Participants' Handbook

A guide to going south with British Antarctic Survey

British Antarctic Survey

NATURAL ENVIRONMENT RESEARCH COUNCIL

POLAR SCIENCE FOR PLANET EARTH

Director's foreword

Antarctica is the coldest, windiest, driest and highest continent on planet Earth. It is capped by an ice sheet over 4km thick in places. In winter, Antarctica is dark for many months and the sea, the world's stormiest, freezes to cover an area the size of the continent itself.

Antarctica is the remotest and most inhospitable continent of all. It also has no permanent inhabitants – the only continent on the planet of which this can be said. So, welcome to you, one of the very special people who are going to live and work there! Whether this is your first time or one of many trips with the British Antarctic Survey (BAS), congratulations on being selected to work in this wild and amazing place; you are a critically important member of 'Team BAS'.

In our rapidly changing world, we have important work to do. BAS science and support staff, and our close collaborators from the UK and across the world, play a pivotal role in Antarctic research. By concentrating on key global scientific problems, by being efficient and effective in managing our research stations and ships, and in the safe deployment of our field parties and marine cruises, we advance knowledge and achieve world-wide recognition for excellence. Everyone in BAS plays a vital role in our wide range of Antarctic activities from the purchase of equipment in Cambridge to research and science support on the ships, stations or in the deep field.

The forthcoming field season, 2014/15, is particularly important for us because it sees the further developments of our science programme. We have an exciting programme comprising a range of challenging programmes and projects that you will be a part of. You will get to know these over time but at their heart they are about unlocking the past, understanding the present, predicting the future and exploring the unknown.

Amongst the many projects, this season is the second field campaign of the NERC research programme, iSTAR, aimed at investigating the stability of the West Antarctic Ice Sheet (WAIS), with particular focus on the Amundsen Sea sector and Pine Island Glacier. This region has experienced rapid rates of ice loss over the last decade. The goal of the programme is to improve our understanding of the processes affecting ice sheets, so that we can better predict their future behaviour, and hence the impact on sea-level rise felt around the globe.

Increasingly, we are also carrying out research in the Arctic. Antarctica is land surrounded by ocean, and the Arctic Ocean is encircled by land, but both have extensive sea ice and icecaps. We utilise these similarities and differences to demonstrate whether our understanding and models of the polar regions are robust.

In conclusion, I turn to you as you are about to embark on a new adventure. The strength of any organisation lies in the expertise and enthusiasm of its people. You will be carrying on a tradition of excellence of carrying out and supporting world-leading research in one of the most challenging environments on the planet. This handbook is here to help you make the most of your trip south, safely and effectively, both for BAS and you as an individual.

I wish you fair winds, smooth seas, clear skies, good snow, good company and a productive time in the Antarctic. You are about to embark on an amazing experience.

With very best wishes,

Professor Jane Francis
Director, BAS

Cover: *A Ridged Inflatable Boat during the deployment of a CTD instrument in Marguerite Bay near Rothera Research Station.*

For more information, please visit our website: **www.antarctica.ac.uk**

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Our vision

By 2020 the British Antarctic Survey will be recognised as a world-leading centre for polar research and expertise, addressing issues of global importance.

Our mission

To deliver a world-class programme of scientific research, national capability and long-term observations, concentrating on the regional and global role of polar processes in the Earth System.

Through our science and impact, sustain for the UK an active and influential Antarctic regional presence, and a leadership role in Antarctic affairs.

Our culture

BAS aspires to a culture that is:

- **Positive** – positive attitude, energy, realism, enjoy the work
- **Responsible** – safety conscious, environmentally friendly, accountable for one's actions, honourable, ethical, open and fair
- **Innovative** – Creative, entrepreneurial and outward looking, flexible, constructively challenging, and capable of learning from experience
- **Co-operative** – open, communicative, caring and loyal to one another, working in the best interests of BAS and science
- **Excellent** – professional, efficient and effective, successful and recognised, high quality, applying best practice and developing our people

Image: *The Bonner Laboratory at Rothera Research Station, Adelaide Island, Antarctic Peninsula.*

For more information, please visit our website: **www.antarctica.ac.uk**

Introduction

This handbook is provided to all participants in the British Antarctic Survey (BAS) Antarctic programme. It aims to provide some background to the environment and organisation within which you will be working, outline some of the steps that you need to take before travelling and answer the most commonly asked questions about living and working in the Antarctic.

Much of the information given here is repeated or amplified at the annual Cambridge Antarctic Pre-deployment Training Course in September. During the course there will be films, lectures and discussions to introduce you to BAS and the Antarctic. It also provides an opportunity for you to meet the people with whom you will be going south and members of Cambridge staff. There are some practical matters that you need to consider before attending the training course – please make sure you read straight away the sections on basic preparations, packing for the Antarctic and health and safety and medical issues, and that you make any necessary arrangements in good time.

Supplementary material will be provided during the Antarctic Pre-deployment Training Course giving the latest practical information, and a list of sources for further information is given at the end of the handbook.

The BAS Participants Handbook is regularly updated. We welcome any feedback on its layout, style or content.

Images: Top: *A glaciology field camp on Berkner Island, Antarctica.* **Middle:** *Emperor penguins on the Brunt Ice Shelf, near Halley Research Station.* **Bottom:** *Halley VI Research Station on the Brunt Ice Shelf.*

Antarctica past and present

History

The United Kingdom has a long history of exploration and research in Antarctica. During the 18th and 19th centuries this was undertaken largely either by Royal Navy expeditions or by sealers and whalers exploiting the living resources of the area. James Cook, RN, made the first circumnavigation of Antarctica in 1772-75. He sailed to 71°S and discovered the island of South Georgia In 1820 William Smith's expedition to the South Shetland Islands first sighted the Antarctic continent and Edward Bransfield, RN, charted part of the Antarctic Peninsula coastline. James Weddell, John Biscoe, James Clark Ross, RN, and Carsten Borchgrevink led other significant nineteenth century British expeditions.

During the early part of the twentieth century, William Speirs Bruce, Robert Falcon Scott and Ernest Shackleton led important British expeditions to Antarctica. In addition to exploring new areas of the continent, they carried out extensive scientific programmes and established the United Kingdom as the leading nation in Antarctic science. This 'Heroic Age' of exploration was followed by equally successful and scientifically significant expeditions between the wars, of which the most important were the 13 voyages of the Discovery Investigations of the Southern Ocean, 1925-39, and the British Graham Land Expedition, 1934-37.

In 1943, the British Government mounted a top secret expedition to Antarctica, code-named Operation Tabarin. Its objectives were to discourage enemy activity, particularly to prevent harbours and stocks of shipping oil falling into enemy hands; collect meteorological data and to re-enforce British territorial claims through the establishment of bases. A programme of mapping and science was undertaken. At the end of the war the operation was established on a permanent basis under the Colonial Office as the Falkland Islands Dependencies Survey (FIDS), the bases established during Tabarin becoming the first to be permanently occupied on the continent. The primary purpose of FIDS was to continue (through occupation, mapping and scientific research) the British presence in an area whose sovereignty was contested by other countries. FIDS grew rapidly, opening bases throughout the Antarctic Peninsula and related sub-Antarctic area, and expanding many areas of scientific investigation. The name 'Fids' is still used to describe BAS personnel.

The Commonwealth Trans-Antarctic Expedition (1955-58), led by Sir Vivian Fuchs, continued the British tradition of combining exploration and science. It completed the first land crossing of the continent.

In 1957-58, 67 nations took part in the International Geophysical Year (IGY), which recognised the vital role of Antarctica when addressing global scientific questions and encouraged international scientific co-operation on a scale not seen before. The Royal Society established Halley Bay Base on the Brunt Ice Shelf in 1956 as a major part of the British contribution to IGY. (The base was transferred to FIDS in 1959.) The success of IGY led directly to the establishment of the Scientific Committee on Antarctic Research (SCAR), negotiation of the Antarctic Treaty and hence to the international co-operation and protection of Antarctica that exists today.

Following the ratification of the Treaty by the UK, the area of the Falkland Islands Dependencies south of 60 degrees S was named the British Antarctic Territory. Consequently, with effect from April 1962, FIDS was renamed the British Antarctic Survey. In 1967 it became one of the component institutes of the Natural Environment Research Council (NERC) which had been established in 1965. Funding through central government is now provided by the Office of the Chief Scientific Adviser, which is part of the Department of Business, Innovation and Skills (BIS). As part of its dual mission, BAS has responsibilities to the Foreign & Commonwealth Office (FCO) for administrative duties in the British Antarctic Territory and compliance with the requirements of the Antarctic Act (1994).

The Antarctic Treaty

Following the success of the International Geophysical Year (IGY) in 1957/58, the United States invited 11 countries, including the United Kingdom, to an international conference to develop a long-term framework for peaceful co-operation in Antarctica. The final result of the international negotiations was the Antarctic Treaty, which was signed by all 12 countries in December 1959, and came into force in 1961.

The major provisions of the Antarctic Treaty are that:

Image: *Gentoo penguin at the Historic Site of Port Lockroy. The site dates back to Operation Tabarin and the first British presence in the Antarctic.*

- Antarctica is only to be used for peaceful purposes
- There is freedom of scientific investigation and co-operation
- Scientific data and personnel are to be freely exchanged
- Territorial claims are 'frozen' and new ones cannot be made
- Nuclear explosions and radioactive waste disposal are banned
- All stations, ships and equipment are open to inspection by any Treaty member at any time

Since 1961, the number of signatories to the Treaty has increased to 50 in 2014, of which 29 are full Consultative Parties engaged in substantial scientific research activity in Antarctica. These nations maintain some 40 permanent year-round scientific research stations in Antarctica, with many more operating in the austral summer.

The Antarctic Treaty covers all lands and ice shelves south of latitude 60°S, but not the sea itself. The Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR), which came into force in 1982, conserves marine living resources and regulates fishing activity in the Southern Ocean south of the latitude of the Polar Front (the boundary between cold Antarctic seas and the warmer Atlantic waters). Other agreements aimed at protecting Antarctic wildlife include the Agreed Measures for the Conservation of Antarctic Flora and Fauna (1964) and the Convention for the Conservation of Antarctic Seals (1972).

The Protocol on Environmental Protection to the Antarctic Treaty, which came into force in 1998, provides wider protection for the Antarctic environment, including a prohibition on commercial mining and hydrocarbon extraction. The Protocol has six annexes, which have a major influence in the way in which BAS and other national Antarctic operators manage their activities. These annexes cover Environmental Impact Assessment, Conservation of Antarctic Fauna and Flora, Waste Disposal and Management, Prevention of Marine Pollution, Area Protection and Management and liability arising from environmental emergencies.

In the United Kingdom, the Protocol was incorporated into UK law by the Antarctic Act (1994), which provides the legislation applicable to all UK nationals and operators in the Antarctic. This legislation was updated by the Antarctic Act (2013) in order to implement the Liability Annex to the Protocol.

