NIMSAT

NATIONAL INCIDENT MANAGEMENT SYSTEMS AND ADVANCED TECHNOLOGIES

UNIVERSITY OF LOUISIANA AT LAFAYETTE

Collaborative Scientific Research Opportunities Relative to the Gulf Oil Spill:

Economics, Policy and Decision Support Systems

CONNECTING FOR A RESILIENT AMERICA

WWW.NIMSAT.ORG

OCTOBER 28,2010

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Conversation Outline

- *Who we are?*
  - *The NIMSAT Institute Mission*
- *NIMSAT & the LA BEOC: Supporting disaster management in Louisiana*
  - *What did we do during the Oil Spill?*
- *What did we find?*
- *What opportunities exist for collaborative research? What have we done so far?*
  - *Gulf Research Institute of Louisiana*
- *Where do we go from here?*

LA BEOC
Louisiana Business Emergency Operations Center

GULF RESEARCH INSTITUTE
LSU Louisiana State University
The University of New Orleans
Tulane University
University Louisiana Lafayette

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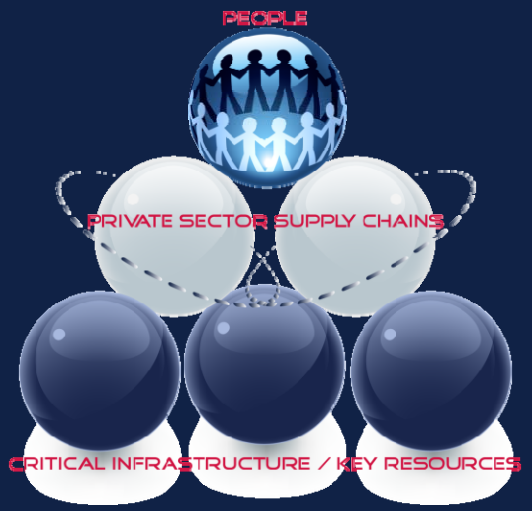
What we are?

Mission

The mission of the Institute is to enhance national resiliency to disasters… by conducting research leading to innovative tools that empower the homeland security and emergency management community through education, training, outreach and operational support.

The Institute seeks to improve the nation's resiliency by enhancing our understanding of the interconnections between critical infrastructures that support our private sector supply chains, our communities, and our way of life.



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NIMSAT Institute

Response to Gustav/Ike

- **Public-Private Partnerships**
  - *Mobilized products and services from private sector*
    - *Mobile food kitchen (savings, service)*
    - *$23.8 million dollars donations*
  - *Enhanced situational awareness from the private sector*
    - *Wal-Mart shortages of fuel*
- **Economic Consequence Assessment**
  - *Reported disruptions to operating capacity of 120 critical assets*
  - *Economic impact to Oil & Gas industry: $7.6B - $8.3B*
- **After Gustav, Ike**

LA BEOC
LOUISIANA BUSINESS EMERGENCY OPERATIONS CENTER

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LA BEOC
LOUISIANA BUSINESS EMERGENCY OPERATIONS CENTER

Mission

- *To support disaster management in Louisiana by*
  - *Developing an accurate understanding of economic impacts to critical infrastructures and major economic drivers*
  - *Coordinating businesses and volunteer organizations with the public sector*

- *Through the Louisiana BEOC, the State of Louisiana will*
  - *Improve disaster preparedness and response*
  - *Reduce reliance on FEMA and other federal assistance*
  - *Maximize business, industry and economic stabilization*
  - *Return the business environment to normal operations quickly*

Governor's Office

LED LOUISIANA ECONOMIC DEVELOPMENT

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SDMI Stephenson Disaster Management Institute

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LA BEOC

Response to the Gulf Oil Spill

- Team from LED, NIMSAT, LSU, Tulane calculated economic impact of spill
- Modeled volume of the spill daily
- Identified & Mobilized private sector resources (boom, skimmers, etc.)
- Custom LA BEOC web portal; scientific committee

"If businesses have a specific type of technology that our experts think can be incorporated into the emergency response operations—we are asking them to be deployed immediately… (through the LA BEOC)"
Governor Bobby Jindal, deploying the LA BEOC

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LA BEOC Response

Economic Impact Assessments

- Team from LED, NIMSAT, LSU, Tulane calculated economic impact of spill
  - *Fisheries*
  - *Tourism and recreation*
  - *Transportation (waterways) and ports*
  - *Ecological assets (e.g., wetlands)*
  - *State "brand" issues (e.g., reduced business investment)*
  - *Oil & gas (e.g., regulatory response)*

