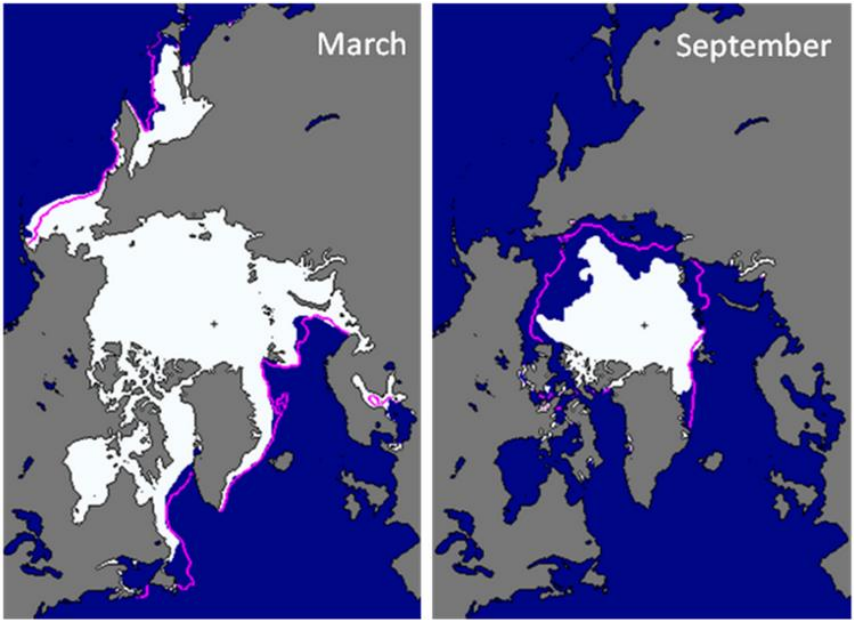
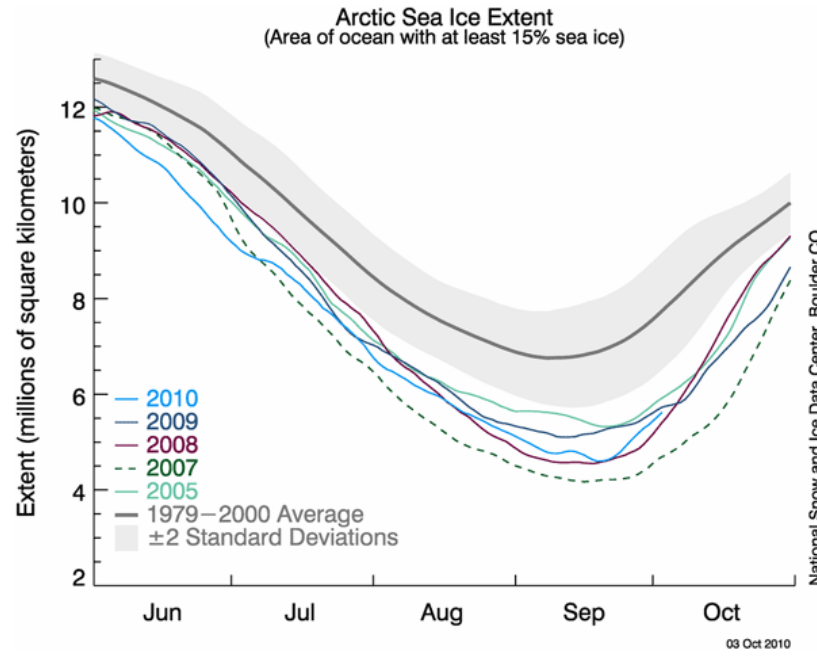


# Arctic Sea Ice: Extent of Decline



Arctic Sea Ice extent for 2010. Pink line is 1979-2000 mean extent.

Arctic Sea Ice extent has been in decline since the start of our satellite era, with the most extreme decline in the summer of 2007.



