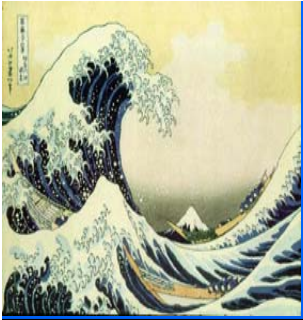


A large, dark-colored offshore supply vessel is shown from a high-angle perspective, navigating through a rough, choppy sea. The vessel's deck is visible, featuring several white lights and a complex structure of masts and antennas. The water is a dark, turbulent blue-grey, with white foam from the vessel's wake visible in the foreground. The sky is a uniform, overcast grey.

**Testimony of
Dr. Cortis Cooper, Fellow & Oceanographic Expert
Energy Technology Company, ChevronTexaco**

**before the
House Subcommittee on Fisheries Conservation,
Wildlife & Oceans**

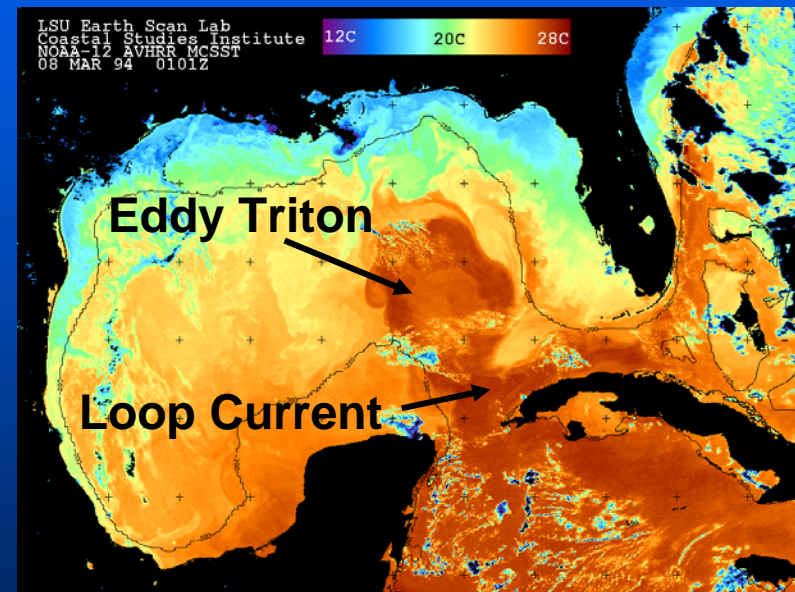
**On
A User's View of the Integrated Ocean Observing
System (IOOS) in the U. S.**



Major Ocean Concerns in the Gulf of Mexico



Hurricane Andrew

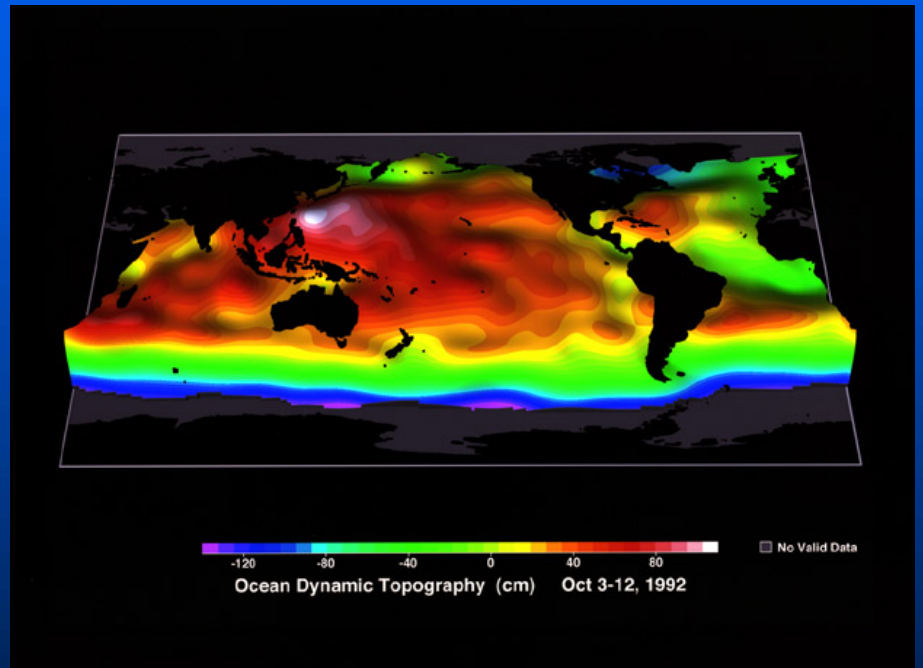


Eddy Triton & the Loop Current



IOOS Products of Interest to Oil Industry

- Currents, wave, wind measurements
- Satellite products from Altimeter, Color Scanner, and SAR
- Data management & archival infrastructure
- Ocean current forecasts



