

*Seas as crime scenes*  
The marine dimension of  
environmental crime:  
*support provided by EMSA*

  
Head of Department  
Safety, Security and Surveillance

Frontex Seminar on Environmental Crime / 1 June 2021



# “Environmental crime support”: legal basis



## EU criminal legal framework on protection of environment

- Directive 2005/35/EC on Ship-sourced pollution and penalties for pollution offences (amended by Directive 2009/123/EC introducing the specific criminal law elements)

The Directive tasks EMSA to *“work with the Member States in developing technical solutions and providing technical assistance in actions such as tracing discharges by satellite monitoring and surveillance”*.



- Directive 2008/99/EC on the protection of the environment through criminal law  
“Environmental Crime Directive”

Directive contains minimum rules requiring the criminalisation of unlawful conduct that causes, or is likely or presumed to cause, damage to the environment or wildlife or death or serious injury to persons.

# CleanSeaNet: Detecting Marine Pollution from Space



 16 April 2007  
The service became operational

**CleanSeaNet** is the European satellite-based oil spill monitoring and vessel detection service. It analyses images, mainly from synthetic aperture radar (SAR) but also from optical missions, to:

- detect possible oil on the sea surface, including illegal discharges of mineral oil
- identify potential polluters
- monitor the spread of oil during maritime emergencies.

The service was developed and is operated by EMSA, and is available to all EU member states, EFTA/EEA member states, candidate countries and European Neighbourhood Policy (ENP) participating countries



# CleanSeaNet Key Facts and Figures 2020



SENTINEL-1



RADARSAT-2



TERRASAR-X

**1 584 MILLION KM<sup>2</sup>** MONITORED IN QRT/NRT

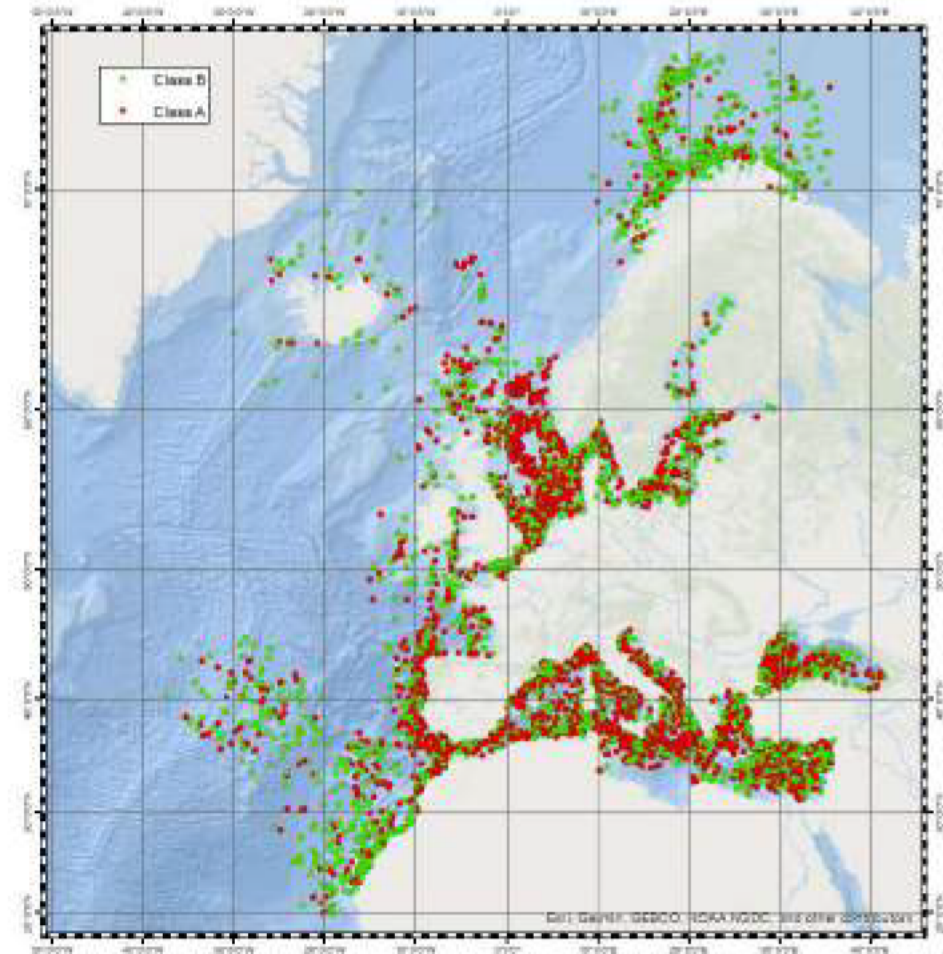
**8276** SAR SATELLITE IMAGES

**8158** POSSIBLE OIL SPILLS DETECTED

(APPROX. 5 SPILLS PER MILLION KM<sup>2</sup> MONITORED)

MORE THAN 600 OPERATIONAL USERS


Distribution of possible oil spills detections within the alert areas of EU coastal States, Iceland, Norway, Turkey and Montenegro.



