating a general regional trend of significant decline in fishery participation and production that began in 2001e.g., high fuel costs, poor market prices for domestic shrimp, fishery overcapitalization, rising insurance costs, and the erosion and conversion of waterfront property in some areas from fishing industry use to tourism-based and alternative uses.

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Organization

Report is organized around the four topical areas Congress asked NMFS to address:

Trends in fishery status, landings, capacity, and infrastructure before and after the 2005 hurricanes;

Type and extent of marine debris created by the storms;

How funds Congress provided through the fourth emergency supplemental appropriations bill are being utilized for Gulf Coast fishery restoration and recovery; and

NMFS' recommendations for how to address additional resource needs.

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Data Sources

1) Preliminary assessments developed by each Gulf Coast state at the end of the 2005 hurricane season;

2) follow-up assessments contracted by several Gulf Coast states; and

3) assessment of the impacts of Hurricane Katrina on fishing communities in Mississippi, Louisiana, and Alabama (Impact Assessment, Inc., 2007.

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Overview

- With the exception of oysters, available information indicates Gulf Coast marine resources were not significantly impacted by the 2005 hurricanes.
- Commercial and recreational fishery landings declined dramatically immediately following the storms, but also appear to be rebounding.
- Fishermen and fishing communities impacted by the storms have been less resilient.
- Many fishing vessels were damaged or destroyed and have not yet resumed operations.
- Vessels that have returned to the fisheries threatened by millions of tons of hurricane-related marine debris hazards in nearshore, coastal, and even offshore waters.

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Overview

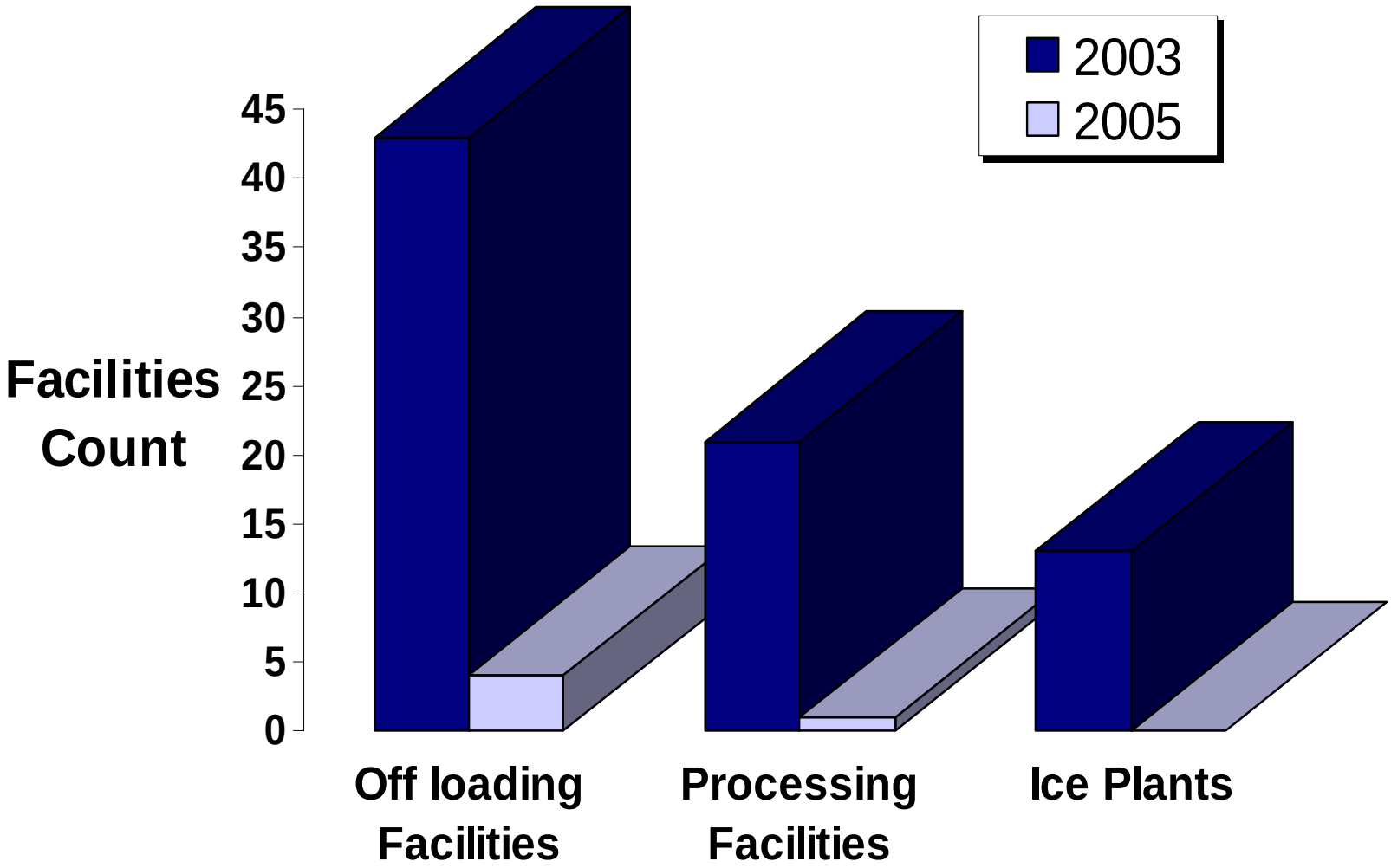
- The hurricanes caused extensive damage to fishing-related infrastructure in Alabama, Louisiana, and Mississippi, and also impacted the infrastructure and services that support Texas and Florida fisheries, albeit to a lesser extent.

