



**National Centre for
Earth Observation**

NATURAL ENVIRONMENT RESEARCH COUNCIL

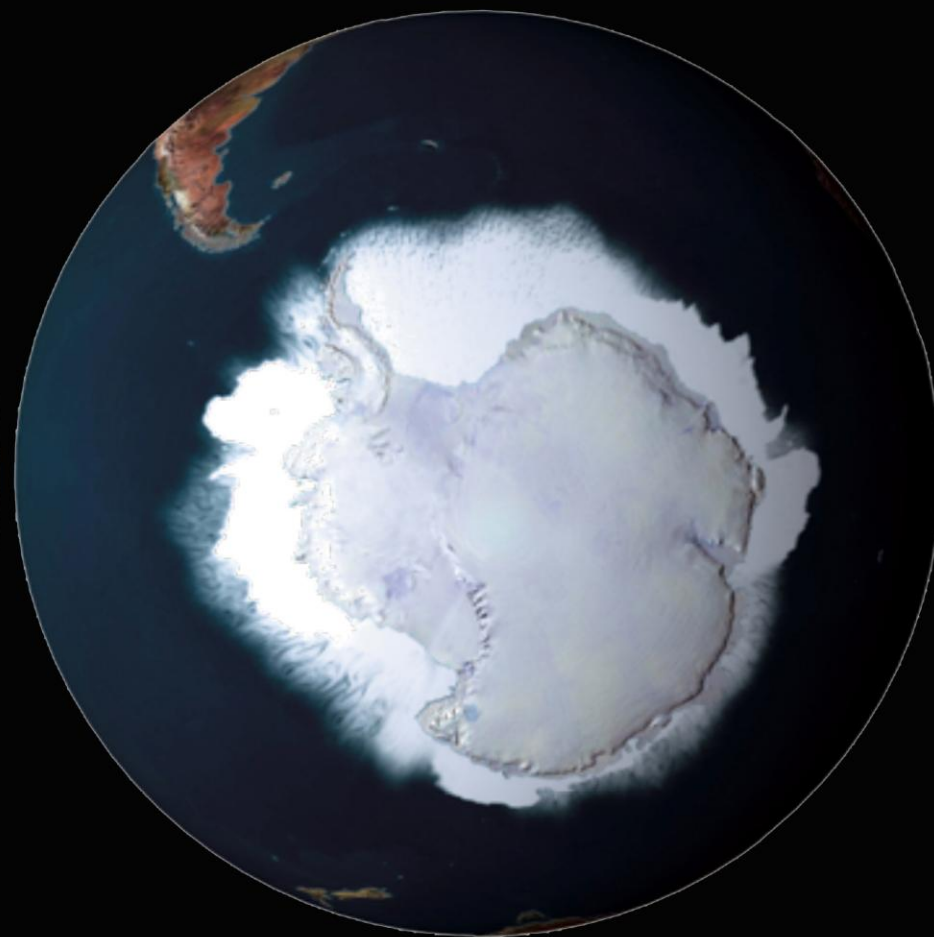
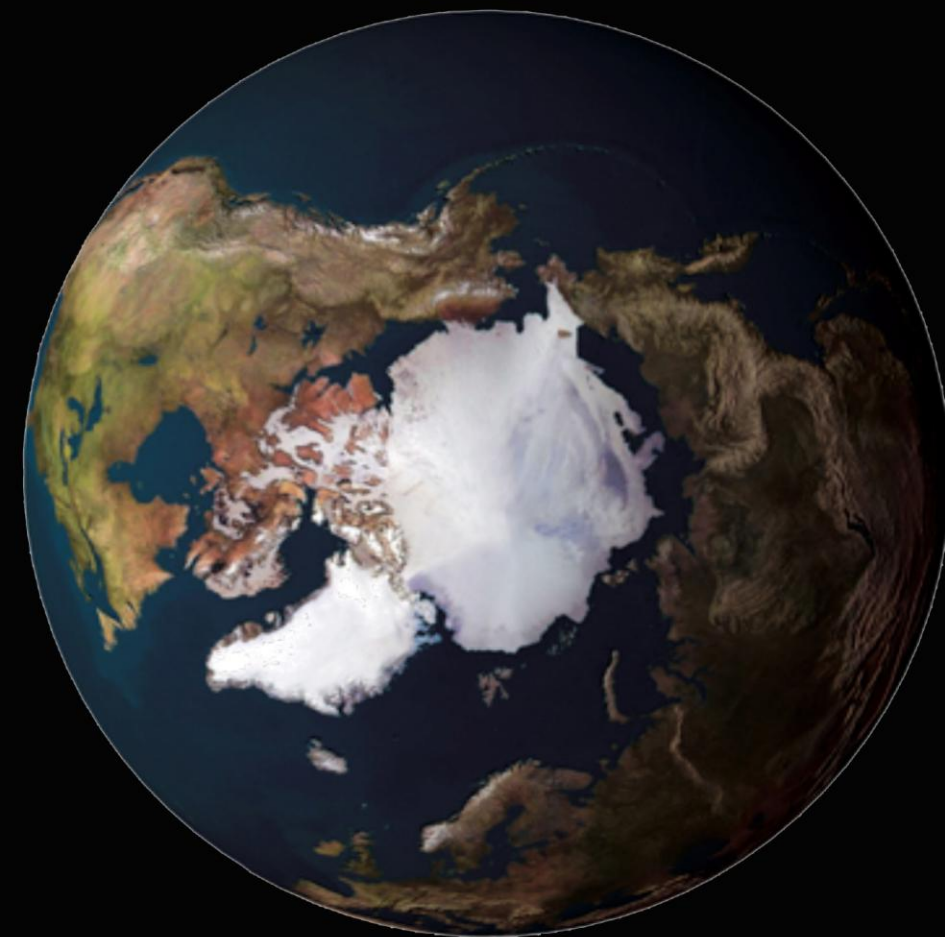


