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ANTARCTIC TREATY

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2. ANNUAL REPORT (01 October 2007 – 30 September 2008)

2.1 Scientific Information

2.1.1 Forward Plans

Germany as one of the consultative parties since 1981 maintains its long-term commitment of scientific research in Antarctica. The Alfred Wegener Institute for Polar and Marine Research (AWI) as the national coordinator enables Germany to maintain this role from its research and long-term monitoring and survey activities. In addition to AWI, the Federal Institute for Geosciences and Natural Resources (BGR), the German Aerospace Centre (DLR) undertake long-term survey and remote sensing activities in Antarctica. The DFG Priority Program “Antarctic Research with comparative investigations in ice covered Arctic regions” supports Antarctic research projects of German universities. Scientific activities will also be coordinated with other national programs.

AWI provides the main infrastructure for polar research, maintains the permanent German presence in Antarctica, and supports international objectives through collaborative scientific and logistic links with many other national programs. AWI will keep mobile and stationary infrastructures not only in top condition but also adapt to ever changing requirements posed by new scientific experiments and field observations. As an important contribution for long-term scientific activities will be the replacement of the present Neumayer Station II by a new permanently occupied research station Neumayer Station III being commissioned in February 2009.

In parallel efforts will be continued to further develop logistic infrastructure in the frame of international collaboration. As a priority the international project Dronning Maud Land Air Network (DROMLAN) will be supported by AWI in order to maintain and further improve an intercontinental air-link from Cape Town to destinations in Dronning Maud Land, Antarctica.

2.1.2 Science Activities in the previous year (01 October 2007 – 30 September 2008)

The Alfred Wegener Institute for Polar and Marine Research (AWI) coordinated all German Antarctic activities. The following German institutions performed in the frame of their research programs Antarctic expeditions as well as operated stations or camps in Antarctica:

Alfred Wegener Institute for Polar and Marine Research (AWI)

German Aerospace Centre (DLR)

Federal Agency for Cartography and Geodesy (BKG)

Federal Institute for Geosciences and Natural Resources (BGR)

Further Antarctic activities were performed in co-operation with other national institutions and universities.

(a) Ship operations

RV POLARSTERN - Leg ANT XXIV/2

Period: 28 November 2007 – 04 February 2008

Scientific Leader: Ulrich Bathmann (AWI)

Area of activity: South Atlantic and Lazarev Sea, Atka Bay

Scientific activities report:

The cruise departed from Cape Town on 28 Nov 2007 headed south to Neumayer performed research in the Lazarev Sea, steamed back to Neumayer and had another 14 days research on its way north. In total we sailed more than 7600 nautical miles. From the 68 days (= 1632 hours) at sea, we used 456 hours to deploy instruments, the rest was steaming time, transit or logistics. The cruise ended on 4 Feb 2008 in Cape Town. Our federal Minister for Science and Technology A. Schavan visited the ship with her South African counterpart N.C. Dlamini Zuma on 5 February in the afternoon.

The scientific programme centred on the IPY core programme ICED that provided the umbrella for 3 IPY projects performed during this cruise. SCACE In combination with SYSTCO and LAKRIS contributed during the ANT XXIV/2 expedition of POLARSTERN to a better understanding of upper ocean physical and biological processes influenced by sea ice and their linkage through the water column to the deep-sea abyss and its biogeochemistry and impact on biodiversity.

Main achievements were reached despite the intense constraints set by logistic operation of POLARSTERN: The main results are:

- Determination of 700.000 km² large ice-edge bloom; its physical causes and biological effects, e.g. the draw down of pCO₂ in surface ocean waters from 380 to 300 ppmv (units).
- First biogeochemical in situ measurement repeated after 7 weeks to investigate the effect of phytoplankton bloom on benthos and demonstration that surface productivity is linked to the seafloor biogeochemistry in the high Antarctic.
- First biogeochemical sampling of deep-sea stations 12 nm apart in order to look at small-scale heterogeneity in the sediment.
- Worldwide southernmost in situ benthic flux measurement at 69°40.4'S (Polynia station), with indication of high benthic activity.
- First sampling through the complete water column in the Southern Ocean from surface and ice flora and fauna down to bathyal or abyssal depths (5 stations, partly incomplete) as precursor for later programmes.
- Completion of year round sampling to study life cycle patterns of Antarctic krill indicate strong correlation of krill abundance and success to sea ice occurrence.

In detail:

We observed an ice edge phytoplankton bloom. The bloom that POLARSTERN crossed in the eastern Weddell Sea was also clearly visible from space. As recorded by satellite-mounted ocean colour sensors it covered an area of about 700.000 km², roughly two times the size of Germany. Measurements performed in the upper water column by a Conductivity-Temperature-Depth probe revealed that the bloom developed in lenses of melt water left behind the seasonally retreating sea ice cover. Together with the chemical measurements made, the new data set will allow for a better quantification of the controversially debated role of ice edge blooms for the sequestration of atmospheric carbon dioxide.

Better understanding of the physical control of the regional distribution of marine life and of biological processes that influence the uptake of carbon from the atmosphere and its transport to the ocean interior and underlying sediments is also the aim of the IPY project SCACE, led by AWI oceanographer Volker Strass. For

this project, the Synoptic Circum-Antarctic Climate-processes and Ecosystem study, physical, biological and chemical data were collected down to 1000 m depth every 55.6 kilo-metres (30 nautical miles) along a transect that extends over more than 2600 km. The transect ran northward along the Greenwich Meridian from the Antarctic coast and crossed the major hydrographic features of the Southern Ocean, the Coastal Current, the Weddell Gyre and the Antarctic Circumpolar Current. The SCACE transect represents a major German contribution to an international endeavour to perform in the Polar Year similar meridional transects in all sectors of the Southern Ocean, aimed at a circumpolar assessment of the present status of its climate and ecosystem.

The ANDEEP-SYSTCO team lead by Prof. Angelika Brandt, University Hamburg, investigated 5 deep-sea locations in detail. At 52° the deep sea at the Southern Polar front is characterised by low diversity and abundance, in the macrofauna even after a slight plankton bloom in spring (revisit of stations after 7 weeks). The Eastern Weddell Sea and Lazarev Sea is generally poorer in species and abundance of organisms in the deep sea. Maud Rise (seamount) differs completely in taxon composition from the abyssal stations, perhaps due to the unique physical ocean characteristics including Taylor column influencing localised entrainment of larvae. Brooders, on the contrary, occur only as a minor fraction in the macrobenthic sample.

The LAKRIS project lead by Prof. Ulrich Bathmann, AWI, investigates the Life cycle patterns of Antarctic Krill in the Lazarev Sea that is part of the Southern ocean facing the Neumayer Station. Krill abundance was rather poor this spring, especially compared to the 2006 winter situation. Only in the regions north of 62°S abundant swarms of adult krill occurred and attracted many top predators, especially Mink and Humpback Whales. One blue whale was seen in the ice, where it should not occur.

The logistic operation to free the shelf ice for unloading the cargo vessel Naja Arctica that contained construction material for NEUMAYER STATION III is reported in detail in special reports. At 04 February, all cargo has been unloaded and the construction of the new base is up to full speed to secure the site before the next winter.

Scientific equipment:

On RV POLARSTERN:

ADCP, SIMRAD EK 60, CTD, various different plankton nets, multibeam bathymetry (Hydrosweep), sediment-echography (Parasound), grab sampler, dredge, CTD, water sampler, free-fall lander, multi-corer, epibenthos sledge, SPI camera, Agassiz-Trawl

See also Operational Information, topic 2.2.1

See also Permanent Information, topic 3.1.2

RV POLARSTERN - leg ANT XXIV/3

Period: 10 February 2008 - 16 April 2008

Scientific Leader: Eberhard Fahrback (AWI)

Area of activity: South Atlantic Ocean, Weddell Sea, Atka Bay, Drake Passage, Maxwell Bay

Scientific activities report:

RV POLARSTERN left on 10 February 2008 from Cape Town for the cruise ANT-XXIV/3 to Antarctica. First, we steamed to the southwest and followed up the ground track of the Jason-1 satellite. At 51°S POLARSTERN reached the Meridian of Greenwich from whereon the course was to the south. At approximately 62°S the station work on the Meridian of Greenwich was interrupted to reach the Neumayer Station on 2 March for supply. Due to a tragic helicopter accident during which two cruise participants died and three were seriously

injured to be evacuated via the DROMLAN network, the stay at Neumayer station had to be extended. After the supply operation POLARSTERN steamed back to the Meridian von Greenwich and continued the station work. The next phase of the cruise took place between Kapp Norvegia and the northern end of the Antarctic Peninsula. On the 30 March Jubany Station and the Dallmann Laboratory were reached to exchange scientific personnel and to take material on board. However due to the cancellation of the flight, the participants who had planned to leave had to stay on board. After the call to Jubany Station the final part of the cruise consisted in the recovery and redeployment of moorings in Drake Passage and a hydrographic section with sampling of traces substances. The cruise ended on 16 April 2008 in Punta Arenas.

The observations during the cruise occurred in the context of the International Polar Year 2007/2008 (IPY). It aims to coordinate forces globally to achieve a quasi-synoptic survey of the conditions in both polar areas to obtain a benchmark for future changes. In the GEOTRACES project the role of traces substances in the context of biogeochemical cycles was investigated. The CASO project (Climate of Antarctica and the Southern Ocean) took up work which had started in the WECCON project (Weddell Sea convection control). It aims to investigate processes which occur in the Atlantic Sector of the Southern Ocean and Drake Passage. The observations occurred jointly with the IPY GOOD-HOPE project which covers the northern part of the Atlantic sector of the Southern Ocean. The part of the cruise in Drake Passage is part of the French programme DRAKE.

Starting on 13 March 2008, two infrared-band cameras were operated almost continuously for 360 hours, until 28 March 2008, generating some 80 GB of video data and recording whale blows up to distances of over 1150m from the ship. In addition, as part of oceanographic deep-sea moorings, three autonomous acoustic click detectors (PODs) were recovered and two broadband acoustic recorders (AURALS) were deployed.

See also Operational Information, topic 2.2.1

Scientific equipment:

On RV POLARSTERN: CTD, water samplers incl. ultra-clean sampling, moorings, floats, drifters

See also Permanent Information, topic 3.1.2

(b) Aircraft operations

Projects: On-Site commissioning - first Antarctic mission (VIP-POLAR 5-ANT), Logistics flights (DROMLAN), glaciological survey CryoVEx ANT, geophysical survey VISA, glaciological survey DoCo

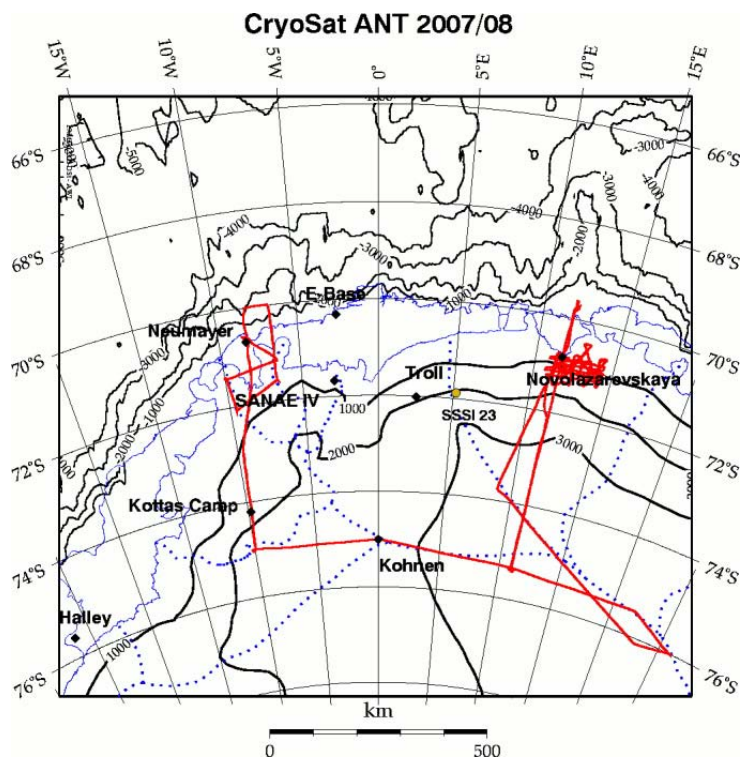
Period: 03 November 2007 – 14 February 2008

Project leader: Veit Helm (AWI, Germany) – CryoVEx ANT
Daniel Steinhage (AWI, Germany) – VISA, DoCo

Scientific reports:

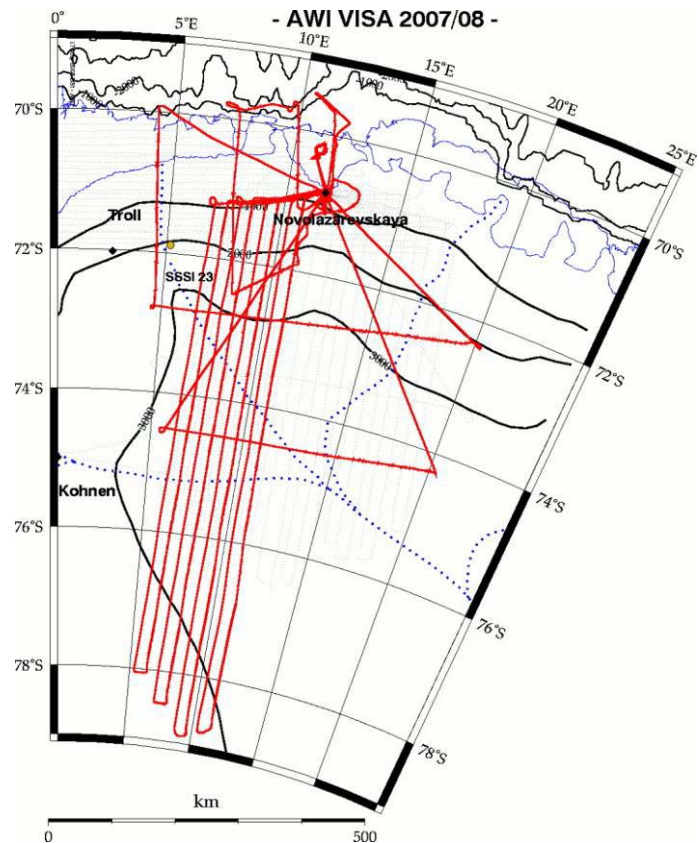
CryoVEx ANT

The survey for CryoVEx ANT (CryoSat Validation Experiment in Antarctica) was carried out in Dronning Maud Land, mainly from the camp Novolazarevskaya runway. Furthermore some survey flights have been conducted from NEUMAYER STATION II. The survey extends the preparatory activities related to the CryoSat-2 validation objectives with a programme of airborne laser/radar altimeter in Antarctica. Aim is to sample areas with different snow and firn properties, for instance the blue ice fields near Novolazarevskaya runway, shelf ice, sea ice, dry inland ice and the transition zone north of the mountain chains in Dronning Maud Land. The flight tracks are shown in the map below. In total 40 h were flown, including the repositioning flight from NEUMAYER STATION II back to Novolazarevskaya.



VISA

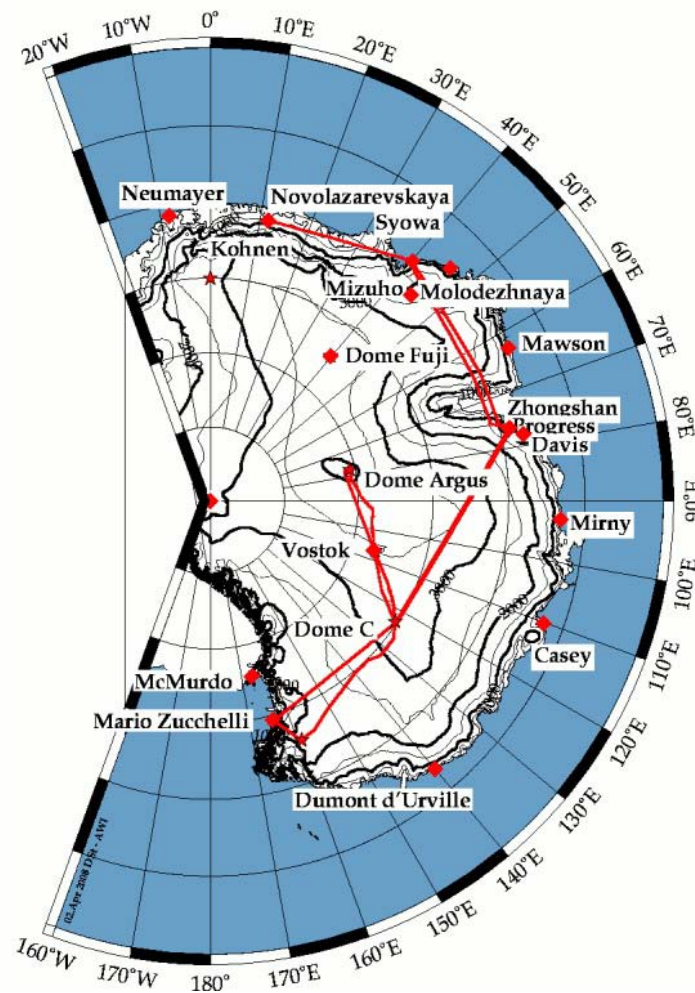
The flights for VISA (Verdichtung und Interpretation von Satellitendaten zur Bestimmung von Magnetfeld, Schwerefeld, Eismassenhaushalt und Krustenstruktur in der Antarktis unter Nutzung flugzeuggestützter und bodengebundener Messungen) cover an area south of Novolazarevskaya and fill in gaps within an earlier survey in order to achieve a homogenous line spacing of 10 km for the whole area covered by magnetic, gravity, and ice thickness survey flights, see map below. 8 flights with 51 h were carried out. The VISA data set will serve as a reference for satellite based magnetic and gravity field measurements. Furthermore will these data be used for mass balance and ice sheet modelling studies as well as for studies of the geodynamic processes and the tectonic structure underneath the ice sheet.



