Canadian Space Agency Contribution to STG

Canadian Space Agency

STG5
Geneva, Nov 30 to Dec 2, 2009

Publié le 30 novembre 2009 à 13h24 | Mis à jour le 30 novembre 2009 à 13h27

Climat: une crise «déterminante» pour les Canadiens

Agrandir

Les Québécois sont parmi les plus enclins à penser que le réchauffement climatique constitue une crise «déterminante» pour l'humanité.

PHOTO: ARCHIVES AP

Agence France-Presse

La plupart des Canadiens croient que les changements climatiques constituent une crise déterminante pour l'humanité, révèlent les résultats d'un nouveau sondage.

Cette conviction est plus forte au Québec et moins dans les Prairies, précise l'enquête menée par Harris-Décima pour le compte du groupe Munk Debates. Les personnes interrogées étaient appelées à dire si elles étaient en accord ou en désaccord avec une affirmation qui sera l'enjeu mardi d'un débat organisé par Munk Debates à Toronto: «Les changements climatiques constituent une crise déterminante pour l'humanité».

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À LIRE AUSSI

- Enchères Heffe
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- Un tableau du
  Thomson se ve
  000 $
- L'imam qui insp
  terroristes
- Les Canadiens
  ambivalents au
  vaccin
- C'est arrivé un

Publié le 30 novembre 2009 à 19h27 | Mis à jour le 30 novembre 2009 à 19h34

Antarctique: trois degrés de plus d'ici la fin du siècle

Agrandir

PHOTO: AFP

Agence France-Presse
Paris

Le continent antarctique, à l'abri du réchauffement à cause du trou dans la couche d'ozone durant 30 ans, devrait atteindre 3 degrés d'ici à la fin du siècle, selon un rapport d'experts publié à six jours de l'ouverture du sommet de Copenhague sur le climat.

«Durant ce siècle, le trou d'ozone devrait se combler, permettant aux effets du réchauffement d'être pleinement ressentis à travers l'Antarctique», affirme le Scientific Committee on Antarctic Research (SCAR), qui regroupe 450 personnes travaillant dans cinq centres de recherche.

Dans un bilan de 550 pages, le SCAR passe en revue l'évolution passée et future de l'Antarctique et met l'accent sur les points suivants:

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[Environnement]
Changements climatiques
Tout sur les changements climatiques »

