

Progress:

Vis/IR circumpolar snapshot

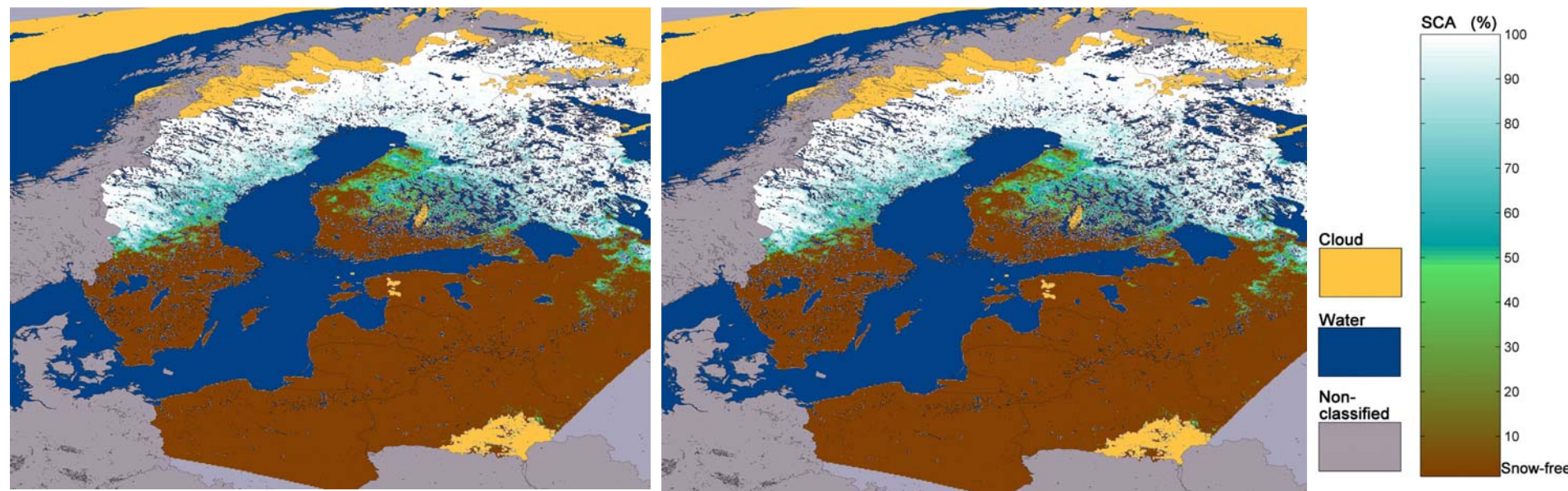
- Permafrost/Snow

- Lake/River freeze/break-up

Goals

- one complete high resolution visible and thermal IR (Vis/IR) snapshot - for circumpolar permafrost
- pan-Arctic high and moderate resolution Vis/IR snapshots - for lake and river freeze-up and break-up

Snow Covered Area & services



24 March, 2007

27 March, 2007

Courtesy, Finnish Environment Institute (SYKE)

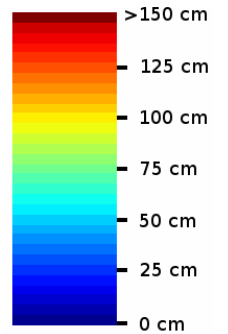
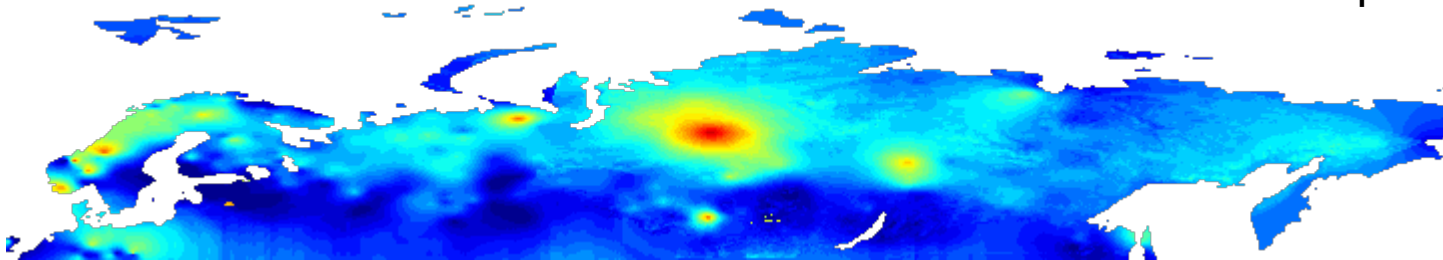
Eurasian Snow (1 April 2008)



