



## National Centre for Polar & Ocean Research Indian Scientific Expedition to Antarctica (ISEA)

Greetings from National Centre for Polar & Ocean Research and a warm welcome from the Antarctic Logistics Division!

National Centre for Polar & Ocean Research (NCPOR) is an autonomous institution under Ministry of Earth Sciences (MoES), Govt. of India and the nodal agency for the National Polar Science Programme. Antarctic Logistics (AL) is a division of NCPOR that takes care of the Antarctic Programme.

This is in regard to your project proposal under consideration for the Indian Scientific Expedition to Antarctica (ISEA) subject to recommendations of the review committee and decision of the National Committee on Polar Programmes.

Before taking you through the details in regard to participation in the Antarctic Expedition, it would be of mutual benefit if you could please mark some important dates in your calendar of activities.

- Last date for receiving personal details of participating individuals in form AL-1208- **10 July 2019**
- Last date for receiving institutional/ individual cargo at NCPOR (scientific equipment/ accessories/chemical/glassware etc.) necessary for successful completion of project in Antarctica/during Voyage with detailed declaration in form AL-1403 is **Sat, 05-Oct-2019**.  
However last date for receiving selected Scientific Cargo needed to be airlifted from Cape Town and required at Maitri/Bharati during early summer (Nov-Dec) of 39 ISEA along-with detailed declaration in form AL-1403 is **Thu, 05-Sep-2019**, 1500 hrs IST.
- Medical examination and Pre Antarctic-Training for participating individuals-**Wed, 31- July-2019 to – Sat, 28-Sep-2019**
- Last date for submission of valid Official/Personal Passport(s) of participating individuals-**Tue, 15-Oct- 2019**.
- Deputation for Antarctica-**Mon, 27-Oct-2019 onwards** depending on the nature of the project and availability of flights/ship.

While it takes time to get through the entire process of selection until final confirmation of project being short-listed for mounting with the ISEA, it will be nice if you knew a few things about the logistics involved viz. participation in the Indian Antarctic Expedition. Knowledge of our capabilities, inabilities and available facilities will help you plan better and save us of last-minute surprises and unnecessary delays.

### 1. AREA OF OPERATIONS IN ANTARCTICA

NCPOR offers opportunity to scientists for working in and around two research bases Maitri & Bharati and also in the Southern Ocean region onboard chartered Ice Class ship during the voyage between Cape Town and Antarctica depending on the nature of the project.

### 1.1. Bharati Station

Operational since March 2012 is located between Thala Fjord & Quilty bay, east of Stornes Peninsula at -69.40680 , 76.19525 in Larsemann Hills, Antarctica. It is about 35 m above sea level and just about 300 meters from the shoreline.

The station facilitates year-round scientific research in and around Larsemann Hills. It can support 47 persons in the main building during summer as well as winters with additional 25 in emergency shelters / satellite camps during summers and thus making the total capacity as 72. The station consists of one main building, a satellite camp and a number of smaller fibre modules.

Bharati offers 220 volts regulated power supply; automated heat-ventilation & air-conditioning; hot and cold running water, 24x7 broadband connectivity for voice, video and data; flush toilets; aesthetically designed living, dining, lounge, laboratory space and basic medical facilities.

### 1.2. Maitri Station

Our main stay in Antarctica, operational since 1988 offers more of conventional and old heroic style of living and working. About 3000 km west of Bharati, it is situated at -70.76683367 and 11.73078318 in the central part of Schirmacher Oasis, in central Dronning Maudland region of East Antarctica. It is an inland station about 100 km from the shore at an elevation of about 117 meters above sea level.

With 220 volts regulated power supply, 24x7 broadband connectivity for voice, video and data; Incinerator based toilets; living, dining, lounge and basic medical facilities the station facilitates year-round scientific research in and around Schirmacher/ Wohlthat mountains and can support 25 persons in the main building during summers as well as winters and about 40 in summer facility comprising of containerized living modules.

### 1.3. Chartered Expedition Vessel

The vessel can accommodate 38 expedition members in twin sharing cabins with attached bathrooms. Indian vegetarian/ non-vegetarian food is available on board. The vessel has an exclusive dining space, lounge and basic medical facility for the expedition crew with common laundry, gymnasium, sauna bath and swimming pool. Limited communication through Iridium phone and through a common email ID is also available onboard. Electric power at 220 volts is available in all the cabins and common areas.

The vessel does not have any oceanographic survey equipment, winch/ A-frame or any other mechanism for collection and processing of samples. Nevertheless, arrangements can be made for installation of small winches/ aerial mast etc. on prior intimation and being made available by the scientist/ institution concerned.