- In some areas, the destruction is so complete and pervasive that long-term recovery of the fisheries may take years.


VS 9291


X Offloading Facilities
Processing Facilities
I Ice Plants Selling to Fisherma
i Small Ice Plants
"Wipe-out" Boundary
Most fishing infrastructure destroyed east of red line
Baton Rouge
New Orleans
9xPeelers (2nd largest in GOM)
WESTWEGO
5xPeelers
6xPeelers
12xPeelers (largest in GOM)
Current Fishing Centers
LAFITTE/BARATARIA
POINTE A LA HACHE
PORT SULPHUR
7xPeelers (total)
DULAC
LEEVILLE
6xPeelers
12xPeelers (total)
COCODRIE/CHAUVIN
PORT FOURCHON
GRAND ISLE
EMPIRE/BURAS
VENICE/BOOTHVILLE
ST. HELENA
WASHINGTON
LIVINGSTON
ST. TAMMANY
ASCENSION
ORLEANS
ST. BERNARD
JEFFERSON
PLAQUEMINES
TERREBONNE
LAFOURCHE

Louisiana 2003 vs October 2005



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GULF-WIDE IMPACTS-Pre and Post Hurricanes Status of Stocks

- With the exception of oysters, available information indicates Gulf Coast marine resources were not significantly impacted by the 2005 hurricanes.
- Recent NMFS survey of Gulf of Mexico (offshore) fishery populations indicated that shrimp and finfish abundance is the same or slightly higher than pre-Katrina levels (NOAA 2006).
- Some declines in estuarine finfish and shellfish species have been detected.

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OYSTERS

- Typically the fishery species most severely impacted by hurricane events in the northern Gulf. Hurricane Katrina caused extensive damage to Gulf Coast oyster beds.
- Alabama – replanting oyster reefs adversely impacted by Hurricane Ivan when Hurricane Katrina struck the Gulf Coast.
- Ivan severely damaged up to 80 percent of Alabama's oyster resources when it made landfall in August 2004. Katrina damaged about 20 percent of the recovering reefs.
- Despite storm damages to Alabama's oyster reefs, commercial oyster trips, landings, and value in 2006 were above the 2001–2004 mean. High product demand due to the loss of MS and LA product, coupled with record dockside prices, has fueled the increased harvest rate in Alabama.

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OYSTERS

- Louisiana - commercial oyster landings were 26 percent below the 2000–2004 average in the 12-month period immediately following the 2005 hurricane season, but also appear to be increasing.
- Stock assessment data collected in July 2006 indicate oyster stocks on Louisiana's public grounds declined nearly 18 percent between 2005 and 2006, primarily because of a statewide decline in market-size oyster stocks.
- However, seed oyster stocks increased in 2006, indicating the oyster resource is rebounding.

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- Florida - Commercial landings and trips decreased 32 percent and 35 percent, respectively, during the 2004–2005 fishing season compared to the 2001–2004 average.
- Mississippi - IAI (2007) estimates Hurricane Katrina destroyed 90 percent of primary oyster reefs. Commercial oyster landings declined sharply in 2005, totaling about 0.5 million pounds compared to a 2000–2004 average of about 3.4 million pounds. Declining landings trend appears to be continuing into 2006.
- Texas - Commercial oyster landings totaled about 5.0 million pounds in 2005, compared to a 2000–2004 average of 5.6 million pounds.

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SHRIMP

- Recent fishery-independent surveys conducted by NMFS indicate none of the Gulf shrimp stocks were significantly impacted by the 2005 hurricane season, and that most of the changes in catch per-unit-effort recorded in 2005 were within the range of past inter-annual variation.