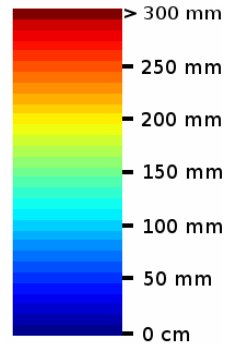
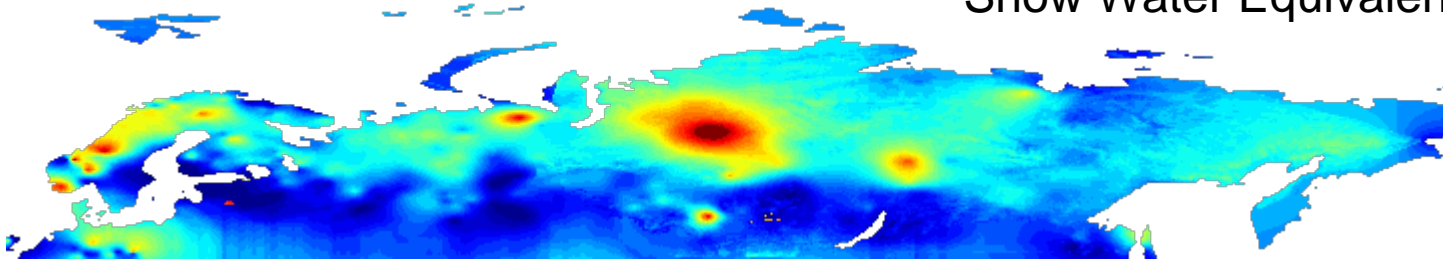
FINNISH METEOROLOGICAL INSTITUTE

MODIS + AMSR-E

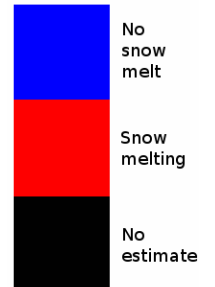
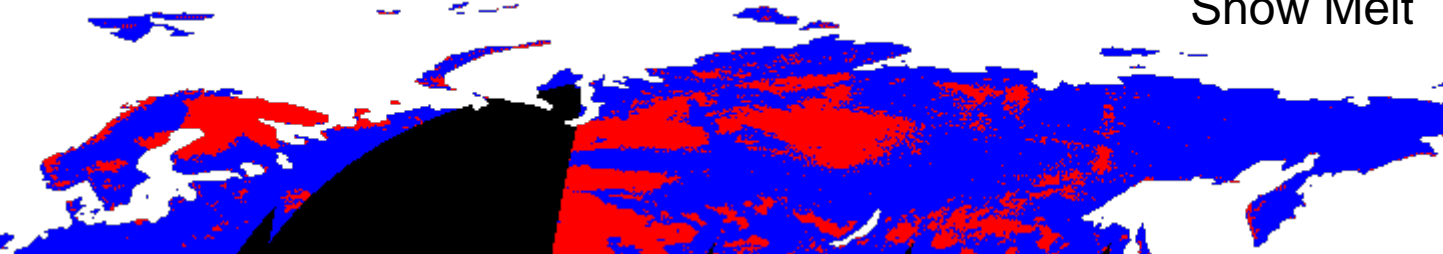
Snow Depth



