

# SWEDISH ANTARCTIC RESEARCH PROGRAMME (SWEDARP)

## 2. Annual Report 2009/10 season

### 2.1 SCIENTIFIC INFORMATION

#### **2.1.1 Forward Plans**

Swedish Antarctic Research Programme (SWEDARP) is under continuous development. Detailed information about ongoing and forward plans for SWEDARP can be obtained from Swedish Polar Research Secretariat from the following address:

Swedish Polar Research Secretariat  
P.O. Box 50003  
SE-104 05 Stockholm  
Sweden

Website: <http://www.polar.se>  
E-mail: [office@polar.se](mailto:office@polar.se)

#### **2.1.2 Science Activities in Previous Year (2009/10)**

The Swedish Antarctic research programme during the summer season of 2009/10 included the cruise Oden Southern Ocean (OSO) where Swedish and US scientists worked in marine projects on the icebreaker Oden. The programme also included a logistic expedition to Wasa station, Dronning Maud Land (DML) and the Movable Atmospheric Radar of Antarctic project (MARA) also taking place on Wasa station.

The international particle physics IceCube project also continued at the South Pole with Swedish scientists and drillers.

Detailed information about the scientific programmes can be obtained from the Swedish Polar Research Secretariat at the address under point 2.1.1.

### 2.2 OPERATIONAL INFORMATION

#### **2.2.1 National Expeditions**

Within the programme SWEDARP 2009/10;

##### **Oden Southern Ocean (OSO)**

Oden Southern Ocean 2009/10 (OSO 2009/10) is a marine research expedition in the Southern Ocean during the austral summer of 2009/10. The cruise, with the Swedish icebreaker Oden as a platform, is jointly planned and carried out by the National Science Foundation Office of Polar Programs (NSF/OPP) and the Swedish Polar Research Secretariat (SPRS). The primary cruise track will go from McMurdo Sound, Antarctica across the Drake Passage towards South America. At the Marginal Ice Zone the ship will follow the ice edge through Ross Sea Polynya, Amundsen Sea and the Bellingshausen Sea to Punta Arenas, Chile.

The primary mission of the Oden is to lead the annual break-in of the McMurdo Ship Channel in the Ross Sea. In addition to the 5 weeks of transit from the McMurdo Sound Ice Edge, Ross Sea to South America NSF/OPP and SPRS will be providing dedicated

science days for transects or stations. The total number of participants will be around 28 and the total number of crew will be 22. The scientific objective of the cruise will be to collect a range of data in sectors of the Antarctic seas that are rarely visited and data-sparse.

#### **Dronning Maud Land (DML)**

DML 2009/10, which will have five logistic members, will last from 27th of October 2009 – 3rd of February 2010. The expedition will mostly be carried out in the area of Wasa research station but also a couple of days visit to Svea research station. This year's expedition has a logistic focus and concentrates on repairing, restoring and overhauling the vehicles from last year's expedition JASE 2007/08 and maintenance of the stations Wasa and Svea. The logistic members will also help out with sampling mosses, lichen and soil for a Swedish science project; Bdelloid rotifers from Antarctica.

#### **Movable Atmospheric Radar for Antarctica (MARA)**

Two persons participated in MARA during SWEDARP 2009/10. The MARA-team was hosted in the Swedish research station Wasa during the period of November 27 – January 2.

MARA was set up at Nordenskiöldbasen during SWEDARP 2006/07. The science addressed with the radar includes understanding processes related to aerosol-particles and waves in the polar middle atmosphere by testing theories based on measurements in the Arctic against observations in the distinctly different conditions over Antarctica. It also includes understanding the origin and development of tropospheric aerosol particles in the 'clean' air of the Antarctic in comparison with the polluted air of the Arctic. The radar will contribute to accurate back-trajectory calculations for aerosol particles arriving at the measuring site, which are studied by scientists from the Finnish meteorological Institute and improving understanding of the meteorological disturbances which determine weather conditions at Nordenskiöldbasen and neighbouring Antarctic stations.

Detailed information about the programmes can be obtained from the Swedish Polar Research Secretariat at the address under point 2.1.1.