Permits

BAS receives a permit for its general operations in Antarctica from the FCO as a requirement of the Antarctic Act, and separate permits for the operation of the ships and aircraft. Additional permits are required if work is to involve any of the following activities:

- Taking of, or harmful interference with, native flora or fauna
- Introduction of non-native species into Antarctica
- Entry into Antarctic Specially Protected Areas
- Mineral resource activities

BAS Project Leaders should apply to the BAS Environment Office for permits to undertake any of the above activities. For external (non-BAS) collaborations (i.e. those funded through Collaborative Gearing Scheme (CGS) and NERC Responsive Mode), the Principal Investigators should apply to the BAS Antarctic Funding Co-ordinator who will liaise with the Environment Office and FCO as required. Foreign visitors should seek advice from the BAS Environment Office on the need to apply to their own governments for permits. DEFRA licenses are also required for the import of biological samples to the UK, and also the on-site storage of the imported samples, either at BAS or at the establishment (e.g. University) the biological samples are transferred to after import. The legislation requires licenses for soils, plants, animal pathogens, animal products (including remains or preserved samples) and live fish. Whale and seal products also require import licenses under CITES (Convention on International Trade in Endangered Species of Wild Flora and Fauna) legislation. This

Images: Top: *Skidoo travel has replaced the use of dogs in the Antarctic since dogs were banned in 1994 under the Antarctic Treaty.*
Bottom: *Operation Tabarin members on the deck of the Royal Navy ship HMS Eagle, at Deception Island in 1944.*

For more information, please visit our website: **www.antarctica.ac.uk**

Antarctica past and present *continued*

includes items such as whalebone and seal skins and teeth. Your Base Commander will provide further information on import licenses and the Standard Operating Procedure.

If licensed material is to be transferred to another establishment, a BAS license holder is responsible for providing the information to DEFRA and producing the necessary documentation (e.g. transfer permit) required. BAS, as an organisation, is responsible for ensuring that the receiving establishment is properly licensed before releasing the material.

DEFRA licenses are co-ordinated by staff in the Ecosystems science programme.

The organisation and structure of BAS

BAS's operational structure has two science groups (Science Delivery and Science Strategy) and five support divisions (Operations & Engineering, Innovation & Impact, Corporate Services, Human Resources, and Public Engagement). The leaders of these groups, the Director, and one independent member form the BAS Board. Supported by the Science Board, the BAS Board is the senior management body for the Survey, responsible for advising the Director on overall strategic direction and policy. Plans are being developed to reshape the management structure at BAS. Two management teams will be responsible for the governance of BAS, with the Directors' Executive Team leading strategic planning and the Senior Management Team responsible for operational decision-making.

The Science Board consists of the Director, the two BAS Board members for Science Strategy and Delivery, and the six Science Leaders. Science Board meetings are co-ordinated with the BAS Board meetings, which are held monthly.

For further information about the structure and function of each BAS group please refer to: *www.antarctica.ac.uk/about_bas/our_organisation*

Polar Science for Planet Earth (PSPE) is BAS's strategic science framework. It started on 1st April 2009 and consists of six key science programmes:

Chemistry and Past Climate: Quaternary climate including ice cores, lake sediments, marine sediments and tropospheric chemistry.

Climate: Atmospheric science and processes, including climate modelling.

Ecosystems: Dynamics of polar ecosystems in response to the impacts of climate and fisheries.

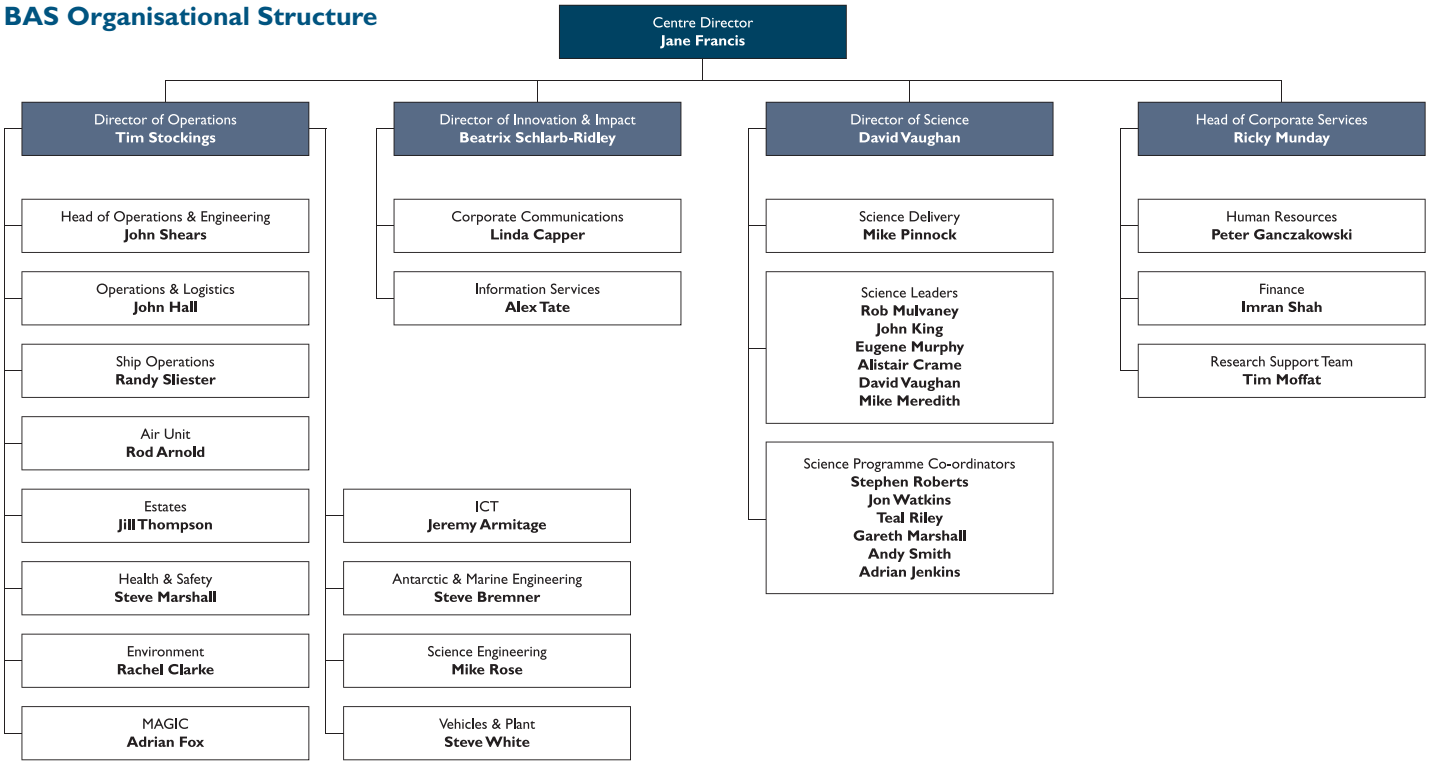
IceSheets: Ice sheet evolution and flow, ice-sheet changes and sea-level rise.

Polar Oceans: Role of the polar oceans in controlling and influencing the Earth System.

Environmental Change and Evolution: The Earth System: geological to upper atmosphere, complexities and scales of interactions, controls on biological evolution.

For further information on PSPE, see *www.antarctica.ac.uk/bas_research/our_research/current/overview.php*

BAS Organisational Structure



BAS infrastructure

Station:	Rothera
Location:	68°S 68°W
Summer complement:	80-120
Winter complement:	21
Minimum temp.	-30°C
Maximum temp.	+5°C

Station:	Halley
Location:	75°S 26°W
Summer complement:	52
Winter complement:	13
Minimum temp.	-50°C
Maximum temp.	+1°C

Station:	Bird Island
Location:	54°S 38°W
Summer complement:	10
Winter complement:	4
Minimum temp.	-10°C
Maximum temp.	+10°C

Station:	KEP
Location:	54°S 36°W
Summer complement:	18
Winter complement:	8
Minimum temp.	-10°C
Maximum temp.	+10°C

Station:	Signy
Location:	61°S 45°W
Summer complement:	8
Winter complement:	0
Minimum temp.	-30°C
Maximum temp.	+10°C

In 1975, BAS moved to new buildings in Cambridge, which were extended to their present size in 1988. It is from here that all the Survey's complex activities are organised.

BAS operates three research stations in the Antarctic, and two stations on South Georgia. In addition to the official name, each station has an identifying letter. These letters are used extensively in cargo and communications procedures.

Rothera (Base R) is situated on Adelaide Island to the west of the Antarctic Peninsula. The site includes a crushed rock runway, hanger and wharf. Rothera is the centre of BAS field and air operations. It is the largest BAS Antarctic facility and supports activities across all BAS science programmes.

Halley VI (Base Z) is built on the Brunt Ice Shelf south-east of the Weddell Sea, some 200km from the nearest exposed rock. The ice shelf is 200m thick, and flows towards the sea where, at irregular intervals, it calves off as icebergs. Scientific research concentrates on atmospheric sciences, meteorology and chemistry. Halley has a snow runway and supports a number of summer field science activities.

Bird Island (BI) is a small island at the western end of South Georgia. It is covered in tussock grass with no permanent snow or ice. The research concentrates on the biology of birds and seals, huge numbers of which live on the island.

King Edward Point (Base M or KEP) is situated close to Grytviken on the main island of South Georgia. It is surrounded by glaciers and mountains, but low-lying areas support abundant grasses and wildlife. The station focuses on applied fisheries research and supports the GSGSSI Marine Officer.

Signy (Base H) is a summer-only station situated on one of the South Orkney Islands. It is a small island, a large part of which is covered by a permanent ice cap. There are extensive areas of mosses and lichens and many lakes and pools on the island. Signy supports terrestrial and freshwater sciences, especially biology, and a CCAMLR monitoring programme.

BAS operates two ocean-going research ships: RRS *James Clark Ross* (JCR) and RRS *Ernest Shackleton* (ES). Both ships are ice-strengthened with bow and stern thrusters and dynamic positioning systems. BAS ships are flagged in the Falkland Islands and their home port is Stanley.

RRS *James Clark Ross* (JCR), launched in 1990, is primarily a marine research vessel for biological, oceanographic and geophysical cruises. It is equipped with a suite of laboratories and a winch system that allows scientific equipment to be deployed astern or amidships. The ship has an extremely low noise signature, allowing the deployment of sensitive acoustic equipment. A swath bathymetry system was fitted in 2000. The JCR also carries out cargo and logistical work. During the northern summer the JCR supports NERC scientific work in the Northern Hemisphere, often in the Arctic.

RRS *Ernest Shackleton* (ES), launched in 1995 and under charter to BAS since 1999, is primarily a logistics vessel, used to transport cargo, fuel and personnel. The ship also has basic a scientific capability and undertakes some research work. During the northern summer, the ES is commercially chartered and usually works in the North Sea, but still with BAS management and crew.

BAS operates five aircraft in the Antarctic during the austral summer. The largest is the four-engined De Havilland Canada Dash-7, the primary role of which is as a link between the Falkland Islands, Punta Arenas and Rothera for both passengers and cargo. It also undertakes fuel depot-laying trips to blue-ice runways and some scientific survey work.

