

Category

TE Technology, Engineering & CR Cryosphere

Session Number

TE-3

Session Title

Remote sensing of polar regions

Session Description

Our understanding of the rate and physical processes controlling change in Earth's ice covered regions has been revolutionized in the last 2 decades by remotely sensed observations. Earth Observation satellites have improved the spatial and temporal sampling of cryospheric regions, and historical datasets now provide an invaluable long term record of change. New satellite missions (e.g. SMOS, Sentinel, CryoSat, TerraSAR-X, WorldView, GRACE, Cosmo-SkyMed) have employed innovative sensors, imaging modes, and high latitude orbits to measure the cryosphere. It is increasingly clear that improvements in our ability to exploit satellite measurements of the cryosphere will only be achieved through coordinated progress in the measurement of surface state variables, enhanced modeling capabilities coupled with the development of new remote sensing concepts. Some of these new developments have included the use of new satellite platforms and methods to improve geospatial measurements, e.g., remotely sensed data for snow monitoring, glaciological and mass balance studies, ice sheet flow and geodynamics over short temporal scales, understanding the marine cryosphere and interactions with the ocean and atmosphere. This session aims to highlight recent scientific results in all aspects of remote sensing of the cryosphere, over land and sea ice. Presentations should address interpretation of cryospheric data from satellite, airborne or in situ instruments.

Keywords: Remote sensing, modeling, cryosphere, Polar Regions

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