

MEMBER COUNTRY:
National Report to SCAR for year:

INDIA
2010-11

Activity	Contact Name	Address	Telephone	Fax	Email	web site
National SCAR Committee						
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Standing Scientific Groups						
Life Sciences						
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2)						
3)						
4)						
Geosciences						
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2)	Dr. Rajan	National Centre for Antarctic & Ocean Research, Ministry of Earth Sciences, Headland Sada, Goa - Pin-403804, INDIA.	0832 2525511	0832 2520871	rajan@ncaor.org	
3)	Dr. N. C. Pant	Indian Institute of Technology Kharagpur 721 302	91 3222 283396		pantnc@gg.ernet.in	
4)	Dr V M Tiwari	National Geophysical Research Institute uppal Road Hyderabad 500 003	91 40 2343 2494	91 40 2343 4651	vmtiwari@ngri.res.in	
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2)	Dr C G Deshpande	Indian Institute of Tropical Meteorology Dr Homi Bhabha Road Dr Homi Bhabha Road Pashan	91 20 2589 3600	+91 20 2665 5961	cgdesh2004@yahoo.com	
3)	Dr. Shailendra Shaini	National Centre for Antarctic & Ocean Research, Ministry of Earth Sciences, Headland Sada, Goa - Pin-403804, INDIA.	0832-2525521	0832 2520871	shailendra.saini@gmail.com	
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Activity	Contact Name	Address	Telephone	Fax	Email	web site
Scientific Research Program						
ACE						
1)						
2)						
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AGCS						
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3)						
4)						
EBA						
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ICESTAR						
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SALE						
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2)						
3)						
4)						
ACTION GROUPS						
1)Bipolar Action Group	Dr.Thamban Meloth	Program Director (Lab.),National Centre for Antarctic & Ocean Research, Ministry of Earth Sciences, Headland Sada, Goa - Pin-403804, INDIA.	0832-2525622	0832 2520877	meloth@ncaor.org	
2)						
3)						
4)						
EXPERT GROUPS						
1)						
2)						
3)						
4)						
JCADM						
1)	Shri. Mirza Javed Beg	Program Director(Logistics), NCAOR, Ministry of Earth Sciences, Headland Sada, Goa - Pin-403804, INDIA.	91-832-2525521	91-832-2525520	javed.beg@gmail.com	
2)						
NATIONAL ANTARCTIC DATA CENTRE						
SCAR DATABASE						
insert name of database for which your country has responsibility						

A BRIEF SUMMARY OF SCIENTIFIC HIGHLIGHTS:

11 projects from 09 different premier institutes / universities of India were taken up during the said period of 2010-11. In addition one scientific personnel participated, to carryout filming and photography. Brief highlights have been provided under subheads:

Atmospheric & Meteorology

India Meteorological Department(IMD)

Collected synoptic data measurements for the meteorological parameters as also AWS data at Maitri.

National Physical Laboratory(NPL)

Maitri: Inonospheric studies:Ionosonde, VLF and GPS receiver are working properly at Maitri and the data being generated will be utilised to infer the ionospheric variation over Antarctic region.

Indian Institute of Geomagnetism(IIG)

Larsemann Hills: Three instruments namely, DFM, GPS and AWS are being run successfully at Larsemann Hills. Magnetic Measurements: at Maitri.

- Study of geomagnetic storms and substorms through ground magnetic field observations using Digital Fluxgate Magnetometer
- Study of the rapid decrease in the total geomagnetic field intensity observed at maitri using a Proton Precession Magnetometer
- Study of Global Electric Circuit (GEC) monitoring the atmospheric vertical potential gradient, Maxwell current and air-Earth current using various electrometers and field mills-monitoring of the atmospheric weather using automatic weather station
- Studies on Crustal Deformation, mass Balance and Ice Dynamics of Nivlisen Ice Shelf Using GPS measurement
- Monitoring of ELF using Induction Coil Magnetometer (ICM)
- Monitoring of cosmic radio signal absorption using Imaging Riometer at the frequency of 38.2 MHz

Snow and Avalanche Study Establishment(SASE)

Hourly observations of various snow-meteorological parameters (Incoming Solar Radiation, Outgoing Solar Radiation, Sun Shine duration, Net Radiation, Average Ambient Temperature, Maximum Temperature, Minimum Temperature, Instantaneous Temperature, Relative humidity, Wind Speed, Wind Direction, Atmospheric Pressure, Snow Surface Temperature, Snow Depth) have been taken over the continental ice sheet to estimate surface energy budget of the glacier.

NCAOR is part of the net work that monitors the global lightning activity using the ground based VLF receivers and thus detecting the sferics.

Earth Science

Geology & Glaciology

National Hydrographic Office (NHO):

Larsemann Hills: The Naval Hydrographic team continued six hourly meteorological observations. The NHO team positioned three GPS stations, including the origin of the survey established during previous expeditions were recovered and observations carried out upon Bharti top, LH_ref (about 200 m NW of apple hut), Blair Point on Donovan Promontory
24 hours observation was carried out at the reference which will be subsequently linked to IGS network.

Geological Survey of India (GSI)

Maitri: GPR surveys were carried out for the convoy route. Geological mapping in and around Veteheia area, south of Schirmacher Oasis was carried out during this period.

Survey of India (SOI):

Larsemann Hills:- [1.] Detail survey on 1:5,000 scales with 5 metre contour interval was carried out for an area of 1.10 sq. km in the Fisher Island area. [2.] GPS observation was carried out at the main (SOI: LH-1) GPS reference station at Bharati Island (Larsemann hills) with Trimble 5700 dual frequency 24-channel GPS receiver in Static mode. [3.] 21 suspected DEM check points for GPS observations spread over an area of 13X19 sq. km. in Larsemann Hills region were located on ground and GPS observations were carried out in Rapid-Static mode with reference to LH-Main (SOI reference point) on Bharati Island (Larsemann Hills) with Trimble 5700 dual frequency 24-channel GPS receiver.

National Geophysical Research Institute (NGRI): Maitri: Continuous GPS monitoring and operation of permanent seismological observatory at Maitri to understand the seismotectonics and geodynamical processes between Antarctica and southern India peninsula

Biology

Shriram Institute of Industrial Research (SIIR) With an objective of long term environmental monitoring and impact assessment at the upcoming Indian Scientific Base Bharti in Larsemann Hills, East Antarctica along with nearby areas namely, Mc.Leod, Fisher, Broknes, and Stormes Peninsula, relevant observations, data collection and sampling were carried out during this period.

Human Physiology & Medicine

Station Doctors

- Medical examination of all subjects and compilation of a readily accessible database.
- Initiation of circadian rhythm and sleep study parameters by maintaining sleep diary.
- Detailed diet and energy metabolism study during summer activity period.
- Assessment of Vitamin D intake and supplementation in all members for the relevant study on Vitamin D and bone health.
- Anthropometry and physical health data compilation
- Calibration of USG machine and Cardiac Monitor.
- Psychiatric tests for depression, stress, sleep disorders, neurocognition and subjective health complaints administered.