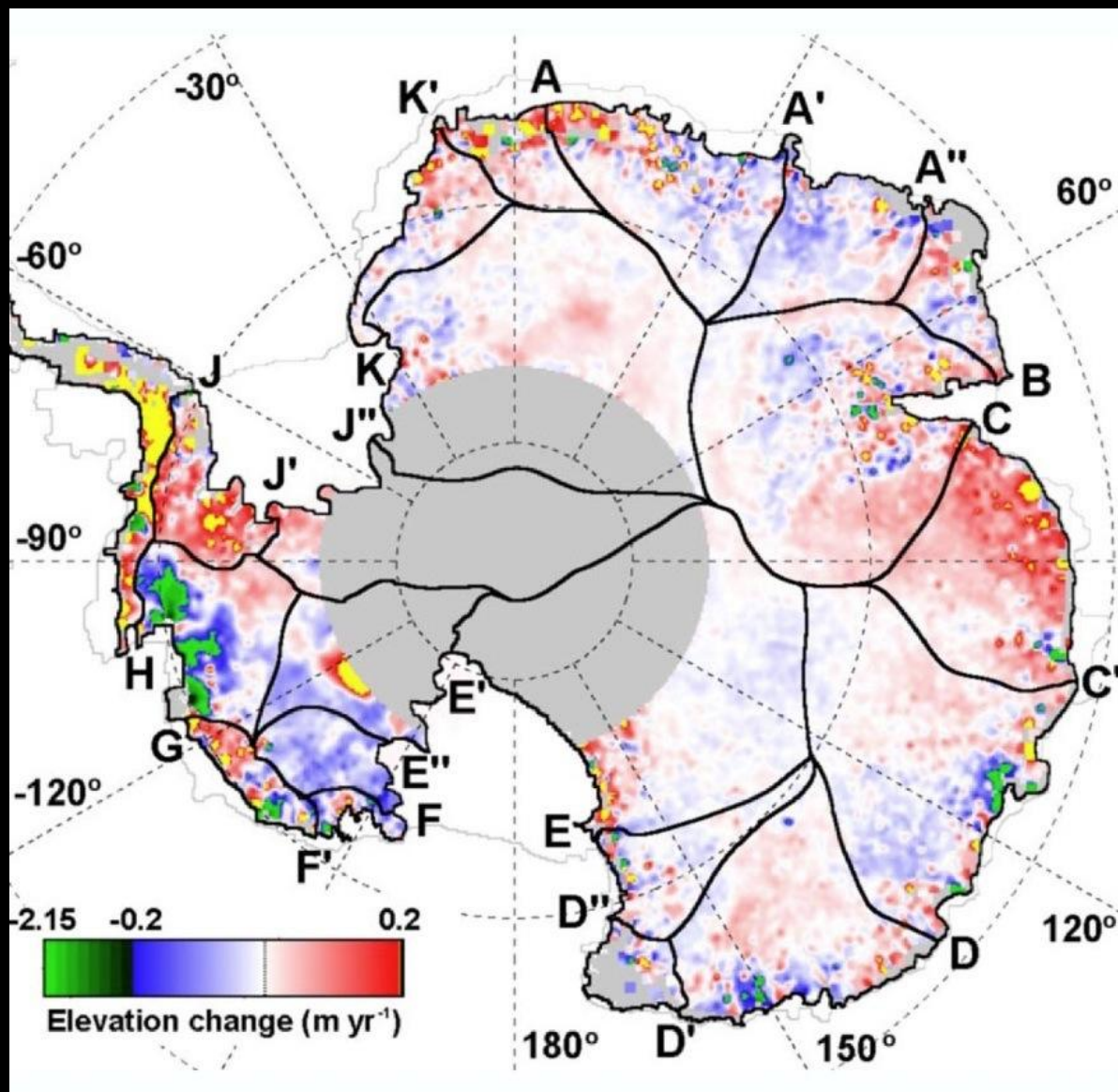
CryoSat-2



Seymour Laxon

Andy Ridout, Rob Cullen, Natalia Galin,
Katharine Giles

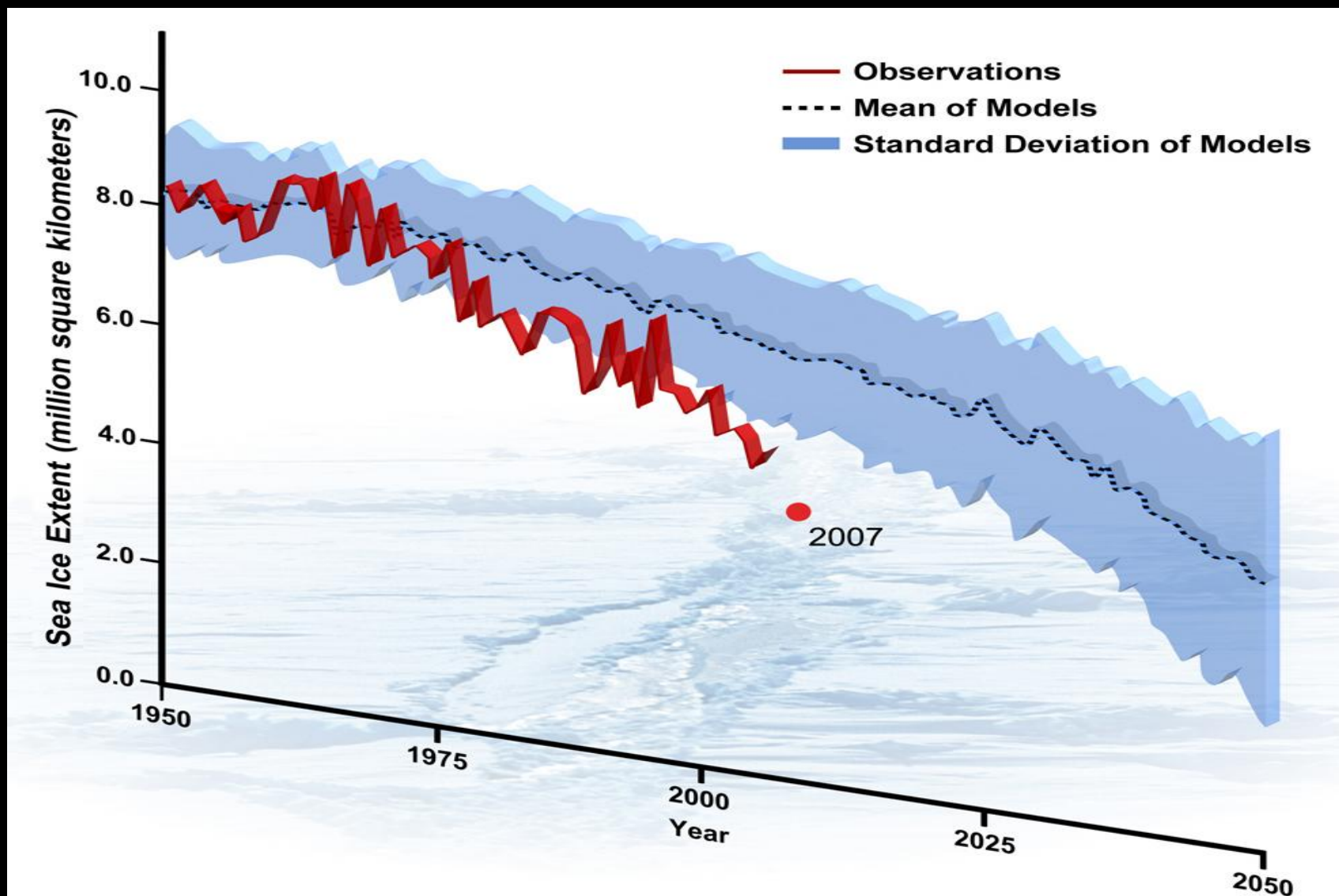




[Wingham et al, 2006]