# CleanSeaNet Alert Report



In case a possible oil spill is detected in the alert area of a Coastal State, an alert report is automatically sent in near real time (less than 20 minutes after the satellite overpass).



European Maritime Safety Agency

## CleanSeaNet Alert Report

Service Identifier: **2101130018**    **TERRASAR-X - TSX-SAR - WS**

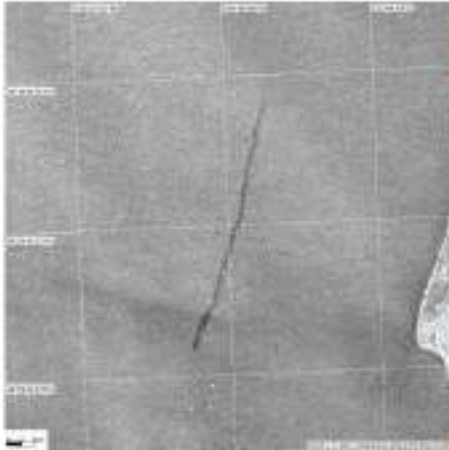
## FRANCE


Acquisition Start Time: **2021-01-13 17:43:13 UTC**

[List of Spills](#)    [GIS Viewer](#)

Details of possible Spill n°1 - OS\_2101130018\_1

Centre Position		SAR Wind at Center		Area (nm <sup>2</sup> )	Length (nm)	Width (nm)	Class (A/B)	Alert Level	Number of slicks	Oilspill Warning Issued
Latitude	Longitude	Direction (From)	Speed (m/s)							
49° 35' 15" N	000° 00' 23" W	280.00	9.20	2.23	8.82	0.51	A	High	1	NO





Meteorological and Ocean Data			
Sea State	N/A	Wave Height (m)	N/A
Met. Wind	Direction (from)		278
	Speed (m/s)		12
Current	Direction (from)		N/A
	Speed (m/s)		N/A

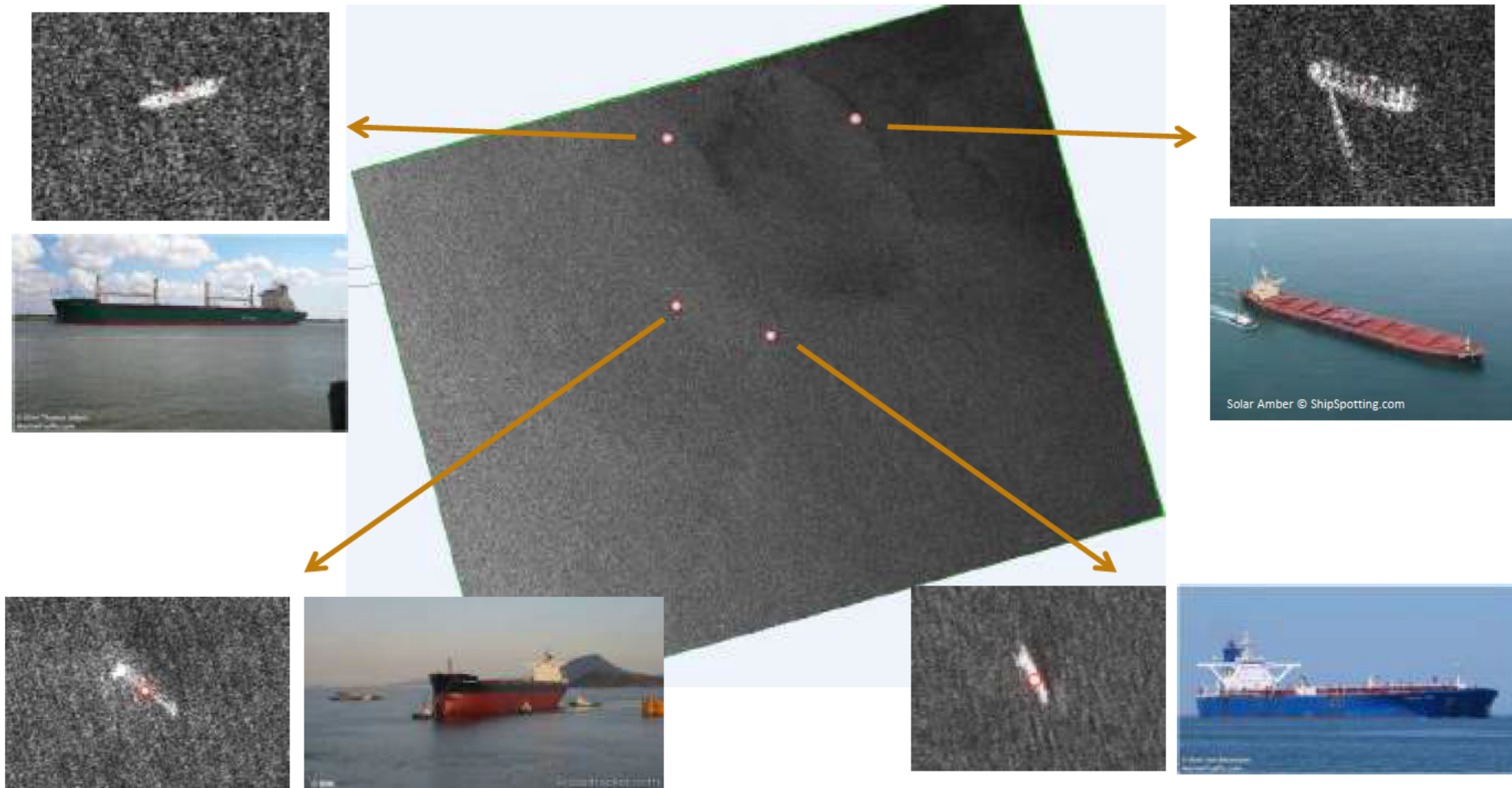
Note: Grey fields are parameters set as "invisible" in the Print Parameters matrix or not available