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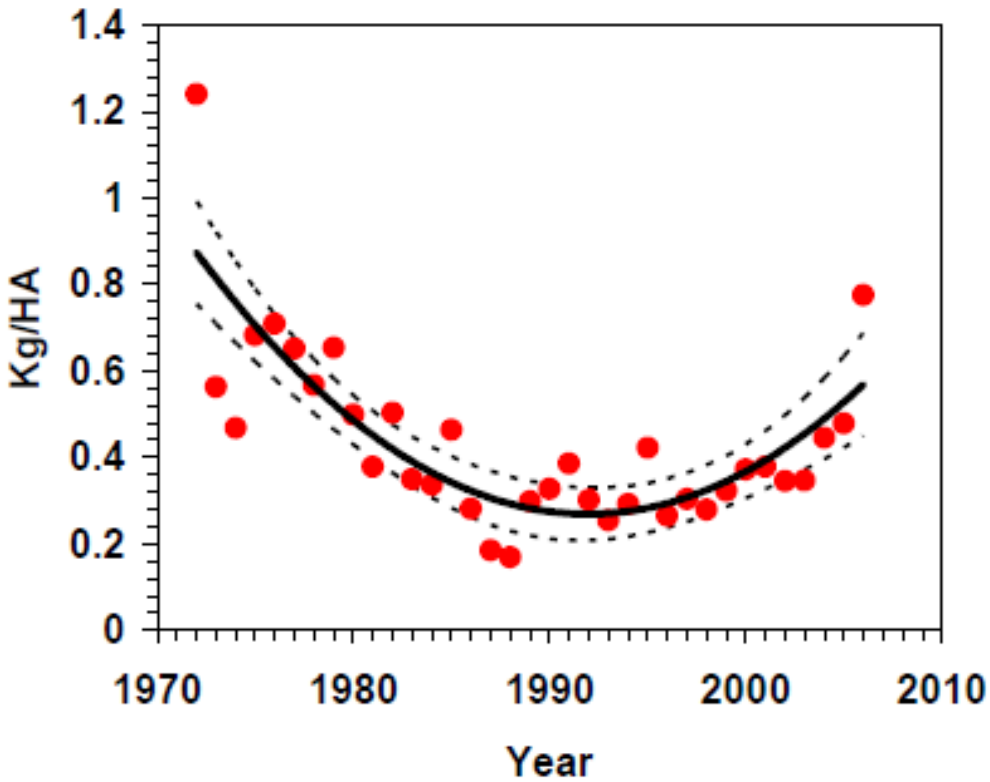
Trend analysis (1972–2006) of brown shrimp (Farfantepenaeus aztecus) biomass. Solid line Represents fitted trend and dashed lines represent 95 percent confidence limits for mean values.



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FINFISH

- Recent data collected by the NMFS Southeast Fisheries Science Center and not yet incorporated into fishery stock assessments indicate the hurricanes did not reduce the catch-per-unit-effort of finfish (in weight) or adversely affect seafood quality.

- These surveys indicate most of the changes in catch-per-unit-effort of finfish observed in 2005 were well within the range of past inter-annual variation.