#### **2.2.2 Non-Governmental Expeditions**

None.

## **2.3 PERMIT INFORMATION**

#### **2.3.1 Visits to Protected Areas**

One permit to protected areas; ASMA and ASPA were issued for the period March 30<sup>th</sup> 2009 to April 1<sup>st</sup> 2010.

#### **2.3.2 Taking and Harmful Interference with Flora and Fauna**

Nothing to report for the period March 30<sup>th</sup> 2009 to April 1<sup>st</sup> 2010.

#### **2.3.3 Introduction of Non-Native Species**

Nothing to report for the period March 30<sup>th</sup> 2009 to April 1<sup>st</sup> 2010.

## 2.4 ENVIRONMENTAL INFORMATION

### **2.4.1 Compliance with the Protocol**

Nothing to report for the period March 30<sup>th</sup> 2009 to April 1<sup>st</sup> 2010.

### **2.4.2 List of IEEs and CEEs**

Sweden has developed procedures and guidelines for Environmental Impact Assessment in accordance with Annex I of the Protocol on Environmental Protection to the Antarctic Treaty. Guidelines can be obtained from the address found in section 1.2.

Two Initial Environmental Evaluations has been prepared for Swedish Activities for the 2009/10 season, one for Oden Southern Ocean (OSO) and one for Dronning Maud Land (DML) and one Preliminary Assessment was prepared for Movable Atmospheric Radar for Antarctica (MARA).

The IEE has been submitted to the Antarctic Treaty Secretariats' EIA database.

### **2.4.3 Monitoring Activities Report**

No significant information has been obtained during the period March 30<sup>th</sup> 2009 to April 1<sup>st</sup> 2010 from the SWEDARP monitoring programme in accordance with the provisions of Annex I of the Protocol on Environmental Protection to the Antarctic Treaty.

Detailed information about the monitoring programme can be obtained from the Swedish Polar Research Secretariat at the address under point 2.1.1.

### **2.4.4 Waste Management Plans**

The overall waste management strategy of SWEDARP is that all waste, with exception of grey water and human waste generated in small field camps, is retrograded out of Antarctica for proper disposal.

SWEDARP follow the Waste Management Strategy as described in the *Nordic Environmental Handbook – Antarctic Operations*. Wastes are sorted into organics, metals, glass, combustible materials, batteries, hazardous waste and oil. A copy of the waste management handbook can be obtained from the Swedish Polar Research Secretariat at the address under point 2.1.1.

## 2.5 RELEVANT NATIONAL LEGISLATION

*Legislation adopted during the year to give effect to the Antarctic Treaty and to obligations arising from measures, decisions and resolutions of the Antarctic Treaty Consultative Meeting, giving description of measure and date of effect.*

- *Antarctic Act (SFS 2006:924)* – A revised and updated version that replaced SFS 1994:91614, came into force 1<sup>st</sup> October 2006, enacts the Environmental Protocol and all Annexes.
- *The Antarctic (Swedish Activities) Ordinance (SFS 2006:1111)* – Regulates the application of the Antarctic Act.

A law enacting the Protocol and Annexes in Sweden, the Antarctic Act (SFS 2006:924) entered into force on 1st October 2006. The Antarctic (Swedish Activities) Ordinance (SFS 2006:1111) regulating the application of the Act, entered into force at the same

time as the law. The Swedish Polar Research Secretariat has published these two pieces of legislation together with a translation into English, and a small pamphlet "Antarctica is unique" with translation in English. It contains information *inter alia* on rules for visitors, why a permit is needed to go to Antarctica and how to get a permit. It also informs about the Swedish legislation and the role of the Swedish Polar Research Secretariat.

## 2.6 OTHER INFORMATION

### ***2.6.1 Inspection Reports***

There has been no inspection during the period March 30<sup>th</sup> 2009 to April 1<sup>st</sup> 2010.

### ***2.6.2 Notice of Activities Undertaken in Case of Emergency***

Nothing to report for the period March 30<sup>th</sup> 2009 to April 1<sup>st</sup> 2010.