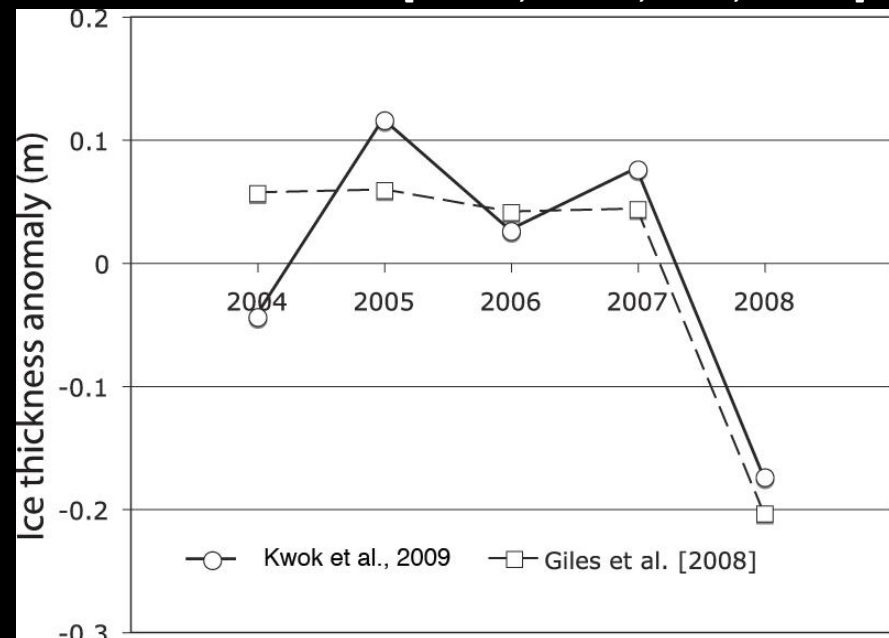


Sea Ice Extent 2007

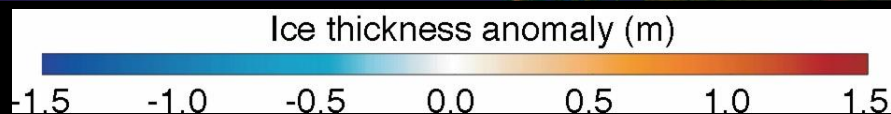
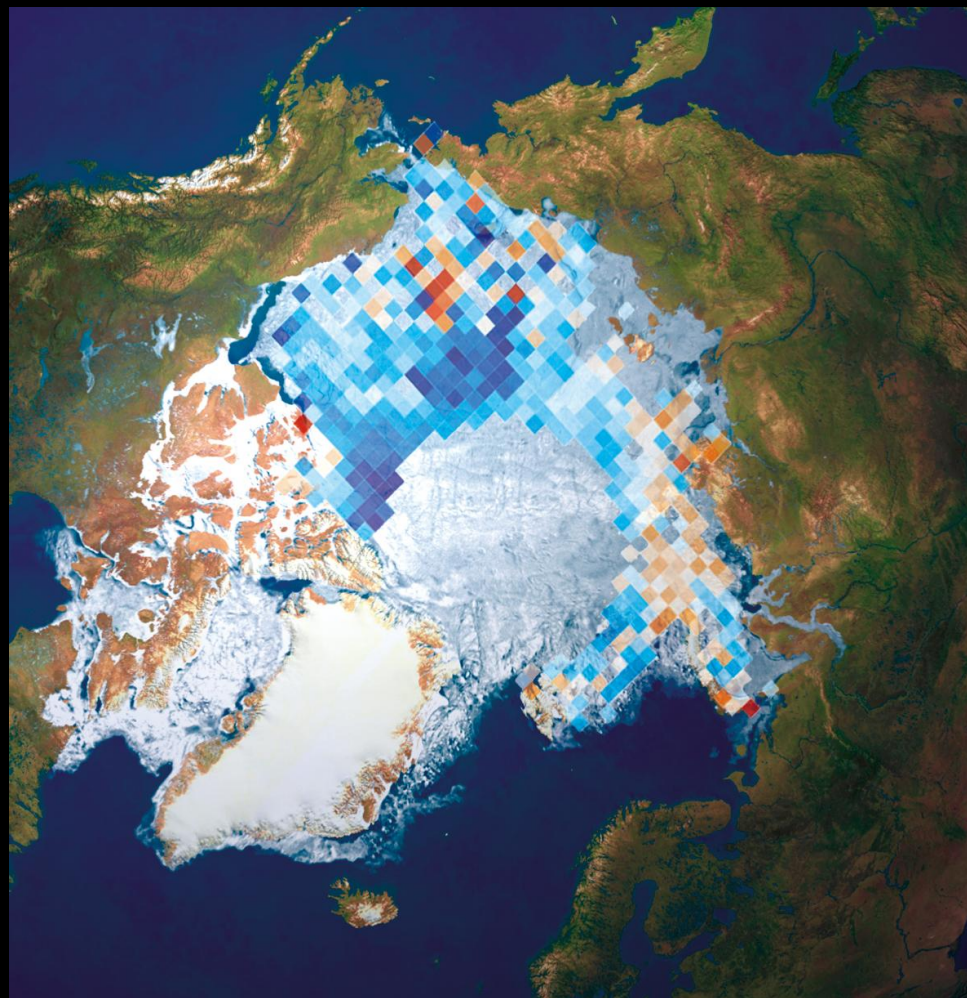


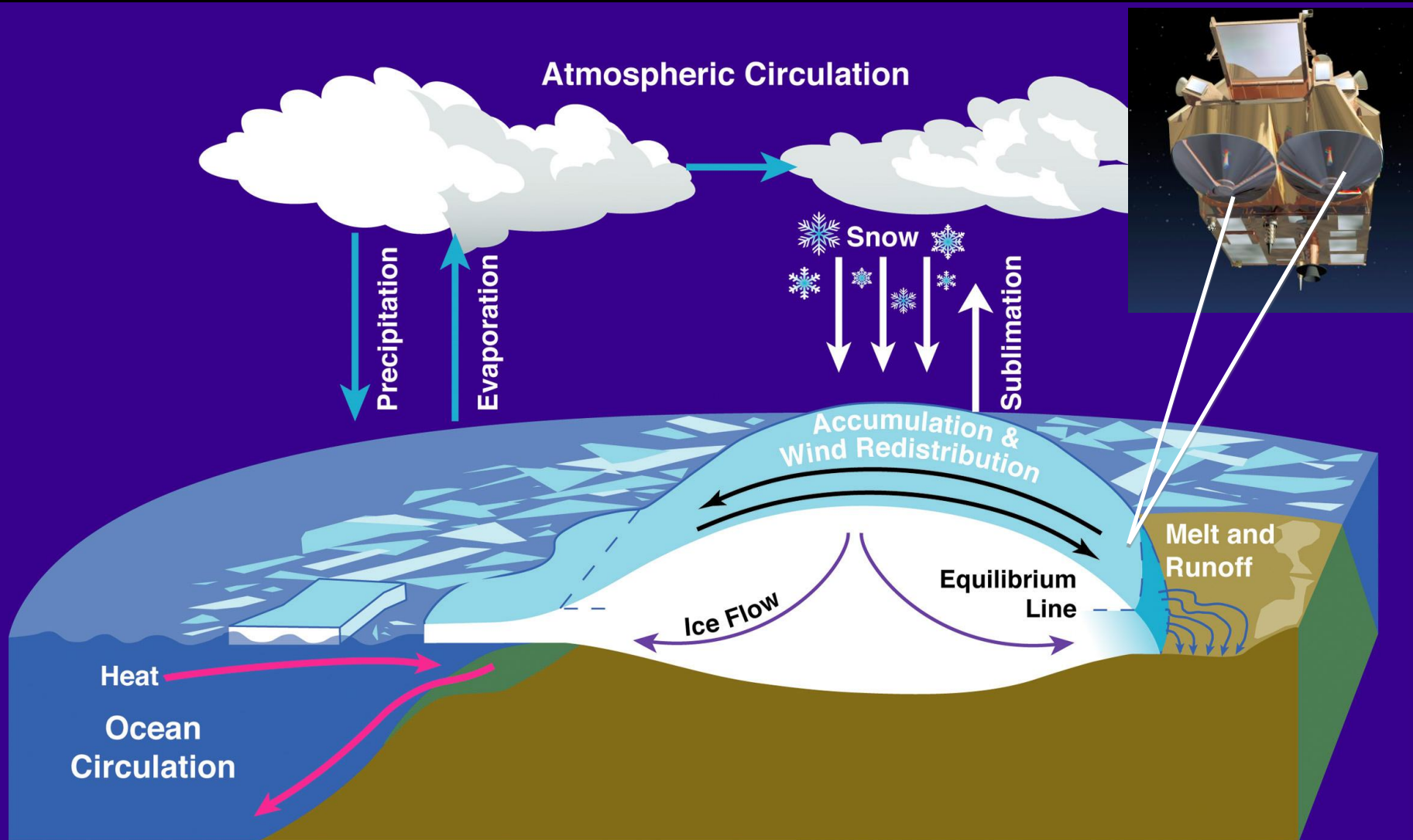
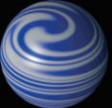