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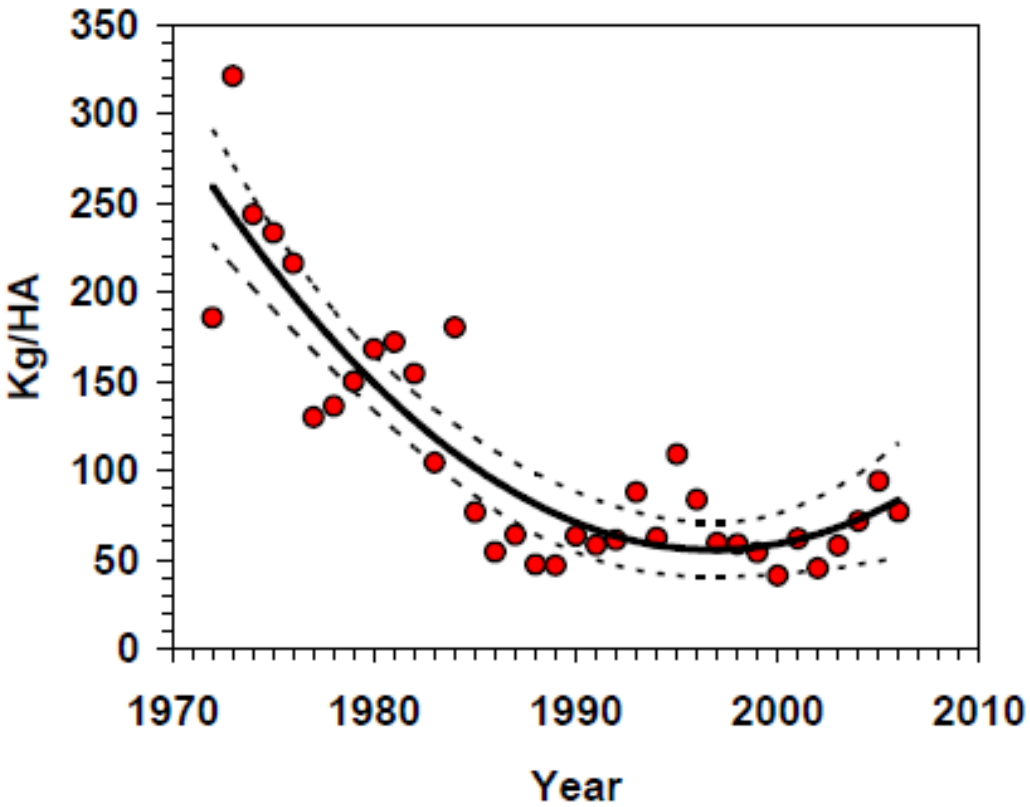
Trend analysis (1972–2006) of finfish biomass. Solid line represents fitted trend and dashed lines represent 95 percent

confidence limits for mean values.



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Crabs, Lobsters, and other Invertebrates

- Fishery-independent surveys conducted by NMFS indicate the 2005 hurricanes did not significantly impact crab populations and that most of the changes in catch-per-unit-effort recorded in 2005 were within the range of past inter-annual variation.

- Commercial landings trends of crab and lobster species appear to be driven primarily by trends in effort and other factors not associated with the storms.

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Commercial Fisheries Landings and Revenue

- Commercial landings in 2005 were the lowest during the 30-year period from 1977-2006, in part due to the extraordinary destructive hurricane season.
- Dockside revenues were noticeably lower than average during August, September, October, and November 2005.
- Revenues for all species combined returned to approximately average levels in December 2005.
- Nevertheless, for the 12 months ending in July 2006, Gulf-wide landings were 33 percent below average and dockside revenues were 14 percent below average.

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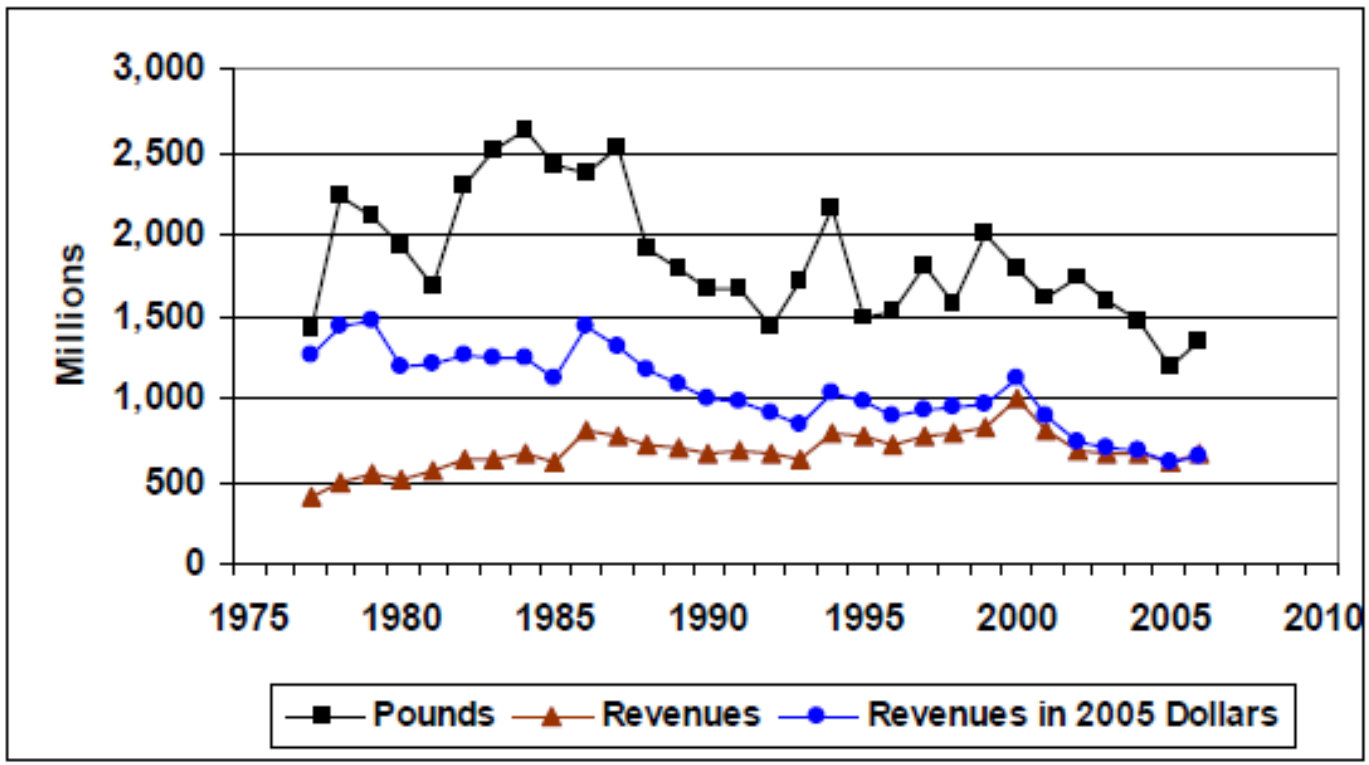
Total pounds landed at U.S. ports in the Gulf of Mexico and total dockside revenues, all species combined, 1977-2006.