Comments from Service Provider

Possible source information												
N.	Detected	Dist.(Km)	Identified	Type	IWO	Name	MMSI	C/S	Latitude	Longitude	Time (UTC)	Track
1	Yes	0	Yes	VESSEL	N/A	N/A	354409000	N/A	49° 49' 27" N	000° 00' 27" E	17:44:322	No

# CleanSeaNet products: identification of a possible polluter

## Value Adding: Vessel Detection Service (VDS)



# CleanSeaNet Feedback Report



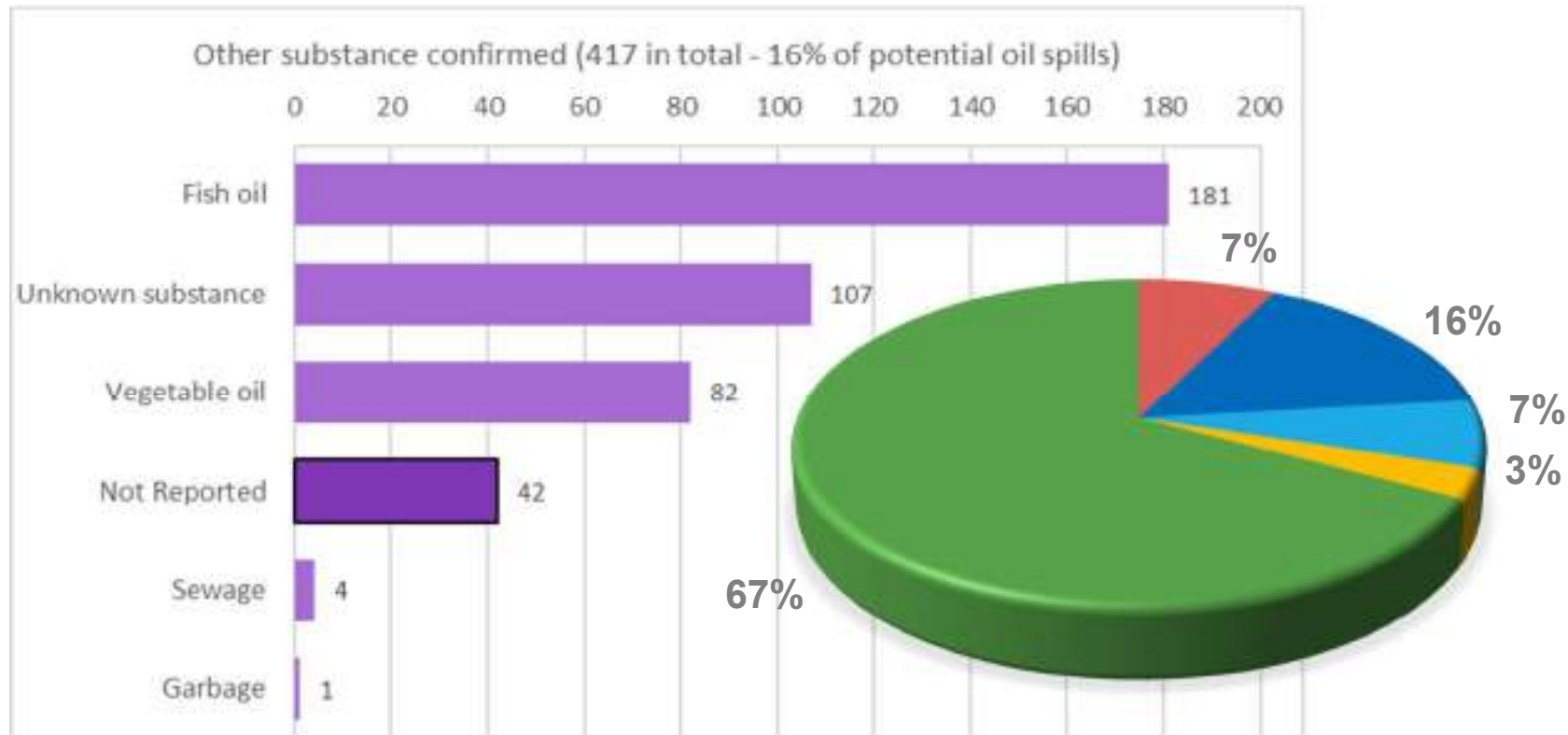
- National authorities validate the information received by their own means for verification on site and/or inspecting the vessel identified as possible polluter
- Results of the in-situ verification are submitted to EMSA



