

Using an active contour method to detect bilge dumps from SAR imagery

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Abstract: An automatic approach to detect bilge dumping in synthetic aperture radar (SAR) images over Southern African oceans is proposed. The approach uses a threshold-based algorithm and a region-based active contour model (ACM) algorithm to achieve an efficient bilge dump detection tool. A threshold method was used to detect areas with a high bilge dump probability while the ACM method is used to get closed contours of potential bilge dumps. A discrimination step was implemented to detect linear features as potential bilge dump events. The automated approach was investigated using SENTINEL-1A and ENVISAT Advanced Synthetic Aperture Radar (ASAR) where the proposed approach showed promising results.