

Earth Observation Technologies Cooperation

Deutsch-Kanadisches Symposium „Kooperationsanbahnung,,

19. October 2012

Munich, Germany

Gunter Schreier

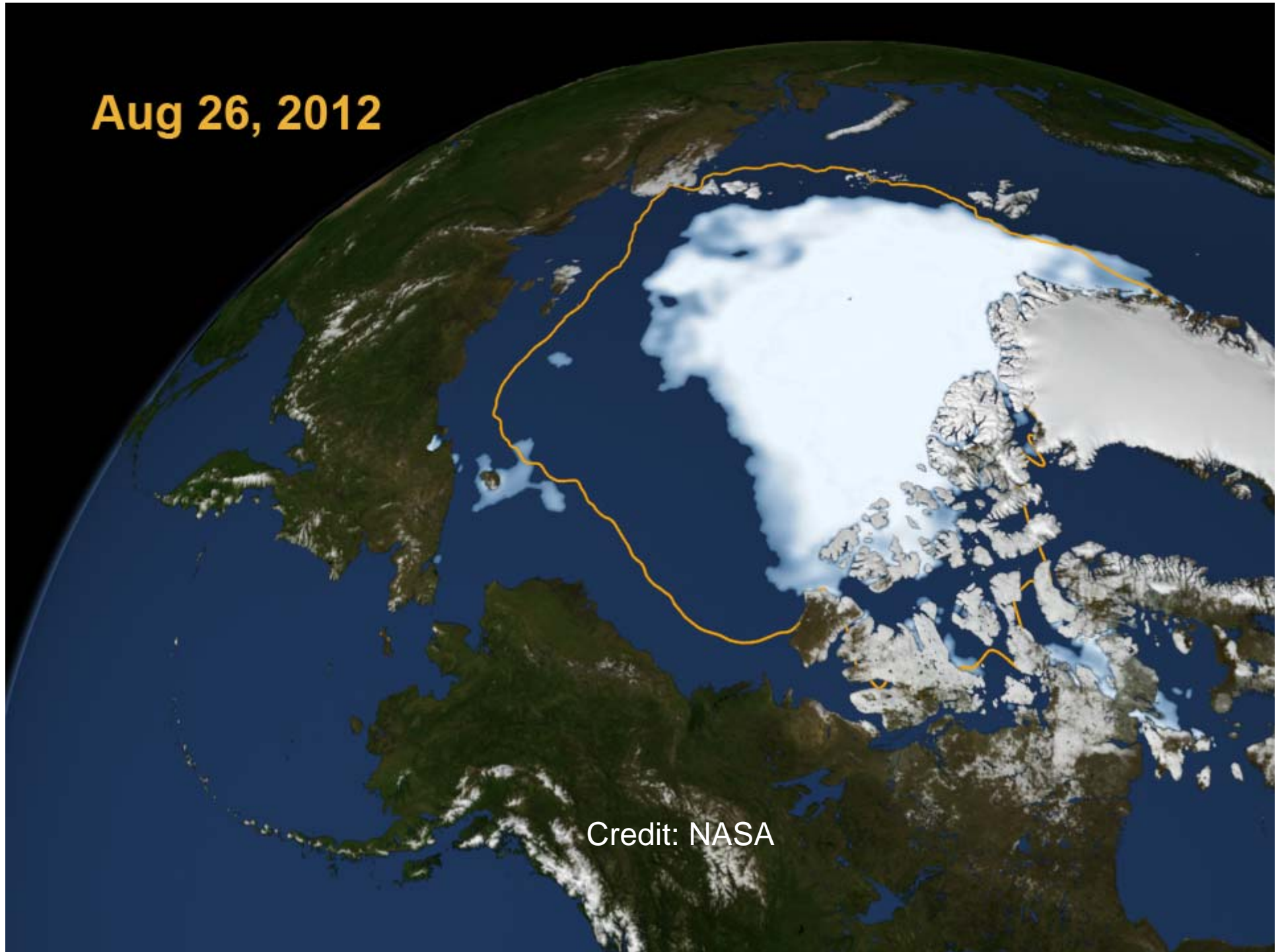
DLR German Aerospace Center

EOC Earth Observation Center



Knowledge for Tomorrow

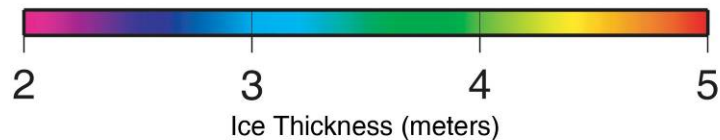
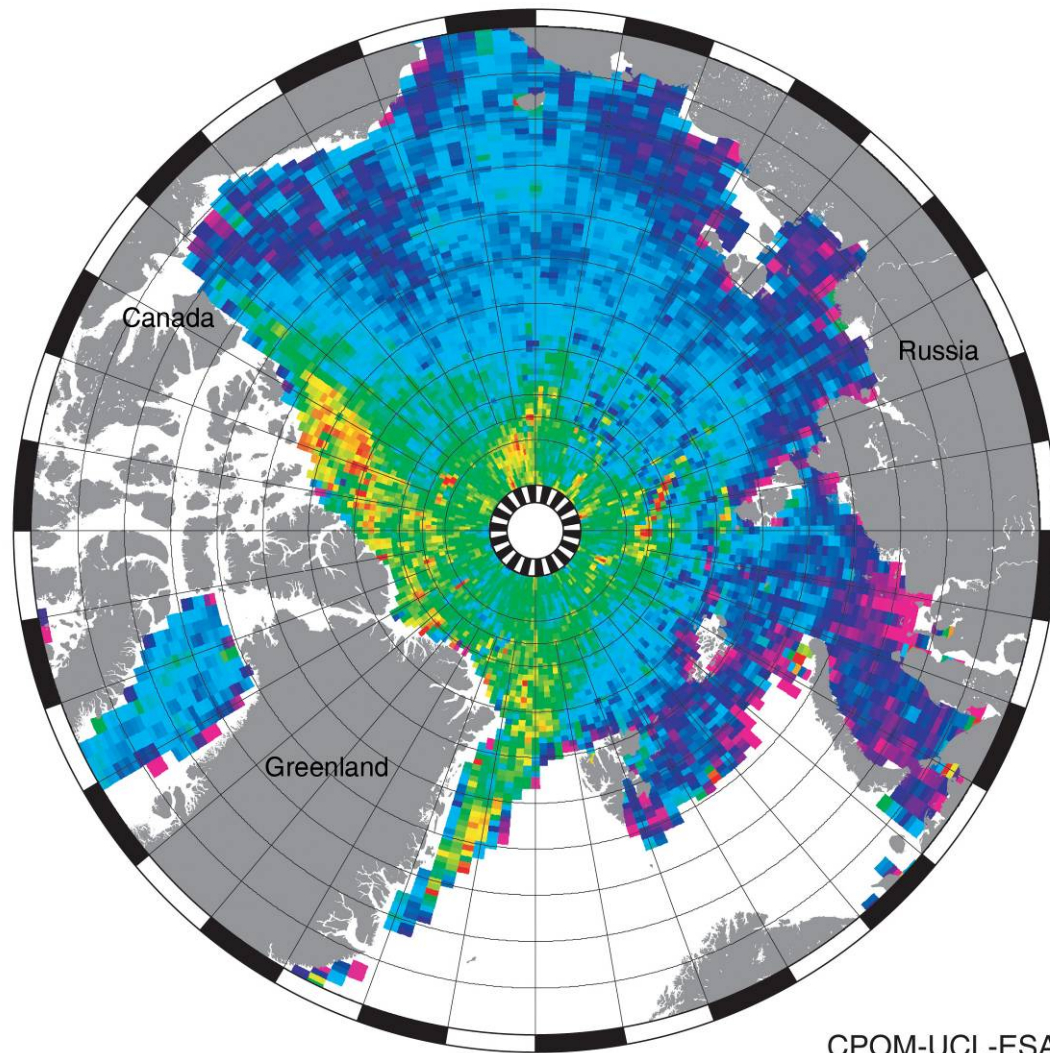
Aug 26, 2012



Credit: NASA

Sea ice thickness in the Arctic ocean

(January/February 2011)

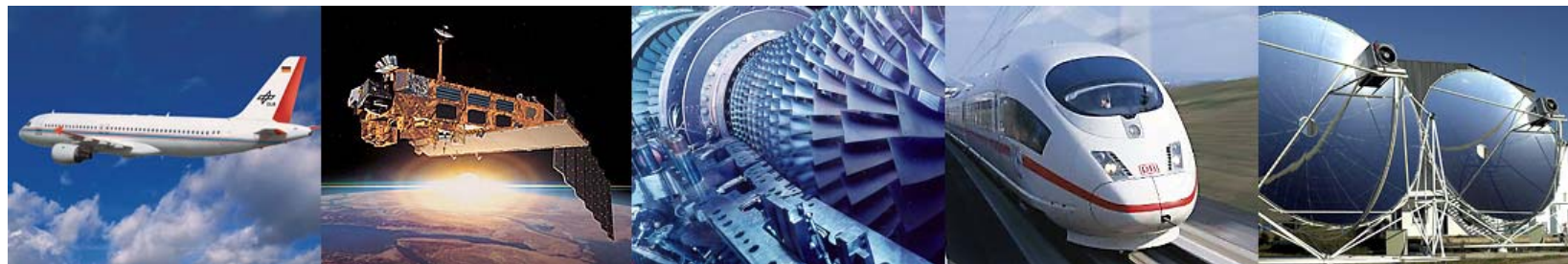


ESA's CryoSat's exceptionally detailed data have been used to generate this map of sea-ice thickness in the Arctic. Data from January and February this year have been used to show the thickness of the ice as it approaches its annual maximum. Thanks to CryoSat's orbit, ice thickness close to the North Pole can be seen for the first time.



