

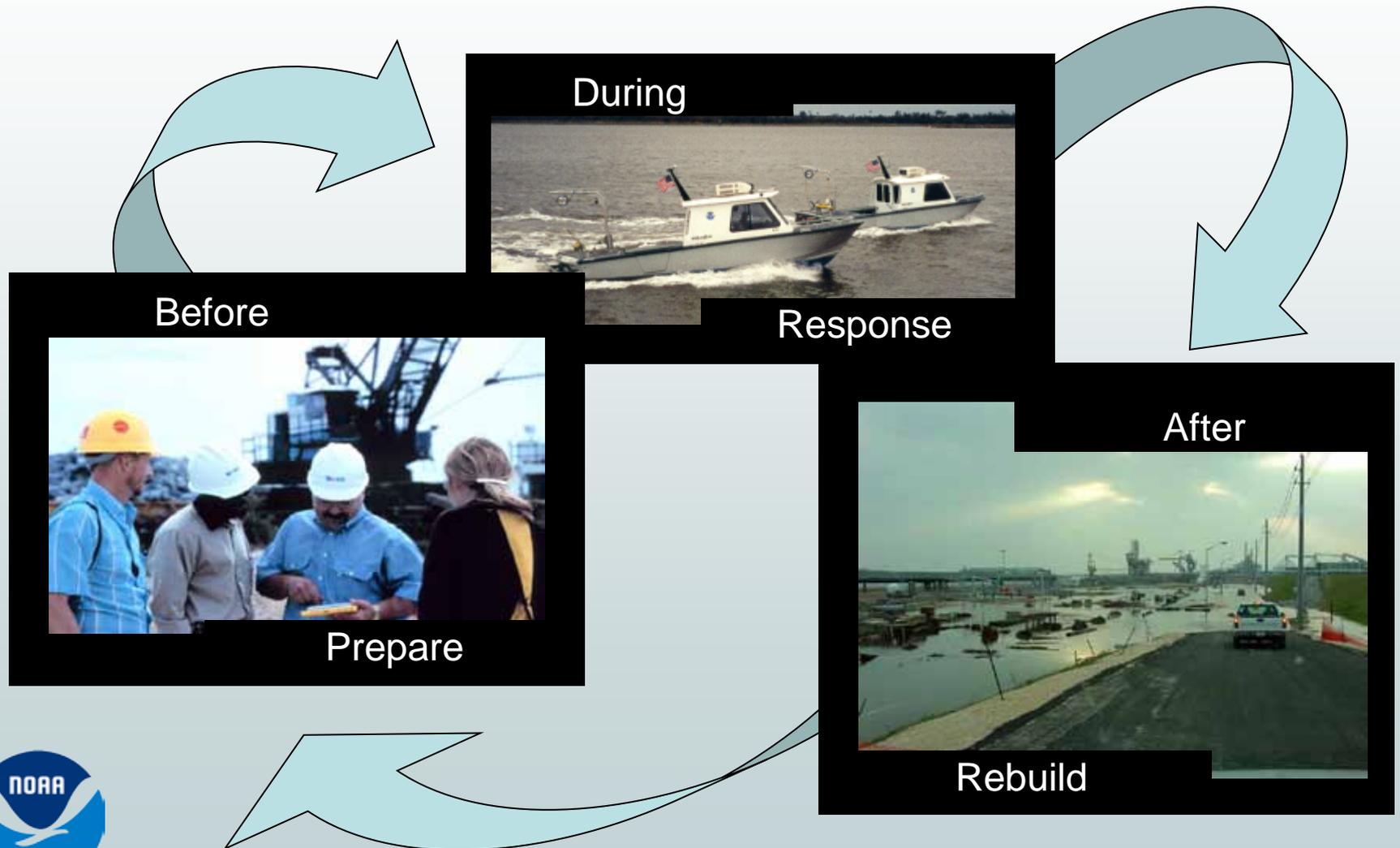


# NOAA's Integrated Response to the Gulf of Mexico Hurricane Season- A Collaborative Approach

Tim Osborn



# NOAA & Hazards



# Hurricanes Katrina and Rita



# NOAA Support to Interagency Response Effort

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- Marine Weather
- Storm Surge Models
- Water Levels and PORTS®
- Aerial Photography
- Navigation Surveys
- Hazardous Materials Scientific Support
- National Spatial Reference System
- Navigation Managers





