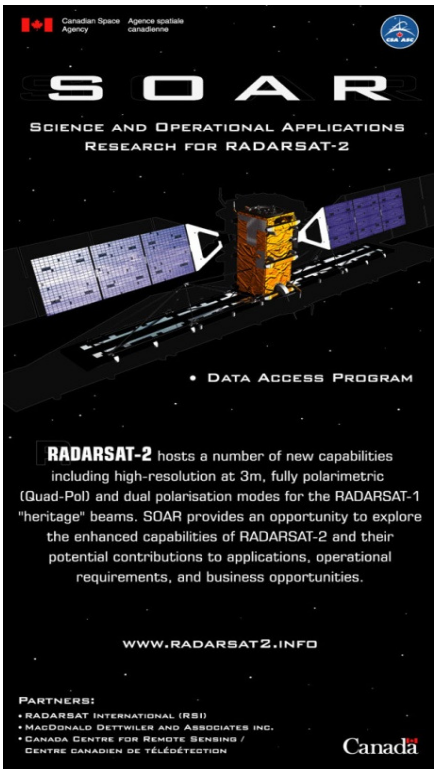
Science and Operational Applications Research
(SOAR)
Recherche sur les applications scientifiques et opérationnelles

SOAR-DLR Report
Rapport SOAR-DLR

July 2011 / *Juillet 2011*



By/*Par* : Stéphane Chalifoux
SOAR Program Manager / *Gestionnaire de programme SOAR*
Canadian Space Agency / *Agence spatiale canadienne*
6767 route de l'aéroport, Longueil (St-Hubert), Qc, Canada, J3Y 8Y9
Tel/*Tél* : (450) 926-6749 Fax/*Téléc*: (450) 926-4613
E-Mail/*Courriel* : [Stephane.Chalifoux@asc-csa.gc.ca]
Web site / *Site Web* : [www.asc-csa.gc.ca]
Governement of Canada *Gouvernement du Canada*

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The SOAR program provides an opportunity to explore the enhanced capabilities of RADARSAT-2 and their potential contributions to various applications. This opportunity consists of a loan, of circumscribed amounts of RADARSAT-2 data to research projects.

Le programme SOAR est une occasion d'explorer les capacités améliorées de RADARSAT-2 et de leurs potentielles contributions à diverses applications via un prêt d'une quantité limitée de données RADARSAT-2 aux projets de recherche sélectionnés.

Earth observation is a well suited tool to monitor our changing world. The corresponding geo-information products support the investigation and understanding of the processes causing and resulting from the change. In this context, the Canadian Space Agency (CSA) and the German Aerospace Centre (DLR) intend to jointly stimulate the scientific utilization of Earth Observation by providing data acquired by their national missions RADARSAT-2 and TerraSAR-X.

L'observation de la Terre est un outil qui convient bien à la surveillance d'un monde en pleine transformation. Les informations dérivées de données de télédétection appuient l'étude et la compréhension des processus qui causent les changements et de ceux qui en découlent. C'est dans ce contexte que l'Agence spatiale canadienne (ASC) et le German Aerospace Center (DLR) unissent leurs efforts afin de stimuler l'utilisation scientifique des données recueillies dans le cadre des missions de leur satellite national d'observation de la Terre, RADARSAT-2 et TerraSAR-X.

This announcement of opportunity was open to German and Canadian Investigators and focuses on the synergistic evaluation of both sensors for basic and applied R&D on algorithms, methods and applications. Bidders with accepted proposal will have access, free of charge, to CSA and DLR images.

Le présent appel d'offres s'adressait aux chercheurs allemands et canadiens et il porte tout particulièrement sur l'évaluation en synergie des deux capteurs en vue d'activités de R-D fondamentale et appliquée portant sur des algorithmes, des méthodes et des applications. Les soumissionnaires dont la proposition a été retenue auront accès gratuitement aux images de l'ASC et de DLR.

