M3-HABs
Risk Monitoring, Modeling and Mitigation
of Benthic Harmful Algal Blooms along Mediterranean coasts

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A threat for Mediterranean coasts...

The pan-Mediterranean project M3-HABs regarding monitoring of harmful algal blooms, with particular reference to the benthic dinoflagellate Ostreopsis, started in 2014 in the framework of the ENPI-CBCMED Programme.

WP1: Management
WP2: Communication
- Production of flyers, brochures and informative videos
- Web site: http://www.m3-habs.net² and social media
  - Dedicated section on the web TV TRIWù: http://www.triwu.it/azione-ostreopsis-nel-mediterraneo
- Informative panels displayed along the coastline of the Partners Countries

WP3: Capitalization
- Summer School in Batroun, Lebanon, June 2014: “Taxonomy, Phylogeny and Ecology of the Ostreopsis genus”
- Summer School in Tunisia, May 2015: “Ostreopsis bloom modeling”
- Students mobility grants
- Ostreopsis network at the Mediterranean level
- Best practice manuals and protocols

WP4: Opto-electronics system and algorithm for cell identification and counting
- Optical set-up and acquisition engine to obtain multi-focal images
- Segmentation procedure to automatically extract morphometric indicators
- Identification of specific objects based on a learning system
- Real time quantitative PCR (qPCR) applied as additional tool to identify toxic algae more rapidly and accurately and to confirm morphological species

WP5: Predictive tool for Ostreopsis blooms
- Identification of correlations between the algal bloom and the main chemical-physical-meteoromarine parameters
- Development of a 3D model of meteoromarine, physical and parameters
- Predictive tool for Ostreopsis blooms for the pilot area

WP6: Common and inter-calibrated sampling strategies and protocols

WP7: Common risk detection and management strategies
- Open Groups of relevant stakeholders
- Definition of strategies and sharing procedures
- Guidelines on risk management

Expected results
- Increased knowledge on environmental drivers affecting Ostreopsis blooms and translate this into a forecasting tool
- Improved and common protocols for Ostreopsis sampling and sample processing
- A threat for Mediterranean coasts...

The project will improve the establishment of solid networks along Mediterranean coasts to cope with Ostreopsis emergencies, providing the target groups common and intercalibrated protocols, in order to have comparable samplings in space and time through the Mediterranean Sea.

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