cost of ocean observation in EU

<table>
<thead>
<tr>
<th>space data</th>
<th>€400 million per year</th>
</tr>
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<tbody>
<tr>
<td>in-situ data</td>
<td>&gt; €1 billion per year</td>
</tr>
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</table>
Maria Damanaki, Commissioner for Maritime Affairs and Fisheries

(...) the data collected through these observations can only generate knowledge and innovation if Europe's engineers and scientists are able to find, access, assemble and apply them efficiently and rapidly. At present this is often not the case.
...Creation of an European Marine Observation and Data Network

“... will be an end-to-end, integrated and inter-operable network of systems of European marine observations and data communications, management and delivery systems, supported by a comprehensive user oriented toolkit to enable implementation of the Integrated Maritime Policy for Europe”

Creation of an European Marine Observation and Data Network

…setting up EMODNET based on 8 principles

✓ Collect data once and use it many times
✓ Develop interoperable standards
✓ Focus on sea-basins
✓ Requires sustainable funding at EU level
✓ Build on existing structures
✓ User driven
✓ Clarify ownership, accuracy and precision
✓ Freedom of use for publicly funded data
...What is EMODNET

From Observation to Information

- Address whole chain “from observation to information”
- Need to unlock access to existing data and fill existing gaps
- Need for full and open exchange of data across initiatives & projects

Data Management

- EMODNET as a system of systems
- A common data management approach
- Complementary to existing initiatives
… Complementary to existing initiatives

- European Marine and Observation Network
- Data Collection Framework in fisheries
- Global Monitoring for Environment and Security
- INSPIRE Directive Public Sector Information Directive
- European Marine Research Infrastructures
- Marine Water Information System WISE-Marine
- WISE
- GMES
- ESFRI
…setting up EMODNET through a set of Preparatory actions

✓ Preparatory Actions Call for Tender, 2009-2011
✓ Provide access to observations and highlight gaps
✓ Develop prototype (ur-) EMODNET
✓ Budget €6.45 million
✓ The call for tenders comprised 6 lots:
  • hydrography (water depth, coastlines...)
  • chemistry (concentrations in water, sediments, sea-life...)
  • biology (species distribution, abundance and diversity...)
  • geology (sediments, hazards, erosion...)
  • habitats (common classification for European waters)
  • physics (temperature, currents waves...)
…setting up EMODNET through a set of Preparatory actions

✓ Preparatory Actions involve 52 organisations from 19 Member States

- Flanders Marine Institute/Vlaams Instituut voor de Zee (VLIZ), Royal Belgian Institute of Natural Sciences, University of Liege - GeoHydrodynamics and Environment Research (ULG) Belgium; Institute of Oceanology Bulgarian Academy of Science (IO-BAS), University of Cyprus-Oceanography Centre (OC), Danish Environmental and Planning Agency (BLST), Danish Hydraulic Institute (DHI), Geological Survey of Denmark and Greenland, National Environmental Research Institute (NERI-MAR), Geological Survey of Estonia, Geological Survey of Finland, Bureau de recherches géologiques et minières, Collecte Localisation Satellites (CLS), Institut Français de Recherche pour l’Exploitation de la Mer (Ifremer), Service Hydrographique et Oceanographique de la Marine (SHOM), Iv. Javakhishvili Tbilisi State University (TSU-DNA), Alfred Wegener Institute for Polar and Marine Research (AWI), Bundesamt für Seeschifffahrt und Hydrographie (BSH-DOD), Federal Institute for Geosciences and Natural Resources, University of Bremen (UniHB), Hellenic Centre for Marine Research (HCMR), Geological Survey of Ireland, Marine Institute (MI), Istituto Nazionale di Oceanografia e di Geofisica Sperimentale (OGS), Istituto Superiore per la Protezione e la Ricerca Ambientale (ISPRA), Latvian Environment, Geology and Meteorology Agency, Lithuania institute of Geology and Geography, ATLIS, Deltares, Mariene Informatie Service ‘MARIS’ BV, NIOZ Royal Netherlands Institute for Sea Research (NIOZ), Netherlands Institute of Ecology; Centre for Estuarine and Marine Ecology (NIOO-CEME), Geological Survey of Norway, Norwegian Marine Data Centre - Institute of Marine Research (IMR), Polish Geological Institute, National Institute for Marine Research and Development "Grigore Antipa" (NIMRD), All Russian Research Institute of Hydro-meteorological Information (RIHMI-WDC), P.P. Shirshov Institute of Oceanology Russian Academy of Science (SIO-RAS), Instituto Español de Oceanografía (IEO), Geological Survey of Sweden, Sveriges Meteorologiska Och Hydrologiska Institut (SMHI), Swedish Environmental Protection Agency, Institute of Biology of the Southern Seas, National Academy of Sciences of Ukraine (IBSS NASU, Marine Hydro-physical Institute (MHI), Joint Nature Conservation Committee Support Co, NERC, National Oceanography Centre Southampton (NOC), NERC, British Geological Survey, Edinburgh (BGS), NERC British Oceanographic Data Centre, Liverpool (BODC), Rutgers University; Institute for Marine and Coastal Sciences (IMCS), International Council for the Exploration of the Sea (ICES), The Global Biodiversity Information Facility (GBIF), UNEP/GRID-Arendal...
...setting up EMODNET through a set of Preparatory actions

✓ EMODNET Data portals: assemble fragmented and inaccessible marine data into interoperable, contiguous and publicly available data streams for complete maritime basins

✓ EMODNET portals & products online and interoperable

✓ First components of a final system
preparatory actions
hydrography

Bathymetry map 0.25 arc-minute
Observation data on dogwhelk *Nucella lapillus*
preparatory actions chemistry

nitrates in water column
...future EMODNET

✓ Marine Knowledge 2020 adopted September 2010

✓ Outlining architecture & governance model for marine data & observations for future
General objectives Marine Knowledge 2020

- Reduce operational costs and delays for those who use marine data and therefore:
  - help private industry
  - improve the quality of public decision-making at all levels
  - strengthen marine scientific research

- Increase competition and innovation amongst users

- Reduce uncertainty in knowledge of the oceans
...A common architecture

observation and data collection

archiving at national data centres

thematic assembly groups

sea basin checkpoints

application end users

consortia of organizations that assemble data from data centres on specific themes (cfr preparatory portals) contribution of proposed financial regulation for maritime policy €22,500,000 for 2011-2013
Governance 2011-2013

Priorities
✓ Commission advised by
  • Marine Observation and Data Expert Group (independent)
  • Member States Expert Group (to be set-up)

Technical support
✓ Prototype secretariat
  • prepare meetings
  • assess thematic assembly groups/sea-basin checkpoints,
  • prepare annual reports of activity
  • portal providing access to data from thematic assembly groups

Assessment and Evaluation
Thank you

For more information:

- https://webgate.ec.europa.eu/maritimeforum/node/1305