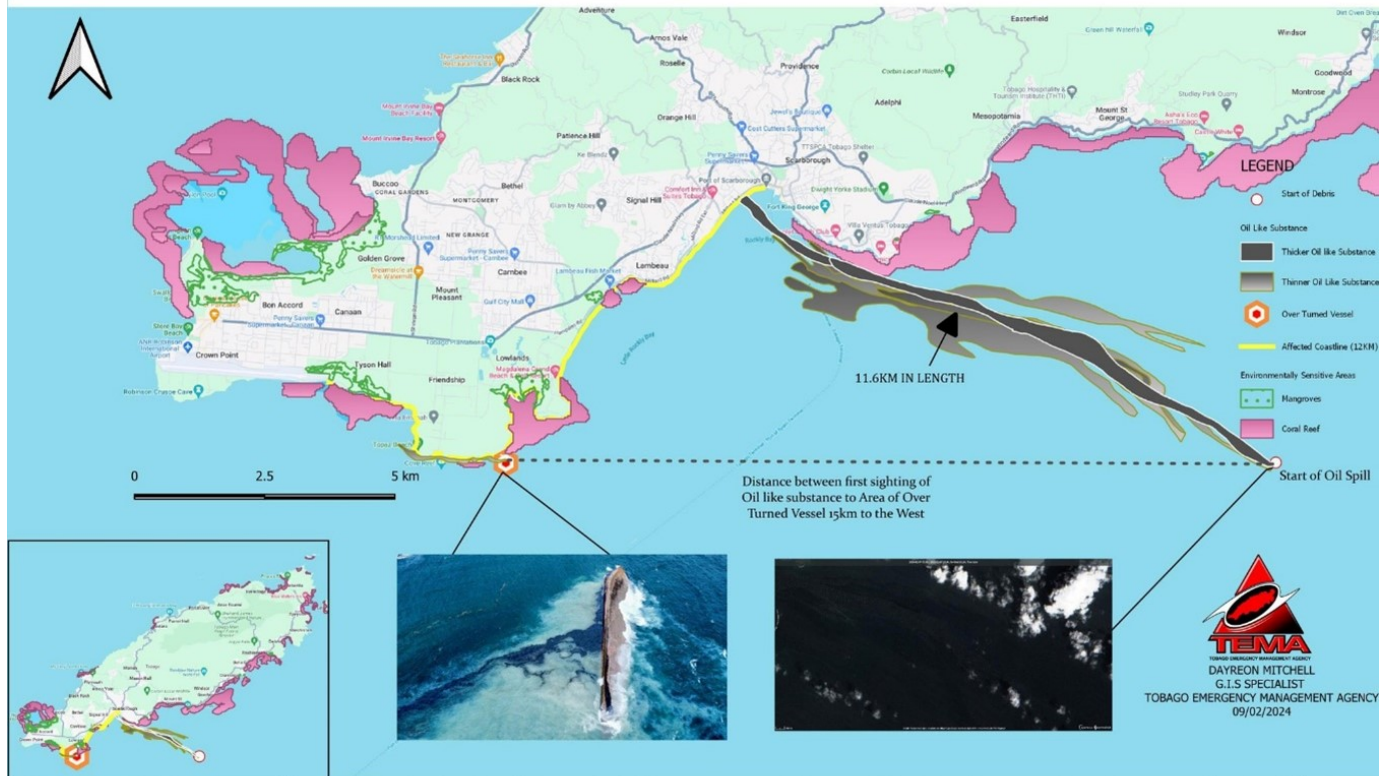


IMA Strengthens Expertise in Oil Spill Monitoring Through Satellite Technology and International Collaboration

The Institute of Marine Affairs (IMA) has taken a significant step in the detection and monitoring of oil spills. Thanks to advanced training provided by the Satellite Analysis Branch (NAB), in collaboration with the National Oceanic and Atmospheric Administration (NOAA) of the United States, the IMA has enhanced its capabilities. Since the implementation of a comprehensive program in July 2021, the IMA has strengthened its almost real-time monitoring capacity, bolstering efforts to combat environmental hazards.

MAP OF TOBAGO SHOWING AREAS AFFECTED BY OIL LIKE SUBSTANCE



Unconfirmed possible oil was observed in satellite imagery on the 7th of February 2024. The suspected oil slick appeared to have originated from an overturned vessel. The vessel was approximately 150m SSE from the southern coast of Cove. The anomaly exhibited dimensions of approximately 6.15 nautical miles in length and 0.21 nautical miles at its broadest point. Notably discernible from natural phenomena, the slick displayed a pronounced contrast with the adjacent ocean surface. The vessel, engraved with 'GULFSTREAM', was seen to be 8 nautical miles west of the furthest sighting of the unknown oil-like substance to the east.

