



**REPUBLIC OF ITALY**

**MINISTRY FOR UNIVERSITIES AND SCIENTIFIC RESEARCH**

**ANTARCTIC TREATY  
EXCHANGE OF INFORMATION**

**ANNUAL INFORMATION**

**(2008-2009)**

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## **2. ANNUAL INFORMATION**

### **2.1 Scientific information**

#### **2.1.1 – Forward Plans**

Multi-year science plans and planned participation in major, international, collaborative science programs can be obtained from the National Scientific Commission for Antarctica web site <www.csna.it>.

#### **2.1.2 – Science activity in previous year (2007-2008)**

##### **2.1.2.1 Mario Zucchelli Station**

The following Programs have been carried out in the following research sectors.

Geodesy and observatories (Coordinator: A. Morelli - National Inst. of Geophysics and Volcanology, Rome)

- Geodetic monitoring of northern Victoria Land.
- Permanent observatories for geomagnetism and seismology.
- The Meteo-Climatological Observatory in Antarctica.

Glaciology (Coordinator: M. Frezzotti – ENEA Casaccia, Rome)

TALDICE Program.

##### **2.1.2.2 Concordia Station**

Geodesy and observatories (Coordinator: A. Morelli - National Inst. of Geophysics and Volcanology, Rome)

- Trace gas concentrations and aerosol optical characteristic measurements at Terra Nova Bay and Dome Concordia stations (DO3meCO2).
- Implementation of the BSRN station at Dome Concordia.
- Permanent observatories for geomagnetism and seismology.
- The Meteo-Climatological Observatory in Antarctica.
- Upper Atmosphere observations and Space Weather.

Glaciology (Coordinator: M. Frezzotti – ENEA Casaccia, Rome)

- Paleoclimate and paleoenvironment from the chemical, isotopic and physical stratigraphies of ice cores.

Physics and chemistry of the atmosphere (Coordinator: M. Colacino - C.N.R. Rome)

- Climatic effects of aerosol particles and thin clouds over the East Antarctic Plateau.

Sun-Earth relationships and astrophysics (Coordinator: M. Candidi - C.N.R. Rome)

- OASI/COCHISE. Bolometric interferometry and the polarization of the cosmic microwave background.
- IRAIT, The Italian Robotic Antarctic Infrared Telescope.

##### **2.1.2.3 Other Stations**

Geology (Coordinator: C. Ghezzi - University of Siena)

- McMurdo (USA). ANDRILL - ANtarctic geological DRILLing.

##### **2.1.2.4 On board of ship *Italica***

Oceanography and marine ecology (Coordinator: G. Spezie - University “Parthenope” of Naples)

- Polar Deep Ocean Ventilation variability and its influence on global circulation.
- CLIMA IV - Ventilation processes in the Ross Sea.

## **2.2 Operational Information**

### **2.2.1 National Expeditions**

Variations with respect to the pre-season information concern

- The fuel depots left at the end of the 2006-2007 Expedition are the following.

