

Environmental Disasters Data Management (EDDM)

Steering Committee Update

February 10, 2016



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Project Leads

- EDDM NOAA Co-Lead: Amy Merten, NOAA ORR, ARD, Chief Spatial Data Branch
- EDDM NOAA Co-Lead: Sharon Mesick, NOAA National Centers for Environmental Information
 - Russ Beard retired in Fall 2015
- EDDM Facilitator: Nancy Kinner, Coastal Response Research Center, University of New Hampshire



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Welcome and Introductions

- EDDM Working Group Speakers:
 - Amy Merten, NOAA ORR, ARD
 - Ben Shorr, NOAA ORR, ARD
 - Richard Knudsen, Florida Fish and Wildlife Research Institute



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EDDM Working Groups

- Field Protocols and Training
- Common Data Models
- Gold Standard (including vocabularies, interoperability, QA/QC, baseline data)



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Presentation Overview

- EDDM Working Groups
 - Objectives
 - Outcomes
 - Status



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Working Groups

- CRRC is facilitating all working groups
- Calls via WebEx
- Document storage and sharing in Google Drive
- Groups reviewed workshop recommendations and determined objectives, outcomes, and schedule
- Currently, each group is well into development of their first objective



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Field Protocols and Training Working Group

- Kim Anderson, Oregon State University
- Shawn Fisher, USGS
- Amy Merten, NOAA ORR ARD, Spatial Data Branch
- Greg Minnery, Chevron
- Steve Ramsey, Social & Scientific Systems/NIH GuLF Study
- Carol Rice, University of Cincinnati, Environmental Health
- Laura Weems, US Army Corps of Engineers



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Field Protocols and Training

- Objective 1: Inventory existing resources for field data collection. Document what is available and gaps.
 - Outcome: Compiled list of existing resources and gaps(may include field protocols, training materials, agreements (blanket IRBs, access permits, and others), websites, questionnaires, citizen science protocols, personal monitoring)
 - Schedule: 6 months



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Field Protocols and Training Status of Objective 1

Table of field data collection resources is being compiled:

- Resource name, description, and type
- Publishing agency/organization, lead author, and date
- Reference citation
- Matrix and parameters covered - includes human and environmental (abiotic and biotic)
- Sampling regime
- Type of disaster
- Equipment covered
- Hyperlinks
- Any documents the resource supersedes
- EDDM contact person for each resource



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Field Protocols and Training

- Objective 2: Inventory existing equipment, devices, and monitors for field data collection. Document what is available and gaps.
 - Outcome: Compiled list of existing tools (including stationary monitors - pre existing and staged, field equipment, personal monitors - badges etc.) and gaps
 - Schedule: 6 months concurrent with objective 1



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Field Protocols and Training

- Objective 3: Apprise academics and NGOs of sampling protocols they should use to get data included.
 - Outcome: Sampling protocol(s) for NGO/Academic data that can be shared
 - Schedule: After completion of Objective 1 and 2, ongoing



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Field Protocols and Training

Longer Term Objectives

- Objective 4: Compile existing planning and training resources. Identify gaps.
- Objective 5: Develop recommendations for planning and training.
- Objective 6: Work across disciplines in many or all of group's activities.
- Objective 7: Develop outreach materials and perform outreach.



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Common Data Models Working Group

- Steve Delgreco, NOAA National Climatic Data Center
- Dan Hudgens, Industrial Economics, Inc
- Mike McCann, Monterey Bay Aquarium Research Institute
- **Ben Shorr, NOAA ORR ARD, Spatial Data Branch**
- Fred Sparks, Chevron
- Mark Stenzel, Exposure Assessment Applications, LLC
- Scott Thompson, Gulf Research Program, NAS



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Common Data Models

- Objective 1: Document what specific data models, portals (data sets), and web services people are using across different disciplines and compile details regarding each one (portal name, description, type of data accessible, data base compatibility, url, key contacts).
 - Outcome: Spreadsheet of data systems pertinent to environmental disasters
 - Schedule: 3 months



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Common Data Models Status of Objective 1

Table of data systems is being compiled, which includes:

- Portal name, purpose, and location
- Category (e.g., human health, weather, shipping traffic)
- Frequency of data updates
- Hardware
- Application software
- Webserver
- Database
- url
- Priority for integration
- EDDM contact person for each system
- Use restrictions



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Common Data Models

- Objective 2: Crosswalk existing data models to find similar elements.
 - Outcome: Identify redundancy, compatibility across data models
 - Schedule: 6 months after objective 1 completed



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Common Data Models

- Objective 3: At all levels (field collection, synthesis, analysis) inventory/identify existing ways to be interoperable.
 - Outcome: Make recommendations where we can leverage approaches to interoperability and security.
 - Schedule: After objective 2 completed, will take 3 months



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Common Data Models

Long Term (requires funding):

- Objective 4: Find and build connections to create something more extensive and broad. Unify models that exist. Create a virtual infrastructure connecting the nodes. Demonstrate interoperability of the databases.



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Gold Standard Working Group

- Julie Bosch, NOAA, NCEI
- Linda Cook, Exponent
- Felimon Gayanilo, Harte Research Institute/GOMRI
- Jim Gibeaut, Harte Research Institute/GRIIDC
- Matt Howard, GCOOS/GOMRI/GRIIDC
- Ann Jones, Industrial Economics, Inc
- **Richard Knudsen, Florida Fish and Wildlife Research Institute**
- Ben Shorr, NOAA ORR ARD, Spatial Data Branch
- Trish Stewart, Stewart Exposure Assessments, LLC
- Jason Weick, Coastal Waters Consortium/LUMCON
- Sarah Wright, BP (consultant)



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Gold Standard

- Objective 1. Identify the functionality needed for information management and decision support tools for different disaster types and where these functionalities are located (e.g., IPAC, HAZUS, ERMA) or missing (gaps).
 - Outcome: Report including a series of matrices of tool vs. disaster type for different disaster scenarios
 - Schedule: 3 months



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Gold Standard Status of Objective 1

Table of functionalities needed during disasters is being compiled, which includes:

- Functionality and why it is needed
- Does it exist? Where?
- Is it a gap?
- Examples of key data types
- Type of disasters it is needed for



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Gold Standard

- Objective 2. Identify criteria to evaluate data, (tools?), and procedures (for QA/QC, data transport, security, and data use analytics) that can be considered a Gold Standard.
 - Outcome: List of criteria, subdivided depending on types of data, methodology, disaster. Develop an evaluation worksheet - of criteria and ranking/result.
 - Schedule: 6 months



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Gold Standard

- Objective 3. Identify critical data types for baseline data for different environments and types of disasters.
 - Outcome: Report including a series of matrices of data type vs. disaster type for different environments
 - Schedule: 1 year, in parallel with Objective 1



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Gold Standard

- Objective 4. Identify Definitions of Terms (Data Dictionaries).
 - Outcome: Survey different data dictionaries as a function of environmental disaster type and provide access to them. Identify terms that may need to be mapped (cross-walked) for different types of disasters.
 - Schedule: 1 year consecutive with others



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Gold Standard

Long Term Objectives

- Identify strategies to assess the accuracy and reliability of the data. This may cover the range of formal statistical analyses of uncertainty to development of subjective estimates of confidence.
- Assess and compile existing baseline/background data sets and what it will take to make them interoperable.



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Questions or Comments?

EDDM information available at:
<http://crrc.unh.edu/EDDM>



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