Towards coordinated preparedness and response to spills of oil and hazardous materials in the Atlantic regions

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HIDROMOD: Figures and technical expertise

• Started in 1992

• 12 employees; 400 completed projects

• Areas of expertise: hydrodynamics, wave propagation, water quality, oil spills, sediment transport, catchments integrated modelling, point source and diffuse pollution

• Operational systems deployed: 5 Ports, 4 Utilities (energy, water), 3 Public Bodies, 5 R&D Projects
The methods of providing reliable and accurate metocean information on the actual and predicted conditions have improved.

Information can now be more easily made available to all parties involved in order to optimize levels of safety and efficiency.

Previous projects (EROCIPS, ARCOPOL, EASYCO, RAIA, etc) are a solid ground to build upon.

New developments are needed, in the framework of the “Action Plan for a Maritime Strategy in the Atlantic area”:

Priority 2: Protect, secure and develop the potential of the Atlantic marine and coastal environment
- Objective: improving maritime safety and security
- Objective: exploring and protecting marine waters and coastal zones
Concepts

- Distributed Operational Metocean Forecast: downscaling

- Oil Spill Weathering and Fate Simulation: upscaling
Critical factors

• Providers of large scale metocean forecast:
  – MyOcean
  – NOAA
  – ECWMF (expensive!)
• Early detection
  – EMSA
  – National institutions
• The cloud
  – Internet
  – Hardware
  – Software
• Standards
  – Seamless and robust integration of data
  – Cooperation between different teams
  – Innovation
Business oriented

- Support to economic activities
  - Shipping, Ports, Oil production;

- Protection of economic activities
  - Fishing
  - Recreation
  - Other marine uses

- Economic supply chain
Challenges for the future

• Risk changes
  – increase in vessel traffic
  – implementation of prevention measures

• Oil spill forecast preparedness

• HNS spill forecast preparedness

• Software and Hardware evolution

• Economic valuation of the technology
Collaborative work

- Common concepts for shared risk
  - Regional specificities

- Common formats for sharing information
  - Data
  - Models

- Common use of global forecast infrastructures
  - How to tackle downscaling and upscaling
Topics to address in a new R&D project

- Create disseminated capacity to use forecast technologies

- Short term and long term evaluation of risk change driven by:
  - Increase in vessel traffic
  - Increase in shipping safety
  - Increase in forecast and spill response capabilities

- HNS (a lot of unknowns on this issue)
  - Difficulties in establishing databases
  - Transport processes
  - Toxicity after spillage

- Creating jobs and business opportunities for SMEs with new products and services
Potential partnership

- Risk originators:
  - Ports, Shipping companies, Oil companies, Industries
- Risk mitigators
  - Public administration, Coastguards
- R&D
  - SMEs, Universities
- Local communities
  - Local authorities, NGOs

Potential Funding

- Atlantic Area Transnational Programme 2014-2020
  - Priority axis 3 – Strengthening the territory’s resilience to risks of natural, climate and human origin
Obrigado!