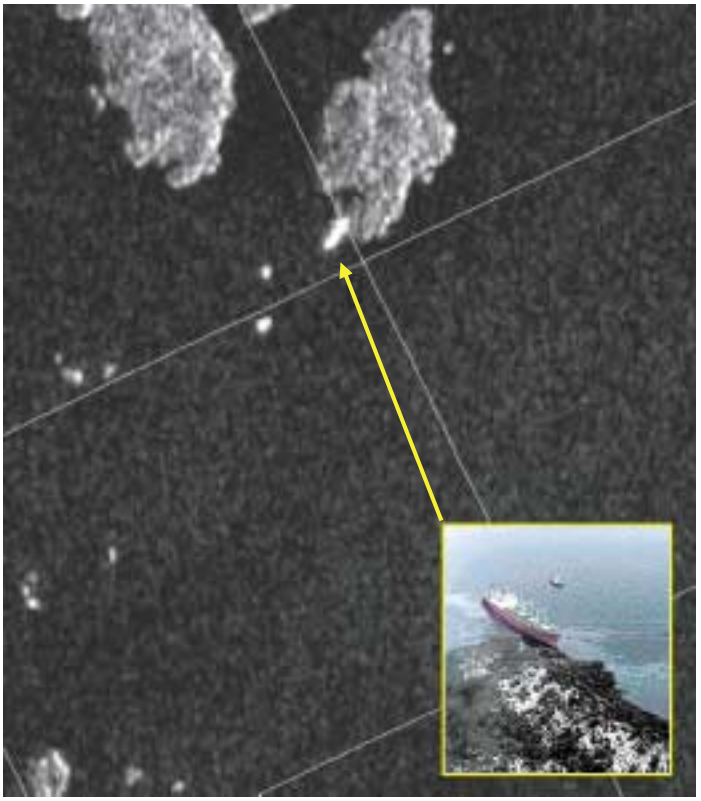
RADARSAT-2
Object recognition

OPERATIONAL SURVEILLANCE

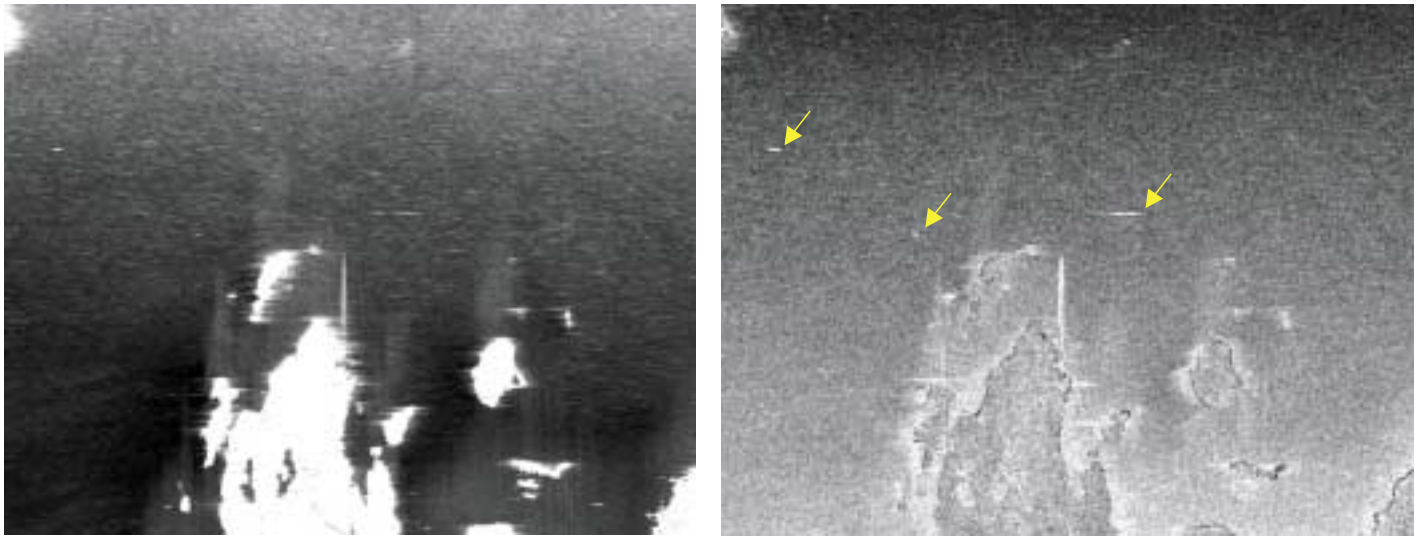
Search and rescue, fisheries and ship traffic monitoring are examples of surveillance activities to which remote sensing data can contribute significantly. RADARSAT-2 will provide a ready source of reliable and economical data to support surveillance activities. When combined with additional sources of data, RADARSAT-2 will allow government agencies to monitor key areas of interest, even when poor weather or darkness restricts the use of optical images. The left- and right-looking capabilities of RADARSAT-2 will also increase response time in critical situations and more frequent revisit to support operational surveillance.

POLARIZATION AND RESOLUTION DIVERSITY

When single polarization is used, it is difficult to discriminate between similar scattering returns and, depending on the selected polarization configuration, many features are undetectable. RADARSAT-2 will acquire data at horizontal (HH), vertical (VV) or cross (HV and VH) polarization using resolutions from 3 to 100 meters. The quad-polarization mode of RADARSAT-2 will acquire all four linearly polarized signals coherently, which will facilitate the development of new techniques for various applications, including target detection. This will reduce the number of false targets for monitoring agencies, thereby increasing the confidence in the data.



RADARSAT-1 image of ship detection on the coast of Chile. (© CSA. Received by CCRS. Processed and distributed by RSI.)



Left: HH polarization image of the coast of Nova Scotia. Right: Touzi-polarization entropy image of the coast of Nova Scotia. The sea-ship contrast is much higher in the Touzi-polarization entropy image, produced with fully polarimetric data. (© CCRS. Acquired by CV-580 C-band SAR. Processed and provided by CCRS.)

RADARSAT-2 Programme
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