Not in a position to talk about the numbers and models

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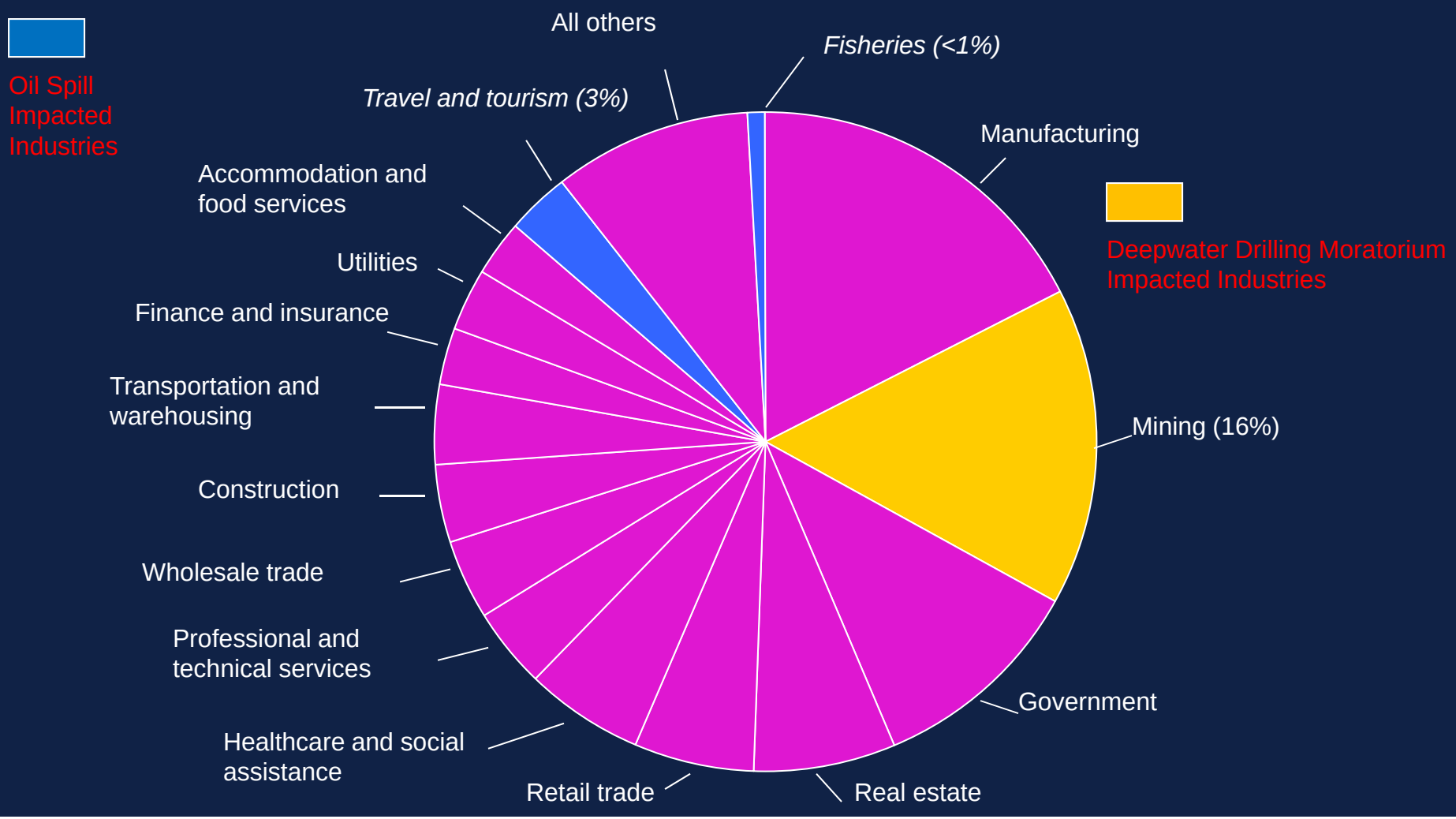
LA BEOC Response

Economic Impact Assessments – Why Moratorium Mattered?