DoCo

The project DoCo (Dome Connections East Antarctica) covered the ice divides and domes in East Antarctica. The obtained radio-echo sounding profiles connect now for the first time deep ice core drill sites in East Antarctica and thus support the interpretation of the deep ice cores by tracing internal layers, isochrones, in the data between the drill sites. Positioning of POLAR 5 along the coast and the survey flights sum up to 57 flight hours.

AWI: DoCo East Antarctica 2007/08



See also Operational Information, topic 2.2.1

Main scientific equipment:

See Permanent Information, topic 3.1.2

(c) Stations

NEUMAYER STATION II (AWI)

Summer season: 02 November 2007 – 11 March 2008

Officers in charge:

Station leader: Karl-Heinz Waltner (AWI, physician) until February 2008.
Jürgen Nantke (AWI, physician) from February 2008,
Logistic coordinator: Thomas Matz (AWI, engineer) for season 2007/2008.

Scientific activities reports:

Meteorological Observatory

The meteorological observatory programme at Neumayer is ongoing. It includes:

- 3-hourly routine synoptic observations,
- daily upper-air soundings,
- weekly ozone soundings,
- continuous surface radiation and mast measurements,
- satellite picture reception (HRPT, DMSP).
- training of the over winterer staff.
- preparation of the over wintering period 2008/2009.

During the summer season 2007/08 all routine maintenance services has been carried out successfully. The new over winterer team took over the observatory work and are continuing the observatory programs continuously without mayor changes. During the summer season the meteorological observatory of Neumayer was used successfully as the DROMLAN weather forecast centre. The service will start again in November 2008.

Air Chemistry Observatory:

During the summer campaign 2007/08, activities at the Air Chemistry Observatory of Neumayer Station were focused on maintenance of the equipment, validation of the measured data, as well as practice of the new over-winterer.

Geophysical Observatory:

Seismology:

The main task of seismographic observations at Neumayer Station is the monitoring of the local, regional and global seismic activities. As the global seismographic monitoring network is rather wide-meshed in the southern hemisphere, especially in Antarctica, seismographic recordings at Neumayer Station (including also the broad band station SNAA at Sanæ IV) contribute substantially to seismological research in this region. Onset times of first arrivals and other seismic phases of detected earthquakes are determined regularly and reported to the National Earthquake Information Center (NEIC), USA. Especially the investigation of the local and regional seismicity is very important. Antarctica is not that aseismic as it was generally believed. Monitoring this seismicity since many years revealed the existence of distinct seismic active areas in Dronning Maud Land. These new results will contribute to a better understanding of neotectonic processes in this area. Both remote seismographic stations VNA2 on Halfvar Ryggen, where the small seismographic aperture detection array is located, and VNA3 on Søråsen Ice Rise had been serviced and prepared for another year around operation during a several days visit in September 2007. At 16 November 2007, the first data set from

the seismographic station at the Swedish summer base SVEA could be retrieved when a service flight with POLAR 5 was possible. Unfortunately this unattended operating station recorded only for 41 days, from 27 December 2006, until 5 February 2007, when it stopped for unknown reasons. Therefore, in February 2007 another, completely new upgraded data acquisition system was installed by a member of the Swedish Antarctic Expedition passing SVEA on the way back to WASA. The second autonomous seismographic recorder at KOHNEN STATION operated for the first time without any malfunction from 28 December 2006, until 1 June 2007, when both CF-cards had been written completely full. To improve data quality, it is intended to replace the intermediate period seismometers by modern broad band instruments in 2008/09.

Geomagnetism:

The long term recordings of the geomagnetic field and its time dependent variations are further continued. Absolute hourly means of the three field components and the total field intensity are reported on a monthly schedule to the World Data Center (WDC) in Copenhagen, Denmark. The results of these measurements are included into the development of the International Geomagnetic Reference Field (IGRF) which is performed by WDC. The new 3-component fluxgate system, which had been installed during summer season 2005/06 and which offers superior performance, is still in a very stable operation mode and thus will soon replace the old system.

Others:

To determine the amount of ice melting at the bottom of the Ekström Ice Shelf recordings from a thermistor chain, frozen in into the ice at the bottom of the Ekström Ice Shelf, have still been carried out since 1993. The operation of a PRARE satellite tracking ground station was stopped at the end of January 2007 because of the project's final termination. The recordings of this station had been used to improve the ephemerides of the ERS-2 satellite.

Infrasound Array I27DE (CTBT-network):

According to the Comprehensive Nuclear Test Ban Treaty (CTBT), the I27DE infrasound station is operated at the German "Neumayer" Antarctic Research base as one of 60 elements of the global infrasound network of the International Monitoring System (IMS). Infrasound stations measure micropressure fluctuations in the atmosphere. Therefore they are mainly focused on the monitoring of the compliance of the CTBT with respect to atmospheric nuclear explosions. The nearly uniform global distribution of the 60 stations ensures the ability to detect any atmospheric nuclear explosion of 1 kiloton TNT equivalent or more by at least two stations. Besides I27DE, three other infrasound stations should be operational along the coast of Antarctica.

The Federal Institute for Geosciences and Natural Resources (BGR) operates the German National Data Center (NDC) for the CTBT and is responsible for the operation of I27DE, which will be carried out in close co-operation with the Alfred Wegener Institute for Polar and Marine Research (AWI).

I27DE is an infrasound array with nine array stations. Each station is equipped with a microbarometer and a data acquisition system. Meteorological sensors are installed at the central station. A wind-noise reducing pipe array is connected to each microbarometer. The distribution of the inlet ports to the microbarometer in a wide area ensures the suppression of wind-generated disturbances. The central array control system is installed in the seismo-acoustic observatory where recorded data are retrieved and from where the stations are supplied with electrical power. The infrasound data are transmitted continuously in near real time with a maximum delay of 5 minutes to the International Data Center (IDC) in Vienna, Austria, sharing the permanent satellite link between the Neumayer base and AWI.

PALAOA hydroacoustic observatory

Since December 2005 the hydro acoustic observatory monitors the underwater soundscape at the ice shelf edge, 15 km north of NEUMAYER STATION. More than 10.000 hours of audio have been recorded so far, revealing the presence and behaviour of all the local marine mammal species, measuring the ocean noise budget which is mainly free of anthropogenic noise here and dominated by ice dynamics. The rare visits of ships, however give the opportunity to study the reaction of animals, not habituated to man made sounds yet. In addition to the acoustic measurements, a CTD records oceanographic data from the water body below the

ice shelf, a GPS constantly monitors the movement of the glacier and a camera documents the ice coverage of Atka Bay. The first three years of operation provided many unforeseen results, e.g. the unexpected presence of a Ross Seal population at Atka Bay, the extreme intensity of the sound caused by iceberg collisions and a sound of yet unknown origin which turned out to be the dominant acoustic signal in the ocean during the Antarctic winter month.

In this season the regularly scheduled maintenance work at the field site like levelling the sastrugis around the container and increasing the cable poles was done.

DROMLAN Weather forecast service

Established in season 2002/03 and now for the fifth summer season the meteorological observatory of the German Antarctic station Neumayer offered a detailed and individual weather forecast service for all activities in Dronning Maud Land. This service is performed in close cooperation between the Alfred-Wegener-Institute for Polar and Marine Research (AWI) and the German Weather Service (DWD).

Neumayer station has a central position within the Dronning Maud Land due to its good communication facilities including a permanent satellite data link (128 kb, Intelsat), and the modern infrastructure of the meteorological observatory.

The forecasts based on special model outputs from the European Centre for Medium-Range Weather Forecasts (ECMWF), the Antarctic Mesoscale Prediction System (AMPS) and the Global-Model (GME). New outputs are available twice a daily. They are used to cover a forecast period up to one week.

For short-term forecasts and flight activities the satellite picture receiving station from Neumayer (HRPT, SeaSpace) is of great importance. Up to 20 satellite passes can be obtained daily (NOAA 17, 18, DMSP 14, 15 and 16). Visual as well as infrared pictures get geocoded automatically on a variety of masters covering the synoptic scale (2500 x 5000 km) down to local scale with a spatial resolution up to 500 x 500 m at any place in the Dronning Maud Land.

Additionally, all information from the Global Telecommunication System (GTS) is available via the permanent data link at any time. Also measurements from surrounding automatic weather stations transponding via ARGOS but not included into the GTS get extracted automatically from the NOAA-satellite information.

The forecaster at Neumayer can be reached at any time from all DROMLAN members by mail, fax, telex, phone, and by short-wave communication. While the forecaster is not at Neumayer his service can be obtained via Iridium.

During the summer season 2006/2007 several thousand forecasts got performed for field parties, ships, stations and especially aircrafts. It is obvious, that this service increased the safeness of the ambiguous projects in the Dronning Maud Land. Furthermore, it helps to reduce weather induced idle times of expensive flight operations to a minimum.

KOHNEN STATION (AWI)

Operation period: 08 January 2008 – 4 February 2008

Officer in charge: Science: Rolf Weller (AWI, scientist)
Logistics: Cord Drücker (AWI, technician)

Area of activity: Dronning Maud Land, KOHNEN STATION, 75°S 0°W.

Scientific activities report:

The main objective of our air chemistry research activities is to initiate a basic year-round measuring program and to proceed intensive summer campaigns focussing on aerosol and trace gas investigations at the EPICA drilling site in Dronning Maud Land (KOHNEN STATION, 75°00'S, 0°04'E). These investigations in continental Antarctica are dedicated to complement and expand the research program already established at the coastal Neumayer Station in order to sustain the interpretation of ionic profiles to be measured in the EPICA-DML ice core. In 4th January 2003 we installed an automated aerosol sampler for remote year-round aerosol sampling

at KOHNEN STATION (report of the season 2002/2003). The focus of our activities during the recent season was again confined to maintain the installed equipment, i.e. the electric power supply of the observatory (wind turbine, solar panels and batteries), the automated aerosol sampler and the data acquisition. Due to the fact that KOHNEN STATION was not opened in the last season (2006/2007), extensive general maintenance activities were necessary. A set of new filter holders have been installed for remote year-round sampling during the year 2008. It is planned to continue the measurements for at least the next 2 years. The project is a close cooperation with the Institute for Environmental Physics, University of Heidelberg (IUP, principal investigator: Dietmar Wagenbach).

In addition we successfully installed a new, sophisticated automated weather station from the Institute of Marine and Atmospheric research Utrecht (IMAU) close to KOHNEN STATION (75° 0.024'S, 0° 04.684'E). Now, it will be no longer necessary to visit the automated weather station every year because longer maintenance cycles up to 5 years should be possible.

Dallmann Laboratory (AWI) at Base Jubany (Argentina)

Summer season: 28. October 2007 – 10. March 2008

Scientific leader: Doris Abele (AWI) October – December 2007
Max Schwanitz (AWI) January - February 2008

Scientific activities report:

Last season six different German projects took place at the Dallmann-Laboratory:

- Adaptation and stress defence in intertidal and subtidal Antarctic limpets (*Nacella concinna*): A study of the plasticity of molecular and biochemical stress response in Antarctic invertebrates (Project Weihe/Abele).
The limpet *Nacella concinna* splits up into two distinct morphotypes, often described as “intertidal and subtidal subpopulations”. The aim of this project was to study the capacity for the induction of a metabolic stress response, distinguishing between subtidal and intertidal *N. concinna* specimens and to correlate the results to observed morphological differences.
- Photosynthesis at low temperatures: D1-turnover in Antarctic Rhodophytes (Project Becker/Bischof)
The photosynthetic performance of Antarctic red algae were studied under different temperature and light conditions. The generation and scavenging of reactive oxygen species, as well as the related damage and turnover of the reaction centre protein of photosystem II (D1) was monitored. Moreover, samples were taken to correlate changes in the abundance of D1 to species-specific lipid composition and expression of psbA genes encoding for D1.
- Genetic diversity and geographical differentiation of green-algal photobionts in Antarctic lichens (Project Ottich/Printzen)
The genetic diversity and structure of Antarctic populations of trebouxoid lichen photobionts and mycobionts were studied for later comparison with populations from other continents. As a model system of the current project, the photobiont diversity in different haplotypes of the macrolichen *Cetraria aculeata* has been examined and compared to the total stand diversity.
- Biodiversity of three representative groups of Antarctic zoobenthos (Project Raes/Vanreusel)
The biodiversity of nematodes, amphipodes and echinoids in Potter Cove was studied with respect to depth distribution patterns. Moreover, the ecofunctional role of the benthic diversity and its ability to cope with environmental change was a major research area. In this respect stomach contents, morphology, stable isotopes and fatty acids were analysed and experiments using ¹³C labelled food were performed.
- Overlap and discrepancies between ecotypes, genotypes and morphotypes of Antarctic and Arctic nanofauna (Project Nitsche/Arndt)
Discrepancies and overlaps between morphotypes, genotypes and ecotypes of selected nanoflagellates were analysed to draw conclusions regarding the possible effects of temperature changes on the sensitive Antarctic ice biota. Samples of Nanoflagellates were taken, cultures established and analysed. Single cells of nanoflagellates were isolated for later sequencing of SSU

rRNA in the laboratory in Cologne. Feeding experiments were carried out *in situ*, samples were fixed for later studies using SEM.

- Tourism on Potter Peninsula (King George Island) (Project Lamers-Amelung/Stel)
In this research project the objective was to observe and record the temporal and spatial distribution of tourism activities and link these to the local distribution of flora and fauna on the Potter Peninsula and the current applicable management rules. The main research methodologies used to meet this objective were GIS mapping and interviewing.

GARS O'Higgins (DLR) - annex to General Bernardo O'Higgins (Chile)

Operation campaigns: TF070901 (03-Oct 2007 – 08-Dec 2007)
TF080103 (16-Jan 2008 – 13-Mar 2008)
Director of GARS: Dr. Erhard Diedrich

Scientific activities report:

The main activities were based on continuation of scientific and technical programs of the last 17 years (start of operation 1991).

The aim is to support scientific projects (like climate change, sea ice monitoring, glacier displacements etc.) with large-scale information gathered by remote sensing satellites from space.

All data are processed by the D-PAF (processing and archiving facility) according to ESA standards and under ESA contract. ERS2-GOME sensor data were transmitted and processed in near-realtime; the derived ozone concentration over Antarctica is available at

http://wdc.dlr.de/data_products/SERVICES/TOMS/southpole.php .

The upgrade of the satellite data receiving facility was successfully completed. Data reception of TerraSAR-X (TSX) and TT&C operation (Telemetry, Tracking and Command) was performed with high reliability. High resolution SAR images from TSX – acquired at GARS O'Higgins, processed in Germany – are available. This was an important item preparing GARS O'Higgins for the year-round utilization in the context of the TanDEM-X mission (http://www.dlr.de/tsx/start_ge.htm ; <http://www.caf.dlr.de/> ; http://www3.dlr.de/hr/desktopdefault.aspx/tabid-2317/3669_read-5488/) as well in further new scope of functions.

Additional special support of individual projects can be arranged on request of national and international users, e.g. near real time delivery of geocoded SAR images to improve ship routing in the area of the Antarctic Peninsula. Presently data acquisition of a rank of remote sensing satellites can be supported (TSX, ERS-2, LANDSAT, NOAA, TERRA- and AQUA-Modis, CHAMP, BIRD), and it can be extended easily.