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Recreational Landings and Effort

- Recreational landings in September–October 2005 declined to 57 percent of the 5-year average and remained below average until May–June 2006. Total annual landings since May–June 2006 have been comparable to the 5-year landings average.
- In 2005, 13.1 million inshore trips, 7.0 million nearshore trips, and 1.8 million offshore trips were taken.
- There was virtually no change in the number of trips taken by each mode in the year immediately following Hurricane Katrina, but the number of trips in inshore and offshore waters decreased while the number of trips in nearshore waters increased.

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Recreational Landings

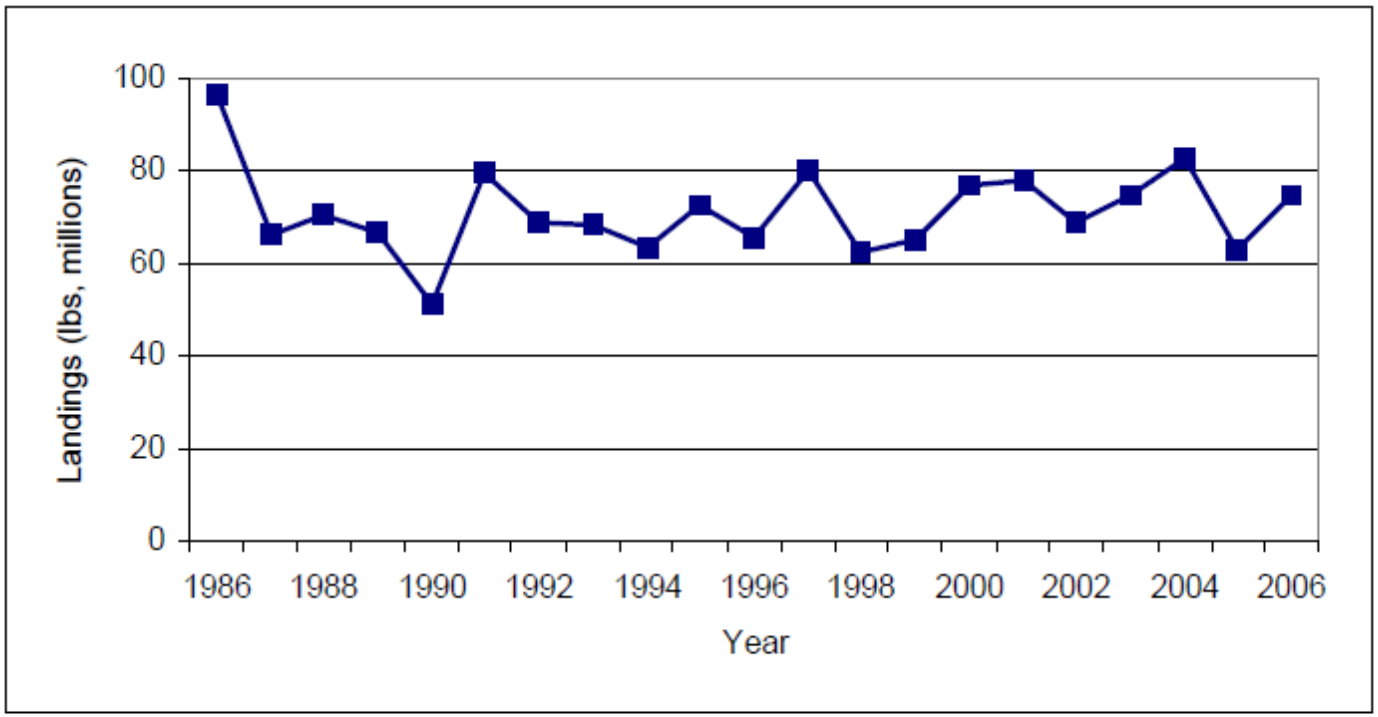

Figure 3.2-14. Total recreational finfish landings (1986–2006) by charter boats and private anglers in the U.S. Gulf of Mexico, excluding Texas.