OilSpill ID	Origin	Area (km2)	Width (km)
OS_2009130015_3	DETECTED	4.827	0.593
Service ID	Acquisition Start	Length (km)	Center Position
2009130015	2020-09-13 06:34:22Z	12.914	35°02'44"N 007°17'07"W

# CleanSeaNet Report Feedback 2020

CSN report feedback from MS was provided to 34% of the possible oil spills detected.  
The categorisation of the verification results is as follows:

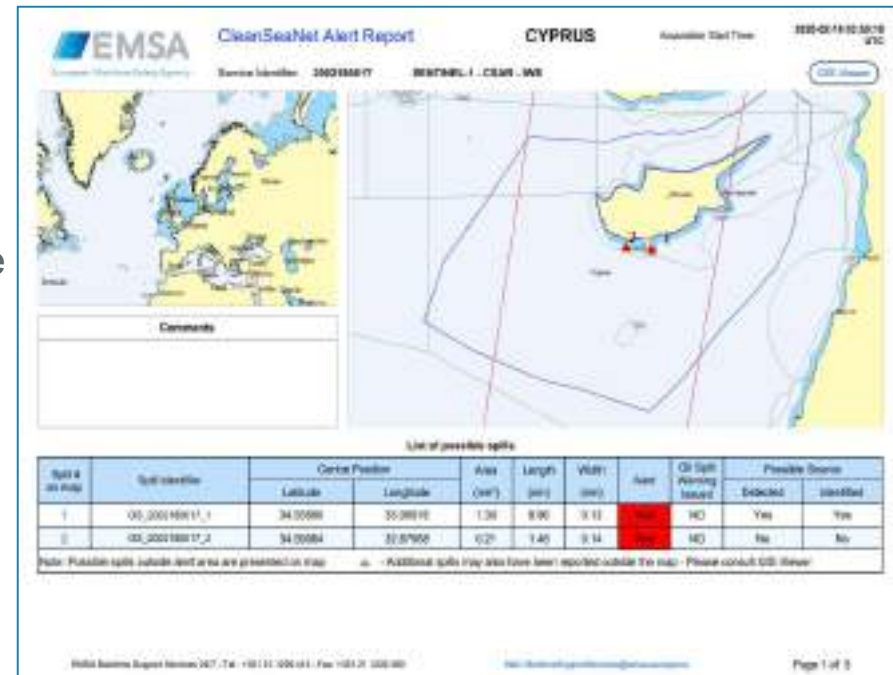


- Mineral oil confirmed
- Other substance confirmed
- Unknown feature observed



# EMSA support to EMPACT activities

- EMSA supported operationally EMPACT activities by providing satellite images to institutional users (such as MSs authorities, Frontex, EUROPOL and EFCA) during the “30 Days at Sea” operations of 2018 and 2019.
- In 2020 EMSA became full partner of EMPACT Policy Cycle Environmental Crime priority.
- Example of follow-up: in 2020 in Cyprus a vessel was investigation based on a CSN satellite image and an administrative fine of 5.000 Euros was imposed.



