

# Metadata Details

## Title

Study of melt/freeze dynamics in Antarctica and sea-ice characterization using space based and ground based observations

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## Science Keywords

Category	Paleoclimate
Topic	Rocks/Minerals
Expedition Year	2016-2017
ISO Topic	Meteorology

## Summary

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### Abstract

Understanding the behaviour of ice sheet/ice shelf is necessary to know their response to climate change. Changes have been observed in the recent past which resulted in the breaking of ice shelves from the continent. There is an observed variation in the deposition of snow over sheet ice. Variations in density and wetness are observed with depth, which are functions of topography, distance from sea, climate conditions etc. Active and passive microwave data have been used by researchers to get the spatial distribution of melt over the continent. Satellite data is also being used to derive geophysical parameters of snow/ice. A different response from ice/snow to scatterometer was observed over the years and different places, which needs validation. Ground based information about different snow pack properties play a vital role in calibrating the satellite data over the continent.

### Purpose

Collection of snow density, wetness, temperature, melt freeze status at alternate day interval on the accessible polar ice near Bharati station from November onwards to understand spatio ? temporal variations in the snow properties over sheet ice. . Profiling over sea ice to measure thickness and correlating with satellite data.. To monitor the ice shelves for their melt/freeze status with detailed study of Amery shelf and shelf near Maitri.. To collect snow characteristics at Antarctica which include melt / freeze status, snow density, temperature, depth, liquid water content, etc., using GPR, snow fork at few accessible field locations in order to understand/verify the variations in backscatter response and to correlate with field conditions.

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## Data Center