Snow Water Equivalent
















Snow Melt

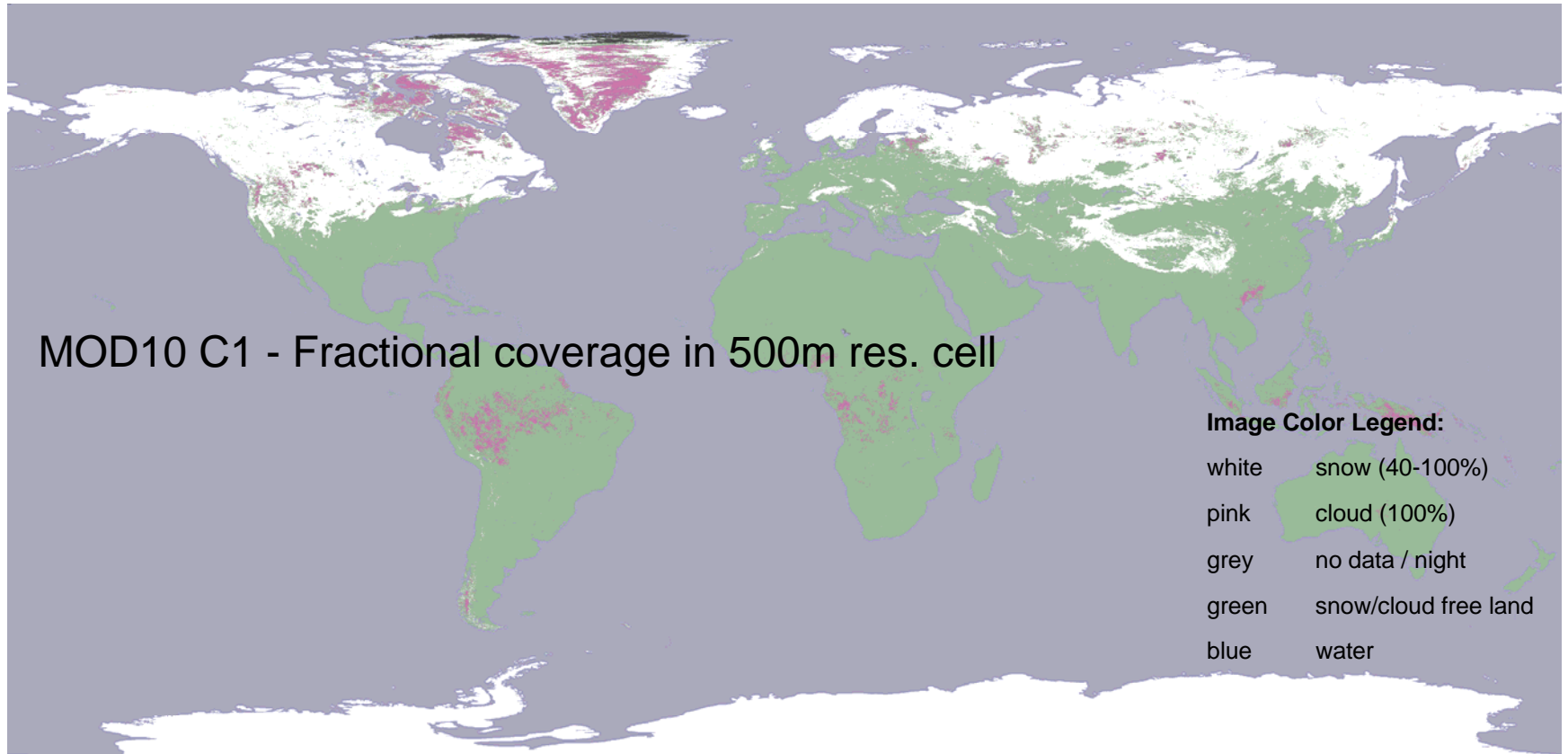


High water predictions

<http://www.hvz.baden-wuerttemberg.de/>

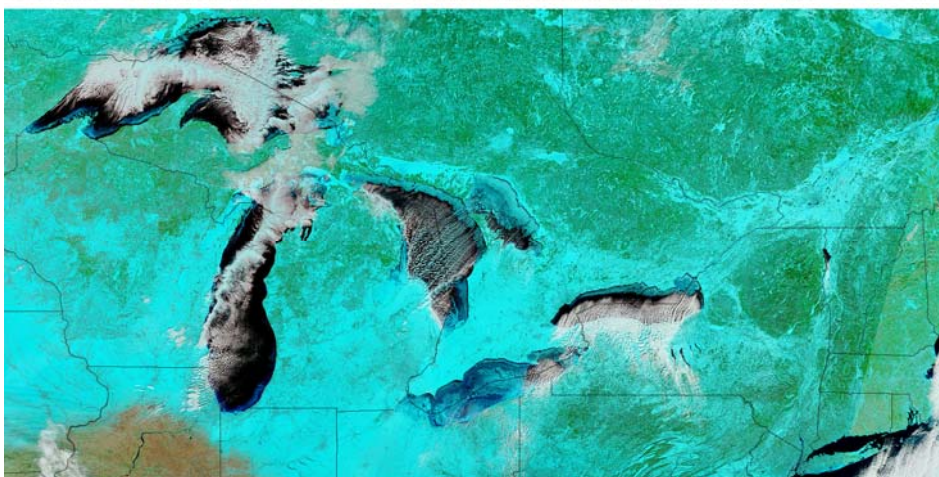
zuletzt abgerufener Messwert :	
	≥ 100 jährliches Hochwasser
	≥ 50 jährliches Hochwasser
	≥ 20 jährliches Hochwasser
	≥ 10 jährliches Hochwasser
	≥ 2 jährliches Hochwasser
	< 2 jährliches Hochwasser
	< Mittelwasser
	< mittleres Niedrigwasser
	Kein Kennwert vorhanden
	Aktualität des letzten Wertes außerhalb Zeitlimits
	≥ HMO-Meldewasserstand
	Pegel ist in Wartung
	Vorhersage vorhanden
Detaillierte Informationen erhalten Sie durch Mausklick auf das Pegelsymbol.	