The other four aircraft are twin-engined De Havilland Canada Twin Otters. Their primary role is to deploy field parties and establish remote fuel depots. Particular aircraft are also configured to undertake aerial photography, radio-echo ice-depth sounding, meteorological studies and geophysical survey work. Whilst usually based at Rothera, the Twin Otters also operate out of Halley.

Basic preparations

Health matters

Medical examination – Everyone who travels with BAS to the Antarctic must pass a strict medical examination. For BAS staff this is carried out by a BAS doctor at BAS's expense. Visitors' medicals are carried out by their own General Practitioners (GPs) to BAS guidelines (BAS will not reimburse the costs incurred). The purpose of the medical is to determine whether you are fit for the arduous nature of Antarctic service. The standard varies depending upon what you are likely to do whilst in the Antarctic. There are only a few conditions that completely preclude Antarctic service, because those suffering from them would be a danger to themselves or others whilst south. However, whenever practicable the BAS Medical Unit (BASMU) tries to make special medical arrangements to enable staff and visitors to work in Antarctica. As the medicals are often completed many months before travelling south, it is vital that you report any subsequent medical problems to the BAS Medical Unit as soon as possible, as this may affect your fitness to go south or require special medical arrangements to be made.

Please do not take your GP's word that you are fit to go to the Antarctic. The final decision rests with the Senior Medical Officer at BASMU. Some GPs do not have a full understanding of the hazards involved, and there have been instances when people who would have serious medical problems when south have been initially 'passed fit' by a GP. Please refer to the BASMU document 'Medical aspects of living and working in Antarctica' for more information (*www.antarctica.ac.uk/staff/antarctic_visitors/medical.php*).

Dental check – You must ensure that you have a thorough dental check before leaving the UK and that a letter from your dentist confirming your dental fitness is supplied to BAS. Your own dentist should carry out this check. Some personnel, such as winterers and those going into deep-field locations, may be required to visit the BAS dentist. You will be informed if you fall into one of these categories. A dental problem can have a disproportionately significant impact. Minor toothache can ruin your trip south, so it is in your own interests to ensure that you are dentally fit before travelling. BASMU requires that you have a dental check within six months of travelling to Antarctica. As some NHS dentists only provide annual checkups it is sensible to plan ahead to avoid additional costs where possible.

Blood testing – BASMU will need to be aware of your blood group and this should be communicated via your medical

Image: *Rothera Research Station, Rothera Point, Adelaide Island, Antarctic Peninsula.*

paperwork. Winterers will be required to provide a pre-deployment blood sample which will usually be undertaken at Pre-deployment Training.

Confidentiality – Medical records are retained by BASMU and are an important part of ensuring good medical care in the Antarctic. BAS does its utmost to maintain the confidentiality of medical information. However, as there may be safety, welfare or operational implications, personnel additional to the medical staff may sometimes be involved. The special circumstances under which BAS operates and the measures taken have been recognised by the General Medical Council.

Immunisation – Prior to departure from the UK, you must be well in date with the following immunisations, which are freely available from your GP.

- Diphtheria, Tetanus, Pertussis (DTP or Revaxis Polio)
- Meningitis ACWY
- Measles, Mumps, Rubella (MMR)
- Yellow Fever (YF) vaccination is recommended by the RAF for flights to the Falklands via Ascension Island, but is no longer considered mandatory. The need for this varies from time to time depending on the yellow fever situation in diversion areas. The requirement can be brought into being with no notice if there is a sudden outbreak. YF vaccination is only available at recognised travel clinics and a fee is payable. Your GP can advise on local availability. YF vaccination is also required for travel in certain rural areas in South America

For certain people (as advised by BASMU) other vaccinations are needed:

- Tuberculosis
- Hepatitis A
- Hepatitis B

Please refer to BASMU document 'Immunisation Policy' for more information: *www.antarctica.ac.uk/staff/antarctic_visitors/immunisation_list.pdf*

Other immunisations may be required if you intend to travel privately around South America after your trip south. BAS can provide further advice, but it is the individual's responsibility to ensure that they are properly vaccinated. No additional immunisations are required if you are just visiting a South American city whilst in transit, unless health warnings are in place at the time.

Ensure that you have a record of your immunisations with you when you leave for the Antarctic. A BASMU doctor may wish to see this.

Passports and visas

Please ensure that your passport will be in date throughout your stay in Antarctica plus at least an extra six months after your planned date of return, including time for any subsequent travel, e.g.: around South America. This is vital: you cannot renew your passport once you have left the UK, nor can you travel on a passport with less than 6 months' life on it.

You need to be aware that processing passports can take several weeks, so if you need a new passport, please do not delay applying for it. If you don't obtain a passport by the date you are due to leave, you will not be able to travel. We have been advised that those travelling through South Africa need to ensure that they have at least two adjoining pages clear of all immigration stamps for use by South African authorities.

You are responsible for obtaining any necessary visas. UK citizens do not require visas for travel to South Africa, Chile, Uruguay or the Falkland Islands. This will be checked prior to your Pre-Deployment Training and you will be advised of any alterations.

Citizens of other countries, and UK citizens travelling elsewhere, should check their visa requirements well in advance of travel.

Financial affairs (supplementary material will be given at Pre-deployment Training)

We cannot provide financial advice. To prevent problems and minimise worries for yourself and your family, you should take every step to ensure that your financial arrangements are as well organised as possible. Further details on the tax and NI situation can be obtained from the BAS Personal Accounts Manager.

You should consider giving someone you trust Power of Attorney to enable them to act on your behalf and deal with all matters concerned with your affairs. You need to arrange this via a solicitor. You should inform your bank that you are going to be away. You may also have to inform insurance companies, particularly with regard to life, health and home insurance policies. This is particularly important for those who will be wintering.

Voting

There are no arrangements for you to vote in general or local elections whilst you are in Antarctica. If you wish to retain your entitlement to a vote whilst you are away, the only way to do so is by arranging a 'proxy' vote before you leave the UK. This cannot be done once you are abroad. Please contact your District Council for more information.

Making a will

It is always prudent in terms of personal affairs to have a will in place. You are strongly advised to make a will if you haven't already done so.

Bad news whilst you are away

You should also take the opportunity to discuss with your friends and family the possibility that there may be bad news from home whilst you are in the Antarctic. Experience has shown that openness and honesty is the best policy under difficult circumstances. Leaving bad news until the individual gets home has often made matters worse. Your next-of-kin should understand and be aware of your wishes. **We recommend that news be passed in 'real time', via the Family and Friends Liaison Officer, the Base Commander or Ship's Master.**

Packing for the Antarctic

What NOT to take to Antarctica

- Importation of PCBs (polychlorinated biphenyls) and pesticides is banned under the Antarctic Treaty. These materials may persist in the Antarctic environment and damage local wildlife
- Do not use polystyrene chips or similar packing for your equipment. Wrap fragile items in clothing, foam or newspaper (not shredded)

Non-native species and Antarctic biosecurity

Non-native species are plants, animals and microorganisms that are not normally found in Antarctica, but are taken there by human activities. If introduced and able to establish, non-native species can severely damage Antarctic ecosystems and habitats.

As a result, importing non-sterile soil and non-native species (such as plants, seeds, bulbs and invertebrates) is strictly banned under the Antarctic Treaty. If you require a non-native species for your scientific research you will need to obtain a permit.

Rats are commonly found at ports used by BAS vessels. We have implemented comprehensive control measures to ensure that we do not spread rats to rat-free areas. This is particularly important at Bird Island, where the introduction of rats would be a major ecological disaster for globally important populations of some bird species, including the wandering albatross.

Non-native species can also be introduced inadvertently to Antarctica on visitors' clothing and in their personal belongings. For example, seeds and spores can get trapped on outer clothing and mud can be imported on boots. To reduce the risk of non-native species introduction through BAS activities, the Environment Office has developed the BAS 'Biosecurity Handbook'. Please consult this for further biosecurity information. The following general biosecurity measures should be followed:

- All biosecurity breaches and near misses should be logged on the Accident, Incident, Near-Miss and Environment (AINME) Reporting System.
- If you see anything that could represent a biosecurity risk and that requires immediate action (e.g. a rat on Bird Island, or signs of gnawing or droppings on a ship), please take all reasonable action you can to deal with the risk without endangering yourself or your colleagues. Inform the Base Commander or Ships Master at the earliest opportunity.
- The BAS point of contact (e.g. PI, co-PI, named contact, LOU signatory, Programmes Office, Board Member for Science Delivery, Head of Human Resources) is responsible for ensuring that all non-BAS visitors to South Georgia and Antarctica operating under BAS logistics are made fully aware of the contents of the BAS Biosecurity Handbook.
- If any invertebrates (e.g. fly, spider, beetle, etc.) are found within station buildings or on ships, every effort should be made to capture and eradicate them.
- All human waste, which contains non-native microorganisms, must be disposed of in accordance with the BAS Waste Management Handbook and the Environmental Impact Assessment for the project.
- Individuals shall not import any of the following into South Georgia or Antarctica:
  - Any living plant, animal or microorganism (unless in possession of a GSGSSI permit or a Section 12 permit issued under the Antarctic Act)
  - Non-sterile soil or compost
  - Any plant propagules (e.g. seeds, bulbs, cuttings) or invertebrate eggs (e.g. brine shrimp or sea monkey eggs)
  - Untreated wood where bark remains attached
  - Any perishable foods including fruit, vegetables, cheese, fish or meat

N.B. BAS imports fresh foods to Antarctica and South Georgia for consumption by visiting personnel.

Please ensure that any person that is likely to send gifts or packages to you while in South Georgia or Antarctica is also aware of these restrictions.

Image: *The Clothing Store at BAS Cambridge.*

For more information, please visit our website: **www.antarctica.ac.uk**

What to take to Antarctica

If you buy anything new to take south, such as a camera or outdoor equipment, you should carry the receipt with you. When you re-import the goods to the UK, the receipt will provide clear evidence that duty has been paid on the goods. There should be no problems re-importing equipment that is clearly well aged.

Please note that thefts from baggage can occur on commercial flights between the UK and South America/South Africa. You should therefore ensure that any valuable or particularly precious personal items are carried as hand luggage and not placed in the hold. Laptop computers should always be hand-carried.

Antarctic clothing

Temperatures in the Antarctic can vary rapidly and widely.

BAS issues appropriate outdoor and work clothing, except where there is prior agreement between BAS and another institution that we will not do so. In those cases, the clothing used must be of an equivalent standard to that issued by BAS.

Clothing is issued from the Clothing Store in Cambridge. You should contact the Clothing Store Manager and arrange a fitting session well before you go south.

For most personnel, your Antarctic clothing will be transported south by ship. Your kitbag will then be issued to you either when you join a ship or, if flying, on arrival in the Falkland Islands, Punta Arenas or Cape Town. You may have some time in the Falkland Islands or Punta Arenas before you can gain access to your kitbag, so you should carry some of your own outdoor clothing such as outdoor shoes or boots, trousers, top and waterproof jacket for immediate use.

