

# SATELLITE MONITORING OF OIL SPILLS CAUSED BY THE HEBEI SPIRIT ACCIDENT

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**ABSTRACT** Oil spills are a principal factor of the ocean pollution. The complicated problems involved in detecting oil spills are usually due to varying wind and sea surface condition such as ocean wave and current. The Hebei Spirit accident was happened in the west sea (36°47'04" N, 126°03'12" E) near about 8 km distant from Tae-An, Korea on December 7, 2007. The aim of this work is to improve the detection and classification performance in order to define a more accurate training set and identifying the feature of oil spill region. This paper deals with an optimization technique for the detection and classification scheme using multi-frequency and multi-polarization SAR and optical image data sets of the oil spilled sea. The used image data are the ENVISAT ASAR WS and Radarsat-1 of C-band and ALOS PALSAR of L-band SAR data and KOMPSAT-2 optical images together with meteorological or oceanographic data. Both the theory and the experimental results obtained are discussed.

**KEY WORDS:** Oil Spill, HEBEI SPIRIT, SAR, KOMPSAT-2

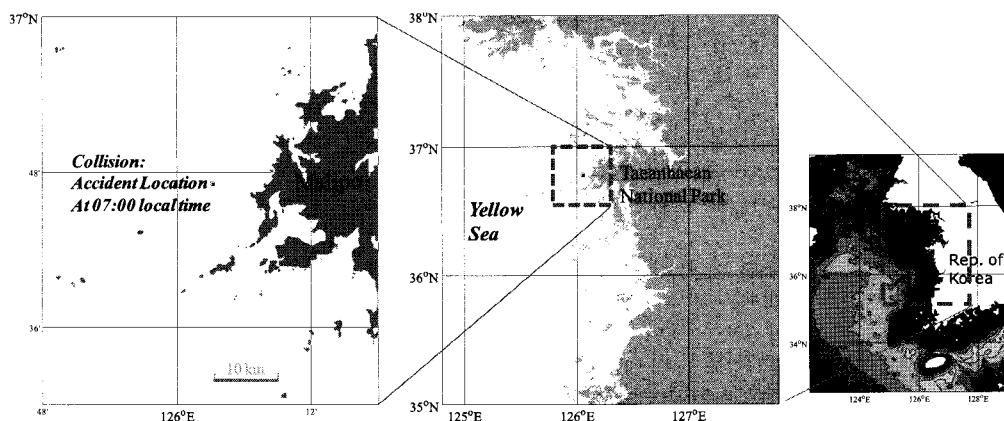


Figure 1. Location of oil spill accident occurred on December 7, 2007 and research area.

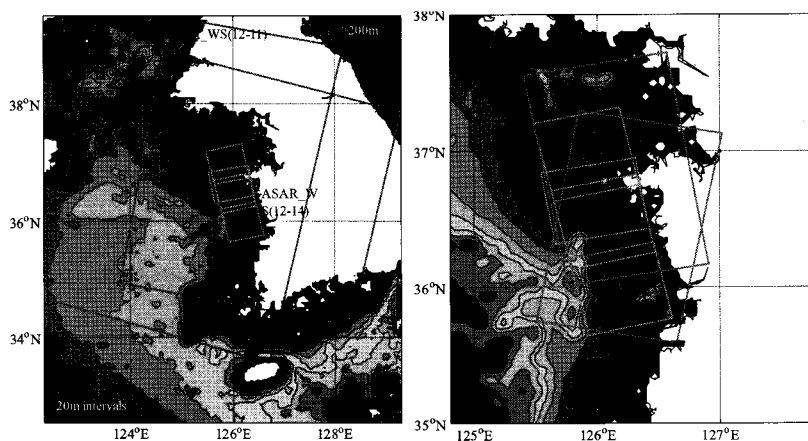


Figure 2. List of satellite data obtained during the Hebei Spirit Oil Spill from Dec. 8 to 22, 2008.