**Fuel depots (up-to-date 01/02/08)**

Code	Site	Latitude (GPS)	Longitude (GPS)	Elevation mters a.s.l.	Drums	Las visited
1°	Browning Pass runway	74°37.366'S	163°54.822'E	60	44	28/01/2008
2	Campbell Glacier	74°11.772'S	163°52.873'E	900	10	09/01/2006
4	Cape Hallett	72°25'S	169°58'E	250	43	29/01/2007
5	Cape Phillips	73°03.640'S	169°37.830'E	800	11	20/01/2008
7	Cosmonaut Glacier	73°24.630'S	164°41.350'E	600	10	28/01/2008
8°	D – 85	70°25.48'S	134°08.87'E	2500	24	22/11/2007
9	Frontier Mountain	72°56.912'S	160°27.862'E	2100	0	16/11/2007
11°	Harrow Peaks	74°06.190'S	164°46.270'E	600	7	28/01/2008
13°	Lichen Hills	73°16.986'S	162°04.035'E	1970	6	18/01/2008
15°	Mariner Camp (Suter Glacier)	73°29.790'S	167°01.630'E	690	12	01/02/2007
17°	Mesa Range	73°28.958'S 73°38.552'S	162°46.147'E 162°56.749'E	2800	12	28/01/2008
18°	Mid Point	75°32.437'S	145°49.119'E	2520	28	31/01/2008
19°	Mount Minto	71°36.691'S	167°55.564'E	3048	1	3/01/2006
20°	Morris Basin	75°38.250'S	159°04.150'E	1000	14	15/11/2006
21°	Mt Jackman	72°23.100'S 72°23.040'S	163°10.780'E 163°09.200'E	1800	12	28/01/2008
22°	Sitry Point (C-3)	71°39.230'S	148°39.196'E	1600	10	01/02/2008
23°	Starr Nunatak	75°54.010'S	162°33.780'E	100	8	19/11/2007
24°	Talos Dome	72°46'S	159°02'E	2300	6	01/02/2008
25	Tarn Flat	75°00.620'S	162°38.030'E	250	10	16/12/2006
26°	Tucker Glacier	72°26.857'S	168°31.065'E		5	26/12/2005
27°	Marble point	77°24.842'S	163°40.785E	Sea level	2	04/01/2008

Note: ° means that at some kilometers a Twin Otter runway is available.

## 2.3 Permit Information

### 2.3.1 Visits to Protected Areas

During the 2007-2008 campaign the following visits were performed.

2007-08 Permits	People	ASP/ASMA	Rationale
5 entrances Oct. 2007 – Jan. 2008	MZS radio officers	N. 118 Mt Melbourne	Maintenance of the radio repeaters
3 entrances Nov 2007 – Jan. 2008	1 meteo	N. 165 Edmonson Point	Maintenance of AWS

### 2.3.2 Taking and harmful interference with flora and fauna

No permit was issued during the 2007-2008 Expedition under Annex II, article 6(2) of the Protocol.

### 2.3.3 Introduction of non-native species

No permits were issued for the introduction of non-native species for the 2006-2007 season.

## 2.4 Environmental Information

### 2.4.1 Compliance with the protocol

No new measures were adopted during the past year in accordance to Article 13 of the Protocol.

### 2.4.2 List of IEEs and CEEs

One Initial Environmental Evaluation was developed for recovering a deep ice core at Talos Dome, East Antarctica, in the frame of the research project TALDICE (Talos Dome Ice Core Project).

During the 2005-06 summer campaign a new Initial Environmental Evaluation was prepared for "Construction and Operation of Enigma Runway for Light Aircraft" at Mario Zucchelli Station (Terra Nova Bay, Ross Sea)

During 2006-07 two more IEE were prepared. "Construction and Operation of Nansen Ice Runway (Terra Nova Bay, Ross Sea, Antarctica)" and "Restructuring works of the pier at the Mario Zucchelli Italian Station (Terra Nova Bay, Ross Sea, Antarctica)".

### **2.4.3 Monitoring activities report**

A wide range of matrices have been monitored: atmosphere, seawater, sediment and biota, soil and the snow in the surrounding of the Base. The main parameters considered have been:

- a) hydrocarbons (mainly from fuel transport and consumption),
- b) Polycyclic Aromatic Hydrocarbons (PAH), mainly from combustion sources,
- c) surfactants and related compounds (from sewage),
- d) nutrients,
- e) metals and their compounds (combustion sources and various Base activities).

Data from monitoring are used for feedback on operations. At present a significant data base (going back for twenty years) of the results obtained in the analyses of samples from different environmental compartments (air, water, sediments, biota) is available. The effluent of the sewage treatment plant has been regularly monitored during operation of the plant.

### **2.4.4 Waste management plan**

No variation in the waste management plan with respect to the one included in the Permanent Report.

## **2.5 Relevant national legislation**

No new legislation was adopted during the period March 30<sup>th</sup> 2007 to April 1<sup>st</sup> 2008.

## **2.6 Other information**

### **2.6.1 Inspection reports**

No Station was inspected

### **2.6.2 Notice of activities undertaken in case of emergency**

There were no activities undertaken resulting from an emergency during the period March 30<sup>th</sup> 2007 to April 1<sup>st</sup> 2008.