MODIS Snow Cover



<http://modis-snow-ice.gsfc.nasa.gov/snow.html>

MODIS Lake Freeze up



Credit NASA GSFC

Metadata

Sensor
Terra/MODIS

Start Date
2005-01-27

Event Start Date
2005-01-27

NH Image ID
12691

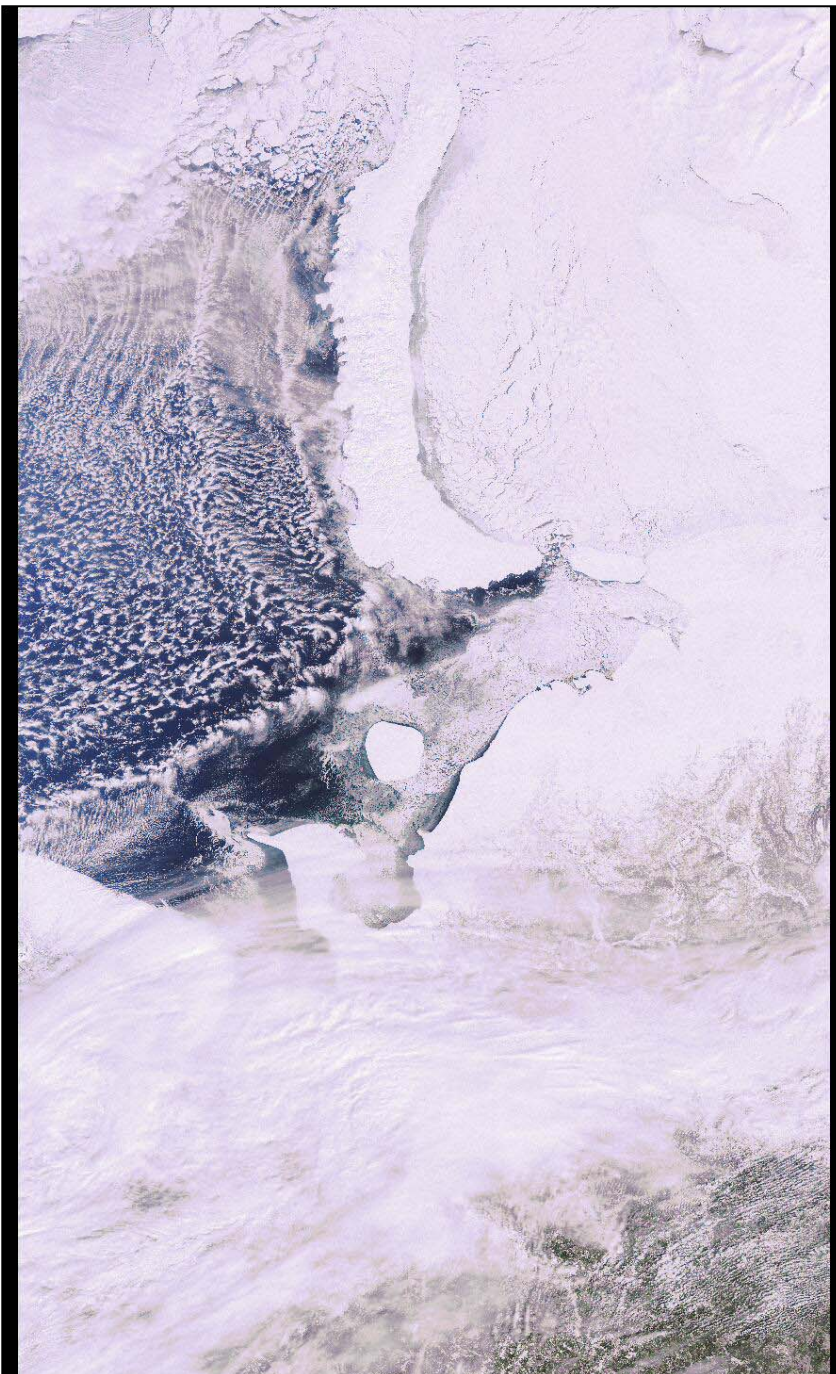
NH Event ID
10592

NH Posting Date
2005-01-27

Arctic Optical Coverage



MERIS – 300m optical image of Arctic tundra -



Product Information

Product

MER_FR_0PNPDK20080410_08074

