Automatic detection algorithms for oil spill from multisar data

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Abstract The main objective of this work is to develop comparative automatic detection procedures for oil spill pixels in multimode (Standard beam S2, Wide beam W1 and fine beam F1) RADARSAT-1 SAR satellite data that were acquired in the Malacca Straits using two algorithms namely, post supervised classification, and neural network (NN) for oil spill detection.The results show that NN is the best indicator for oil spill detection as it can discriminate oil spill from its surrounding such as look-alikes, sea surface and land.The receiver operator characteristic (ROC) is used to determine the accuracy of oil spill detection from RADARSAT-1 SAR data.In conclusion, that NN algorithm is an appropriate algorithm for oil spill automatic detection and W1 beam mode is appropriate for oil spill and look-alikes discrimination and detection.