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Recreational Trips

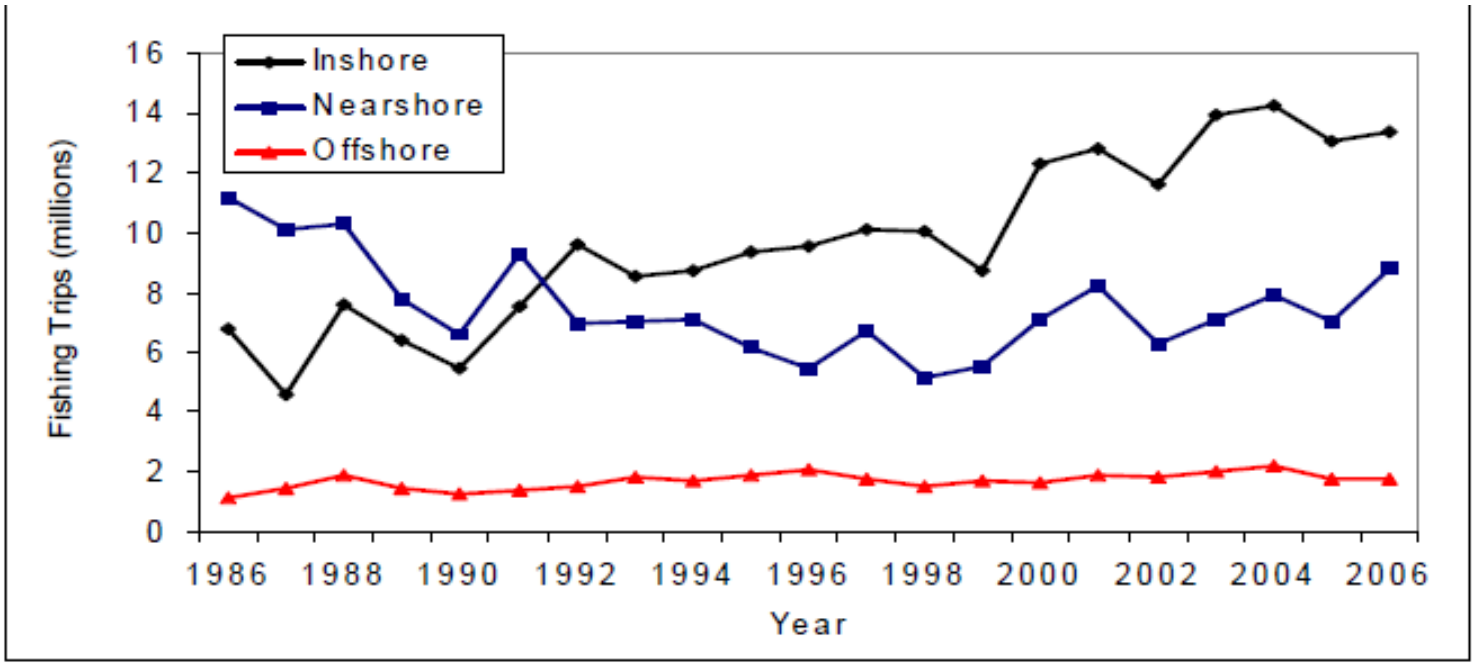

Figure 3.2-29. Total fishing trips in the Gulf of Mexico (excluding Texas) by fishing mode and year.

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Estimated Charter Boat Losses

- The National Association of Charterboat Operators surveyed 926 charter boat operators about the impacts of the 2005 hurricanes on their operations.
- Information from this survey indicates the overall projected economic loss to the charter boat fleet across all five Gulf states in the affected areas totaled an estimated $124.9 million.
- This study reported 419 charter boat vessels were affected by damaged or destroyed marinas, 97 marinas were temporarily closed, 16 marinas were permanently closed, and seven marinas were sold for private development.