5_000005832067_00336_31953_6404.N1

Acquired at **PDHS-K** and processed by **PDHS-K** with
KSPT_L0/4303

Processing time **10-APR-2008 08:17:50.000000**

Sensing start **10-APR-2008 08:07:45.751455**

Sensing stop **10-APR-2008 08:17:29.106991**

Absolute orbit **+31953**

Relative orbit **+00336**

Cycle **+067**

Phase **2**

Processing stage **N**

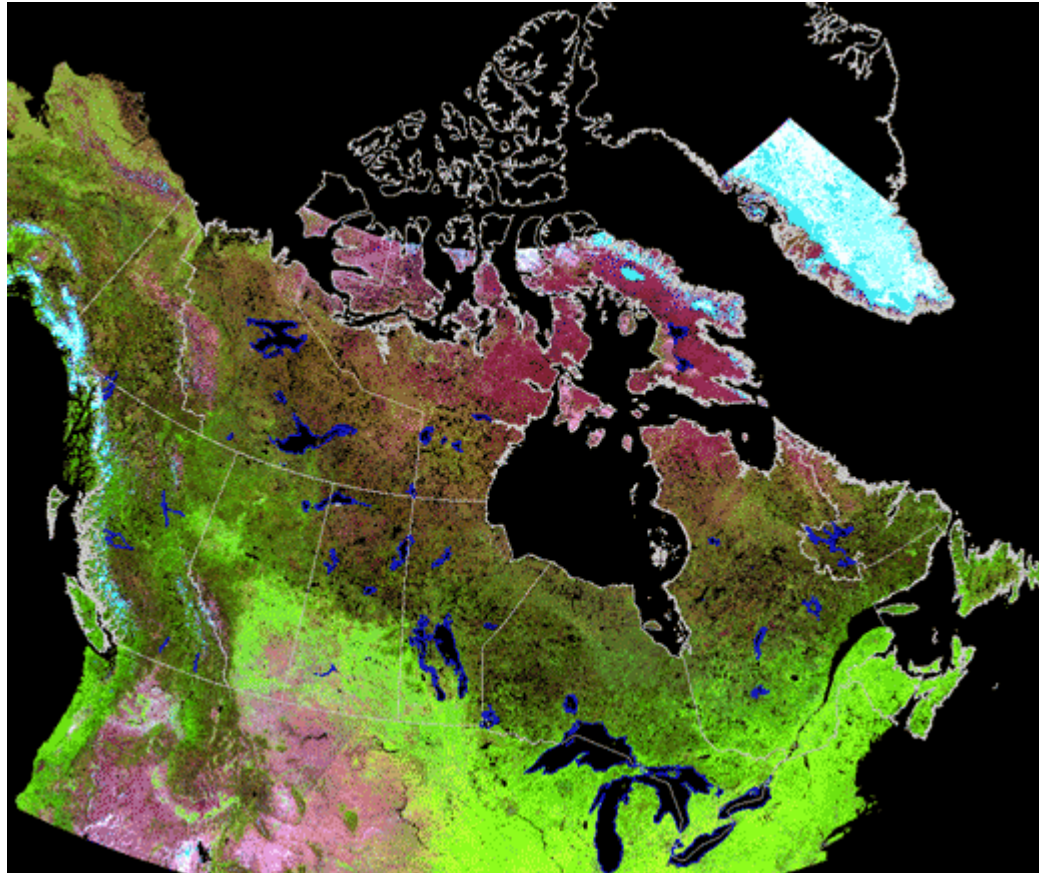
Reference Doc. **PO-RS-MDA-GS2009_06_3C**