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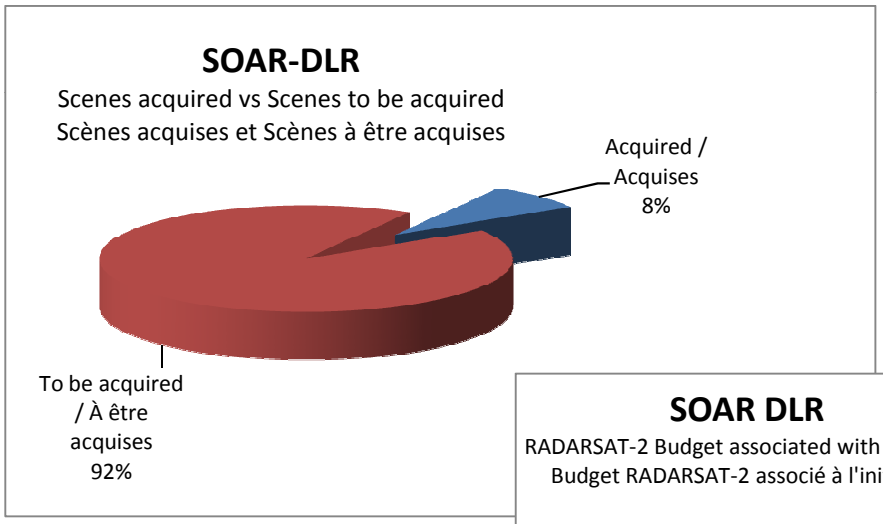
General information about the SOAR-DLR initiative
Informations générales sur l'initiative SOAR-DLR

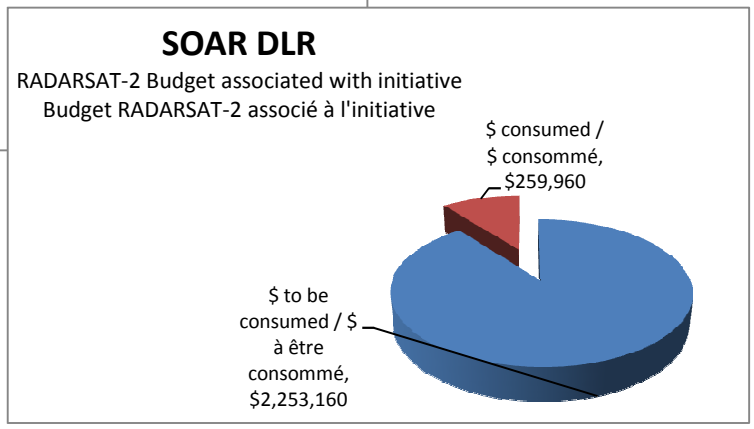
Submitted Project Projets soumis	**48**
Accepted Project Projets acceptés	37
Modifications and/or Clarifications Modifications et/ou Clarifications	4
Rejected Project Projets rejetés	5
Project cancelled by IP Projets annulés par le CP	2

RADARSAT-2 Budget associated with initiative Budget RADARSAT-2 associé à l'initiative	$2,513,120
Budget consumed up to date Budget consommé à ce jour	$259,960

Active Project Projets actifs	12
Inactive Project Projets Inactifs	25

	RADARSAT-2	TerraSAR-X	TOTAL
Scenes requested / Scènes demandées	610	723	1333
Scenes acquired & delivered / Scènes acquises et livrées	48	0	48
Scenes to be acquired / Scènes à être acquises	562	723	1285





