European Maritime Safety Agency

EMSA CleanSeaNet service: monitor oil pollution, support to emergencies and polluter identification

Teresa Cunha

Earth Observation Services

Unit 2.2 Surveillance

London, IMO-UNEP-Norway Innovation Forum 2023

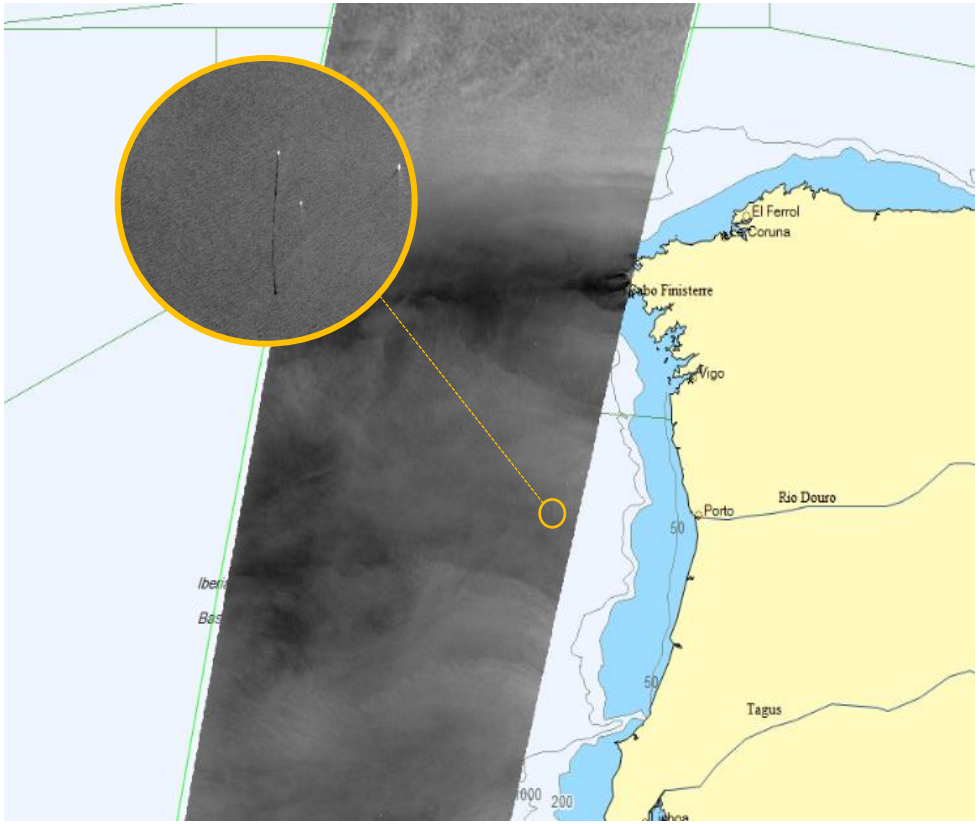
EMSA

EMSA CleanSeaNet service

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:

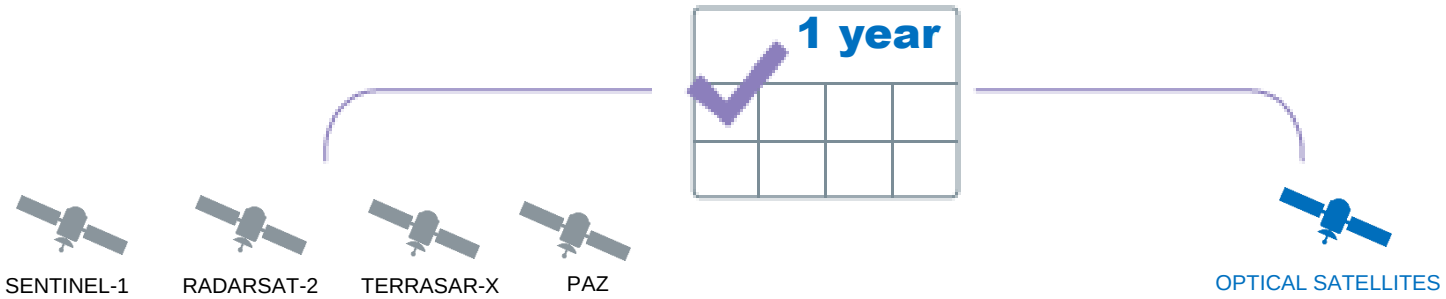
- detect possible oil on the sea surface, including illegal discharges of mineral oil
- identify potential polluters
- monitor the spread of oil during maritime emergencies