DLR

German Aerospace Center



- Research Institution
- Space Agency
- Project Management Agency

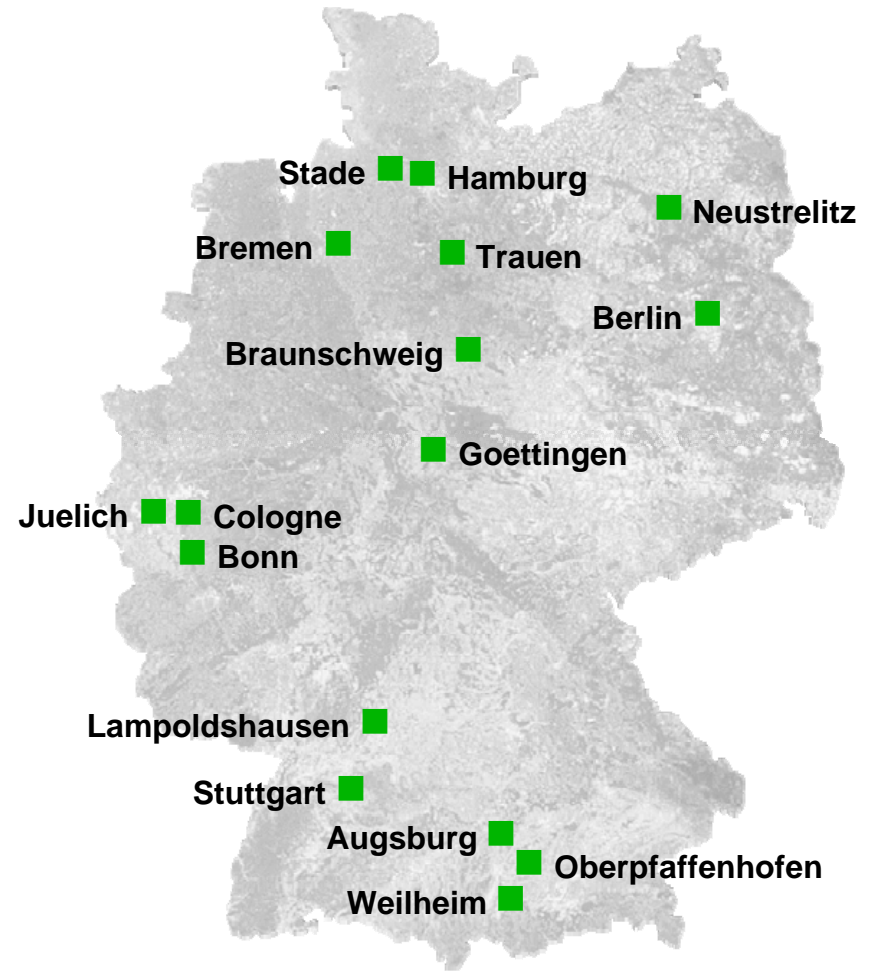


Locations and employees

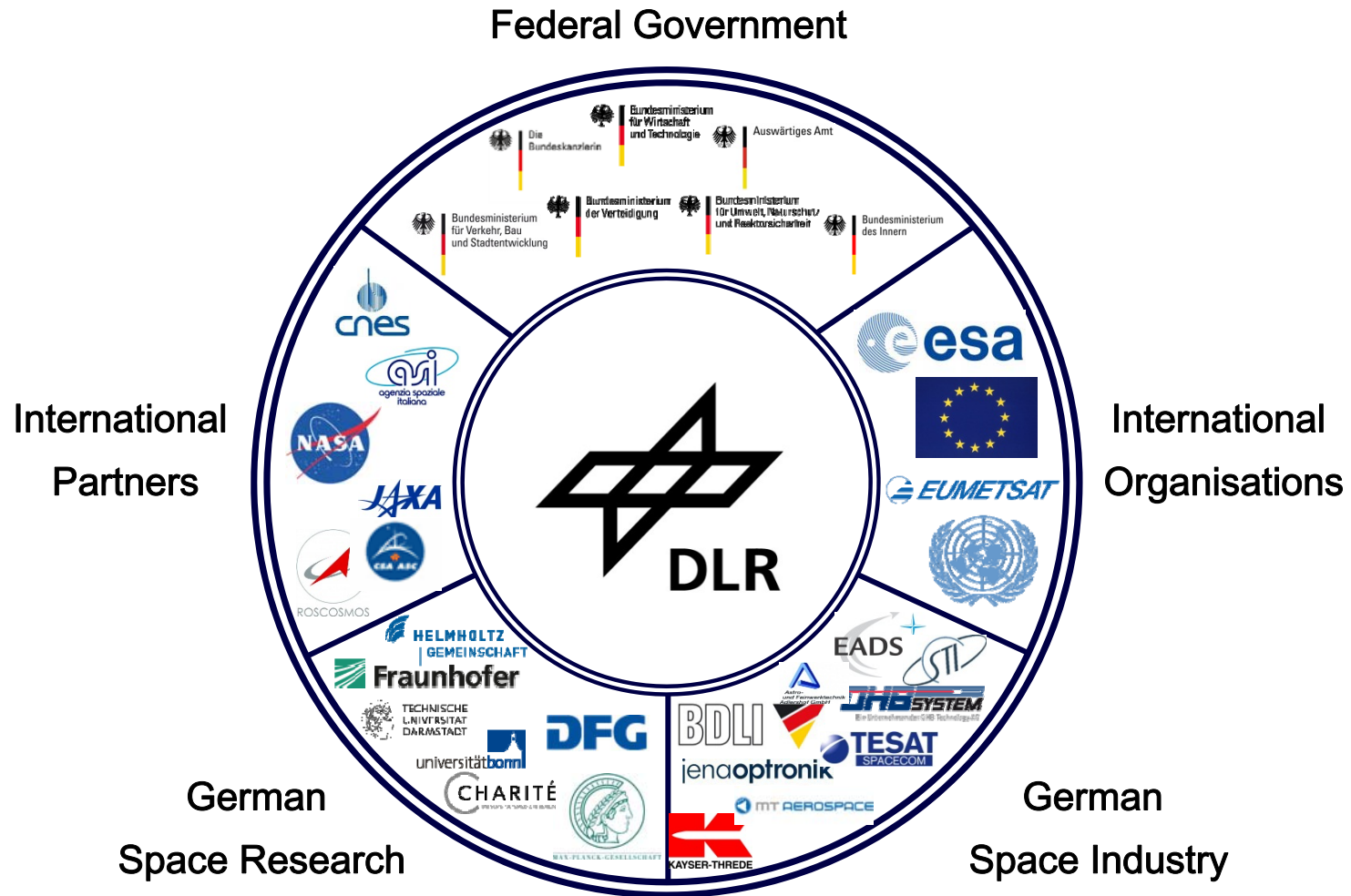
7000 employees across
32 institutes and facilities at

■ 16 sites

Offices in Brussels,
Paris, Washington and Tokyo



German Stakeholders and Partners in Space



The DLR Earth Observation Center

Staff:

220/110 (DFD/IMF)

Turnaround 2011:

34,2 mio€/ 15,7 mio€

External contracts rate:

53% / 48%

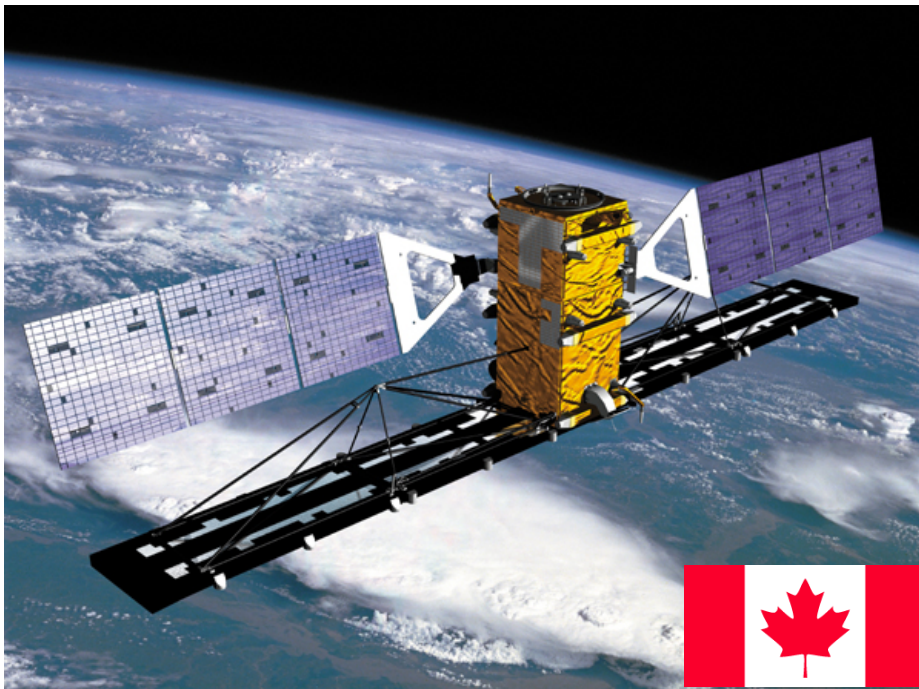
DLR Earth Observation Center (EOC)

