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**MEDITERRANEAN ACTION PLAN (MAP)  
REGIONAL MARINE POLLUTION EMERGENCY RESPONSE CENTRE FOR THE  
MEDITERRANEAN SEA (REMPEC)**

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Regional Workshop on Data Sharing, Monitoring and  
Reporting (MEDEXPOL 2024)

REMPEC/WG.57/4/2  
Date: 23 August 2024

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**Agenda Item 4: Data Sharing - Towards a Country Profile integrated Platform for enhancing Prevention,  
Preparedness and Response**

**Data capitalization: Raising awareness and periodic update – Brochure of the Study on Trends and Outlook of  
Marine Pollution**

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### **Note by the Secretariat**

This document presents a summary of the findings illustrated in the Study on Trends and Outlook of Marine Pollution from ships and activities and of maritime traffic and offshore activities in the Mediterranean. Such findings are updated with more recent data on oil spills, from the Initial assessment findings related to IMAP CI 19 to contribute to the preparation of the 2023 MED QSR. The summary also include reference to the source of data used to describe the trend in terms of number of spills. Opportunity for capitalization of data provided by Contracting Parties and to be possibly collected thought the restructured Country Profile page are illustrated.

## **Background**

1. At the 14<sup>th</sup> Meeting of the Focal Points of the Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (REMPEC) (online, 2021) the information document [REMPEC/WG.51/INF.3](#) was presented on the Study on Trends and Outlook of Marine Pollution, Maritime Traffic and Offshore Activities in the Mediterranean. The Study was prepared by REMPEC, in collaboration with the Plan Bleu Regional Activity Centre (PB/RAC), the Mediterranean Pollution Assessment and Control Programme (MEDPOL), and the Specially Protected Areas Regional Activity Centre (SPA/RAC), in the framework of the Programme of Work 2020-2021 of the Mediterranean Action Plan of the United Nations Environment Programme (UNEP/MAP). The Study was published in 2021 on REMPEC Website ([Link](#))

2. The Study considered the following main topics:

- Maritime traffic and offshore O&G activities, trends and outlook
- Oil and chemical pollution
- Marine litter
- Air pollution
- Non-indigenous species
- Underwater noise

3. The information provided in the Study was collected through the review of a variety of literary sources: scientific and technical reports, policy briefs and guidelines, books and research articles, website content, etc. Data on a world-wide and a European scale was collected to draft the overview section for each of the main topics. For the description of maritime traffic and oil and gas activities, and for related incidents and spills, the Lloyd's List Intelligence, the Clarkson Offshore database and the MEDGIS-MAR database were consulted.

4. The present document provides a summary of the results from the Study relative to status and trends of maritime traffic, offshore activities and the related oil and chemical pollution, with the aim of highlighting the importance of the data on spills to be provided by the Contracting Parties to the Barcelona Convention, for producing further updates of the Study, concerning the status and trend of spills in the Mediterranean.

5. In addition, the present document updates the results from the Study, in relation to occurrence of spills in the regions, on the basis of the more recent assessment elaborated by REMPEC for the “Initial assessment findings related to IMAP CI 19 to contribute to the preparation of the 2023 MED QSR”, as laid down in Annex 3 of the document [REMPEC/WG.56/3/4/Rev.1](#) of the 15 Meeting of the Focal Points of REMPEC (Malta, June 2023).

## **Maritime traffic, offshore activities, oil and chemical pollution in the Mediterranean**

### *Maritime traffic in the Mediterranean: status and trends*

6. The Mediterranean Sea covers less than 1% of the world oceans. However, this sea basin is strategically located at the interface of the three continents of Asia, Europe and Africa and at the crossroads of three maritime corridors.

7. In 2019, there were 14,403 ships in the Mediterranean Sea which made about 453,000 port calls. Moreover, activity of vessels passing through the Mediterranean Sea without calling a port in 2019 counted 5,251 vessels with a total dwt of 510 million; these were mainly larger vessels. A little more than 24% of the global fleet of ships called ports or passed through the Mediterranean in 2019.

8. In the period 2010-2019, seaborne trade to and from countries in the Mediterranean has increased by 284 million tonnes. Dry bulks have grown the most in tonnes, while containerized cargos have grown the most in relative terms. Liquid bulks have only grown marginally (3%), while non-containerized general cargo has declined.

9. Port calls in the Mediterranean increased significantly in the same period (+74.5%). The growth was particularly evident for passenger vessels (1.6 times); this might be also due to an improved ability to adequately capture the highly frequent parts of the ferry traffic since 2010. The number of port calls increased strongly for all merchant vessel typologies, with the exception of container ships which show a lower increase between 2010 and 2019 (11.4%) and a decrease since 2016.