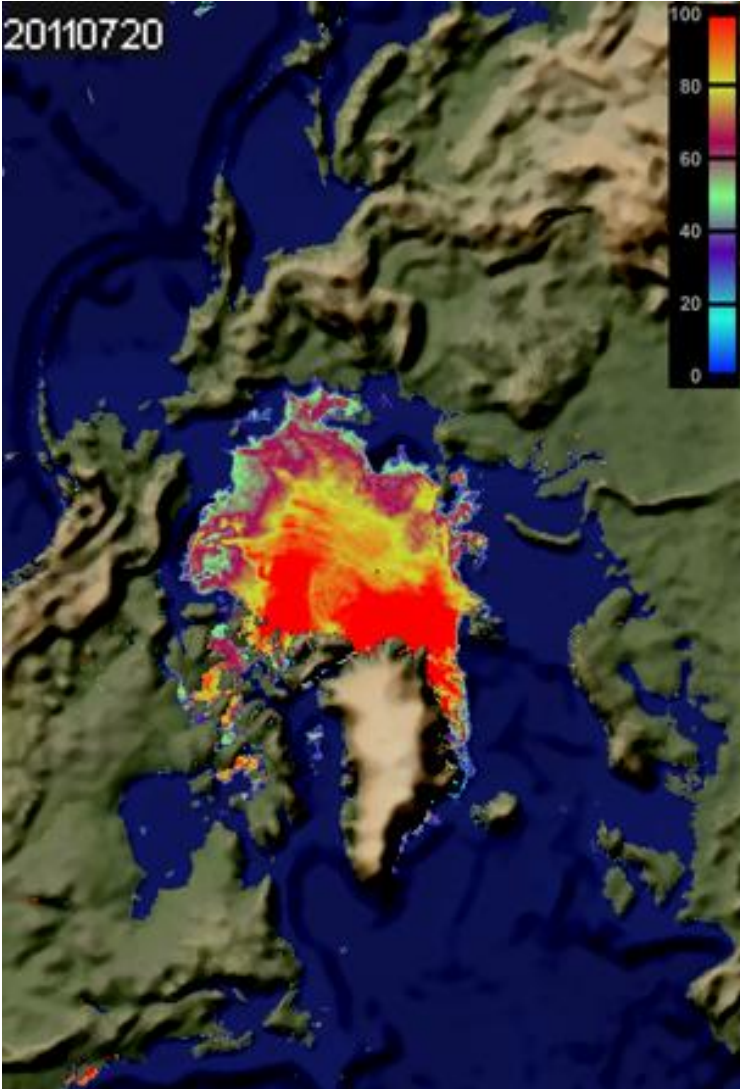
More info: <http://nsidc.org/>

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National Snow and Ice Data Center, Boulder CO

# Sea Ice Concentration



IceSat  
ASTERGlacier  
Radar PolarScientists  
CryosphereEarth  
ReadingJuly2011  
Imaging  
ModellingIce  
ESAObservation  
Greenland  
NCEO  
Antarctica  
Satellite  
Cluster  
EOTech  
Climate  
Snow  
Change  
Photogrammetry  
Melting  
Lidar  
RemoteSensing  
Ocean  
CryoSat

Advanced Scanning Microwave Radiometer (AMSR-E) measures sea ice concentration

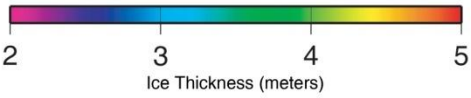
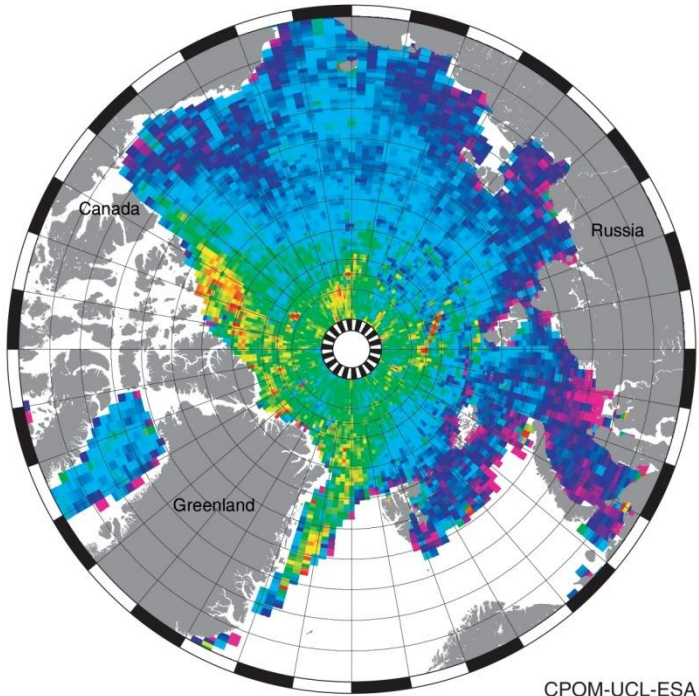
More info:[arctic-roos.org](http://arctic-roos.org)