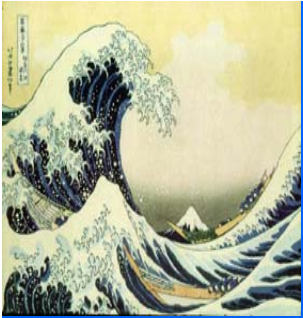
Sea surface height from Topex altimeter



IOOS Potential Benefits to the Industry

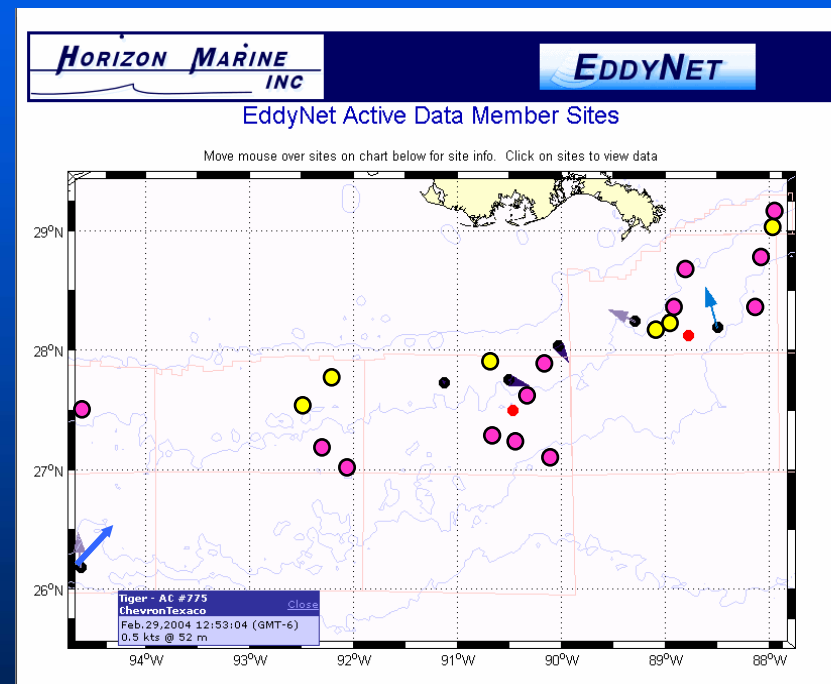
- IOOS could improve
 - Storm & Loop forecasts
 - Oil spill response
 - Design & operational efficiency
- IOOS could
 - Reduce loss of life
 - Reduce spill impacts
 - Reduce downtime
 - Reduce capital costs
 - Improve competitive position of U.S. offshore oil production





Possible Cooperation

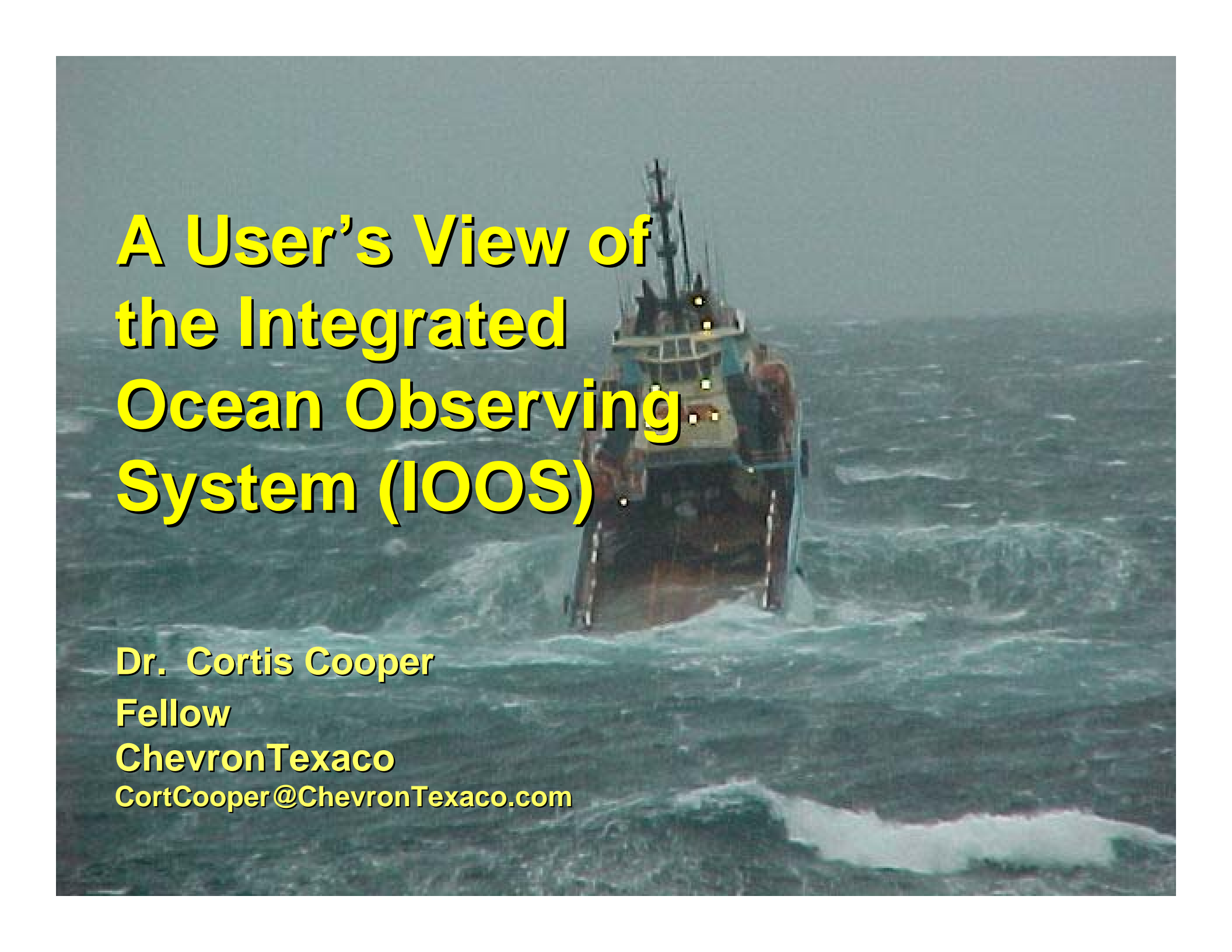
- Offshore platforms
- Industry data
- Inhibitors to cooperation
 - Costs
 - Competition
 - Liability
- Cooperation to be investigated at Workshop