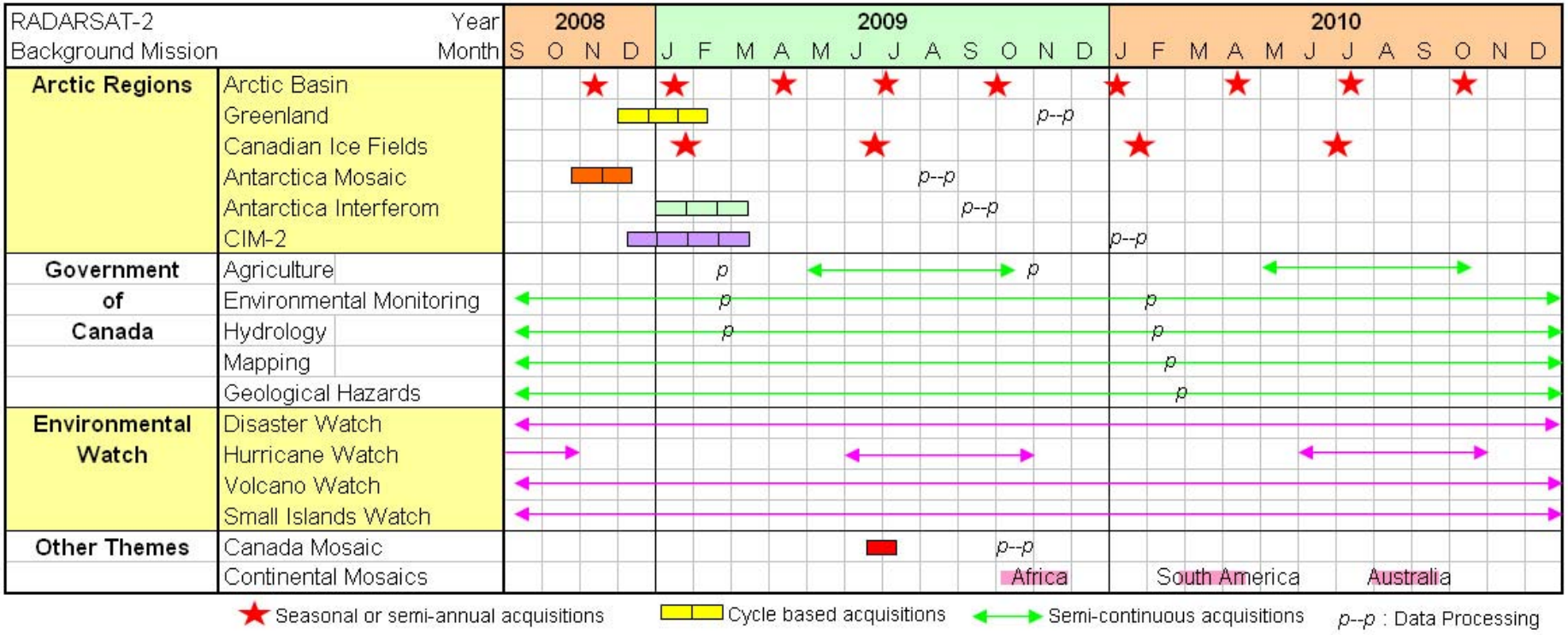
À LIRE AUSSI

- «Bombe climatique»: les risques se multiplient
- Des itinéraires qui font rêver
- Avons-nous déjà oublié ?
- La défaite de Chicago, pain béni pour les rivaux d'Obama
- Rio organisera les Jeux olympiques de 2016

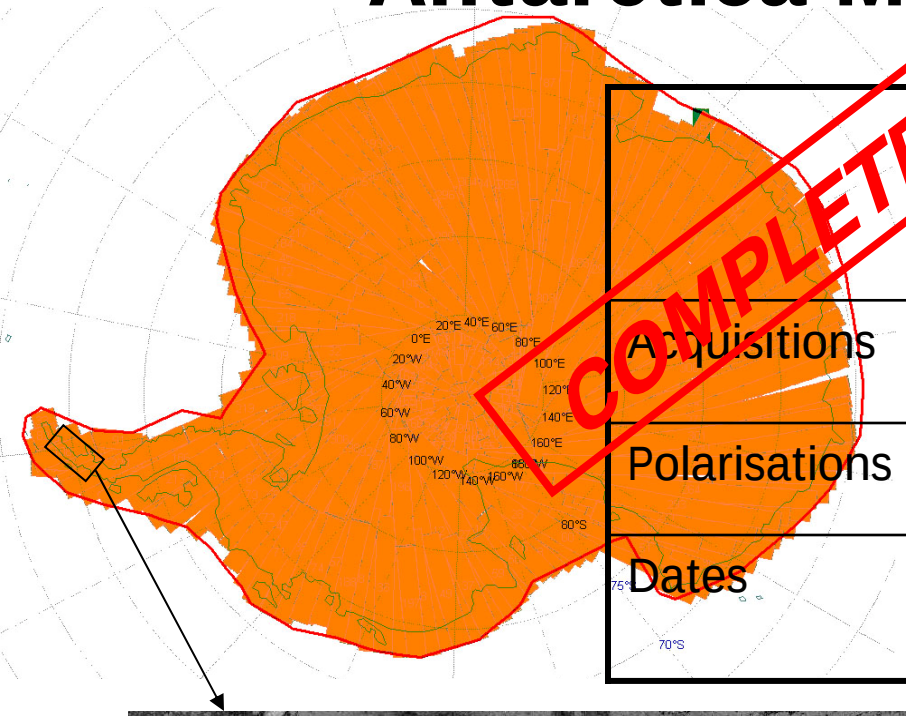
ASAP Portefolio:

Name	Image Type	Geographical coverage	Mission	Start date	End date	Product	Number of scenes	Extension	Map
Frozen Baseline	Fine Descending orbits only	North of 60 + coastal regions of Hudson and James Bay and Arctic Archipelago	Canadian Interferometric mission	Sept 2000	Feb 2001	Individual mage product Include only data received as real-time or playback data in Gatineau or Prince Albert.	3106	Processing of multiple passes over site-specific areas RSAT 1 and 2 new acquisitions	1
Sea Ice Min and Max Snapshots	ScanSAR Wide A&B	Circum-Polar Basin	Extended Background Mission	Sept 2003 2004 2005 2006	March 2003 2004 2005 2006	Individual image products only over Canadian waters Mosaics of annual min and max ice extent	358	Continued the snapshots in time with RSAT 1 and 2 Processing of circum-polar data sets – require the archive content of ASF and Tromso	2
Arctic Supersites Site 1-7	ScanSAR Wide A&B	ArcticNet research sites	Shoulder seasons to capture freeze and thaw cycles	1996	...	Individual image products	2878	RSAT 1 and 2 new acquisitions	3
Great Slave Site 8	ScanSAR Wide A&B	Great Slave Lake	Shoulder seasons to capture freeze and thaw cycles	1996	...	Individual image products	237	RSAT 1 and 2 new acquisitions	3
Great Bear Site 9	ScanSAR Wide A&B	Great Bear Lake	Shoulder seasons to capture freeze and thaw cycles	1996	...	Individual image products	221	RSAT 1 and 2 new acquisitions	3
NWT Site 10	Standard		Radargrammetry mission – S2, S7	1996	...	Individual image products	117	RSAT 1 and 2 new acquisitions	3
Mackenzie Delta Site 11	Fine, Wide and Scansar	Mackenzie Delta		1996	...		203	RSAT 1 and 2 new acquisitions	3
Axel Heidberg Site 12	Fine 1 Descending	Axel Heidberg Island	Canadian Interferometric Mission	Sept 2000	Feb 2001	Individual image products Single-look complex	389	RSAT 1 and 2 new acquisitions	3
CIS Image Archive	Scansar Wide	Canadian waters	Normal operations	March 1997	...	Block-averaged images (2x2) and full res. Images	35000 +	RSAT 1 and 2 new acquisitions	4
Canadian Arctic Land masses mosaics	Scansar Narrow	Canadian Arctic	CSA background	Winter 1998,99		Single images and mosaics at 250, 500 and 1000m pixel size.	600	No plans	5
RAMP AMM	Mixed	Antarctica – full coverage	Antarctic Mapping Mission	Sept 1997	Oct 1997	Continental mosaic produced by the Polar Byrd Laboratory. Individual images	8000	MiniMAMM 2	
RAMP MAMM	Fine	Antarctica – partial coverage	Modified Antarctic Mapping Mission	Sept 2000	Oct 2000	Continental mosaic produced by the Polar Byrd Laboratory. Individual images		MiniMAMM 2	