10. *Outlook.* Mediterranean merchant transport also is expected to grow, driven by two major factors: the quite recent doubling of the Suez Canal and the 21<sup>st</sup> Century Maritime Silk Road, part of the Belt and Road Initiative of the Chinese government, aimed at further improving the maritime connection between China and Europe. Growth of cruising is also likely to continue in the Mediterranean at least in the medium-term (Cruise Lines International Association, 2021). Both commercial and passenger traffic are expected to increase in the Mediterranean (REMPEC 2020), considering the strengthening of the already occurring shift towards mega container ships, and the continuous growth of the cruising sector, respectively.

#### *Oil and gas production in the Mediterranean: status and trends*

11. Compared to the other regions, the Mediterranean Sea is a small producer of offshore oil and gas. Extraction is mainly concentrated in four areas: the Levantine basin (mainly for gas), the Channel of Sicily, the Gulf of Gabès and the neighbouring Libyan marine area, and the Northern Adriatic (mainly for gas). Libya and Egypt are the main producers of offshore oil. Egypt is also the main actor for offshore gas production, with the recent discovery of large gas fields in the Levantine basin. Israel has also emerged as an important player in this sector. The majority of known fields concentrate in shallow waters (depth <500 m). Recent discoveries in the Levantine Sea expanded gas offshore extraction to deep waters and even ultra-deep-waters.

12. Contrarily to the development of offshore gas, there have been no major discoveries of offshore oil fields after 2010 and the number of deep water and ultradeep water fields are in general very limited. The historical evolution of offshore oil production shows a variable trend in the period 1980-2019, with a peak in early 1990s and a decrease since. In the same period, offshore gas production has significantly increased.

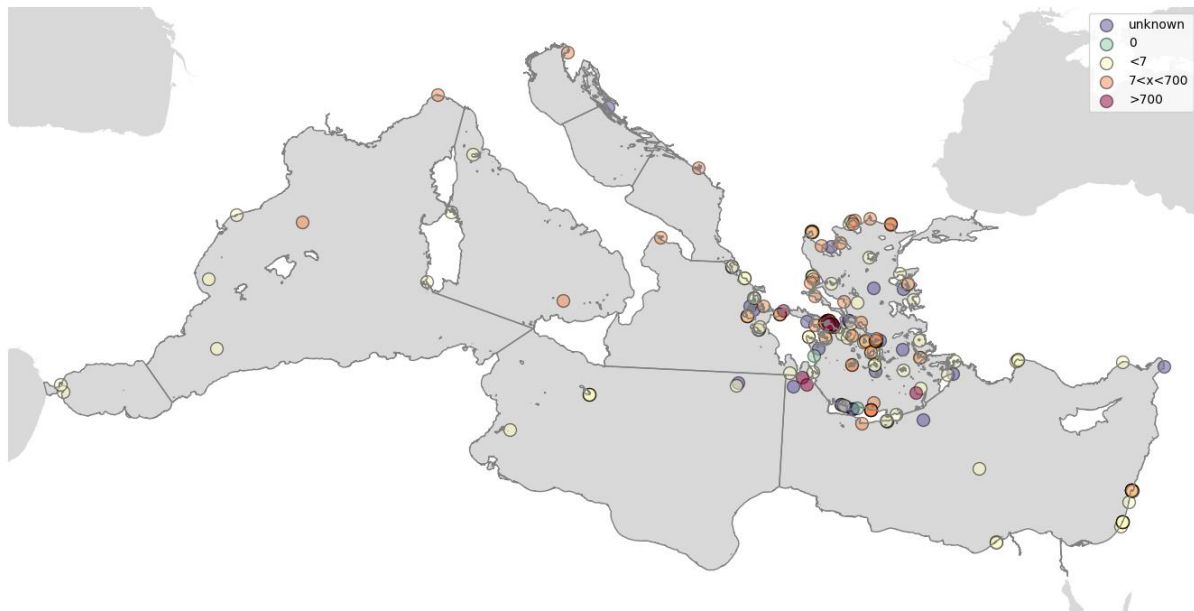
13. Offshore exploration has expanded in recent years and novel countries are expected to enter into the market (e.g. Cyprus, Malta, Montenegro and Lebanon). Not all explorations will lead to actual exploitation of fields, as this depends on other economic, regulatory, environmental and geopolitical factors.