Industry deepwater current profile sites



Detailed Presentation

A large offshore oil rig is shown at sea in rough weather. The rig is a complex structure with multiple levels and a central tower. It is surrounded by dark, choppy water with white-capped waves. The sky is overcast and grey. The rig's lights are visible, and it appears to be in the middle of an operation.

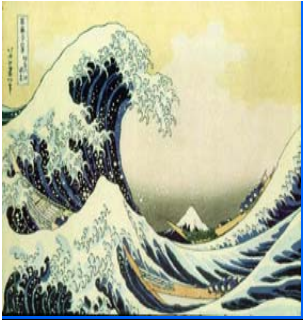
A User's View of the Integrated Ocean Observing System (IOOS)

Dr. Cortis Cooper

Fellow

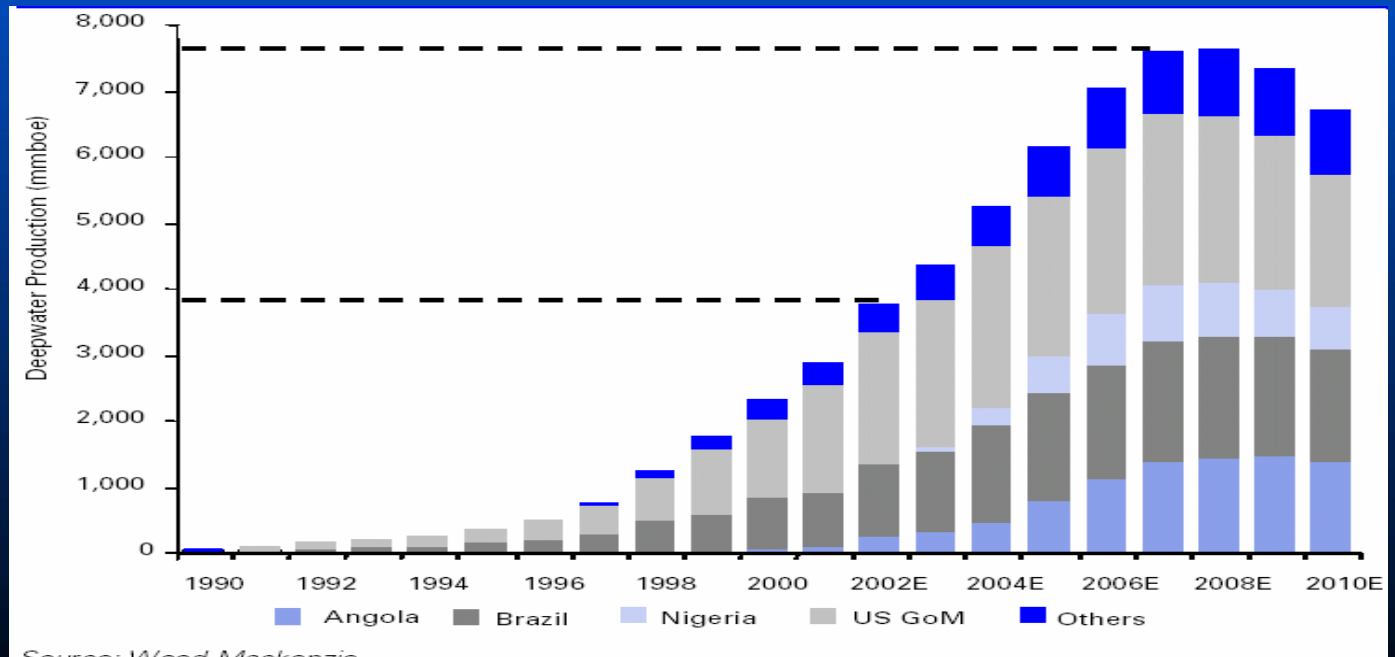
ChevronTexaco

CortCooper@ChevronTexaco.com



Offshore Production Increasing

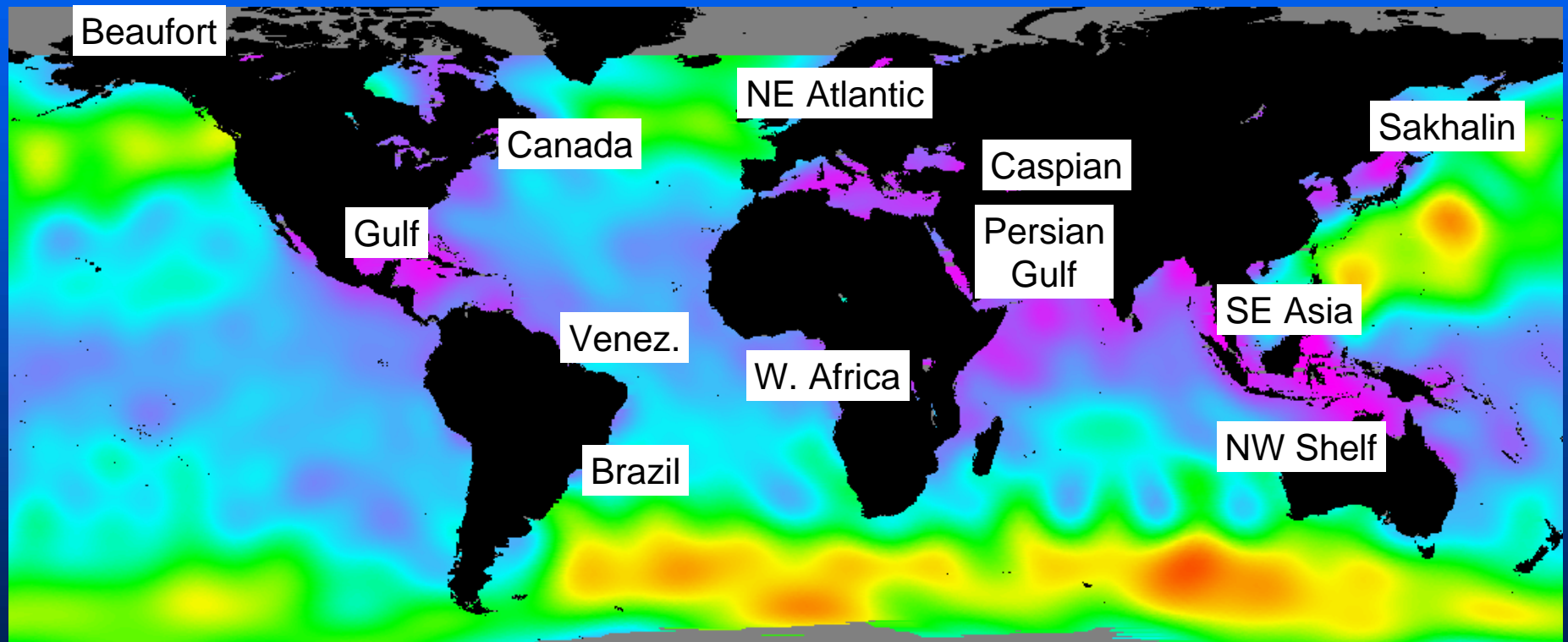
- 30% U.S. oil production is offshore & increasing
- Going to deeper water