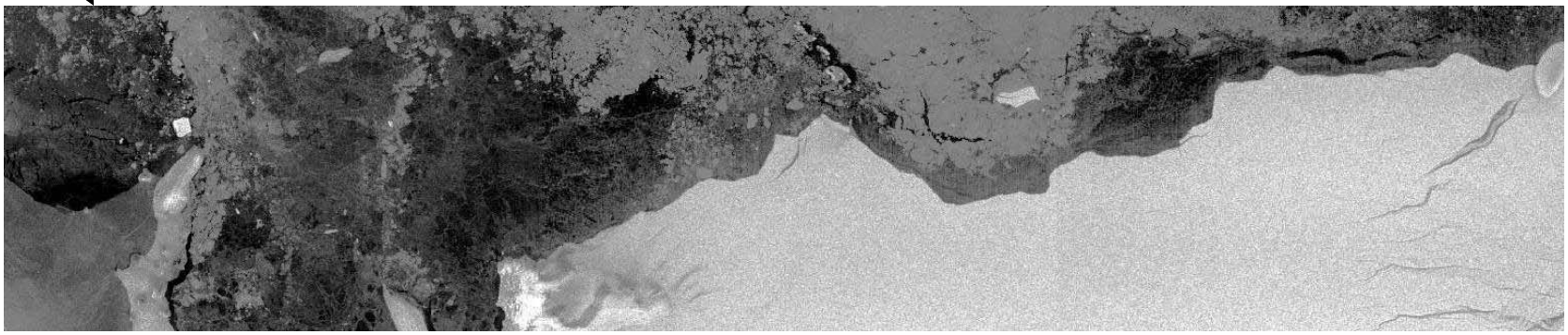
CSA Background Mission Schedule



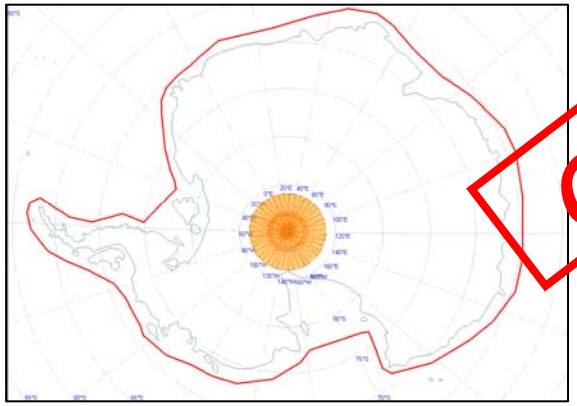
Antarctica Mosaic Coverage

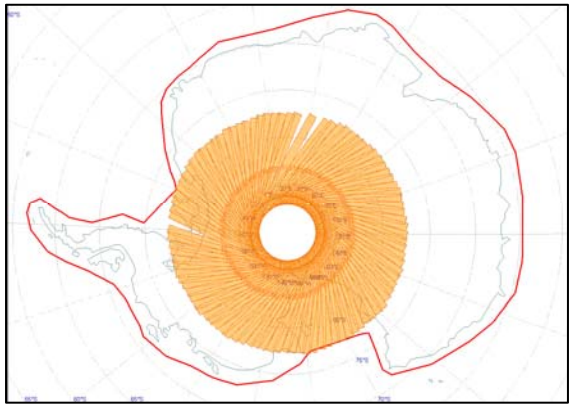


	RADARSAT-2 Wide 2 (left) (Total SAR On-Time)	RADARSAT-2 Extended High 4 (left) (Total SAR On-Time)
Acquisitions	15:44:04	00:42:15
Polarisations	HH+HV	HH
Dates	Oct. 14 to Dec. 03, 2008	Nov. 1-25, 2008



