

# FIRESPILL Campaign on media

D.2.4.5

<b>Project Acronym</b>	Firespill
<b>Project ID Number</b>	10255377
<b>Project Title</b>	Fostering Improved Reaction of crossborder Emergency Services and Prevention Increasing safety Level
<b>Priority Axis</b>	Safety and resilience
<b>Specific objective</b>	2.2 - Increase the safety of the Programme area from natural and man-made disaster
<b>Work Package Number</b>	2
<b>Work Package Title</b>	COMMUNICATION ACTIVITIES
<b>Activity Number</b>	2.4
<b>Activity Title</b>	Media relations and publications
<b>Partner in Charge</b>	PP9
<b>Partners involved</b>	All PP
<b>Status</b>	Final
<b>Distribution</b>	Public
<b>Date of release:</b>	6/2023

In the context of Activity 2.4.5, the Civil Protection Section of the Puglia Region actively participated in a specialized European workshops and associated events. Their objective was to present and disseminate the outcomes of the FIRESPELL project, with a specific focus on the technical activities conducted through pilot actions.

Please find below a list of the workshops, with the PDF summary and agendas attached.

**1) IDRA - The XXXVIII National Meeting of Hydraulics and Hydraulic Constructions – September 2022**

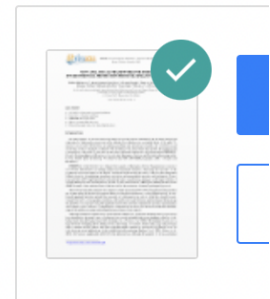
Conference Paper

PDF Available

## NEW ANALYTICAL FRAMEWORK FOR ENHANCING ENVIRONMENTAL PROTECTION FROM OIL SPILLS IN THE ADRIATIC

September 2022

Conference: Il XXXVIII Convegno Nazionale di Idraulica e Costruzioni Idrauliche - IDRA 2022 · At: Reggio Calabria, Italia



**Authors:**



**Svitlana P. Lyubartseva**

The Euro-Mediterranean Center on Climate Change, Bologna, Italy



**Antonio Augusto Sepp-Neves**



**Giovanni Coppini**

Centro Euro-Mediterraneo sui Cambiamenti Climatici



**Francesco Ronco**



2) **The Mediterranean Oceanographic Network for the Global Ocean Observing System: Annual meeting and workshop. (22<sup>nd</sup> and 23<sup>rd</sup> November 2022 – Florence (IT)).**







### 3) European Geosciences Union: Annual General Assembly 2023 (23-28 April 2023)



**EGU General Assembly 2023** Vienna, Austria & Online | 23-28 April 2023

Abstract EGU23-2235

**Modeling the operational oil spills from shipping in the Adriatic Sea**

Silvana Liubartseva<sup>1</sup>, Giovanni Coppini<sup>2</sup>, Giuseppe Verdiani<sup>3</sup>, Teresa Mungari<sup>4</sup>, Francesco Ronco<sup>5</sup>, Mariastrieta Pireti<sup>6</sup>, Giuisi Pastore<sup>7</sup>, and Rita Lecci<sup>8</sup>

<sup>1</sup>CMCC - Euro-Mediterranean Center on Climate Change, Ocean Prediction and Applications, Bologna, Italy (silvana.liubartseva@cmcc.it)  
<sup>2</sup>CMCC - Euro-Mediterranean Center on Climate Change, Ocean Prediction and Applications, Lecce, Italy  
<sup>3</sup>Coast Protection Department of the Apulia Region, Bari, Italy  
<sup>4</sup>Change Public Management in Croatia, Split

In the present work, we focus on chronic oil pollution from ships even small amount of toxic oil compounds has immediate adverse biological effects. Moreover, routinely released hydrocarbons tend to cumulatively exceed volumes of the largest historical oil spills.

We perform stochastic simulations of virtual oil spills from ships in the Adriatic 2017-2020 applying the EMOdnet vessel densities as a proxy for starting locations. MEDUSA oil spill model is run using the high resolution (1/24 degree) currents and sea surface temperature provided by the Copernicus Marine Service and the ECMWF winds with a horizontal resolution of 1/8 degree.

Chronic exposure to operational oil spills is reported in terms of hazard indices for 5 vessel groups: (1) the pleasure and passenger ships that comprise ~47.2% of the total number of ships in the model domain; (2) cargo and service vessels with a contribution of ~24.2%; (3) fishing fleet with ~21.5%; (4) tankers with ~5.9%; and (5) remaining ships with ~1.2%.

The highest hazard indices from all ships are found in the northernmost part of the basin and along the coastlines of Italy, Croatia, and Slovenia. Near several major ports (Trieste, Koper, Venice, Split, Rijeka, Pescara, Brindisi, Durres, Zadar, Šibenik, and Dubrovnik), they are also elevated at the sea surface and on the coastlines. Conversely, the southern Adriatic exhibited the lowest values of hazard indices.

Comparative analysis of the integrals over the territorial waters of Italy and Croatia shows that the Croatian coastal waters are more chronically polluted than the Italian ones, despite their host less ships than the coastal waters of Italy. The reason for such an inconsistency is probably related to the differences in efficiency of circulation when the pollution from ships quickly disperses along the Italian coast and tends to stagnate near the Croatian coast. Cargo and service ships are identified to be the main polluters in the Italian coastal waters. While in the Croatian coastal waters, most of the oil is received from the pleasure and passenger ships, particularly, from coastwise shipping. Offshore waters are found to be significantly less polluted than the coastal ones, with the main contribution from fishing, cargo and service vessels.

The results obtained can be considered representative of future events since the vessel density distribution and the amount of oil operationally spilled are assumed to be typical of the present state and not to change dramatically in the future. The historical meteorological datasets 2017-2020 used are supposed to correspond to a realistic sample of possible weather and sea state conditions. The hazard indices computed can be used to improve the strategy of satellite and aerial surveillance, in-situ sampling, and ecological research in the Adriatic.

The presentation summarizes the results obtained in the framework of the FIRESPELL Project (Fostering Improved Reaction of cross-border Emergency Services and Promoting Increasing Safety Levels) funded under the Interreg V-A Italy-Croatia CBC 2014-2020 Programme (AF2-Security and Resilience).

**How to cite:** Liubartseva, S., Coppini, G., Verdiani, G., Mungari, T., Ronco, F., Pireti, M., Pastore, G., and Lecci, R.: Modelling the operational oil spills from shipping in the Adriatic Sea, EGU General Assembly 2023, Vienna, Austria, 24-28 Apr 2023, EGU23-2235, <https://doi.org/10.5194/egusphere-egu23-2235>, 2023.