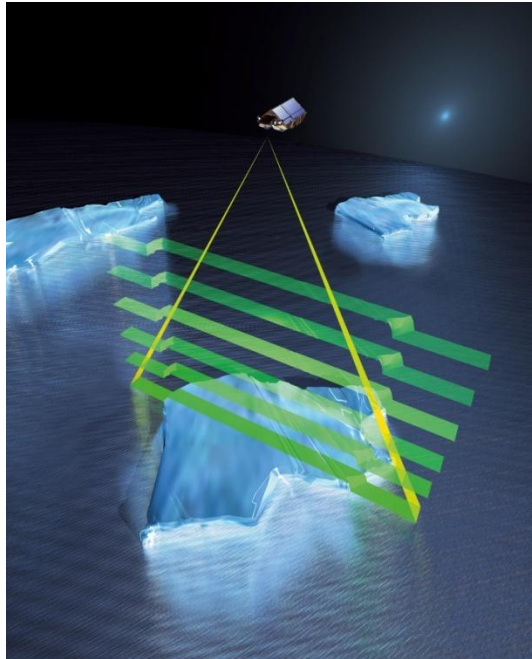
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# CryoSat-2 Radar Altimeter

Sea ice thickness in the Arctic ocean  
(January/February 2011)



CryoSat  
Ocean  
IceSat  
ASTER  
Glacier  
Radar  
Polar Scientists  
Cryosphere  
Earth  
Melting  
Lidar  
Imaging  
Reading  
July 2011  
Photogrammetry  
Modelling  
Ice  
Change  
Snow  
Remote Sensing  
ESA  
Observation  
Greenland  
Climate  
EOT  
Tech  
Cluster  
NCEO  
Satellite  
Antarctica

