Web interface for the Oil Spill prediction software

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The well known MEDSLIK oil spill model has been developed as a powerfull desctop software[1]. The MEDSLIK first web interface was developed and presented at IMDIS-2013[2]. The current paper deals with the improvements of the MEDSLIK web interface.

The online-MEDSLIK system allows authenticated users to use the main functions of the MEDSLIK model via an interactive and user friendly web application without the need of installing any software locally. The application offers three main functionalities:

- Input interface.
- Simulation.
- Visualization interface.

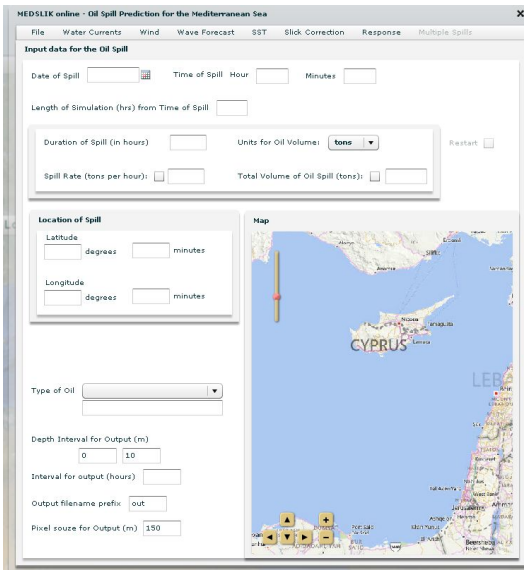

Fig. 1: Input interface.

System architecture

The web application is based on a number of different technologies, such as:

- Flex Rich Internet application used for the presentation of the input interface.
- PHP used for providing data exchange between Client and Server parts.
- MapServer chosen to be a map service.
- Python used for result processing.

The input interface was developed to be a similar to the MEDSLIK descktop interface. It gives opportunity to input all necessary oil spill parameters (Fig. 1) and run oil spill simulation. Each user owns a directory at the online MEDSLIK server. This directory keeps the user's input data and the simulation results which can be visualized.

The two last technologies consistitute the improvemant of the online MEDSLIK system, both allow to process and visualize the results more effectively. To perform oil spill prediction MEDSLIK uses CYCOFOS and Copernicus data.

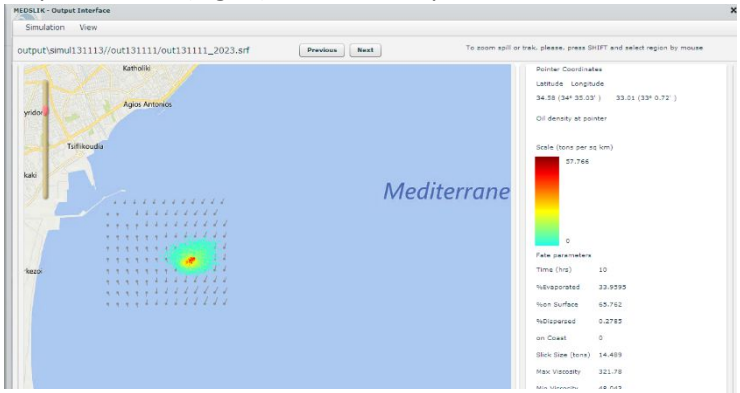

Fig. 2: Visualization of online MEDSLIK oil spill prediction in the broader area of Limassol Port.

Also the online-MEDSLIK was adapted to include high resolution domains for 3 ports in Cyprus. The Fig. 2 presents the result of oil spill prediction in the broader area of the Limassol Port, located at the souther coast of Cyprus.

In future, other regions such as Black Sea, will be included in MEDSLIK online.

REFERENCES

[1] Lardner, R., Zodiatis, G., Hayes, D., Pinardi, N., 2006. “Application of the MEDSLIK Oil Spill Model to the Lebanese Spill of July 2006”. European Group of Experts on Satellite Monitoring of Sea Based Oil Pollution. European Communities.

[2] Zhuk E., Zodiatis G., Stylianou S., Lardner R. (2013). “A web-based GIS for oil spill prediction ”. IMDIS 2013 Book of Abstracts. Vol 54. p.221.