**CleanSeaNet Alert Report** **CYPRUS** Available Until: 2020-01-10 10:30:18 UTC

Service Identifier: 20018817 20200110\_1\_CSAN\_WS

Comments

List of possible spills

Spill #	Spill Identifier	Centre Position		Area (km <sup>2</sup> )	Length (km)	Width (km)	Age	Oil Spill Warning Issued	Possible Source	
		Latitude	Longitude						Expected	Identified
1	00_20018817_1	34.5598	35.2819	1.26	0.90	0.11	NO	Yes	Yes	
2	00_20018817_2	34.0084	33.8799	0.21	1.45	0.14	NO	No	No	

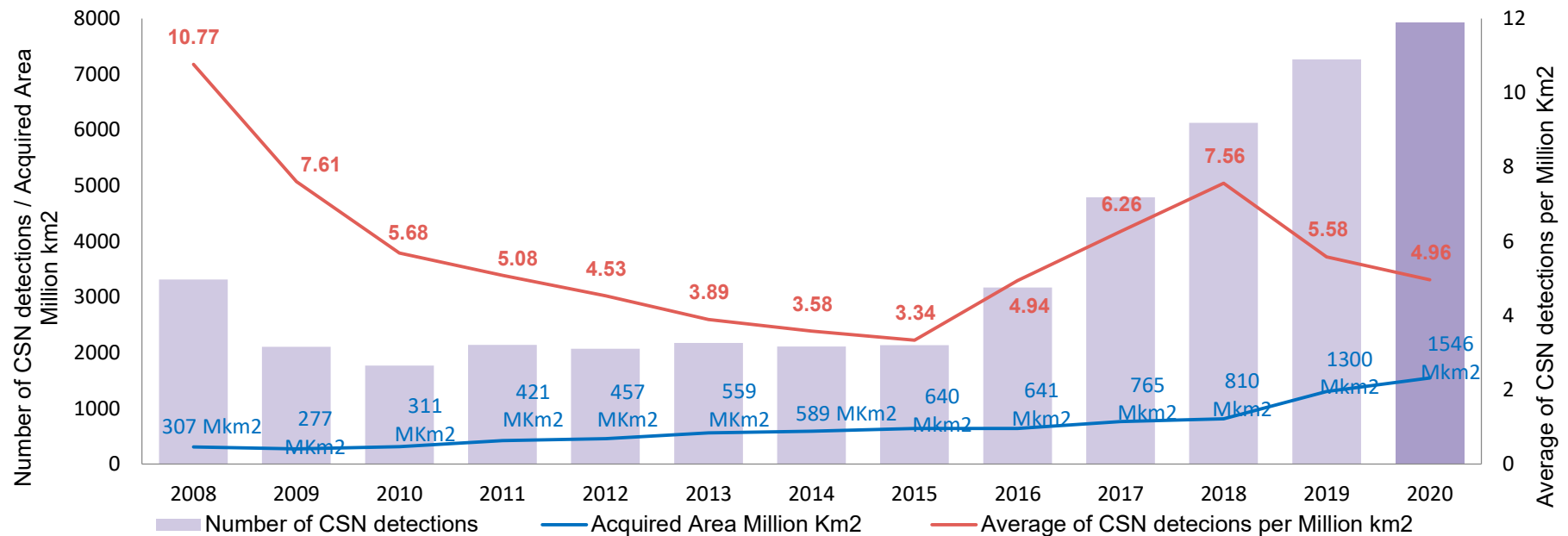
Note: Possible spills outside alert area are presented on map. - Additional spills may also have been reported outside the map. Please consult CSN viewer.

EMSA Contact: Report Number: 247.746 | 181111 000111 | Fax: 181121 000180 | Email: [report@emsa.europa.eu](mailto:report@emsa.europa.eu) | Page 1 of 1

# CleanSeaNet: long-term deterrent effect



- Continuous surveillance and enforcement efforts provide a clear deterrent effect of concerning illegal discharges of oil and other polluting substances.
- Despite the detection efforts, oil and other polluting substances still regularly occur in European waters.
- Reduced visibility (at EMSA) of the administrative and criminal law prosecutions based on oil spill detections follow-up.





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