EUMIS - an open portal framework for interoperable marine environmental services

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Outline

• Objectives and concepts
• Pilots
• Ontologies and semantic framework
• EUMIS portal and components
  – GIS Viewer
  – Discovery Client
  – Service Chaining Editor
• Conclusion
NETMAR aims to develop a *pilot European Marine Information System (EUMIS)* for searching, downloading and integrating satellite, in situ and model data from ocean and coastal areas. It will be a user-configurable system offering **flexible service discovery, access and chaining facilities** using OGC, OPeNDAP and W3C standards. It will use a **semantic framework coupled with ontologies** for identifying and accessing distributed data, such as near-real time, forecast and historical data. EUMIS will also enable further processing of such data to generate **composite products and statistics** suitable for decision-making in different marine application domains.
Objectives and concepts

NETMAR Service Network

- Satellite 2
- Satellite 1
- Reconnaissance aircraft
- Helicopter
- Communication Satellite
- Buoys
- Ships of opportunity
- Massive Parallel Computer
- Ground Station
- Receiver System
- Product Generator System #1
- Product Generator System #2
- Product Generator System #3
- Product Generator System #4
- Data Server #1
- Data Server #2
- Data Server #3
- Data Server #4
- Processing Server #1
- Processing Server #2
- Processing Server #3
- Smart Search
- Workflow Execution
- News
- Wiki
- EUMIS Portal
Pilots

- Pilots in NETMAR
  1. Arctic Sea Ice monitoring and forecasting
  2. Oil spill forecasting and shoreline cleanup
  3. Ecosystem monitoring and modelling
  4. ICAN (International Coastal Atlas Network)
EUMIS portal and components

- GIS Viewer
EUMIS portal and components

- GIS Viewer
EUMIS portal and components

- Discovery Client
EUMIS portal and components

• Discovery Client

Semantic Discovery

Geographic Area of Interest

- Arctic Ocean
  - Northeast Atlantic Ocean (45W)
    - Bay of Biscay
    - Bristol Channel
    - Celtic Sea
    - English Channel
    - Gulf of Guinea
    - Inner Seas off the West Coast of Scotland
    - Irish Sea
  - North Sea
    - Skagerrak
    - St. Magnus Bay

[Map of Arctic and surrounding regions]
EUMIS portal and components

• Service Chaining Editor
Conclusion

• We have implemented the EUMIS portal with a set of components
  – GIS Viewer
  – Discovery Client
  – Service Chaining Editor
  – Wiki, Forum, RSS feeds
  using multiple programming languages, and deployed them within the Liferay platform.

• The second version of EUMIS is now available for testing. Your feedback is welcome!
Thank you!

NETMAR web site: http://netmar.nersc.no

EUMIS portal: http://eumis.nersc.no/

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