

METEOROLOGICAL OBSERVATIONS DURING OVERWINTERING (1986-87) AT DAKSHIN GANGOTRI, ANTARCTICA

T.V.P. Bhaskar Rao
Indian Meteorology Department
New Delhi

DCP records the environmental observations automatically once in every full hour GMT, converts to digital form, stores in its memory and transmits at a pre-set time slot within the next sixty minutes. Data Relay Transponder (DRT) relays the data to the Meteorological Data Utilization Centre (MDUC) at New Delhi. At MDUC this signal is demodulated and buffered on a storage device.

DCP's are designed to work satisfactorily upto a minimum temperature of -20.0°C , where as the DCP installed at Dakshin Gangotri have to work below to this limit. The efficiency of the, rechargeable, batteries also deteriorates very much under extreme cold conditions. The outside installations such as sensors and DCP antenna were to withstand severe blizzard associated with very strong winds and blowing snow.

Except for minor breakdown, the DCP performed satisfactorily throughout the period. Station experienced 56 blizzard/strong wind conditions during the period from March, 1986 to February, 1987. The outside installations withstood winds gusting as high as more than 100 knots/hour in one of the severe blizzards that hit the station on 2 July, 1986.

OTHER METEOROLOGICAL ACTIVITIES

1. Meteorological observatory was maintained round the clock, recording surface observational data at all the synoptic hours to study the daily, seasonal and annual variations of atmospheric pressure, air temperature, wind speed, wind direction and cloud cover.
2. Balloon-borne Radopsonde and Radiometersonde ascents were taken periodically to study the vertical structure of the Antarctica atmosphere. A total number of 62 Radiosonde ascents and the data recorded is being computed.
3. Facsimile weather analysis data has been received regularly through facsimile equipment from Molodaznaya (USSR station in Antarctica) and Pretoria, (South Africa) were analyzed to study synoptic weather systems affecting Antarctica as well as their influence on the weather.
4. APT satellite cloud imageries were received regularly to monitor the low pressure systems approaching and passing over Dakshin Gangotri. Four satellite imageries on an average per day were received through NOAA-9 and NOAA-10 satellites.
5. The daily weather summary was regularly displayed on the notice board at Dakshin Gangotri station for the benefit of expedition members. Local weather outlook was provided to plan all the out-door activities.