Participation of GARS O'Higgins on the LEOP phase of TSX could not be realized because the difficulties for the logistics grew too high due to the delayed launch date of TSX (winter!).

Geodetic observations for the maintenance of global geodetic reference frames, for monitoring Earth rotation, crustal movements and sea level changes.

The radio telescope is also employed for geodetic applications and research. It is a network station of the global Very Long Baseline Interferometry (VLBI) network, which is coordinated by the International VLBI Service for Geodesy and Astrometry (IVS) in order to support the realization and maintenance of the global reference frames. Parameters to describe the celestial and terrestrial reference frame and the Earth rotation are derived by observing and recording signals from quasars simultaneously with other radio telescopes. Regular VLBI operations were started in January 1992. In addition two receivers are permanently established to observe satellites of the global satellite navigation systems (GNSS) as GPS and GLONASS. The receivers are respected as important stations of the International GNSS Service (IGS). The data are complementary to VLBI observations, providing precise positions with respect to the center of mass and the velocity. Additional sensors for observing sea level changes (tide-gauge sensors) and meteorology data are installed and

continuously operated. The underwater tide-gauge sensors are calibrated with a radar based tide-gauge sensor (temporarily installed during summer season), which allows a precise connection of the measured sea level to the geodetic ties.

(d) Field parties and activities in cooperation with other national operators

Station: Dumont D'Urville (France)

Period: 19 October 2007 – 22 December 2007

Project: EPONTA 2007: Land-fast ice off Adelie Land: interaction between sympagic biota, underlying water column and benthos in spring

Field scientist: Gerhard Dieckmann (AWI)

Area: Fast ice around the station

Scientific activities report:

The EPONTA program (biological oceanography) dealt with the biogeochemistry of land fast ice in the vicinity of Dumont d'Urville, particularly with regard to the sympagic community (in particular microalgae, i.e. diatoms) on the ice underside and the platelet layer. Past cruises had revealed a high productivity of this community as well as complex nutrient regime. Preliminary data on the sedimentation rate revealed a strong particle flux from the fast ice long before the ice breaks up. The 2007 program will corroborate this information and we also improved primary and secondary production measurements as well as particle flux estimates over a spatial and temporal gradient

Station: Bellingshausen (Russia)

National Operator: Russian Antarctic Expedition (RAE)

Period: December 2007 – February 2008

Project: Population ecology and migration of Antarctic Skuas
- Monitoring of Antarctic seabirds
- Distribution of *Deschampsia antarctica*

Scientific leader: Hans-Ulrich Peter (University of Jena)

Area: Fildes Peninsula and adjacent islands

Scientific activities report:

The first aim of the skua project on Fildes Peninsula was the continuation of the long-term project on the population ecology of both skua species and hybrid pairs. The distribution of skua nests was mapped, adults and chicks were banded and the breeding success of chicks was determined.

Skuas are closely related species from the Northern and Southern hemisphere which overwinter on the oceans. Since it is difficult to distinguish these, reliable data on the temporal and spatial migration patterns are absent. Since 1984, we banded more than 2000 skuas on King George Island, Antarctica, i.e. South polar skuas (*Catharacta maccormicki*), Brown skuas (*C. antarctica lonnbergi*) and hybrids (*C.a.lonnbergi* x *C.maccormicki* and *C.maccormicki* x *C.chilensis*) not only with metal rings, but also with plastic bands. Only a few banded birds were seen outside of the Antarctic. One hybrid (*C. maccormicki* x *C. chilensis*) and one

South polar skua were found in the Northern Atlantic. In the season 2006/07 in cooperation with BAS GLS-Loggers were attached on breeding birds to investigate the winter migration of both species.

In January and February 2008 these loggers were removed and the data processed. They provide a much more detailed picture of Brown skuas in the overwintering area of the South Atlantic and the migration route of South polar skuas to the Arctic.

Additionally we were using GPS-Loggers to follow the feeding flights of both species.

The study is a combined approach of tracking migrating birds by different data loggers, non-invasive methods for determination of past and present diets by stable isotope analysis and direct food samples, and standardised methods for measuring reproduction performance. This project, part of the international IPY-activity ClicOPEN, will be continued in the following summer season.

The aim of the IPY-project "Antarctic Science Summer School" (as part of "Education and Outridge") was to recruit the new and future scientists and collaborators for Antarctic science. In January 2008 a group of 15 students from different countries (biologists, geographers and geologists) was working on King George Island in the Russian Bellingshausen Station. One topic of the research projects was the data collection of the recent distribution especially of birds and plants (esp. *Deschampsia antarctica*) near the retreating glacier in comparison with data from the 1980ties and 1990ies. The projects gave us the possibility to demonstrate changes in the terrestrial fauna and flora also in dependence of global warming.

Moreover we monitored the breeding pair number of penguins and giant petrels.

Station: Artigas (Uruguay)

National Operator: Instituto Antartico Uruguayo

Period: 17 December 2007 - 18 January 2008

Project: Glaciological studies on the King George Island ice cap

Scientific leader: Matthias Braun (University of Bonn)

Area: Area: King George Island (South Shetland Islands), main ice cap
Coordinates: 58°W, 62°S

Scientific activities report:

During the 4-week field campaign in December 2007 -January 2008 a comprehensive glaciological field programme was carried out. Main objective was the re-measurement of mass balance and velocity stakes on Bellingshausen Dome and the main ice cap. Latter stakes were placed in February 2007. Very high accumulation rates were recorded for the 2007 Antarctic winter, with snow depth of up to 8 m. Previous reports from an ice core on the main ice dome of King George Island revealed about 600-700 mm net accumulation.

The field programme was complemented by ground penetrating radar measurements as well as differential GPS measurements in static and kinematic mode. Several DGPS transects from previous traverses were re-assessed and considerable elevation decrease in lower elevation was found (max. up to 5m between 2004/05 and 2007/08). The static measurements give no additional information on glacier movement over an entire year period, however, no significant deviations from summer glacier velocities were encountered.

Station: Vostok and Mirny (Russia)

Period: 3 January 2008 – 14 March 2008

Project: Geodetic investigations at the scientific traverse Vostok – Mirny

and at Russian Antarctic stations

Officer in Charge: Reinhard Dietrich (TU Dresden)

Area: Traverse between the Russian Antarctic stations Vostok and Mirny, East Antarctica.

Scientific activities report:

One main task of the participation in the 53rd Russian Antarctic Expedition consisted in the realization of geodetic field work at Vostok station (central East Antarctica), in the area of the subglacial Lake Vostok and along the continental traverse Vostok – Mirny. The field work focussed on repeated GPS observations at control markers with the aim to determine horizontal ice flow velocity vectors and height changes of the ice surface for further glaciological interpretations.

On January 3rd, 2008 one participant of TU Dresden arrived by plane at Vostok station. During the following days, geodetic GPS observations were carried out on three markers in the station area. Two of the markers were newly established. In addition, trigonometric observations were conducted in a deformation polygon around the deep drilling site 5G-1. On January 11, 2008 the participant left Vostok station together with the scientific convoy. During the scientific convoy, GPS observations were carried out on ca. 30 markers on the western and northern parts of the subglacial Lake Vostok. On February, 1st the scientific convoy joint the logistic convoy on its way back to Mirny station. Along the convoy route approximately 1400 km in length, about 10 markers were observed by GPS. On the last 100 km before Mirny, GPS and trigonometric observations were conducted along a geodetic height profile. In addition to the static measurements, continuous kinematic GPS profiles were logged on two of the convoy vehicles along the entire convoy track Vostok-Mirny. On March 14, 2008, the participant arrived at Mirny station.

Station: San Martín (Argentina)

National operator: Dirección Nacional del Antártico (DNA)

Period: 10 February 2008 – 26 February 2008

Project: Set up of a gravimeter station, observation gravimetric time series

Field leader: Mirko Scheinert (TU Dresden)

Area of Activity: Station area

Scientific activities report:

The aim of the work during the Antarctic season 2007/08 was to accomplish the scientific work in the frame of a joint project of TUD and IAA. This project is a contribution to the IPY project POLENET. The aim of the German-Argentine contribution is to carry out gravimetric time series observations for the investigation of Earth tides and the validation of ocean tide models. Since ocean tide models exhibit larger discrepancies at Antarctic seas, additional data is needed to validate and to improve the models, which are then used for further investigations in gravity field modelling and geodynamics.

During 2007, a gravimetric time series was recorded at Belgrano II. The equipment was dismantled and brought back to Buenos Aires by the personnel of Laboratory Belgrano (LaBel) by the end of December 2007. February 2008, the TUD participant joined the Argentine Antarctic Expedition (Campaña Antártica de Verano, CAV2008) in order to work at the station San Martín (west coast of the Antarctic Peninsula). The gravimetric observatory could be established during the stay at San Martín, February 12 to 14, 2008, and the recording of

the gravimetric time series could be started. During 2008, the observatory is being controlled by the personnel of Laboratory San Martín (LaSan) of IAA.

Station: Bernardo O'Higgins (Chile)

National Operator: Universidad de Concepcion, Instituto Antartico Chileno (INACH)

Period: 14 January 2008 - 14 February 2008

Project: Glaciological and microbiological studies in the surrounding of the station (API 2008)

Scientific leader: Hanno Meyer (AWI)

Area: around station area

Scientific activities report:

Glaciological field work was carried out in the frame of the Chilean-German pre-expedition to Antarctic Peninsula including three scientists from Universidad de Concepción (UDEC) and two people from AWI Potsdam. In order to gain information about climate history of the last 15 to 20 years, firn cores were retrieved in the surroundings of Chilean Base Bernardo O'Higgins (63°19'S, 57°54'W) reaching a maximum depth of 15.0 m. Firn core studies will be mainly based on stable isotopes (AWI) and microbiology (UDEC) and compared to the meteorological record and recent precipitation collection started at the base. Ground penetrating radar profiles gave information about the contact to bedrock and the glacier's internal structures. Logistics and transport was planned by the Chilean army (DAE). Due to safety reasons and bad weather conditions, one region of interest, the Plateau Laclavere, could not be reached.

Field party: Icefields south of Wohlthat Massiv

Period: 15 November 2007 – 06 January 2008

Project: Search for Meteorites on selected blue ice fields (project QueenMET)

Field leader: Georg Delisle (BGR)

Area: 72° 20.9' S ; 15° 57.9' E and 72° 12.5' S; 16° 06.3' E

Scientific activities report:

The BGR-QueenMET expedition focused on the systematic search for meteorites on selected blue ice fields south of the Wohlthat Massiv. Meteorites are valuable specimens for studies of the evolution of our solar system. In addition, the build-up of meteorite concentration sites is closely related to regional long time ice flow conditions and ice level changes. An interdisciplinary approach based on meteoritics (determination of the terrestrial ages of meteorites) and glaciology might enable us to work out additional information concerning the long term behaviour of the East Antarctic ice sheet with respect to climatic (the last warm/cold) stages.

The main emphasis of the search campaign was directed to blue ice areas between the coordination points 72° 20.9' S ; 15° 57.9' E and 72° 12.5' S; 16° 06.3' E). This area was shown to possess a meteorite concentration. 16 meteorites with a total weight of over 32 kg were collected. Conducted ice radar measurements confirmed an in general thin ice cover in the area.

In addition, suitable samples for measurement of rock exposure ages for the flanks of two nunataks were taken in the investigated area to gain additional data on past ice level changes. Field observations suggest that one nunatak (at 16°00'E, 72° 21.5'S) has not been overridden by ice during the latest phases of high ice stands. However, erratics of so far unknown age were found on the surface of the second investigated nunatak at 16°03'E, 72° 13.7'S.

The nunataks consist of meta-sediments similar to the ones exposed in the Wohlthat Massiv. Local moraines contain to some degree also crystalline rocks (in particular gneisses)

Attempts to reach additional blue ice fields in the vicinity of the Payer Group and the Skeidshovden area were abandoned due to the unavailability of suitable landing sites on blue ice.

2.2 Operational Information

2.2.1 National Expeditions

The Alfred Wegener Institute for Polar and Marine Research (AWI) coordinated all German Antarctic activities. The following German institutions performed in the frame of their research programs Antarctic expeditions as well as operated stations or camps in Antarctica:

Alfred Wegener Institute for Polar and Marine Research (AWI)

German Center for Aeronautical and Space Research (DLR)

Federal Agency for Cartography and Geodesy (BKG)

Federal Agency for Geosciences and Mineral Resources (BGR)

Further Antarctic activities were performed in co-operation with other national institutions and universities.

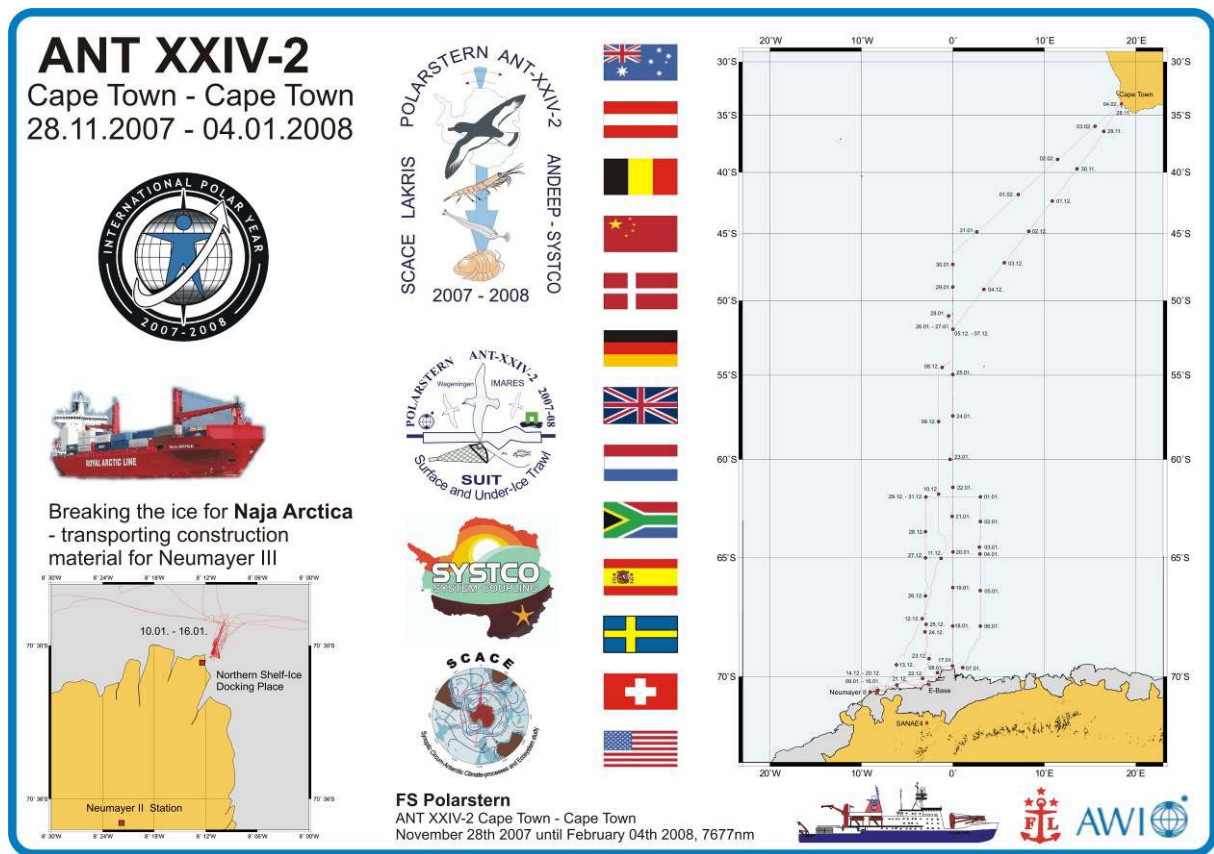
(a) Ship operations

RV POLARSTERN - Leg ANT XXIV/2

Period: 28 November 2007 – 04 February 2008
Cape Town: 28 November 2007
Cape Town: 04 February 2008

Master: Uwe Pahl (Reederei F. Laeisz)
Scientific leader: Ulrich Bathmann (AWI)
Crew: 44
Staff (scientists, technicians): 51

Area of activity: South Atlantic and Lazarev Sea Coordinates: 10°W-10°E, 45°-70°S



Cruise map of ANT XXIV/2

Participants:

Name	First Name	Institute	Profession	Nationality
Bathmann	Ulrich	AWI	Biologist chief scientist	Germany
Brandt	Angelika	ZIM, Uni HH	Biologist	Germany
Brauer	Jens	HeliTransair	Technician	Germany
Brenke	Nils	DZMB	Biologist	Germany
Brix	Saskia	DZMB	Biologist	Germany
Brown	Kelly	UiB	Chemist	USA
Büchner	Jürgen	HeliTransair	Pilot	Germany
Dorssen	Michiel van	IMARES	Biologist	The Netherlands
Ebbe	Brigitte	DZMB	Biologist	Germany
Edinger	Jens	BFA Fisch	Student	Germany
Ewe	Daniela	AWI	Student	Germany
Feij	Bram	IMARES	Ornithologist	The Netherlands
Flores	Hauke	IMARES	Biologist	Germany
Fontaine	Delia	Uni Geneva	Biologist	Switzerland
Franeker	Jan van	IMARES	Biologist	The Netherlands
Friedt	Wolfgang	HeliTransair	Pilot	Germany
Guilini	Katja	U Gent	Biologist	Belgium

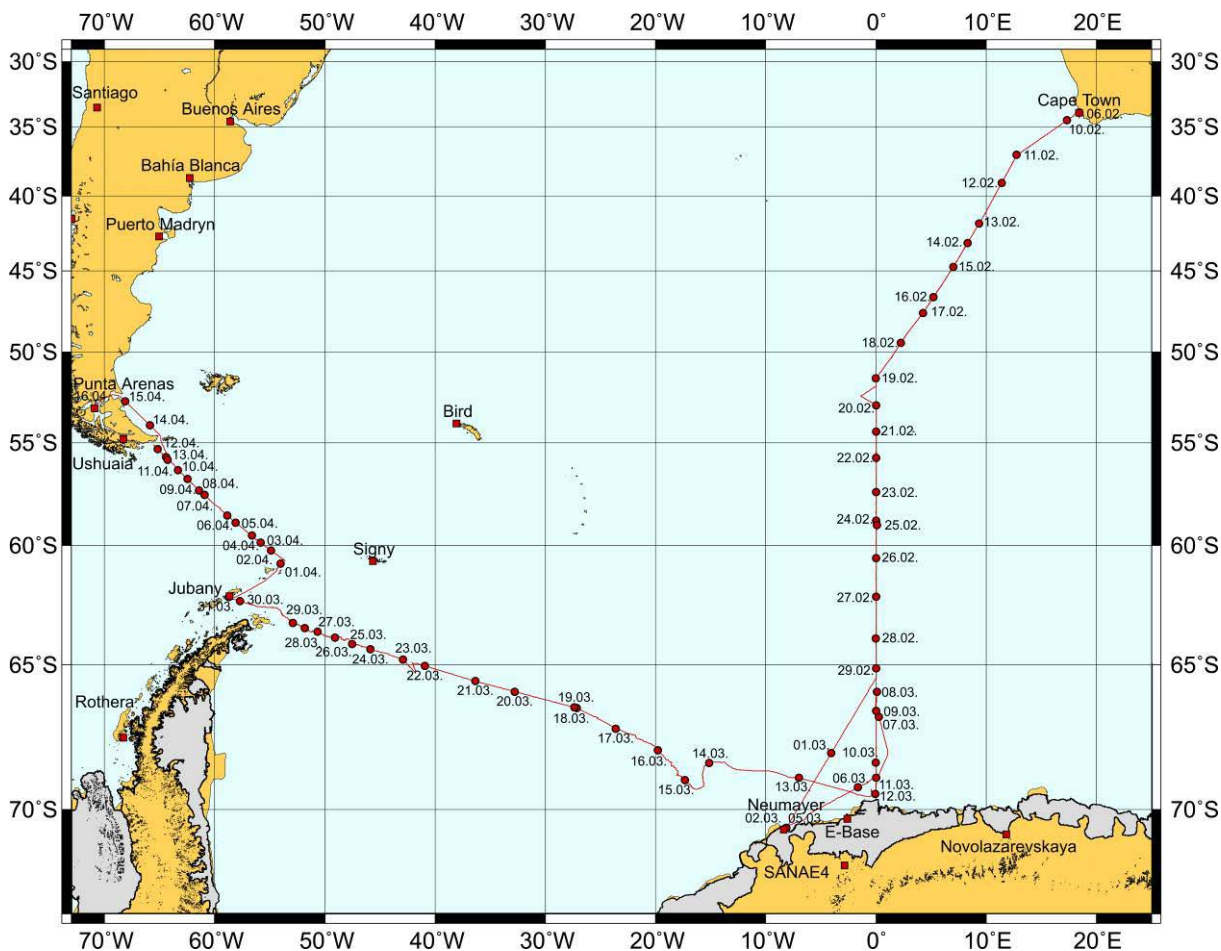
Name	First Name	Institute	Profession	Nationality
Haraldsson	Matilda	BFA Fisch	Student	Sweden
Hauck	Judith	UiB	Chemist	Germany
Heckmann	Markus	HeliTransair	Technician	Germany
Henche	Annika	DZMB	Biologist	Germany
Herrmann	Sarah	AWI	Biologist	Germany
Hofmann	Oliver	UiB	Student	Germany
Janussen	Dorte	FIS	Biologist	Denmark
Kitchener	John	AAD	Biologist	Australia
Krägefsky	Sören	AWI	Biologist	Germany
Kramer	Lydia	ZIM, Uni HH	Biologist	Germany
Kruse	Svenja	AWI	Biologist	Germany
Leach	Harry	Uni Liverpool	Physicist	UK
Maßmann	Silvia	AWI	Student	Germany
Meijboom	Andre	IMARES	Biologist	The Netherlands
Neill	Craig	UiB	Chemist	USA
Müller	Eugen	DWD	Meteorologist	Germany
Sonnabend	Hartmut	DWD	Technician	Germany
Olischläger	Mark	AWI	Student	Germany
Pey	Frank	UiB	Chemist	USA
Richter	Falk	AWI	Student	Germany
Riehl	Torben	ZIM, Uni HH	Biologist	Germany
Robert	Henri	I.R.Sc.N.B.	Scientist	Belgium
Sachs	Oliver	AWI	Geologist	Germany
Sauter	Eberhard	AWI	Geochemist	Germany
Schrödl	Michael	LMU, Uni München	Biologist	Germany
Schüller	Myriam	RUB	Biologist	Germany
Schwabe	Enrico	LMU, Uni München	Biologist	Germany
Strass	Volker	AWI	Physicist	Germany
Stürmer	Karoline	BFA Fisch	Biologist	Germany
Veith-Köhler	Gritta	DZMB	Biologist	Germany
Vortkamp	Martina	BFA Fisch	Technician	Germany
Wadley	Victoria	AAD	Biologist	Australia
Wend	Britta	AWI	Biologist	Germany
Witte	Timo	OPTIMARE	Physicist	Germany
Würzberg	Laura	ZIM, Uni HH	Biologist	Germany
Zapata Guardiola	Rebeca	DFZ	Biologist	Spain

RV POLARSTERN - leg ANT XXIV/3

Period: 10 February 2008 - 16 April 2008
 Cape Town 10 February 2008
 Atka Bay 02 March 2008
 Maxwell Bay 30 March 2008
 Punta Arenas 16 April 2008

Master: Stefan Schwarze (Reederei F. Laeisz)
Cruise leader: Eberhard Fahrbach (AWI)
 Crew: 44
 Staff (scientist and technicians): 63

Area of activity: Transects along the Greenwich Meridian, across the Weddell Sea and Drake Passage, Coordinates: 20°E-66°W, 43°-71°S



Cruise map of ANT XXIV/3

Participants:

Name	First Name	Organization	Position/profession	Nationality
Alderkamp	Anne-Carlijn	University Groningen	Biologist	The Netherlands
Baars	Oliver	IFM-GEOMAR	PhD student, chemistry	Germany
Bluhm	Katrin	IFM-GEOMAR	PhD student, biology	Germany
Beauverger ⁽³⁾	Michael	LOCEAN	Engineer	France
Boebel	Olaf	AWI	Physicist	Germany
Boening	Carmen	AWI	Physicist	Germany
Bontes	Babette	NIOZ	PhD student, biology	The Netherlands
Buldt	Klaus	DWD	Technician	Germany
Cai	Pinghe	XU	Geochemist	Chinese
Christini	Luisa	AWI	Physicist	Italy
Croot	Peter	IFM-GEOMAR	Geochemist	New. Zeal.
de Baar	Hein	NIOZ	Geochemist	The Netherlands
Evans	Claire	NIOZ	Biologist	British
Fahrbach	Eberhard	AWI	Chief scientist	Germany
Frijing	Erwin	NIOZ	Analyst	The Netherlands
Garcon ⁽³⁾	Véronique	LOCEAN	Oceanographer	France
Gebler	Madlen	IUP	Student, physics	Germany
Gerringa	Loes	NIOZ	Geochemist	The Netherlands
Kartavsteff ⁽³⁾	Annie	LOCEAN	Technician	France
Gremlowski	Lars	AWI	Student, geochemistry	Germany
Monglon ⁽³⁾	Thierry	LOCEAN	Technician	France
Le Goff ⁽³⁾	Hervé	LOCEAN	Engineer	France
Martinez ⁽³⁾	Andrea		Observer	Chile
Gronholz	Alexandra	IUP	Student, physics	Germany
Heckmann	Hans	Heli Service	Pilot	Germany
Heller	Maija	IFM-GEOMAR	PhD student, chemistry	Germany
Lee ⁽³⁾	Jae-Hak	KORDI	Oceanographer	Korea
Hwang ⁽³⁾	Sang Chul	KORDI	Oceanographer	Korea
Huhn	Oliver	IUP	Physicist	Germany
Klatt	Olaf	AWI	Physicist	Germany
Klunder ⁽²⁾	Maarten	NIOZ	PhD student, geochemistry	The Netherlands
Laan	Patrick	NIOZ	Sen. analyst, geochemistry	The Netherlands
Lacombe	Marielle	CNRS LEGOS	PhD student	France
Lohse	Charlotte	IPY programme	Teacher	Germany
Middag	Rob	NIOZ	PhD student, biology/geochemistry	The Netherlands
Möllendorf ⁽²⁾	Carsten	Heli Service	Mechanic	Germany

Name	First Name	Organization	Position/profession	Nationality
Monsees	Matthias	OPTIMARE	Technician	Germany
Neven	Ika	University Groningen	PhD student, biology/geochemistry	Germany
Nunez-Riboni	Ismael	AWI	Physicist	Mexico
Ober	Sven	NIOZ	Analist/technician	The Netherlands
Polman ⁽¹⁾	Willem	NIOZ	Technician	The Netherlands
Provost ⁽³⁾	Christine	LOCEAN	Oceanographer	France
Renault ⁽²⁾	Alice	LOCEAN	Oceanographer	France
Robert	Maya	AWI	PhD student, biology	France
Rohardt	Gerd	AWI	Oceanographer	Germany
Sander	Hendrik	OPTIMARE	Engineer	Germany
Seifert	Wolfgang	DWD	Meteorologist	Germany
Sennechael ⁽³⁾	Nathalie	LOCEAN	Oceanographer	France
Slagter	Hans	NIOZ	MSc student	The Netherlands
Spadone	Aur�lie	LOCEAN	Oceanographer	France
Stichel	Torben	IFM-GEOMAR	PhD student	Germany
Stimac	Mihael	Heli Service	Engineer	Germany
Strothmann	Olaf	AWI	Technician	Germany
Sudre	Joel	LEGOS	Engineer	France
Sweet	Elisabeth	AWI	Geologist	British
Theisen	Stefan	IPY programme	Teacher	Germany
Thuroczy	Charles-Edouard	NIOZ	PhD student, geochemistry	The Netherlands
van Heuven	Steven	NIOZ	PhD student, biology	The Netherlands
van Ooijen	Jan	NIOZ	Sen. analist, chemistry	The Netherlands
van Slooten	Cornelis	NIOZ	Student, biology	The Netherlands
Vencharutti	Celia	AWI	Geoscientist	France
V�ge	Ingrid	AWI	Chem. technician	Germany
Winter ⁽¹⁾	Stefan	Heli Service	Pilot	Germany

⁽¹⁾ died at helicopter accident on 2 March 2008

⁽²⁾ evacuated after helicopter accident on 5 March 2008

⁽³⁾ joined cruise in King George Island on 30/31 March 2008

MV Naja Arctica

Country: Denmark
Operator: Royal Arctic Line (RAL) / shipping company

Area of activity: South Atlantic Ocean, Atka Bay

Cape Town ETD: 6 December 2007

Atka Bay ETA: 18 December 2007

Atka Bay ETD: 3 February 2008

Master: Kristian Friis Hansen (Royal Arctic Line (RAL) / shipping company)

Ice Pilot: Steffen Spielke (Reederei F. Laeisz / shipping company)

Activity: Logistics: Transport of construction material for Neumayer station III, vehicles, cranes, and construction camp (chartering by AWI)

(b) Aircraft operations

AWI flight information for AWI aircraft: Basler BT-67 (POLAR 5)

Projects: On-Site commissioning - first Antarctic mission (VIP-POLAR 5-ANT), Logistics flights (DROMLAN), glaciological survey CryoVEx ANT, geophysical survey VISA, glaciological survey DoCo

Period: 03 November 2007 – 14 February 2008

Project leader: Hartwig Gernandt, (AWI, Germany) - VIP-POLAR 5-ANT
 Veit Helm (AWI, Germany) – CryoVEx ANT
 Daniel Steinhage (AWI, Germany) – VISA, DoCo

Chief pilot: Brian Burchartz, (EAI, Canada)

Crew: 2 pilots, 1 technician

Scientific staff: 3 scientists, 4 technicians

Flight schedule:

Departure from Oshawa, Canada:	03 November 2007
Arrival at Novolazarevska:	10 November 2007
Flight to Neumayer:	15 November 2007
Flight to Aboa/Svea	16 November 2007
Flight to Kohlen:	17 November 2007
Flight to Sanae:	17 November 2007
Flight back to Novolazarevskaya:	18 November 2007
Begin of CryoVEx ANT:	7 November 2007
End of CryoVEx ANT:	09 December 2007
Begin of VISA survey flights:	20 January 2008
Begin of DoCo survey flights:	16 January 2008
End of DoCo survey flights:	22 February 2008
End of VISA survey flights:	01 February 2008
Departure from Novolazarevskaya:	05 February 2008
Arrival at Oshawa, Canada:	14 February 2008

Logistic flights:

About 14 logistic flights with 21 flight hours have been carried to support DROMLAN and various ground-based fields in Dronning Maud Land. The ferry Oshawa, Canada to Novolazarevskaya comprises 49 flight hours, the return ferry 50.5 flight hours.

VIP-POLAR 5-ANT

Representatives of AWI and different companies, which have participated in the concept development, engineering design and manufacturing, joined the on-site commissioning of the new AWI research aircraft POLAR 5 in Antarctica. Also representatives of the operating company were included. During the on-site commissioning the POLAR 5 flew from Novolazarevka to Neumayer and from Neumayer to Aboa/Svea, Kohlen and Sanae and then back to Novolazarevskaya. The total flight time was 12 hours.

Participants:

Name	First Name	Organization	Position/profession	Nationality
Boebel	Tobias	OPTIMARE	Engineer	Germany
Burchartz	Brian	EAI	Chief pilot	Canada
Dennisson	Chris	EAI	Co pilot	Canada
Gehrmann	Martin	AWI	Engineer	Germany
Gernandt	Hartwig	AWI	Head of logistic department	Germany
Helm	Veit	AWI	Scientist	Germany
Hengstermann	Theo	OPTIMARE	President	Germany
Herber	Andreas	AWI	Senior scientist	Germany
Kaliazyn	Vasily	ALCI	President	South Africa
Miller	Heinrich	AWI	Deputy director	Germany
Müller - Marks	Sven	ALCI	Observer	Germany
Myers	Randy	BASLER	Engineer	USA
Petersen	Christoph	AWI	Technician	Germany
Steinhage	Daniel	AWI	Scientist	Germany
Weigt	Tom	BASLER	President	USA
Wolke	Heike	AWI	Administrative director	Germany
Woodsma	Dave	EAI	Aircraft mechanic	Canada

AWI flight information in the frame of the international project DROMLAN

Different AWI land-based scientific and logistic projects were carried out during summer season from November 2007 until March 2008. In order to realize these activities, most of the personnel were again flown into Antarctica from Cape Town on board of a Russian cargo aircraft IL-76TD via Novo Airbase and transported back the same way in the end of the campaign. In addition personnel came in and out on the mid season flight to the Norwegian Troll station beginning of January 2008.

The number of persons travelling in this way was 98 and 103 out. Also a substantial part of cargo was sent down. The cargo for the supply and resupply of the Neumayer station were transported by the RV POLARSTERN. The complete material of the new base NEUMAYER STATION III was transported by an additional vessel, Naja Arctica.