# A NOAA-Wide Approach

- NOAA OCS Coordination, COOPS, NGS, NOS, NOAA ICC
- NOAA Coordination with USCG, COE, Ports, Pilots



# Hurricanes for the Gulf Area 2005

- Arlene
- Cindy
- Dennis
- Katrina
- Rita
- Wilma
- 2004 Season-  
Ivan



# Katrina

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# Katrina

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# Katrina

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Three stranded vessels at Bayou La Batre



# Rita

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# Rita

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# Rita



# Nav Response

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- Exceeded 2004 Hurricane Season by 10-20 times
- Virtually the entire NRT Organization with Almost all Field Personnel
- More Nav Managers and the Additional Support of NSD Staff



# Navigation Response

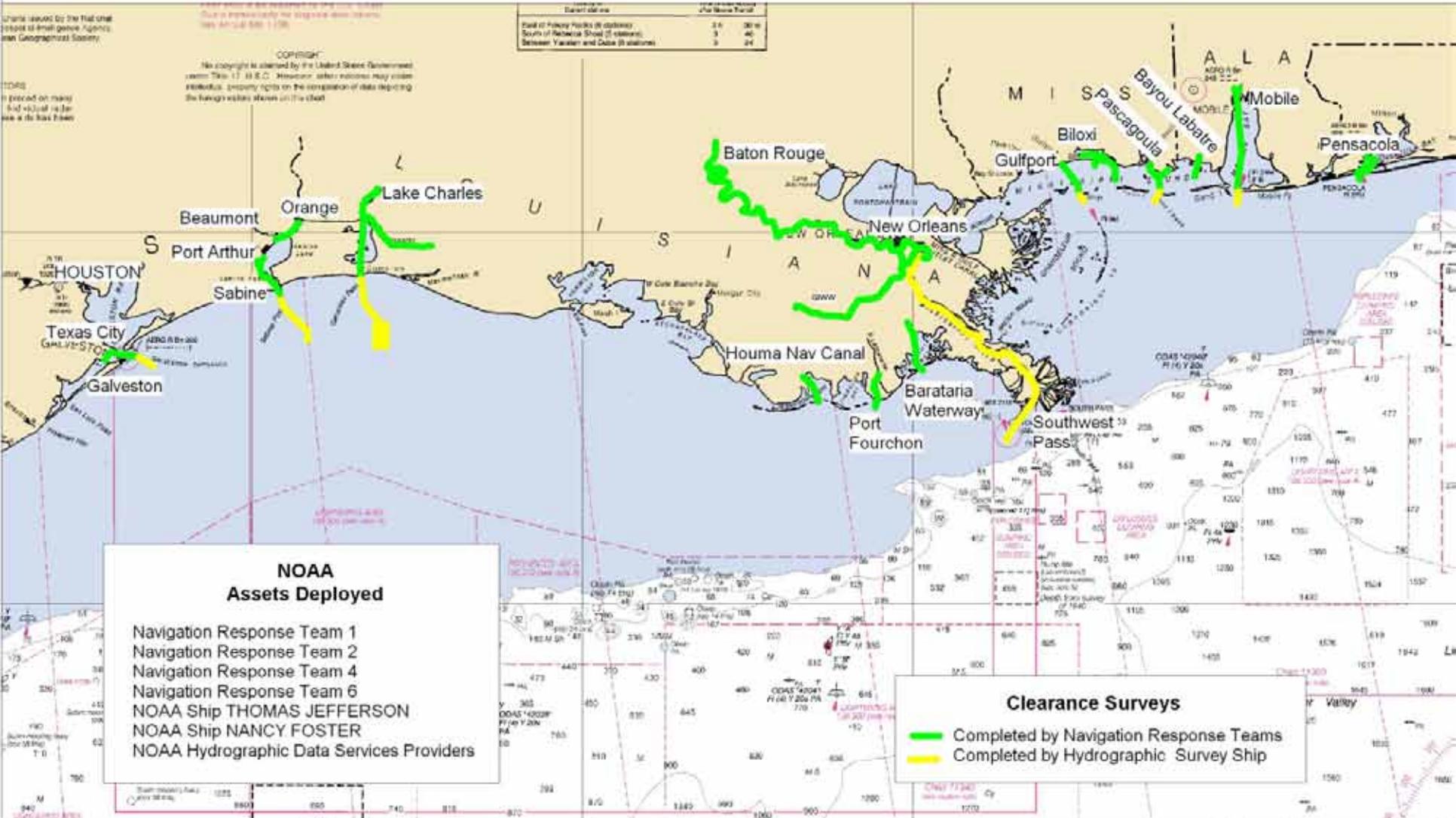
- The Use of Extensive HSD assets through Contracting
- The Use of NOAA ships Thomas Jefferson and Foster
- The Integration of all NOAA OCS and NMAO assets into one coordinated response and operational program