All BAS issue clothing remains the property of BAS and must be returned at the end of your Antarctic tour. Kitbag and contents are tracked via the Bill of Lading (BOL) system and you are accountable for it. All items should be replaced in the kitbag and stored onboard ship or station for return to the clothing store; please do not include personal possessions or clothing in the BAS kitbag. The clothing is vital for your own safety and comfort, you must look after it properly, keep it clean and make repairs as necessary. BAS does not supply indoor clothing, so take your own. All ships and stations are warm inside. You will require items such as jeans, tracksuit bottoms, shorts, T-shirts, sweatshirts or similar, as well as nightwear, underwear, indoor socks and indoor shoes and slippers.

Most stations have semi-formal meals or other events on Saturday nights and RRS *James Clark Ross* runs a formal messing system, so you will need at least one set of reasonably smart clothes.

Glasses

If you wear glasses, ensure that you take at least one spare pair with you. Leave a copy of your prescription with Human Resources so that replacements could be obtained in an emergency. Contact lenses have the advantage that they do not get steamed up or frozen.

As part of the clothing issue, BAS will pay an amount towards the purchase of prescription sunglasses if required. These may be obtained by you to a maximum cost of £180.00. Please speak to the Clothing Store Manager if you require any further information.

Provision of contact lenses and supplies for them is your own responsibility.

Toiletries

We will supply all items necessary for your safety in the Antarctic. High-factor sun cream and lip salve are freely available on ships and stations (although you will have to provide your own when you first arrive in the Falkland Islands/Chile/Cape Town).

General toiletries are supplied on station – these include soap, shampoo, toothpaste, toothbrushes, floss, razors and shaving foam (but not deodorant or shower gel). On

Image: *All outdoor clothing is issued from the BAS Clothing Store in Cambridge and transported south on one of the BAS ships.*

Packing for the Antarctic *continued*

the ships, these items have to be purchased from the ship's bond. There is not a great deal of choice and you may wish to take your own favourite brands and your own cosmetics.

For women, wintering personnel should purchase their requirement of sanitary towels or tampons and reclaim the cost via the expenses system. Summer-only personnel must take their own supplies. Bins for disposal of sanitary waste are provided on ships and at stations. When in the field, sanitary/medical waste should be placed in yellow bags (provided in field boxes) for return to station and appropriate disposal.

Medication

All ships and stations carry stocks of medicines, covering requirements from first aid to emergency treatment. The ships carry various anti-seasickness remedies although it is worth starting such a course just prior to the voyage if you are so disposed. The field rations are nutritionally balanced but many people take vitamin supplements when in the field for longer periods.

The stations are well supplied, but do not have the range of medication available in the UK, and are equipped to deal with emergencies, not ongoing problems. If you are taking regular medication of any kind (including contraceptive pills) you will, as far as possible, need to take sufficient quantities for your tour. GPs will usually give prescriptions for up to a year. If your tour is longer, or there are any problems with this, contact BASMU as soon as possible, and well in advance of your departure date. If you have any concerns at all, please discuss your medication with BASMU well in advance, who will advise or assist in ensuring you have what is needed. To avoid potential problems at Customs, ensure that all medicines are carried in their original containers with labels intact. If you are taking any prescription medicines, or are carrying any controlled drugs, this must be declared on your medical questionnaire and at your medical and should also be advised to the doctor or ship's Master/Base Commander when you join a BAS ship or station.

Photography

Photography is a very popular recreational activity in Antarctica. This is a brief intro, and Pete Bucktrout will host a Q&A session to offer advice and information at the Antarctic Pre-deployment Training Course. For now, a few general points follow.

Don't panic about the cold, most modern cameras work perfectly well in Antarctica, but be aware that in the winter, extreme low temperatures will dramatically reduce battery performance, so ensure that you have spares. The camera killer is condensation, so take a plastic bag! – more at the Pre-deployment Training.

Don't underestimate the compact camera. It'll often capture those unforgettable moments simply because it's in your pocket at the time. A good camera bag and a few cleaning cloths are a sound investment and think about UV filters on all your lenses, if only for protection. Some stations still have a darkroom, so if you're interested in developing film whilst you're on station, please talk to the Base Commander.

In our world of digital imaging, the one thing people underestimate is just how much storage capacity you need, so take twice as much as you think. A top tip for digital SLR users: never change lenses with the power on – the powered sensor acts like a vacuum cleaner for dust!

One final point, the BAS image collection relies heavily on photos taken by everyone who goes south, so, to find out more about submitting your pictures or just to get those questions answered, you can email: Pete Bucktrout *(pbu@bas.ac.uk),* Jamie Oliver *(jaol@bas.ac.uk)* or just drop in to see us at BAS Cambridge.

Music, films and books

All stations hold large collections of music, films and books (including e-books). A personal MP3 player with headphones is useful and wintering personnel may wish to take a mini hi-fi system/iPod dock/speakers etc. Remember to take rechargeable batteries (with a charger) for any portable equipment. Musical instruments are popular and concert nights are sometimes organised. Ask for packing advice if you wish to take musical instruments.

Skis and snowboards

There is a selection of skis available on the larger stations, but you may wish to take your own skis or snowboard. Recommendations vary between stations – you should consult your Base Commander as to local preferences before purchasing new equipment. Appropriate protective equipment should always be used when skiing or snowboarding and all skis must have releasable bindings. Please consult Operations and Logistics (OPAL) if you intend to hand carry your skis.

Other items

The Antarctic is hard on watches. You should take at least two watches – inexpensive digital watches are quite adequate. Spare straps and batteries are also useful. A watch with an alarm is recommended. You may consider taking items such as binoculars, a hair dryer, alarm clock, etc. but avoid power hungry items as generator capacity on the stations is limited. The latest bestsellers and newspapers and magazines are always welcome on the stations.

Unaccompanied personal belongings

(applies to wintering staff only)

Winterers may consign personal belongings as manifested cargo (that is, cargo officially declared to Customs) on a BAS ship, for delivery to their wintering station. This cargo will not be available until the ship arrives at your station, which may be some time after your own arrival. It is not accessible whilst onboard ship. It is not intended that you should 'move house' to the Antarctic. Space on stations is extremely limited – you should therefore give careful thought to your requirements and not pack more equipment than is necessary.

All wintering personnel will be issued from OPAL Shipping Services, a box 75 x 38 x 41 cm in which to pack breakable items

Image: *Exploring a crevasse near Rothera Research Station during field training.*

and a soft kitbag for clothing. These containers will remain the property of BAS and will be retained when your possessions reach Cambridge at the end of your tour. In addition you may consign a bag containing skis and/or a snowboard.

Personal boxes must not contain any perishables, liquids, fireworks, aerosols or hazardous substances. As a guide, any material that has an orange warning label on the original packaging is hazardous and may not be transported. It should be noted that ALL batteries are considered hazardous for shipment; advise to be sought from OPAL Shipping Services before packing any batteries, either loose or in equipment. As the cargo is shipped through the tropics, heat-sensitive material should not be shipped, but rather hand-carried south.

Cargo packing dates are usually around the end of July for RRS *James Clark Ross* and the end of August for RRS *Ernest Shackleton* (Contact OPAL Shipping Services for routings and precise dates). You should deliver your personal belongings to the BAS Logistics Store by dates advised by OPAL Shipping Services. All boxes must be accompanied by a full list of contents and be clearly labelled with your name and station. An electronic copy of the contents should also be supplied. **Unmanifested cargo will not be accepted onboard ships.**

Scientific cargo

All scientific cargo must be delivered to the BAS Logistics Store by the published packing date unless specific arrangements have been made in advance with OPAL Shipping Services.

All cargo must be accompanied by a cargo packing note giving a full description of cargo including hazard data information and stowage conditions if appropriate. Cargo will not be accessible onboard ship unless it has been exceptionally designated as 'Wanted on Voyage' and approved as such by OPAL in advance.

Scientific cargo is only transported by air to Rothera or Halley on an exceptional basis, and must first be approved by OPAL. You should contact the Operations Manager by the middle of July for authority if you think you might have an exceptional justification to ship cargo by air.

Further details concerning cargo movements are included in the OPAL Shipping Guide and individual station Visitors' Guides.

Northbound cargo

Your Base Commander will supply you with more information regarding northbound cargo for return from Antarctica. Essentially the same procedures apply as for southbound cargo. Your possessions should fit into one of the supplied cargo containers as described above.

You may hand carry non-hazardous items up to the baggage allowance for your route home. Be aware that this may not be the same allowance as for your journey south.

You may send personal belongings north as manifested ship's cargo. Your Base Commander, Winter Base Commander or Chief Officer will provide you with case numbers, advice on packing and a C3 customs form. After clearing UK Customs and being discharged from the vessel, all cargo will be transported to Cambridge – this is likely to be in the second half of May. Personal cargo may then be collected from Cambridge or delivered to your nominated address. Transport costs for delivery from Cambridge will be charged to individuals, as will any import charges levied on dutiable goods included in your personal belongings.

Note: It is not possible for individuals to collect cargo from the dockside. Your cargo will therefore not be available until the ship has returned to the UK, and cargo has been discharged and transported to Cambridge.

Images: Top: *Loading cargo at Mare Harbour, Falkland Islands.* **Bottom:** *A decent camera is certainly recommended and most cope well with the cold.*

Travelling to and from Antarctica

How do I get there?

Most people travelling to Antarctica will stage through the Falkland Islands, Punta Arenas or Cape Town (Halley only). These are known as the Gateway Destinations. Those travelling on other routes will be issued with separate instructions but the principles shown below will apply.

BAS organises transport from BAS Cambridge to the departure airport. If you do not wish to use this transport you will need to make your own arrangements to get to the airport, but may then reclaim reasonable expenses incurred.

BAS will arrange all your travel from the UK airport onwards, as well as any accommodation and transfers required during your journey. Please note that you will need to pay for any meals whilst travelling; if you are entitled to do so, you may make a retrospective claim so keep your receipts.

What information can I expect to receive from BAS?

There will be a travel element to your Pre-Deployment Training. At this briefing you will be given the dates that you are likely to travel and advised of any action you will need to take before you leave.

Approximately two weeks before your planned departure date you will receive your travel confirmation details from Operations and Logistics (OPAL) support team. You are required to confirm receipt of your travel documents, raise any queries and finalise any UK travel arrangements.

Travel dates can be changed at short notice for operational reasons. You should allow 7 days' leeway in any plans you make prior to leaving for Antarctica and after the date planned for your return.

MOD flights to the Falkland Islands

A twice-weekly chartered flight operates from RAF Brize Norton in Oxfordshire. The flight time is 22 hours, with a refuelling stop at Ascension Island. You will have to leave the aircraft but will not be allowed out of the transit compound.

Commercial flights to South America and the Falkland Islands

BAS routes a large number of people on commercial flights to Chile from the UK, normally from London Heathrow. Your travel onward to Antarctica might be routed from either Punta Arenas or the Falkland Islands – whichever is operationally appropriate.

To Punta Arenas: You will stage through Santiago to Punta Arenas, where you will normally be accommodated for a minimum of one night.