Arrival /departure with	Date	ID	Route	Arrival	Departure
Aircraft - Iljushin 76TD	02-04 Nov 2007	D1	Cape Town - Novo - Cape Town	10	0
Aircraft - Iljushin 76TD	08-10 Nov 2007	TAC-1	Cape Town - Novo - Cape Town	2	0
Aircraft - Iljushin 76TD	14-19 Nov 2007	D2	Cape Town - Novo - Cape Town	11	9
Aircraft - Iljushin 76TD	22-26 Nov 2007	TAC-2	Cape Town - Novo - Cape Town	4	1
Aircraft - Iljushin 76TD	29 Nov-03 Dec 2007	D3	Cape Town - Novo - Cape Town	7	2
Aircraft - Iljushin 76TD	19 Dec 2007	D4	Cape Town - Novo - Cape Town	43	3
Aircraft - Iljushin 76TD	05-07 Jan 2008	D5	Cape Town - Troll - Cape Town	16	4
Aircraft - Iljushin 76TD	04-06 Feb 2008	D7	Cape Town - Novo - Cape Town	5	21
Aircraft - Iljushin 76TD	12-14 Feb 2008	D8	Cape Town - Novo - Cape Town	0	12
Aircraft - Iljushin 76TD	26-28 Feb 2008	D9	Cape Town - Novo - Cape Town	0	0
Aircraft - Iljushin 76TD	05 Mar 2008	D10	Cape Town - Novo - Cape Town	0	20
Aircraft - Iljushin 76TD	11 Mar 2008	D11	Cape Town - Novo - Cape Town	0	31
DROMLAN Pax in / out:				98	103

The first flight (D1) scheduled early November carried the first group of logistics personnel for construction work of the new base and the DROMLAN weather forecaster from the German Weather Service (DWD) to Neumayer. Scientists of the QueenMET field campaign at the Wolthat massive came in by the D2 flight. With TAC-2, scientists for the air mission projects of the new POLAR 5 came in. The scheduled flight D3 end of November carried logistics, wintering team 2007 and maintenance personnel for the season. The whole construction team for building the new base NEUMAYER STATION III came in by D4 middle of December. On D5, the mid season flight beginning of January, a maintenance and science team for KOHNEN STATION, scientists of the new wintering team, and another science team for POLAR 5 air mission projects came in.

AWI flight information: South America to Teniente Marsh, Chile

Transport of personnel and cargo for Dallmann Laboratory/Jubany was done by the Dirección Nacional del Antártico (DNA), the Instituto Antártico Uruguayo, Instituto Antártico Chileno, and DAP. Flights were performed with a C-130 aircraft operated by the Argentinean Air Force between Ushuaia and the airfield Teniente Marsh (Flight schedule see Argentinean report). Furthermore, additional flights were done by the Uruguayan and Chilean Air Force between Punta Arenas (PA) and the airfield Teniente Marsh.

Flight information Christchurch (NZ) to McMurdo Station (USA)

Flights were operated by RNZ and US Airforce between Christchurch (NZ) and McMurdo Station. The flights were used by the German members of the ANDRILL Project. About 3 tons were transported in the frame of ANDRILL by the US Airforce in each direction. For time schedule for the cargo see report of USA.

Date	Nation	Route	Pax for Mc Murdo	Pax for Christchurch
03 October 2007	USA	Christchurch – McMurdo	2	0
05 October 2007	USA	Christchurch – McMurdo	2	0
08 October 2007	USA	Christchurch – McMurdo	1	0
30 October 2007	USA	Christchurch – McMurdo	2	0
08 December 2007	USA	McMurdo – Christchurch	0	1
11 December 2007	USA	McMurdo – Christchurch	0	6

(c) Stations

Neumayer station II (AWI)

Summer season: 02 November 2007 – 11 March 2008

Officers in charge:

Station leader: Karl-Heinz Waltner (AWI, physician) until February 2008.
Jürgen Nantke (AWI, physician) from February 2008,
Logistic coordinator: Thomas Matz (AWI, engineer) for season 2007/2008.

In the frame of the old station NEUMAYER STATION II and the construction site NEUMAYER STATION III, up to 100 scientists, experts, pilots and technicians stayed temporarily at the station during summer season. Additionally visitors from other national programs took short time stays at the station site. UK, Russian and South African fixed wing and rotary aircraft were scheduled to land at Neumayer station for transport of personnel and freight in the frame of scientific and logistic co-operation or refuelling.

Logistic activities report:

98 passengers in total travelled into Antarctica by means of DROMLAN flights, and 103 passengers were brought back. 84 people were taken to Neumayer station, and 89 flew back from Neumayer on a DROMLAN flight.

The first group consisting of nine persons arrived Novo airfield already on November 03, 2007, on flight D1. Due to bad weather, this group could be carried to Neumayer on a feeder flight on November 08 only. More personnel were taken to Neumayer on further DROMLAN flights. On DROMLAN flight D4, the complete construction team for NEUMAYER STATION III consisting of 39 persons and other passengers were flown into Antarctica. As there were no sufficient accommodation facilities at NEUMAYER STATION II for the complete construction team, 33 persons were flown from Novo airfield to the South African SANAE station. This station was planned to serve as an accommodation until the prospective discharging begin of the cargo ship „Naja Arctica“ mid December. This ship had loaded the construction material for NEUMAYER STATION III.

The supply of the station with freight, provisions and fuel by POLARSTERN was scheduled for mid December. At the same time the arrival of the cargo ship, Naja Arctica, loaded with construction material for NEUMAYER STATION III, was expected. For the discharging operations sledges and tank containers were needed which had first to be cleared from snow in their garage.

The discharging operations of POLARSTERN after her arrival mid December were performed on the sea ice, due to difficult sea ice conditions. The ship rammed into the sea ice at Atka Bay in a distance of about 17 km east from the shelf ice edge and the ramp of the winter vehicle garage.

On December 15 and 16 the cargo was discharged from the ship. Thereafter POLARSTERN shifted to a fuel discharging point which was determined before by means of helicopter investigation. Fuel discharge was performed about 35 km west of Neumayer at a shelf ice edge of 35 m of height from December 18 to 19.

At the same time discharging operations of the freight and provision containers were carried out at Neumayer station.

Within the scope of maintenance measures at Neumayer station, primarily works at the east ramp and the vehicle garage as well as the hoisting of the outstations and the lowering of the containers in the western tube were performed.

The 27th over wintering team was replaced by its successors, a group of nine women and men. The new team was finally briefed on site.

DROMLAN Weather forecast service

Established in season 2002/03 and now for the fifth summer season the meteorological observatory of the German Antarctic station Neumayer offered a detailed and individual weather forecast service for all activities in Dronning Maud Land. This service is performed in close cooperation between the Alfred-Wegener-Institute for Polar and Marine Research (AWI) and the German Weather Service (DWD).

Neumayer station has a central position within the Dronning Maud Land due to its good communication facilities including a permanent satellite data link (128 kb, Intelsat), and the modern infrastructure of the meteorological observatory.

Since November 2007 an additional satellite picture receiving system (VCS) was installed working parallel to the SeaSpace system. Up to 20 satellite passes can be obtained daily (NOAA 17, 18, DMSP 14, 15 and 16).

During the summer season 2007/2008 several thousand forecasts get performed for field parties, ships, stations and especially aircrafts. It is obvious, that this service increased the safeness of the ambiguous projects in the Dronning Maud Land. Furthermore, it helps to reduce weather induced idle times of expensive flight operations to a minimum.

Service works at the Infrasound Array I27DE (CTBT-network):

The I27DE array is located about 3 km southwest of the Neumayer station II (Fig.1, see below). It consists of nine stations arranged on a spiral at regularly increasing radii from the center point. The aperture of this array is about 2 km. The central array control system is installed in the seismo-acoustic observatory about 800 m south of the Neumayer base. The stations of the I27DE array are 1.8 to 4 km from the central control system.

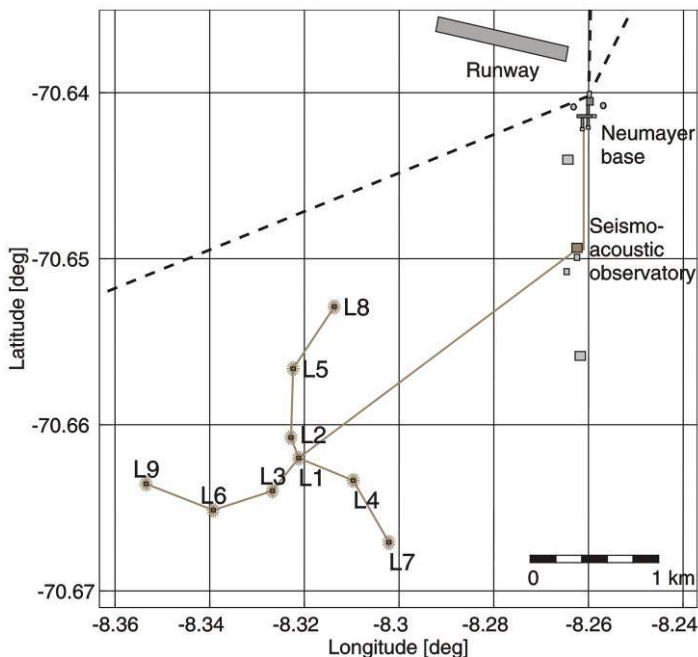


Fig 1: Location of the I27DE infrasound array

I27DE has to be operated continuously with at least 98 % data availability over a year's time, which is a basic claim for any IMS station. Routine maintenance of the entire array is therefore a basic requirement to ensure the high reliability. All wind-noise reducing pipes and instrument boxes at all array stations had been dug out and serviced for another year around operation in December 2007.

Participants:

Name	First Name	Organization	Profession	Nationality
Boehler	Rene	AWI / Reederei F. Laeisz	engineer	Germany
Brandel	Stefan	AWI / Reederei F. Laeisz	cook	Germany
Brauner	Ralf	DWD	scientist	Germany
Denecke	Mirko	AWI / Reederei F. Laeisz	engineer	Germany
Druecker	Cord	AWI logistics	technician	Germany
Eron	Andreas	maintenance company	technician	Germany
Falkenberg	Falk	maintenance company	technician	Germany
Fallei	Holger	POLARSTERN Officer		Germany
Fröhlich	Mike	AWI / Reederei F. Laeisz	cook	Germany
Görler	Max	AWI / Reederei F. Laeisz	engineer	Germany
Graser	Nora	AWI	scientist	Germany
Grasse	Torsten	BGR Hannover	engineer	Germany
Heinzius	Benjamin	AWI / Reederei F. Laeisz	engineer	Germany
Hofmann	Joerg	FIELAX	scientist	Germany
Köhler	Jens	Reederei F. Laeisz	technician	Germany
König-Langlo	Gert	AWI	scientist	Germany
Laederach	Christine	AWI	scientist	Switzerland
Langer	Seweryn	AWI	scientist	Germany
Lennuck	Michael	AWI / Reederei F. Laeisz	engineer	Germany
Matz	Thomas	AWI-logistics	engineer	Germany
Möller	Hans-Joachim	DWD	scientist	Germany
Müller	Christian	FIELAX	scientist	Germany
Nantke	Jürgen	AWI	physician	Germany
Nehring	Franziska	AWI	scientist	Germany
Oerter	Hans	AWI	scientist	Germany
Pyrskalla	Boleslav	maintenance company	technician	Germany
Rudolph	Claudia	AWI	scientist	Germany
Schubert	Holger	Reederei F. Laeisz	technician	Germany
Smolla	Karin	AWI	scientist	Germany
Stoof	Günter	AWI logistics	technician	Germany
Sulzbach	Frank	maintenance company	technician	Germany
Thumm	Martin	Kaessbohrer (Pistenbully)	technician	Germany
Waltner	Karlheinz	AWI	physician	Germany
Weise	Jörg	AWI / Reederei F. Laeisz	engineer	Germany
Weller	Rolf	AWI	scientist	Germany
Weynand	Markus	AWI-logistics	technician	Germany
Wittig	Julia	AWI	scientist	Germany
Zitterbart	Daniel	AWI	scientist	Germany

Neumayer station III (AWI/ARGE)

Construction coordinator: Jürgen Janneck (AWI, engineer)

Construction activities report:

Unloading 3494 tons resp. 16680 m³ (incl. 258 TEU containers) of cargo was begun on 16 January 2008 and continued around the clock. The heaviest pieces to be discharged were the basic machine parts of two contractor's cranes, weighing 39 tons apiece.

At the site about six kilometres south of Neumayer Station II the trench for the garage part of the building had been cut to fit the planned arrival of the ship, involving the removal and distribution of about 14,000 m³ of snow. Due to the delay this work had to be done two times over again as drift snow filled the trench quickly with every storm.

The two big crawler cranes (195 kW/22 m*13 tons, with 41 m boom), too heavy and large to be transported and loaded in one piece, were self assembled right next to the ship on the ice shelf, and crawled thereafter to the site with the pulling assistance of a station vehicle.

Apart from self driving plant all transports to the 21 km distant site were on heavy cargo sledges, pulled by the AWI's tracked vehicles (Pistenbullies) over the ice.

Once the site camp, housing altogether 47 contractors and AWI supervising personnel, had been set up, the construction works were carried out in the planned manner. Since it was impossible to catch up some 32 days in the 55 days left of the season, a new break-up point between works of the two seasons had to be found. Instead of finishing all steel erection works, the installation of the hydraulic pumping and steering system, and the cladding of the platform, now the sealing of the garage roof and the installation of the ramp cover were defined as new targets.



Garage structure with deck U1, bipod cylinders and foundation pads (Feb 2008)

Furthermore, in a distance of about 1.5 km from the NEUMAYER STATION III construction site a platform for the new trace element observatory was grounded and built up.

Also it was essential that all parts and materials not yet safely installed were stored on the snow in a way which will allow not only to get to them easily in the following season but also to find them at all under the drift snow. Parts sensible to cold were brought to NEUMAYER STATION II for storage. All those works were performed and completed in the foreseen timeframe.

On March 11, 2008, the complete works of the construction and mounting team planned for this season could be finished successfully and in due time.

Participants:

Name	First Name	Organization	Profession	Nationality
Behrends	Detlev	ARGE NEUMAYER STATION III J.H.K. / KAEFER	technician	Germany
Benken	Klaus	KAEFER (ARGE)	director	Germany
Berger	Rolf	ARGE NEUMAYER STATION III J.H.K. / KAEFER	technician	Germany
Berschik	Christian	ARGE NEUMAYER STATION III J.H.K. / KAEFER	technician	Germany
Blattner	Mark	Kaessbohrer (Pistenbully)	technician	Germany
Brehme	Andreas	Reederei F. Laeisz	engineer	Germany
Eckhardt	Georg	ARGE NEUMAYER STATION III J.H.K. / KAEFER	technician	Germany
Eder	Pitt	ARGE NEUMAYER STATION III J.H.K. / KAEFER	technician	Germany
Germerott	André	ARGE NEUMAYER STATION III J.H.K. / KAEFER	technician	Germany
Gerstmann	Michael	ARGE NEUMAYER STATION III J.H.K. / KAEFER	technician	Germany
Gröger	Herbert	ARGE NEUMAYER STATION III J.H.K. / KAEFER	technician	Germany
Hansmann	Thomas	realnature.tv	journalist	Germany
Hartling	Thomas	ARGE NEUMAYER STATION III J.H.K. / KAEFER	technician	Germany
Heenrink	Henk	ARGE NEUMAYER STATION III J.H.K. / KAEFER	technician	Netherlands
Ihwe	René	ARGE NEUMAYER STATION III J.H.K. / KAEFER	technician	Germany
Jahn	Thorsten	ARGE NEUMAYER STATION III J.H.K. / KAEFER	technician	Germany
Janneck	Jürgen	AWI-logistics	engineer	Germany
Karpawitz	Jörg	ARGE NEUMAYER STATION III J.H.K. / KAEFER	technician	Germany
Kers	Raymond	ARGE NEUMAYER STATION III J.H.K. / KAEFER	technician	Netherlands
Klimmeck	Jens	realnature.tv	journalist	Germany
Klostermann	Jörg	ARGE NEUMAYER STATION III J.H.K. / KAEFER	technician	Germany
Koepp	Holger	ARGE NEUMAYER STATION III J.H.K. / KAEFER	technician	Germany
Kohlberg	Eberhard	Reederei F. Laeisz	physician	Germany

