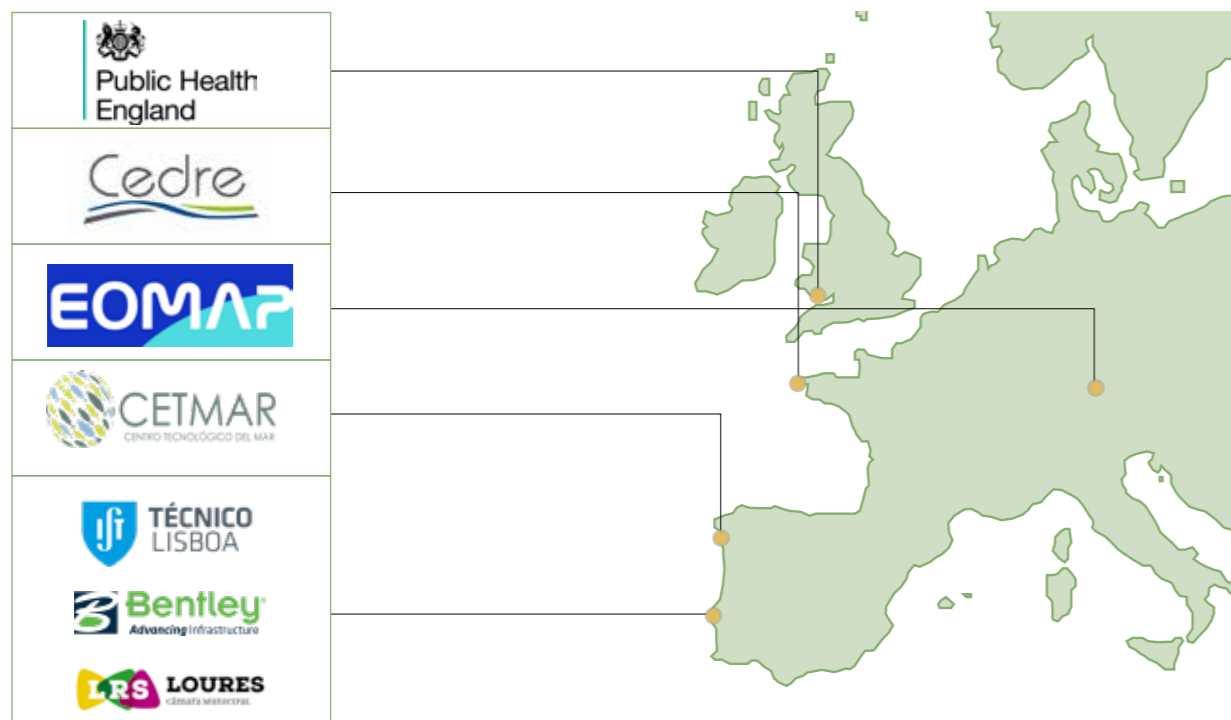


Expected results

- Increased preparedness and knowledge on multiple types of floods using a complex modelling strategy, capable of simulating flash floods, storm surges and riverine floods.
- Earlier detection of hazmat incidents in transitional waters based on remote sensing techniques and IoT approach.
- A more efficient and safer capacity for monitoring pollution incidents combining UAVs and advanced and fast web-based pollutant dispersion modelling.
- Increased awareness on potential maritime pollution, hazard identification and risk perception by automatic data analytics on social media feeds.
- Improved contingency planning using model-based hazard mapping for multiple types of hazards; new response protocols and communication planning.
- Improved knowledge of chemical properties and behaviour of pollutants in transitional waters by laboratory measurements of 20 chemical substances.
- Improved knowledge and awareness of multiple hazards through new training materials, courses and exercising.

Project Partners

HazRunOff Partners Countries



Contact Us

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HAZRUNOFF

PROJECT

TOWARDS AN EARLY RESPONSE TO FLOODING AND HAZMAT CONTAMINATION IN TRANSITIONAL WATERS

HazRunoff at a Glance

TITLE:

«Integration of sensing and modelling technologies for early detection and follow-up of hazmat and flood hazards in transitional and coastal waters».

PROGRAMME: Directorate-General for European Civil Protection and Humanitarian Aid Operations
TOTAL BUDGET: 670,210.92 €
EU GRANT: 483,297.07 €
DURATION: 2 years
(January 2018 – December 2019)
COORDINATOR: Instituto Superior Técnico (IST)
WEBSITE: www.hazrunoff.eu

The Challenge

Flood events in inland and transitional waters, often associated with major urban and industrialized coastal areas, can trigger hazmat incidents (oil, chemical or radiological pollution) that potentially represent a serious threat for coastal communities and ecosystems.