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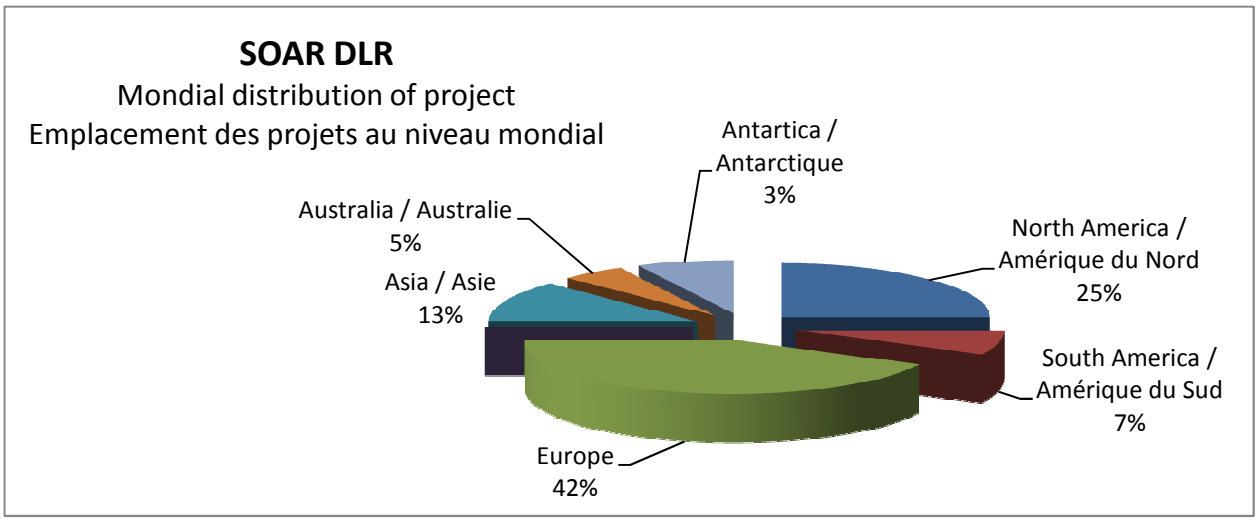
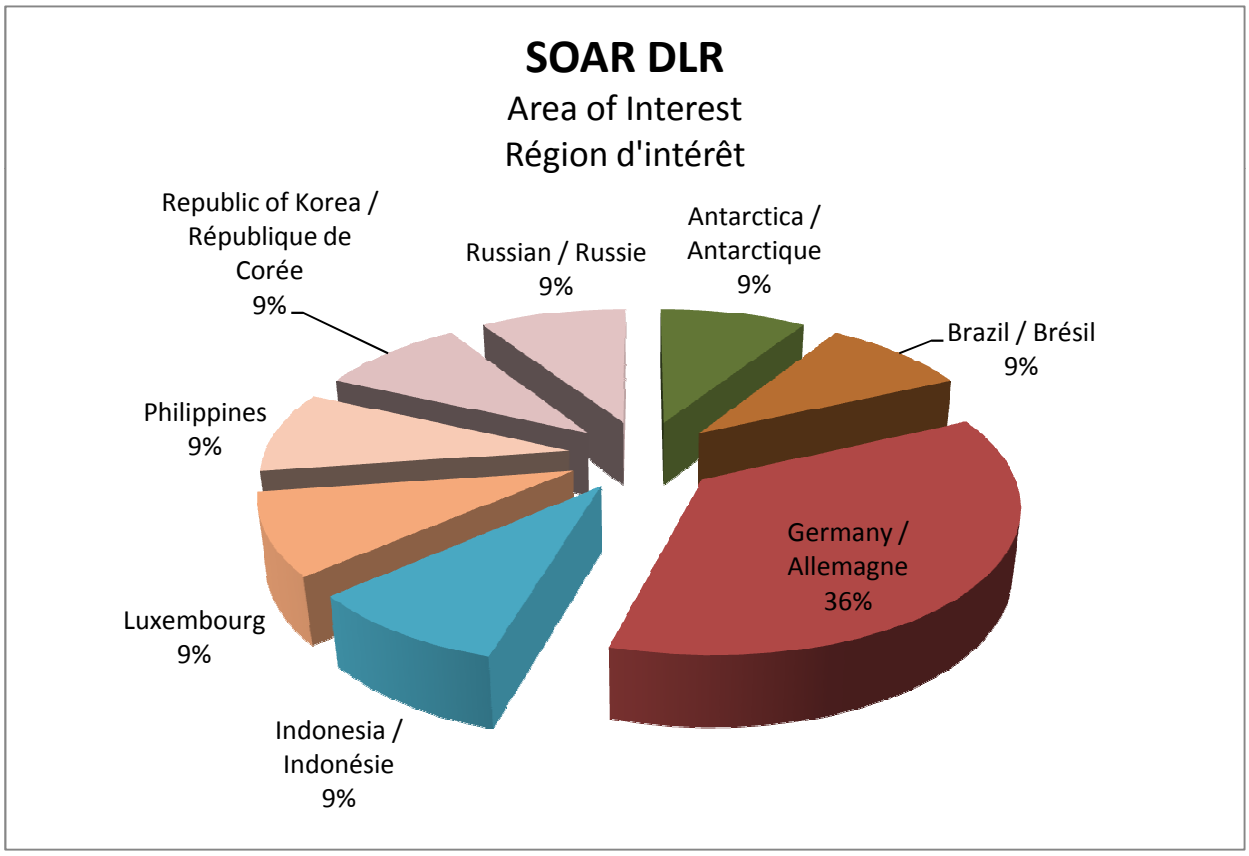
SOAR-DLR supports the use of remote sensing worldwide.
SOAR-DLR supporte l'utilisation de la télédétection à travers le monde.





