

OVERVIEW OF WORK DONE IN ANTARCTICA BY SURVEY OF INDIA

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Survey of India, has been taking part in Indian Scientific Expedition to Antarctica since 10th Expedition (1991-92). The focus is to carry out Surveying and Mapping of the region of Indian interest and to provide technical support to various participating agencies.

Initially, Global Positioning System (GPS) and conventional triangulation techniques were used for providing primary control. Later, the mapping on scale 1:5000 with contour interval 5m and scale 1:1000 with contour interval 1m has been taken up.

Survey of India has also established Geodetic and Geophysical Control in and around Schirmacher Oasis for future scientific explorations in the field of glaciology and global change. We have provided control points for Geological Survey of India, Indian Meteorological Department and provided assistance in survey work to National Physical Laboratory, Defense Electronics Application Laboratory and National Environmental Engineering Research Institute. From 2003-2004, we have started neo-tectonic and glacier movement studies. The aim is to undertake the following geodetic work-

- (a) To establish 40 nos. of GPS control points (with permanent monumentation) in the region of Indian interest, connect them by High Precision Leveling and provide precise gravity values.
- (b) Repeat the leveling, GPS and gravity observations for at least three epochs.
- (c) Carry out 7 days GPS observation campaign at Maitri station during each expedition for inter plate Movement Studies between Indian and Antarctica plates.

So far, 28 stations have been established for neo tectonic movement studies, 7 days GPS observation campaign at Maitri station has been done during each expedition since 23rd expedition. 5.7 sq km of the area in and around Schirmacher Oasis has been surveyed. For the benefit of Indian Scientists, Survey of India has published large scale maps (both in analogue and digital form) covering most of the area of interest.