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



CSN Key Facts and Figures 2022(1)

Activities Covering



1 231 MILLION KM² MONITORED IN QRT/NRT

6700 IMAGES DELIVERED

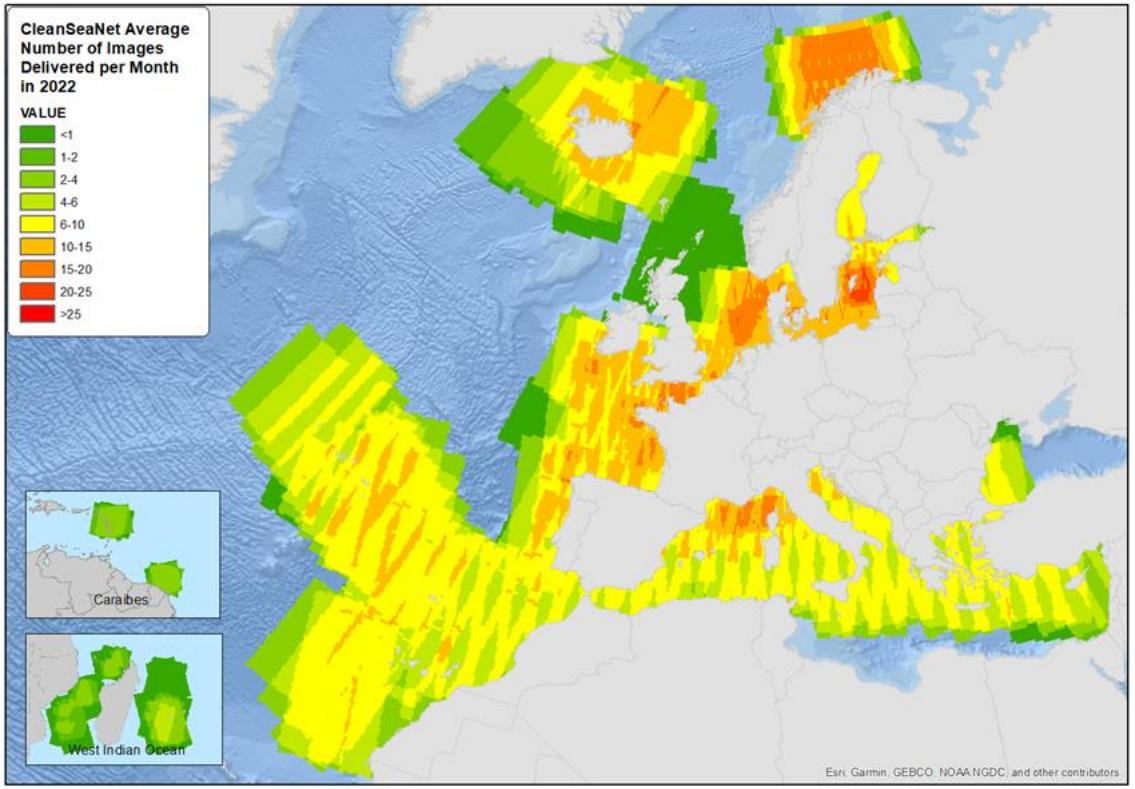
4934 POSSIBLE OIL SPILLS DETECTED (approximately 4 spills per million km² monitored)

(1) 36 coastal states : 22 coastal European Union (EU) , 2 European Free Trade Association (EFTA), 2 candidate countries, 10 countries in the context of the European Neighbourhood Policy (ENP) SAFEMED and BCSEA projects

CleanSeaNet service results

Average monthly coverage of CleanSeaNet service

Coverage requirements are being fulfilled by EMSA



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 pass).