To Falkland Islands: You will stage through Santiago, where you will have an overnight stop prior to proceeding to the Falkland Islands on the once-weekly commercial flight. Hotel accommodation and airport transfers in Santiago will be provided at BAS's expense.

Commercial flights to Cape Town

Those travelling to Halley will normally fly directly from London Heathrow to Cape Town.

Commercial flights to other destinations

Exceptionally, you may travel to another Gateway Destination. Your travel arrangements will be forwarded to you and transfers and accommodation arranged as appropriate. The principles shown for other routes as shown above will apply.

What facilities are available at the Gateway Destinations?

You will be met at the airport and transferred to your accommodation. This may be in a hotel, Bed & Breakfast or onboard a ship. Anyone for whom there are different arrangements will be notified in advance.

If you are accommodated at any Gateway Destination onboard a BAS ship, all your meals will be provided onboard; you may eat elsewhere at your own expense.

You will be given further information about your Gateway Destination at Pre-Deployment Training.

Gateway Destination: The Falkland Islands (FI)

The BAS office in Stanley will arrange and pay for your transfers and accommodation in FI.

Your accommodation will be full board (i.e. breakfast, lunch and dinner). You will normally stay in Stanley in Bed & Breakfast accommodation, with lunch and evening meals provided at a specific restaurant. You may arrange to eat elsewhere but this will be at your own expense.

Computer and telephone facilities are available at the BAS office and in most Bed & Breakfast facilities at your own expense.

The Falkland Islands has its own currency (pounds and pence). On the Islands this is interchangeable with UK currency but you cannot use Falkland Islands currency elsewhere. There is no ATM on the Falkland Islands but UK cheques are generally acceptable in the main shops and credit and debit cards are accepted in most stores.

Gateway Destination: Punta Arenas

The BAS-appointed agent will arrange and pay for your transfers and accommodation in Punta Arenas.

Bed and breakfast accommodation is normally in one of the hotels. You must make your own arrangements for lunch and evening meals and retrospectively claim reasonable costs.

Computer and telephone facilities are available at the hotels and in local internet cafes at your own expense.

The local currency is Chilean dollars and in some establishments US dollars are also accepted. ATMs are available in the town.

Gateway Destination: Cape Town

The BAS-appointed agent in Cape Town will arrange and pay for your transfers and accommodation in Cape Town.

You may be accommodated on a BAS ship, in which case your accommodation is full board. If you wish to eat elsewhere (i.e. not on the ship) you may do so at your own expense.

Those for whom hotel accommodation is arranged will have breakfast provided at BAS's expense. You must make your own

arrangements for lunch and evening meals, for which you may retrospectively claim reasonable costs.

Computer and telephone facilities are available on the ship, at the hotels and in local internet cafes at your own expense.

The local currency is South African Rand. ATMs are available in the main tourist centres.

How will I travel onwards from the Gateway Destination?

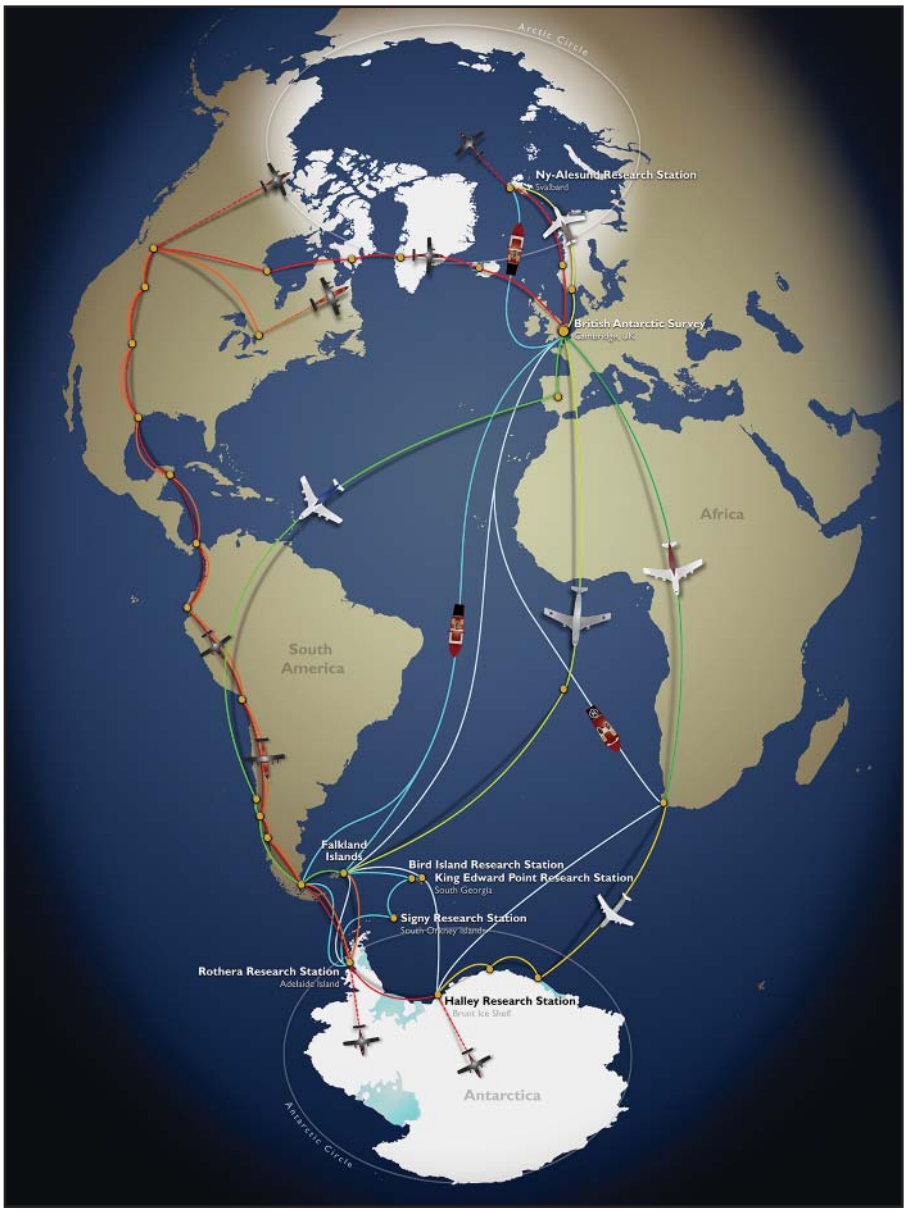
You can normally expect to have at least one night's accommodation at your Gateway Destination before departing for Antarctica. However, due to the unpredictability of the weather in Antarctica, last-minute changes can occur, particularly during the early part of the Antarctic season. You should be prepared to either move quickly or spend several days waiting!

Most BAS staff will travel onwards from the Falkland Islands or from Punta Arenas to Antarctica using BAS transport.

Those travelling to/from Rothera can be routed either by air or by sea. All other BAS personnel will normally travel to/from their Antarctic destination by sea.

BAS aircraft

BAS Dash-7 flights from the Falkland Islands or Punta Arenas to Rothera take approximately 4-5 hours.



BAS ships

If you are not travelling into Antarctica by air, then you will normally travel to your destination on either RRS *James Clark Ross* or RRS *Ernest Shackleton*. There are exceptions and if you are one of these, you will be notified as early as possible.

If you are travelling by ship you will be required to complete a **Personal Survival Techniques (PST/STCW '95)** course prior to your departure. Human Resources will confirm the details. A copy of your PST certificate should be sent back to OPAL Support Team and you MUST carry the original document with you when you deploy.

How will I travel home from Antarctica?

Travel from Antarctica will be by ship or BAS aircraft, normally to the Falkland Islands or Punta Arenas (Gateway destination). Those travelling from Halley will normally return through Falkland Islands. We aim to get you back to the UK as soon as practicable after your arrival at the Gateway from Antarctica, either by MOD flight to RAF Brize Norton (from Falkland Islands only) or by commercial airline into London Heathrow.

You will have the option to make your own arrangements to travel home from your gateway destination. More details will be given at your Pre-Deployment Training.

Images: Top: *Routes taken by BAS ships and aircraft to the Polar Regions.* **Bottom:** *The BAS De Havilland Canada Dash-7 aircraft lands at the blue-ice runway at Sky-Blu Field Station.*

For more information, please visit our website: **www.antarctica.ac.uk**

Living in Antarctica

Living on ships

You may travel on BAS ships either in transit to or from a station, or as part of a science cruise. Shortly after joining the ship, you will be given a briefing on the ship's layout, safety, security and emergency procedures and the plans for the coming work period. **Please read the booklet that is in your cabin as soon as you join the ship.** This will tell you everything you need to know about safety and the ship's routine. This booklet is available on the internet for RRS *Ernest Shackleton* at: *www.antarctica.ac.uk/living_and_working/research_ships/rrs_ernest_shackleton/es_cabin_info.pdf* and for RRS *James Clark Ross* at: *www.antarctica.ac.uk/living_and_working/research_ships/documents/JCR_cabin_book_C.pdf*

The Master has overall authority onboard. Any of the ship's crew will be pleased to explain the operation of the ship and the routines. It is possible to visit the Bridge and Engine Room in small groups after first obtaining permission. Otherwise, you must not enter restricted areas.

All non-crew members on the ships are designated as Special Purpose Personnel, SPP. This means legally you are a mariner, with a job to do on the ship. This maybe your science work or if you are just in transit, it refers to any work you do in support of the BAS Antarctic mission. This may include 'gash duties', cargo work, boat work, painting, maybe even carpentry and engineering.

Therefore whilst in transit, (unless you are currently working on scientific data collection/ support – see *Science Cruises*) you may be required to provide galley and general assistance,

All jobs are subject to your own work on board, ability and competence. Training for work will be given and no-one will be asked to undertake duties which they are not competent to do safely. If you feel unable to do certain work safely please inform the King/Queen Fid or Crewman giving you instruction and alternative work will be found for you or extra training given. Side benefits to assisting the ship's staff are that it helps pass the time on a long passage and engenders a positive bond with your colleagues in the marine crew.

BAS nominates one person from the SPP onboard to act as 'King/Queen Fid'. This person acts as the liaison between the Master and SPP. King/Queen Fid will assist with any questions you may have. Job rotas and social events are also co-ordinated through him/her. For science cruises the Principal Scientist acts as liaison with the ship staff.

Staff should expect to share cabins. You will be expected to keep your own cabin, working and living areas clean and tidy. There is a weekly inspection of the ship by the Master. The ship's crew operate a round-the-clock watch system, and at any time there will be people sleeping. Whilst social events are held, care must be taken to limit disturbance and noise levels and you should consider the impact of your actions on other people.

All ships pitch and roll. You must take care when moving about the vessel. Remember the sailor's maxim "One hand for yourself, one for the ship", i.e. hold onto the railings when moving about the vessel. Make sure that everything is properly secured before leaving port, and that portholes are securely closed. Seasickness remedies are available from the ship's doctor. Ask whether any have side effects e.g. drowsiness in which case you may be limited in what you do while taking them. During rough weather deck areas may be placed out of bounds and restrictions must be strictly adhered to.