Antarctica Interferometric Coverage



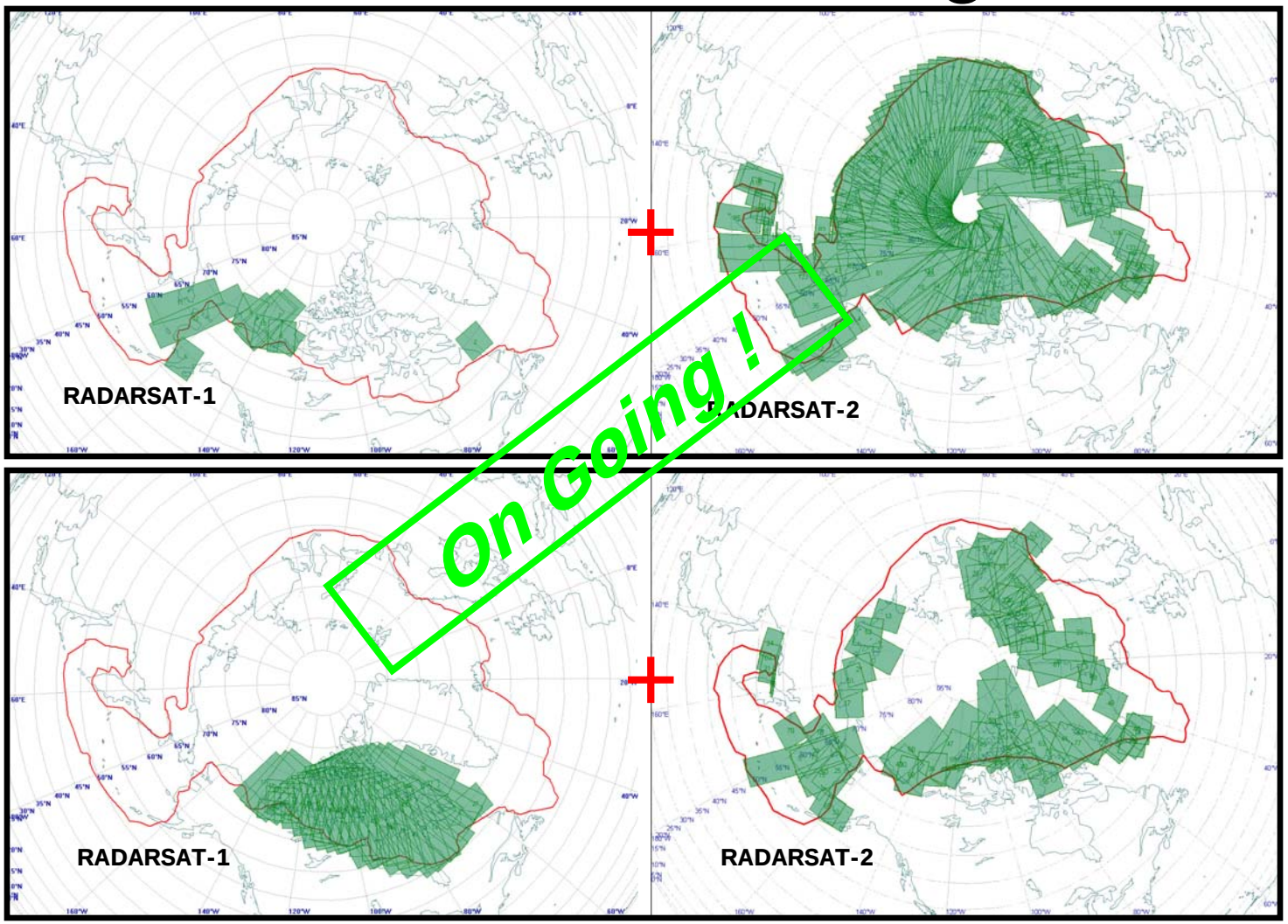


COMPLETED!

	RADARSAT-2 Standard 5 (Total SAR On-Time)	RADARSAT-2 Extended High 4 (Total SAR On-Time)
Cycle « A » 17-FEB-09 to 27-FEB-09	05:50:24	00:57:08
Cycle « B » 12-MAR-09 to 23-MAR-09	05:15:44	00:58:20
Cycle « C » 05-APR-09 to 16-APR-09	05:40:25	00:58:12

3 consecutive cycles starting Feb 17, 2009

Arctic Basin Coverage - 2009



WINTER
Jan 2 – 12, 2009

SPRING
Apr 6 – 13, 2009

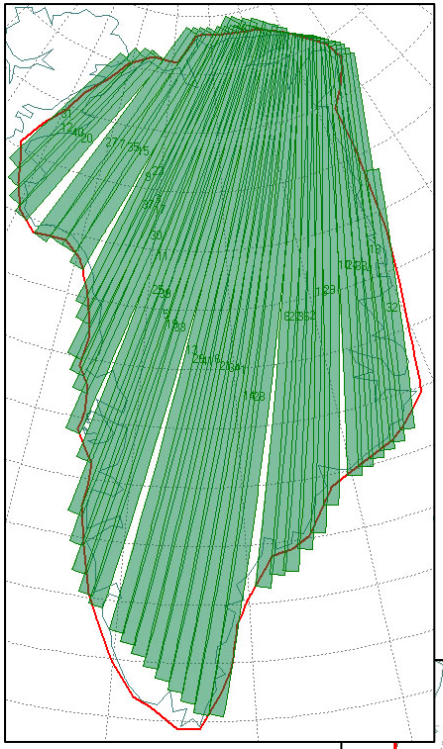
ScanSAR Wide A / B

Greenland Interferometric Coverage

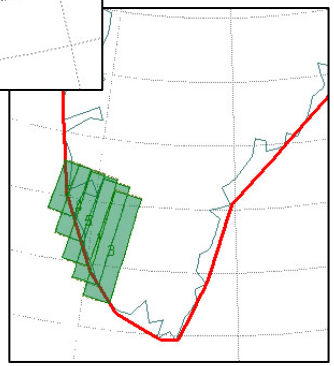
COMPLETED!

