



Snow Processes



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Why Snow?



- Climate: the Earth's reflectivity, energy budget, ...
- Snow Chemistry
- Water resources: farming, drinking water and hydro-power
- Reconstructing past climate
- Hazards – Avalanches, flood, droughts, forest fires
- Ice mass balance changes
 - Impact on sea level rise
- Biogeochemistry Cycling (e.g. carbon, water, nitrogen)
- Carbon Cycles
- Leisure Activities
- ...



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Why Remote Sensing?



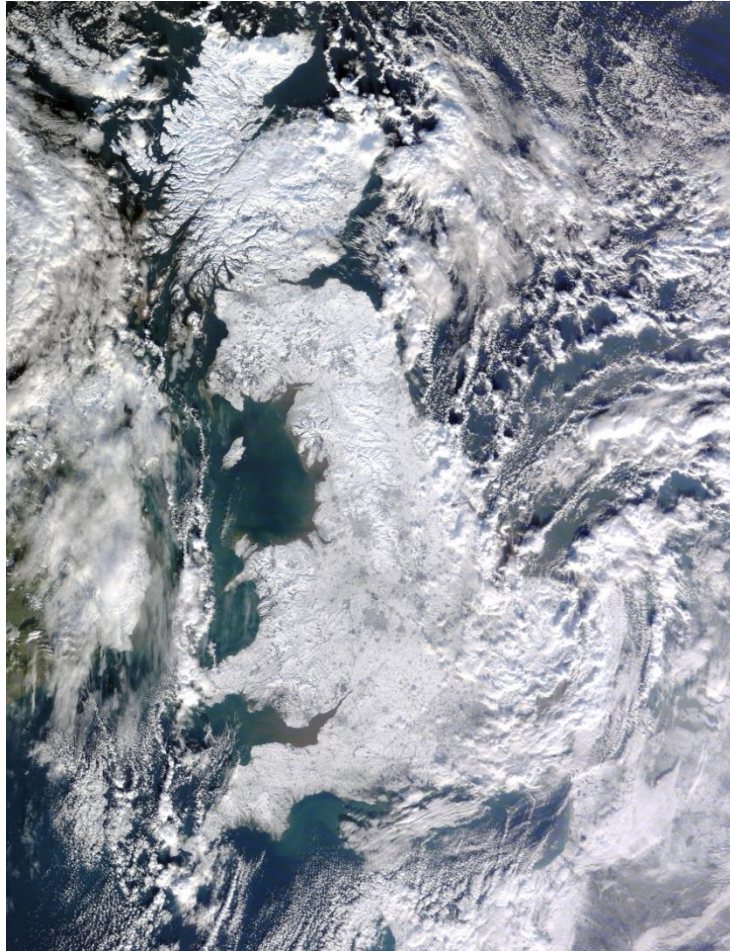
- Fieldwork is hard (hostile environments)
- Inaccessible locations
- Spatial Scale (Global coverage)
- Temporal Scale



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Existing – MODIS AMSR-E etc.



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Cryosphere Earth
Imaging Reading July 2011
Modelling Ice
ESA Observation
Greenland
NCEO
Antarctica
Satellite
Cluster
Tech
EOT
Snow
Climate
Change
Melting
Remote Sensing
Symmetry

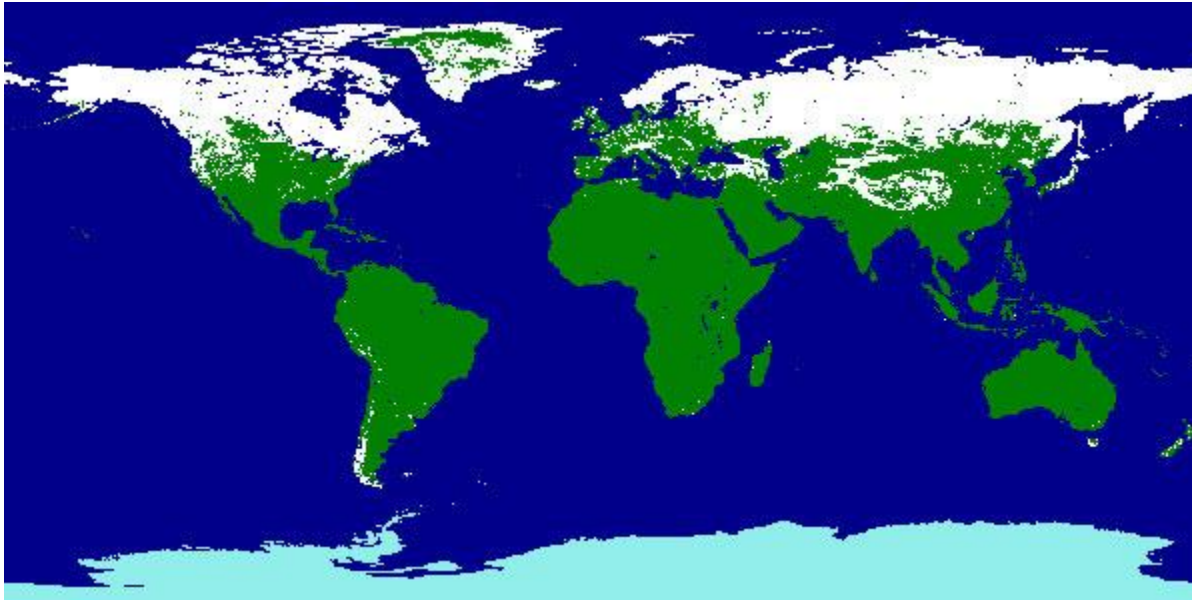


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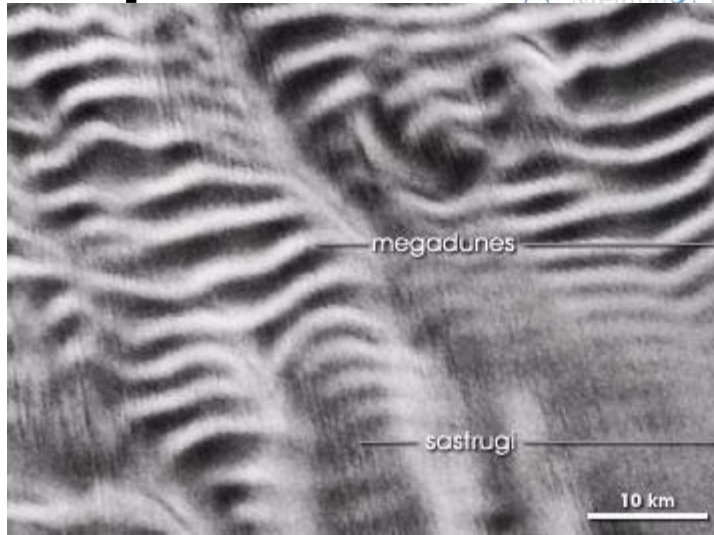
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Photogrammetry
Melting
Cryosphere
Ice



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Properties

CryoSat
Ocean
Lidar
Sensing
IceSat
ASTER
Glacier
Radar
Polar
Scientists
Cryosphere
Earth
Melting
Impacts
10/1/2017



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UK POLAR NETWORK

Future Challenges

IceSat
ASTER
Glacier
Radar
Polar
Scientists
Cryosphere
Earth
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Satellite

- How thick is it (Snow Depth)?
- Snow-Water Equivalent (SWE)
- Antarctica precipitation – snow mass balance
- Vegetation Interactions
- Snow properties (grain size, density, ...)



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