ENHANCING HNS PREPAREDNESS THROUGH TRAINING AND EXERCISING

MARINER

Project overview

HNS-MS final workshop
14th December 2016. Brussels

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Background

- **The transportation of chemicals has grown considerably in the recent years (estimated 215 Million tonnes in 2015 (source));**
- **Approximately 2,000 different chemicals are transported by sea (source);**
- **Accidents involving chemicals happen:** Around 100 incidents happened in European waters between 1987 and 2006. (EMSA, Source).
- **HNS spills pose risks to the environment and human health;**
- **Fragmented research on HNS preparedness and response.**

Photo taken from ITOPF TIP

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Project bullet points

Objective:
Improve regional cooperation in planning, preparedness and response to HNS spills by improving **training** and **exercise**, by increasing awareness and information exchange and by capitalization and translation of HNS relevant R & D projects' outcomes into operational products.

Co-financing Programme: Call 2015 for prevention and preparedness projects in the field of civil protection and marine pollution. DG-ECHO.
Policy area of activity: Preparedness.
Priority: Improving marine pollution cooperation, including regional cooperation, regarding interoperability and preparedness for direct response to and reducing impacts of manmade disasters. Specific focus area: better planning and preparing for spills of hazardous and noxious substances into the marine environment.

Start date: 1st January 2016

End date: 31st December 2017

European Commission contribution: 748.910 EUR (75 %)
Total budget: 998.547 EUR

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Partners

1. Centro Tecnológico del Mar – Fundación CETMAR Link ***Coordinator***
2. INTECMAR - Instituto Tecnológico para el Control del Medio Marino de Galicia Link
3. Universidade de Vigo Link

4. Action Modulers Link
5. CIIMAR: Interdisciplinary Centre of Marine and Environmental Research Link

6. Public Health England Link

7. Cedre - Centre of Documentation, Research and Experimentation on Accidental Water Pollution Link

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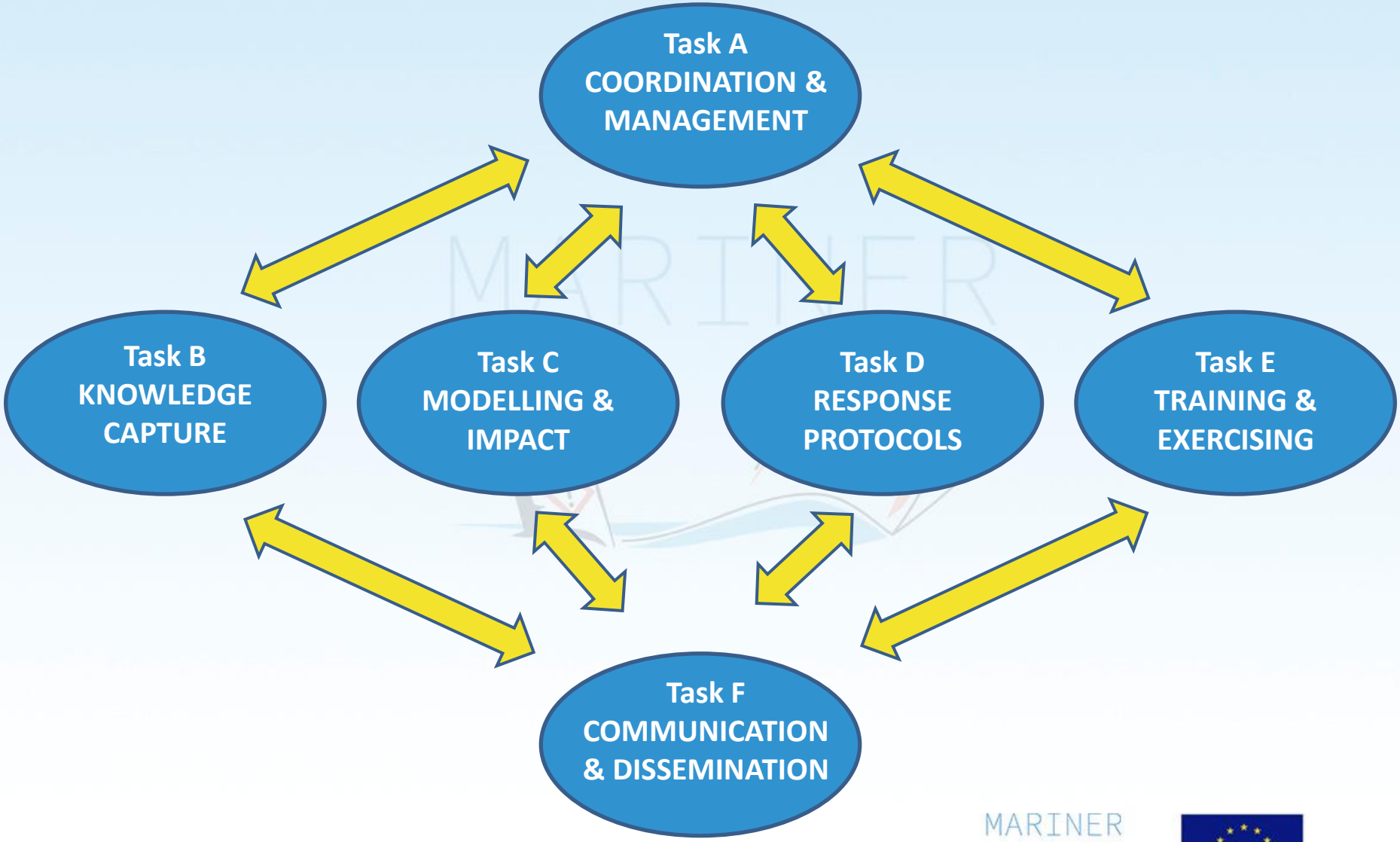
Project tasks



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Task B: HNS knowledge compilation & facilitation

Specific objective:

Identify and compile existing HNS preparedness and response knowledge generated by EU funded public research as well as existing resources and make them easy available to end users through a user friendly tool connected to existing platforms and by targeted transfer actions.

Manager: CETMAR

Participants: All

Main results and estimated delivery date:

- A user friendly visualization and knowledge management **tool gathering all relevant information addressing key issues on HNS**. June 2017.
- Set of **graphical materials**. June 2017.
- **Key outputs transferred**. December 2017

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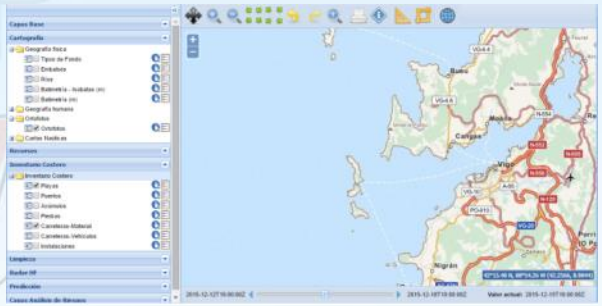
Task C: HNS modelling and environmental impact

Specific objective:

- Improve the interoperability and the operational use of tools for modelling HNS transport, behaviour and biological impact;
- Definition of protocols and guidelines for environmental impact assessment of HNS spills.

Manager: AM.

Participants: INTECMAR, CIIMAR, CEDRE, Uvigo.



Main results and estimated delivery date:

- Improved **HNS spill model integrated into a Common Operational Picture**. Includes a module on environmental effects at population level. February 2017.

- Cross border guidelines and **protocols for HNS environmental impact assessment**. July 2017.

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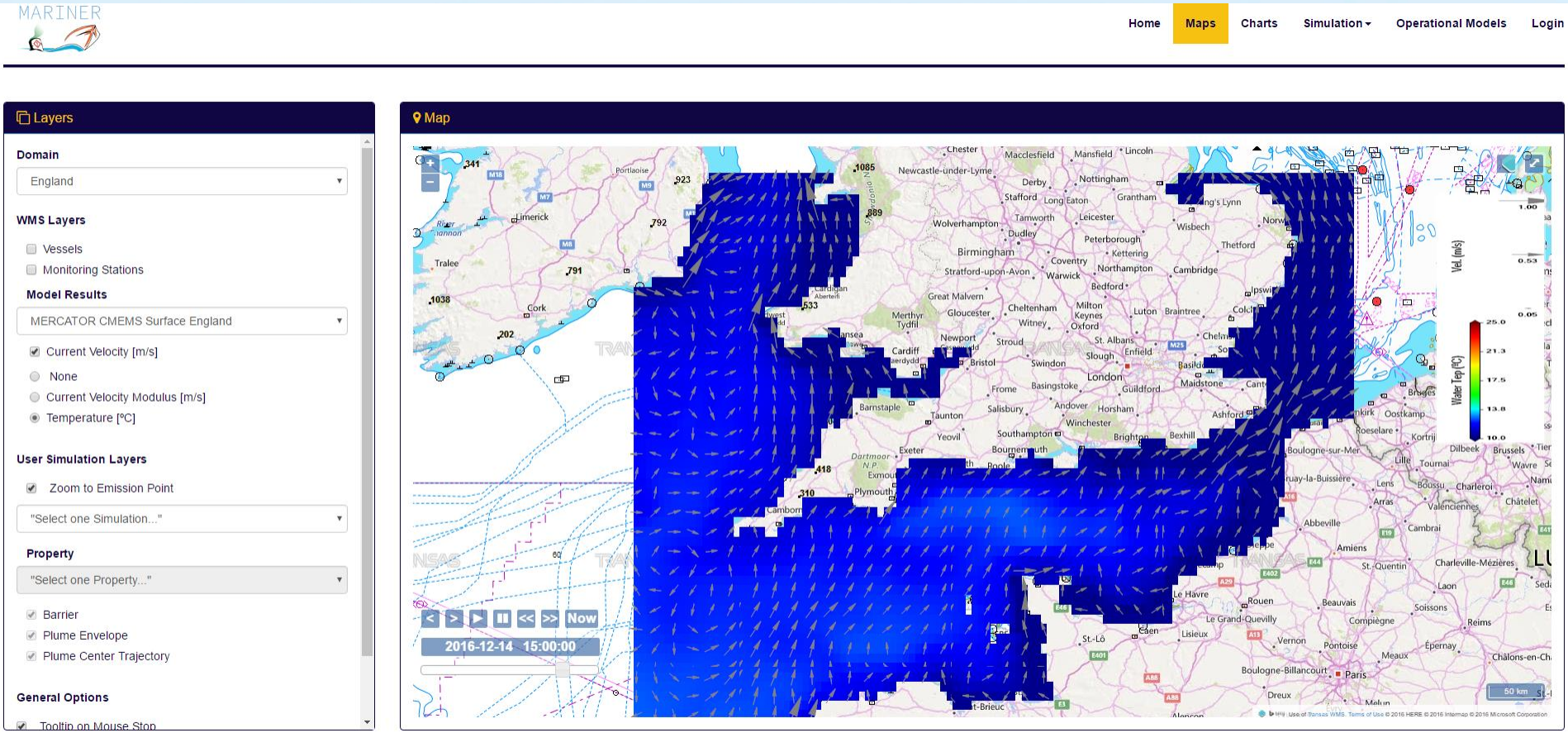
Task C: HNS modelling and environmental impact