BAS should be advised of any special dietary requirements as early as possible. Vegetarian and special dietary food can be made available, if we are advised in time.

Both ships have a gym and sauna for general use and carry a selection of books, DVDs and games to pass the time. If you are travelling for more than a few days, you are advised to take some leisure items with you especially your own choice of reading. If you have an electronic book like a Kindle, iPad or laptop, download your books, movies or music before you leave home.

Many people get dehydrated on ships; you should drink plenty of water and may wish to take a skin moisturising cream. Soft and alcoholic drinks are available from the ship's bars, which are run on a 'tick sheet' system. The ship's Bond (shop) sells toiletries and souvenirs as well as drinks and cigarettes using a chitty system. Any expenditure will be taken directly from your personal account. You will not require money whilst onboard. A small cash advance can be obtained from the Master prior to arrival at a port as long as your credit or debit card details have previously been left with the Personal Accounts Manager.

Smoking on ships is restricted to certain areas. These will be described during your familiarisation briefing. Smoking infringements will not be tolerated, fire is the greatest danger aboard ship.

If you are travelling on a Royal Fleet Auxiliary (RFA) or other non-BAS ship, you will come under either Royal Navy or other operating regulations. These differ from those on BAS ships. You will be informed separately about the rules and requirements that will be imposed on you whilst onboard such ships.

Science cruises

Science cruises typically last 2-6 weeks. Scientific work on ship during the cruise frequently continues 24-hours-a-day, seven-days-a-week, with personnel working 12-hour shifts. A Principal Scientist (PS) for the cruise will assume responsibility for cruise personnel. He or she will nominate watch leaders for each shift who will co-ordinate requests between the science and ship operations. Guidelines for Cruise Participants are available at:

Image: *On the balcony of Bransfield House, Rothera Research Station.*

For more information, please visit our website: **www.antarctica.ac.uk**

www.antarctica.ac.uk/living_and_working/research_ships/documents/cruise_participants_handbook.pdf

All Personnel must have completed an STCW 1995 Personal Survival Techniques course to sail on BAS ships. You are required to send a copy of the certificate to BAS. The original certificate must be taken with you to the ship. BAS will organise this training for its own personnel.

Safety shoes and a helmet must always be worn whilst working on deck. Additional personal protective equipment (PPE) must be worn as appropriate.

Ship's laboratories are small and usually shared by different projects. It is important for everyone to be considerate of other users and work in a tidy manner. All laboratory regulations and guidelines apply as they do in the UK. However there are extra risks in ship laboratories and the ship-specific Laboratory Code of Practice and Cruise Risk Assessments should be thoroughly read before undertaking any laboratory work onboard. The Code of Practice and the Risk Assessments for the cruise are available in the ships' laboratories.

Ship Safety Management System

There is a Ship Safety Management System in place in line with BAS policies. Whilst you are onboard you are part of this system and should report anything you think is unsafe, as well as accidents, incidents and near misses. Reporting near misses is particularly important as this helps us plan for safer operations and may prevent serious accidents in the future – 'big or small report them all'. It cannot be over-emphasised that ships can be dangerous places and all rules and instructions from the crew must be followed. Any suggestions for improving safety onboard are welcomed and should be passed via the King/Queen Fid to the Safety Officer or by completing one of the anonymous Safety Report Cards.

Internet

The bandwidth on the ships is very limited, you should not expect to surf the web as you might at home. Other aspects of this will be covered in the Communications briefing during Pre-Deployment Training.

Living on stations

Each station has a Base Commander (BC) who is present each summer and has overall authority on the station. A Winter Base Commander (WBC) is appointed as the deputy and will act as the BC's representative during the winter.

Accommodation and work routines vary between the BAS stations. When you first arrive on station you will be given an introduction and tour of the facilities. Incoming personnel are provided with training before they are allowed to undertake field activities or use boats or vehicles. This training builds on that received over the preceding summer, including at the Antarctic Pre-deployment Training Course and/or Field Course.

Technical and support staff generally work a structured five or six-day week, whereas science and operational staff may work different hours as projects or workloads require. There are times, for example when discharging cargo, when personnel may be required to work shifts to ensure efficient operations. However, it is intended that there should be adequate time in each week for personnel to undertake recreational and social activities. It is important that everyone is aware that their leisure hours may not coincide with those of personnel working on other projects. Do not get upset if others are playing whilst you are working.

Staff should expect to share accommodation on stations. At Rothera and Halley meals are normally provided by professional chefs, but at other stations all personnel take turns to cook. Vegetarian food is available on all stations. There are communal tasks to be undertaken at all BAS stations. The tasks differ from station to station, however you will be expected to take part in domestic duties on a rota basis. These tasks include washing up, dealing with waste and general cleaning (especially at the weekly 'scrubout'). You may also be required to assist in other duties such as

Images: Top: *RRS James Clark Ross on a science cruise in the Bellingshausen Sea.* **Bottom:** *A field camp on Adelaide Island, Antarctic Peninsula.*

station maintenance, cargo handling, staffing of field huts, acting as night watch and assisting with flying operations. BAS has always believed that everybody who lives on a station should take equal responsibility for its daily maintenance.

In addition, staff will probably be co-opted into some science support work at some point in their tour. This could include depot work, field flying support, boating/field work support, as well as direct science support tasks.

Each station runs its own bar facilities with a limited supply of alcoholic drinks. The particular system will be explained to you on arrival, but all operate on some variation of either the 'tick sheet' or pre-supply systems, with payment deducted from your personal account. You should not take personnel supplies of alcohol onto the station. Please read and observe the Staff Notice giving BAS policy on alcohol and drugs.

Other purchases (such as postcards etc.) can also be made through your personal account. You will not require money on station.

All stations operate a policy of no smoking within station buildings.

All ships and stations supply UK-standard 230V 50Hz AC power through standard British three-pin sockets and are equipped with ample computers for personal or work-related use. All stations operate an energy conservation plan to reduce fuel use.

All your electrical equipment must be PAT tested before you use it on station. This can be done on arrival but it will save you time if you get it tested beforehand. The electrician will endeavour to get your equipment back to you as soon as possible but please don't expect an immediate turnaround. If you need to use anything straight away, get it tested before you arrive.

As on ships, there are washing machines and dryers at the stations. Washing powder is provided.

Morale and behaviour of staff

Maintaining morale depends on all team members being considerate, friendly and productive. It is recognised that stations and ships will not always be completely harmonious. When this does happen work can suffer and grievances may lead to unpleasant confrontations and uncomfortable environments. Collectively we aim to prevent morale breaking down.

Relationships, both pre-existing or those that develop during service south, are not uncommon within our communities. Couples have a responsibility to their community to avoid indiscrete behaviour.

Staff in supervisory positions are required to exercise the highest level of integrity and confidentially when dealing with information learnt about others during the course of their duties.

Recreation

There are many opportunities to learn and take part in recreational activities in Antarctica, particularly for those people staying on BAS stations. However, it is important that you understand that BAS has a 24-hours-a-day duty of care towards you whilst you are living in Antarctica. This applies whether you are a member of the BAS staff, a contractor or a visitor from another research centre. Therefore, it is necessary for BAS to take the same approach to recreational activities as it does to the work programme. You will not have the same freedom to go and do whatever you like in your 'time off' as you would in the UK.

We have established sets of regulations and undertaken risk assessments for recreational activities and those wishing to take part must follow these. Most of these are common sense and are no different to the precautions that you would take in the UK. If in any doubt, you should consult your Base Commander who will ensure that you have the advice, information and safety equipment that you require.

Living in the field

This section is primarily aimed at those personnel who will be living and working off station for extended periods. BAS employs field safety specialists (Field Assistants) to ensure that off station activities are carried out safely and efficiently.

The majority of field work is undertaken using tents but small field huts are used at some locations. It may be necessary to share with a member of the opposite sex and if this is likely to cause problems it should be raised in advance.

Food comes in the form of expedition style rations and these provide around 3,500 kilocalories per person, per day. Vegetarian options are taken as an additional supplement from station.

Input into the field is usually by Twin Otter aircraft, but may be by ship for northern peninsula or island projects.

Poor weather can result in several days being spent in the tent, known as 'lie up'. Books, games and media storage devices with speakers/headphones help to pass the time. Charging will generally be using a solar panel or a small generator. Some projects may only be provided with a solar panel for charging comms equipment, so power requirements should be considered in advance of deployment.

Fieldwork advice

- Plans can change at short notice due to weather or operational constraints. The more flexible your approach, the more you will achieve
- Be prepared to use any time of day to get the project completed. Don't waste good weather
- Your Field Assistant may rule that travel or work is unsafe at any time. The safety of personnel and equipment will take precedence over project completion
- You may not get on with your work colleagues all of the time. Patience and tolerance are just some of the essential qualities required for living and working in the Antarctic

Communication in the field

Field parties have a daily radio sched back to base using HF (high frequency) radio. Iridium satellite phones are used as a backup to HF radio and for data transfer. HF is the preferred method of communication as it is free.

The Iridium phone can be used for personal calls and these must be paid for by the individual. Iridium phone account cards are available from the station comms manager and these should be acquired prior to deployment into the field. Both work and personal emails can be sent from the field but these should be

kept to a minimum and limited to text only. More information on comms matters will be given on station prior to deployment.

Time differences

During the Antarctic summer, Halley and Rothera are three hours behind GMT (as are the Falklands), KEP and Signy are two hours behind and Bird Island is on GMT. Other conventions apply in winter months.

Computing (supplementary material will be given at Pre-deployment Training)

Each station and ship has PCs and printers for general use. Many people take personal laptops and associated peripherals. All personal computing devices must be checked by IT staff before being connected to the BAS network. Computing support for personal laptops is secondary to BAS science and business. Little or no support will be available for operating systems other than Windows 7.

The Internet will be available to specific devices connected to the network. The connection is very limited, much like the old 'dial-up' services and then shared across the station or ship. Efficient websites such as Google work acceptably, whereas YouTube does not. There is not enough bandwidth for web devices such as webcams or Skype phones.

Communications

Email, web access and telephone communication (supplementary material will be given at Pre-deployment Training)

For most people, the usual form of communication is via email between the Antarctic facility and the rest of the world.

Whilst the various satellite connections provide the potential for a 24/7 service, it should be noted that weather conditions can and do affect its operation. This may mean that the service is interrupted or unavailable at times.

All ships and stations have telephones. It is not possible to use normal mobile telephones in the Antarctic or South Georgia, but some mobile phones will work in Stanley and others will work if you buy the local SIM card. The only 'mobile' satellite phones that work in Antarctica are Iridium phones.

Ships and stations receive a daily newspaper by email. This consists of about four A4 pages of news headlines and summaries.

Airletters

We recognise that not all your contacts have access to computers and email. Therefore, there is a facility to send and receive messages by post. These may either be faxed from station or emailed to Cambridge; in either case the message will be posted on to your contact, whose address must be included at the top of the page. Your contacts should post their message (clearly marked 'Personal Message' on the envelope) to Cambridge from where it will be faxed to you.