Name	First Name	Organization	Profession	Nationality
Kramer	Ingo	J.H.K. (ARGE)	director	Germany
Kröger	Thomas	ARGE NEUMAYER STATION III J.H.K. / KAEFER	technician	Germany
Lawrenz	Peter	ARGE NEUMAYER STATION III J.H.K. / KAEFER	technician	Germany
Lietmann	Heinrich	ARGE NEUMAYER STATION III J.H.K. / KAEFER	technician	Germany
Lindner	Hartmut	ARGE NEUMAYER STATION III J.H.K. / KAEFER	technician	Germany
Lux	Reinhard	ARGE NEUMAYER STATION III J.H.K. / KAEFER	technician	Germany
Marx	Andreas	ARGE NEUMAYER STATION III J.H.K. / KAEFER	technician	Germany
Müller	Malte	ARGE NEUMAYER STATION III J.H.K. / KAEFER	technician	Germany
Münch	Lothar	ARGE NEUMAYER STATION III J.H.K. / KAEFER	technician	Germany
Neuber	Jürgen	ARGE NEUMAYER STATION III J.H.K. / KAEFER	technician	Germany
Paulsen	Uwe	ARGE NEUMAYER STATION III J.H.K. / KAEFER	technician	Germany
Pelludat	Ingo	ARGE NEUMAYER STATION III J.H.K. / KAEFER	technician	Germany
Riess	Felix	Reederei F. Laeisz	engineer	Germany
Schmidt	Arne	ARGE NEUMAYER STATION III J.H.K. / KAEFER	technician	Germany
Schmidt	Roland	ARGE NEUMAYER STATION III J.H.K. / KAEFER	technician	Germany
Schreuder	Manfred	ARGE NEUMAYER STATION III J.H.K. / KAEFER	technician	Germany
Schwegmann	Kai	ARGE NEUMAYER STATION III J.H.K. / KAEFER	technician	Germany
Schwiers	Torben	ARGE NEUMAYER STATION III J.H.K. / KAEFER	technician	Germany
Spielke	Steffen	POLARSTERN Officer		Germany
Staggat	Dieter	ARGE NEUMAYER STATION III J.H.K. / KAEFER	technician	Germany
Stanieda	Peter	ARGE NEUMAYER STATION III J.H.K. / KAEFER	technician	Germany
Suhr	Axel	ARGE NEUMAYER STATION	technician	Germany

Name	First Name	Organization	Profession	Nationality
		III J.H.K. / KAEFER		
Trapp	Michael	realnature.tv	journalist	Germany
Trimborn	Klaus	ARGE NEUMAYER STATION III J.H.K. / KAEFER	technician	Germany
v. Borstel	Jörg	ARGE NEUMAYER STATION III J.H.K. / KAEFER	technician	Germany
v. Hassel	Ralf	ARGE NEUMAYER STATION III J.H.K. / KAEFER	technician	Germany
Wartmann	Maik	ARGE NEUMAYER STATION III J.H.K. / KAEFER	technician	Germany
Wehrmann	Lars	realnature.tv	journalist	Germany
Behrends	Detlev	ARGE NEUMAYER STATION III J.H.K. / KAEFER	technician	Germany
Benken	Klaus	KAEFER (ARGE)	director	Germany
Berger	Rolf	ARGE NEUMAYER STATION III J.H.K. / KAEFER	technician	Germany
Berschik	Christian	ARGE NEUMAYER STATION III J.H.K. / KAEFER	technician	Germany
Blattner	Mark	Kaessbohrer (Pistenbully)	technician	Germany
Brehme	Andreas	Reederei F. Laeisz	engineer	Germany
Eckhardt	Georg	ARGE NEUMAYER STATION III J.H.K. / KAEFER	technician	Germany
Eder	Pitt	ARGE NEUMAYER STATION III J.H.K. / KAEFER	technician	Germany
Germerott	André	ARGE NEUMAYER STATION III J.H.K. / KAEFER	technician	Germany

KOHNEN STATION (AWI)

Operation period: 08 January 2008 – 4 February 2008

Officer in charge: Cord Drücker (AWI, technician)

KOHNEN STATION was operational for 27 days. 2 scientists and 5 logistics were involved. Basler aircrafts (Lidia; C-GEAI and Mia; C-GEAJ) visited Kohnen four times to supply the base and for evacuation of the crew.

Work performed:

- The platform of the base was raised by 0.75 m, cables and pipes were extended etc.
- The new automatic weather station was assembled and launched in cooperation with the University of Utrecht.
- The old weather station and the 3 snow height sensors were taken down.
- Freight transfer of the ice cores of the Swedish traverse and our own ice cores (990kg/5,8cbm).
- The runway markers were renewed to offset the rise of the snow.
- All mobile containers and accommodations were dug out and parked on the current snow surface.
- All marker flags of the trench were renewed.

Furthermore, 5000 liters (25 barrels) of Jet A-1 were left at KOHNEN STATION by the Swedish-Japanese IPY-traverse for next year's northwards going Norwegian South Pole traverse.

Dallmann Laboratory (AWI) - at Jubany station (Argentina)

Summer season: 28. October 2007 – 10. March 2008

Officers in Charge:

Scientific leader: Doris Abele (AWI) October – December 2007
Max Schwanitz (AWI) January - February 2008

Logistic activities report:

15 scientists with 1000 kg of cargo were transported by plane southbound from Buenos Aires and Punta Arenas to the Dallmann Laboratory/Jubany station. 13 scientists and technicians were transported by plane northbound from Dallmann Laboratory/Jubany Station to Punta Arenas.

2 scientists have been transported by MV Vistamar from Jubany station to Punta Arenas. Cargo to Jubany had been transported by Argentinean MV Beagle. For more details see Argentinean report. Cargo from Jubany station had been picked up by RV POLARSTERN on 30 March 2008.

Participants:

Name	First Name	Organization	Position/profession	Nationality
Abele	Doris	AWI	Scientist, Scientific leader	Germany
Weihe	Ellen	AWI	Scientist	Germany
Raes	Maarten	Ghent University	Scientist	Beldium
Jordan	Patrick	Senckenberg R. I.	Scientist	Germany
Ottich	Indra	Senckenberg R. I.	Scientist	Germany
Becker	Susanne	Kiel University /AWI	Scientist	Germany
Schwanitz	Max	AWI	Chief diver, Scientific leader	Germany
Flohr	Anita	AWI	Diver	Germany
Daniel	Claudia	AWI	Diver	Germany
Lamers	Machiel	Maastricht University	Scientist	The Netherlands
Amelung	Bas	Maastricht University	Scientist	The Netherlands
Nitsche	Frank	Cologne University	Scientist	Germany
Weber	Marc	Delft University	Student	The Netherlands
Kroon	Marie Louise	Delft University	Student	The Netherlands
Mengedoht	Dirk	AWI	Logistics coordinator	Germany

GARS O'Higgins (DLR) - annex to General Bernardo O'Higgins (Chile)

Director of GARS: Klaus-Dieter Reiniger (DLR / DFD-BI)

Erhard Diedrich (DLR / DFD-BI)

Head of campaign(s): Alfons Zimmer (DLR / DFD-BI)

Michael Specht (DLR / DFD-BI)

Logistic activities report:

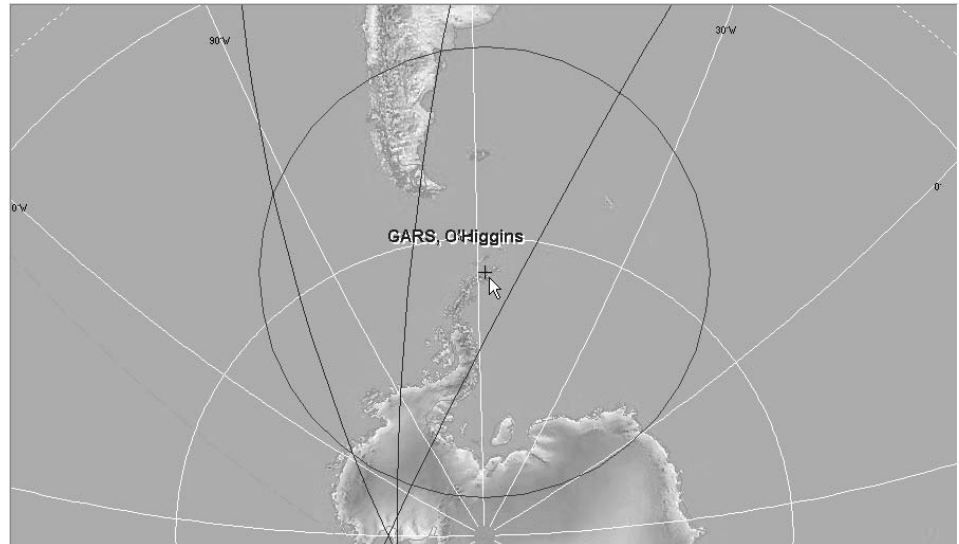
The German Antarctic Receiving Station (GARS O'Higgins is logistically operated as annex to the Chilean station General Bernardo O'Higgins. Additional support (transportation of personnel and material; power supply and inspection of the station during the time between the campaigns) is performed by the Chilean partners.

Normally equipment of Chilean Air Force and Navy is used for transportation of personnel and material, as usual within two steps,

- a) between Punta Arenas (Chile) and Base Frei (King George Island) by FACH C-130 Hercules// FAB C-130 Hercules// FAU C-130 Hercules // DAP King Air or Dash-7
- b) between Base Frei and O'Higgins by FACH DHC-6 or by vessels (O.VIEL, LEUCOTON).

Area of Activity:

Due to the characteristic of “remote sensing“, the requirement for the location was the result of the requests of the scientific community and the logistic constraints. A main objective of VLBI is the determination of the movements of the continental plates. Thus it is necessary to be located on the continental plate itself, not at a less stable area near the border (like King George Island). As well the cooperation with Chile/INACH recommended O’Higgins as the preferable location.



Participants:

Name	First Name	Organization	Position/profession	Nationality	Stay
Artemenko	Ruslan	DLR / DFD-BI	Engineer	Uzbekistan	TF070901 TF080103
Broy	Gerd-Michael	ESAT	Engineer	Germany	TF080103
Chinchilla	Oscar	ESAT	Mechanist	Guatemala	TF070901
Colombo Ojeda	Pablo	TELMEX	Engineer	Chile	TF070901
Da Silveira	Renato Cristiano	ESAT	Technician	Brazil	TF080103
Guerrero Collante	Enrique Socialin	TELMEX	Engineer	Chile	TF070901
Haslauer	Christian	EI Griagl (contract)	Engineer	Germany	TF080103
Kilger	Richard	BKG-Wetzell	Engineer	Germany	TF080103
Mueller	Winfried Eberhard	ESAT	Engineer	Germany	TF080103
Plötz	Christian	BKG-Wetzell	Engineer	Germany	TF070901
Sotomayor	Fredy	ESAT	Mechanist	Chile	TF070901
Specht	Michael	DLR / DFD-BI	Technician	Germany	TF070901 TF080103
Wende	Wilfried	ESAT	Engineer	Germany	TF070901 TF080103
Wojdziak	Reiner	BKG – Leipzig	Computer Scientist	Germany	TF070901
Ziegltrum	Werner	DLR / DFD-BI	Engineer	Germany	TF070901
Zimmer	Alfons	DLR / DFD-BI	Physicist	Germany	TF070901 TF080103

(d) Field parties and activities in co-operation with other national operators

Station: Dumont D'Urville (France)

Period: 19 October 2007 – 22 December 2007

Project: EPONTA 2007: Land-fast ice off Adelie Land: interaction between sympagic biota, underlying water column and benthos in spring

Guest scientist: Gerhard Dieckmann (AWI)

Area: Fast ice around the station: 66.40 South / 140.01 East

Participant:

Name	First Name	Organization	Position/profession	Nationality
Dieckmann	Gerhard	AWI	Scientist	Germany

Station: Bellingshausen (Russia)

National Operator: Russian Antarctic Expedition (RAE)

Period: December 2007 – February 2008

Project: Population ecology and migration of Antarctic Skuas
- Monitoring of Antarctic seabirds
- Distribution of *Deschampsia antarctica*

Scientific leader: Hans-Ulrich Peter (University of Jena)

Area: Fildes Peninsula and adjacent islands

Participants:

Name	First Name	Organization	Position/profession	Nationality
Peter	Hans-Ulrich	Jena University	Biologist	Germany
Kopp	Matthias	Jena University	Biologist	Germany
Kotzerka	Jana	Kiel University	Biologist	Germany
Erasmy	Maude	Jena University	Student	Luxemburg
Huck	Anica	Jena University	Student	Germany
Thomas	Eric	Jena University	Student	Germany

Müller	Udo	Leipzig University	Student	Germany
Stich	Elias	Tübingen University	Student	Germany
Schmidt	Jennifer	Jena University	Student	Germany
Höhne	Elena	Jena University	Student	Germany
Janowski	Susann	Würzburg University	Student	Germany
Braunschweig	Anne	Jena University	Student	Germany
Mühlichen	Henrike	Jena University	Student	Germany
Uryupova	Katya	Moscow University	Student	Russia
Sagatelova	Liya	Moscow University	Student	Russia
Dolgova	Evgeniya	Moscow University	Student	Russia
Ferman	Laura	La Plata University	Student	Argentina

Station: Artigas (Uruguay)

National Operator: Instituto Antartico Uruguayo

Period: 17 December 2007 - 18 January 2008

Project: Glaciological studies on the King George Island ice cap

Scientific leader: Matthias Braun (University of Bonn)

Area: Area: King George Island (South Shetland Islands), main ice cap
Coordinates: 58°W, 62°S

Participants:

Name	First Name	Organization	Position/profession	Nationality
Braun	Matthias	Bonn University (ZFL)	Hydrologist	Germany
Sukro	Sonja	Bonn University (ZFL)	Geophysicist	Germany
Rückamp	Martin	Münster University	Geophysicist	Germany

Station: McMurdo (USA)

National operator: National Science Foundation (NSF)

Period: 03 October 2007–11 December 2007

Project: **ANDRILL / Southern McMurdo Sound Project (SMS)**

Scientific leader: Gerhard Kuhn (AWI)

Area of Activity: Ross Ice Shelf

Participants:

Name	First Name	Organization	Position/profession	Nationality
Grelle	Thomas	GGA Hannover	technical assistant	Germany
Hoffmann	Stefan	Göttingen University	scientist	Germany
Kuhn	Gerhard	AWI	scientist	Germany
Lehmann	Rainer	Hannover	scientist, educator	Germany
Magens	Diana	AWI	scientist	Germany
Reichelt	Lucia	Göttingen University	technical assistant	Germany
Wonik	Thomas	GGA Hannover	scientist	Germany

Station: Amundsen-Scott (USA)

National operator: National Science Foundation (NSF)

Period: 05 November 2007 – 10 February 2008

Officer in charge: Amundsen-Scott Station: See US report
German part: Christian Spiering (DESY Zeuthen)

Area of Activity: Station area, geographical South Pole, 90° S

Guest scientists:

Name	First Name	Organization	Position/profession	Nationality
Klepser	Stefan	DESY	PhD student	Germany
Tosi	Delia	DESY	PhD student	Italy
Laihem	Laihem	RWTH Aachen	PhD student	Germany
Schulz	Olaf	MPIK Heidelberg	PhD student	Germany
Tepe	Andreas	Wuppertal University	Postdoc	Germany
Semburg	Benjamin	Wuppertal University	PhD student	Germany
Lünemann	Jan	Mainz University	PhD student	Germany
Griesel	Timo	Mainz University	PhD student	Germany

Station: Vostok and Mirny (Russia)

Period: 3 January 2008 – 14 March 2008

Project: Geodetic investigations at the scientific traverse Vostok – Mirny,
and at Russian Antarctic stations

Officer in Charge: Reinhard Dietrich (TU Dresden)

Area: Traverse between the Russian Antarctic stations Vostok and Mirny, East Antarctica.
Russian Antarctic station Leningradskaya, East Antarctica.
Russian Antarctic station Russkaya, West Antarctica.

