Data and Information Management and Product Development
A Critical Component of Ocean Exploration

• President’s Panel Report
• Public Law 111-11

— Establish[ing] a broad-based task force to design and implement an integrated, workable, and comprehensive data management, information processing system for all information, including unique and significant features.

Source: the President’s Panel Report
Standards-based, Results-oriented Program

• 2002 Data Management Culture

• National Spatial Data Infrastructure
  • Federal Geographic Data Committee Content Standards
  • Geospatial One Stop

• Performance Measures / Metrics
  • Data volume
  • Metadata and data file count
  • Timeline for access
  • User metrics (e.g. data downloads)
Standards-based, Results-oriented Program

- 2012 Data Management Culture

- Extended National Spatial Data Infrastructure
  - Data as a “capital asset” - portfolio approach
  - FGDC has endorsed 64 non-Federal Standards
  - International & OpenGIS Standards enhance interoperability
  - National GeoPlatform replaces GOS

- Performance Measures / Metrics
  - Output –vs- Outcome... what to measure?
BROAD ACCESS AND INTEROPERABILITY

TARGETED USE (DECISION SUPPORT, EDUCATORS)

STEWARDSHIP / REUSE

STANDARDS COMPLIANCE
Telepresence Information Exchange
BROAD ACCESS AND INTEROPERABILITY

TARGETED USE
(DEcision Support, Educators)

STEWARDSHIP / REUSE

STANDARDS COMPLIANCE
Data Reuse: Integrated Ocean and Coastal Mapping

“Map Once Use Many Times”

- Habitat Mapping Olympic Coast National Marine Sanctuary
- Tsunami Inundation Modeling in the Hawaiian Islands
- Extended Continental Shelf Assessment

Keauhou, HI
1/3 arc-second DEM
Targeted Information Use: Educators

- Expedition data are used in lesson plans
  - Simulate “real-world” data analysis and interpretation techniques
  - Encourage understanding of the overall ecological context of living and geologic systems found in expedition areas

The Tell Tale Plume (Grades 9-12) (data plotting results)
INSPIRE Chile Margin 2010 expedition
Search

Search metadata content, including title, abstract, and keywords

Oceans AND Gulf of Mexico

Results 1-25 of 28 record(s)

Expand results

Zoom To Results

Zoom To Searched Area

Records shown from: OER data explorer
Click here to select different site or configure search.

OER data explorer
28 Results

YouTube
3 Results

NGDC Geoportal CSW
5 Results

NODC Geoportal CSW
15 Results

Select sites where the search will be distributed
You may select up to 5 sites.

✓ OER data explorer
✓ YouTube
✓ NGDC Geoportal CSW
✓ NODC Geoportal CSW

GEOGRAPHIC AREA
Zoom the map to desired area, and choose "intersecting" or "fully within"

☐ Anywhere  ☑ Intersecting  ☐ Fully within

OCEAN Exploration Program Review – May 7-8, 2012
Trends in Data Volume -vs- Expeditions
BROAD ACCESS AND INTEROPERABILITY

TARGETED USE
(DECISION SUPPORT, EDUCATORS)

STEWARDSHIP / REUSE

STANDARDS COMPLIANCE
Toward the Future:
Spontaneity Should be Celebrated

• Old rules no longer apply
  • More demand for information
    • Linking high quality content together online is a way of meeting that demand
  • Technology is an access equalizer
• No more ‘one stop shopping’ (many routes to information)
• Access will be customized by systems that learn about and give users what they are looking for
  • Amazon.com for data: users who liked THIS also liked THAT (or found xyz helpful)
Toward the Future:
Technology is the Medium, not the answer

- We have a long way to go
- Our user base is a continuum
- There are a range of needs to meet
- Technology does some things well, others not so well
- There are gaps in the current access model
- Access model needs to match user requirements