

ASIMUTH Project

Project title

ASIMUTH (Applied simulations and Integrated modelling for the understanding of toxic and harmful algal blooms)

Overview

The project aims to develop forecasting capabilities to warn of impending harmful algal blooms

The steps to achieve this include a series of scientific and technical objectives which will enable the modelling of physical – biological interactions leading to the forecasting of toxin events, fish mortalities or ecological disruption from harmful algal blooms.

The project will demonstrate that the physical, chemical and biological drivers, available through the GMES Marine core services and ongoing monitoring, can be used in a risk analysis / forecasting product to enable more successful mitigation of potential negative impacts

Description

Scientific objectives:

1. The identification of key past events which will be re-analysed and used for training the modelling system
2. Incorporation of the GMES Marine Core Services (MCS) with the above selected events will be used to develop model based hindcast products. These will be used to tune the system and move towards an operational model for forecasting events.
3. Design of regional model systems and delivery of nowcast for specific HABs and location information, transport pathways, remote sensed data.
4. Population of HAB-Distributed Decision Support system (HAB-DDSS) (effectively a HAB specific Thematic Assembly Centre) from relevant data streams (phytoplankton, biotoxin, satellite, in-situ, etc).
5. Provision of expert interpretation of the available data by way of the web-portal which will be carried out on a periodic basis depending on risk. This assessment will be then issued via a warning system to end.

Technical objectives:

1. The development of model runs for Hindcasting and tuning the system with regard to various HAB species / risks and validation
2. Development of HAB-DDSS to assemble data from MCS and Monitoring Data
3. Provide feedback loop for users to connect with the project experts to comment and progress the objectives in a manner that gives most benefit to the end user.
4. An economic assessment will provide metrics on the ability of the ASIMUTH system to mitigate risk and improve productivity.
5. Dissemination activities and exploitation of the project output will include Website/Bulletin Board, Conferences, Scientific publications.

Products

satellite derived chlorophyll images to delineate high biomass near surface algal blooms.

Partners

- Daithi O' Murchu Marine Research Station Ltd., Ireland
- Marine Institute, Ireland
- IFREMER, France
- Instituto Español de Oceanografía, Spain
- The Scottish Association for Marine Science, United Kingdom
- Instituto Superior Técnico, Portugal
- Instituto Nacional de Recursos Biológicos I.P. INRB, Portugal
- Hocer SAS, France
- Nowcasting International Ltd., Ireland
- Starlab Barcelona SL, Spain
- Numerics Warehouse Ltd., Ireland

Links

[Asimuth](#)