- German Remote Sensing Data Center (DFD)
- Remote Sensing Technology Institute (IMF)

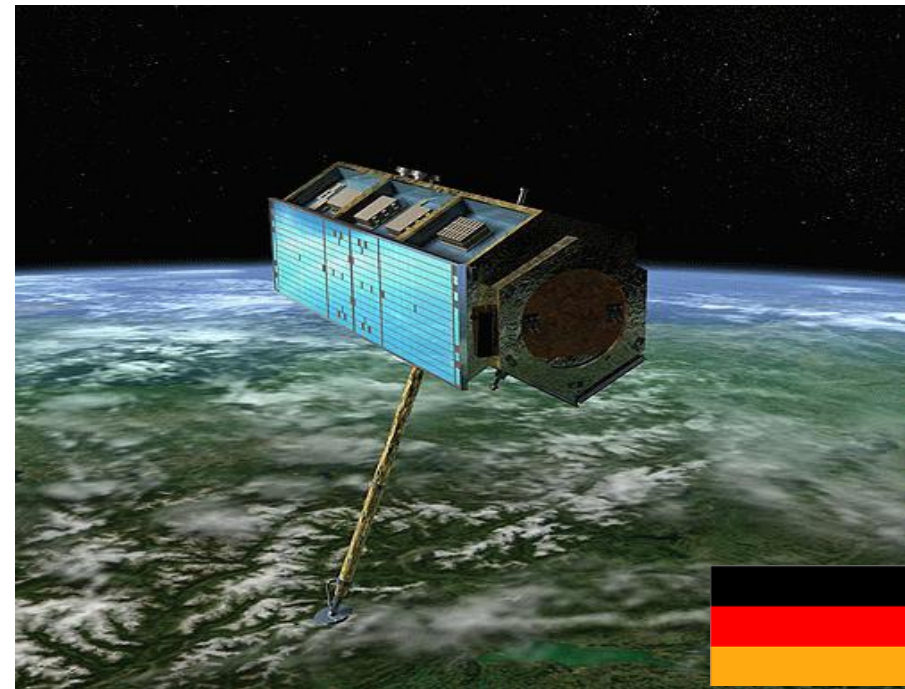
National Earth Observation Missions

Canada - Germany

Heritage and commitment to Synthetic Aperture Radar (SAR) missions
Implementation as national science missions in partnership with industry (PPP)