EMSA
European Maritime Safety Agency

CleanSeaNet Alert Report **ITALY**

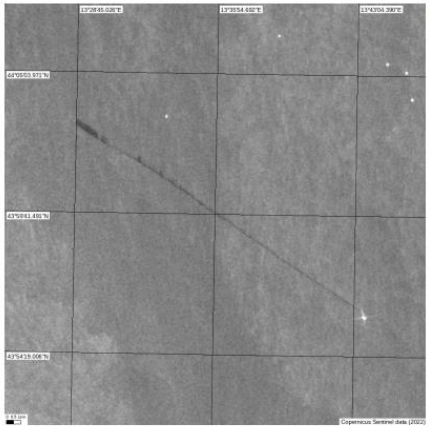
Acquisition Start Time: **2022-12-01 16:56:12 UTC**

Service Identifier: **2212010010** **SENTINEL-1 - CSAR - IWS**

List of Spills | GIS Viewer

Details of possible Spill n°1 - OS_2212010010_3

Centre Position		SAR Wind at Center		Area	Length	Width	Class	Alert Level	Number of slicks	Oilspill Warning Issued
Latitude	Longitude	Direction (From)	Speed (m/s)	(km²)	(km)	(km)	(A/B)			
[redacted]	[redacted]	9.00	6.32	5.83	23.65	0.84	A	Green	1	NO



Meteorological and Ocean Data			
Sea State	N/A	Wave Height (m)	N/A
Met.Wind		Direction (from)	21
		Speed (m/s)	7.5
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

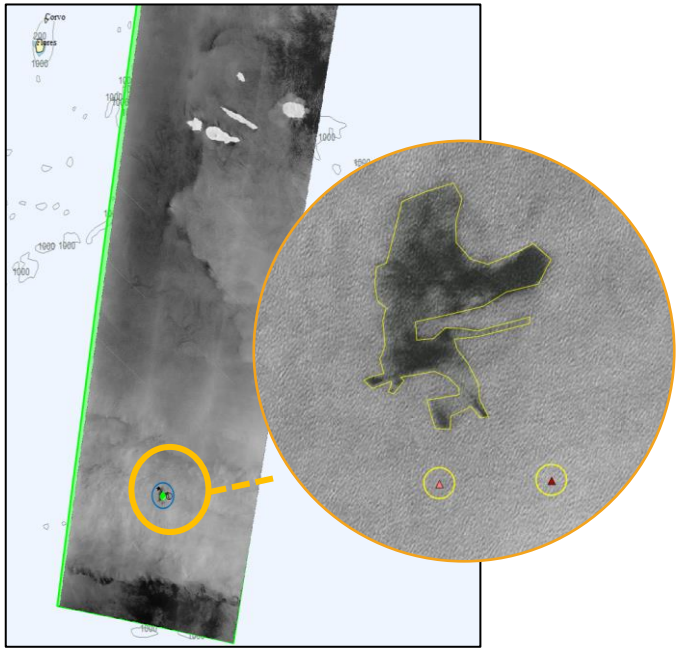
Possible source information

N.	Detected	Dist.(Km)	Identified	Type	IMO	Name	MMSI	C/S	Latitude	Longitude	Time (UTC)	Track
1	Yes	0	Yes	VESSEL	N/A	N/A	[redacted]	N/A	[redacted]	[redacted]	16:59:18Z	Yes

Support to Emergencies

- MRCC Delgada requested satellite imagery to monitor possible oil spills, from the Ro-Ro Felicity Ace, after the vessel was caught on fire
- A spill was detected after the sinking of the vessel
- All 22 crew members were rescued, by the M/V Resilient Warrior, after being contacted MRCC Delgada