MARINER PLATFORM: Bristol Channel



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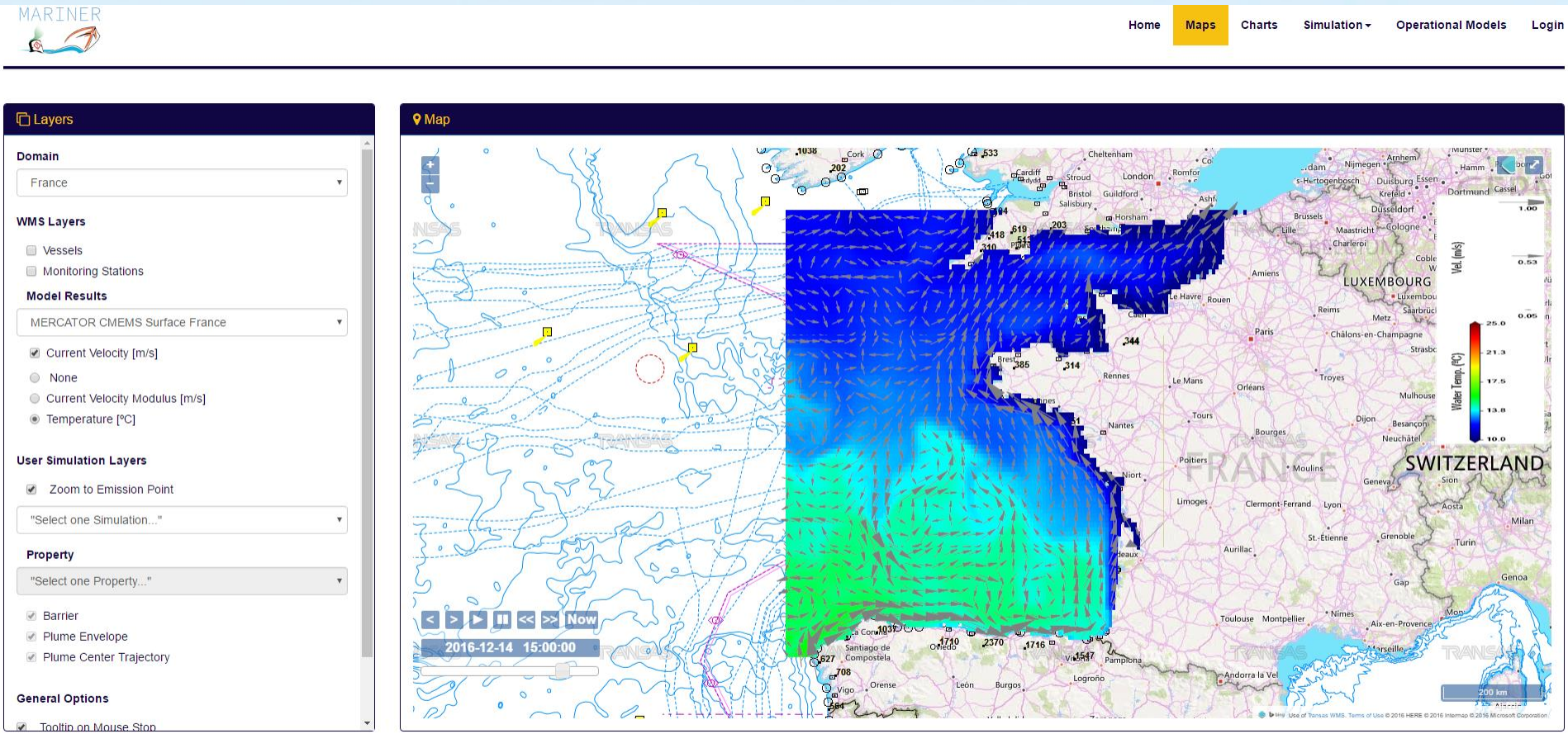
Task C: HNS modelling and environmental impact

MARINER PLATFORM: France



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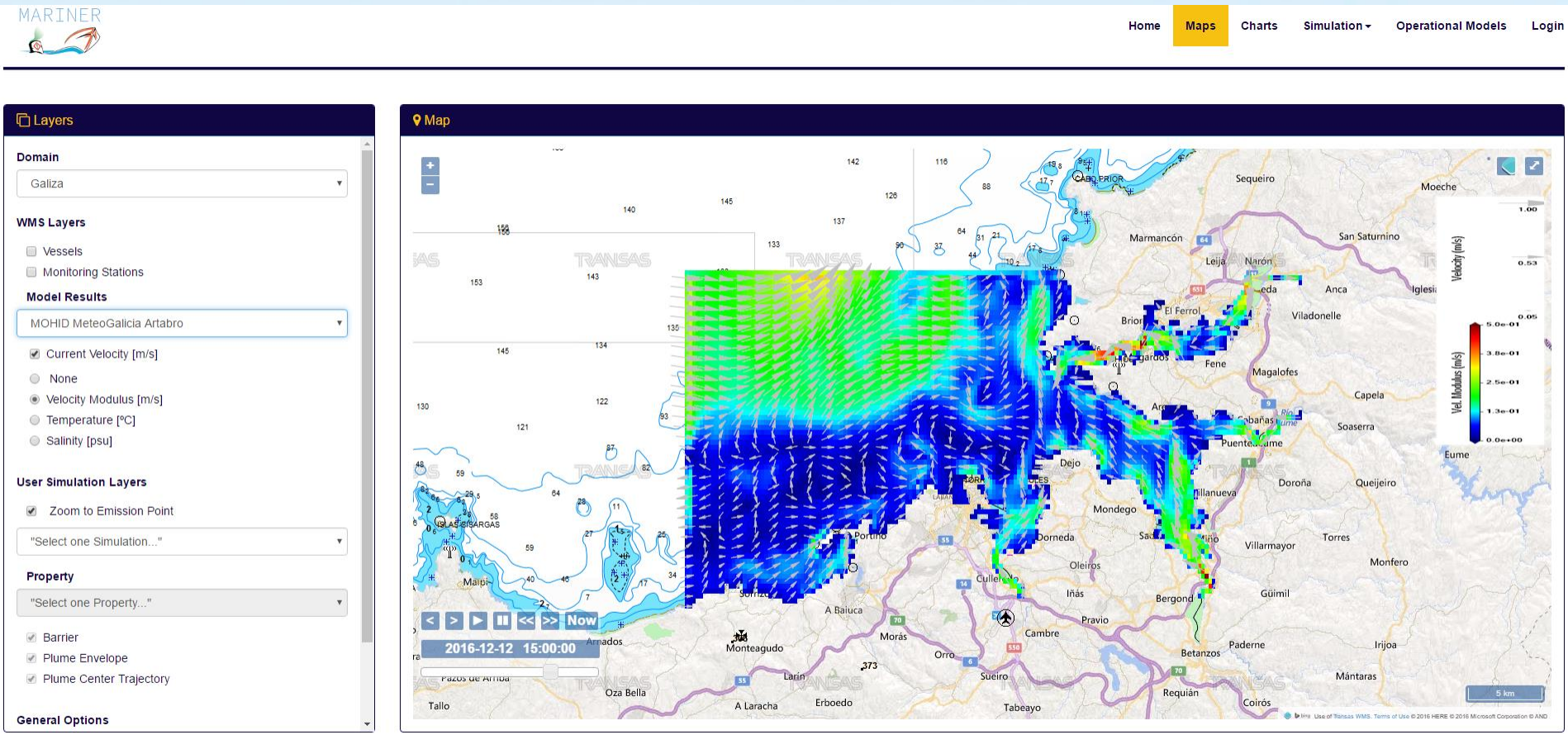
Task C: HNS modelling and environmental impact