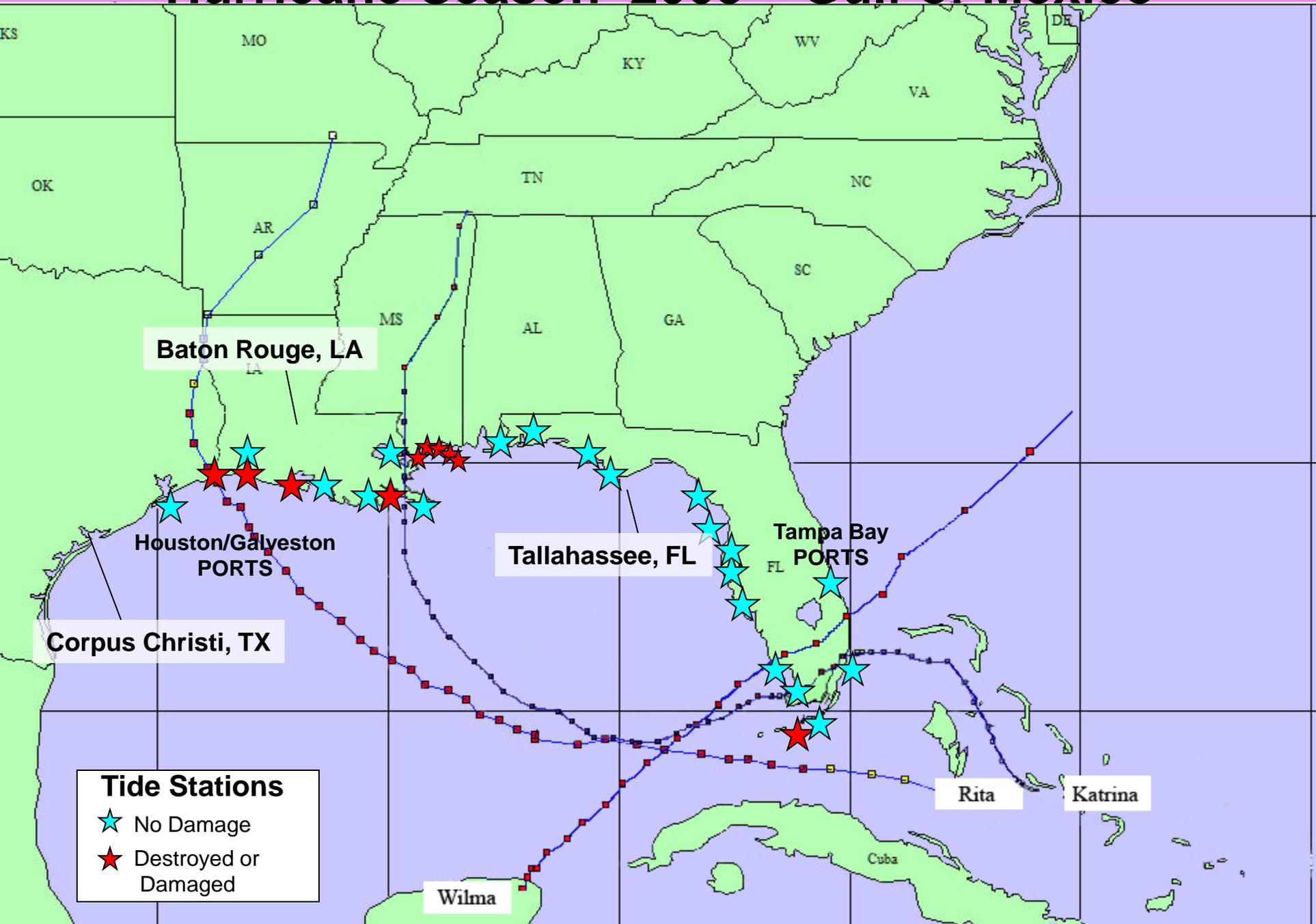


# NOAA Hurricane Katrina and Rita Response: Emergency Hydrographic Surveys In Support of Reopening Ports and Waterways

## Office of Coast Survey and Office of Marine and Aviation Operations



# Hurricane Season 2005 – Gulf of Mexico





# Water Level Support of Hydrographic Surveying

Rapid restoration of water level gauges was essential to NOAA hydrographic survey operations to restore shipping traffic in damaged ports.