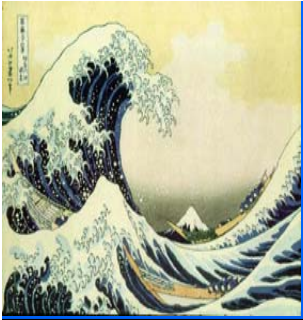
Source: Wood Mackenzie



Offshore Regions of Interest



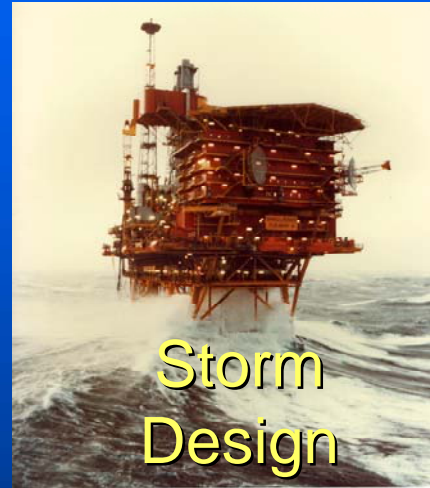
Gulf of Mexico is the primary U.S. offshore region with substantial activity



Industry Needs for Ocean Data



Fatigue



Storm Design



Operations



Downtime Analysis



Pollutant Fates



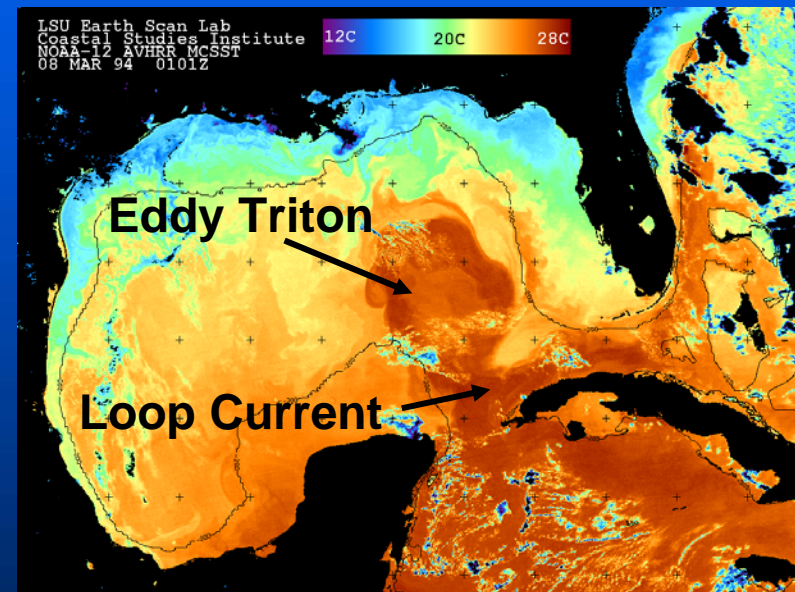
Tows



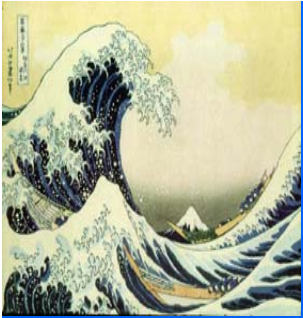
Major Ocean Concerns in the Gulf of Mexico



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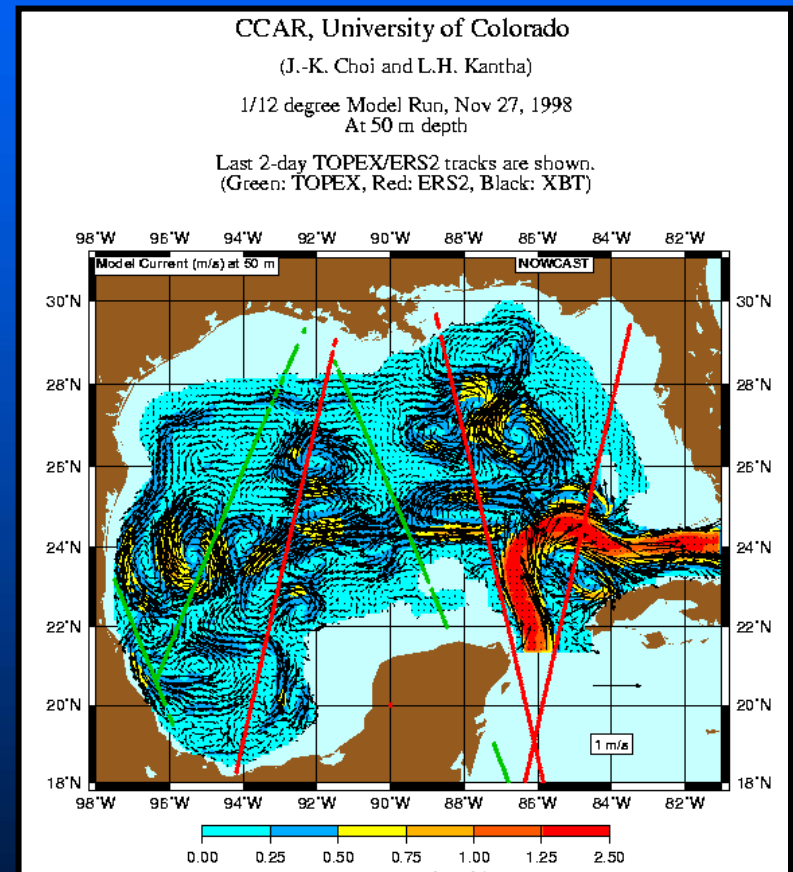