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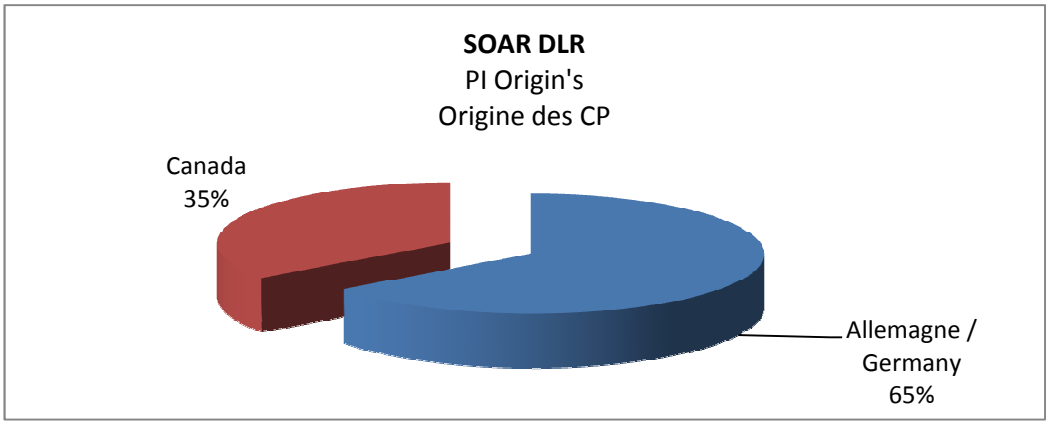
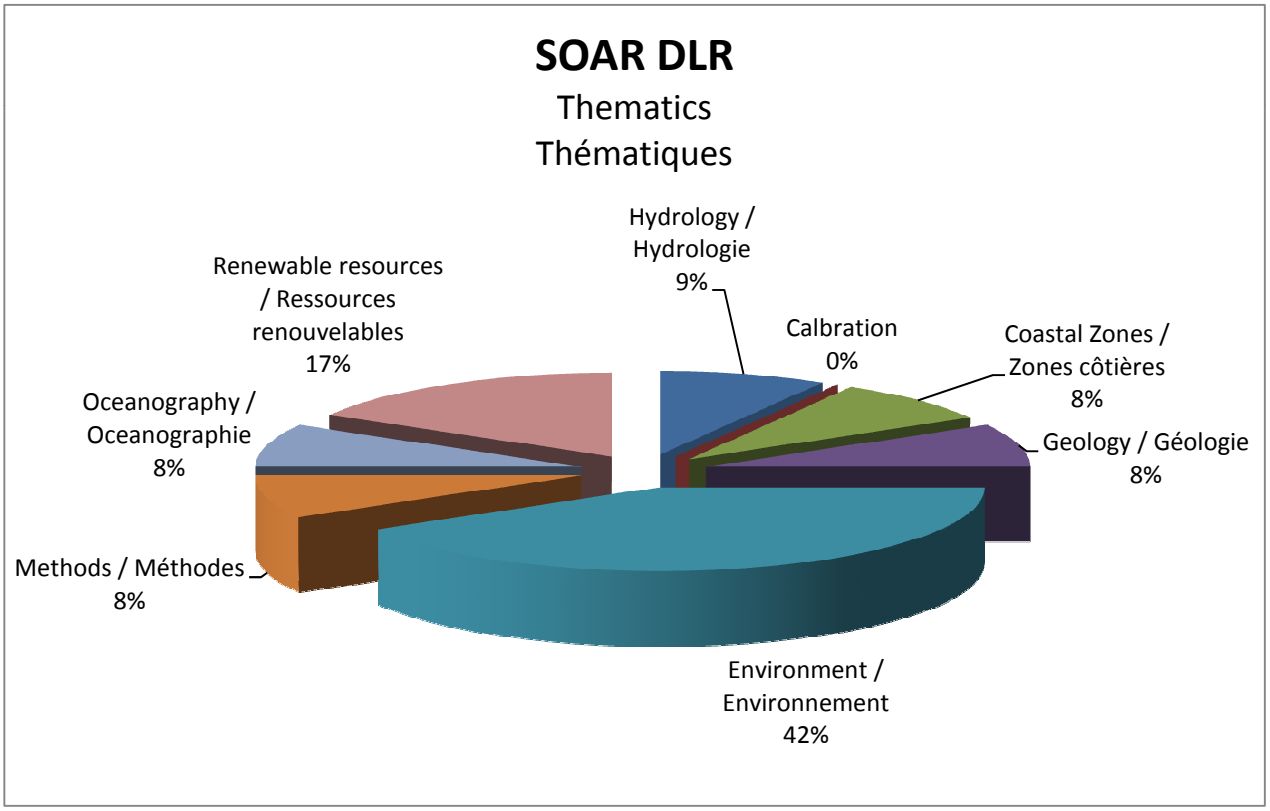
Principal Investigators (PI) and graduate students are subscribing from Germany and from Canada
Les Chercheurs Principaux (CP) et les étudiants gradués proviennent de l'Allemagne et du Canada.