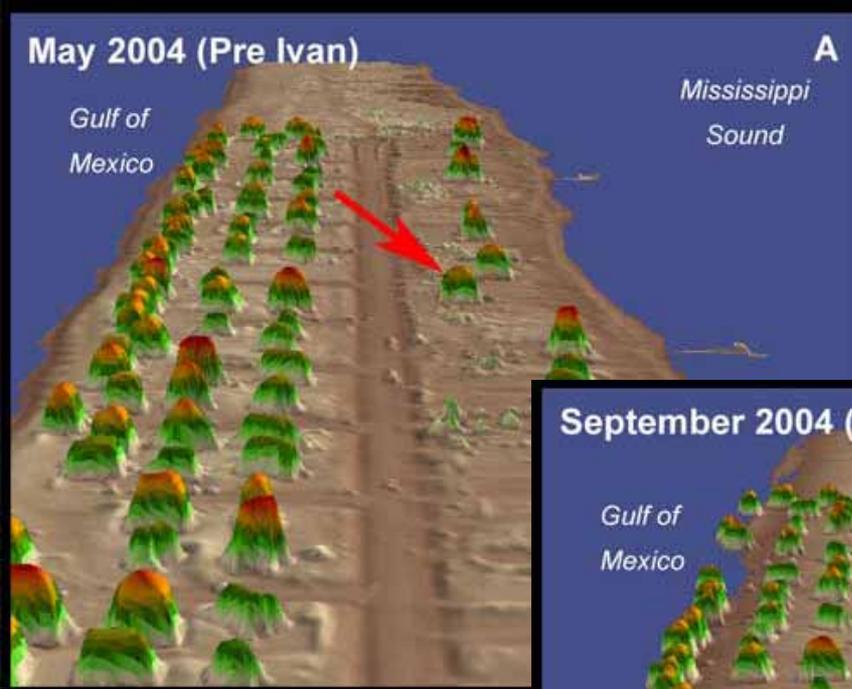


# Navigation Surveys

- NOAA deployed its teams in advance of the hurricanes to begin survey operations immediately after storm passing
- Navigation Response Teams, NOAA Ships Nancy Foster and Thomas Jefferson, and NOAA contractors surveyed rivers and ports to ensure waterways were free of hazards to navigation
- Hydrographic surveys allowed USCG and USACE to reopen ports critical ports and harbors to commercial and emergency vessel traffic sooner