MARINER PLATFORM: Galicia



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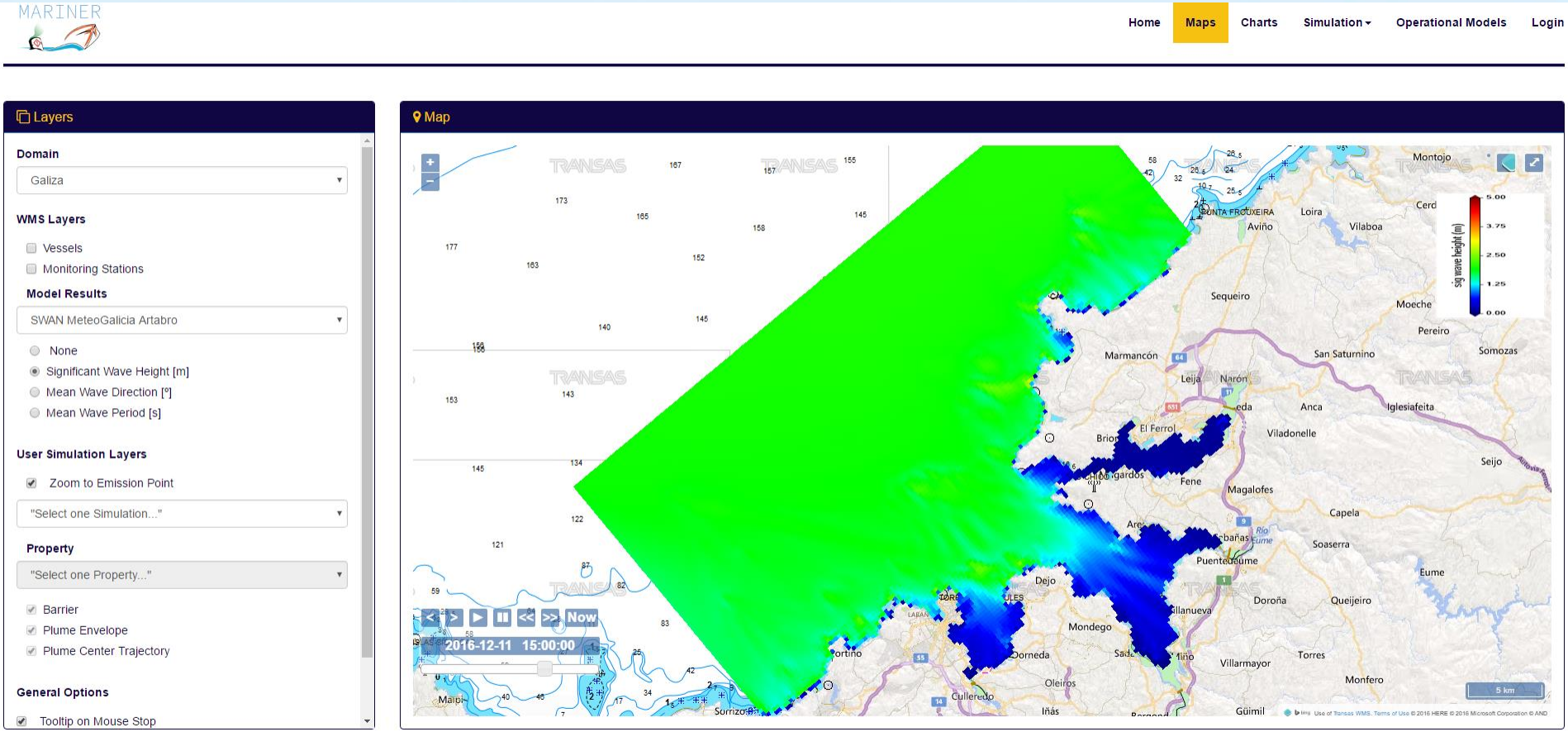
Task C: HNS modelling and environmental impact

MARINER PLATFORM: Galicia



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Task C: HNS modelling and environmental impact

MARINER PLATFORM: Portugal

MARINER

Home | Maps | Charts | Simulation | Operational Models | Login

Layers

Domain

Portugal (Cont.)

WMS Layers

- Vessels
- Monitoring Stations

Model Results

MOHID IST Portugal

- Current Velocity [m/s]
- None
- Current Velocity Modulus [m/s]
- Temperature [°C]
- Salinity [psu]

User Simulation Layers

- Zoom to Emission Point

"Select one Simulation..."

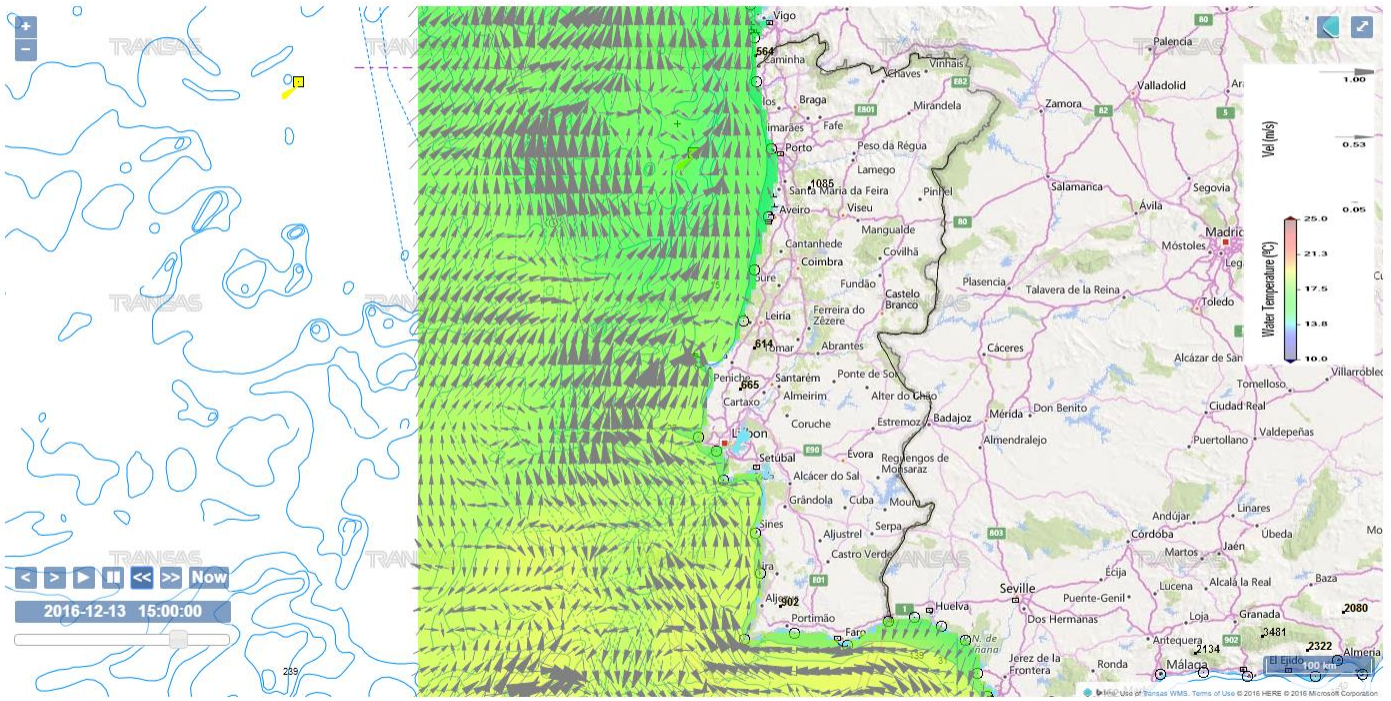
Property

"Select one Property..."

- Barrier
- Plume Envelope
- Plume Center Trajectory

General Options

Map



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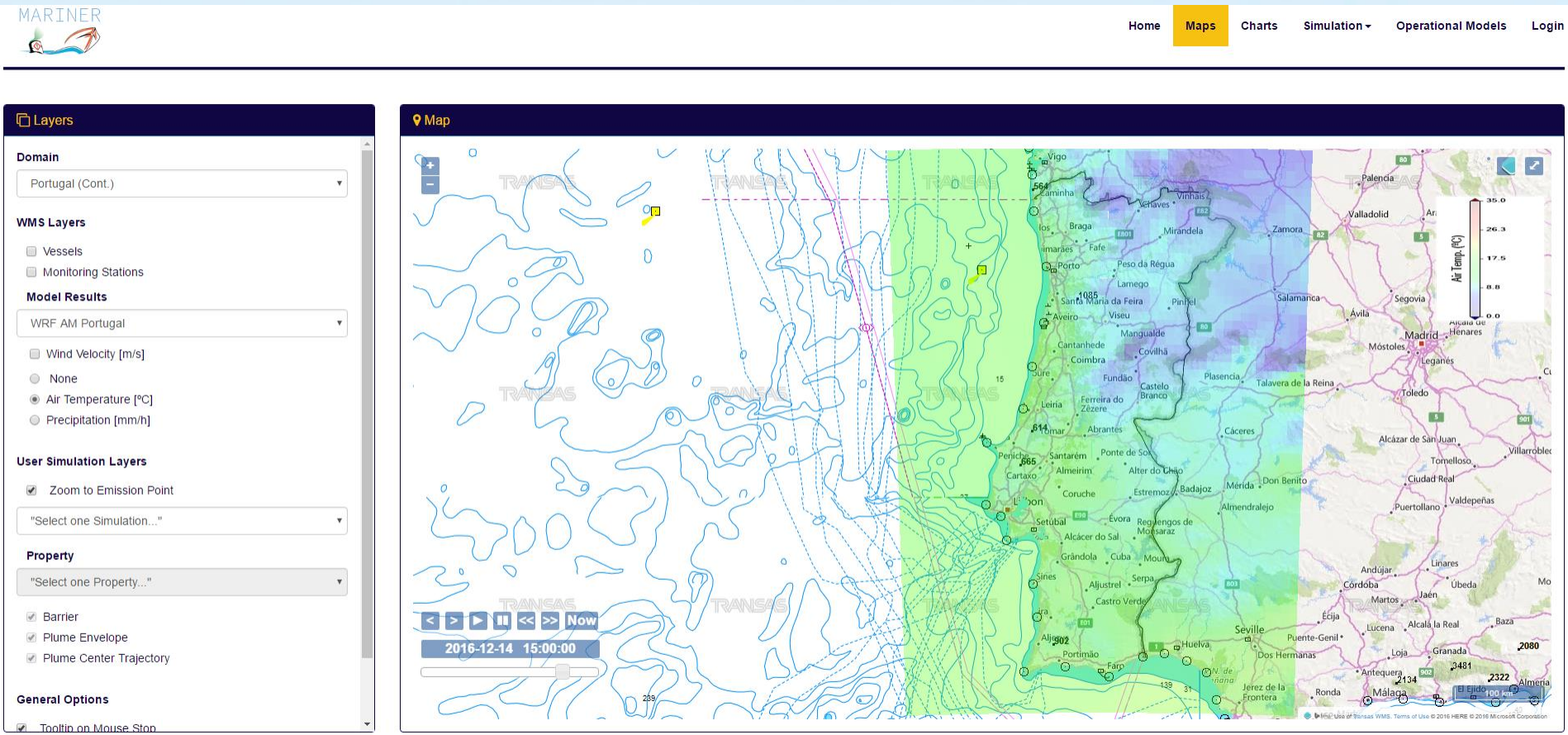
Task C: HNS modelling and environmental impact

MARINER PLATFORM: Portugal



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Task C: HNS modelling and environmental impact

MARINER PLATFORM: Global models

MARINER

Home | Maps | Charts | Simulation | Operational Models | Login

Layers

Domain

France

WMS Layers

- Vessels
- Monitoring Stations

Model Results

GFS NOAA World

- Wind Velocity [m/s]
- Air Temperature [°C]

User Simulation Layers

- Zoom to Emission Point

"Select one Simulation..."

