

Metadata Details

Title

Monitoring of Arctic precipitation

Science Keywords

Category	Atmosphere
Topic	Precipitation
Expedition Year	2016-2017
ISO Topic	Meteorology

Summary

Abstract

The growth and shrinkage of polar ice sheets (mass balance) is one of the crucial points for the calculation of global sea level rise. One of the important parameters controlling the mass balance of ice sheets is the precipitation. Rising global temperatures over the next few decades are likely to increase evaporation and accelerate the global hydrological cycle which may cause drying of subtropical areas and increase precipitation at higher latitudes. Precipitation in Polar Regions has been forecast to increase with potential increases in global temperature. Much of the precipitation occurring in polar regions are in the form of snowfall. Strong winds prevailing in many parts of the polar regions cause snow drift from the ground and contaminate the measurements by conventional precipitation gauges. Thus, our confidence in measurements of polar precipitation is low due to the lack of data and the difficulty in separating real precipitation from drifting snow.

Purpose

The growth and shrinkage of polar ice sheets (mass balance) is one of the crucial points for the calculation of global sea level rise. One of the important parameters controlling the mass balance of ice sheets is the precipitation. Rising global temperatures over the next few decades are likely to increase evaporation and accelerate the global hydrological cycle which may cause drying of subtropical areas and increase precipitation at higher latitudes. Precipitation in Polar Regions has been forecast to increase with potential increases in global temperature. Much of the precipitation occurring in polar regions are in the form of snowfall. Strong winds prevailing in many parts of the polar regions cause snow drift from the ground and contaminate the measurements by conventional precipitation gauges. Thus, our confidence in measurements of polar precipitation is low due to the lack of data and the difficulty in separating real precipitation from drifting snow.

Data Center