# Damage from Hurricanes Ivan and Katrina



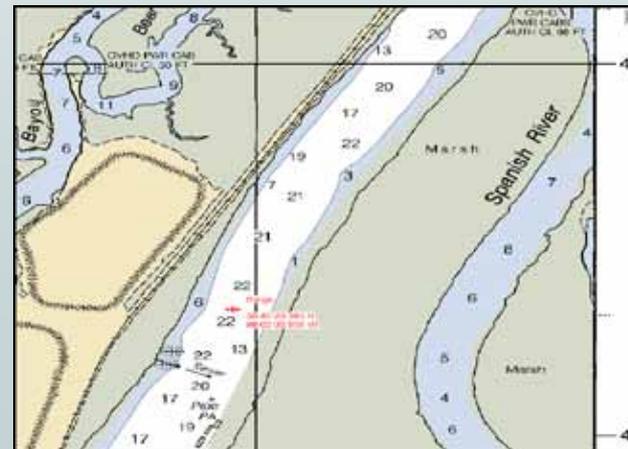
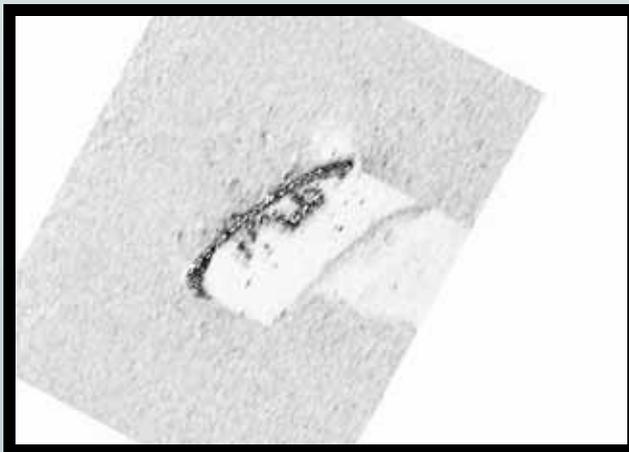
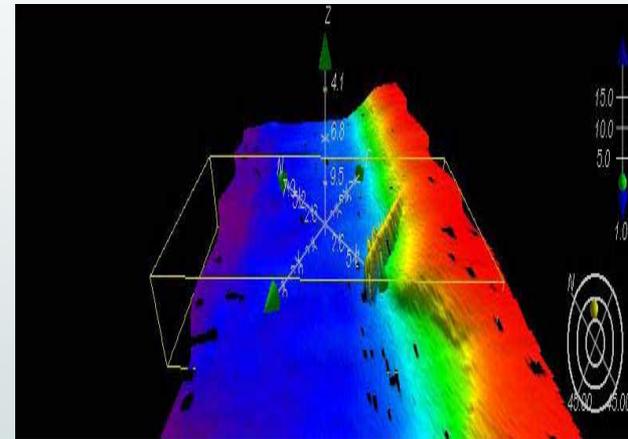
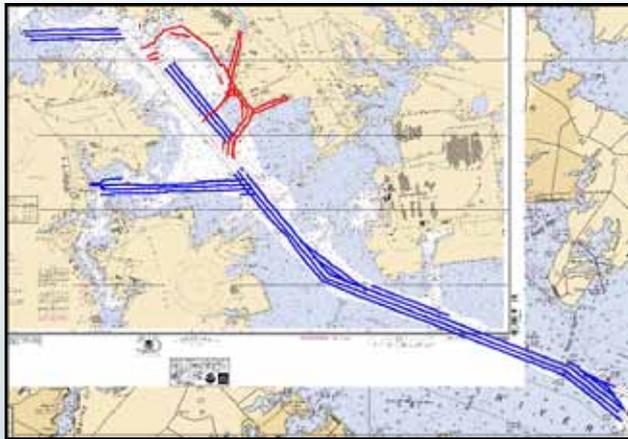
**Dauphin Island, Alabama**





# Obstructions and Salvage

NOAA coordinates closely with USCG, USACE and USN to identify and remove navigational hazards and obstructions



- Operational Support Expanded and Needed
- Placement of Hydro Officers at USCG ICCs
- Rotation of NRT field crew
- Provision of RVs and expanded field gear for extended operations in areas with heavy damage and little support
- Early Recon of Port and coastal areas for determination of Survey Capabilities