Property

"Select one Property..."

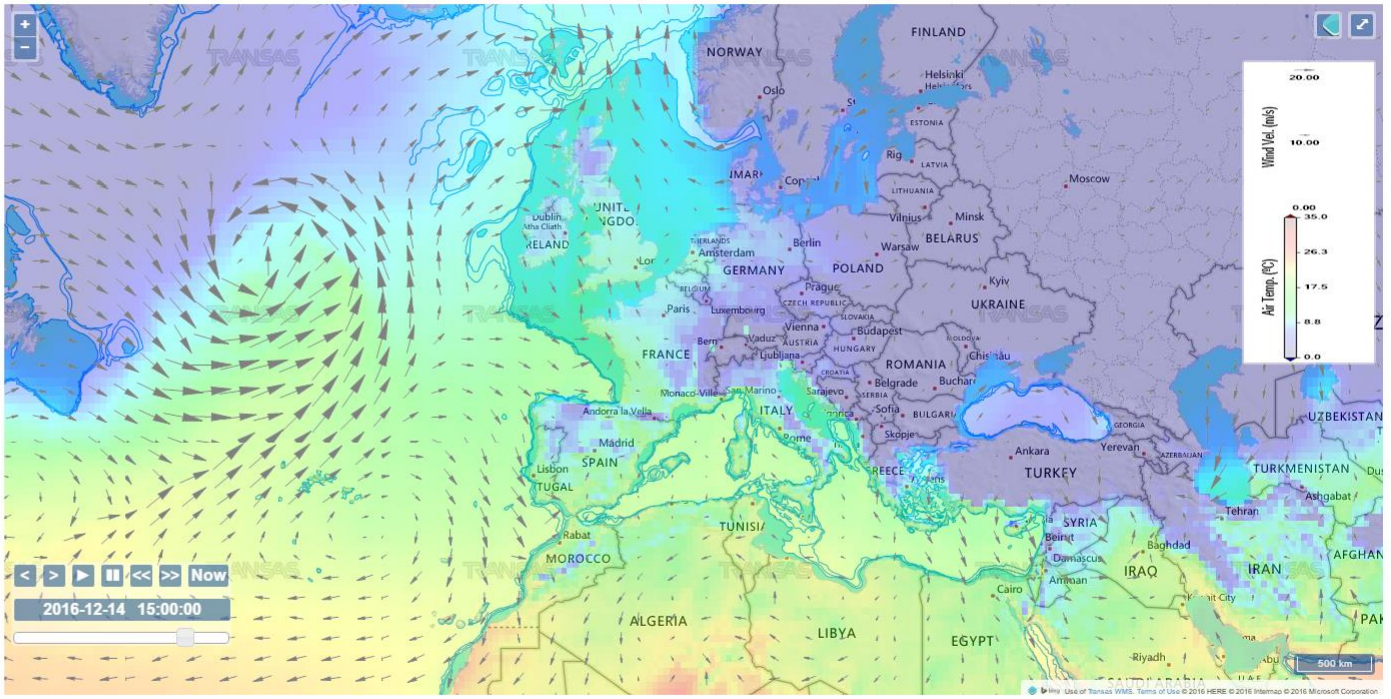
- Barrier
- Plume Envelope
- Plume Center Trajectory

General Options

- Tooltip on Mouse Stop

Export Map PNG KMZ

Map



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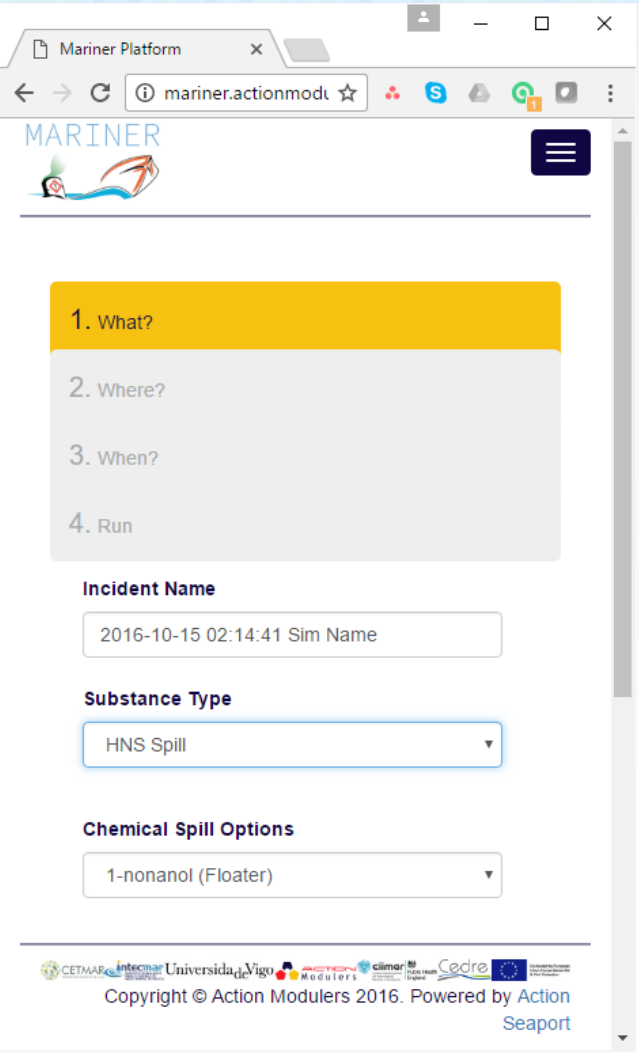
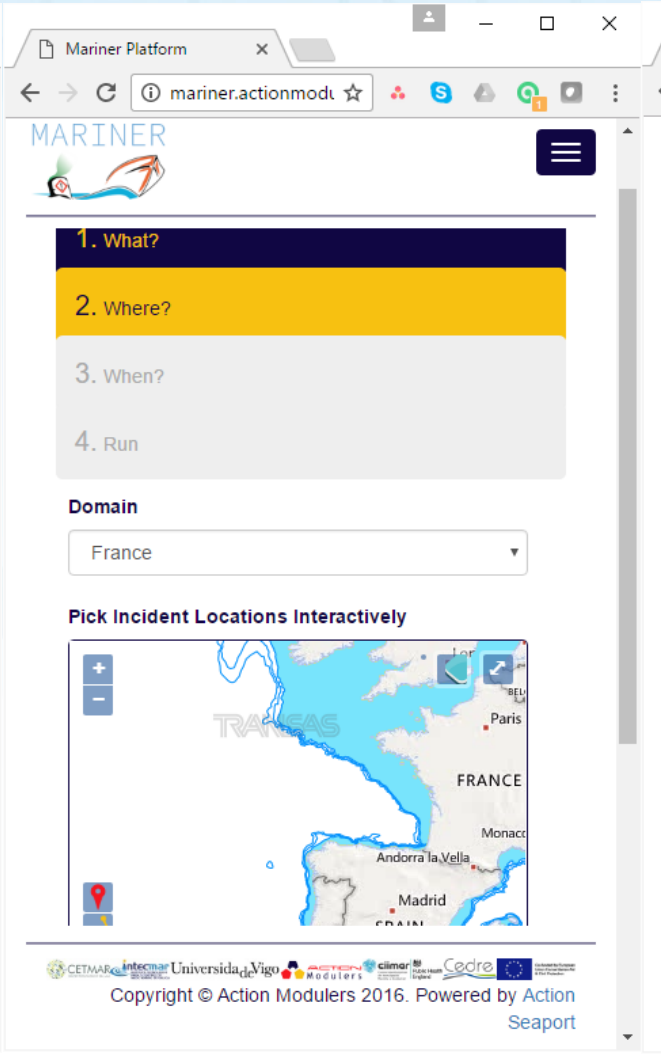
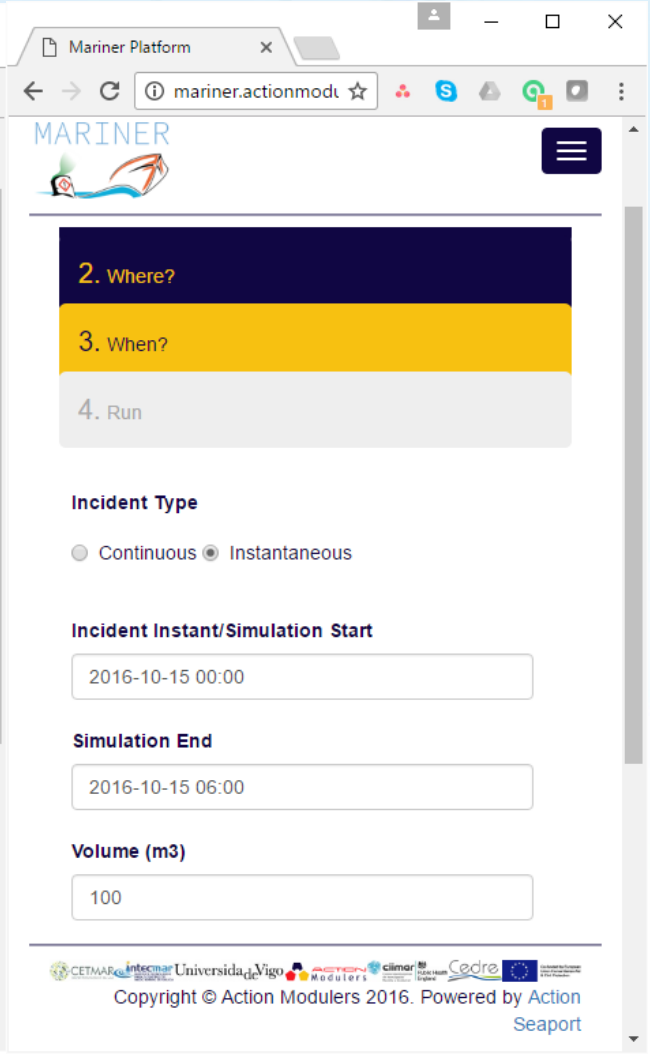
Task C: HNS modelling and environmental impact