	RADARSAT-1 Fine 1 (Total SAR On-Time)	RADARSAT-2 Standard 5 (Total SAR On-Time)
Cycle « A » 20-DEC-08 to 12-JAN-09	03:18:29	00:03:02
Cycle « B » 13-JAN-09 to 05-FEB-09	03:21:53	00:01:31
Cycle « C » 06-FEB-09 to 26-FEB-09	02:57:38	00:03:46

RADARSAT-2 is complementary to RADARSAT-1



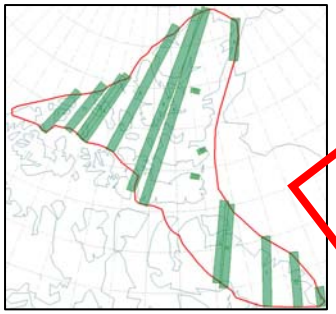
RADARSAT-1
Cycle “C” F1

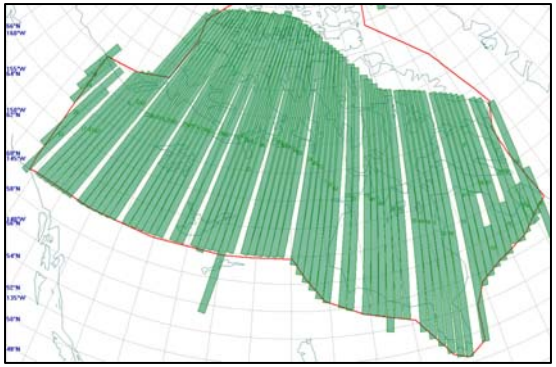


RADARSAT-2
Cycle “C” S5

CIM-2 Interferometric Coverage

RADARSAT-2
Cycle "C" F1





RADARSAT-1
Cycle "C" F1

COMPLETED!

	RADARSAT-1 Fine 1 (Total SAR On-Time)	RADARSAT-2 Fine 1 (Total SAR On-Time)
Cycle « A » 01-DEC-08 to 09-MAR-09	04:49:19	00:29:26
Cycle « B » 11-MAR-09 to 02-APR-09	05:40:10	00:22:23
Cycle « C » 06-APR-09 to 26-APR-09	05:34:16	00:18:16
Cycle « D » 27-APR-09 to 06-MAY-09	04:59:50	00:16:12

RADARSAT-2 is complementary to RADARSAT-1

RADARSAT-1

	3-day Arctic Basin Snapshot	Pole to Coast InSAR	Greenland – Ice Fields	SuperSites
PROPOSED	Requires the participation and agreement of ASF and KSAT. Canadian and Norwegian waters well covered under background and operational missions. Back-up in case of conflicts.	Not possible due to the lack of receiving station. Presence of NASA and KSAT station in area. No rotation planned.	Not possible without the participation of foreign receiving stations – requires $$$ contribution. Historical coverage – covered 2-times in InSAR – data are in ASF archive 2007 coverage.	Available for supersite monitoring under Canadian mask – should not be in conflict with the operational users and thus avoid the costal areas.
DELIVERED	No downlink capability was available until May.	Not possible due to the lack of receiving station. See RADARSAT-2	Data acquired for 3 consecutive cycles and downlinked to Tromsø DRF. Fine 1 Dec. 2008 – Feb. 2009	Data acquired and archived in Canada

RADARSAT-2

	3-day Arctic Basin Snapshot	Pole to Coast InSAR	Greenland – Ice Fields	SuperSites
PROPOSED	Planned background mission. 8 times 3-day snapshot over 24-day cycle. Action ESA and CSA background mission mangers – define optimal mission coverage.	Current plan is to acquire entire left-looking in cycle 12 (Wide Asc) starting Oct. 14. Plan to acquire "Pole Hole" left-looking interferometry.	Background mission planning InSAR coverage. 3 cycles in Fine mode, descending orbits in Nov-Dec. Could end after December (to February).	Sites may require polarimetric capabilities of RADARSAT-2. Need input from PIs. See SOAR reference.
DELIVERED	Not possible due to operational constraints.	All data acquired and archived in Canada. Mosaic: W2+EH4 Oct. to Dec 08 Interferometry (3 cons. cycles): S5+EH4 Feb. to Apr. 09	Barely possible with RADARSAT-2 due to large number of conflicts. Data acquired mostly with RADARSAT-1	Data acquired through RADARSAT-2 Background Mission. Data archived in Canada