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Marine Debris

- Marine debris and obstructions have significantly impacted Gulf of Mexico fisheries since the2005 hurricane season.
- The storms caused millions of tons of terrestrial debris to be washed into nearshore, coastal, and even offshore areas, adding to the wreckage of oil rigs and other permanent offshore structures.
- NOAA and other agencies have taken a number of actions to address the impacts of marine debris on Gulf of Mexico fishermen (e.g. TED exemptions).

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Marine Debris Mapping

- NOAA's Marine Debris Program, Office of Coast Survey, and NMFS have partnered with the Gulf Coast states and local fishermen to design and conduct the largest nearshore and coastal bay surveying effort ever implemented by NOAA for hazards characterization and removal.
- The NOAA project team has mapped approximately 75 percent of the 754 square nautical miles currently designated for survey.
- Over 4,000 marine debris items have been mapped.

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Marine Debris Density

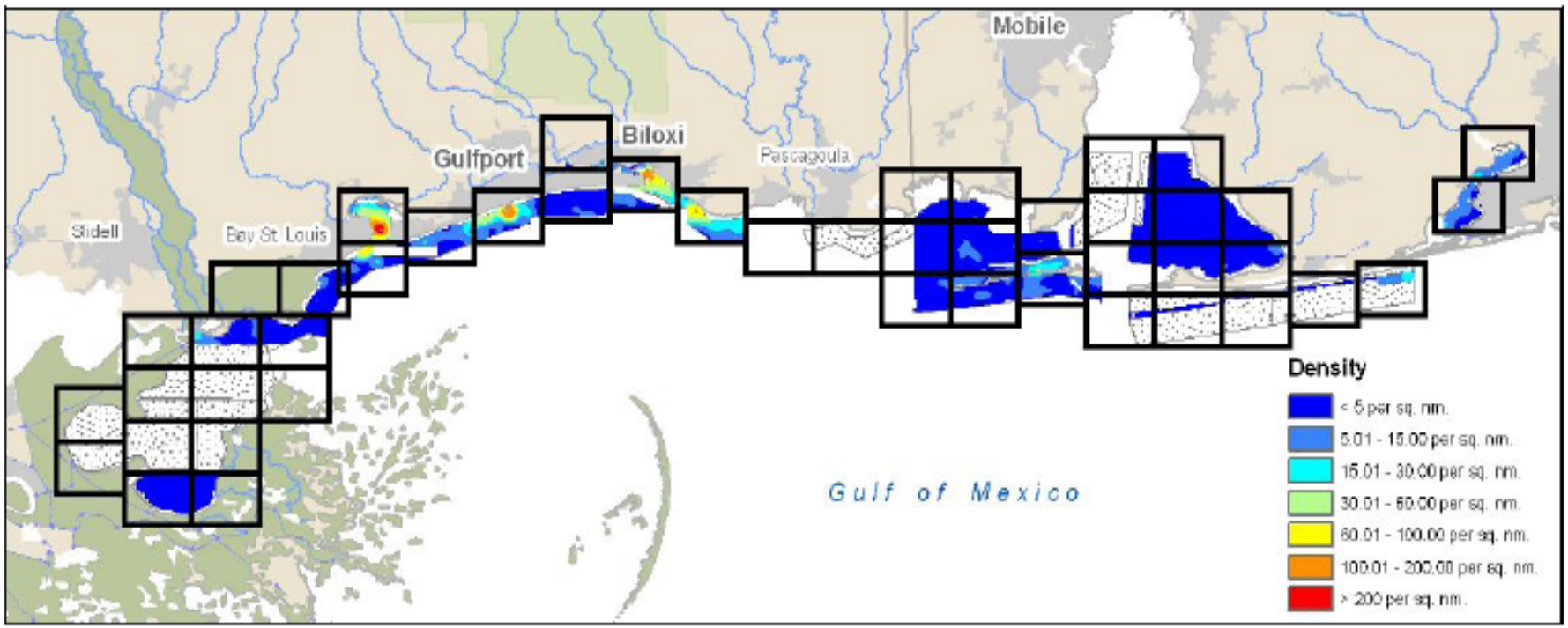

Figure 3.3-1. Density map of marine debris in areas surveyed.