## **2. TRAVEL AND TRANSIT ACCOMMODATION**

Expedition members are inducted to Antarctica in small groups between November and January and de-inducted between January and March. NCPOR takes care of travel and transit accommodations from Goa to Antarctica via Cape Town, South Africa and back. Passage between Goa and Cape Town is arranged by air through commercial airlines and between Cape Town and Antarctica (Maitri/

Bharati) by ship or by chartered flights depending on the nature of work and operational requirements/ limitations and not as a matter of choice.

2.1. Tentative Voyage Plan for season 2019-20

<b>Tentative Voyage Plan for season 2019-20 for 100 +/- 30 days</b>		
<b>Itinerary</b>	<b>Date</b>	<b>Duration of Voyage/ Halt</b>
Charter	Mon, 16-Dec-2019	1
ETD Cape Town	Mon, 23-Dec-2019	7
Crossing 40 deg S Lat	Wed, 25-Dec-2019	2
ETA Larseman Hill	Fri, 03-Jan-2020	9
ETD Larseman Hills	Sun, 02-Feb-2020	30
ETA India Bay	Fri, 14-Feb-2020	12
ETD India Bay	Sun, 15-Mar-2020	30
Crossing 40 deg S Lat	Mon, 30-Mar-2020	15
ETA Cape Town	Wed, 01-Apr-2020	2
De-Charter	Fri, 03-Apr-2020	2
<b>Approximate Duration (days)</b>		<b>110</b>

2.2. Air Travel between Cape Town & Maitri

Chartered flights between Cape Town and Maitri (5.5 hours) under the aegis of DROMLAN shall be available between November and February of the succeeding calendar year. Getting seats for Indian participants in any of the DROMLAN flights needs prior planning and shall depend on the nature of work, operational requirement and availability of funds but not as a matter of choice or preference of participating organizations / individuals.

2.3. Inland Transport in Antarctica

For inland transport around Maitri, and Bharati two helicopters, Aerospatial- AS 350 and KAMOV-32 shall provide aviation support but will remain onboard the ship and therefore shall be available only when the ship is around (refer voyage plan). During lean period while the ship & helicopters are away, tracked snowmobile - Pisten bully vehicles and snow scooters shall remain available as the work must go on. Maitri has an additional facility of a four-wheeled Toyota Hylex a modified Toyota pickup truck for Antarctic conditions and is available round the year.

**3. NOMINATION OF SCIENTISTS FOR PARTICIPATION IN THE ANTARCTIC EXPEDITION**

Members participating in the Antarctic expedition need to have valid official passport and clearance of medical board and M&SI, ITBP, Auli. Participating organization(s) / Project Leader(s) need to nominate participating Scientist(s) by name with at least one standby candidate for an eventuality if the main candidate being not found fit by the Medical board and / or during the Pre- Antarctic Training at M&SI, Auli.

Name(s) and personal details of nominated candidate(s) in Form AL-1208 (available on NCPOR website) must reach NCPOR latest by **10 July, 2019** and thus enabling NCPOR to arrange for

administrative approvals, medical examination, pre- Antarctic training, political clearance, insurance and air tickets.

### 3.1. Passport

Expedition members can travel on Official Passport as well as on Personal Passport for their travel to Antarctica via Cape Town, Republic of South Africa. Participating organisations have to arrange for the official passport of members. Members travelling on Personal passport need to take South African VISA before moving for Antarctica.

## 4. EXPEDITION CARGO- SCIENTIFIC EQUIPMENTS

Cape Town being the launching pad for the Indian expeditions to Antarctica, members have to fly between Goa and Cape Town and can carry only 30 Kgs checked in baggage (20 Kg personal effects + 10 kg polar gear, issued by NCPOR at Goa). Any excess baggage and /or equipment, consumables including chemicals, gases, laboratory ware, glassware, batteries, books etc. necessary for successful completion of projects are to be sent in departmental containers at NCPOR's cost and expense through commercial shipping lines.

Departmental freight containers stuffed with expedition cargo including that of individuals and participating organizations after customs examination at Goa shall be sent to Nava Sheva, Mumbai for onward shipment to Cape Town through commercial shipping lines and thereafter to Maitri/ Bharati on board our chartered expedition vessel. For expected delivery date of cargo at the stations – Bharati and Maitri may refer to the tentative voyage plan.

Considering the time required for systematic stuffing of cargo in containers, transit time from Goa to Cape Town via Mumbai and further the deadline for cargo to reach Cape Town in order to catch the Chartered Expedition vessel at Cape Town before sailing off for Antarctica; all cargo meant for Maitri and / or Voyage must reach NCPOR not later than **05th October, 2019** (with detailed declarations in Form AL-1403 available on NCPOR website).