MARINER PLATFORM: Web responsive design / mobile friendly technology

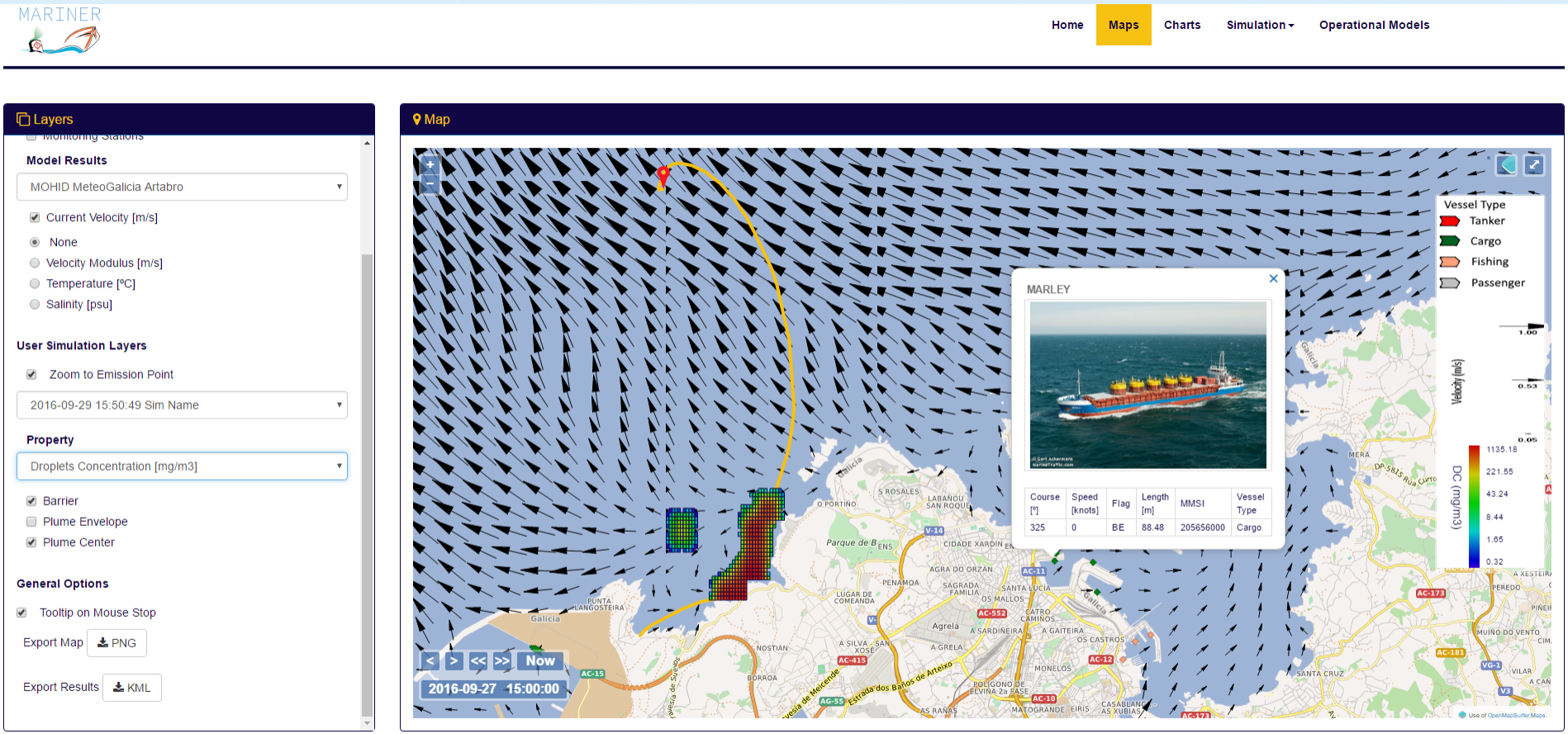






Task C: HNS modelling and environmental impact

MARINER PLATFORM: HNS simulations



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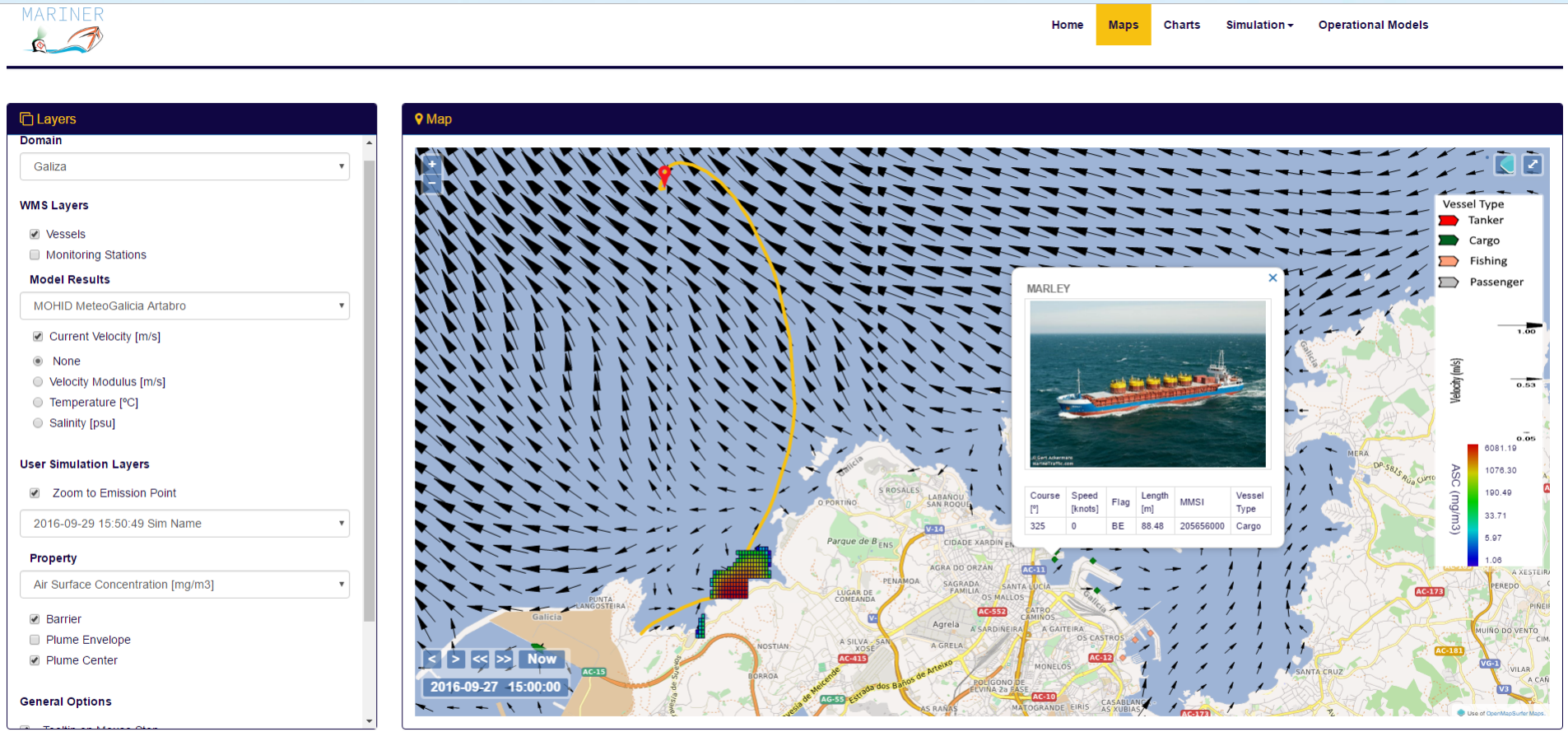
Task C: HNS modelling and environmental impact