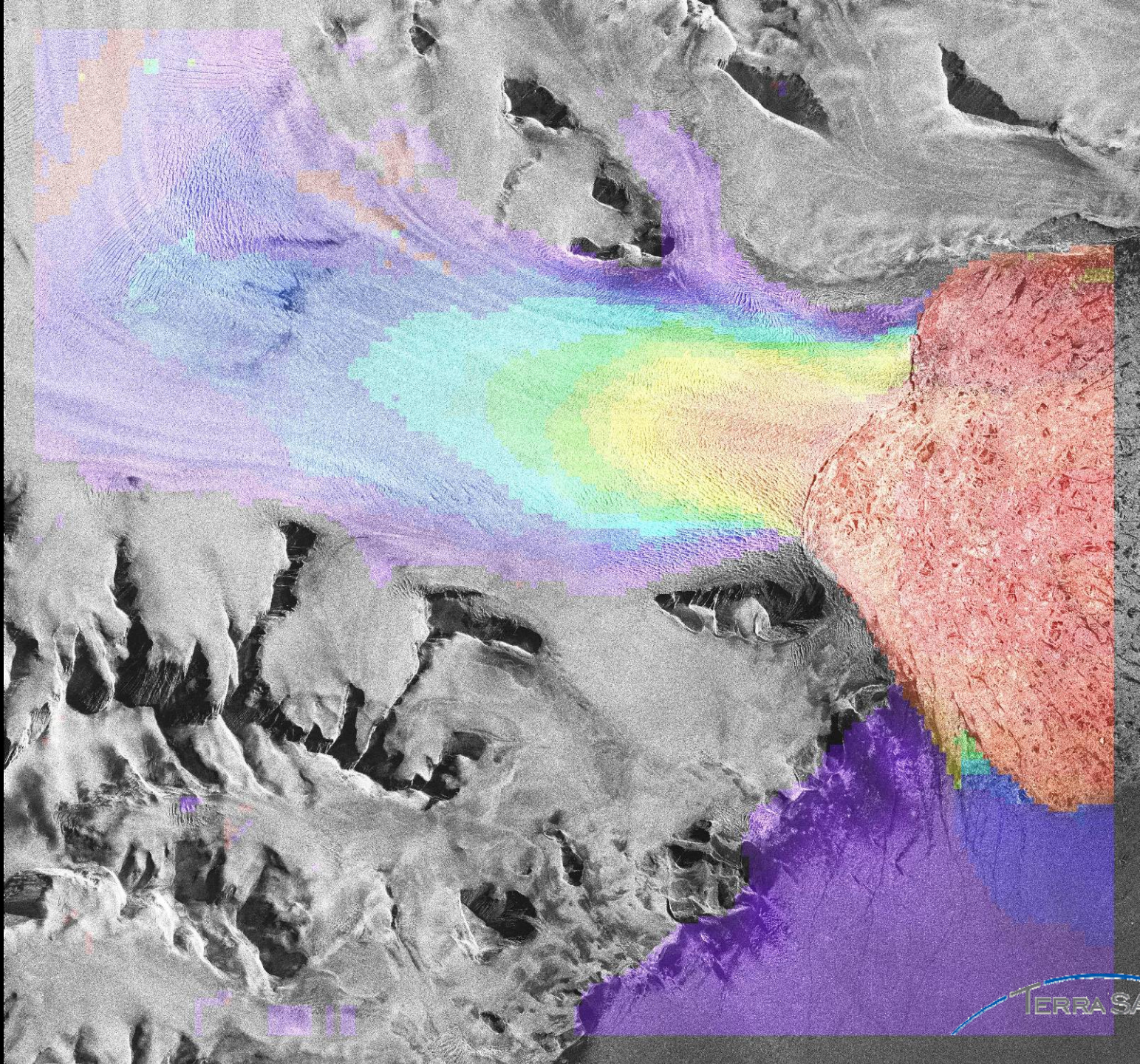
Radarsat 2
C-Band



TerraSAR-X/ TanDEM-X
X-Band