Eddy Triton & the Loop Current



History of U.S. Oil Industry Ocean Data Collection

- 1960's: Set up 1st wind/wave monitoring network in Gulf of Mexico
- 1970's: Developed wind/wave hurricane hindcast model
- 1983: Began measuring Loop Current
- 1995: Began modeling Loop Current
- 2000: Yucatan through flow measurements
- 2002: Began EddyNet
- 2004: MMS requiring deepwater current measurements

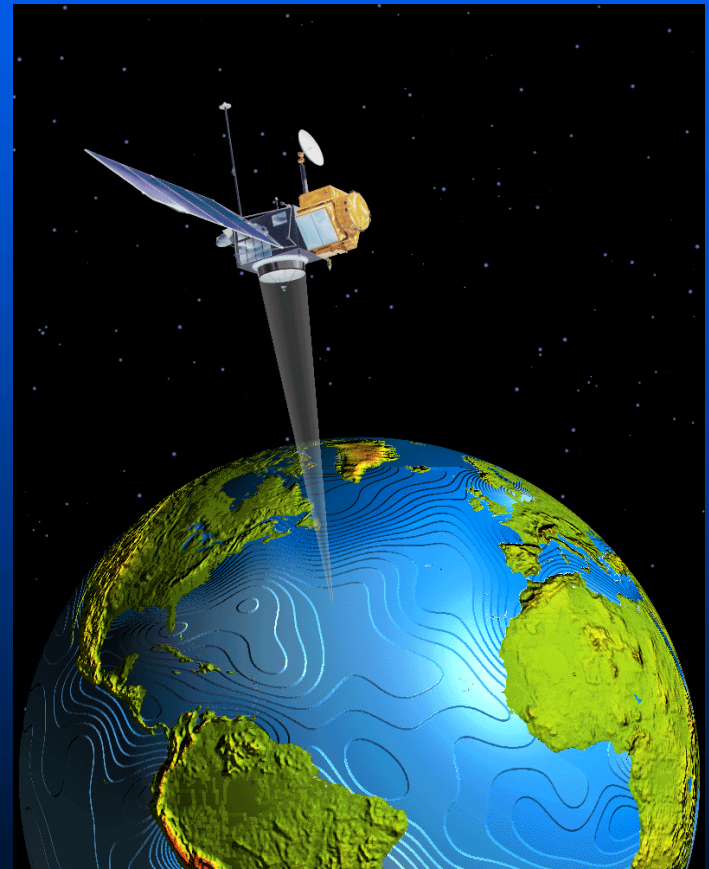


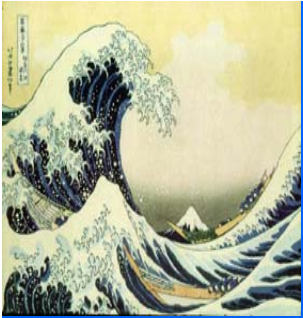
UC numerical forecast model



Key Existing Govt. Ocean Products & Instruments

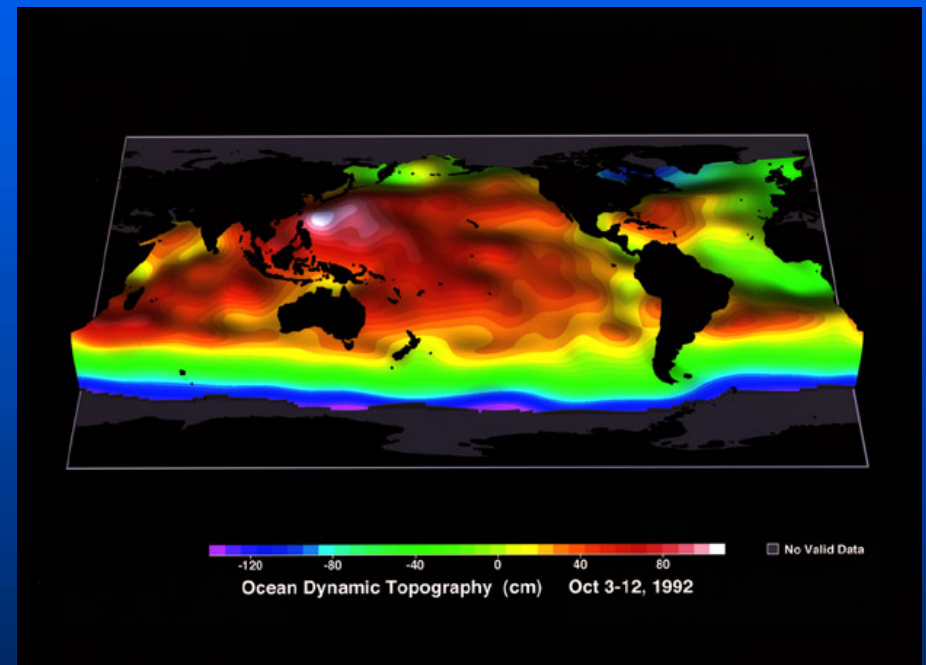
- NWS hurricane tracking & forecasts
- NWS offshore weather forecasts
- NOAA weather satellites
- NASA experimental satellites
- NOAA buoys (NDBC)
- MMS current measurements