Post

Each station is able to receive and send normal post during the southern summer. Please note that the opportunities for doing so are infrequent and if you are going to Antarctica for a short time you may get home before the post arrives. Ships' personnel may send post when the ship is in port.

Stations use either British Antarctic Territory or South Georgia and South Sandwich Islands stamps, which are available on station. Post is taken out on the first available ship or aircraft and dispatched, normally through the Falkland Islands. Postal rates for letters, postcards and parcels are available on station.

Anyone with an interest in stamp collecting will have the opportunity to buy the wide selection of stamps and first day covers available at the stations and from the places through which you transit.

Your contacts will be sent ships' itineraries and contact addresses to enable them to send mail for personnel on board or for transfer to stations. All letters and small packages should be sent via airmail. However, the route may be tortuous and post may be delivered out of sequence. Parcels will normally be treated as surface mail and may take many weeks to arrive. If you are deploying to Halley, your post should be sent to BAS Cambridge to be forwarded under BAS arrangements.

Family and Friends Liaison

BAS has a 24-hour responsibility for personnel in the Antarctic. Your contacts can call Human Resources at any time. Outside office hours there is always a member of Human Resources on call via BAS Reception (01223 221400). Both personnel in the Antarctic and their contacts will be dealt with sympathetically and confidentially at all times.

Your contacts' details are taken from your personal details form. Please ensure that you complete all the information that is requested on this form and remember to tell Human Resources if any details change.

Personal accounts (supplementary material will be given at Pre-deployment Training)

There are no banking facilities on the ships or stations. Instead, Personal Accounts are provided for all personnel to cover any expenditure incurred whilst South. It is therefore important that you make sure that you have completed a Personal Account Undertaking before leaving.

Each person travelling south will have an account set up for them. Any purchases made at the base or on a ship will be put against this account. For BAS employees and AEP staff each month's expenditure will be deducted from your salary the following month. For visitors you are required to register card details with WorldPay in order for us to take payment of your account balance at the end of your time in the Antarctic. The WorldPay system is used to take all payments of personal account balances for those people not employed by BAS. All visitors and AEP staff are required to register card details with WorldPay prior to travelling to the Antarctic. For AEP staff these details will only be used should there be a remaining account balance at the end of your employment which cannot be deducted from your salary. Statements of your account are sent out before any payments are taken.

Health and safety and medical issues

Your health and safety

Your safety is our first priority. We are committed to providing you with a safe and healthy visit to Antarctica. But how do we achieve this? We can't make Antarctica a safe environment; that would be impossible. Our focus has to be 'safe people' with the right skills, experience, equipment, making the right decisions at the right time.

Health and safety management at BAS

"Health and Safety is ***not*** *an intellectual exercise to keep safety managers in work. It is a matter of life and death. It is the sum total of everybody's contribution to safety management that determines whether the people we work with live or die" (Excerpt from the Piper Alpha Investigation).*

The above statement seems serious but is very pertinent to the BAS operation. We cannot work in a manner where health and safety is done by someone else or is seen as just getting in the way. At BAS you will find a positive and open culture where health and safety is recognised by all staff to be fundamental in all we do. For this reason, BAS's health and safety record continues year-on-year to be first-rate.

What do we need from you?

BAS needs you to take a very positive and proactive attitude to you and your colleague's health and safety. We need you to understand your responsibilities and work professionally at all times. Please act in a manner that ensures the health and safety of yourself and others.

Please follow the safety information, instructions and any training you have received when you carry out your duties with BAS:

- Only use equipment and vehicles that you have been trained and authorised to use
- Question anything you are asked to do if you think it is unsafe. If it looks unsafe, it probably is
- Think before attempting to lift a heavy load, can you get help or a machine to help with the lift?
- Follow the BAS Safe Operating Procedures when they apply
- Take responsibility for your personal health, e.g. wear sun cream, take regular exercise and use the recreational opportunities available, if drinking alcohol, drink responsibly and never whilst on duty
- Always wear the appropriate safety clothing and equipment issued to you
- Report all accident, incidents, near misses or anything you feel is unsafe (AINME)

A few key terms and definitions in BAS Safety Management

Risk Assessment

A management tool and method of identifying hazards, quantifying risks, planning safety controls and setting actions for improvement.

Safe Operating Procedures (SOP)

A formally documented step-by-step guide to ensure more complex work activities are carried out safely and efficiently; often a SOP will be in place for higher risk activities.

Control of Substances Hazardous to Health (COSHH) Assessment

A method of assessing those workplace hazardous substances which pose a risk to your health. The assessment then implements the best controls to protect your health. The standard controls often seen at BAS are fume cabinets or dust extraction, safe storage, PPE, good hygiene and training and awareness.

Accident, Incident, Near Miss and Environment (AINME) Reporting

The BAS online reporting tool. All staff and visitors are required to report accidents, incidents and near misses. You will find the BAS AINME system via your local intranet.

BAS Safety Portal

A 'one stop' online resource where you will find up-to-date health and safety information particular to BAS sites, e.g. station risk assessments, SOPs and safety guidance.

Personal Protective Equipment (PPE)

Is a term used for all the equipment you generally wear or attach yourself to, to offer some form of safety control. Hard hats to sun hats, mukluks to steel toe caps all come under this category.

Remember the best safety tool you have is your head, use it wisely!

Image: *Travelling in the field using skidoos and sledges.*

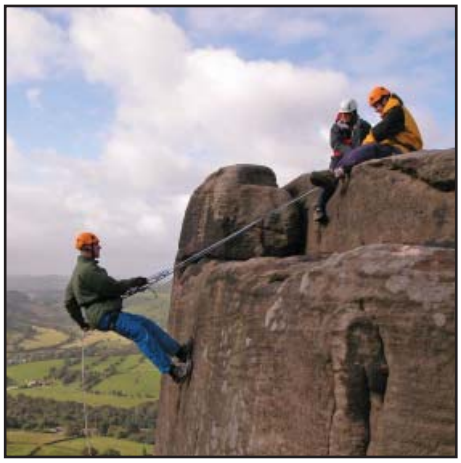
For more information, please visit our website: **www.antarctica.ac.uk**

Training

All personnel travelling south require training in order to work safely. You MUST attend the appropriate Antarctic Pre-deployment Training Course and first-aid training. Job-specific training may also be required, and further training takes place on ships and stations.

Training is an ongoing process. We recognise that even people with extensive polar experience can refine their techniques through revision and refreshment. Hence, you may be required either to repeat courses at regular intervals or to undertake more advanced training.

Medical Cover



In order to provide a high standard of medical care for personnel in the Antarctic, there are doctors and small surgeries onboard both BAS ships and at Rothera, Halley and KEP. Each doctor is supported through a telemedicine link and 24-hour medical cover with the BAS Medical Unit (BASMU). Signy and Bird Island have advanced first aid support.

The medical service in the Antarctic is limited by the availability of staff and facilities. The doctors undergo extensive special training before deployment, but there are no specialist hospital facilities or Intensive Care Units, and only limited surgical facilities. Circumstances may arise where conditions cannot be treated on station. Evacuation will be undertaken where possible, but this will be dependent upon the time of year, weather and logistic capability.

Personal health

Antarctica is, in general, a clean, healthy environment. However, the prevailing conditions do expose personnel to a number of hazards with which they may not be familiar. These can lead to medical problems, but are avoidable if proper precautions are taken. They include:

- Hypothermia
- Cold injury
- Sunburn and snow blindness
- Dehydration
- Carbon monoxide poisoning

Further information on all the above, and other conditions, is given in KURAFID, the BASMU first aid manual.

Images: Top: *Abseiling is part of the BAS field training course, held in Derbyshire.* **Bottom:** *Adjusting instruments high on a meteorology mast at Halley Research Station.*

For more information, please visit our website: **www.antarctica.ac.uk**

Environmental protection

Most activities undertaken in Antarctica, even scientific research, will cause some environmental impact. We take all practicable steps to minimise our environmental 'footprint.' All of our activities are assessed for their potential impact before they are allowed to proceed. BAS considers that the limited and local environmental impact of our activities in the Antarctic is far outweighed by the important scientific investigations of global relevance that we undertake.

Waste management

See Waste Management Handbook (*basweb.nerc-bas.ac.uk/information/manuals/docs/waste_management_handbook.pdf*)

Everybody is responsible for minimising the quantity of waste they produce, and for the proper disposal of their own waste.

Before departing for Antarctica, remove as much packaging as possible (e.g. cardboard or plastic packaging from batteries, toiletries etc.) BAS already makes extensive use of reusable packaging materials. Where practicable, use rechargeable batteries.

Do not drop litter, including tea-bags and cigarette ends, on land or over the side of ships. All BAS waste, except for untreated sewage or wet food waste, is removed from Antarctica. Open burning or burying of waste is prohibited. Waste is separated at source into different categories for reuse, recycling or disposal. It is reduced in volume as far as practicable, securely packed and correctly labelled for safe transport. Particular attention must be paid to the correct packaging and labelling of hazardous waste. Many types of waste, including steel and aluminium cans, paper, cardboard, some plastics, photographic chemicals, batteries, printer cartridges, empty fuel drums, and large scrap metal, are sent to the UK or Falkland Islands for re-use or recycling.

Soon after arriving on ship or station you will be given a tour of the facility and the waste management system will be explained in more detail. Details of waste disposal procedures are given in the BAS Waste Management Handbook and should be followed closely.

In addition to the proper disposal of waste, there are a number of measures that all personnel can take to minimise their own impact on the environment of Antarctica and South Georgia.

Protect Antarctic wildlife

- Do not feed, handle or disturb birds or seals, or approach too closely for photographs. Walk slowly around them and remain quiet
- Do not use vehicles, boats, or aircraft in a way that will disturb wildlife
- Do not walk or drive over extensive areas of moss or lichen
- Do not bring non-native animals, plants or seeds to Antarctica

Respect protected areas

- Know the location of protected areas and any restrictions on entry into them
- If you are permitted to enter a protected area, carry the permit and management plan with you, and pay particular attention to the conditions of the permit
- Do not remove, destroy or damage Historic Sites or Monuments or the artefacts within them

Keep Antarctica pristine

- If involved in refuelling activities, follow the established procedures. Never leave refuelling unattended. Report any spills immediately to the Base Commander
- Do not pollute lakes or water courses (this includes urinating!)
- Do not paint or engrave names or graffiti on rocks, buildings or other structures
- Do not collect souvenirs of biological (e.g. plants), geological (e.g. fossils) or human origin
- Do not build cairns

Reduce energy use

BAS is committed to reducing the amount of fossil fuels it uses to power ships, aircraft, vehicles, and station electricity and heating systems.

The primary fuels used on the stations are marine gas oil (diesel) and aviation fuel which are used for both heating and electricity generation. This means that the stations produce more CO_2 per unit of heat/electricity than the equivalent energy used in the UK. We are working hard to reduce the carbon emissions from energy generation on our stations through a combination of solar hot-water heating, new high-efficiency generators, photovoltaics and wind turbines. However, the best way to manage and reduce energy use, and the associated carbon emissions, is by staff working in harmony with these technologies and being as energy efficient as possible.