Drygalski Glacier Oct. 2007 – July 2008

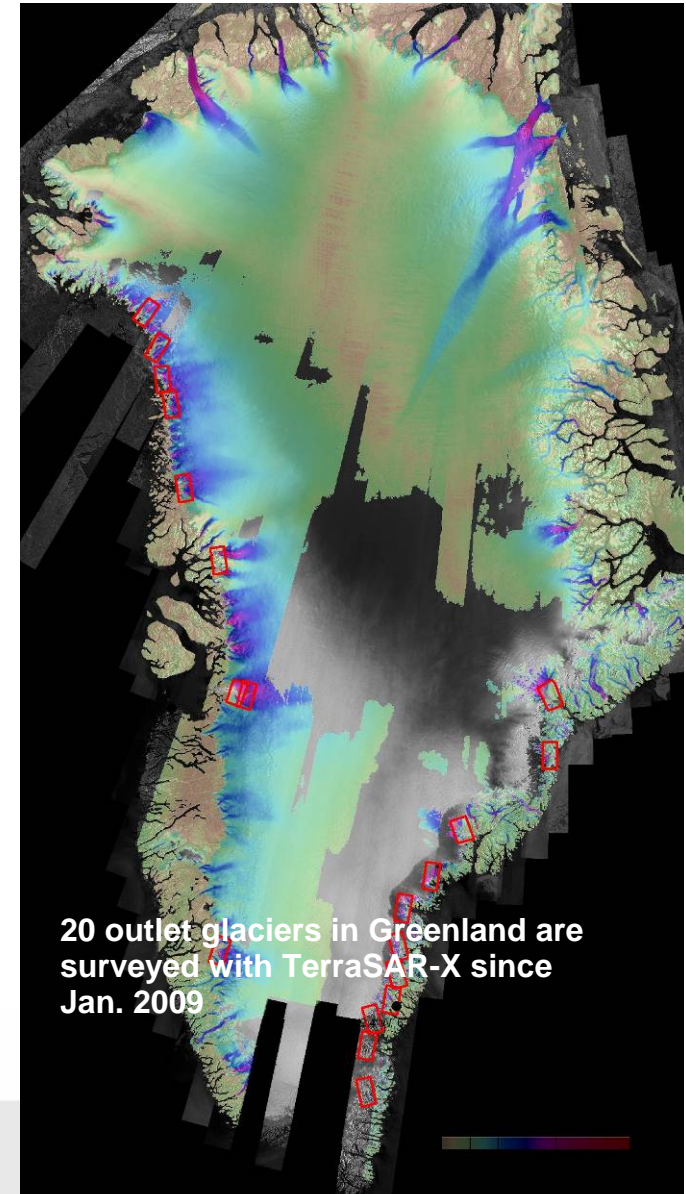
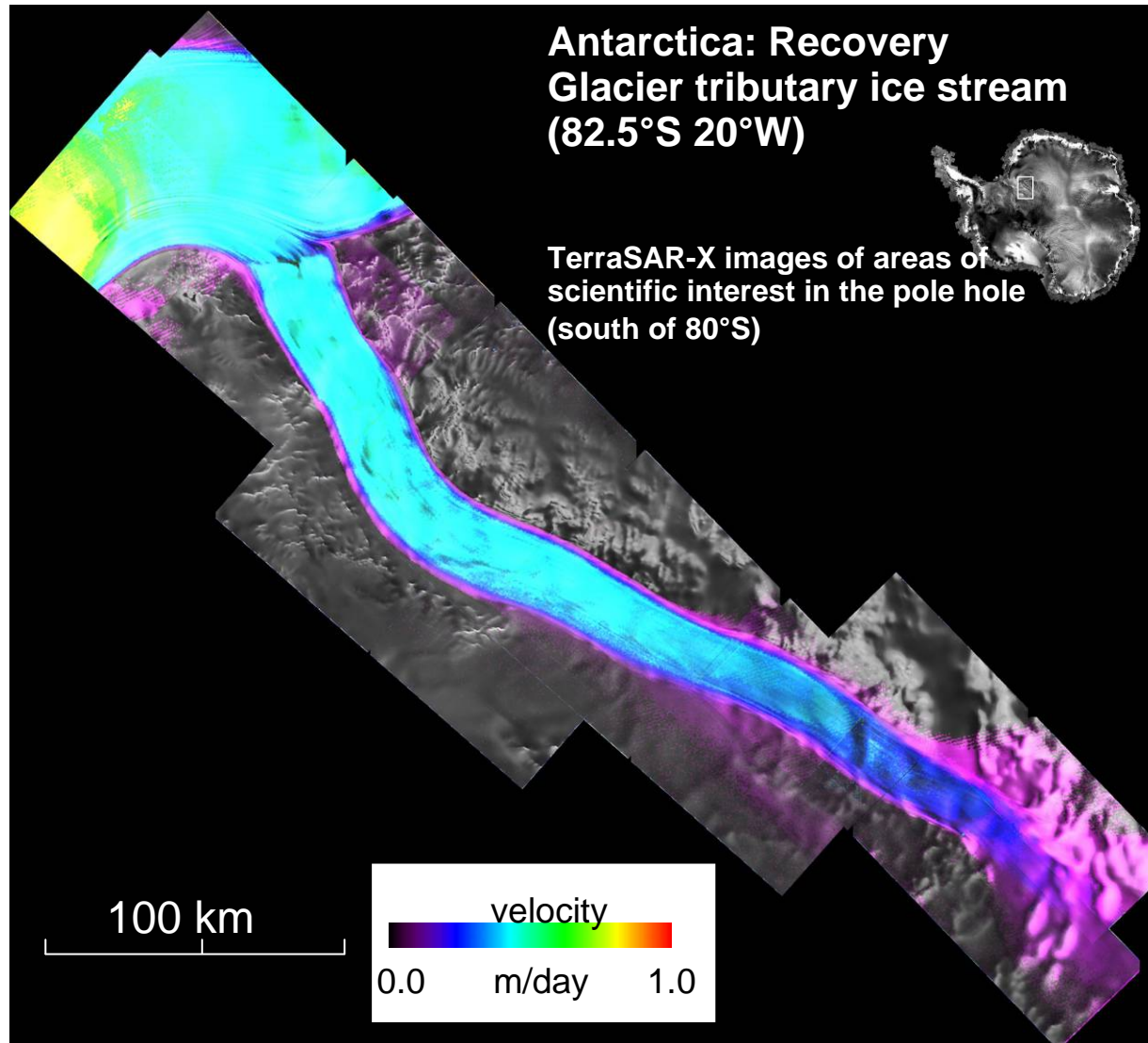