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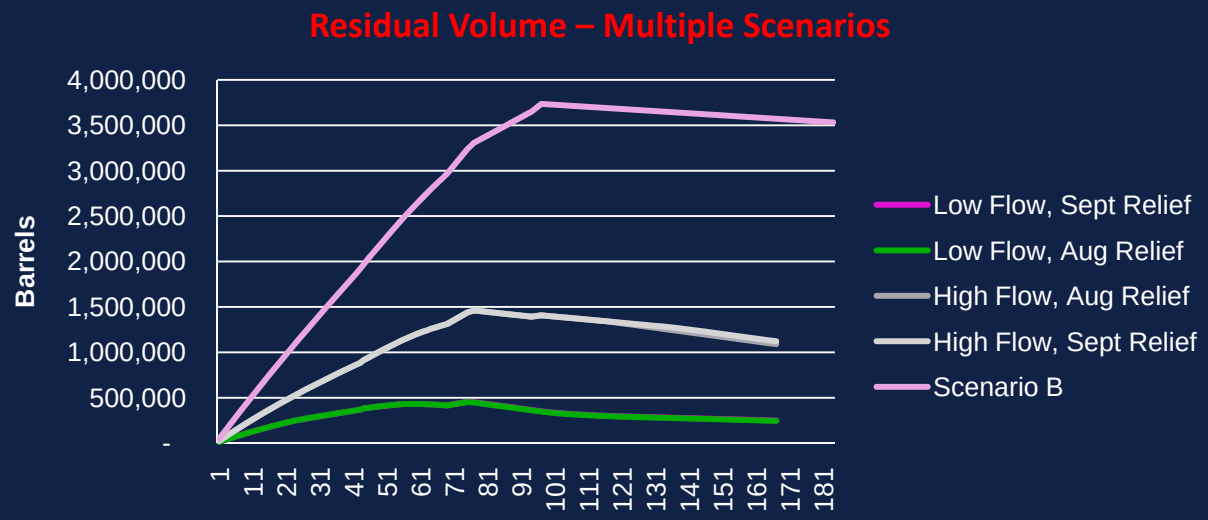
LA BEOC Response

Volume of Spill

Larger than Ixtoc (3 million barrels) or Exxon Valdez (750K barrels). Federal team of scientists led by Energy Secretary Steven Chu and USGS Director Marcia McNutt estimates 4.9M barrels released

- 17% recovered directly from well head (833K barrels)
- 5% burned (245K barrels); 3% skimmed (147K barrels)
- 8% chemically dispersed (392K barrels); 16% naturally dispersed (784K barrels)
- 25% evaporated or dissolved (1.2 million barrels)
- 26% residual (1.3 million barrels)



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LA BEOC Response

People with innovative ideas, products, services…

- Established the LABEOC website to receive, catalog, and respond to innovative ideas & offers of products and services:
  - ✓ Coastal Resource Protection
  - ✓ Dispersal & Skimming
  - ✓ Fish & Wildlife
  - ✓ Remediation & Recovery
  - ✓ Well shut off efforts
  - ✓ Booms
  - ✓ Other

- Send categorized ideas to BP/USCG and government (state/parish) officials everyday.
- Established a statewide science panel to evaluate ideas. The science panel included experts from multiple universities throughout the state.
- Panel recommendations are sent to BP/USCG daily.

1554 proposals reviewed and analyzed

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LA BEOC Response

What Did We Find?

- Economics
  - *Telling the story: national consequences are important to capture*
- Policy
  - *Louisiana and (most) Gulf communities love/need Oil: Drilling Safety*
  - *Incident Command & Management: "Oil Spill Act" versus the "Stafford Act"*
    - *NEMA: Small incidents can be managed by spill coordinators, but large incidents need "Incident Managers"*
- Disaster Management/Decision Support Systems
  - *Most Supply Chains were created ad-hoc*
  - *Too much dependency on BP: "Fox guarding the hen house" – volume of spill; response expertise*
    - *Need for broad-based/industry-wide public-private partnership*

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What have we done?

GRI for a Resilient Louisiana: 3 Themes

GULF RESEARCH INSTITUTE

LSU LOUISIANA STATE UNIVERSITY

THE UNIVERSITY of NEW ORLEANS

Tulane University

UNIVERSITY of LOUISIANA Lafayette

Energy and Environment: Explore the impact of the spill on Louisiana's coastal ecosystems and the environment. The outcomes of this research will inform future approaches to mitigation, monitoring, and remediation, as well the long-term strategic development of a sustainable Louisiana coastline.

Health and Society: Explore the impact of the spill on at-risk communities and populations. The outcomes will enhance our understanding and shape the most effective public health approaches to meet immediate needs and to manage incidents in the future.

Safety and Policy: Explore risk mitigation, workforce development, safety training, and emergency management issues related to both public and private sector organizations that will be necessary to operate within the post-Deepwater Horizon regulatory environment. The outcome of this research will inform future approaches and strategies related to economic, organizational, and workforce development necessary for Louisiana to continue to lead the nation in responsible, safe, and productive 21st century deepwater drilling.