14. *Outlook.* Offshore oil production is projected to slightly decrease in the Mediterranean, while offshore gas extraction is expected to significantly increase due to the expansion of the sector in the Levantine basin, involving also deep and ultradeep waters. The eastern Mediterranean resources are only partially exploited (by Egypt and Israel) and will likely attract the other countries of the region. New pipelines are planned to improve gas supply to the increasing European market. A number of old offshore platforms are approaching the end of operational lifetime. Their decommissioning is a challenge to be addressed in the near future, which has also environmental implications.

#### *Oil and chemical pollution*

15. Pollution from ships is a major source of oil pollution in the Mediterranean region. Up to 1,500-2,000 events of operational oil spill are estimated to occur yearly in the basin. The distribution of oil

spills is well correlated with major shipping routes, crossing the Mediterranean from east to west and linking major ports. Oil spills can seriously affect the marine environment both as a result of physical smothering and toxic effects. The severity of impact depends on the quality and type of oil spill, the ambient conditions (including meteorological ones affecting the dispersion of the spilled substances) and the sensitivity of the affected organisms and their habitats to the oil.



*Figure 1. Spatial distribution of oil spills events (volatile and non-volatile oil) in the Mediterranean in the period 2002-2021 per ITOPF class of spilled volume (values in legend = tonnes). Data source: MEDGIS-MAR. Source of the figure: “Initial assessment findings related to IMAP CI 19 to contribute the preparation of the 2023 MED QSR” ([REMPEC/WG.56/3/4/Rev.1, Annex 3](#)).*

16. ***Incidents.*** Most of the larger oil spills due to shipping accidents occurred in the Mediterranean before 2000. Innovation in shipping construction and improvement in maintenance, operation and routing have reduced the occurrence of these events in the basin and worldwide. Casualties causing the spill of small quantities of oil and other hazardous substances are still numerous. There is the need to further strengthen monitoring and reporting of incidents, including small ones, to evaluate the evolution their evolution and related impacts on the marine environment. Most of the maritime incidents occur near the coasts and in particular close to major ports. Mediterranean areas characterised by the higher occurrence of incidents include the Bosphorus Strait, the Aegean Sea and the Strait of Gibraltar.

17. The temporal evolution of oil spills events reported in the MEDGIS-MAR (considering only those events for which the spilled substance is identified as volatile or non-volatile oil in the dataset) is illustrated in Figure 2 for the period 2002-2021. Large spills above 700t have not been recorded since 2015 and medium size spills (7-700t) that represented the most frequent class until 2017 (e.g. 68% in 2012, 50% in 2013 and 44% in 2017) have not been recorded in the last four years. The overall number of spills has significantly decreased in the last four years, but the number of small spills (<7t) have increased (source for this information: “Initial assessment findings related to IMAP CI 19 to contribute the preparation of the 2023 MED QSR” ([REMPEC/WG.56/3/4/Rev.1, Annex 3](#))).