CSA Contribution

Acquisition	Info Product
RSAT 1 InSAR high resolution coverage of Greenland	Ice velocity coverage – Agreement with NASA for the generation of the product
RADARSAT 2 high resolution SAR full Antarctic coverage in multi-polarization	Multi-polarisation mosaic compatible with RAMP – Visual and Science Product
RADARSAT 2 InSAR high resolution coverage of Pole to 76 degrees south – last one was with RSAT 1 in 1997	Ice velocity coverage – source data distribution to be negotiated with MDA. Need coordination with ESA for full continental coverage
Canadian Ice caps and Canadian Arctic (over 25,000 scenes)	Data hosted on Thematically relevant Portals • Canadian Cryospheric Information Network • PolarVIEW portal • ASF IPY portal

CSA Contribution Summary

- Working together with NASA to develop an velocity map over Greenland
- Working together with Canadian industry to develop a high resolution dual pol mosaic of Antarctic
- Initiate discussion with ESA for a Pole to Coast Antarctic Velocity product
- The kick-off of the Polar Data catalogue with the CCIN http://www.polardata.ca/whitesnow/ (U of Waterloo and ArcticNet)
- We are open to take more if necessary…

Canadian Space Agency | Agence spatiale canadienne

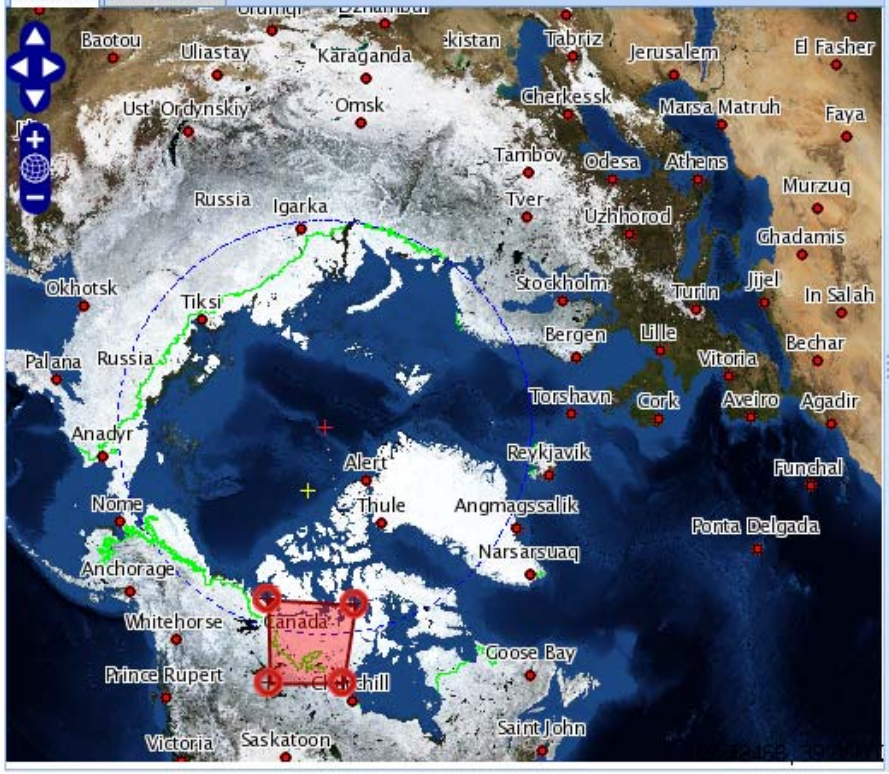
CSA ASC

Polar Data Catalogue

Polar Data Catalogue Geospatial Search

QuickTools

Arctic | Antarctic



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Longitude	Latitude
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-95.85361499159367	60.80925941197977
-90.20661012946783	69.67640702978991

