Environmental Response Management Application

Michele Jacobi, Nancy Kinner, Rob Braswell, Kurt Schwehr, Kim Newman, & Amy Merten

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Talk Outline

• Overview background and design process
• Discuss of how web-based GIS technology can assist in an environmental response effort
• Show a few examples of the project’s capabilities
Coastal Response Research Center (CRRC)

- CRRC is partnership between NOAA’s Office of Response and Restoration (ORR) and University of New Hampshire

- CRRC Mission:
  - Develop new approaches to spill response and restoration through research/synthesis of information
  - Serve as a resource for ORR and NOAA
  - Serve as a hub for spill research, development, and technical transfer
    - Oil spill community (e.g., RRTs, internationally)
  - Conduct outreach to improve preparedness and response
Continuum of “Response” for the OR&R

Response (24 hours)

Emergency Response Division (ERD)

Assessment and Restoration Division (ARD)

Restoration - Recovery (Years to Decades)
A Picture is Worth a Thousand Words...

- Diverse datasets can be interlaced on a single map to better visualize the complex nature of an area.
How has the technology advanced?

Past

- Software and Hardware were cost prohibitive
- Difficult to obtain accurate data
- Advanced training to produce products
- Data limited to working desktop computer
- Limited product output- hard copy maps
How has the technology advanced?

Today

• Increase software options available
• Compact and inexpensive data acquisition
• Easy to use interfaces
• Systems are portable and flexible - network interface
• Products are more complex
• Web accessible (ArcIMS, Google Maps, Google Earth, Open Source WebGIS)
Why use a web based GIS platform during a Response?

- Integrate and synthesize various types of information
- Provide fast visualization of current information
- Improve communication and coordination among responders and stakeholders
- Provide resource managers with the information they need to make better informed decisions
Functional Web GIS Platform for Response

- Package data in a well-designed management, visualization, and analysis tool:
  - Easily accessible - field and command
  - User friendly
  - Quick to display
  - Capable of real-time data display
  - Simple to update/download from
  - Secure
Project Partners: Technical Advisers

NOAA
- Office of Response and Restoration
- Coastal Services Center
- Office Coast Survey
- Weather Service
- Gulf of ME Ocean Observing System

UNH
- Joint Hydrographic Center
- Joint Center for Ocean Observing Technology
- Cooperative Institute for Coastal and Estuarine Environmental Technology
- Coastal Ocean Observing and Analysis
- Research Computing Center
- Earth Systems Data Collaborative

Additional Partners
- US Coast Guard
- US EPA
- NH Dept. Environmental Services
- ME Dept. Environmental Protection
- NH Fish and Game
- NH Coastal Manager
- NH Div. Emergency Services
- Piscataqua River Cooperative
- FL Fish & Wildlife
Environmental Response Management Application (ERMA)
Easy to Access Data Types

Authentication Required

Enter username and password for "phri" at https://portsmouthresponse.unh.edu

User Name: Michele.Jacobi
Password: **********

Use Password Manager to remember this password.

OK Cancel
Critical Datasets for Environmental Response
### Data Table Access

#### ERMA Portsmouth, NH

<table>
<thead>
<tr>
<th>Map</th>
<th>Info</th>
<th>About</th>
</tr>
</thead>
</table>

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**HTML Code**

```html
RT 4 & 16 TO WOODBURY AVE EXIT IN NEWINGTON, EAST ON MARKET ST., NORTH ON KEARSAGE WAY, SE ON PREBLE WAY AT IRVING ENTERANCE, UNDER I-95 BRIDGE.
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**Seasonal C: No, Restrooms: Yes, Telephone: Yes, Lighting: Excellent, Location: 400 Gosling Rd, Town: Portsmouth, Contact In: Leo Quinn, Phone: 603-669-4000, Ramp Dimen: NA, Dock Dimen: 400'X 50', Photo 1: m:\coastal\Coastal\Photos\58mar02p1010006.jpg, Photo 2: m:\coastal\Coastal**
Real-time vessel traffic from AIS
Raster layers can be used as base maps
Weather and Buoy Observations
Interactive Tools
Interactive Tools
Interactive Tools
Interactive Tools
Practical Implementation of ERMA

- Assist with spill preparedness
- Assist in coordinating response efforts
- Define the extent of potential impacts
- Assist in Recovery and Restoration
Acknowledgement

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www.crrc.unh.edu
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