SOAR-DLR projects have several thematics.
Les projets de SOAR-DLR ont de thématiques diversifiées.



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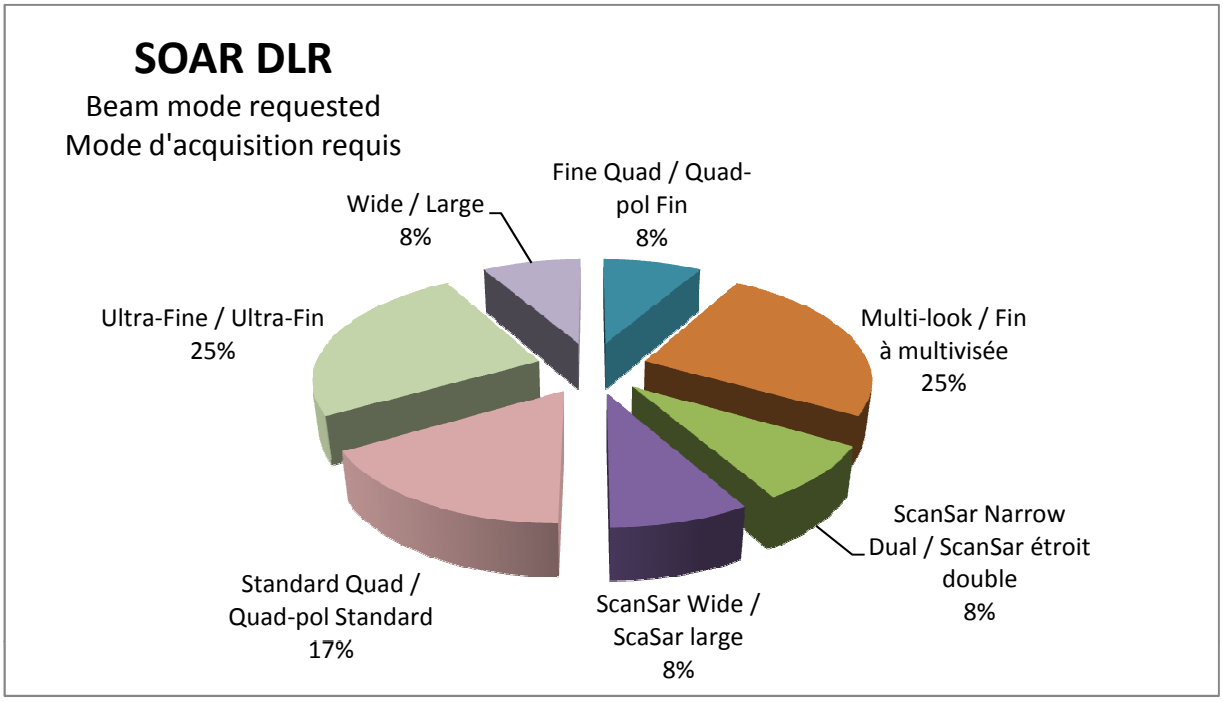
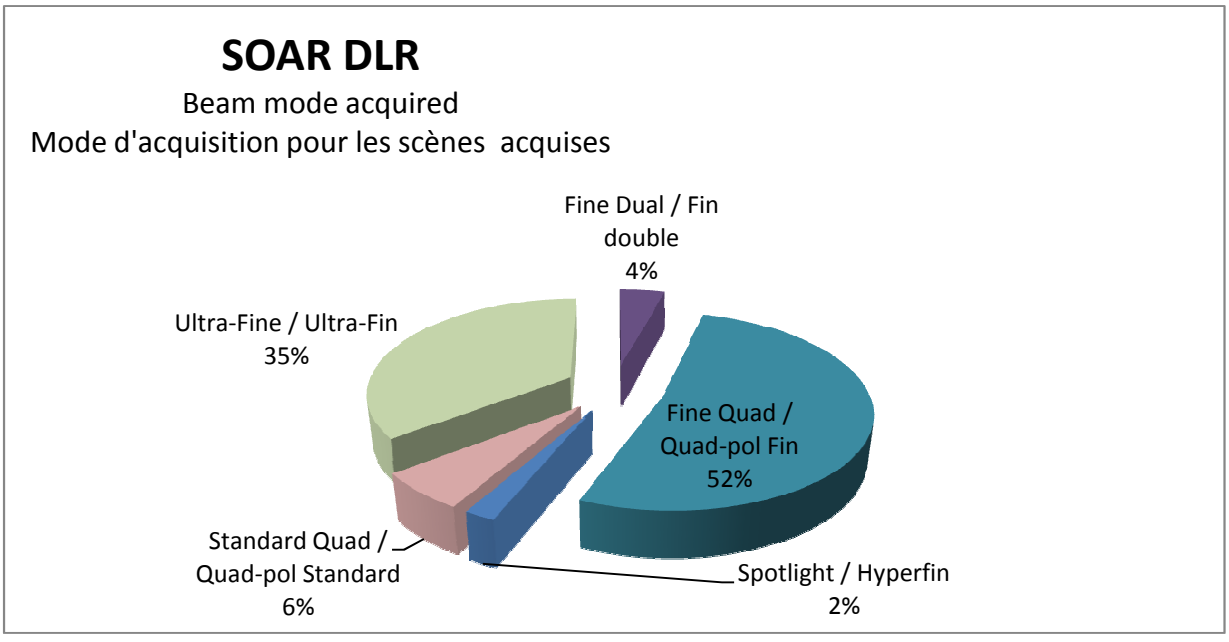
The investigators have access to several RADARSAT-2 beam modes and polarization configurations.
Les chercheurs on accès aux multiples modes d'acquisitions ainsi qu'aux différentes polarisations de RADARSAT-2.





