Coastal Response Research Center and Center for Spills and Environmental Hazards Overview

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Coastal Response Research Center (CRRC)

- NOAA's Office of Response and Restoration (ORR)/UNH Spill Partnership
  - Originally through CICEET in 2002
  - MOA between NOAA & UNH in 2004
  - 5 year Grant (current 2012-2017)
    - Ends June 30, 2017
- Parallel Center for Non-NOAA Funding
  - Center for Spills and Environmental Hazards (CSE)

Coastal Response Research Center (NOAA $)

Center for Spills and Environmental Hazards (All Other $)

- Conduct and Oversee **Basic** and **Applied** Research and Outreach on Spill Response and Restoration
- Transform Research **Results into Practice**
- Serve as **Hub for Oil Spill R&D**
- **Facilitate Interaction** Among Oil Spill Community (all stakeholders)
- **Educate/Train Students** Who will Pursue Careers in Spill Response and Restoration

CRRC Staffing

- Nancy Kinner
  - UNH Faculty Member, Full-time
  - UNH Co-Director CRRC
  - Director CSE
- Kathy Mandsager, Administrative Manager (since 2005)
- Graduate & undergraduate as needed to support projects

NOAA Regional Preparedness Training (NRPT) Initiative

NRPT Initiative

- 3 regional 2-day workshops conducted across GOM to target regional concerns
- Each includes training
- Regional steering committee selected each topic
- Organizing Committee oversight for workshop
- Partnership with NOAA GOM Disaster Response Center (DRC)
- Deliverables: workshop reports and materials on CRRC website

NRPT - Galveston, TX

- Environmental Tradeoff Analysis for an Oil Spill Response Impacting the Flower Garden Banks NMS
  - Training topic: State of Science Dispersants and Dispersed Oil
- May 24 – 26, 2016
- Flower Garden Banks National Marine Sanctuary, Galveston TX

NRPT - Galveston, TX

- Key outcomes:
  - Do not use DWH as baseline case
  - FGBNMS has very old (1,000+ yr) corals
    - Yearly reproduction less important than preserving adults
  - Response options: “minimal regret”
  - Preplanning relationships developed with FGBNMS staff
  - Enhanced understanding between FGB and Responders

NRPT – Mobile, AL

- Natural Disaster Causing Technological Disasters in Mobile Bay Area
- Workshop & Training were combined in 2 full days (June 8-9, 2016 at GOM DRC)
- Goal: increase awareness, understanding and coordination among stakeholders during oil spill response & recovery during flooding disaster

NRPT – Mobile, AL

- Key outcomes:
  - Understanding of roles in Stafford Act compared to OPA'90 responses
  - Need for continual and frequent Area Committee meetings & training among stakeholders on complex scenarios
  - Exercises involving multi-agency & jurisdictions are needed to prepare for storm/flooding/oil spill event

NRPT – St. Pete, FL

- Addressing Public Concerns During Spill Response… Sorting Fact from Fiction
- June 28-29, 2016
- Training om June 30: Risk Communication During Spills
- Florida Wildlife Research Institute (FWRI), St. Petersburg, FL

NRPT – St. Pete, FL

- Key outcomes:
  - UC/FOSC and PIO must work together and early for consistent messaging
  - Offshore spill in Tampa/St. Pete/Clearwater will be major economic issue due to tourism and fishing
  - Answers developed to potential public questions/concerns regarding response options, shoreline clean-up, natural resources impacts and public health

State-of-Science of Dispersant Use in Arctic Waters

State-of-Science of Dispersants and Dispersed Oil (DDO) in Arctic

- NOAA Project Leads (Doug Helton & Gary Shigenaka)
- Result of Arctic SONS on Response to Arctic Marine Oil Spill
- Part 1: Assemble Database of DDO Literature from June 2008 to December 31, 2015 (CRRC continues to maintain this database)

State-of-Science of DDO in Arctic

- Part 2: State-of-Science workshop (Jan 2015) and subsequent conference calls
- Meeting with scientific experts on:
  - Efficacy & Effectiveness
  - Physical Transport & Chemical Behavior
  - Degradation & Fate
  - Toxicity & Sublethal Impacts
  - Public Health & Food Security
- Part 3: Public input on Part 2

State-of-Science of DDO in Arctic

- Part 4 Workshop – communicating the state-of-science to the public & others
- Small workshop with scientists and communication experts
- Recommend types of material that would be most effective for communications
- Communication to broader scientific/response community important
  - How to achieve this??

