

Investigation of Proper Index of Oil Spill Detection Using Space-Borne Sentinel-2 (Case Study: The Persian Gulf, 15 Feb 2016)

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Abstract

The purpose of the research was to detect the oil spill phenomena via the analysis of reflectance spectra of oil obtained from sentinel-2. The oil spill event from the South Pars Platform in the Persian Gulf on February 15, 2016 was investigated as the case study. All pre-processing steps including geometric and radiometric correction were done. Then, using the reflectance spectra of oil and OIF, the optional color combinations were detected. At the end, the oil spills were accurately detected by calculating the NDWI and the related thresholds. The results showed that more OIF did not mean more proper combination. In this regard, to enhance the detection precision, it is crucial to consider the optional combination by employing reflectance spectra behavior and effective indicator.

Keywords: *Oil spill, Remote sensing, OIF, NDWI, Sentinel-2.*