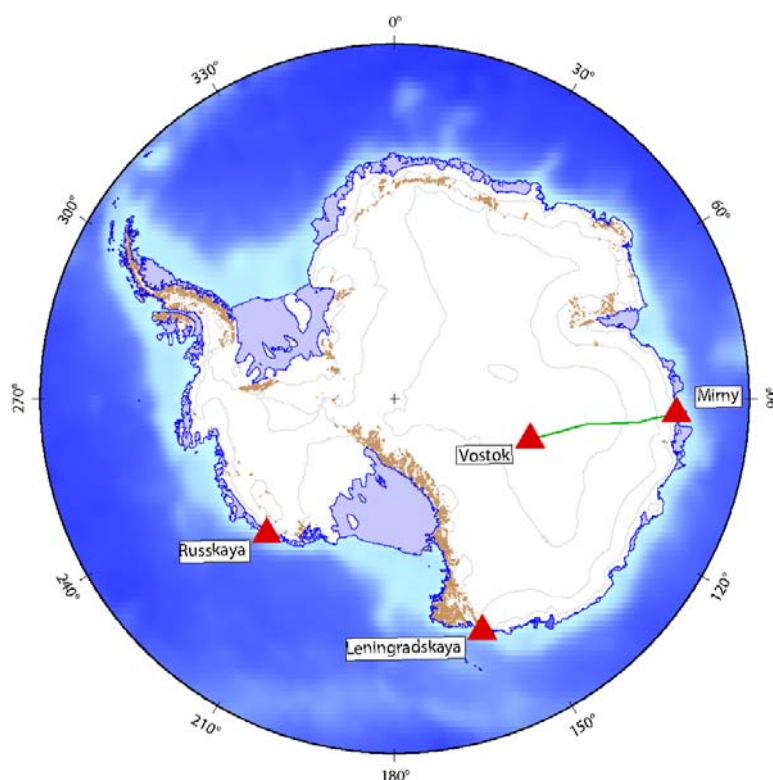


Fig. 1: Overview of area of investigation.
The green line denotes the route of the scientific traverses Vostok – Mirny.

Participants:

Name	First Name	Organization	Position/profession	Nationality
Richter	Andreas	TUD	Scientist	Germany
Eberlein	Lutz	TUD	Scientist	Germany
Ewert	Heiko	TUD	Scientist	Germany

Station: San Martín (Argentina)

National operator: Dirección Nacional del Antártico (DNA)

Period: 10 February 2008 – 26 February 2008

Project: Set up of a gravimeter station, observation gravimetric time series

Field leader: Mirko Scheinert (TU Dresden)

Area of activity: Station area

Participant:

Name	First Name	Organization	Position/profession	Nationality
Scheinert	Mirko	TU Dresden	Scientist	Germany

Station: Bernardo O'Higgins (Chile)

National Operator: Universidad de Concepcion, Instituto Antartico Chileno (INACH)

Period: 14 January 2008 - 14 February 2008

Project: Glaciological and microbiological studies in the surrounding of the station
(API 2008)

Scientific leader: Hanno Meyer (AWI)

Area: around station area

Participants:

Name	First Name	Organization	Position/profession	Nationality
Meyer	Hanno	AWI	Geologist	Germany
Fernandoy	Francisco	AWI	Geologist	Chile
Gonzalez	Carlos	UDEC	Biologist	Chile
Martinez	Miguel	UDEC	Biologist	Chile
Mendoza	Rafael Gonzalo	UDEC	Biologist	Chile

Field party: Icefields south of Wohlthat Massiv

Period: 15 November 2007 – 06 January 2008

Project: Search for Meteorites on selected blue ice fields in DML (project QueenMET)

Field leader: Georg Delisle (BGR)

Area of activity: 72° 20.9' S; 15° 57.9' E and 72° 12.5' S; 16° 06.3' E

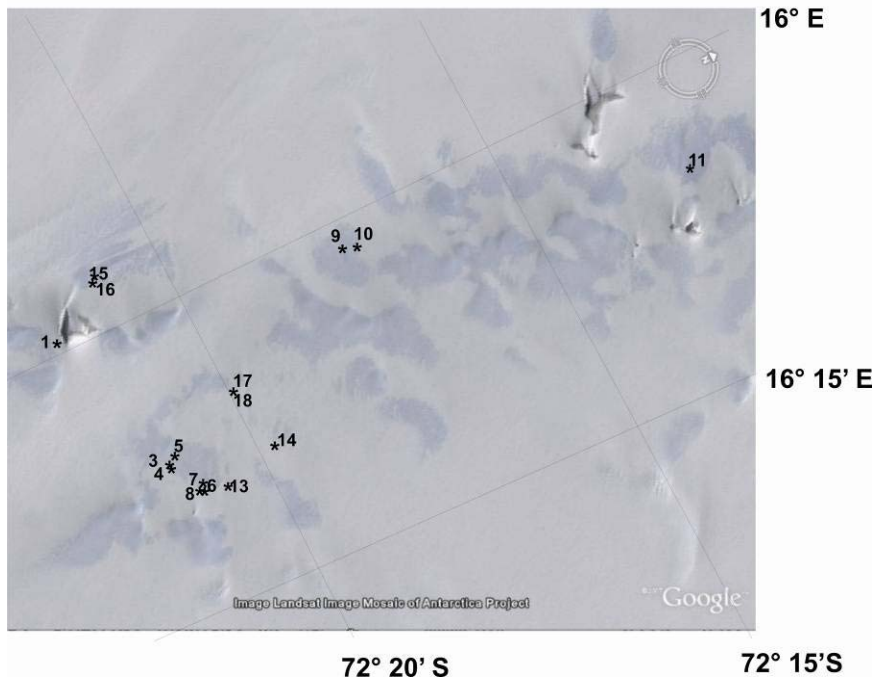


Figure: Search field of the QueenMET expedition

Participant:

Name	First Name	Organization	Position/profession	Nationality
Delisle	Georg	BGR	Geophysicist	Germany
Barckhausen	Udo	BGR	Geophysicist	Germany
Gessler	Jonas	Mountain guide	Physicist	Switzerland
Schlüter	Jochen	Univ. Hamburg	Mineralogist	Germany

Field camp Talos Dome, East Antarctica

National operator: Mario Zucchelli Station (Italy)

Period: 20 November 2007 – 20 January 2008

Project: Talos Dome Ice Core Project (TALDICE)

Area of Activity: camp at 72°48.05' S; 159°05.46 E

German participant:

Name	First Name	Organization	Position/profession	Nationality
Valero	Fernando	Technician	AWI	Germany

2.2.2 Non-governmental expeditions

A. Ship-based Operations

# 1 Ship-based Operation			
Name of operator		Henk Boersma, P.O. Box 61, 9410 Ushuaia, Argentina	
Name of vessel		S/Y SARAH W. VORWERK	
Country of registry of vessel		Germany	
Number of voyages		2	
# of crew/pax		2/7	
Port of departure to Antarctica		Ushuaia (Argentina)	
Port of arrival from Antarctica		Ushuaia (Argentina)	
Date of departure / arrival		21.12.07 / 10.01.08, 25.01.08 / 11.02.08	
Areas of operation		A1 & A2 (Area west of the peninsula between 60° - 66°33' S and 50° - 70° W)	
Proposed landing sites and the planned dates at which these landings will take place:			
VOR	Date	Location/ Site	Type of activity
01/07			
1	22.12.07	Half Moon Island	Zodiac landing
2	23.12.07	Deception Island	Zodiac landing
3	28.12.07	Cuerverville Island	Zodiac landing
4	29.12.07	Paradise Bay	Zodiac landing
5	30.12.07	Almirante Brown	Zodiac landing
6	31.12.07	Vernadsky Station	Zodiac landing
7	01.01.08	Peterman Island	Zodiac landing
8	02.01.08	Palmer Station	Zodiac landing
9	03.01.08	Torgersen Island	Zodiac landing
10	03.01.08	Booth Island	Zodiac landing

11	04.01.08	Pleneau Island	Zodiac landing
12	05.01.08	Port Lockroy	Zodiac landing
13	06.01.08	Melchior Island	Zodiac landing
VOR 02/07	Date	Location/ Site	Type of activity
1	26.01.08	Hannah Point	Zodiac landing
2	27.01.08	Whalers Bay	Zodiac landing
3	29.01.08	Cuverville Island	Zodiac landing
4	30.01.08	Gonzales Videla/ Paradise Bay	Zodiac landing
5	31.01.08	Almirante Brown/ Paradise Bay	Zodiac landing
6	02.02.08	Detalle Island	Zodiac landing
7	05.02.08	Argentine Islands	Zodiac landing
8	06.02.08	Palmer Station	Zodiac landing
9	06.02.08	Torgersen Island	Zodiac landing
10	06.02.08	Anvers Island	Zodiac landing

# 2 Ship-based Operation			
Name of operator		Turismo SIM Ltd., Wolf Kloss, Calle Maragaño 168, P.O. Box 6, Puerto Williams, XII Region, Chile	
Name of vessel		S/Y SANTA MARIA AUSTRALIS	
Country of registry of vessel		Chile	
Number of voyages		3	
# of crew/pax		2/9	
Port of departure to Antarctica		Puerto Williams (Chile)	
Port of arrival from Antarctica		Puerto Williams (Chile)	
Date of departure / arrival		SMA01/08: 16.12.08 / 05.01.08 SMA02/08: 13.01.08/ 02.02.08 SMA03/08: 10.02.08/ 02.03.08	
Areas of operation		A1 (Area west of the peninsula between 65°18' S and west of the line from Prince Head to 60° S/50° W)	
Proposed landing sites and the planned dates at which these landings will take place:			
SMA 01/08	Date	Location/ Site	Type of activity
1	not specified	Argentine Islands	not specified
2	not specified	Vernadski Station	Zodiac landing, station visit
3	not specified	Petermann Island	Zodiac landing
4	not specified	Paradise Bay	Zodiac landing
5	not specified	Doumer Island	Zodiac landing, station visit
6	not specified	Foyn Harbour	Zodiac landing
7	not specified	Gabriel de Castilla Station	Zodiac landing, station visit
SMA 02/08	Date	Location/ Site	Type of activity
1	not specified	Argentine Islands	not specified
2	not specified	Vernadski Station	Zodiac landing, station visit
3	not specified	Petermann Island	Zodiac landing

4	not specified	Paradise Bay	Zodiac landing
5	not specified	Doumer Island	Zodiac landing, station visit
6	not specified	Foyn Harbour	Zodiac landing
7	not specified	Gabriel de Castilla Station	Zodiac landing, station visit
SMA 03/08	Date	Location/ Site	Type of activity
1	17.02.08	Melchior Islands	Zodiac landing
2	19.02.08	Cuerverville Island	Zodiac landing
3	20.02.08	Paradise Harbour/ Paradise Bay	Zodiac landing, station visit
4	21.02.08	Vernadski Station	Zodiac landing, station visit
5	22.02.08	Vernadski Station	Zodiac landing
6	23.02.08	Goudier Island	Zodiac landing, station visit
7	25.02.08	Whalers Bay	Zodiac landing
8	25.02.08	Telefon Bay	Zodiac landing, extended walk

#3 Ship-based Operation			
Name of operator		Hapag-Lloyd Kreuzfahrten GmbH, Ballindamm 25, D-20095 Hamburg, Germany	
Name of vessel		MV BREMEN	
Country of registry of vessel		Nassau/ Bahamas No. 716244	
Number of voyages		7 (BRE 0721 to BRE 0804)	
Max. # of staff/crew/pax		BRE0721: 6/93/116 BRE0722: 7/101/133 BRE0800: 8/94/145 BRE0801: 7/93/143 BRE0802: 9/95/142 BRE0803: 9/92/153 BRE0804: 9/92/146	
Port of departure to Antarctica		BRE0721: Buenos Aires (Argentina) BRE0722 to BRE0804: Ushuaia (Argentina)	
Port of arrival from Antarctica		BRE0721 to BRE0804: Ushuaia (Argentina)	
Date of departure / arrival		BRE0721: 13.11.07/30.11.07 BRE0722: 30.11.07/19.12.07 BRE0800: 19.12.07/09.01.08 BRE0801: 09.01.08/24.01.08 BRE0802: 24.01.08/11.02.08 BRE0803: 11.02.08/26.02.08 BRE0804: 26.02.08/12.03.08	
Areas of operation		A1, A2 & A3 (Area between 60° - 66°33' S and 30° - 70° W)	
Proposed landing sites and the planned dates at which these landings will take place:			
#	Date	Location/ Site	Type of activity
BRE			

0721			
1	25.11.07	Almirante Brown	Zodiac cruising
2	25.11.07	Paradise Harbour	Zodiac landing
3	25.11.07	Petermann Island	Zodiac landing
4	26.11.07	Neko Harbour	Zodiac landing
5	26.11.07	Goudier Island	Zodiac landing
6	27.11.07	South Bay	Zodiac landing
7	28.11.07	Aichto Island	Zodiac landing
BRE 0722			
1	11.12.07	Arctowski Station	Zodiac landing
2	11.12.07	Point Wild	Zodiac cruising
3	12.12.07	Brown Bluff	Zodiac landing
4	12.12.07	Esperanza Station	Zodiac landing
5	13.12.07	Half Moon Island	Zodiac landing
6	13.12.07	Deception Island	Zodiac landing
7	14.12.07	Neko Harbour	Zodiac landing
8	14.12.07	Paradise Harbour	Zodiac cruising
9	15.12.07	Petermann Island	Zodiac landing
10	15.12.07	Goudier Island	Zodiac landing
11	16.12.07	Melchior Islands	Zodiac cruising
BRE 0800			
1	01.01.08	Brown Bluff	Zodiac landing
2	02.01.08	Esperanza Station	Zodiac landing
3	03.01.08	Half Moon Island	Zodiac landing
4	03.01.08	Whalers Bay	Zodiac landing
5	04.01.08	Goudier Island	Zodiac landing
6	04.01.08	Paradise Harbour	Zodiac cruising
7	05.01.08	Petermann Island	Zodiac landing
8	05.01.08	Vernadsky Station	Zodiac landing
9	06.01.08	Melchior Islands	Zodiac cruising
BRE 0801			
1	11.01.08	Penguin Island	Zodiac landing
2	12.01.08	Paulet Island	Zodiac landing
3	12.01.08	Devil Island	Ice landing
4	13.01.08	Brown Bluff	Zodiac landing
5	13.01.08	D'Urville Monument	Zodiac landing
6	14.01.08	Aitcho Island	Zodiac landing
7	15.01.08	Paradise Harbour	Zodiac cruising
8	15.01.08	Goudier Island	Zodiac landing
9	16.01.08	Pleneau Island	Zodiac cruising
10	16.01.08	Vernadsky Station	Zodiac landing
11	17.01.08	Detaille Island	Zodiac landing
12	18.01.08	Rothera Station	Station visit
13	18.01.08	Horseshoe Island	Zodiac landing
14	20.01.08	Melchior Islands	Zodiac cruising
15	20.01.08	Neko Harbour	Zodiac landing

16	21.01.08	Deception Island	Zodiac landing
BRE 0802			
1	03.02.08	Bellingshausen Station	Station visit
2	03.02.08	Penguin Island	Zodiac landing
3	04.02.08	Paulet Island	Zodiac landing
4	04.02.08	Brown Bluff	Zodiac landing
5	05.02.08	D'Urville Monument	Zodiac landing
6	05.02.08	Astrolabe Island	Zodiac cruising
7	06.02.08	Half Moon Island	Zodiac landing
8	06.02.08	Whalers Bay	Zodiac landing
9	07.02.08	Neko Harbour	Zodiac landing
10	07.02.08	Skontorp Cove	Zodiac cruising
11	08.02.08	Melchior Islands	Zodiac cruising
BRE 0803			
1	14.02.08	Paulet Island	Zodiac landing
2	14.02.08	Devil Island	Zodiac landing
3	15.02.08	D'Urville Monument	Zodiac landing
4	16.02.08	Aitcho Island	Zodiac landing
5	16.02.08	Half Moon Island	Zodiac landing
6	17.02.08	Goudier Island	Zodiac landing
7	17.02.08	Skontorp Cove	Zodiac cruising
8	17.02.08	Almirante Brown	Zodiac landing
9	18.02.08	Pleneau Island	Zodiac cruising
10	18.02.08	Petermann Island	Zodiac landing
11	20.02.08	Stonigton Island	Zodiac landing
12	22.02.08	Melchior Islands	Zodiac cruising
13	22.02.08	Cuerverville Island	Zodiac landing
14	23.02.08	Telefon Bay	Zodiac landing
BRE 0804			
1	03.03.08	Petrel Cove	Zodiac landing
2	03.03.08	Paulet Island	Zodiac landing
3	04.03.08	Snow Hill Island	Zodiac landing
4	05.03.08	Astrolabe Islands	Zodiac cruising
5	06.03.08	Neko Harbour	Zodiac landing
6	06.03.08	Goudier Island	Zodiac landing
7	06.03.08	Jougla Point	Zodiac landing
8	07.03.08	Skontorp Cove	Zodiac cruising
9	07.03.08	Vernadsky Station	Station visit
10	08.03.08	Telefone Bay	Zodiac landing
11	08.03.08	Whalers Bay	Zodiac landing
12	09.03.08	Half Moon Island	Zodiac landing

