Proposed NOAA SCAT Data Standard

Zach Nixon
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Components

• Conceptual entities
• Spatial representations
• Tabular attributes
• Logical relationships
• Spatial relationships
• Documentation
Overview

- Facilitates interoperability, clarity, and transparency for digital SCAT data
- *Not* an application, database, data structure, or entity-relationship model
- Includes *simple, core elements* only
- *Extensible* for requirements of different specific incidents
- Standard is *software agnostic*
- *Only parts may apply* to individual data digital data collection or storage applications
- Applies to digital data across *full range* of incident and software complexity, and dataset sizes

Conceptual Entities

- Shoreline
- Segments
- Surveys
- Surface Oiling Observations (Zones)
- Subsurface Oiling Observations (Pits)
- Shoreline Treatment Recommendations (STRs)
- Additional elements required for a specific incident
Spatial Representation

- Shoreline
- Segments
- Surface Oiling Observations (Zones)
- Subsurface Oiling Observations (Pits)
Tabular Attributes

- Replicate NOAA CSOS form
- Add elements from wetland form

- Adds:
  - Surface oiling substrate (sediment, vegetation canopy, or both)
  - Height of oiling on plants (slightly changed from NOAA wetland form)
- Extensible (can add attributes and codes)
- No required field naming conventions
- Subset of attributes required to be collected by survey personnel at time of survey
Logical Relationships

• Base requirements:
  • Spatial features describing zones/pits should have corresponding record in the data tables & vice versa
  • All tabular records describing zones/pits should have a parent record in the data tables describing survey
  • All tabular records describing surveys are required to have at least one child record in the data table describing zones/pits (at least NOO)
• Extensible (may be added for robust QAQC)
• Standard does not specify when/where these are enforced

Spatial Relationships

• Spatial topology – may seem like technical detail, but is critical for calculation of basic SCAT metrics and products
• Examples:
  • Linear features must not self-cross or self-overlap
  • Linear features must overlap with a linear shoreline
  • Linear features must not cross other linear features of the same type but may overlap other linear features of the same type.
• Extensible – can add rules to meet need of response
• Standard does not specify when/where these are enforced – but generally needs to be done routinely for basic SCAT functions
Spatial Relationships

Spatial Relationships
Documentation

• Documentation sufficient for external users is required
• But, no format is specified
• Suggested:
  • Federal Geospatial Data Committee (FGDC) Content Standard for Digital Geospatial Metadata (FGDC, 1998)
  • ISO 19115 (ISO, 2014)
  • Project Open Data Metadata Schema v1.1 (POD, 2015)

Questions for Discussion

• Attributes to remove as required (e.g. backshore character, etc.)?
• Missing core attributes?
• Should STRs be a required entity?
• Role of segments, and potential efforts to decouple segments from oiling, status tracking, etc.
• Still a case for non-spatial pits/zones?