

USING RADARSAT-2 DATA IN A MULTI-SENSOR SURVEILLANCE PROGRAM

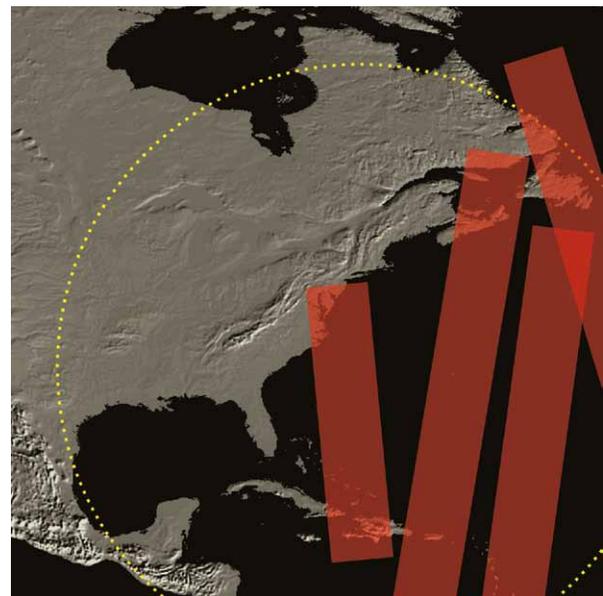
RADARSAT-2 is the only Wide Area Surveillance (WAS) tool capable of providing geospatial-intelligence reliably, frequently, economically, and on a sustained basis. Combined with optical data and other intelligence sources, RADARSAT-2 empowers military agencies with the ability to constantly monitor key areas of interest without regard of heavy cloud cover or darkness that typically restrict the use of other spaceborne and airborne sensors.

**Wide Area Surveillance**

RADARSAT-2's role in land monitoring begins after a GEOINT foundation has been prepared (the GEOINT foundation may include high-resolution RADARSAT-2 imagery). The baseline report typically includes a complete description of the infrastructure of a facility, as well as the type and the amount of equipment present. Once a baseline has been determined, monitoring may begin.

A comparison of the monitoring data with the established baseline information allows for change detection analysis of objects or groups of objects, providing Indications and Warnings (I&W). I&W may be noted in key areas due to changes in activity level, infrastructure, or equipment. RADARSAT-2 imagery and derived advanced geospatial-intelligence (AGI) may also be used to detect and classify changes in and around a specific monitored area or facility. This includes

potential changes in road conditions or natural boundaries (e.g. rivers, shorelines) that may be relevant to the operation of such facilities.



RADARSAT-2's ability to monitor vast areas of the Earth are augmented by its high-resolution imagery capable of rapidly, accurately detecting targets.



Remote coastlines, maritime approaches, and land-based activities can be accurately monitored using RADARSAT-2's polarimetric data and multiple beam modes.

Maritime Domain Awareness

In the case of ocean monitoring, RADARSAT-2 data has the potential to play a key role in support of international Maritime Domain Awareness.

Drug transport corridors and illegal immigrant vessels typically cross vast areas of ocean, often outside areas regularly and accurately monitored by traditional methods and sensors. Detection and



interdiction of illegal vessels relies heavily on a wide range of sensors and platforms in an effort to track suspected targets from their point of origin to their destination.

It would take a multitude of unmanned aerial vehicles (UAVs), manned aircraft, and optical sensors to cover the RADARSAT-2 satellite transit area.

The WAS coverage capability of RADARSAT-2 is an ideal complement to integrated surveillance programs employing UAVs and other sensors.



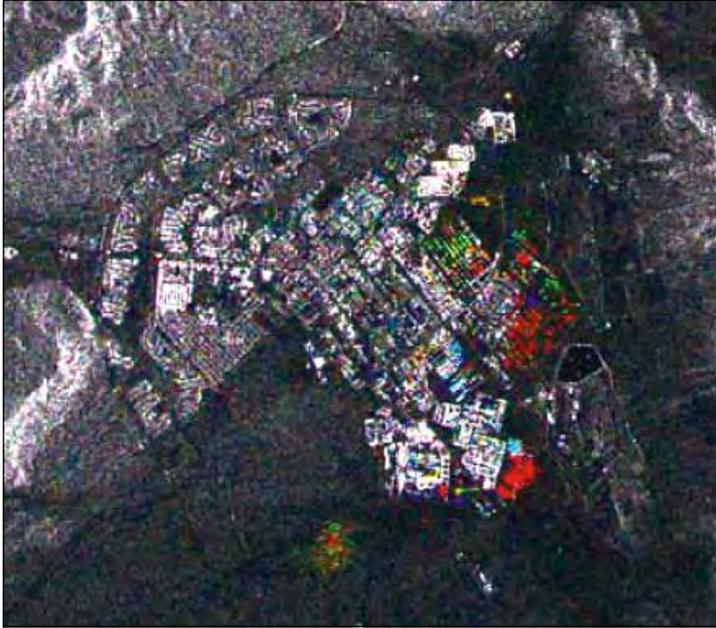
RADARSAT-2 is able to detect rogue ships far in advance of conventional shore-based radar systems, and far beyond the reach of airborne sensors.

