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

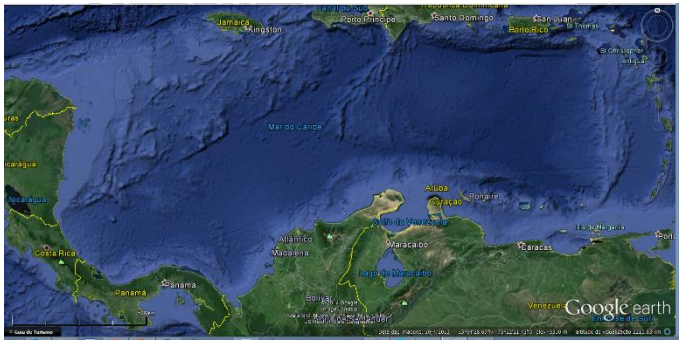
- Started in 1992
- 12 employees; 400 completed projects
- Areas of expertise: hydrodynamics, wave propagation, water quality, oil spills, sediment transport, catchments integrated modelling, point source and diffuse pollution
- Operational systems deployed: 5 Ports, 4 Utilities (energy, water), 3 Public Bodies, 5 R&D Projects

Context

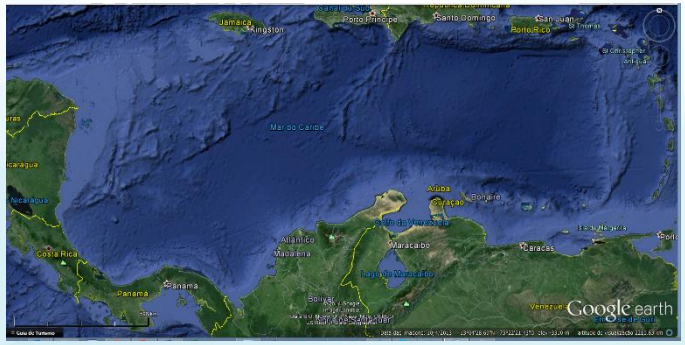
- The methods of providing reliable and accurate **metocean information** on the actual and predicted conditions have **improved**.
- Information can now be more **easily made available** to all parties involved in order to **optimize levels of safety and efficiency**
- **Previous projects (EROCIPS, 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!