MARINER PLATFORM: HNS simulations



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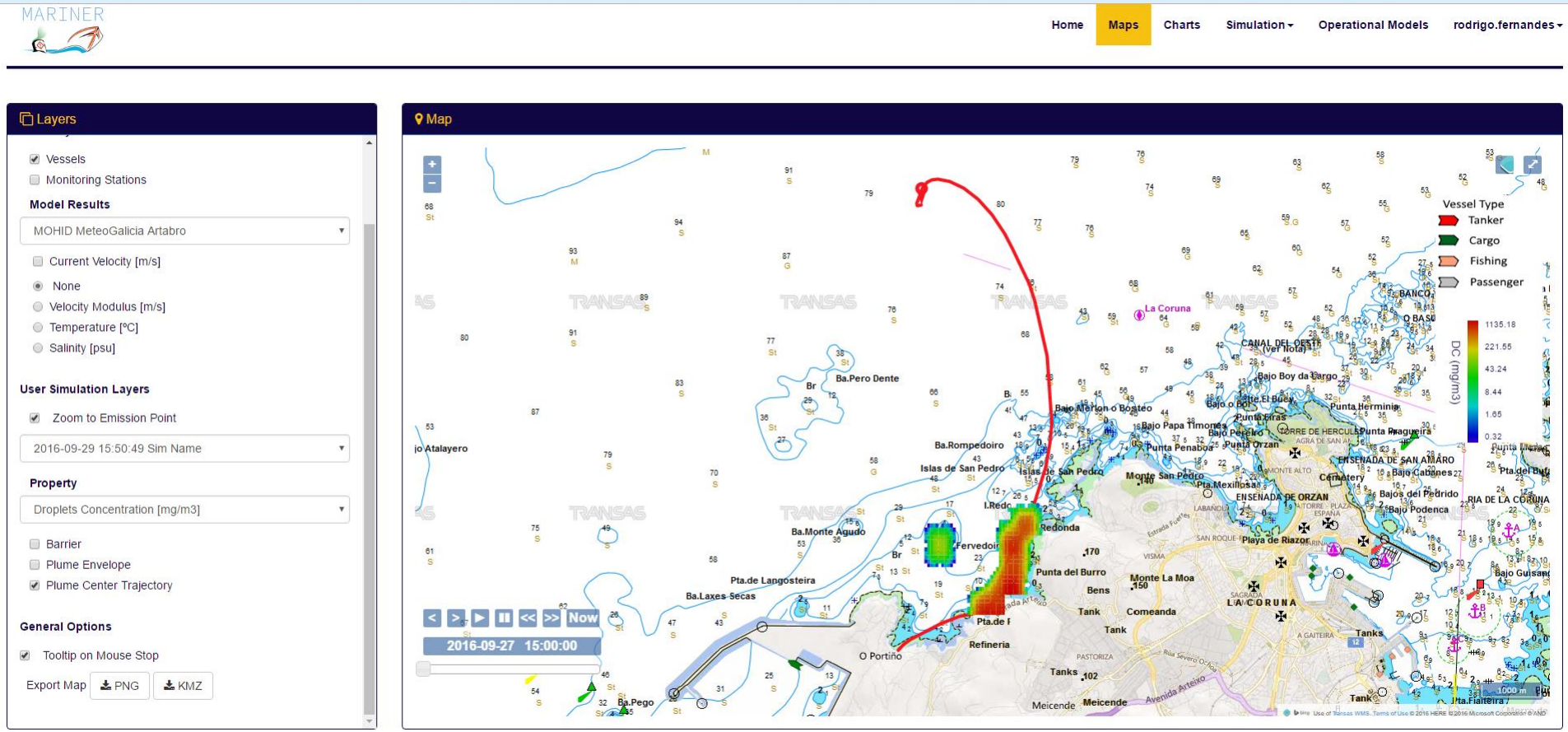
Task C: HNS modelling and environmental impact

MARINER PLATFORM: exporting results to 3rd party GIS systems



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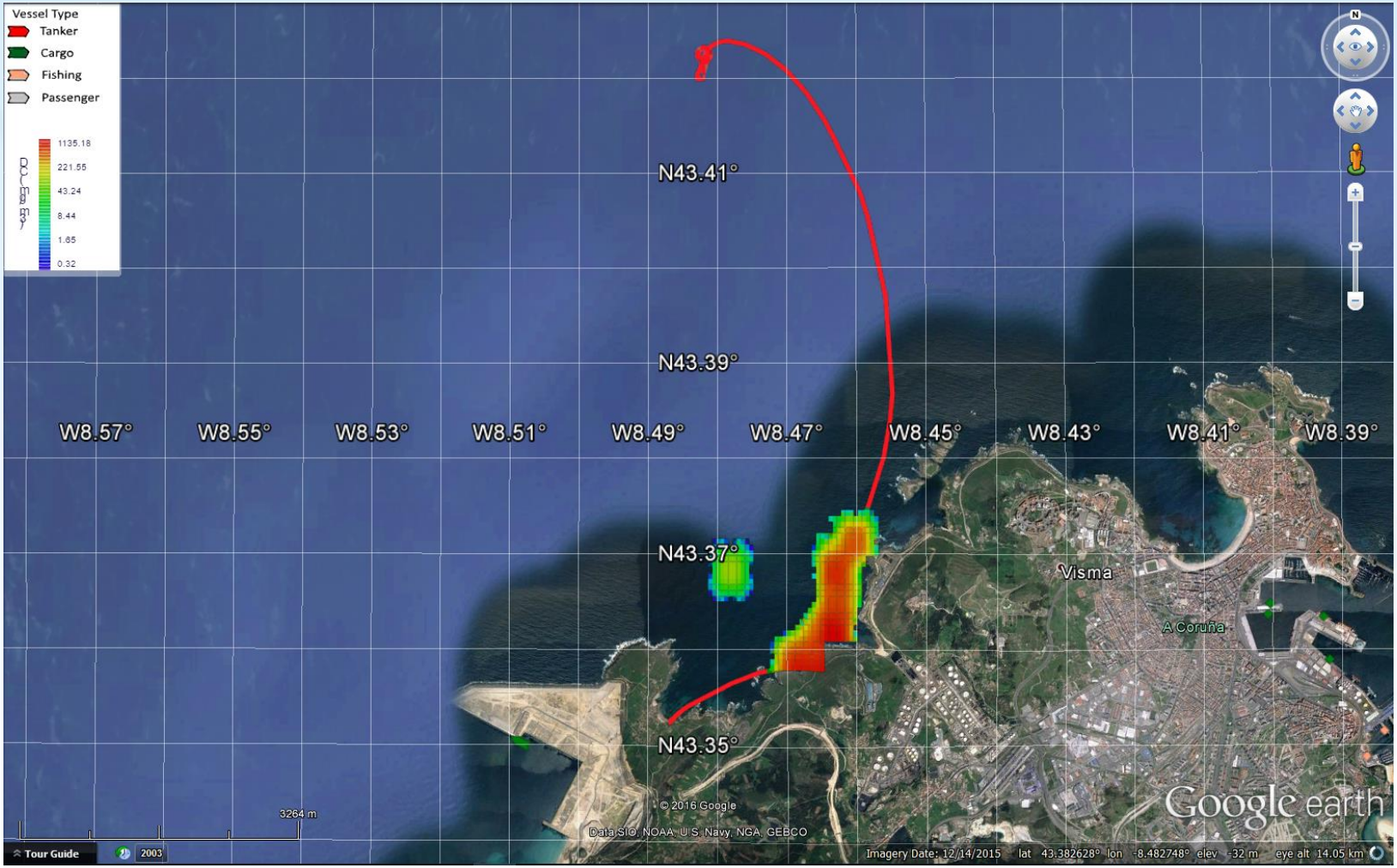
Task C: HNS modelling and environmental impact

MARINER PLATFORM: exporting results to 3rd party GIS systems



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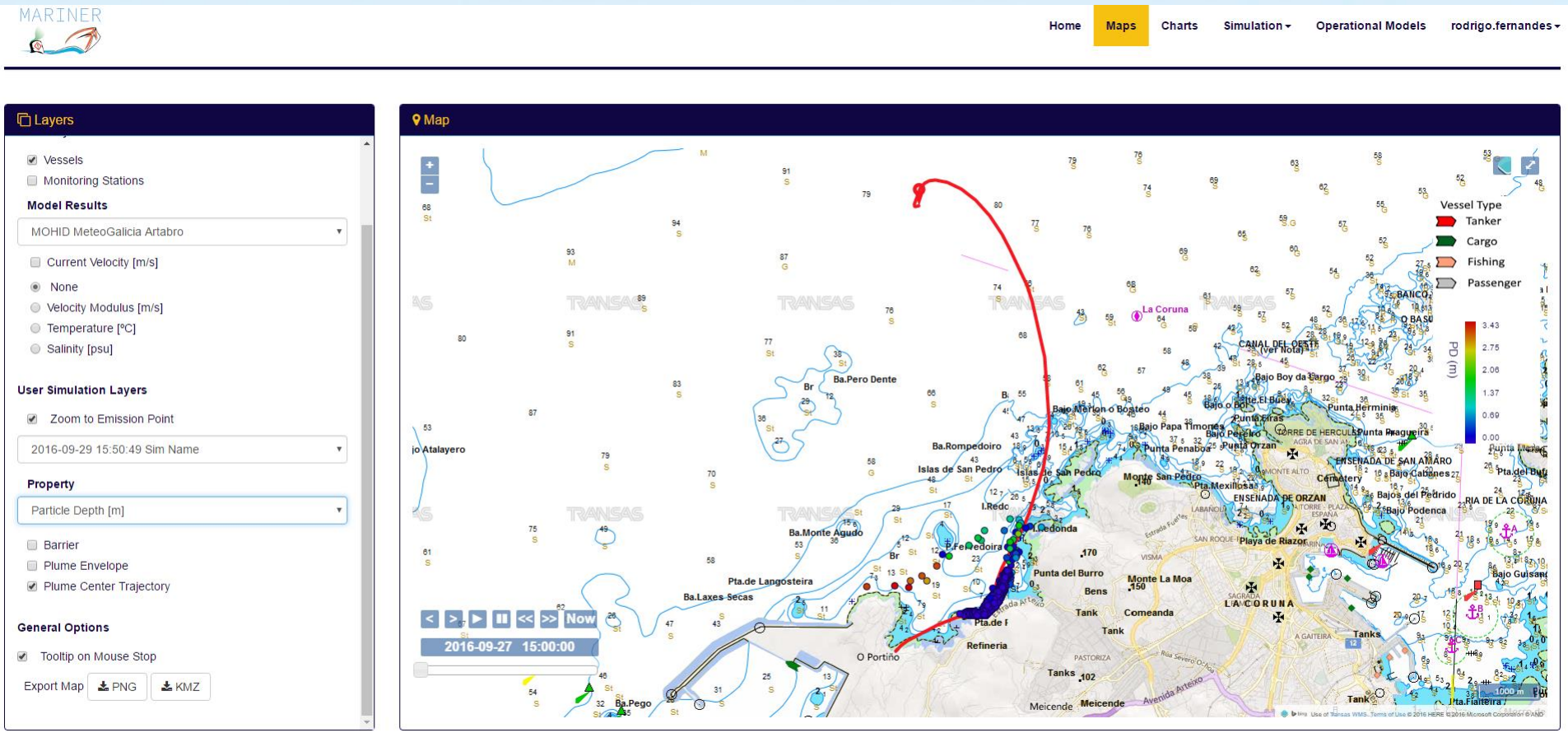
Task C: HNS modelling and environmental impact