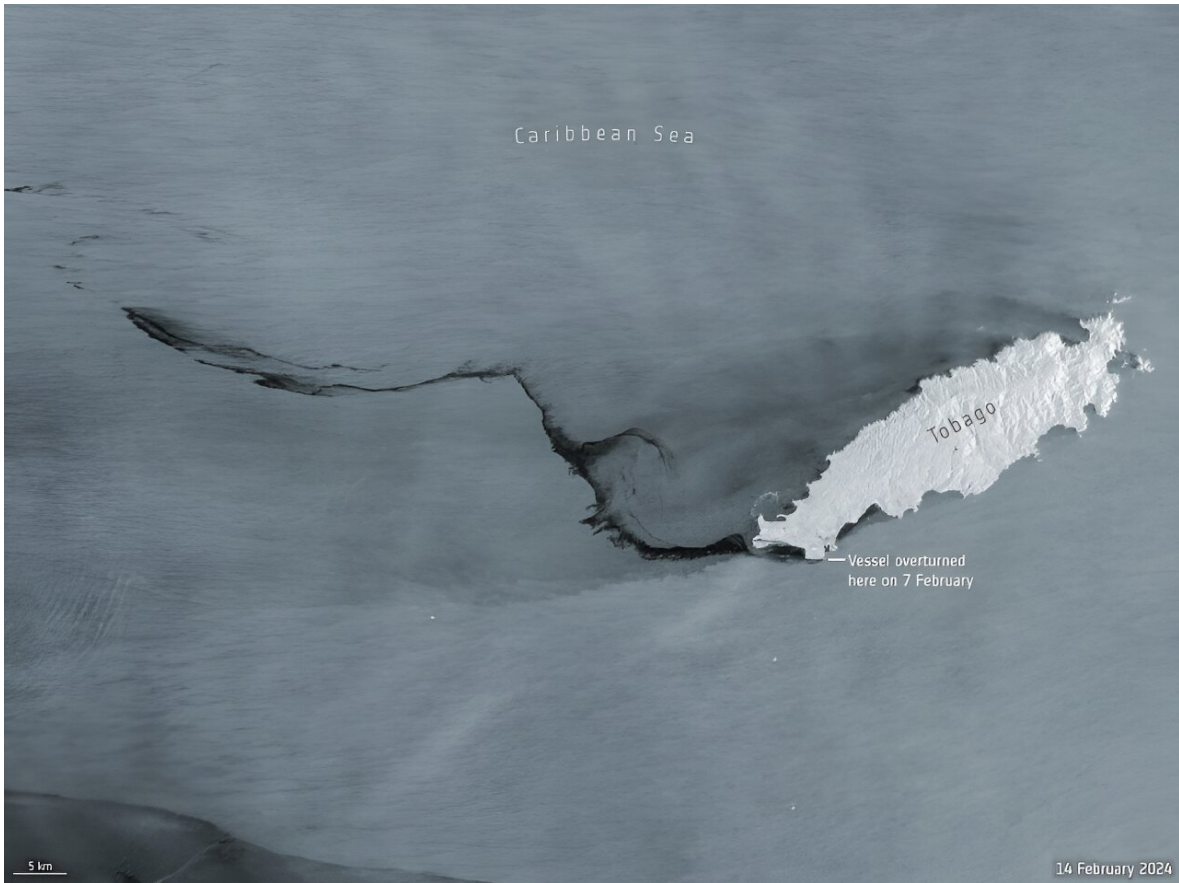
The confidence level was high due to the known suspected point source. However, the extent of the slick could not be distinguished due to high cloud cover. There was a variation in the slick thickness, and thin oil was observed in the imagery. It can also be noted that ocean currents move in a northwest direction on the Atlantic side of the island.

20 February 2024

The strategic collaboration between the IMA and the Ministry of Energy and Energy Industries has borne fruit. Both institutions share monitoring responsibilities on a weekly rotation. This partnership has not only strengthened response mechanisms but also laid the groundwork for a proactive approach to preventing potential oil spills.

Since its inception, the IMA has played a crucial role in various investigations. It provides satellite monitoring for minor oil spill reports and actively participates in significant incidents. One such case was the Guaracara spill in August 2021. Additionally, the IMA provided crucial support during the incident with the tanker CETUS MV, which sank in June 2022. These actions demonstrate the institution's commitment to environmental conservation.

Amidst these efforts, a recent event highlights the importance of these initiatives. The report from February 12, 2024, originating from Trinidad and Tobago, reveals a critical situation in Tobago, where an overturned vessel in Canoe Bay triggered a concerning leakage of a substance similar to oil. The substance affected sensitive areas, including mangroves, turtle nesting beaches, and coral reefs.



Credits: Contains modified Copernicus Sentinel data (2024), processed by ESA, CC BY-SA 3.0 IGO ([Phys.org](https://phys.org), 2024)

The IMA continues to evolve its capabilities through international collaboration, emerging as a beacon of environmental conservation and collaborative efforts, setting new standards in the field of oil spill detection and response.

Dr. Inniss, Regional Coordinator of the Intergovernmental Oceanographic Commission of UNESCO (IOC-UNESCO), expressed gratitude to the United States Government for its willingness to collaborate in providing this essential training. IOCARIBE serves as a facilitator for such training, bringing together relevant organizations for the benefit of the peoples of the Extended Caribbean Region. Dr. Inniss highlighted that IOCARIBE-

UNESCO will continue to seek strong and relevant partnerships to advance priority elements of ocean sciences and services, as well as the development of robust early warning systems for multiple hazards.

By: Alex E. Palomino Cadena