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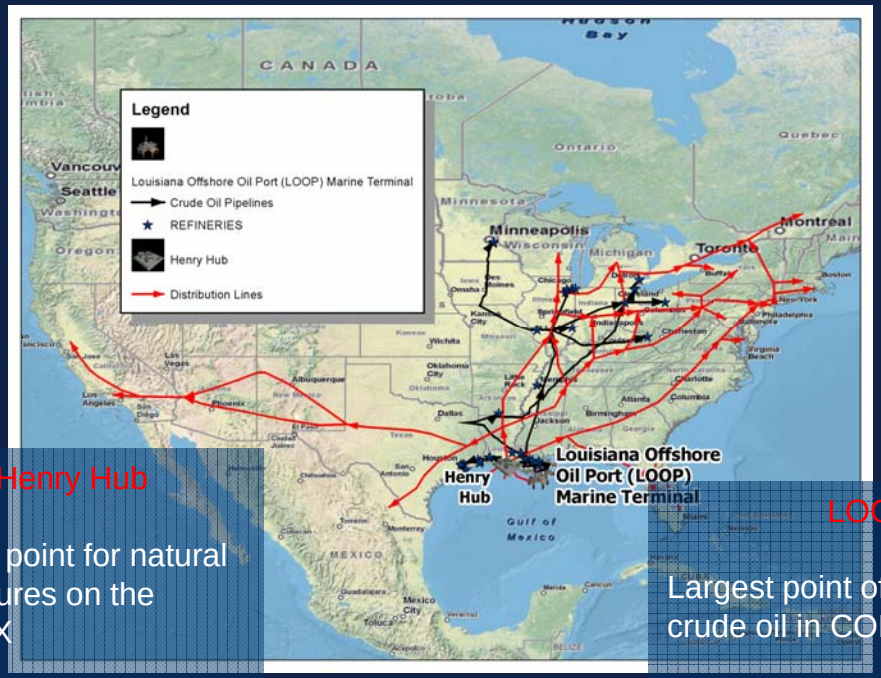
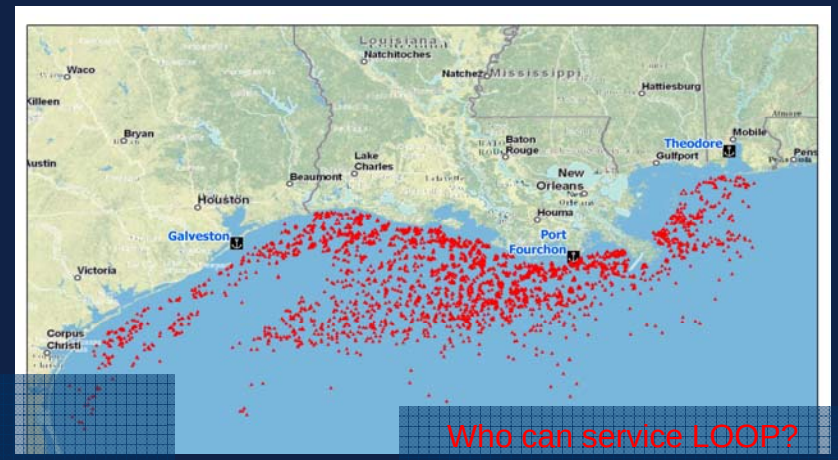
GRI for a Resilient Louisiana

Theme 3: Safety & Policy

Economics: *Telling the story: national consequences are important to capture*

- What are the economic impacts and cross-sector consequences of the oil spill to the state of Louisiana, the region and the nation? A multi-disciplinary team from LSU, UL Lafayette, Tulane and UNO





Henry Hub

Pricing point for natural gas futures on the NYMEX

~ 49% of U.S. wellhead production occurs near or through HH

LOOP

Largest point of entry for crude oil in CONUS

Delivers to refineries that produce more than 50% of petroleum products used in the US

Who can service LOOP?
Only 3 in the nation

Port Fourchon, LA
Galveston, TX
Theodore, AL

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GRI for a Resilient Louisiana

Theme 3: Safety & Policy

Policy: *Drilling Safety*

- How do we enhance emergency management policy and practice for viable drilling operations?
- What steps can and should be taken to minimize safety risks and environmental impacts of offshore oil and gas development, particularly in the deep sea?
- What factors determine the responses of organizations and institutions to the oil spill?
- How do we retool Louisiana's current and emerging energy industry workforce to be productive in the changing regulatory and technological environment?

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Theme 3: Safety & Policy

Disaster Management/Decision Support Systems

- Fox/Hen House: How do you develop a broad-based/industry-wide public-private partnership to leverage industry expertise but minimize dependency on a single entity?
  - Marine Spill Response Corporation – founded in 1990 with the Oil Pollution Act of 1990 – severely limited
  - Marine Well Containment Company (MWCC) – founded after the BP Spill – Chevron, ConocoPhillips, ExxonMobil, Shell, BP

  MWCC could/should be the private sector partner in the public-private partnership for future incidents, while the offending company may be termed the "Responsible Party"

- Ad-hoc Supply Chains in Incident Response: Need to map the global supply chains needed, mobilize and warehouse resources in adequate quantities at strategic locations – VMI models from private sector supply chains? SPR model?

- What are the emergency planning, preparedness and response requirements to continue viable drilling operations in the deepwater environment?

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Summary:

Where do we go from here?

Bottom line:

Incident Management in the US needs Research

Let's Collaborate