Access to GMES Services
Marine Environmental Monitoring
The case of MyOcean
The MyOcean Products and Service
The MyOcean Products

- **MyOcean**
  - “delivers **regular and systematic reference information** (processed data, elaborated products) on the state of the oceans and regional seas:
  - at the resolution required by **intermediate users & downstream service providers**, of known quality and accuracy,
  - for the global and European regional seas.”

- Physical state of the ocean, and primary ecosystem
- For global ocean, and main European basins and seas
- Large and basin scale; mesoscale physics
- Hindcast, Nowcast, Forecast
- Data, Assimilation and Models
A 3D and dynamic vision of the ocean – modelling, observations

Marine Core Service

Products

- Currents,
- Temperature,
- Salinity,
- Sea Level,
- Ice,
- Biogeochemistry

- Anywhere (regional, & global scales)
- At any time (past, present, future)
- Real time & long time period

www.myocean.eu.org
Pending issue: wave & wind products

- User request (confirmed at the MyOcean User Workshop, April 2011)
  Need for *integration of atmospheric forcing products (including winds & waves) with the MyOcean products*

- Agreement with wave & wind product providers (including meteorological services) to be explored
The MyOcean service

- MyOcean is focused on a strict "core" service
  - No "downstream" activities
  - No "on request" production

With

- "Easy-download-of-bulk-and-assessed" information
- A single access to the 200 products of the catalogue
- A single registration for downloading any product from catalogue
- "Discovering & Viewing" functionalities
- Information on the quality of the products
A single entry point, a single catalogue,
The service architecture....

5 Thematic Assembly Centres
- Sea Level
- Ocean Color
- Sea Surface Temp.
- Sea Ice & Wind
- In Situ

7 Monitoring and Forecasting Centres
- Global Ocean
- Arctic Ocean
- Baltic Sea
- Atlantic NWS
- Atlantic IBI
- Mediterranean Sea
- Black Sea
A distributed service provision...
Focus: the MyOcean *in-situ* & space observation products
Marine *in-situ* observations

**Key variables:**
- temperature
- salinity
- currents
- sea level
- biogeochemistry
- ice characteristics

**Coverage:**
- global
- regional (European seas & coasts)

**Use & availability:**
- assimilation -> NRT access
- validation -> NRT and off-line access
Some marine in-situ observation systems…

<table>
<thead>
<tr>
<th>System</th>
<th>Description</th>
<th>Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Argo Float Programme</strong></td>
<td>Profiling measurements of upper ocean (T&amp;S, currents, extension towards biogeochemistry)</td>
<td>Global &amp; regional coverage</td>
</tr>
<tr>
<td><strong>Moored buoys</strong></td>
<td>Multidisciplinary – full depth (physics &amp; biochemistry)</td>
<td>Global sampling + regional &amp; coastal</td>
</tr>
<tr>
<td><strong>FerryBoxes</strong></td>
<td>Multidisciplinary – surface (physics &amp; biogchemistry)</td>
<td>Regional &amp; coastal</td>
</tr>
<tr>
<td><strong>Drifter</strong></td>
<td>Surface currents</td>
<td>Global coverage</td>
</tr>
<tr>
<td><strong>XBT</strong></td>
<td>Upper temperature</td>
<td>Global coverage</td>
</tr>
<tr>
<td><strong>Gliders</strong></td>
<td>Profiling (T&amp;S, bio)</td>
<td>Regional coverage</td>
</tr>
<tr>
<td><strong>Tide Gauges</strong></td>
<td>Sea level</td>
<td>Coastal</td>
</tr>
</tbody>
</table>

**Research vessels**: global/regional/coastal
The MyOcean in-situ TAC

Gathers all in-situ observations

- Marine variables from different observation devices
- Collected each day from many national providers (EuroGOOS network)

Disseminates quality-controlled & consistent sets of in-situ observations

- to the MyOcean Monitoring & Forecasting Centres
- to all external users
- near-real time and off-line
Marine space observations

Key variables:
• sea surface topography, sea surface temperature
• ocean color, surface winds, sea ice characteristics,

Derived products:
• Level 3 (composites) & 4 (multi-sensor) products
• global & regional (European seas)

Use & availability:
• assimilation -> NRT access
• validation -> NRT and off-line access
• external users

Level 2 data are used internally by MyOcean (assimilation) but they are not part of the MyOcean catalogue. Level 2 data are distributed by space agencies => need consistent data policy
The MyOcean Users
MyOcean will “provide the common denominator data for all users in the marine sector, in other words the information for existing & new downstream services.”

- **Area 1**
  “MARITIME SAFETY”
  (marine operations, oil spill combat, ship routing, defense, search & rescue, ...)

- **Area 2**
  “MARINE RESOURCES”
  (fish stock management, ICES, FAO, ...)

- **Area 3**
  “MARINE AND COASTAL ENVIRONMENT”
  (water quality, pollution, coastal activities, ...)

- **Area 4**
  “WEATHER, SEASONAL FORECASTING & CLIMATE”
  (climate monitoring, ice, seasonal forecasting, ..)
The Key Users

MyOcean will deliver a service to

- EU: The European Union
  - Users: European agencies (EEA, EMSA, EDA, ...)

- MS: The Member States
  - Users: National / Regional Service Providers (public or private)

- IG: The Intergovernmental bodies
  - Users: MS and/or exec.bodies such as OSPAR, UNEP-MAP, HELCOM, ICES, ...
Statistics on users

- Marine & coastal: 28%
- Maritime safety: 25%
- Marine resources: 17%
- Climate, seasonal & weather forecasting: 30%
The MyOcean Data Policy
A free of charge & open access…

Data policy defined during MyOcean negotiation

- Agreed by all MyOcean data & service providers
- Applied for all versions of MyOcean catalogue & service (V0 to V2)
- Extended to MyOcean2

602 registered users in December 2011
30 to 40 new users per month in 2011

Before V2 (10 January 2012)
3 user categories & access rights

Guest users
- "basic" rights: access to on-line catalogue & visualizing products
- default SLA: no need to register (anonymous)

Standard users
- "standard" rights: access to all Products in Catalogue (for downloading)
- standard/generic SLA: prior registration, SLA signature, acceptance of the terms of the Licence

Major account users (e.g. EEA, EMSA…)
- access to all core (in catalogue) and/or specific Products
- specific SLAs: interface with account manager
Conclusion
A successful approach...

A single catalogue & entry point
- For all user categories
- A unique access & registration for access to products

A free of charge & open data policy
- Service Level Agreements (SLA)
- Licence for defining responsibilities & commitments

Three user categories
- Guest, Standard, Major accounts
- More than 600 registered users (SLA)

Principles defined & applied for MyOcean & MyOcean2 (FP7 projects) - To be confirmed for the operational GMES Marine Environment Service (beyond 2014)
Security issues
Security approach for the GMES Marine Environment Service…

No “security-sensitive” information available through the GMES Service
  • The “core” information is available for all users
  • No security restrictions

“Security-sensitive” information, e.g. for military uses
  • Could be generated outside the GMES Service, e.g. by national institutions
  • Could combine GMES & classified information and expertise
  • Is disseminated by specific entities that can manage & control possible access restrictions

This approach is agreed & implemented in MyOcean by all national entities