MERIS Data Viewer

See MERA VI:

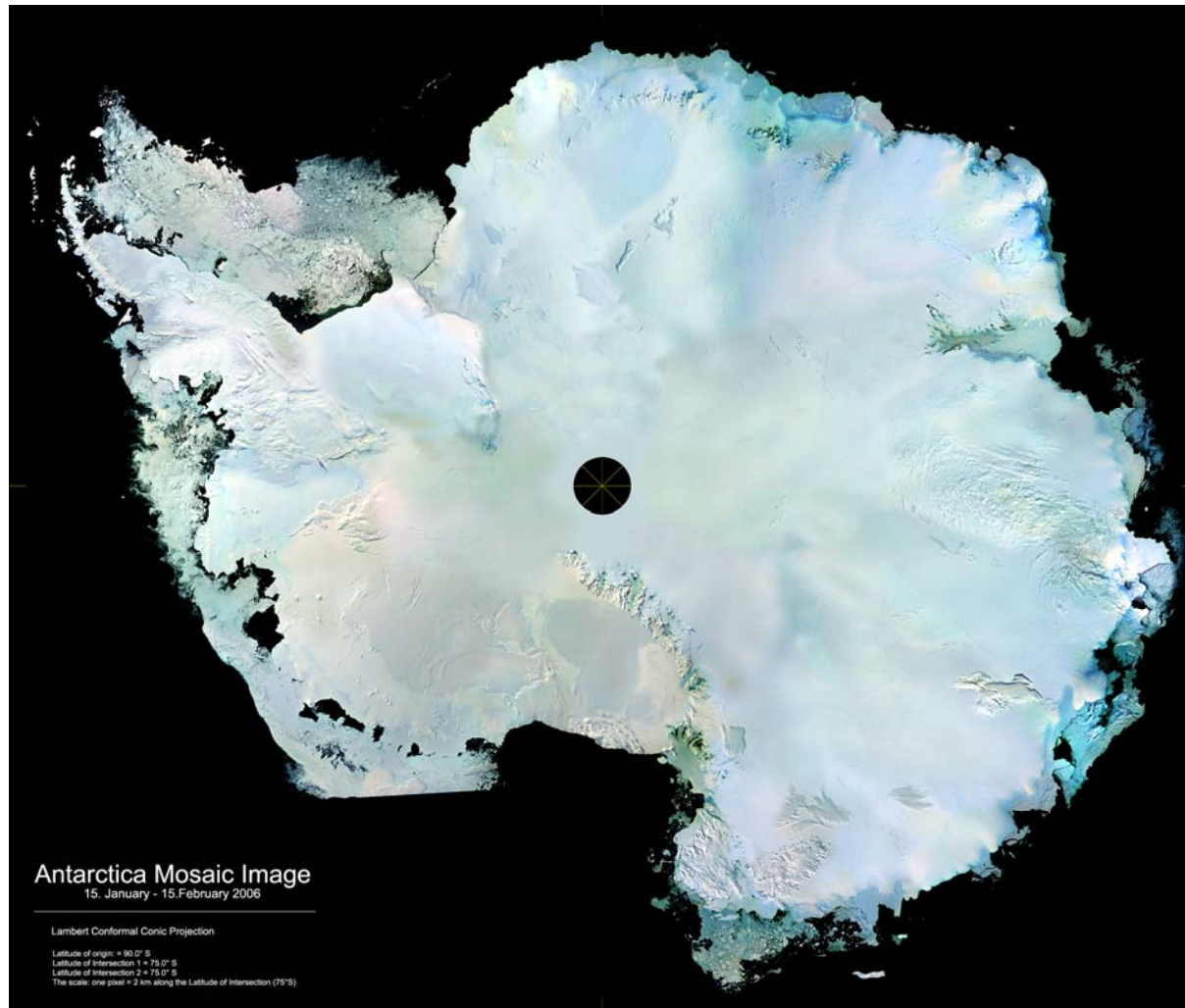
<http://miravi.eo.esa.int>

NRCan/ESS VGT mosaics



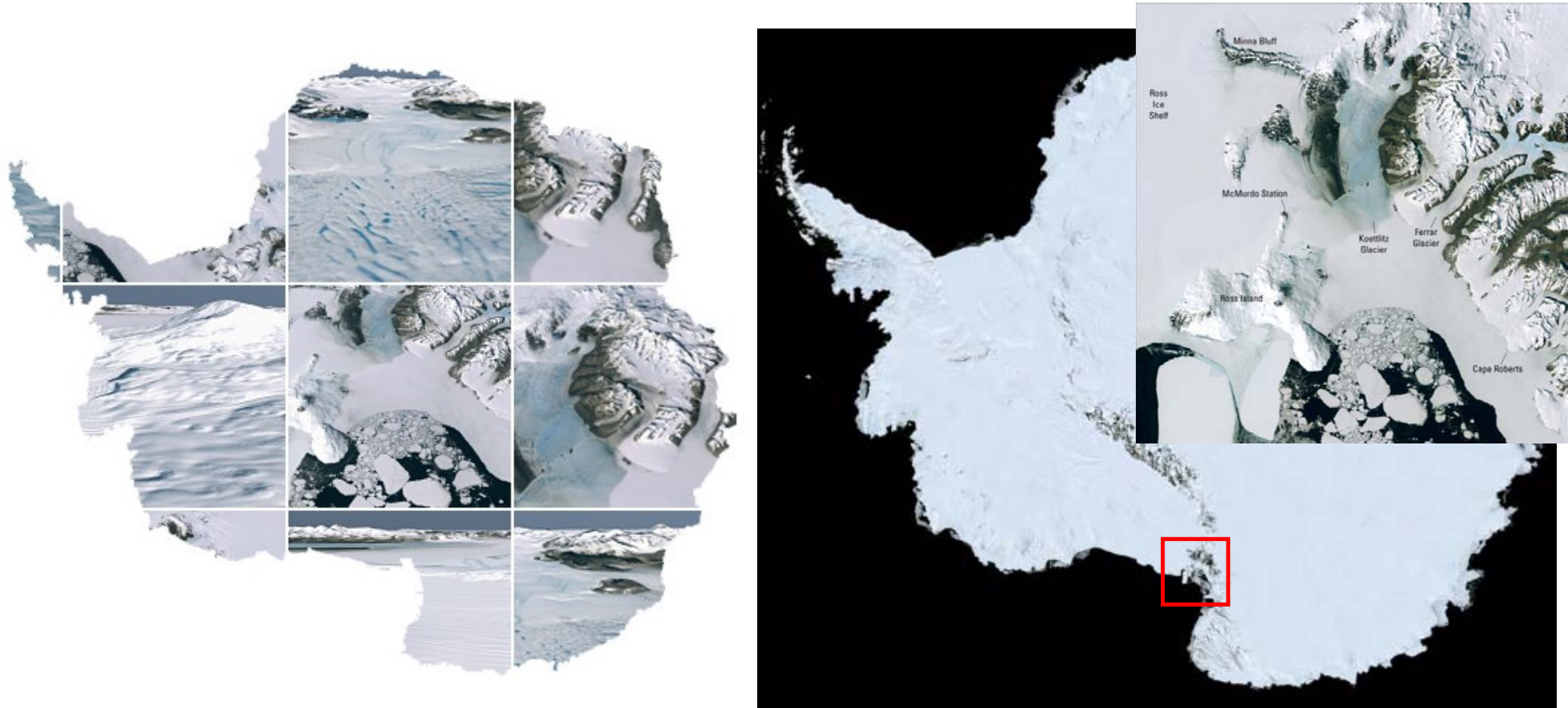
Corrected for BRDF & cloud effects (courtesy, **Government of Canada, Natural Resources Canada, Earth Sciences Sector and Canadian Space Agency**)