6 m/day





SAR examples: TerraSAR-X contributions to the International Polar Year (IPY)



TerraSAR-X & TanDEM-X

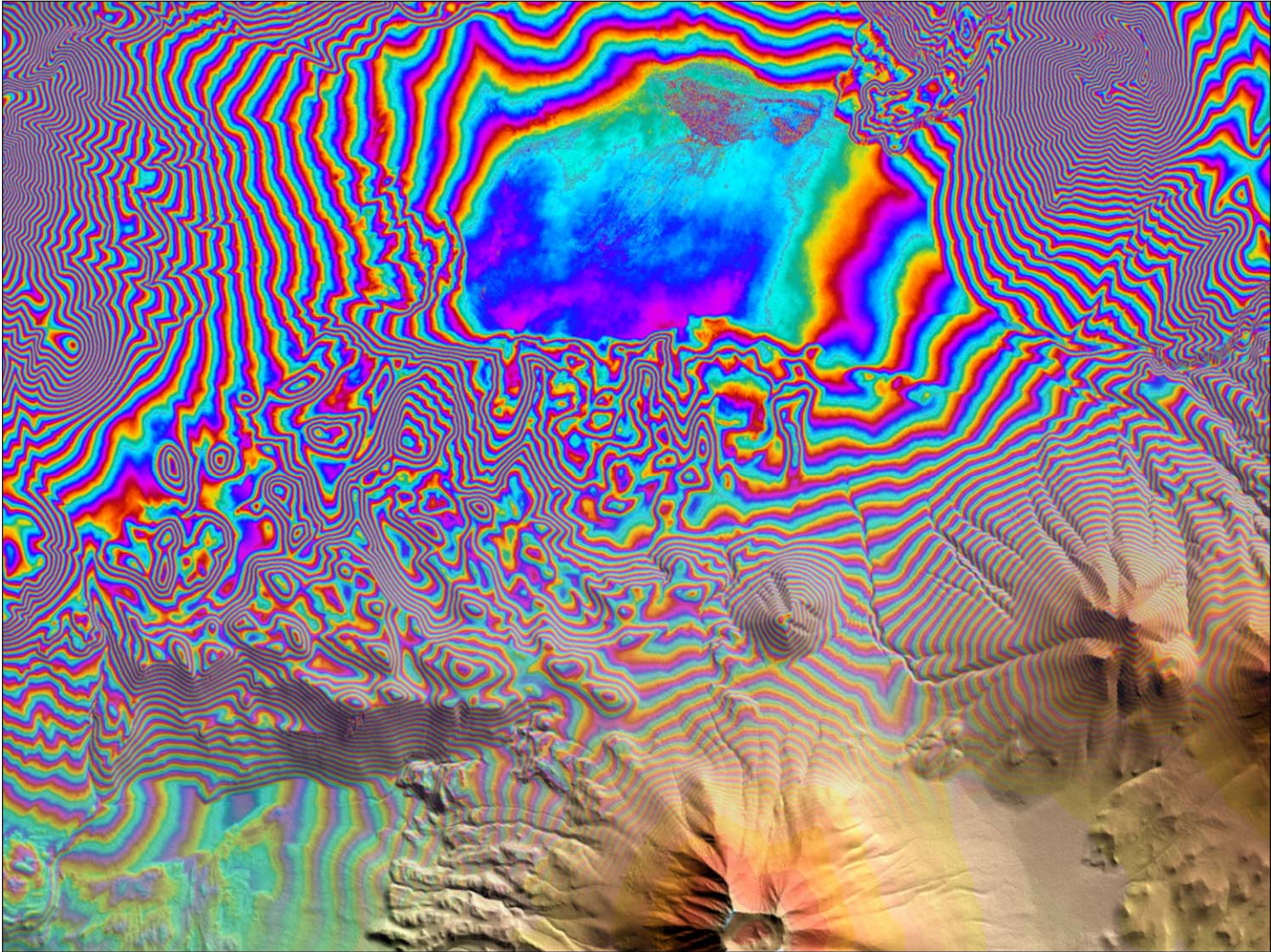
**Launched June 15, 2007 &
June 21, 2010**