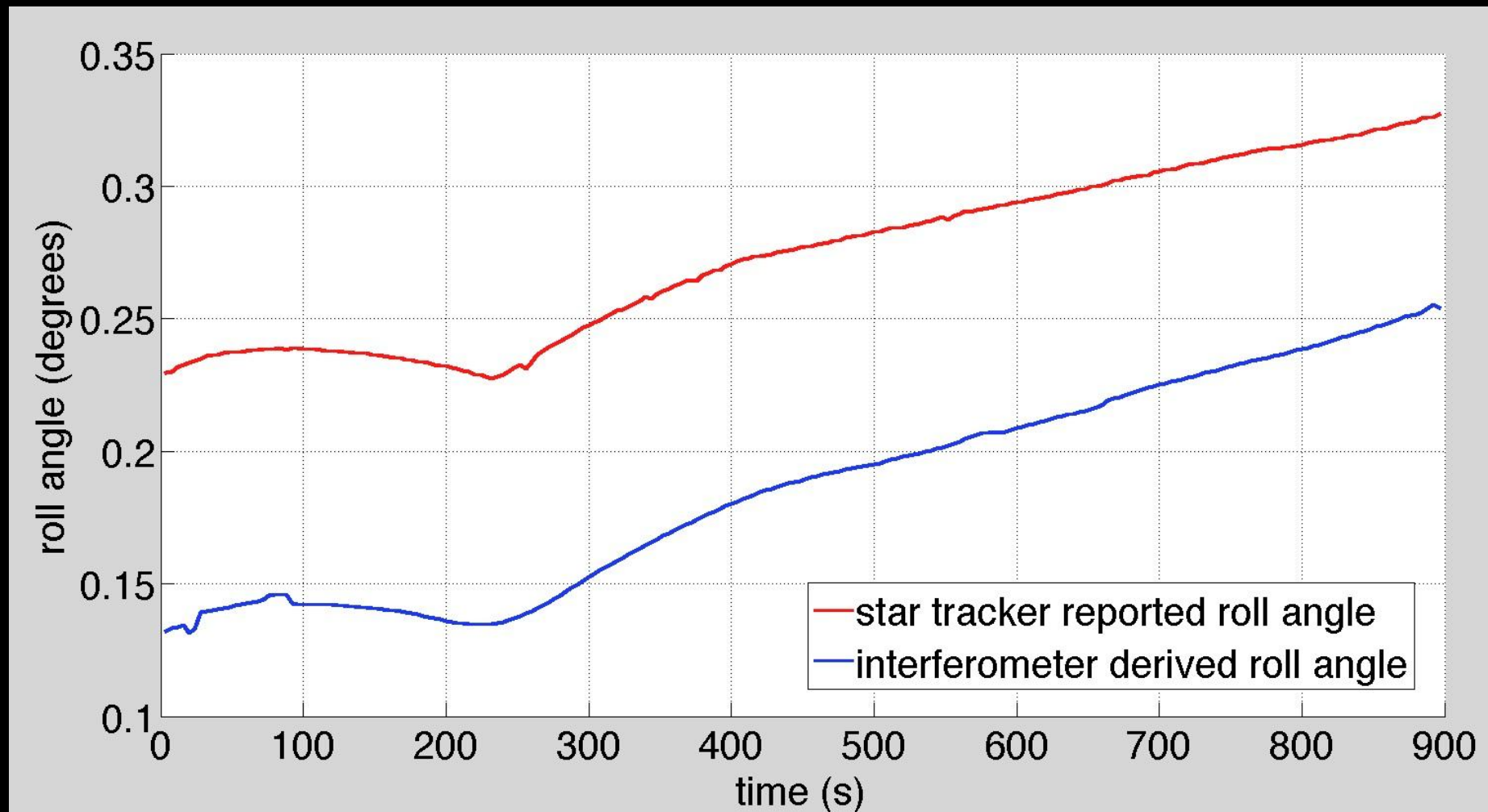
[Kwok, et al., *JGR*, 2009]



[Giles, et al., *GRL*, 2008]