Envisat 1km MERIS Mosaic of Antarctica



Courtesy, Brockmann Consult Co, Germany

Landsat LIMA Mosaic of Antarctica



Courtesy USGS, BAS, NASA & NSF

Permafrost

- Using infrared, radar relief and other remote-sensing techniques, the integrated information will help assessment of the health of landscapes,, changes in biodiversity and the effects of climate change on permafrost”

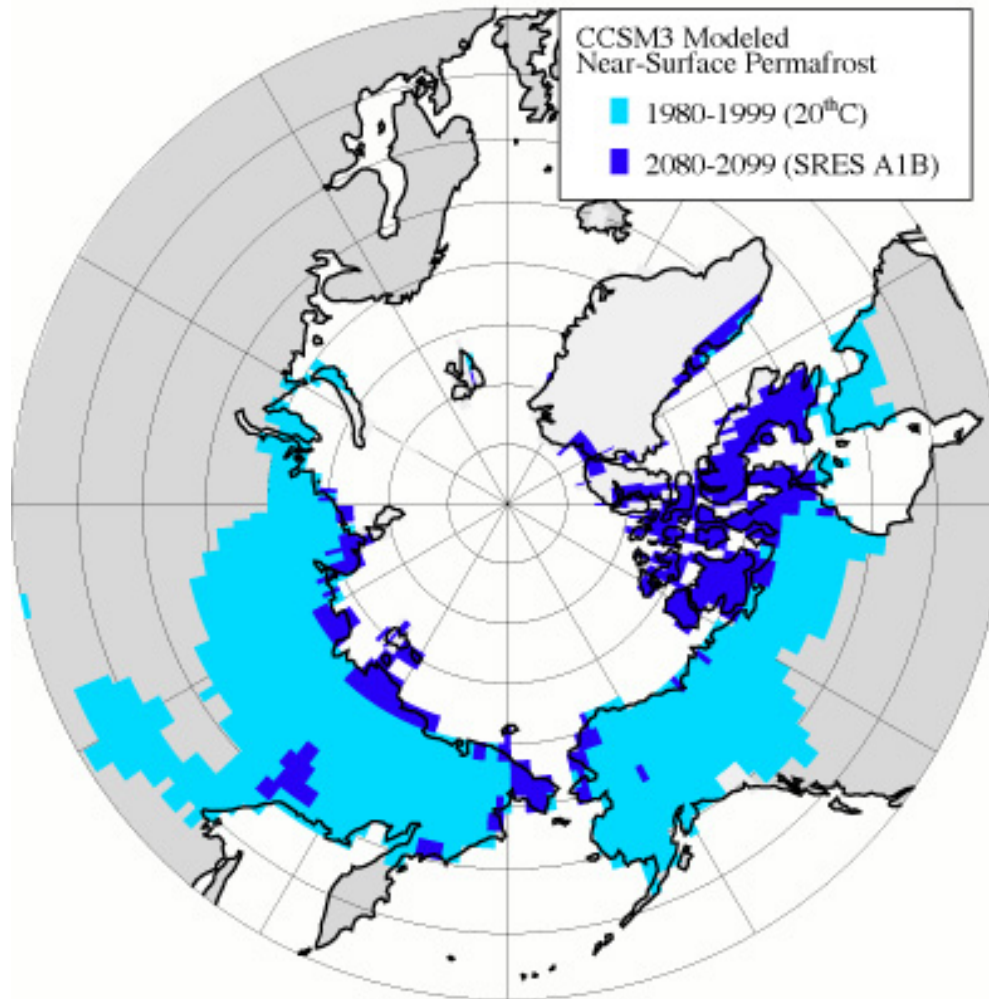


Image: Regions containing permafrost within the top 11 feet of soil could decrease by as much as 90% across the Arctic over the next century, based on simulations by the NCAR Community Climate System Model. Shown are areas with near-surface permafrost in the CCSM simulations for 1980-1999 (light blue) and 2080-2099 (dark blue). The latter projection is based on the Intergovernmental Panel on Climate Change's A1B emissions scenario, often called the "business as usual" scenario. (Image courtesy David Lawrence.)