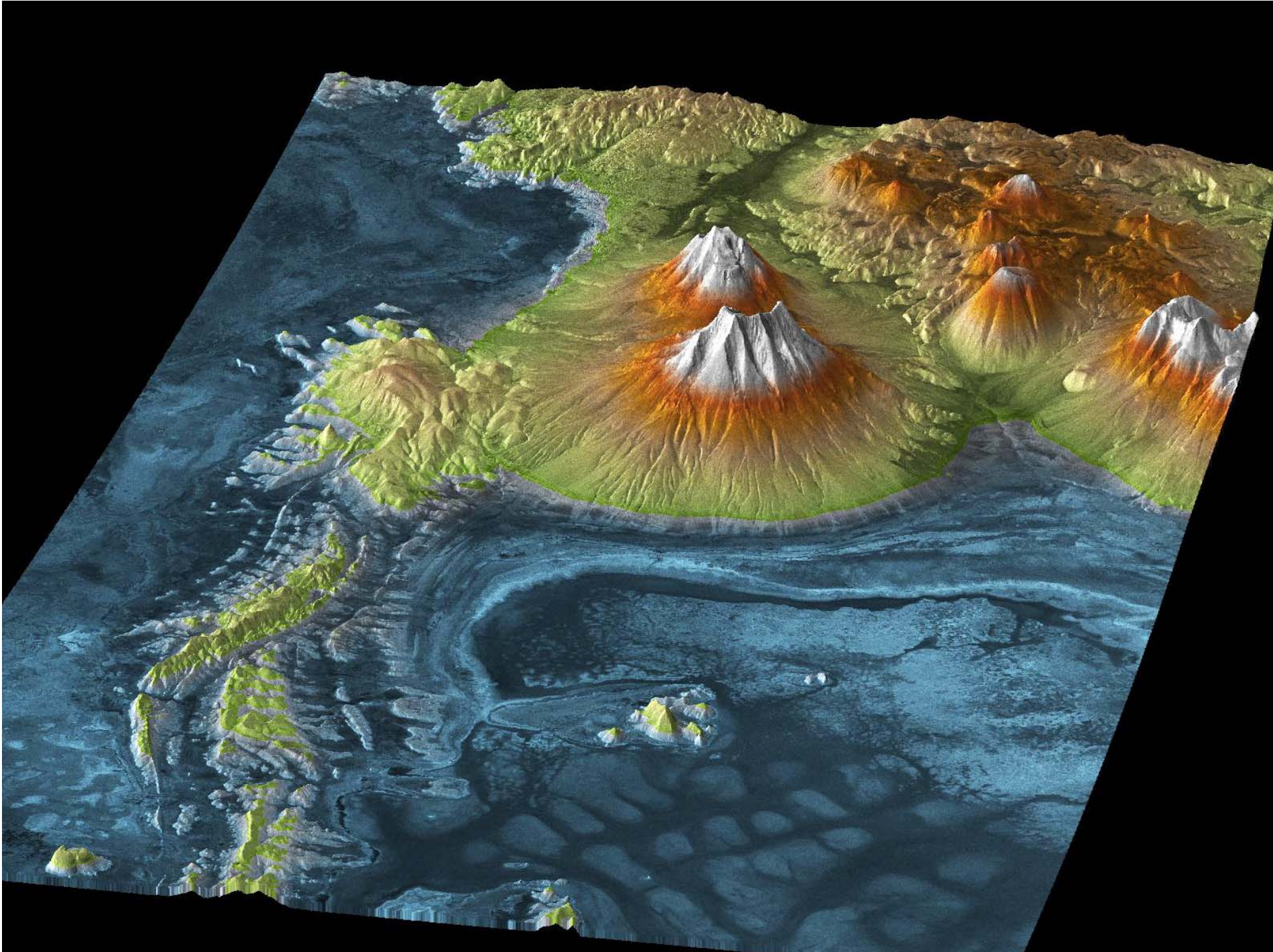
Bistatic SAR Interferometry

**Global high resolution
Digital Elevation Model (DEM)**

- **Innovative constellation flight**
- **Ground segment & processing
by DLR**

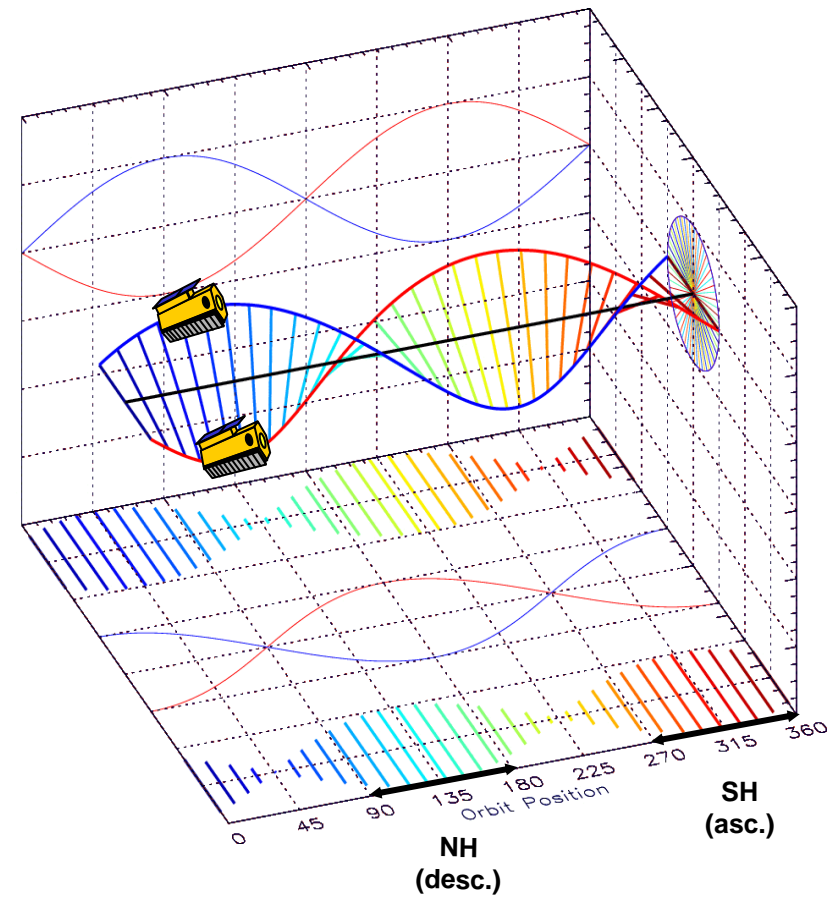
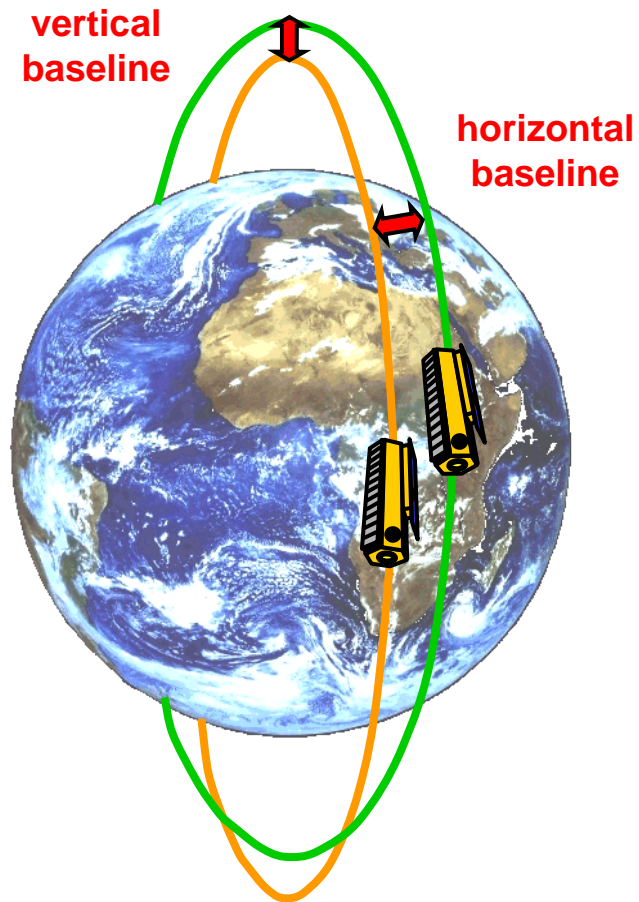