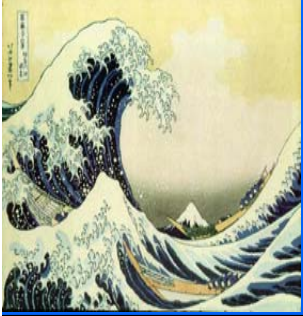




IOOS Products of Interest to Oil Industry

- Currents, wave, wind measurements especially real-time
- Satellite products especially near real-time altimeter, Color Scanner, and SAR
- Data management & archival
- Current modeling nowcasts/forecasts

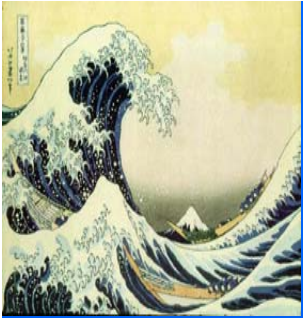




IOOS Potential Benefits to the Industry

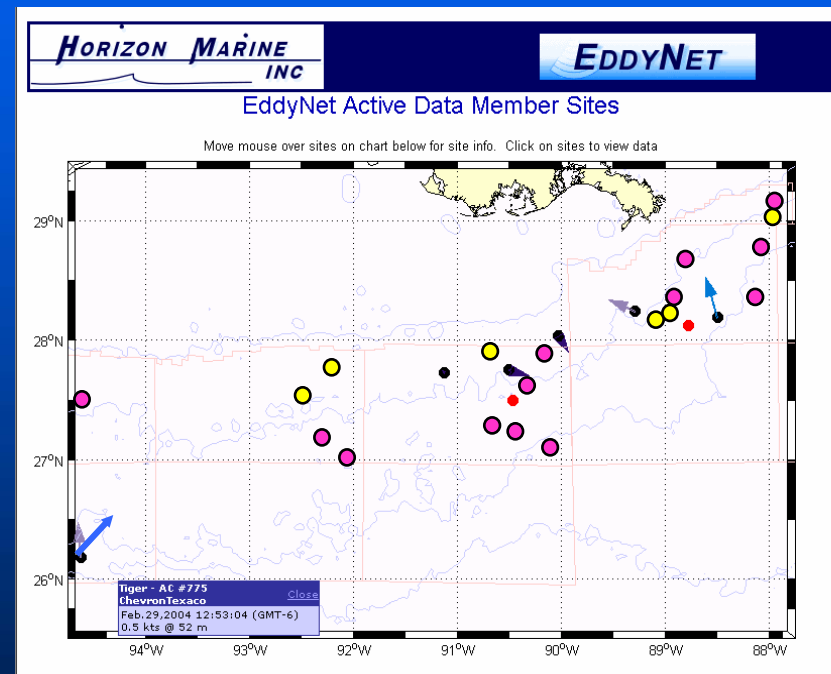
- IOOS could improve
 - Hurricane & storm forecasts
 - Loop Current/eddy forecasts
 - Oil spill response
 - Design & operation efficiency
- IOOS could reduce potential for
 - Loss of life
 - Accidental spills
 - Operational downtime
 - Capital costs for new facilities
- Net Result: improved competitive position for U.S. oil production



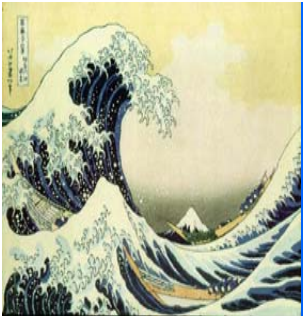


Oil Industry's EddyNet

- Rig-mounted current profilers
- Displayed on Web in real time
- 8 sites; ~50 by 2005
- Focus on deep water