SOAR-DLR / *SOAR-DLR*

Project # # du projet	Project Title / Titre du projet
5033	Analysis of penetration depth of X,C and L-band for groundwater and moisture level change measurement
5035	Synergistic use of different SAR frequencies (L,C,X) for the assessment of deforestation, biomass and fire impact in tropical rain forests of SE-Asia.
5038	Utilizing C-band differential InSAR techniques for monitoring surface movements, induced by near-surface and deep fluid circulations, using RS-2 data.
5040	The application of multi-frequency and multi-polarization SAR data for annual land use inventories in biodiversity conservation (SARabico)
5041	Analysis of temporal coherence properties in stacks of SAR images
5043	Investigation of Radar Backscatter Dependency on Different Frequency Bands Using Spaceborne SAR.
5044	Enhancing PSI analysis for resolving non-uniform surface deformation in the vicinity of Gas- and CO2-storage facilities and Natural Gas exploitation
5045	Assessment of StereoSAR generated DEMs from Radarsat-2 data for topographic phase correction in interferometric deformation monitoring
5046	Ground motion monitoring with InSAR for a potential Sub-surface CO2 injection in a basaltic aquifer, in Pendleton,OR
5047	Sub-surface ice detection with dual-polarimetry high resolution SAR images and Ground Penetrating Radar in the Haughton crater, Devon Island-Nunavut
5048	Arctic Tundra Thaw Monitoring
5049	Mapping and estimating biophysical parameters of energy crops using TerraSAR-X and Radarsat-2 data
5050	Ice Berg Detection in Baffin Bay using RADARSAT-2 and TerraSAR-X data
5051	Detection of marine farm (oyster) signature in tidal flats using multi-frequency polarimetric SAR data
5052	Synergistic use of Radarsat-2 and TerrSAR-X for monitoring vegetation distribution, growth and phenology in the Amazon floodplain wetlands
5053	Multi-wavelength Quad-polarimetric Analysis of Urban Land Uuse Land Cover in San Juan and Rosario, Argentina.
5055	Information Extraction and soil moisture estimation using Single Look Complex SAR data.
5057	Application of RADARSAT-2 Interferometry to deformation monitoring in New Zealand.
5058	Assimilation de données radar pour l'estimation du gel des sols enneigés en milieux agricoles.
5060	Improved Retrieval of Sea Ice Information from Dual-Frequency, Polarimetric SAR Observations

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Project # # du projet	Project Title / Titre du projet
5061	Influence of melt-freeze cycling and ice surface flooding on C- and X-band multipolarization signatures of snow covered Antarctic sea ice
5062	Socio-Cultural Landscapes Development in Azerbaijan.
5063	Polarimetric Wetland and Agriculture Monitoring combining X- and C-band SAR data.
5064	Seasonally changes on classification of tropical and temperate forests by polarimetric analysis of SAR data
5065	Mapping flood characteristics at C- and X-band wavelengths.
5066	Tectonic and non-tectonic deformation monitoring in Western and Central Asia using Radarsat2 Interferometry.
5067	Statistical relationship between SAR values and spectral indexes from optical sensors
5068	Evaluation of the enhanced capabilities of RADARSAT-2 and TerraSAR-X data for parametrization of hydrological modells of closed basins on the Tibetan.
5069	Evaluating the potential of RADARSAT data to support Public Sustainable Forest Management (SFM) in Amazon tropical rain forest sites.
5070	High-Precision Co-Registration of TerraSAR-X/RADARSAT-2 and RapidEye Data.
5071	Investigation of snow backscatter at a boreal environment for the ESA CoReH2O mission related NoSREx campaign.
5072	Subsidence monitoring over a collapsed mine in Berezniki, Russia - A Comparison of RADARSAT-2 and TerraSAR-X data.
5073	Multiseasonal remote sensing for vegetation monitoring
5074	Detecting and Tracking Small Scale Eddies in the Black Sea and the Baltic Sea Using High-Resolution RADARSAT-2 and TerraSAR-X Imagery (DTEddie)
5076	Comparison of RADARSAT-2 and Multi-Frequency/Multi-Polarization Scatterometer Data (CompRASS)
5077	Using RADARSAT-2 and TerraSAR-X Data for an Improved Classification of Wadden Sea Surface Types.
5078	Retrieval of sea-ice floe size distribution using TerraSAR-X/Radarsat-2 data .
5079	Maritime Surveillance and Security.
5081	Maritime Surveillance - Environmental Parameters