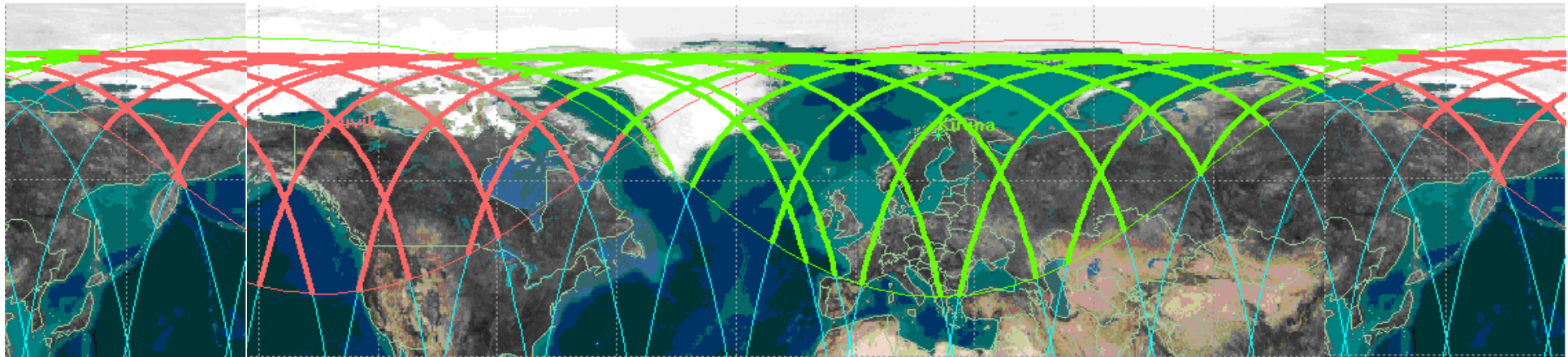


TanDEM-X – TerraSAR-X constellation flight





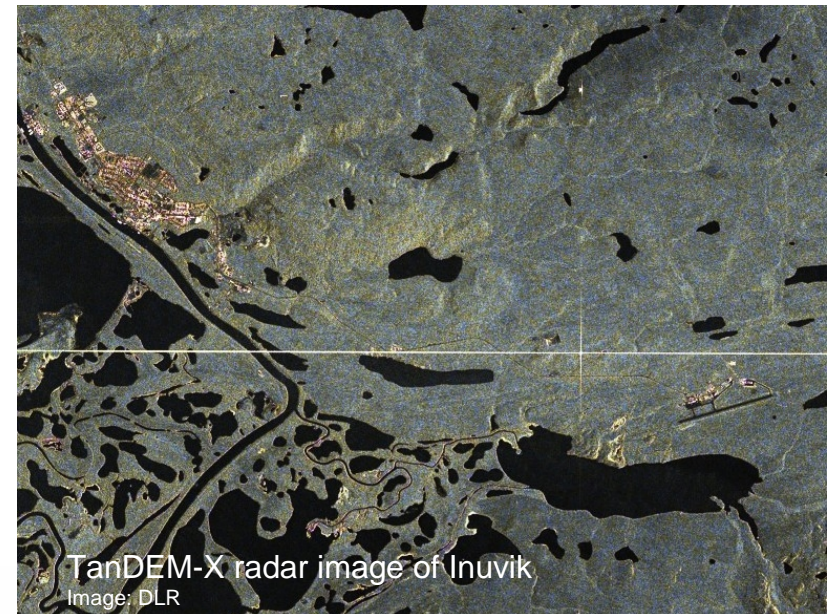
TanDEM-X: Need for ground station complementary to northern European stations





Why Inuvik?

- Complementarity to northern European stations (e.g. same latitude & 180 deg opposite of Kiruna/ Sweden)
- Most northern with all year access via road and daily flights
- Connection to Internet; development perspective to high rate fibre connection
- In-town technical support & academic/research base (Aurora Research Institute)
- adds to DLR south polar stations
- Heritage of cooperation with Canada in Earth Observation
- Canada as associated member of European Space Agency (ESA)
- Commitment of CCRS (Canada Centre for Remote Sensing) → Inuvik Satellite Station Facility (ISSF)





DLR antenna set-up at Inuvik May – October 2009





Inauguration DLR Antenna at ISSF, Inuvik, NWT, Canada, August 10th, 2010