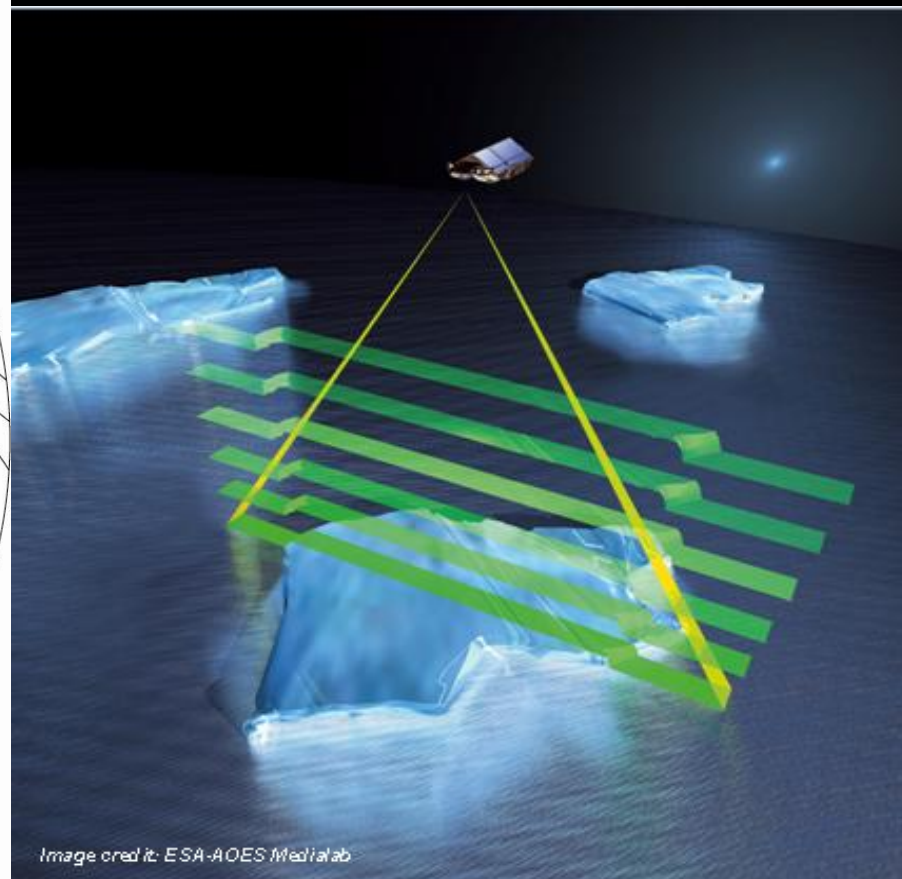
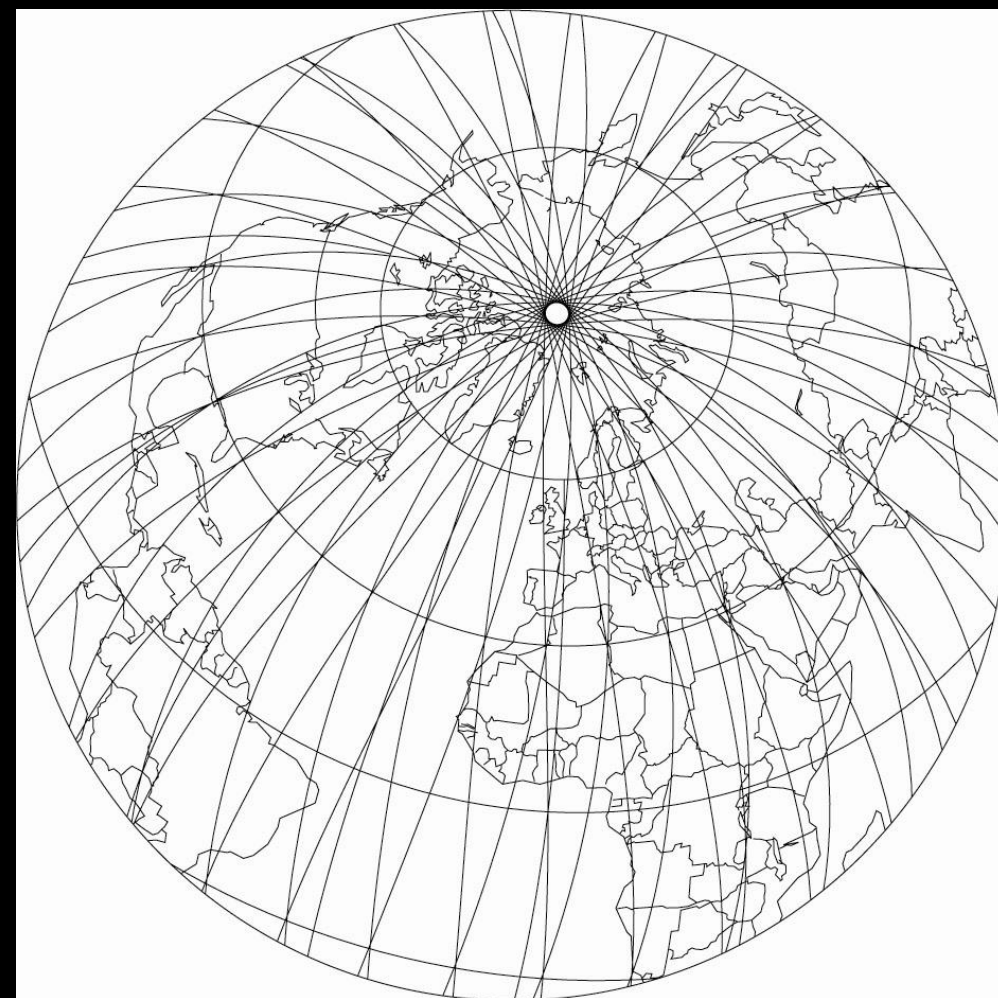
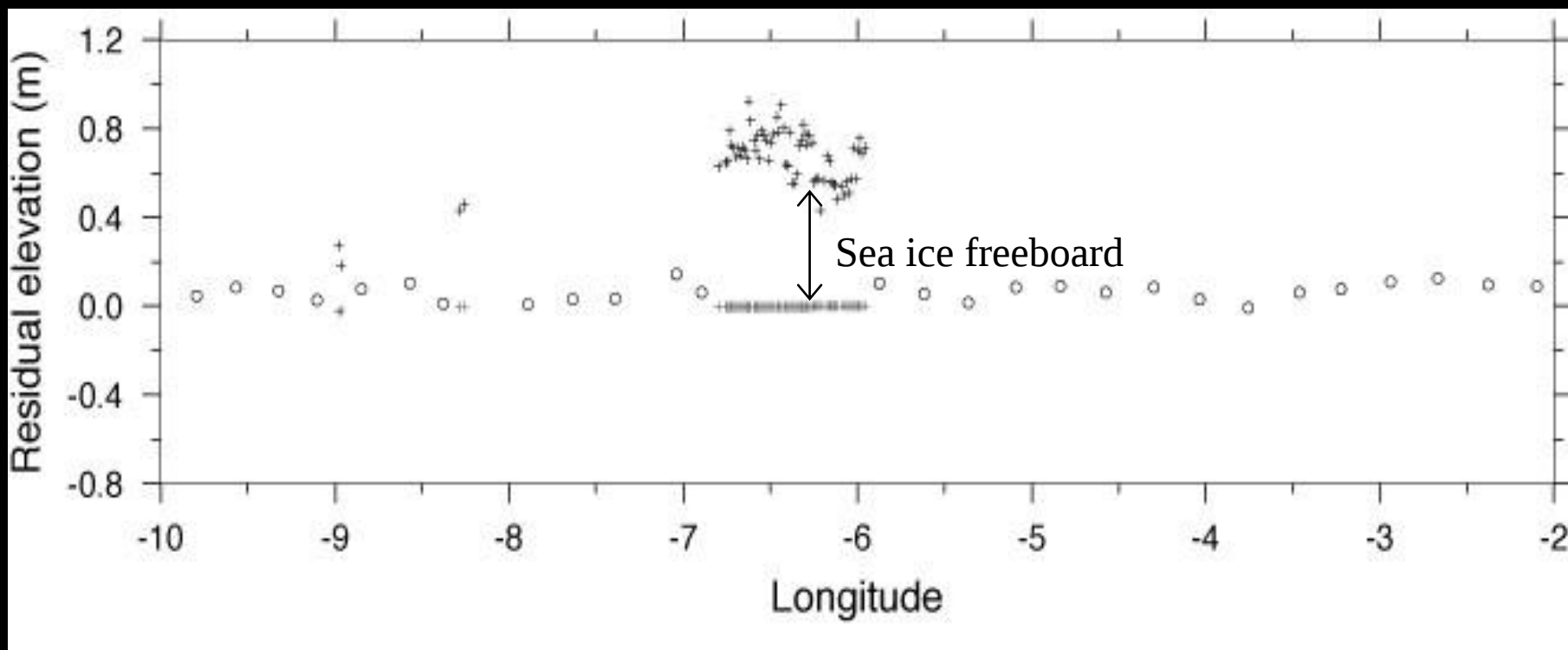