# 4 Ship-based Operation			
Name of operator		Hapag-Lloyd Kreuzfahrten GmbH, Ballindamm 25, D-20095 Hamburg, Germany	
Name of vessel		MV HANSEATIC	
Country of registry of vessel		Nassau/Bahamas No. 720407	
Number of voyages		5 (HAN 0800 to HAN 0804)	
Max. # of staff/crew/pax		HAN0800: 9/114/155 HAN0801: 10/111/163 HAN0802: 8/111/119 HAN0803: 8/112/171 HAN0804: 10/114/166	
Port of departure to Antarctica		HAN0800: Punta Arenas, HAN0801 to HAN0804: Ushuaia (Argentina)	
Port of arrival from Antarctica		HAN0800 to HAN 0804: Ushuaia (Argentina)	
Date of departure and arrival		HAN0800: 16.12.07, 07.01.08 HAN0801: 07.01.08, 25.01.08 HAN0802: 25.01.08, 04.02.08 HAN0803: 04.02.08, 22.02.08 HAN0804: 22.02.08, 10.03.08	
Areas of operation		A1, A2 & A3 (Area between 60° - 66°33' S and 30°- 70° W)	
Proposed landing sites and the planned dates at which these landings will take place:			
#	Date	Location/ Site	Type of activity
HAN 0800			
1	02.01.08	Paulet Island	Zodiac cruising
2	03.01.08	Almirante Brown	Zodiac landing, station visit
3	03.01.08	Paradise Harbour	Zodiac cruising
4	03.01.08	Petermann Island	Zodiac landing
5	04.01.08	Whalers Bay	Zodiac landing
6	04.01.08	Bellingshausen Station	Zodiac landing
HAN 0801			
1	17.01.08	Orcadas Station	Zodiac landing
2	18.01.08	Point Wild	Zodiac cruising
3	19.01.08	Paulet Island	Zodiac landing
4	19.01.08	Brown Bluff	Zodiac landing
5	20.01.08	Half Moon Island	Zodiac landing
6	21.01.08	Almirante Brown	Zodiac landing
7	21.01.08	Skontorp Cove	Zodiac cruising
8	21.01.08	Petermann Island	Zodiac landing
9	22.01.08	Damoy Point/ Dorian Bay	Zodiac landing
HAN 0802			
1	27.01.08	Aitcho Island	Zodiac landing
2	28.01.08	Paulet Island	Zodiac landing
3	28.01.08	Weddell Sea	Zodiac cruising
4	29.01.08	D'Urville Monument	Zodiac landing
5	30.01.08	Almirante Brown	Zodiac landing

6	30.01.08	Skontorp Cove	Zodiac cruising
7	30.01.08	Petermann Island	Zodiac landing
8	31.01.08	Goudier Island	Zodiac landing
9	31.01.08	Neko Harbour	Zodiac landing
10	01.02.08	Whalers Bay	Zodiac landing
11	01.02.08	Telefon Bay	Zodiac landing
12	01.02.08	Pendulum Cove	Zodiac landing
HAN 0803			
1	14.02.08	Orcadas Station	Zodiac landing
2	15.02.08	Point Wild	Zodiac cruising
3	16.02.08	D'Urville Monument	Zodiac landing
4	16.02.08	Czech Station	Zodiac landing
5	17.02.08	Ardley Island	Zodiac landing
6	17.02.08	Bellingshausen Station	Zodiac landing
7	18.02.08	Cuerverville Island	Zodiac landing
8	18.02.08	Goudier Island	Zodiac landing
9	18.02.08	Frei Station	Other
10	19.02.08	Skontorp Cove	Zodiac cruising
11	19.02.08	Almirante Brown	Zodiac landing
12	19.02.08	Petermann Island	Zodiac landing
13	20.02.08	Telefon Bay	Zodiac landing
14	20.02.08	Pendulum cove	Zodiac landing
HAN 0804			
1	26.02.08	Petermann Island	Zodiac landing
2	26.02.08	Skontorp Cove	Zodiac cruising
3	26.02.08	Almirante Brown	Zodiac landing
4	27.02.08	Goudier Island	Zodiac landing
5	27.02.08	Neko Harbour	Zodiac landing
6	28.02.08	Whalers Bay	Zodiac landing
7	29.02.08	Signy Island Station	Zodiac landing

# 5 Ship-based Operation			
Name of operator		Oceanstar GmbH An der Trift 65, D-63303 Dreieich Germany	
Name of vessel		HANSE EXPLORER	
Country of registry of vessel		Germany	
Number of voyages		3	
# of crew/staff/pax		HEX72212: 16/0/12 HEX81201: 17/0/9 HEX81402:17/0/9	
Port of departure to Antarctica		HEX72212: Buenos Aires (Argentina) HEX81201 & HE81402: Ushuaia (Argentina)	
Port of arrival from Antarctica		HEX72212-HE81402: Ushuaia (Argentina)	
Date of departure / arrival		HEX72212: 22.12.07/12.01.08 HEX81201: 12.01.08/31.01.08 HEX81402: 14.02.08/26.02.08	
Areas of operation		A1 & A3 Area between 60°S and 65°18' S (western the peninsula) and 64°50'S (eastern the peninsula) else 30°W – 70°W	
Proposed landing sites and the planned dates at which these landings will take place:			
#	Date	Location/ Site	Type of activity

HEX 72212			
1	06.01.08	Brown Bluff	Zodiac landing
2	07.01.08	Hannah Point	Zodiac cruising
3	07.01.08	Whalers Bay	Zodiac landing
4	08.01.08	Almirante Brown	Zodiac landing
5	08.01.08	Cuverville Island	Zodiac landing
HEX 81201			
1	24.01.08	Weddell Sea	Ice walk
2	24.01.08	Brown Bluff	Zodiac landing
3	25.01.08	Telefon Bay	Zodiac landing
4	26.01.08	Almirante Brown	Zodiac cruising
5	26.01.08	Vernadsky Station	Station visit
6	27.01.08	Neko Harbour	Zodiac landing
7	27.01.08	Georges Point	Zodiac landing
8	27.01.08	Goudier Island	Station visit
HEX 81402			
1	17.02.08	Cuverville Island	Zodiac landing
2	17.02.08	Neko Harbour	Zodiac landing
3	18.02.08	Goudier Island	Station visit
4	18.02.08	Almirante Brown	Zodiac landing & cruising
5	19.02.08	Booth Island	Anchoring
6	19.02.08	Georges Point	Zodiac landing
7	20.02.08	Whalers Bay	Zodiac landing
8	20.02.08	Aichto Island	Extended walk
9	21.02.08	Brown Bluff	Zodiac landing
10	21.02.08	Snow Hill Island	Ice walk
11	22.02.08	Seymour Island	Anchoring
12	22.02.08	Devil Island	Zodiac cruising, extended walk

# 6 Ship-based Operation			
Name of operator		Plantours & Partner GmbH Obernstraße 76, 28195 Bremen	
Name of vessel		MV VISTAMAR	
Country of registry of vessel		Kingstown (Saint Vincent)	
Number of voyages		2 (VMA23DEC07 & VMA07JAN08)	
Max. # of staff/crew/pax		VMA23DEC07: 16/111/275 VMA07JAN08: 23/111/240	
Port of departure to Antarctica		VMA23DEC07: Buenos Aires (Argentina) VMA07JAN08: Punta Arenas (Chile)	
Port of arrival from Antarctica		VMA23DEC07: Punta Arenas (Chile) VMA07JAN08: Punta Arenas (Chile)	
Date of departure / arrival		VMA23DEC07: 23.12.07 / 07.01.08 VMA07JAN08: 07.01.08 / 19.01.08	
Areas of operation		A1 (Area west of the peninsula between 65°18' S and west of the line from Prince Head to 60° S/50° W)	
Proposed landing sites and the planned dates at which these landings will take place:			
#	Date	Location/ Site	Type of activity
VMA			

23DEC07			
1	30.12.07	Arctowski Station/ King George Island	Zodiac landing
2	01.01.08	Cuverville Island	Zodiac landing
3	02.01.08	Whalers Bay/ Deception Island	Zodiac landing
4	03.01.08	Half Moon Island	Zodiac landing
5	03.01.08		Zodiac landing
VMA 07JAN08			
1	10.01.08	Half Moon Island Melchior Islands	Zodiac landing
2	11.01.08	Yankee Harbour	Zodiac landing
3	11.01.08	Whalers Bay/ Deception Island	Zodiac landing
4	12.01.08	Almirante Brown	Zodiac landing
5	13.01.08	Bellingshausen Station	Zodiac landing
6	13.01.08	Arctowski Station/ King George Island	Zodiac landing

# 7 Ship-based Operation			
Name of operator		Hansa Kreuzfahrten, Conterescarpe 36, 28203 Bremen	
Name of vessel		MV DELPHIN	
Country of registry of vessel		Valetta (Malta)	
Number of voyages		2 (DEL02/08 & DEL03/08)	
Max. # of staff/crew/pax		DEL02/08: 17/210/337 DEL03/08: 17/209/338	
Port of departure to Antarctica		DEL02/08: Buenos Aires (Argentina) DEL02/08: Ushuaia (Argentina)	
Port of arrival from Antarctica		DEL03/08: Ushuaia (Argentina) DEL03/08: Valparaiso (Chile)	
Date of departure / arrival		DEL02/08: 05.01.08 / 21.01.08 DEL03/08: 21.01.08 / 06.02.08	
Areas of operation		A1 & A3 (Area between 60°S and 65°18' S (western the peninsula) and 64°50'S (eastern the peninsula) else 30°W – 70°W)	
Proposed landing sites and the planned dates at which these landings will take place:			
#	Date	Location/Site	Type of activity
DEL 02/08			
1	14.01.08	Half Moon Island	Zodiac landing
2	15.01.08	Whalers Bay	Zodiac landing
3	15.01.08	Pendulum Cove	Zodiac landing
4	16.01.08	Jougla Point	Zodiac landing
5	16.01.07	Goudier Island	Zodiac landing, station visit
6	16.01.08	Paradise Harbour	Zodiac landing & cruising
7	17.01.08	Cuverville Island	Zodiac landing
8	18.01.08	Arctowski Station	Zodiac landing, station visit
DEL 03/08			
1	24.01.08	Half Moon Island	Zodiac landing
2	25.01.08	Whalers Bay	Zodiac landing
3	26.01.08	Jougla Point	Zodiac landing

4	26.01.08	Goudier Island	Zodiac landing, station visit
5	26.01.08	Paradise Harbour	Zodiac landing & cruising
6	27.01.08	Melchior Island	Zodiac cruising
7	28.01.08	Bellingshausen Station	Zodiac landing, station visit

2.3 Permit Information

2.3.1 Visits to Protected Areas

During the reporting period of 01 October 2007 – 30 September 2008, two different permits were issued under Annex V of the Protocol for scientific purposes:

- 1) For entering ASPA No 150 (Ardley Island) between December 2007 and February 2008 a permit was granted for H.-U. Peter, M. Kopp, J. Kotzerka (all University of Jena) and for an international student group (A. Huck, E. Thomas, U. Müller, M. Erasmy, E. Stich, J. Schmidt, S. Janowski, A. Braunschweig, H. Mühlichen, L. Ferman, K. Uryupova, L. Sagatelova and E. Dolgova) within the IPY-project „ClicOPEN & Education and Outridge“
- 2) For entering ASPA No 125 (Fildes Peninsula) between December 2007 and February 2008 a permit was granted for H.-U. Peter, M. Kopp und J. Kotzerka, E. Thomas und U. Müller

2.3.2 Taking and harmful interference with flora and fauna

During the period of 01 October 2007 – 30 September 2008, one (1) permit was issued under Annex II of the Protocol for scientific purposes.

The permit was issued for catching, ringing, and blood sampling at Skuas *Catharacta* ssp. (max. 200 Individuals). It was also issued for fitting up to 40 individuals of *Catharacta* ssp. with data loggers.

Location: Fildes Peninsula and Ardley Island, King George Island

Topic: Antarctic Skuas (*Catharacta* spec.) and their life-history parameters (University of Jena)

2.3.3 Introduction of non-native species

None.

2.4 Environmental Information

2.4.1 Compliance with the Protocol

None.

2.4.2 List of IEEs and CEEs

During the period of 01 October 2007 – 30 September 2008, for eight licensing procedures Initial Environmental Evaluations (IEEs), and no Comprehensive Environmental Evaluation (CEE) were conducted, in accordance with Annex I, Article 2, of the Protocol of Environmental Protection to the Antarctic Treaty.

IEEs

No	Category of activity	Type of activity	Organisation	EIA type	Permit issued
		Tourist Cruises			
1	7 Cruises with zodiac landings	Antarctic tourist cruises of the MV Bremen – 2007/2008 Season	Hapag-Lloyd Ltd., Hamburg	IEE	05 October 2007
2	5 Cruises with zodiac landings	Antarctic tourist cruises of the MV Hanseatic – 2007/2008 Season	Hapag-Lloyd Ltd., Hamburg	IEE	06 November 2007
3	3 Cruises with zodiac landings	Antarctic tourist cruises of the MV Vistamar – 2007/2008 Season	Plantours & Partner GmbH, Bremen	IEE	03 December 2007
4	4 Cruises with zodiac landings	Antarctic tourist cruises of the MV Hanse Explorer – 2007/2008 Season	Oceanstar GmbH	IEE	15 December 2007
5	4 Cruises with zodiac landings	Antarctic tourist cruises of the MV Bremen – 2008/2009 Season	Hapag-Lloyd Ltd., Hamburg	IEE	20 February 2008
6	4 Cruises with zodiac landings	Antarctic tourist cruises of the MV Hanseatic – 2008/2009 Season	Hapag-Lloyd Ltd., Hamburg	IEE	29 July 2008
7	4 Cruises with zodiac landings	Antarctic tourist cruises of the MV Marco Polo – 2008/2009 Season	Transocean Tours Touristic GmbH, Bremen	IEE	05 August 2008
8	2 Cruises with zodiac landings	Antarctic tourist cruises of the MV Delphin – 2008/2009 Season	Hansa Kreuzfahrten, Bremen	IEE	24 September 2008

Annual List of any Initial Environmental Evaluations

2.4.3 Monitoring activities report

During the period of 01 October 2007 – 30 September 2008, no significant information was obtained from the above-mentioned monitoring procedures.

2.4.4 Waste Management Plans

Annual reports on waste management for the cruises ships MV Hanseatic, MV Bremen, MV Delphin, MV Vistamar, MV Hanse Explorer, MV Marco Polo as well as for land activities are being provided to the Umweltbundesamt.

2.5. Relevant National Legislation

None.

2.6 Other information

2.6.1 Inspection reports

None.

2.6.2 Notice of Activities undertaken in Case of Emergencies

MedEvac Naja Arctica cook

On January 22/23, the cook from Naja Arctica had to be evacuated from Antarctica for medical reasons. As the ship had to interrupt discharging operations due to pressing ice and was not positioned at the northern mooring place/shelf ice, the evacuation from board to Neumayer station was executed by a specially ordered South African helicopter from SANAE station. This helicopter, specially equipped for the transport of patients, a BO105, was small enough to land on a hatch on board. This hatch was covered with flats to enable a secure landing. The patient was flown to Neumayer where he stayed for one night. Next day he was taken from the NEUMAYER STATION III construction site via Halley and Rothera to Punta Arenas on board of a Basler and accompanied by a doctor. There he was taken into hospital, and the Basler flew back to Neumayer with the doctor on board.

Helicopter accident at NEUMAYER STATION

On 02 March 2008 at 0820 UTC one of the helicopters (BO 105 CBS4) of RV POLARSTERN crashed on the Ekström Ice Shelf (70°38.19'S, 008°11.70'W) about 1.5 nm east of the German Neumayer Station II.

The helicopter took off from RV POLARSTERN to fly three passengers of her scientific staff to Neumayer station. The injured helicopter technician managed to activate the emergency call, which was firstly received at Neumayer station. Rescue and recovery were immediately organized by the staff of Neumayer station and members of the NEUMAYER STATION III construction team and a first statement of facts was given to RV POLARSTERN.

The accident left two persons dead - the pilot and one passenger - and three seriously injured - the helicopter technician and the other two passengers. By 1015 UTC all injured persons were transported back to RV POLARSTERN by the second ship's helicopter. Medical treatment started immediately in the ship's hospital. The medical status of the patients became stable but the physicians recommended early evacuation.

RV POLARSTERN was on her 24th Antarctic expedition (ANT XXIV-3). During expeditions in polar waters two helicopters are operated as well for scientific and logistic purposes and as to support navigation in ice covered waters. Beside the scientific program RV POLARSTERN was tasked to call for Atka Bay in order to carry provisions and fuel to Neumayer Station II for the coming winter season. Just after beginning of unloading the first helicopter flight started for Neumayer station; this flight ended up in the accident.

All necessary information on the accident, casualties and medical status of the three injured persons were forwarded to the relevant institutions in France (LOCEAN), The Netherlands (NIOZ) and Germany (AWI) and families the same day.