EDDM - Gold Standard Working Group

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Gold Standard Working Group

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- Trish Stewart, Stewart Exposure Assessments, LLC
- Jason Weick, Coastal Waters Consortium/LUMCON
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Objective: 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: Completed table including a series of matrices of tool vs. disaster type for different disaster scenarios

- ID functionality & purpose
- Where it exists
- Gaps
- Key data types examples
- Type of disasters
- Summary

Function: Analysis - routine statistical analysis and output
Why: A common platform for viewing analysis or value added to data and/or observations is critical to provide decision makers with raw or observation data in context with thresholds or guidelines.
Does it exist: NOAA DIVER Explorer presents queries for sediment contaminant chemistry that compare to thresholds and guidelines. NOAA's legacy Query Manager application has an expanded capability for comparison to tissue and water guidelines- NOAA is working to bring these guidelines/thresholds into DIVER Explorer
Gap and Significance: There is a gap in updating guidelines/thresholds and making them available in context of integrated data. In an emergency situation, integrating data from multiple sources and comparing to guidelines is very challenging.

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Objective: Identify criteria to evaluate data and procedures (for QA/QC, data transport, security, and data use analytics) that can be considered a Gold Standard.

Outcome: Developing a list of criteria, subdivided depending on types of data, methodology, disaster. Develop an evaluation worksheet – of criteria and ranking/result.

- Data type category & data type - *Laboratory Based Measurement - chemical analyses (water, sediment, tissue, blood, oil, other)*
- QC criteria - *Method specified QA/QC criteria for instrument calibration and QC analyses.*
- Current QA/QC procedure
  - *1) US EPA National Functional Guidelines for Data Review and Validation.*
  - *2) Professional judgement based on method requirements*
- Responsible party - *Independent third-party data validators*
- Suggestions for QA/QC improvements & efficiencies
  - *Require use of a consistent Standard Reference Material (SRM) or released source material (i.e., control oil) within a program to allow for accurate assessment of inter- and intra-laboratory variability.*

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Objective: Identify critical data types for baseline data for different environments and types of disasters

Outcome: Listing of critical data types and recommended authoritative sources.

- Critical data types for baseline data
- Parameters
- Media and category
- Recommended resource
- >170 parameter/media identified

Extreme events for coastal environments	Environmental data	Toxicology
Water level	pH	Human toxicology
Water	Sediment/soil	Biologic tissues
NOAA, COOPS; USGS	USDA Natural Resources Conservation Service	International Toxicity Estimates for Risk (ITER)

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Objective: Identify definitions of terms (data dictionaries).

Outcome: Listing of different data dictionaries as a function of environmental disaster type and provide access to them.

- Data dictionary name
- Links
- Critical data types
- 56 vocabularies listed

Chemical Carcinogenesis Research Information System (CCRIS)	https://toxnet.nlm.nih.gov/
Climate and Forecast (CF) Conventions	http://cfconventions.org/standard-names.html
Coastal Marine Ecological Classification Standard (CMECS)	http://mmisw.org/orr/#http://mmisw.org/ont/noaa/cmecs
Darwin Core	http://rs.tdwg.org/dwc/
DIVER	https://dwhdiver.orr.noaa.gov/data-overview
GENE-TOX: Genetic Toxicology Data Bank	https://toxnet.nlm.nih.gov/
Integrated Risk Information System (IRIS)	https://toxnet.nlm.nih.gov/
National Health and Nutrition Examination Survey (NHANES)	https://toxnet.nlm.nih.gov/