***Cargo reaching NCPOR after 05th October, 2019 shall not be accepted and returned to the owners at their cost and expense.***

### 4.1. Cargo for Maitri

For projects exclusive to Maitri Station and nearby areas the cargo needs to be delivered at NCPOR a little early, latest by **05 September 2019** (with detailed declaration in Form AL-1403 available on NCPOR website) as it shall be sent by Air all the way to Maitri Station via Cape Town so that it reaches along with the concerned scientists. Any such cargo meant for Maitri received late but not later than **05 October 2018** shall be sent by ship and shall reach Maitri only by **end of February 2020**.

### Cargo -Packing and Safety

Movement of cargo between Goa and Antarctica (Maitri/ Bharati) involves various modes of transportation (trucks, ships, aircraft, helicopters, snowmobiles) and transshipment at Goa, Mumbai, Cape Town and handling by cranes, forklifts, skilled & unskilled personnel hence, packing becomes central for safety of machinery/ equipment/ accessories/ consumables. Kindly ensure proper shock

proof packing to avoid damage during transportation/ transshipment/ handling. NCPOR shall not be responsible for any damage to cargo due to poor packing.

#### 4.2. Labelling for Identification

NCPOR receives cargo from a number of organizations / individual with different destinations (Maitri/ Bharati/ Voyage) and unlabelled packages add to confusion. May kindly ensure proper labelling of packets with Name of Organization/ Individual; Destination-(MAITRI OR BHARATI OR VOYAGE); Expedition Number- 39ISEA; Box/ Packet Number- 1,2,3,4....; Content Description. Also ensure that labels are painted or firmly pasted on boxes / packets so that it does not peel off during transit resulting in cargo being misplaced or delayed. NCPOR assumes no responsibility for loss or delay in delivery of unlabelled or improper labelled cargo.

### 5. **MEDICAL EXAMINATION / PRE-ANTARCTIC TRAINING**

All expedition members have to undergo medical/ psychological examination at All India Institute of Medical Sciences (AIIMS), New Delhi followed by “Pre-Antarctic Snow-Ice Acclimatisation Training” at Mountaineering and Skiing Institute, ITBP Auli. Medical examination at AIIMS and the training at Auli are organized in three batches of approximately 20 days duration each between July and September. Exact date shall be communicated in due course.

Member(s) not cleared by the medical board at AIIMS and /or not found fit/ suitable (physically or temperamentally) shall be excluded and will not be able to participate in the Antarctic Expedition.

#### 5.1. Accommodation during Medical Examination

Parent organizations / Individuals will have to arrange for their accommodation at New Delhi for the duration (4 to 5 days) of the medical / psychological examination at their cost and expense. No TA/DA will be paid by NCPOR.

#### 5.2. Accommodation/ Transport for Pre Antarctic Training

NCPOR shall arrange for the transportation, accommodation and food (Breakfast, Lunch & Dinner) for participating members from Delhi to Auli and back at no cost to participating organizations / individuals however, no TA/DA shall be paid by NCPOR.

ITBP’s Mountaineering and Skiing Institute is located at AULI in the Chamoli District of Uttarakhand at an altitude of about 10,000 feet and training is imparted in nearby glaciated terrains ranging between 10,000 to 14,000 feet above mean sea level in the months of July to September. During the training season at Auli the temperature ranges between 02 to 37 Degree Celsius with average hovering around 16 degree Celsius and monthly rainfall in the range of 20-320 mm. Members are advised to carry light protective clothing and good quality walking/ jogging/ sports shoes. Special mountaineering gear shall be provided by NCPOR at M&SI Auli on returnable basis.

### 6. **PAY AND ALLOWANCES**

Pay, allowances and all compensations including Hard Duty Allowance (HDA), contingencies etc. are to be borne by the parent organization.

### 6.1. Hard Duty Allowance

As per the GOI rules all expedition members regardless of rank and pay are entitled for special Hard Duty Allowance (HDA) at rates detailed below-

Summer period - ₹ 1500/- per day

Winter period - ₹ 2000/- per day

Expedition Leaders & Deputy Leaders - 10% extra of the above rates

The hardship allowance is applicable for the period actually spent in Antarctica and/or beyond 40 degrees south latitude. The winter period for the purpose of disbursement of HDA is considered from 1st March to 30th November of each calendar year whereas, the summer period from 1st December to 28th / 29th February of succeeding calendar year.

### 6.2. Antarctic Gear / Kit

Expedition members regardless of rank and pay are provided with following special polar clothing by NCPOR which is necessary for enduring the harsh climatic conditions of Antarctica.