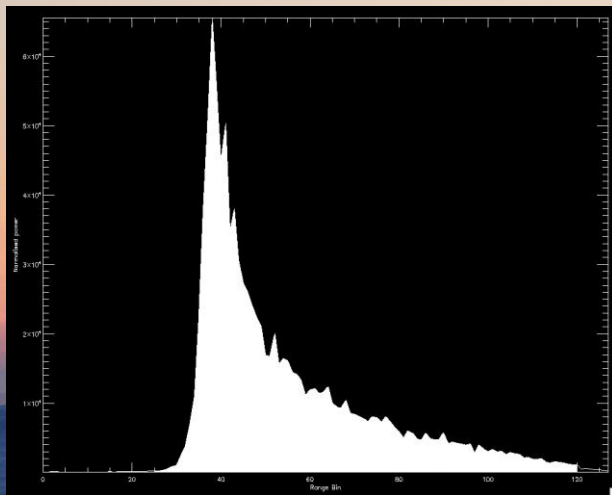
Image credit: ESA-AOES Medialab





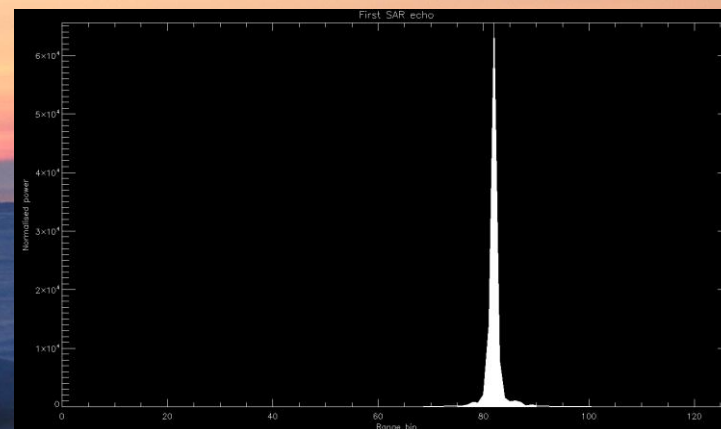
Diffuse return

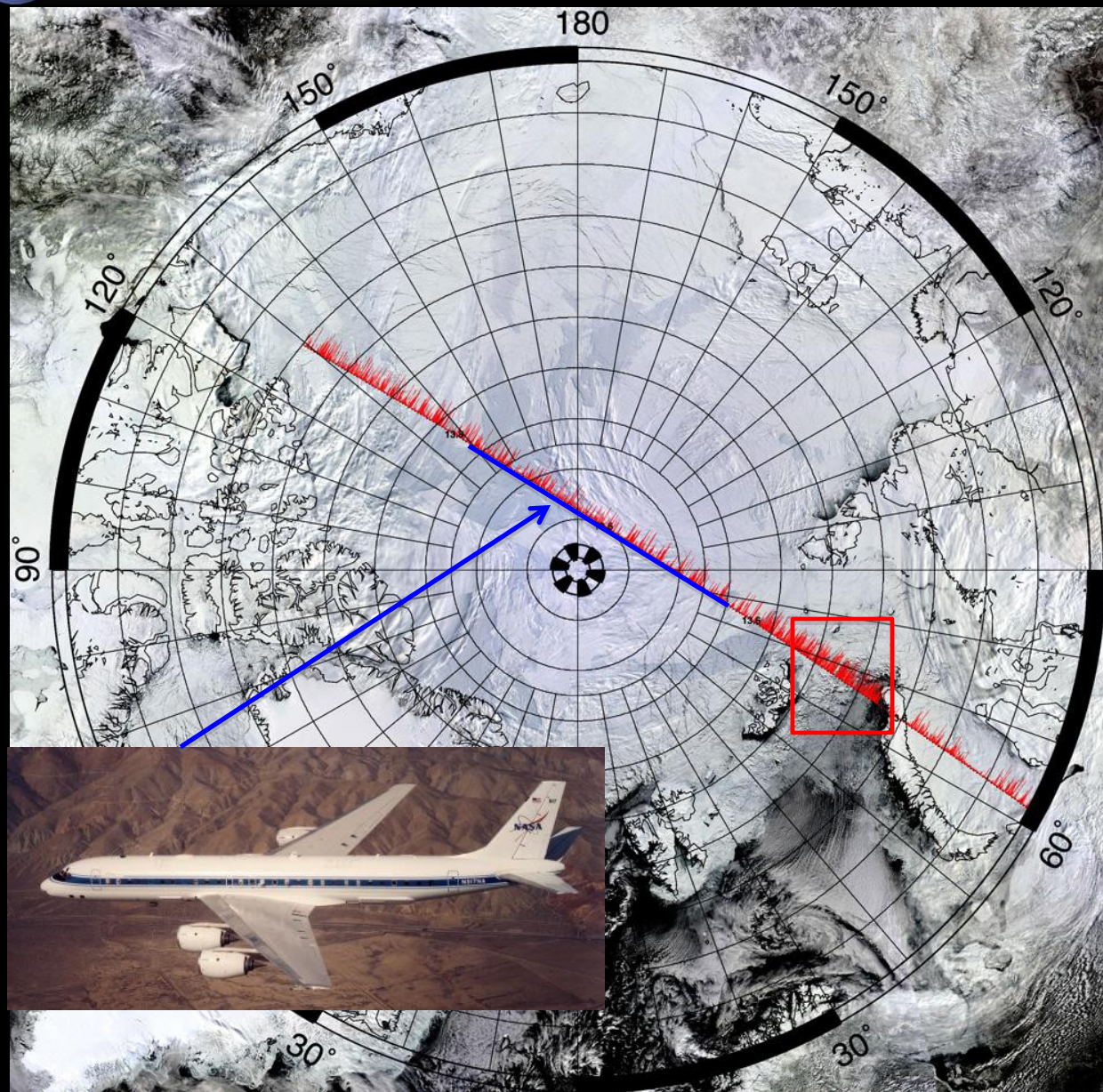
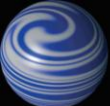
Power ↑



