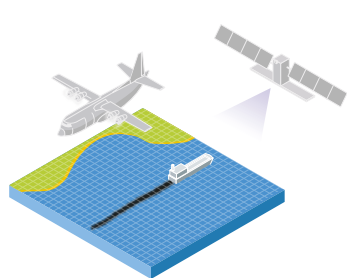




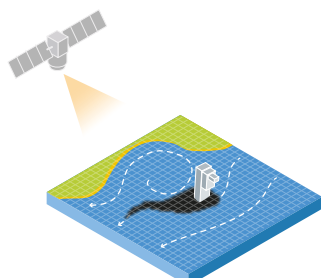
The Copernicus Maritime Surveillance (CMS) service provides satellite-based data to detect illegal ship-sourced discharges (e.g. of oil), to identify polluting vessels and to track the evolution of accidental spills. The service is provided in areas of European interest outside European waters such as overseas territories of EU states.

CMS SUPPORTS POLLUTION MONITORING IN AREAS OF EUROPEAN INTEREST THROUGH:

- detection and tracking of illegal ship-source pollution
- identification of possible polluters by combining information on oil spill detections with information on vessel positions and routes
- monitoring the extent and spread of oil over time following a large-scale accident.



Illegal discharges

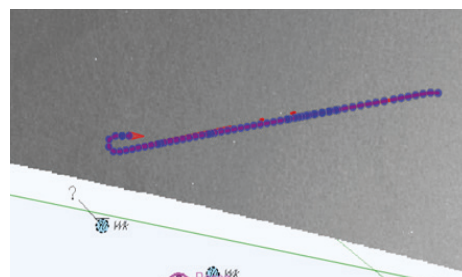
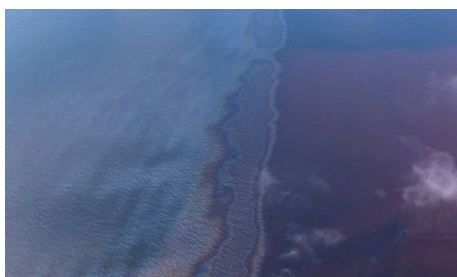


Accidental spills

Spills from vessels, offshore platforms and oil pipelines can severely pollute marine and coastal habitats causing damage to the natural environment and the economy. Oil pollution from vessels and platforms is usually either a result of deliberate operational discharges or because of accidental spills. Rapid detection and early warning of marine oil spills allow national and regional coast guard authorities to catch polluters in the act of illegal discharges, and to respond quickly to emergencies in the case of large accidental spills.

Satellite-based synthetic aperture radars (SAR) consist of surveillance systems capable of monitoring all-weather, day and night, wide areas at regular intervals. SAR satellite images are appropriate for detecting possible illegal discharges from ships (oil and similar substances); since discharges appear as long, linear dark shapes, while vessels and oil platforms appear as bright white spots.

CleanSeaNet, the European oil spill monitoring and vessel detection service operated by EMSA since 2007, combines SAR and optical data with other kinds of information (e.g. ship tracking data) to identify the potential polluters, and provides relevant authorities with valuable information to take further action. Through Copernicus, this service is extended to new geographic areas of European interest, for example overseas territories of EU states.

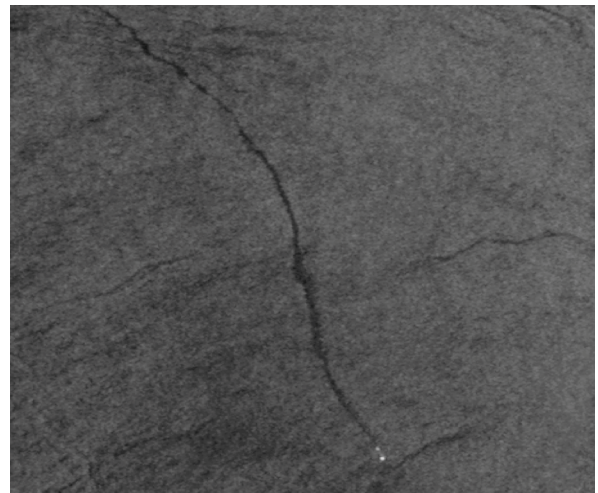
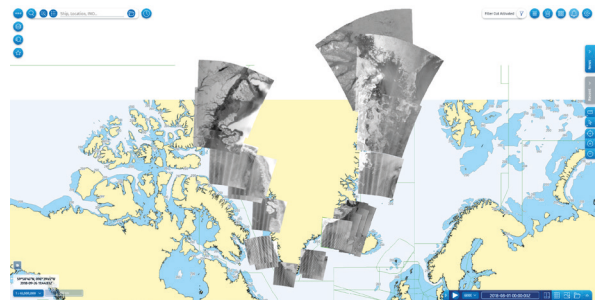


USE CASE: ROUTINE MONITORING OFF THE COAST OF GREENLAND

A primary mission of the Joint Arctic Command (JACO) of the Danish Defence Command is to monitor the seas around Greenland. From January 2018, CMS began delivering services for pollution detection off the coast of Greenland. These services comprise routine monitoring for the detection of illegal ship-source discharges, with regular images taken across defined areas throughout the year, in order to detect possible pollutions whenever and wherever they occur. The detection capabilities of CMS are integrated in a comprehensive pollution detection and response chain, in which the initial detection of pollution will eventually lead to the successful prosecution of a violator.

In cooperation with JACO, EMSA plans and orders satellite imagery to meet service coverage requirements. After image acquisition trained operators assess the images with supporting information (e.g. vessel position data), to identify possible pollutions and determine the likelihood of the presence of oil on the sea surface, and to assist in identifying the source of the pollution.

When a possible oil spill is detected, an alert message is sent to the Danish authorities and the analysed images are available in the user portal in near-real time (approximately 30 minutes after satellite overpass). These near-real time service capabilities are crucial to enable a rapid response by the user, as well as to increase the likelihood of catching the polluter red-handed.



Copernicus, the European Union's Earth Observation Programme, delivers operational data and information services to support a broad range of environmental and security applications. The European Maritime Safety Agency (EMSA) is responsible for implementing the Copernicus Maritime Surveillance Service.

emsa.europa.eu/copernicus.html

Get in touch for more information

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