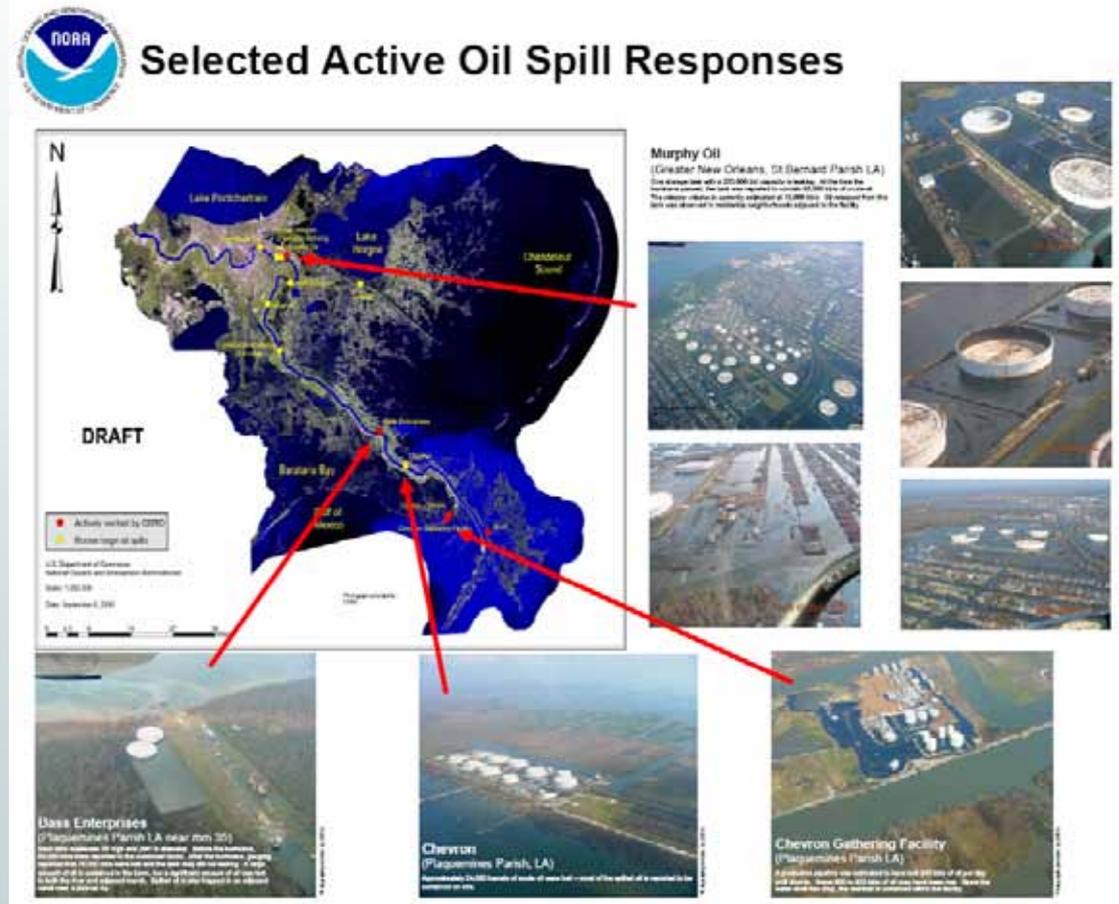
# Navigation and NRT Field Efforts

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# Hazardous Materials

- NOAA information products used for planning and response operations throughout impact region
- Continue to work with Federal, State, and local agencies to identify, assess, prioritize, and mitigate oil and hazardous material spills
- Providing guidance on vessel salvage, conducting shoreline cleanup assessments, and collecting information to assess impacts to natural resource from spills



# The Regular Day Job

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- Barge and Oil Spill- Lake Charles
- Atchafalaya Surveys
- Fourchon Surveys
- Navy Survey Areas Work
- NRT Field Work and ENC Validation
- COOPS and NGS coordination



# Navigation Hazards and Debris

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- Large Collection of Reports
- Coordination with USCG, COE, Ports, ORR and others
- Large Need for Surveying and Charting
- Continued Refinement of Surveying and Disposition



# Living with AI

- Eat
- Sleep
- Snore
- Save your Sanity



# But it wasn't all about AI

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# There was a Team Effort

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# Conclusion

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Hurricane 2006 Season starts in less than 2 months

- Partnerships were critical in helping NOAA respond to the Hurricane 2005 Season
- Partnerships will be critical to effective interagency responses to future events



Alberto?

Beryl?

Chris?