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Marine Debris Removal

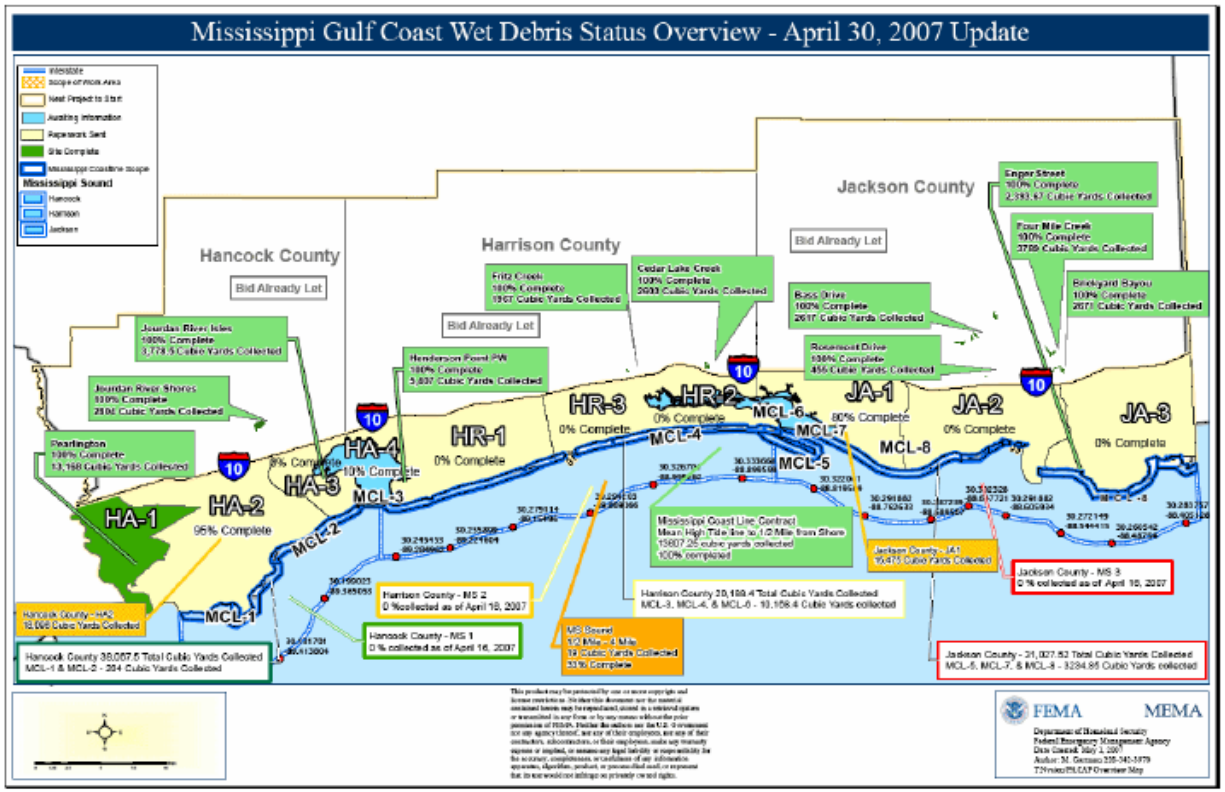

Figure 3.3-2. Status of U.S. Coast Guard marine debris removal activities as of April 30, 2007.

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IMPACT OF FOURTH EMERGENCY SUPPLEMENTAL APPROPRIATIONS BILL

- On June 15, 2006, the President signed the Emergency Supplemental Appropriations Act (P.L. 109-234).
- Fourth appropriations bill enacted since Hurricanes Katrina, Rita, and Wilma made landfall on the Gulf of Mexico coast in 2005.
- Through this act, Congress provided NOAA $188 million to assist the Gulf Coast states with ongoing recovery efforts in the Gulf of Mexico including: rehabilitating oyster beds and shrimp grounds; restoring oyster reefs; mapping for debris removal; rebuilding the NMFS Southeast Science Center laboratory located in Pascagoula.

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NOAA Recovery Plan

Four primary objectives:

1) Providing short-term relief to displaced workers employed in harvesting, processing, and recreational fishing businesses affected by the storms.

(2) Building more sustainable and profitable commercial and recreational fisheries.

(3) Improving the quality and productivity of nursery and adult habitats for fishery resources.

(4) Rebuilding essential fishing-related facilities in a way that is consistent with coastal planning efforts that improve the resiliency of coastal communities, enabling them to better withstand and recover from the effects of future hurricanes and other disasters.

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NOAA's Recovery Plan

Focuses on four major recovery areas:

Providing short-term financial assistance and other types of support services to fishermen adversely affected by hurricane events;

Restoring the infrastructure needed to support commercial and recreational fisheries;

Developing and funding capacity reduction, bycatch reduction, data collection, monitoring, and enforcement programs intended to improve conservation and management of Gulf of Mexico fisheries over the long term; and

Recovering essential fish habitat and building more resilient coastal areas supporting fish and fisheries.


Questions?