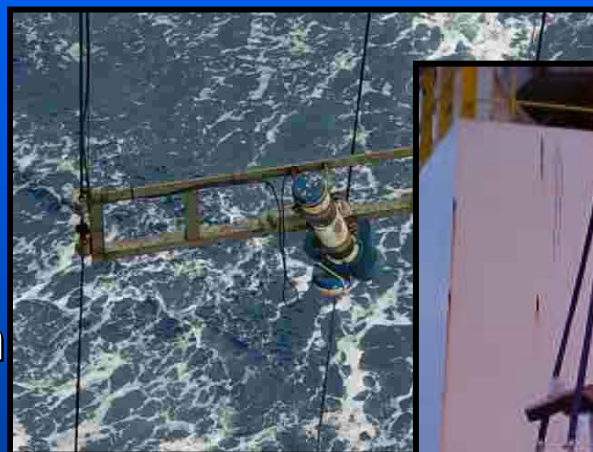


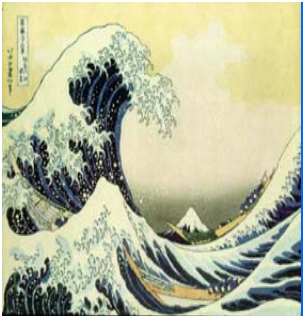
↓ Indicates existing site, ● future site, ● Shell site



New MMS Requirements

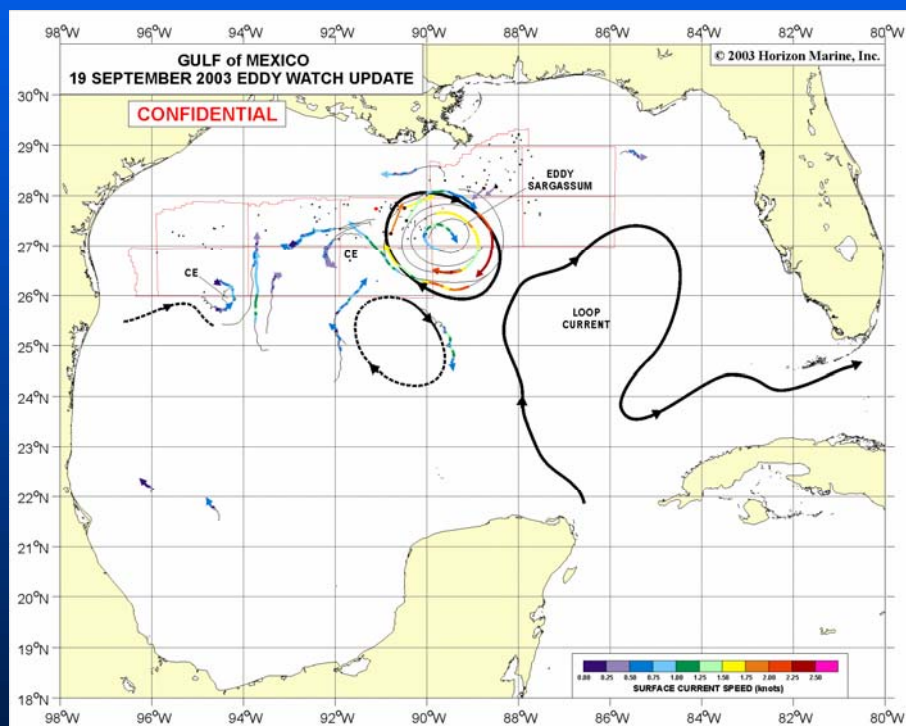
- MMS to require current measurements at nearly all deepwater rigs in Gulf
- To begin in 2005
- ~50 sites to be posted on single web site
- Industry plans to hold workshop this fall
 - Coordinate Industry efforts
 - Investigate IOOS & NOAA cooperation

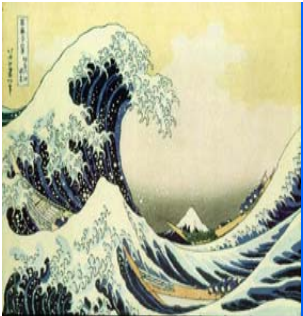




Possible Cooperation

- Offshore Real Estate
 - 3000+ platforms in Gulf
 - We have infrastructure
- Industry Data
 - EddyNet
 - MMS requirement
- Key Inhibitors
 - Why give away our costly data to competitors?
 - Costs
 - Liability





Summary: Industry & IOOS

- Benefits will be in Gulf of Mex.
- IOOS could help improve
 - hurricane forecasts
 - Loop Current forecasts
 - Oil spill response
 - Downtime & capital expenses
- Industry could possibly offer
 - 3000+ platforms
 - Logistical support
 - D/W current data (EddyNet)
- IOOS could offer
 - Instrumentation
 - Maintenance
 - QA/QC
 - Archival
 - Distribution
 - More real-time satellite products