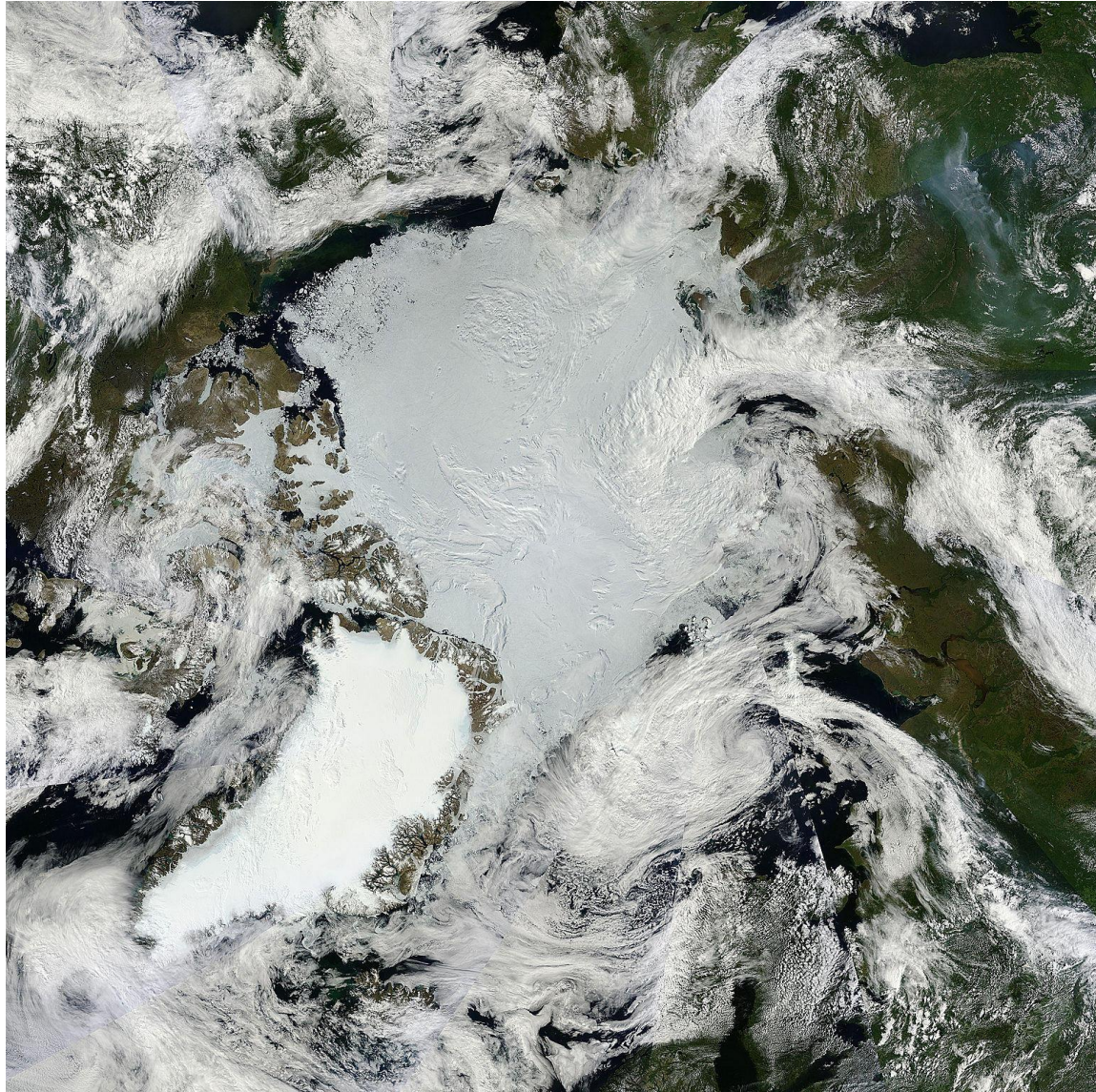


More info: <http://earth.esa.int/>

Freeboard measurements to calculate sea ice thickness



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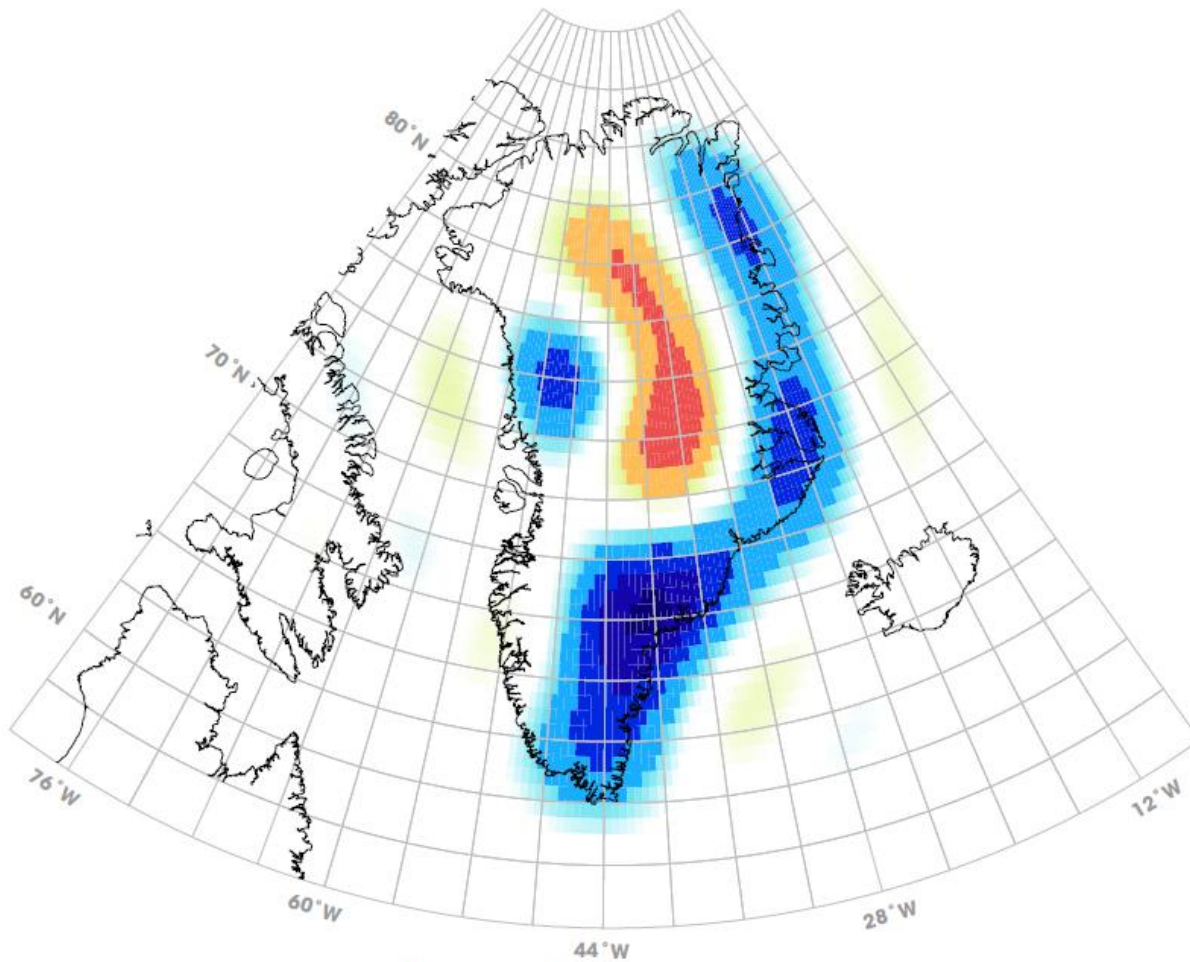
CryoSat  
Ocean  
Photogrammetry  
Change  
Climate  
Melting  
Snow  
EOT  
Satellite  
Lidar  
RemoteSensing  
Imaging  
Modelling  
ESA  
Observation  
Greenland  
Cluster  
NCEO  
Antarctica  
IceSat  
ASTER  
Glacier  
Radar  
PolarScientists  
CryosphereEarth  
Reading  
July2011



MODIS mosaic of the Arctic (Source: Lance MODIS) Picture above (Source: Malgorzata Blaszczyk )