Oil Observing Tools Workshop

Oil Observing Tools
(Charlie Henry, Jeff Lankford, George Graettinger)

- Identify new developments in oil observing technologies for help with oil spill response, assessment, restoration
- Merits and limitations
- Workshop Final Report now available: http://crrc.unh.edu/oil_observing

Oil Observing Tools

- Key outcomes:
  - Identified new developments for real-time data collection
  - Delineated merits & limitations of current technologies
  - Human observation is cornerstone
  - Need for ground-truthing and synoptic sampling protocol
  - Lots of guidance documents available – need online integration/website for them
    - "One stop shopping"

Environmental Disasters Data Management (EDDM)

Environmental Disasters Data Management (EDDM)

- Foster communications between collectors, managers, and users of data with all stakeholders
- Identify and establish best practices for data collection, storage and retrieval
- Phases:
  - Workshop
  - Working Groups ongoing

EDDM

- Working Groups Topics:
  - Common Data Model
  - Field Protocols & Training
  - Gold Standard (including vocabularies, interoperability, QA/QC, baseline data)

EDDM Workshop

- Winter 2017
- Long-term DWH Data Management
- Partner with NOAA's National Centers for Environmental Information (NCEI)
- Engage all stakeholders in community
  - Best Practices Guidance
  - Gold Standard Data Management Plans
  - Integration of Data

Long-Term Data Management

- Deepwater Horizon response and restoration
- Coordination of 30+ groups
- Workshops and working groups
  - Data Standards
  - Interoperability
  - Data searchability and discovery

SCAT for Tomorrow

SCAT for Tomorrow Workshop

- Shoreline Clean-up and Assessment Technique (SCAT)
- Assess current issues with SCAT regarding electronic data capture and management
- Evaluate future needs for SCAT to improve readiness and efficiency
- Develop common data standard to enhance information sharing
  - Government and industry
  - DIVER

Dispersants (DWG) and Submerged Oil Working Groups

- Started after R&D Needs Workshops on these topics in 2005 and 2006, respectively
- Meet annually at Clean Gulf and in conjunction with IOSC
- Updates on R&D on-going from national and international stakeholders

Center for Spills and Environmental Hazards (CSE) Activities

Russia: Oil Spill Effort (CSE)

- Trip to Moscow in April 2016 (NEK)
  - Initiative with WWF
  - Meet with Russian "oil spill" agencies, NGOs and oil companies
  - Conversations with many agencies, Russian emigres etc. before trip

Russia: Oil Spill Efforts (CSE)

- Possible U.S. Embassy funded workshop in Moscow in March 2017
- Topic: Lessons learned from DWH spill
  - WWF/CSE organizing
- Today-Thursday: NOAA working with Russian delegation on transboundary Arctic ERMA

Oil Flume Research

- Sunken oil remobilization experiments with Alberta bitumen, Fuel Oil No. 6, Dilbit
  - Lengthening and erosions as function of salinity, water velocity and temperature, bottom type
- Assisted NOAA Seattle team in Mississippi River sinking oil spills

Snare Research

- Snare used to detect and monitor submerged oil
- Research:
  - How much oil adsorbs to snare?
  - How much oil desorbs from snare?
  - How does snare interact with oil?
  - How deep is snare when it is towed through the water?
- Function of water temperature, net velocity, type of oil, salinity?

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