MARINER PLATFORM: exporting results to 3rd party GIS systems



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Task C: HNS modelling and environmental impact

MARINER PLATFORM: exporting results to 3rd party GIS systems

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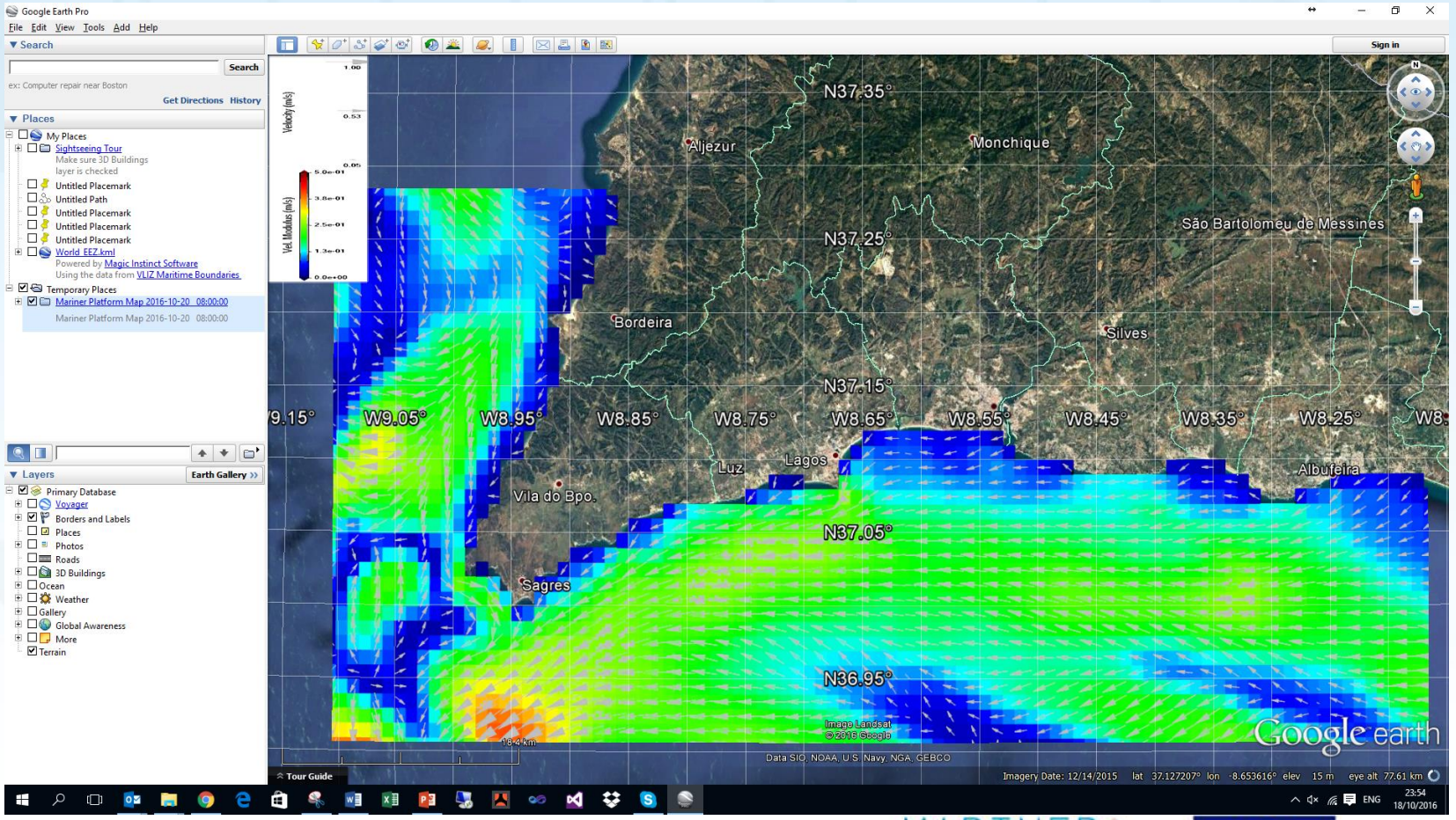
Task C: HNS modelling and environmental impact

Contribution to exercise (ATLANTIC.POLEX 2016): integration of external model from CIMA-University of Algarve in MARINER PLATFORM



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Task D: HNS response – seeking synergies with experts

Specific objective:

- Identification of existing expertise from chemical industry, civil protection mechanisms and fire's crews and their main response protocols and equipment to be adapted for marine events.
- Development of guidance documents for Good Practices and training for specialized antipollution vessels operating in coastal areas.

Manager: INTECMAR.

Participants: CEDRE, PHE, CIIMAR, AM, Uvigo.

Main results and estimated delivery date:

- **Adapted response protocols to be included in contingency plans**. June 2017.
- **Training and exercise events** to test the adapted protocols in specialized antipollution vessels. October 2017.
- **Multilingual video on training**. Dec 2017.

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Task E: HNS training and exercising

Specific objective:

- Develop and trial an innovative training and exercise process and bespoke software tool aimed at shoreline maritime HNS incident preparedness for public health protection.
- Apply and incorporate EU and international cross-border preparedness protocols within exercise scenarios.
- Develop training materials packages and delivery of courses addressed to cover key issues of HNS preparedness and response.

Manager: PHE.

Participants: CEDRE, Uvigo, AM, CIIMAR, INTECMAR.

Main results and estimated delivery date:

- **Web based database exercise tool**. September 2017.
- **E-learning materials on exercises and risk assessment**. November 2017.
- **Training package on HNS spill management**. November 2017.
- **Training package on HNS modelling.** Aug. 2017.

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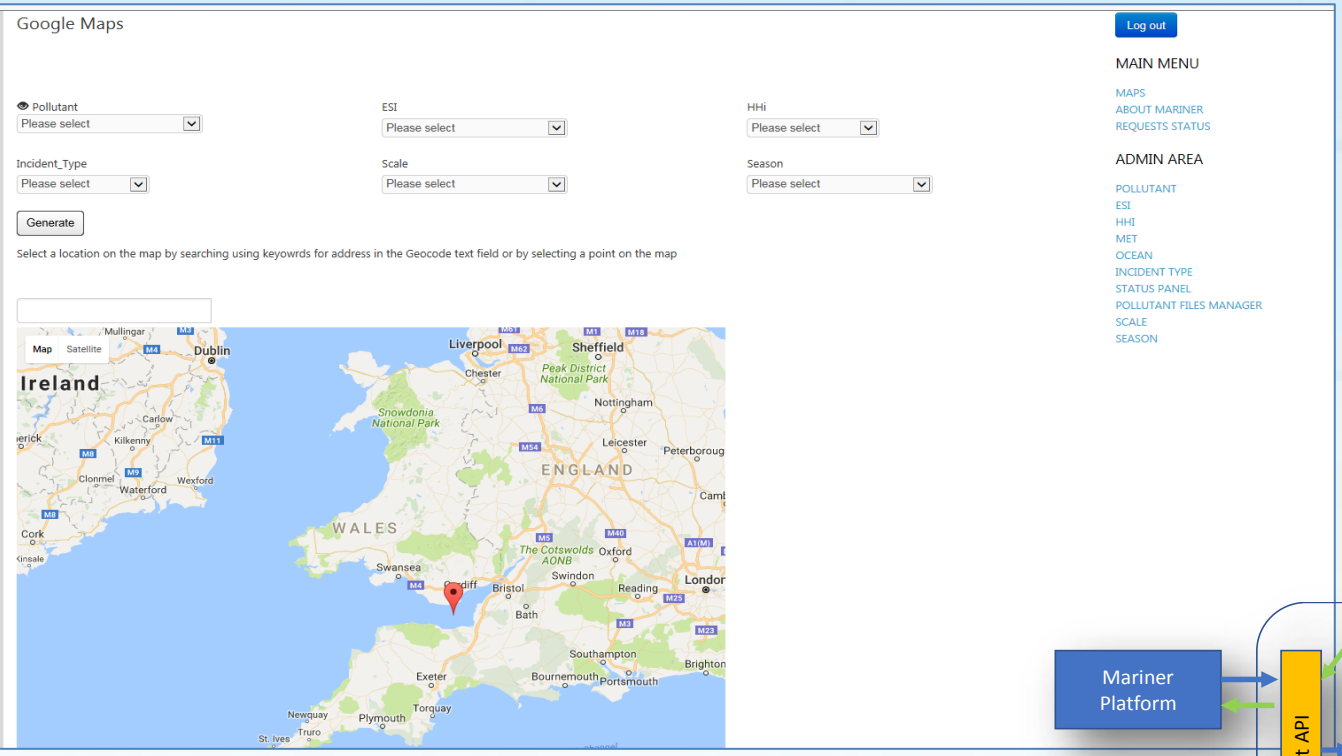
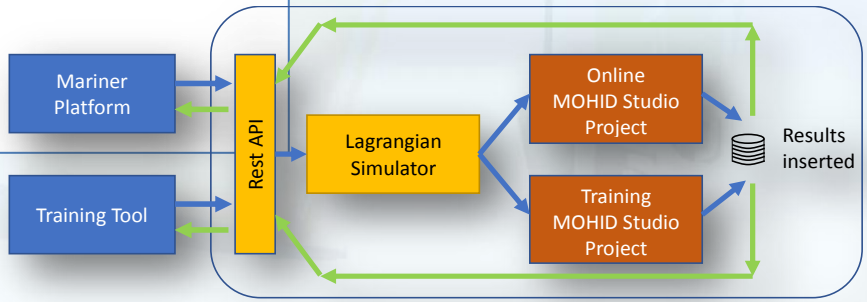
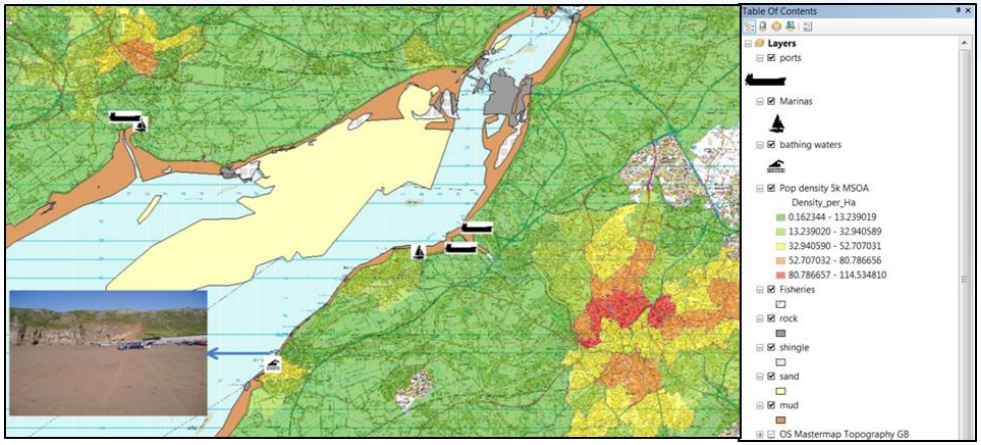
Task E: HNS training and exercising