FELICITY ACE, picture published on 02/03/2022 (sapo.pt) © Portuguese Navy, 2022



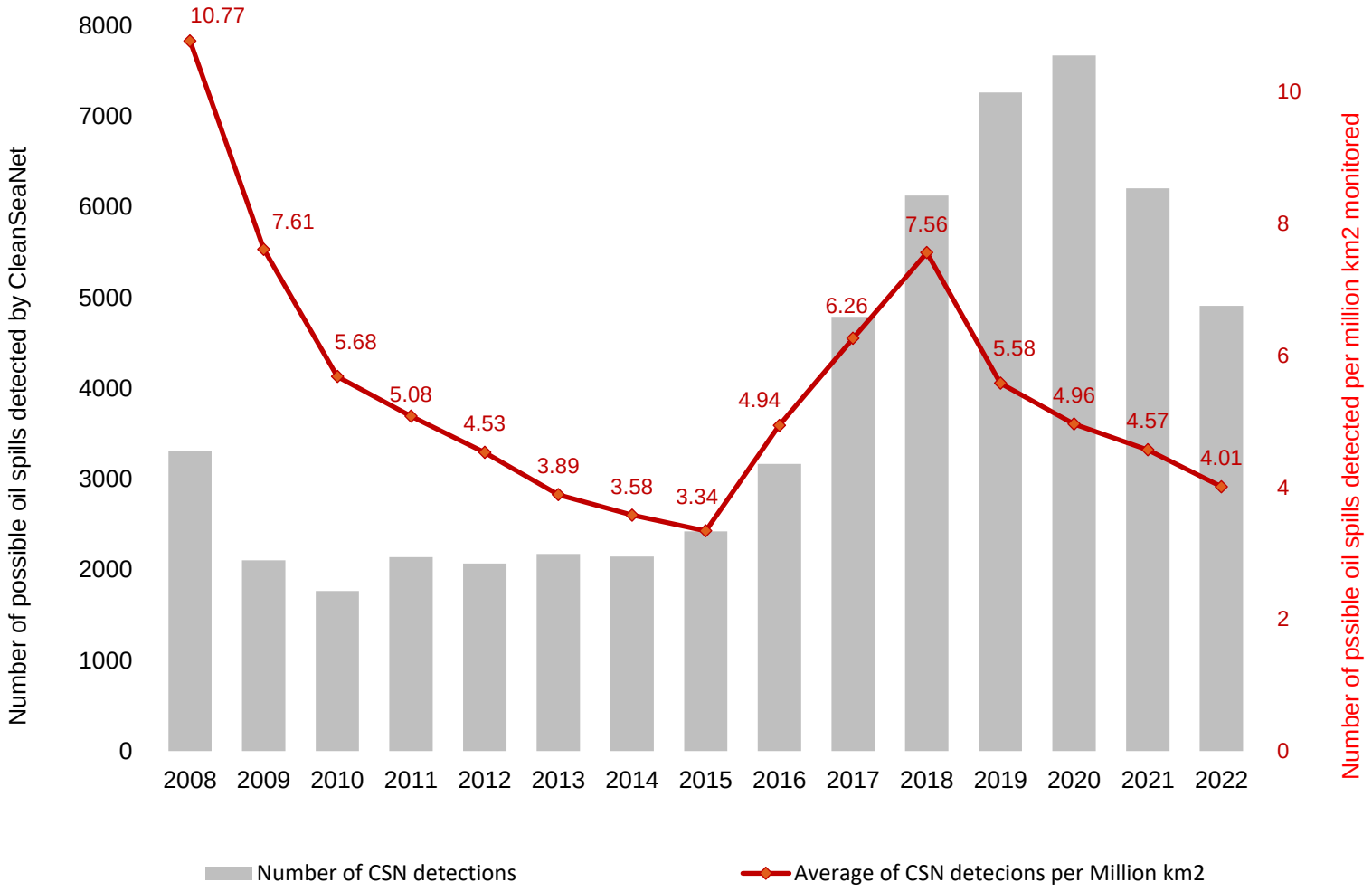
Potential spill detected over the wreck of Ro-Ro FELICITY ACE © EMSA, contains modified Copernicus Sentinel-1 data, 2022

CleanSeaNet
Long-term deterrent effect

- The EU-wide satellite surveillance operated by EMSA enables:
  - Comprehensive detection of possible oil spills at sea
  - Tracking and tracing of suspected ship source pollution
  - Identification of potential polluters
- 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 of the administrative and criminal law prosecutions based on oil spill detections follow-up.

EMSA

CleanSeaNet
Long-term deterrent effect



Contact: cleanseanet@emsa.europa.eu

twitter.com/emsa_lisbon

facebook.com/emsa.lisbon

EMSA

European Maritime Safety Agency