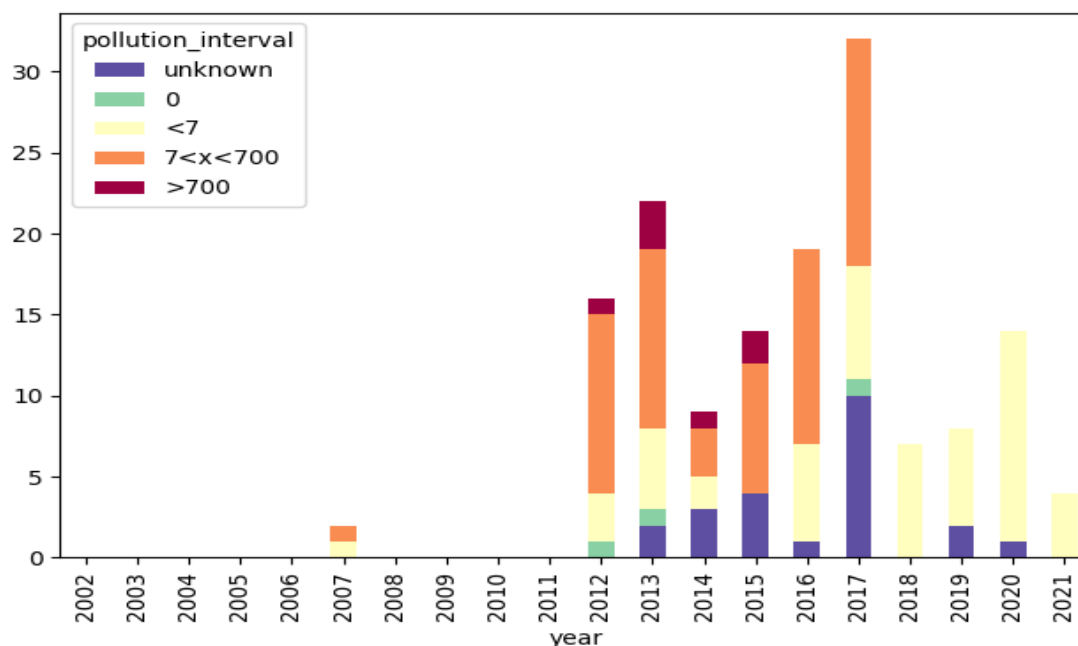


Figure 2. Number of oil spills events (volatile and non-volatile oil) per year in the period 2002-2021 in the Mediterranean. The figure considers only the events for which the spilled substance is identified as volatile or non-volatile oil in the dataset. Events are categorised according to ITOPF classes of spilled volumes (values in legend = tonnes). Data source: MEDGIS-MAR, Source of the figure: “Initial assessment findings related to IMAP CI 19 to contribute the preparation of the 2023 MED QSR” ([REMPEC/WG.56/3/4/Rev.1, Annex 3](#)).

18. **Illicit discharges.** While major accidental pollution has drastically decreased, illicit discharges of oil, oil mixture and other HNS from ships remain a problem of concern for the Mediterranean. Quantitative estimations of spilled volumes due to illicit discharges in the Mediterranean is highly uncertain, due to the lack of systematic data. Kostianoy and Carpenter (2018) suggests 50,000-100,000 tons per year as possible estimation of volume of oil illicitly discharged every year.

19. **Outlook.** A sharp decreasing trend in major incidents has been documented in the last decades worldwide and in the Mediterranean as well. It is reasonable to expect that this situation will stabilize, if not improve further, in the future and an even lower occurrence of large oil spills due to incidents can be expected. Instead, numerous incidents of minor dimension are still reported, particularly in the vicinity of ports. In a scenario of increased maritime traffic, a decrease in occurrence of such events is improbable, even with growing attention to safety procedures.

#### *Pressures and impacts on the marine environment*

20. Maritime traffic and offshore O&G activities are important drivers of marine pollution in the basin. The environmental impacts and the risks they generate pose threats to the marine ecosystems and biodiversity, as well as to other maritime and coastal human activities that can be impacted (e.g. mariculture, tourism). These activities generate a variety of different pressures and impacts on the marine environment: loss or discharge of solid wastes contributing to marine litter pollution, emissions of gaseous pollutants and particulate into the atmosphere, emissions of continuous and impulsive underwater noise and vibrations, release of oil and other contaminants in the marine waters, introduction of invasive species through ballast water and hull fouling.

#### **Gaps and challenges**

21. Integrated maritime data with a specific focus on the Mediterranean Sea remains scarce. Economic and shipping data (such as UNCTAD data or Eurostat data and other databases and data analysis) often do not consider the Mediterranean as a whole. In most cases, Mediterranean coastal States are distributed among different geographical groups (Europe; Africa; Middle East) or are classified in groups according to their level of economic development.

22. Despite the effort of the Secretariat to facilitate reporting obligation, the majority of the 22 Contracting Parties, with few exceptions, are still in non-compliance with their reporting obligation under Article 9 of the 2002 Prevention and Emergency Protocol. A similar observation can be made with regard to the reporting obligation defined by IMO Circular MEPC/Circ.318. This has an impact on the monitoring of the CI19 and on the assessment of the progress made regarding assessment of the Ecological Status of the Mediterranean about acute pollution and the related impacts.

23. Little information is available on the impact of pollution events caused by shipping on biota and habitat and about pressures and impacts exerted by offshore installations and activities on the marine environment.

### **Conclusions**

24. Comprehensive regional studies, like the ones referred to in this brochure, provide a fundamental basis for assessing impact of policies and regulation to protect marine environment in the Mediterranean region. Such studies need to be periodically updated to maintain their usefulness and usability.

25. Availability of data and information provided by Contracting Parties through Reporting, Monitoring and Data Sharing activities are crucial for preparation of such studies and should therefore be encouraged and strengthened. With the lack of such information, assessments would remain dependent on the acquisition of data from private datasets, external to the Barcelona Convention system.

26. Synthetic and periodically updated documents, like the present brochure, can be used to inform policy makers and the large public at regional and national level.

### **Actions requested by the workshop**

27. The Workshop is invited:

- .1 **To further encourage CPs** to report about events of marine pollution (ship accidents and spills, accidents and spills from offshore activities) and undertake monitoring of impacts of spills.
- .2 **To approve** the periodic preparation of a brochure synthesizing the results from the updated Study and other relevant assessments
- .3 **To discuss** the preparation of an update of the “Study on trends and outlook of marine pollution from ships and activities and of maritime traffic and offshore activities in the Mediterranean”.