

Metadata Details

Title

Automatic Weather Station at Dakshin Gangotri, Antarctica.

Science Keywords

Category	Atmosphere
Topic	Atmospheric Temperature
Expedition Year	1985-1986
ISO Topic	Atmosphere

Summary

Abstract

Regular observations of the weather parameters are very important for the understanding of Antarctic meteorology. The main difficulty in the collection of continuous weather data over this ice-covered continent is the extremely adverse weather condition experienced. In order to collect continuous weather data, automatic weather stations are established by various countries with the help of satellites. The India Meteorological Department has set up an automatic weather station popularly known as Data Collection Platform (DCP) at Dakshin Gangotri, Antarctica, during the Fifth Indian Scientific Expedition. The weather parameters at each GMT hour are sensed by the system and transmitted to the Meteorological Data Utilization Centre at New Delhi on a real-time basis, through Indian National Satellite INSAT-1B. In this a detailed description of the data collection platform system, the sensors used in the system and the difficulties experienced during the installation of this system.

Purpose

Current understanding of Antarctic atmospheric processes and dynamics suffers from a shortage of meteorological observations from the southern sea ice-belt and the continent itself. Automatic measurement of surface meteorological parameters is, therefore, of particular importance for increasing sparse data coverage in the vast desolate areas of Antarctica, where a well distributed network of manned meteorological stations does not appear practicable. In the last decade, attempts for automatic weather stations were aimed for on-site recording of the data, which could be retrieved from the station during the subsequent summer season. India made similar efforts in the First Expedition itself, when indigenously designed Automatic Recording Weather Station was installed at the Indian Station.

Data Center