Sr. No.	ITEMS	SHORT TERM	LONG TERM	REMARKS
1	Working overall with hood/ Dungaree	1	2	Returnable
2	Feather Jacket	-	Need Based	Returnable
3	Snow Boots (Knee Highs)	1	1	Returnable
4	Snow Goggles	1	1	None Returnable
5	Solar Glasses / Sun Glasses	1	1	None Returnable
6	Working Gloves	1	2	None Returnable
7	Trekking Boots	1	1	None Returnable
8	Silk Gloves	Need Based	Need Based	None Returnable
9	Balaclava	1	2	None Returnable
10	Face Mask	-	Need Based	None Returnable
11	Polar Undershirt/ Thermal Vest	1	2	None Returnable
12	Polar Underpants/ Thermal Long Johns	1	2	None Returnable
13	Polar Socks/ stockings	1	2	None Returnable

### 6.3. Kit Allowance

In addition to polar gear, NCPOR also gives Rs. 20,000/- to short term and Rs. 30,000/- to long term members as Kit Allowance after clearance from the medical board. The kit allowance is meant to cover the cost in preparation for Antarctic expedition and making arrangement their off. Members can purchase any item that they may consider necessary for preparing themselves for the long Antarctic sojourn. Members need to submit a detailed account of expenditure supported with original vouchers to NCPOR for adjustment before proceeding to Antarctica. Un-spent balance and amount not supported with vouchers will have to be refunded back to NCPOR.

Depending on your personal needs and choices these items need to be procured from kit allowance, you may consider all or any item as tabulated below;

Sr. No.	ITEMS	SHORT TERM	LONG TERM	REMARKS
1	Kit Bag/ rucksack/side bag/ duffle bag (size 35 to 50 litres capacity) for carrying Polar clothing to be issued at NCPOR	01	01	Strongly Recommended
2	Regular used medicine/food supplements (prescribed by your family physician or as advised by Medical Board, AIIMS)	Sufficient for duration of stay at Antarctica		Strongly Recommended
3	Spectacles (near or far sighted) non-metallic frames along with prescription	02	04	Strongly Recommended
4	Thermos/ Water bottle	01	01	Strongly Recommended
5	Closed toe (covered) slippers/sandals	01	02	Strongly Recommended
6	Hard disk/drive (external)	2 TB	4 Tb	Recommended
7	Track-Suit	01	02	Recommended
8	Trolley Bag/ Suitcase	01	01	Recommended
9	Toiletries and Cosmetics	As per requirement		Recommended

## 7. MANDATORY SOCIAL RESPONSIBILITIES

Cost of sustenance in Antarctic is perhaps the highest compared to any part of the globe and probably second to space missions and therefore limitations on resources. NCPOR provides for almost everything needed for a decent living and sustenance at Maitri, Bharati and onboard Ship which come along certain social responsibilities which can neither be overlooked nor avoided. The most significant responsibilities are outlined as under.

### 7.1. Galley Duty

For obvious reasons, NCPOR does not provide housekeeping staff for upkeep of Maitri and Bharati stations and for the chartered expedition vessel. The daily chores need to be taken care by the expedition members regardless of age, sex, rank and pay or nature of work, affiliation and duration of stay. Station/ Voyage Leader (S), maintain a galley duty roster and duties are assigned to individual and everyone gets a fair share during his/her stay in Antarctica.

Galley duty involves general up-keep of the station/ ship and involves following activities

- Cleaning and sanitizing the toilets, urinals and washrooms, corridors and all common areas within station premises.
- Washing/ cleaning utensils and glassware and clean all pots, pans and equipment etc., as well as the general cleaning of galley.
- Assisting Cook (s) in bring provisions from store to kitchen, cutting/ peeling of vegetables / meat and serving food in the dining hall.
- Cleaning and sanitizing the kitchen, fridge, freezer, including floors, walls, steps etc.

- Maintaining round the clock security vigil; taking periodical rounds of all sensitive areas of station to check for alarms in life support systems, indication of smoke, fire, oil & water leak and spills etc.

## 7.2. Shramadaan/ Community Service

Once in a while with the view to set the house in order apart from the regular galley duty, members are required to contribute for the upkeep of stations, transfer of provisions, cleaning the outside areas of the station, organising containers and material etc. On such occasion's individuals are supposed to work in groups/teams. Field parties are restricted from venture out and every individual is required to carry out the assigned task.

Working in Antarctica apart from deriving immense professional satisfaction also helps in testing one's own endurance, ability to think and react to fast changing scenarios which inculcates agility of thought process, a sense of accomplishment and self-actualization and some tiny little monetary compensation as well.

We request you to kindly sensitize the nominees/ prospective participants to the ensuing Antarctic Expedition and make them aware of the facilities, limitations, responsibilities and the time lines. This will help them prepare to face the challenge and help us in providing better services.

Please feel free to get in touch for clarifications with our team,

### **Useful Contacts**

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