Software training tool





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Task F: Communication

Specific objectives:

Transfer project outputs to competent authorities and to raise awareness among the general public

Manager: CETMAR

Participants: All

Main results and estimated delivery date:

- **Dissemination plan.** February 2016.
- **Dissemination materials: logo, leaflet, poster, Layman's report**. April 2016 – November 2017.
- **Website & social media**. May 2016.
- **3 Regional workshops**. April - September 2017.
- **Final conference.** December 2017.

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Knowledge dissemination & transfer

The key MARINER goal is the production of tangible results and the effective transfer of those results to end users

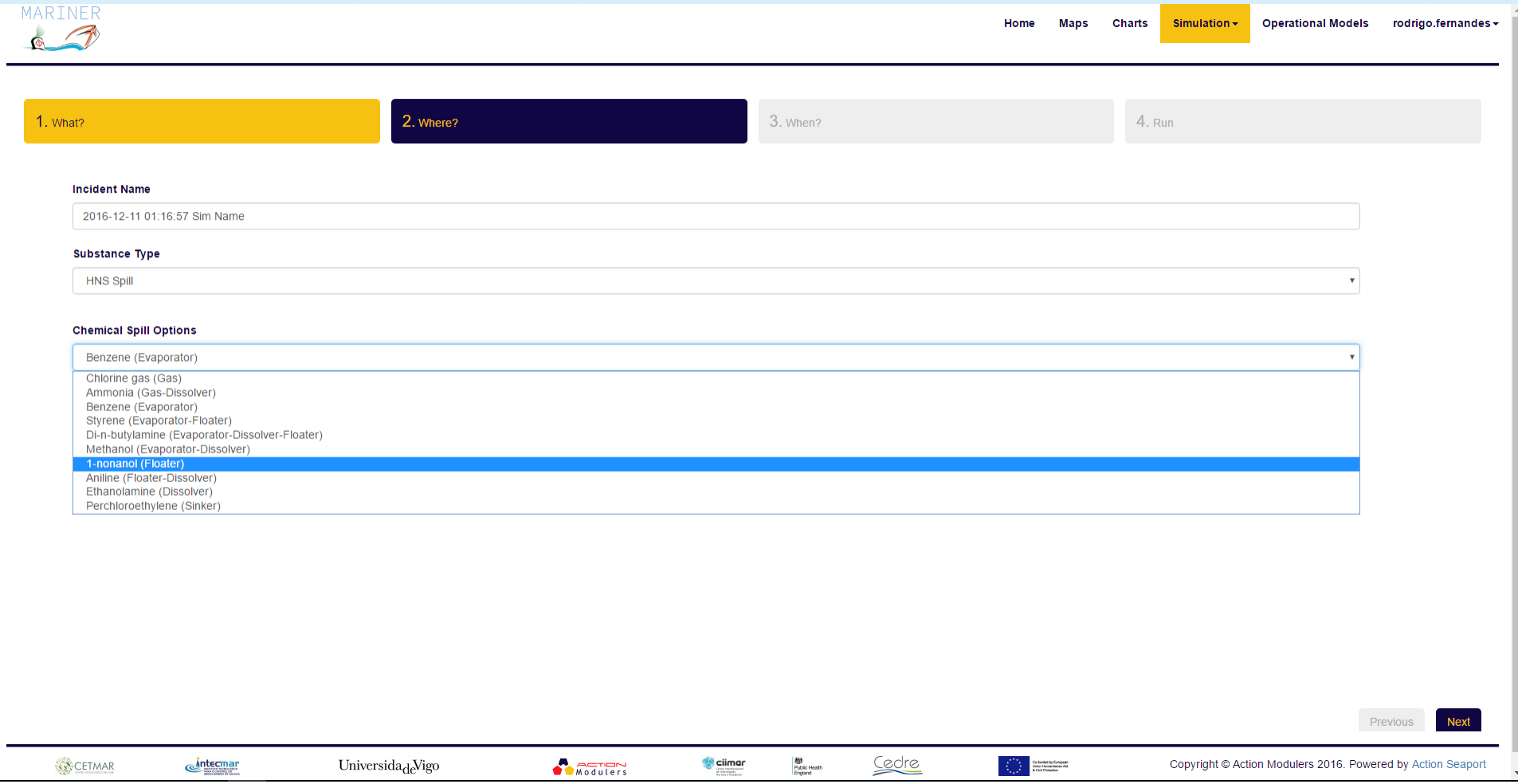
MARINER results will be transferred to end users through targeted actions:

- Integrating end users into the project structure: The MARINER Advisory Board is made up of representatives of national competent authorities (UK, FR, SP, PT);
- Specific transfer actions for results with higher potential of transferability (Task B4)
- Organising project events aiming at national, regional and local authorities:
  - Training sessions
  - Workshops
  - Exercises
- Sharing results through different vias:
  - MARINER website,
  - ARCOPOL Platform (*Atlantic Technological Platform for oil and HNS spill preparedness, response and mitigation*)
  - Participation in conferences and meetings in the scope of MARINER (meetings with EMSA, Bonn Agreement, etc.)
  - Others…

Results integrated into end users' operational protocols

Interaction with HNS-MS

Interoperability: HNS online database to be used in MARINER platform



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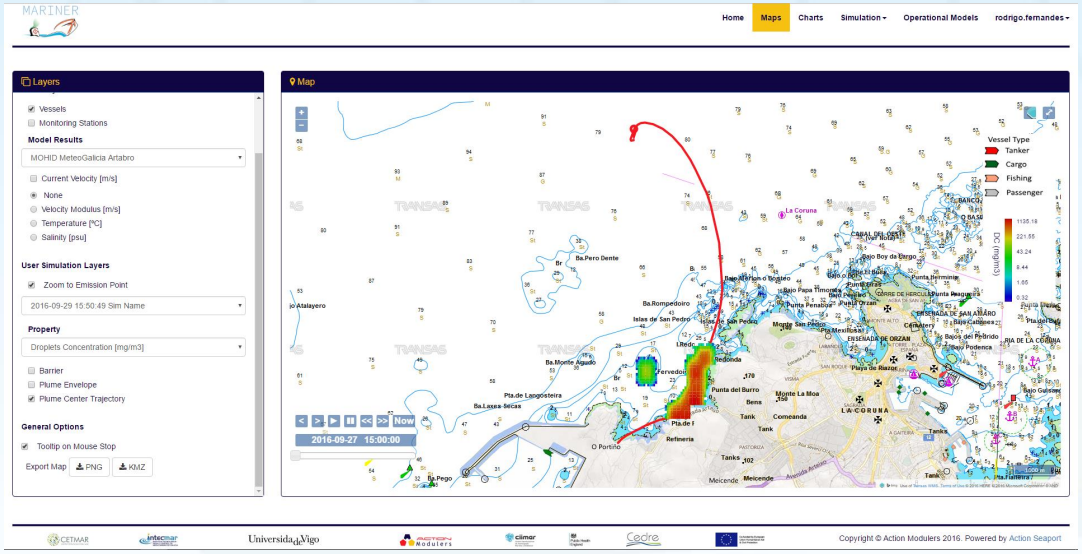
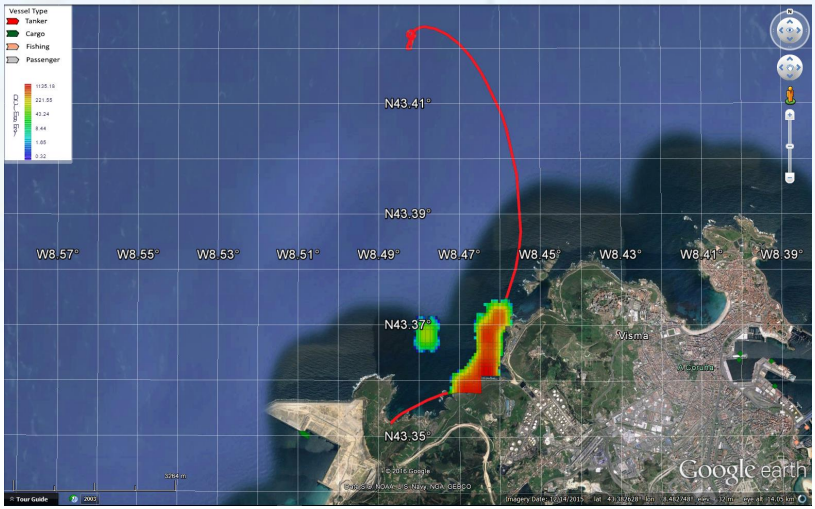
Interaction with HNS-MS

Interoperability: interaction with model via webservices (REST API; OGC WMS)

Ability to request external model simulations and visualize results in multiple user interfaces





MARINER can potentially export data to HNS-MS interface…but can also import!

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Thank you!

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