

Oil-Spill Monitoring in Istanbul Strait and Marmara Sea by RASAT Remote Sensing Images

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Abstract : The oil spill is a form of pollution caused by releasing of a liquid petroleum hydrocarbon into the marine environment. Considering the growth of ship traffic, increasing of off-shore oil drilling and seaside refineries affect the risk of oil spill upward. The oil spill is easy to spread to large areas when occurs especially on the sea surface. Remote sensing technology offers the easiest way to control/monitor the area of the oil spill in a large region. It's usually easy to detect pollution when occurs by the ship accidents, however monitoring non-accidental pollution could be possible by remote sensing. It is also needed to observe specific regions daily and continuously by satellite solutions. Remote sensing satellites mostly and effectively used for monitoring oil pollution are RADARSAT, ENVISAT and MODIS. Spectral coverage and transition period of these satellites are not proper to monitor Marmara Sea and Istanbul Strait continuously. In this study, RASAT and GOKTURK-2 are suggested to use for monitoring Marmara Sea and Istanbul Strait. RASAT, with spectral resolution 420 - 730 nm, is the first Turkish-built satellite. GOKTURK-2's resolution can reach up to 2,5 meters. This study aims to analyze the images from both satellites and produce maps to show the regions which have potentially affected by spills from shipping traffic.

Keywords : Marmara Sea, monitoring, oil spill, satellite remote sensing

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