Range →

Specular return

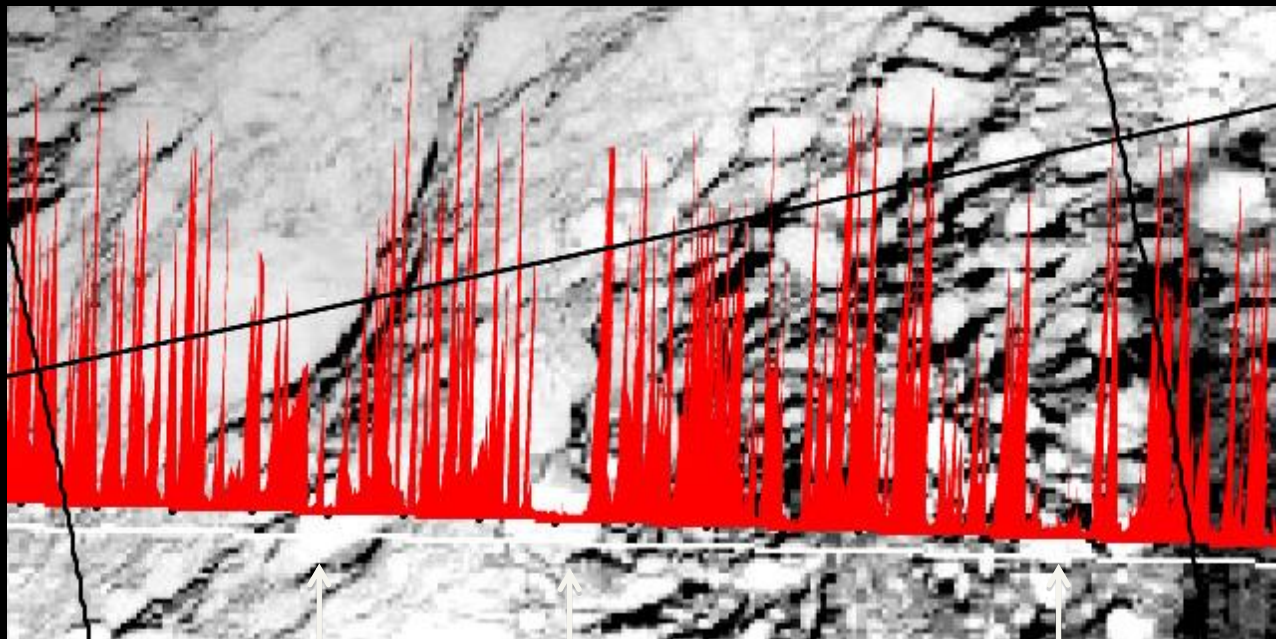




- Echo Shape
from stack SD:
Low = Diffuse
High = Specular



Ice Floes



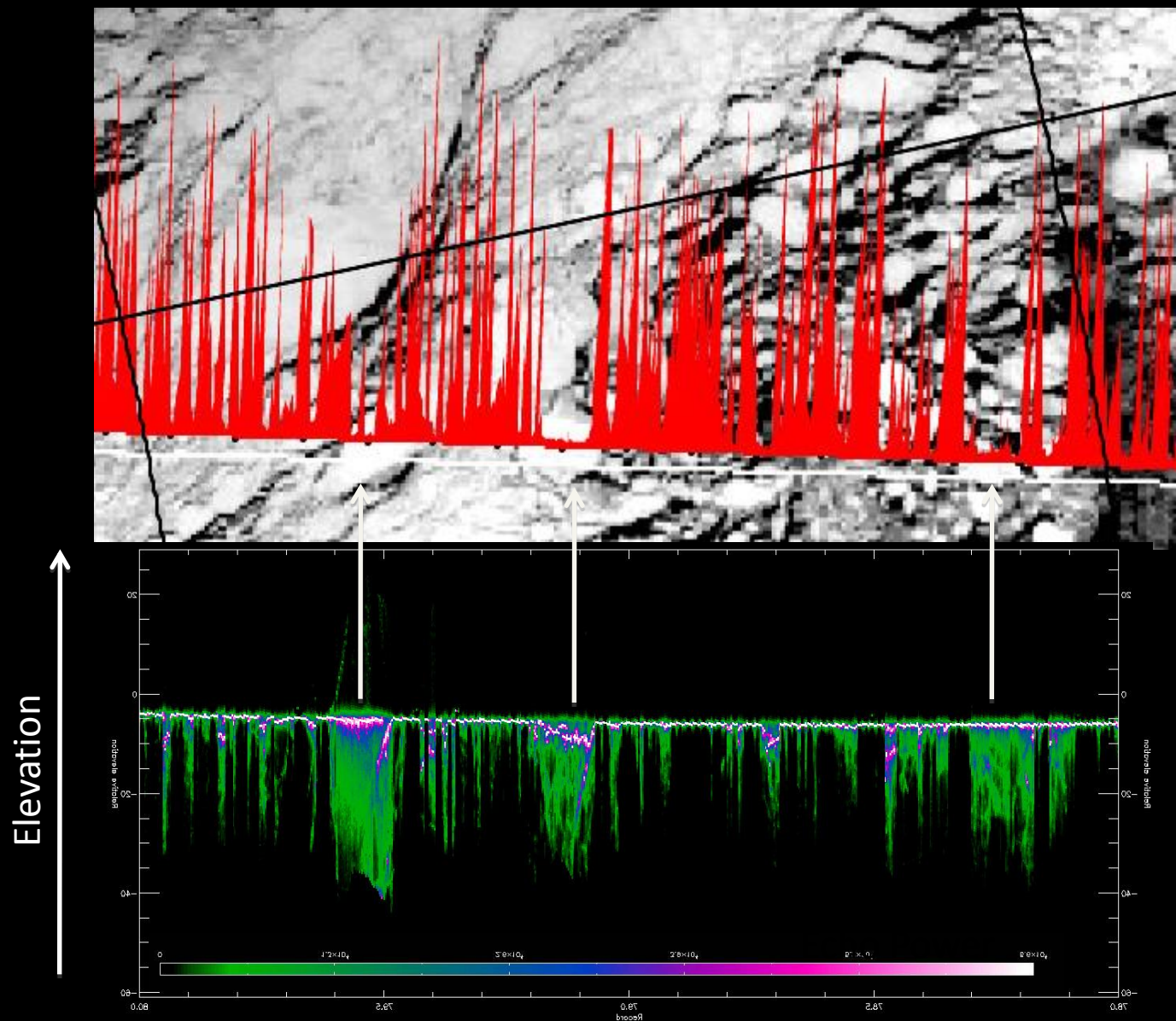
Floe

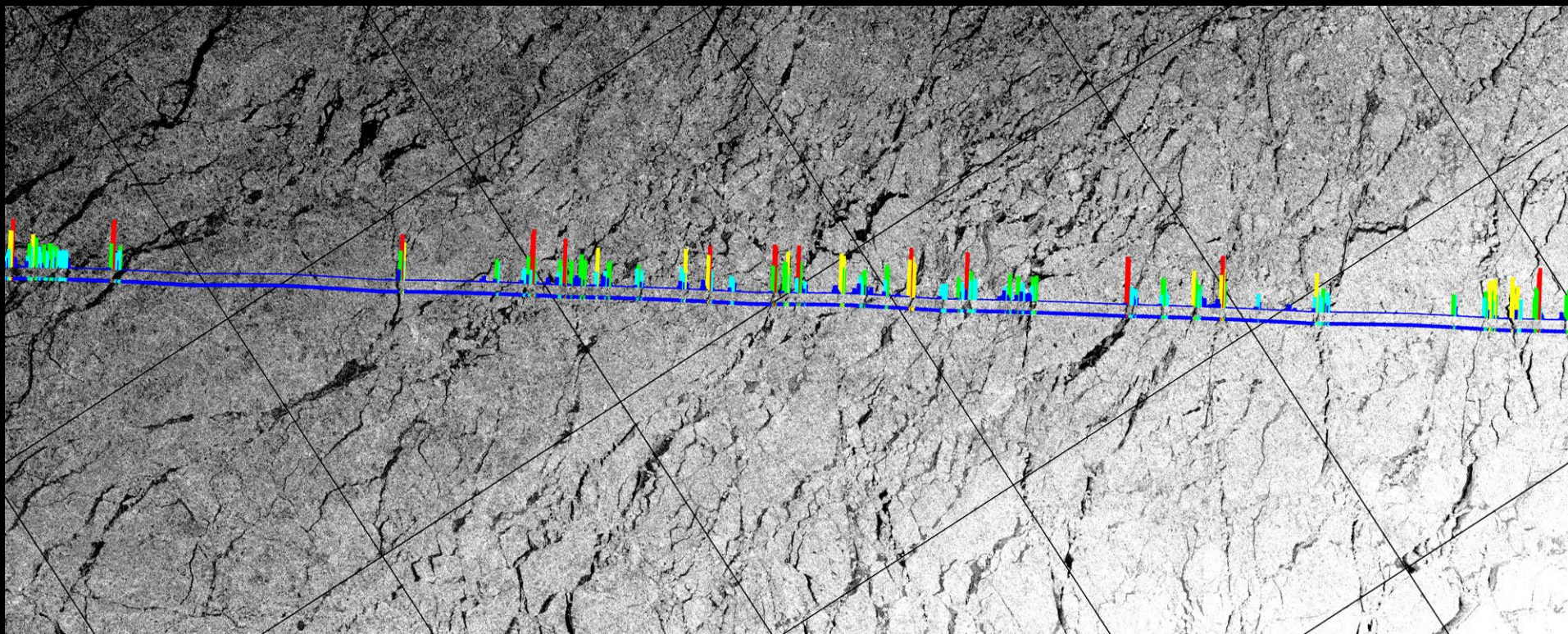
Floe

Floe

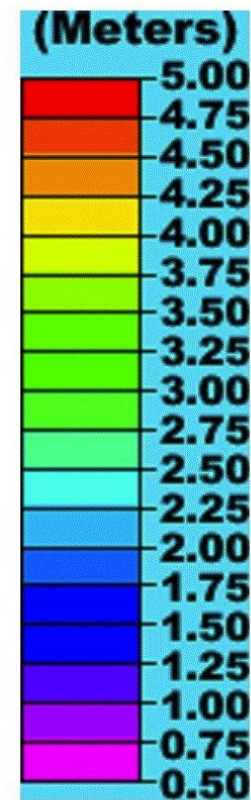
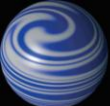


