

Supplementary Materials

A Sentinel-2-based system to detect and monitor oil spills: demonstration on 2024 Tobago accident.

Emilio D'Ugo ^{1,*}, Ashish kallikkattilkuruvila ², Roberto Giuseppetti ¹, Alejandro Carvajal ², Abdou Mbacke Diouf ^{1,2}, Matteo Tucci ³, Federico Aulenta ³, Alessandro Ursi ⁴, Patrizia Sacco ⁴, Deodato Tapete ⁴, Giovanni Laneve ^{2,†}, Fabio Magurano ^{1,†}

¹ National Institute of Health (ISS), Viale Regina Elena 299, 00161 Rome, Italy

² SIA (Scuola di Ingegneria Aerospaziale), Università di Roma 'La Sapienza', Via Salaria, 851 00138, Rome, Italy

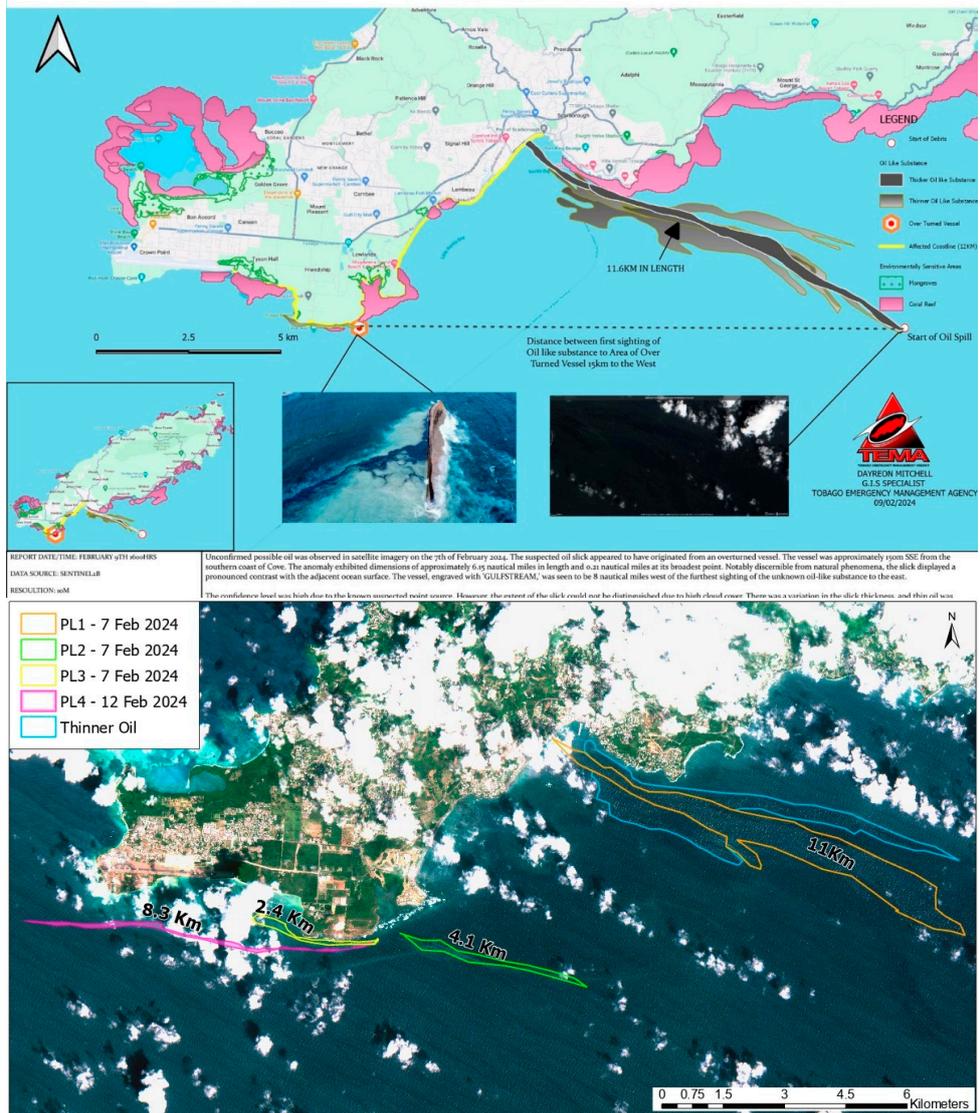
³ Water Research Institute (IRSA), National Research Council (CNR), Via Salaria km 29,300, 00015 Monterotondo (Rome), Italy

⁴ Italian Space Agency (ASI), Via del Politecnico snc, 00133, Rome, Italy

* Correspondence: Author

† Equal Contribution.

MAP OF TOBAGO SHOWING AREAS AFFECTED BY OIL LIKE SUBSTANCE



Supplementary Figure S1. The image (freely accessible online) shows a TEMA summary of the environmental disaster caused by an oil tanker that capsized near the island of Tobago probably on 7 February 2024. The image shows the situation of the oil plume published on 9 February 2024. The Sentinel 2 image below shows the arrangement of the four plumes (PLs) observed between 7 and 12 February 2024 in Tobago.



Supplementary Figure S2. These images acquired by Sentinel 1 show RADAR observations from 2 and 14 February 2024. The reduced frequency of the periodicity of observations that occur every 12 days did not allow Sentinel 1 alone to capture the February 7 oil spill. However, the absence of an oil spill on February 2 (above) is evident, while the long oil strip of approximately 300 km extending from Tobago towards the Caribbean Sea on February 12, 2024 (below) is shown.