Change Detection

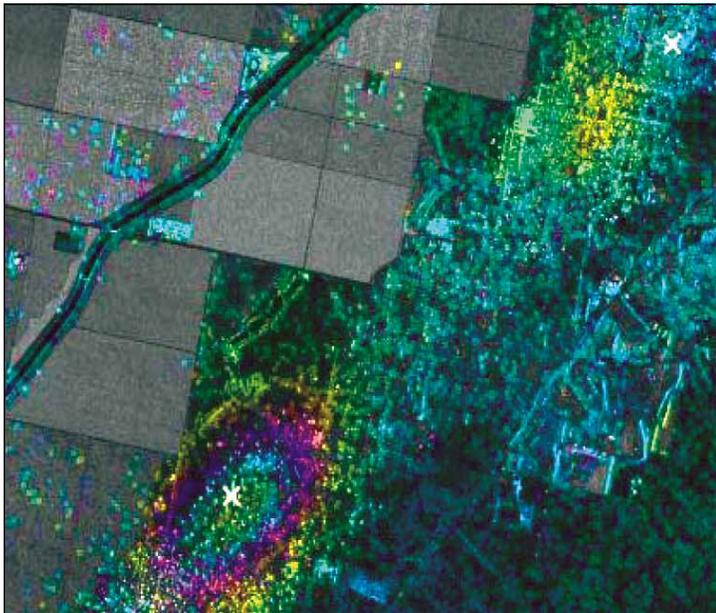
RADARSAT-2 is well suited to collecting imagery for detailed change detection. Whether it's coherence, amplitude, or subsidence, the timely collection of 24/7 high-resolution imagery ensures that even the smallest detail won't go undetected.



Coherence Change Detection senses surface changes to detect active routes as seen by these tracks through the fields indicated above.



Amplitude Change Detection identifies recent events and changes.



PSInSAR locates areas of subsidence, indicating potential underground activities.

Target Detection and Classification

RADARSAT-2's active sensor and multiple beam modes are well suited to target detection and classification. Combined with the superior change detection capabilities and high revisit cycle, defense and intelligence users will have access to an unparalleled volume of current, accurate information of global activities.



Defense commands require current, accurate geospatial-intelligence products that range from WAS down to single targets: RADARSAT-2 delivers both.

Faster Tasking, More Beam Modes

Improvements in tasking, collection, and dissemination make RADARSAT-2 a powerful surveillance tool. The tasking lead time for RADARSAT-1 data acquisition was measured in days: with RADARSAT-2, it is measured in hours.

The left- and right-looking capability of the satellite increases its revisit time for WAS, and the new high-resolution and polarimetric beam modes can provide an effective countermeasure to traditional denial and deception (D&D) techniques, such as camouflage or decoys.

Actionable Geospatial Intelligence

RADARSAT-2 can play a vital role in multi-sensor surveillance programs for defense and intelligence applications. Its ability to perform regardless of weather conditions or time of day makes it a reliable source of geospatial intelligence for defense applications. Decision makers can receive actionable intelligence products within hours of downlink. The rapid revisit schedule and responsiveness to time-sensitive operations makes RADARSAT-2 a valuable new GEOINT source and surveillance tool.

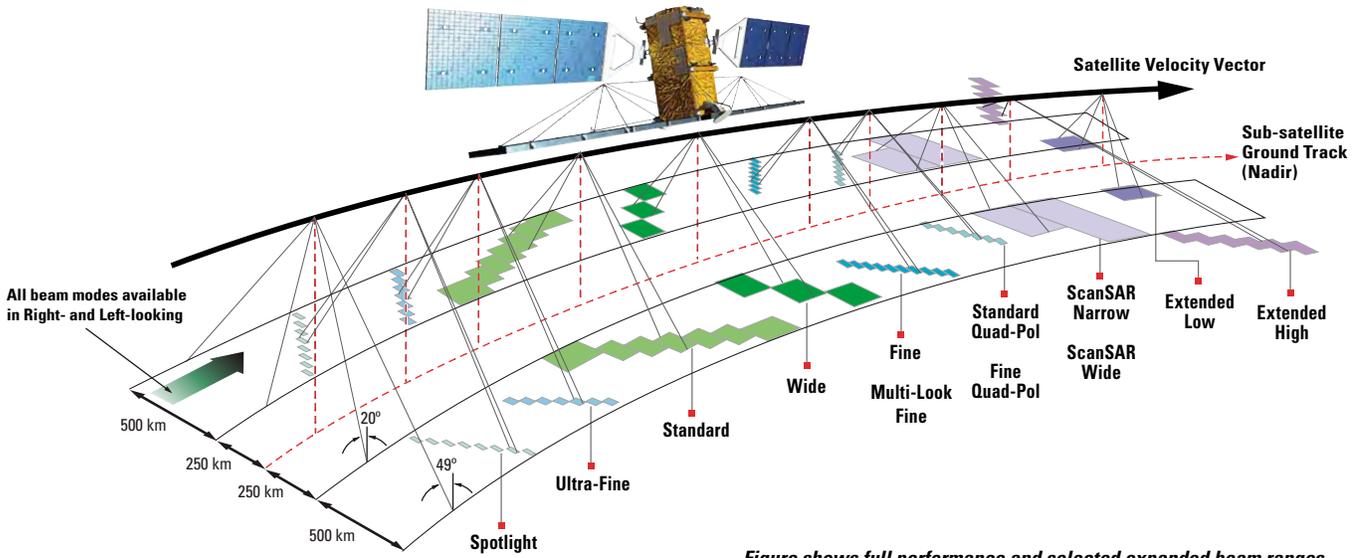


Figure shows full performance and selected expanded beam ranges

Operating in C-band, the RADARSAT-2 mission ensures continuity of all existing RADARSAT-1 beam modes, while offering powerful new capabilities ranging from major improvements in resolution, to extended flexibility in the selection of polarization options. These enhanced capabilities make RADARSAT-2 ideal for persistent surveillance and defence intelligence applications.

CUSTOMER SATISFACTION

For over four decades MDA has worked around the world to provide advanced information solutions that leverage cost-effective technologies to enable more efficient business operations for its customers.

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