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Greenland Mass Trend (equivalent cm water per year)



IceSat  
 ASTERGlacier  
 Radar PolarScientists  
 CryosphereEarth  
 Imaging Reading July 2011  
 Modelling Ice  
 RemoteSensing  
 Lidar  
 Melting  
 nmetry  
 change  
 Snow  
 Climate  
 EOTechCluster  
 Satellite  
 ESA  
 Observation  
 Greenland  
 NCEO  
 Antarctica

GRACE, Earth  
 Observatory, NASA.

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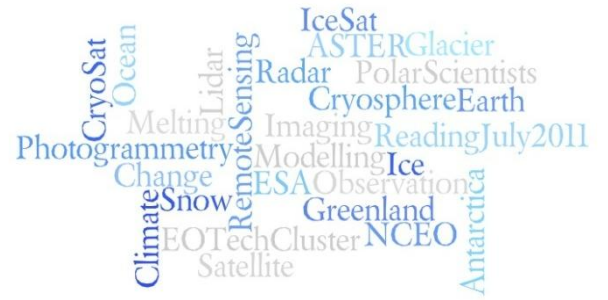


UK POLAR NETWORK



**National Centre for  
 Earth Observation**

NATURAL ENVIRONMENT RESEARCH COUNCIL



Above: Landsat 7 Source : NASA/USGS.  
 Right: MODIS image Source: NASA.