Ice Floes





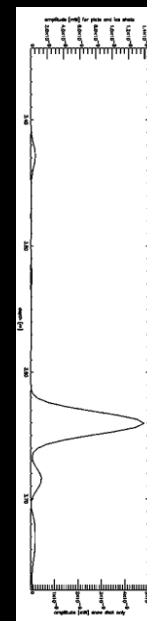
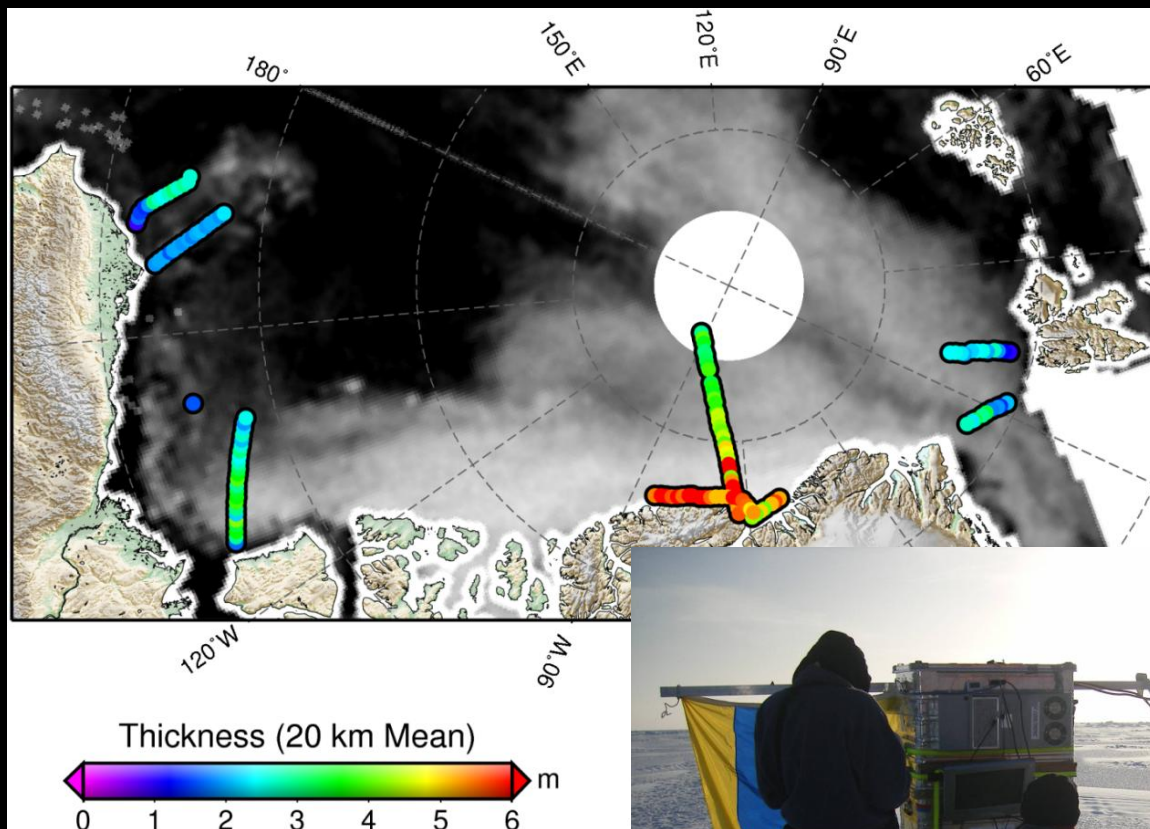
9 Oct 2010 UTC 1837



Arctic sea ice thickness for 09/10/2010

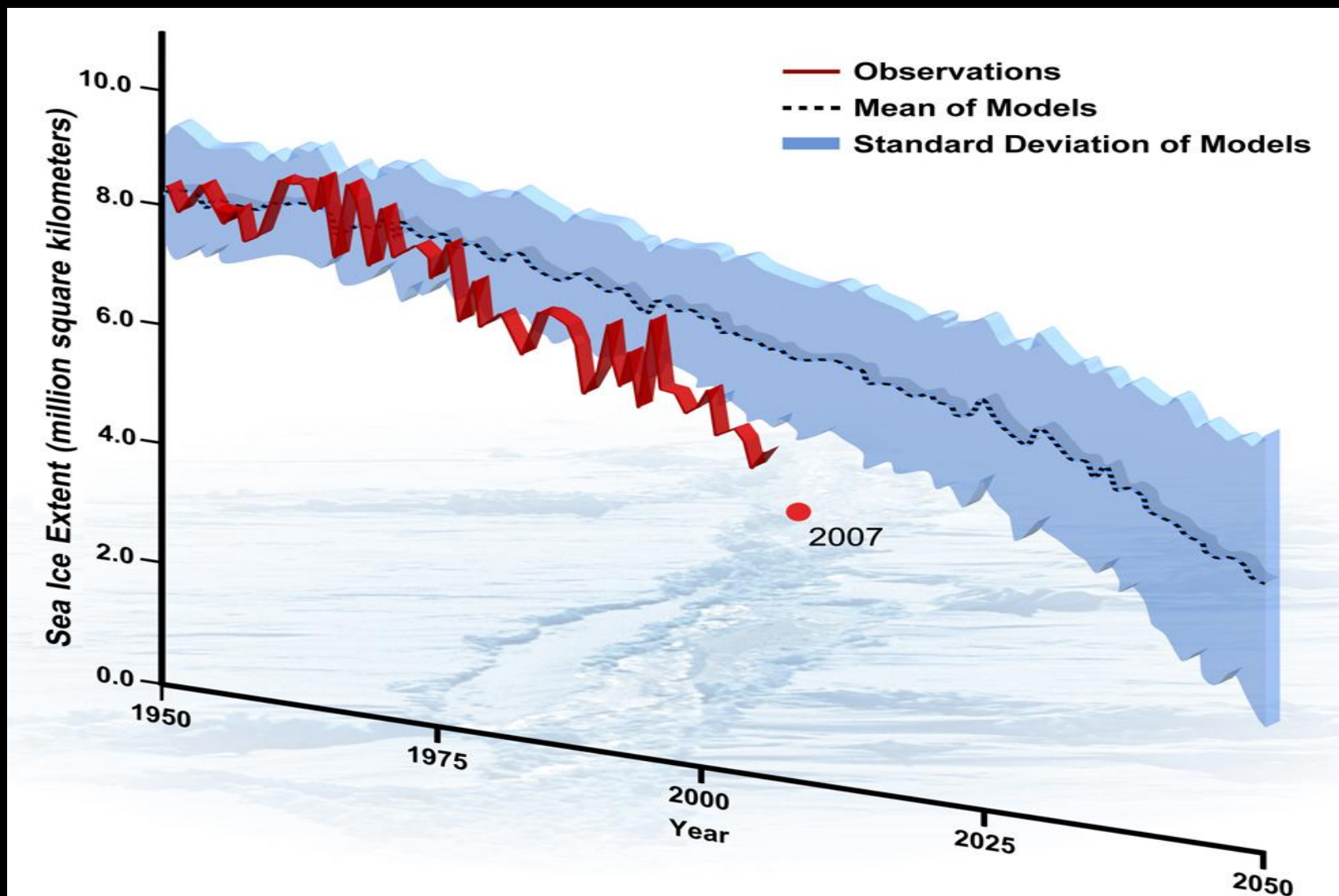
esa

cryoSat-2





Sea Ice Extent 2007





CryoSat-1

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WORLD EDITION

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Last Updated: Sunday, 9 October 2005, 12:13 GMT 13:13 UK

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Europe ice mission failure probed

By Helen Briggs
BBC News science reporter, Frascati

Space agencies are investigating why a rocket carrying a European mission to map polar ice fell into the ocean.

The European Space Agency's Cryosat spacecraft was lost minutes after lift-off from the Plesetsk Cosmodrome in northern Russia on Saturday.

Russian officials say an error caused the rocket's second stage to run out of fuel, so it could not eject the satellite.

The £90m (135m euro) craft was designed to monitor how the Earth's ice masses are responding to climate change.

How the Cryosat launch should have worked

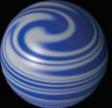
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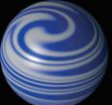
- Europe ice mission lost in ocean 08 Oct 05 | Science/Nature
- 'Secret' base looks to bright future 07 Oct 05 | Science/Nature
- Earth - melting in the heat? 07 Oct 05 | Science/Nature
- Q&A: Europe's ice mission 06 Oct 05 | Science/Nature
- UK scientists await ice mission 03 Oct 05 | Science/Nature
- Ice mission almost set for launch 22 Jul 05 | Science/Nature

RELATED INTERNET LINKS:

- Cryosat (Esa)
- ICESat
- Eurokot
- Centre for Polar Observation and Modelling

The BBC is not responsible for the





The End