



Partnership for Observation of Global Ocean (POGO) OPEN Access Marine Observation Devices (OpenMODs)project A. Crise¹, R. Gerin¹, K. Wiltshire²

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"To devise ocean sensors and monitoring devices, globally available to all and not just to a privileged few".

Value of ocean observations

- Improve the safety and efficiency of marine operations and other human activities at sea and on the coasts;
- More effectively control and mitigate the effects of natural hazards;
- Improve the capacity to detect, predict and mitigate the effects of global climate change on coastal ecosystems;
- Reduce public health risks;
- More effectively protect (and restore) healthy ecosystems;
- More effectively exploit, restore and sustain living marine resource;
- Support the implementation of the marine environment regulations.

Adapted from "The Integrated, Strategic Design Plan for the Coastal Ocean Observations Module of the Global Ocean Observing System", GOOS Report 125



Publication and citation map of the world. The area of each country is scaled and resized according to the number of ocean science publications (left) or citations received (right). Different colours indicate a different number of publications (left) or citations (right) (UN Global Ocean Science Report, 2017)

Worldwide acknowledgment



SDG 14.A "Increase scientific knowledge, develop research capacity and transfer marine technology,....in order to improve ocean health and to enhance the contribution of marine biodiversity to the development of developing countries, in particular small island developing States and least developed countries."





OpenMODs project

OPEN Access Marine Observation Devices (OpenMODs) for developing countries



- Partners:
 - Istituto Nazionale di Oceanografia e di Geofisica Sperimentale – OGS, Italy
 - Alfred Wegener Institute, Germany
- Associates:
 - 4 H Jena
 - UNESCO/International Centre for Theoretical Physics
- Researchers from more than 10 countries involved
- Duration: 1/5/18-30/4/19







Background

- The access to user-friendly, low cost instrumentation is a limiting factor in coastal ocean observing;
- the majority of marine observation equipment is difficult to deploy, costly to operate and requests specific abilities;
- The novel improvements in sensors, platforms and communication will enable a step change in (coastal) ocean observing philosophy.





OpenMODS Concepts

- Humanitarian environmental project;
- Comply with the Open Science approach;
- A Do-it-yourself philosophy in assembling OpenMODs platforms;
- Low-cost technologies for the components (e.g. cheap sensors for temperature, pH, light, pressure and conductivity, LoRaWAN transmitting protocol, etc.)







OpenMODs Goals

- to conceive/identify an easy-to-use, flexible and affordable core set of ocean sensors and platforms;
- to co-design the functionalities and the operational mode of a coastal observing network, closely working with the potential users to meet their requirements;
- to prepare an international implementation framework through a series of concerted workshops;
- OpenMOds is but a first step toward a more ambitious endeavour.





OpenMODs implementation

- Virtual coordination and development platform to set up a forum to connect interested people and to engage stakeholders. (Social sites operational)
- Workshop 1 "Requirements and user needs" held at AWI (Bremenhafen). Working groups focused to
 - Collect a portfolio of low-cost, easy-to-use, open sensors/platforms.
 - Identify a limited number of potential pilot implementations
 - Adopt a viable data management plan
 - Disseminate and advertise OpenMODs acticities
- Workshop 2. "Wider engagement and exploitation "To be held in Mindelo (Cape Verde on 19-21/1/19)



Implementation and funding strategy

- To engage industry/institutes/NGOs who are interested in implementing OpenMODs infrastructure and applications for scientific, operational and educational purposes;
- Prepare proposals to be submitted to institutional and private funders (private foundations, Global Environment Facility Trust Fund, existing bilateral/multilateral cooperation programmes, oil&gas industries, etc.)



For more information

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/groups/OpenMODs/

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