Early alerting and follow up systems, based on innovative observing techniques applicable to different or combined types of flooding and hazmat events, are a key requirement in order to effectively respond to such incidents.



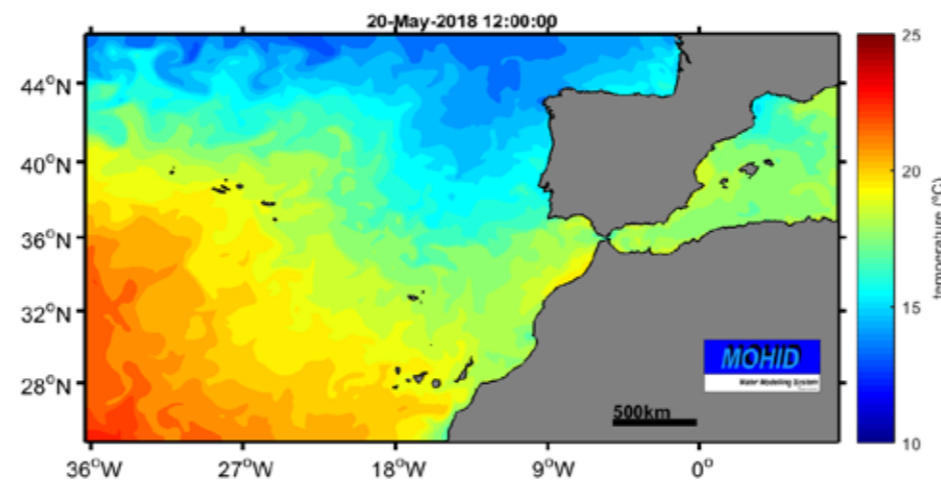
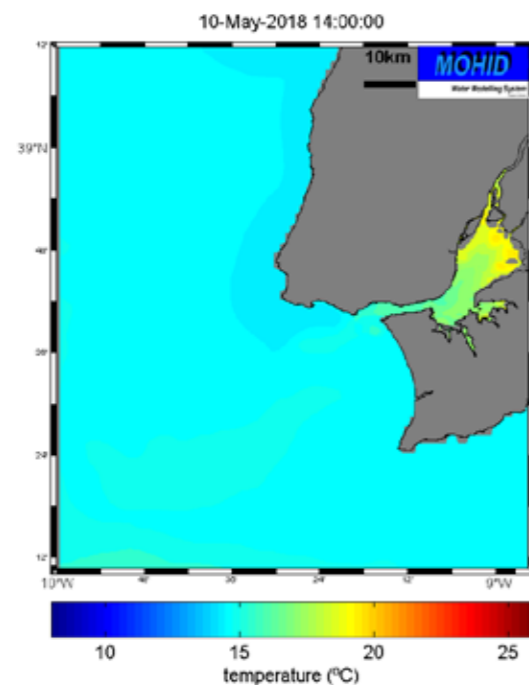


The HazRunoff Goal

HazRunoff aims to fill the knowledge and technology gaps around early alerting & detection, follow-up and early response to different or combined types of flooding and hazmat pollution in inland and transitional waters by providing a comprehensive framework combining:

- In-situ sensing technologies (automatic stations, indicators, lab measurements, IoT approaches).
- Airborne (UAV / drones) and satellite remote sensing (oil and chemical spills, water level monitoring, turbidity).
- Holistic high-resolution modelling (integration of meteorological, watershed, estuarine and pollutant dispersion models).
- Operational tools for situational awareness and crisis management (new methods for interpreting social media, early warning, online dashboards and on-demand simulation tools).
- Improved contingency planning and adapted protocols for response and communication.

Based on state-of-the-art technologies tested in 4 pilot areas, HazRunoff foresees the development and optimization of a holistic set of technologies and methodologies adaptable to any geographical area where transitional waters play a significant role.



HazRunoff Working Streams

Detecting, sensing and sampling (WP1) will be focused on the multiple aspects related with data acquisition and measurements regarding flooding and potential water contamination.

Modelling (WP2) will centralize the complex and holistic modelling framework simulating the water body in the transitional area, as well as the transport of pollutants in the same areas.

Tools for situational awareness and emergency response (WP3) will establish the interface between measured and modelled data, decision makers, responders, and citizens.

Planning, training and exercising (WP4) will test and exercise the developed tools, building new training capacity, adapting contingency plans and defining adequate response protocols.

Dissemination and networking (WP5) will transfer and facilitate the implementation of the results by competent authorities in the participating countries and beyond and will raise awareness in society.



WP0 Management & Coordination



WP1 Detecting, sensing and sampling



WP2 Modelling



WP3 Tools for situational awareness and emergency response



WP4 Planning, training and exercising for response



WP5 Dissemination & Networking