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Collection: Polar Data Catalogue

Start Date: January 1 1980

End Date: January 1 2009

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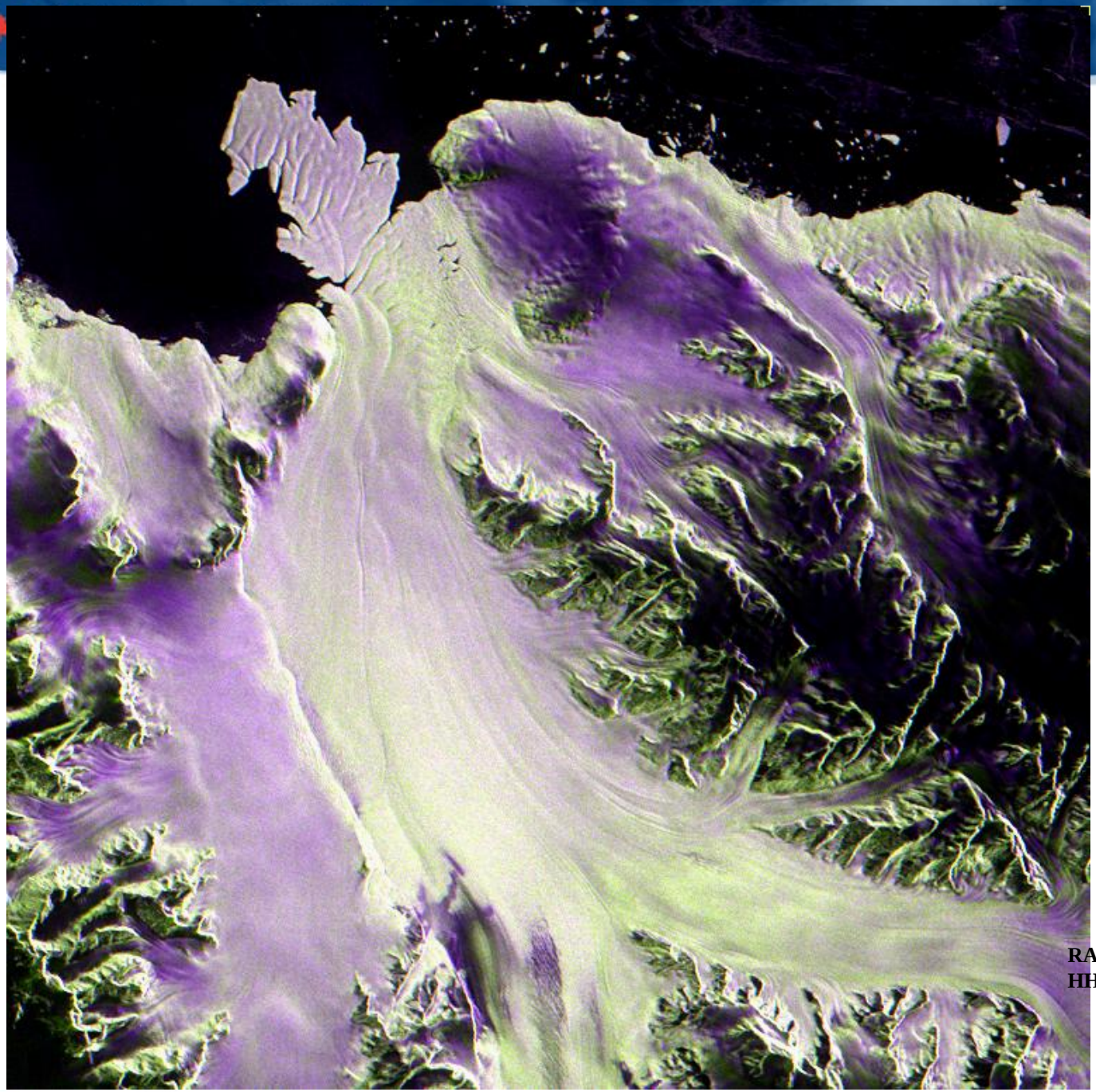

RADARSAT 2 Multi-pol color composite
HH, HV, HH-HV