Everybody on station can assist in minimising the quantity of fuel used and the related carbon emissions produced:

- Switch off all lights, computers and other equipment when not in use
- Unplug chargers when not in use and use USB chargers linked to computers wherever possible
- Unplug laptop power packs when not in use
- Do not bring non-essential energy-using equipment to stations
- Do not overheat rooms, 19°C should be a comfortable temperature
- Use the radiators to control room temperatures; don't just open the window to cool the room down
- Check fridge and freezer temperatures for overcooling
- Only take brief showers (3-4 minutes) – don't leave taps running, only wash full loads of clothing and report any leaks you see, no matter how small
- Avoid unnecessary journeys in vehicles (skidoos and gators)

Fresh water production, hot water generation and waste water treatment are a significant use of energy on stations.

These may seem like small measures, but with everyone working together these steps can soon add up to significantly large energy, carbon and cost savings.

Communications and media

Excellence in communication is an integral part of BAS's science strategy. Through its Science in Society programme, BAS is committed to explaining our science and operations to as wide an audience as possible. The programme includes media relations, education, public engagement and publishing. The Communications team works closely with members of staff and their collaborators to help them be effective communicators.

Recognising the crucial role that media play in shaping public attitudes to science, BAS runs a well-established media relations programme that includes visits to Antarctica. All media relations are co-ordinated through the Communications team. If journalists contact you directly please refer them to the BAS Press Office in the first instance. The Press Office will brief you and help you prepare for interviews. Your contacts are Linda Capper *(lmca@bas.ac.uk)*, Heather Martin *(hert@bas.ac.uk)* and Athena Dinar *(amdi@bas.ac.uk)*.

BAS has an educational programme which is co-ordinated through the Communications team. We would encourage any support for schools or educational activities during your time with BAS and ask that you contact us with any details so we can offer our experience and support and keep an accurate record of BAS staff involvement. Contact: Kim Quince *(kyq@bas.ac.uk)*.

Web diaries, blogs and social networking websites

The availability of 24-hour internet access has given Antarctic staff the opportunity to keep in touch with families and friends and to reach out to the global online community via social media. Whilst this is a great way to communicate what BAS does through the personal experiences of our staff, there can be pitfalls for 'authors'. Please seek advice from your Base Commander or the Press Office.

Sponsorship and endorsement

It is important to be aware that sponsorship and product endorsement is a potentially sensitive area. There are Government guidelines that must be strictly followed. Sponsorship comes in many forms – from the support of media or educational campaigns (either financial or 'in kind') to practical help from partnerships. For example, companies often offer free supplies or equipment in exchange for publicity. Suppliers of goods or equipment purchased by BAS often seek to publicise their products in the trade press. The Press Office must approve all text written by these companies to ensure propriety and avoid direct endorsement of products. Individual members of staff must not seek sponsorship, product endorsement or offer public relations opportunities without first consulting their Line Manager and the BAS Press Office.

Images: Top: *Solar panels on Bransfield House at Rothera Research Station, Antarctica.*
Bottom: *A BBC News crew interview BAS staff at Rothera Research Station.*

For more information, please visit our website: **www.antarctica.ac.uk**

Human Resources policies

BAS and NERC have a series of policies that apply to the conduct of its staff. Whilst they are aimed directly at NERC employees, they may also be taken to apply in spirit to contractors and visitors. Any person in serious breach of regulations will be removed from the Antarctic at the first opportunity, regardless of their affiliation, and the particulars handed on to their own employers for consideration.

These policies are detailed in NERC Policy Notices on the NERC Intranet and are available on all ships and stations or from Human Resources in Cambridge. Before leaving, you should make sure you familiarise yourself with policies on:

- BAS Alcohol and Drugs Policy
- Research Council Health Promotion Policy
- Disciplinary procedures
- Grievance procedures
- Research Council Equality and Diversity Policy

Base Commanders and Masters are sworn in as magistrates for British Antarctic Territory (BAT). They also have ultimate responsibility and authority for all activities within their facility and associated areas. All personnel should be aware that whilst they are territorially outside the UK, UK law applies unless a specific alternative BAT statute is in force. Personnel may be prosecuted for any breach of the law as if they were in the UK and either extradited or referred to a higher court for trial.

Final considerations

This handbook contains a great deal of information, and you cannot be expected to absorb it all immediately. Please carry it with you when you go south as a source of reference. Do not leave it at home.

At the back of this handbook is a checklist of the most important things that you should remember before you leave home. If you can tick all the items in the checklist, then you will get your tour off to a successful start.

A visit to the Antarctic is a great opportunity to experience a unique environment, try new activities and make new friendships that will last a lifetime. BAS and its staff in the Antarctic and the UK will do everything they can to ensure that you achieve your professional and personal objectives whilst in the frozen continent.

Please make the most of your time in Antarctica. You are very lucky to be joining the small number of people who visit the continent each year. Approach everything with a positive, optimistic and cheerful attitude and you will have an experience to remember!

Further information

The BAS public website offers a wide range of information on BAS activities and science – regular diaries from stations and ships are particularly popular. BAS staff both at Cambridge and on ships and stations have access to the internal intranet, which holds much practical guidance and links to the websites of BAS groups, services and resources.

Public site: *www.antarctica.ac.uk*
Intranet: *http://basweb.nerc-bas.ac.uk*

Details of BAS science can also be found in the publication 'Polar Science for Planet Earth'. The BAS Business Plan sets out the annual objectives and funding allocations. Copies of these publications are available on all ships and stations and on the BAS website and intranet.

BAS publications: *www.antarctica.ac.uk/about_bas/publications*

The BAS Library provides access to the resources of the NERC Library Service and to online journals and web services. The BAS Library is a scientific library but also holds public interest items. Holdings are at Cambridge and on the ships and bases. Enquiries can be sent to: *baslib@bas.ac.uk*

The BAS Archive Service manages scientific, logistical and administrative records of all aspects of BAS's activities from the 1940s to the present day. These can be invaluable in helping staff to prepare for fieldwork by finding out what has been done in the past and can also provide recreational material. The archives database is available online via the BAS intranet from stations and ships. Enquiries can be sent to: *basarchives@bas.ac.uk*

Archives online database: *http://basweb.nerc-bas.ac.uk/departments/archives/onlinedb.html*

The Archives Service is also responsible for records management within BAS, including implementing the NERC Records Management Policy, with the aim of ensuring effective storage, retrieval and disposal of both electronic and physical business records. The Archive Manager is the BAS Freedom of Information Officer.

The Polar Data Centre provides data management support for NERC-funded polar scientists; this includes data and information services for operational support, science delivery and long-term data management. BAS also holds collections of rocks, fossils, zoological specimens and a herbarium. Enquiries can be sent to *polardatacentre@bas.ac.uk*

Data and collections: *www.antarctica.ac.uk//bas_research/data*

The Mapping and Geographic Information Centre (MAGIC) provides maps and other geographic information to workers at BAS; a map catalogue is available online. MAGIC also hosts the Antarctic Place-Names Secretary (of the Antarctic Place-Names Committee – APC) who maintains a gazetteer and place-names maps for all UK approved names within the British Antarctic Territory (BAT).

MAGIC: *www.antarctica.ac.uk//about_bas/our_organisation/eid/magic.php*

APC: *www.antarctica.ac.uk//about_antarctica/geopolitical/antarctic_place_names*

The Information, Communications and Technology group provides the computing and communications infrastructure for BAS, their wiki site provides essential information for new starters.

ICT wiki: *http://basweb/its*

Checklist

1. Have you delivered any cargo for shipping to Cambridge in time for packing dates?
2. Are your financial and administrative affairs in the UK properly arranged?
3. Have you been fitted for your BAS-issue clothing?
4. Have you completed medical and dental checks?
5. Have you had the necessary immunisations, and do you have the vaccination certificates?
6. Have you obtained any permits needed for your work?
7. Does your family understand the communications system?
8. Do you have your contacts' email addresses?
9. Do you have receipts for goods to be re-imported?
10. Do you have your passport (in date to six months after end of tour) and any visas you may need?
11. Do you have your tickets or flight details letter?
12. Have you confirmed flight details with OPAL?
13. Have you arranged travel to the airport?
14. Do you have sufficient money for use en route?
15. Do you have an overnight bag packed as hand luggage?
16. If you are travelling on a BAS vessel do you have the original copy of your Personal Survival Techniques (STCW '95) certificate with you?

Glossary

AEP	Antarctic Employment Pool
AINME	Accident, Incident, Near Miss and Environmental (Reporting System)
AME	Antarctic and Marine Engineering Section
ASPA	Antarctic Specially Protected Area
AST	Airborne and Survey Technology Section
AWS	Automatic Weather Stations
BASCam	BAS Cambridge
BASMU	BAS Medical Unit
BASnet	BAS Corporate Communications Network
BAT	British Antarctic Territory
BC	Base Commander
Bergy Bit	Floating ice between 1m and 5m above sea level
BI	Bird Island
Bondu	shelf ice
Brash	strips of broken sea ice
Brize	RAF Brize Norton
BSS	Buildings Services Section
BZ	RAF Brize Norton
CASLAB	Clean Air Sector Laboratory
Cat	sno-cat, snow tractor
Comms	Communications
COSHH	Control of Substances Hazardous to Health
D7	Dash-7 aircraft
Dingle	good weather, blue skies
DO	Diving Officer
Doo	skidoo, snow bike
DROMLAN	Dronning Maud Land Air Network
Drum line	a marked route on the ice shelf
ERMS	Electronic Record Management System
ES	RRS *Ernest Shackleton*
FI	Falkland Islands
Fid	a BAS employee down south
FIDS	Falkland Islands Dependencies Survey
FIG	Falkland Islands Government
Floes	stretches of thick sea ice
FOM	Field Operations Manager
FOWC	Field Operations Working Committee
FTA	Fixed Term Appointments
Gash	waste/cleaning duties
GIS	Geographic Information Systems
Growlers	mostly sub-surface ice less than 1m above water
GSGSSI	Government of South Georgia and the South Sandwich Islands
H	Signy
H&S	Health & Safety
Hinge	point at which the continental ice floats to become shelf ice
ICT	Information and Communications Technology Section
IiP	Investors in People
INMARSAT	a satellite communications system
ISM	International Safety Management
JCR	RRS *James Clark Ross*
KEP	King Edward Point (South Georgia)
King Fid	the BAS liaison representative onboard ship
Klatch	(personal) belongings
LHR	London Heathrow Airport
LMIC	Line Management in Confidence
MAGIC	Mapping and Geographic Information Centre
Mank, Manky	wet and dark weather
MOD	Ministry of Defence
MOU	Memorandum of Understanding
MPA	Mount Pleasant Airport, Falkland Islands
NERC	Natural Environment Research Council
NOK	next of kin
North	home country, normally UK
OEA	Open Ended Appointment
OPAL	Operations and Logistics
Pack	sea ice
Pax	Passenger(s)
PI	Principal Investigator
PL	Project Leader
PNR	Point of no return (aircraft)
PPE	Personal Protective Equipment
PSPE	Polar Science for Planet Earth
R	Rothera
RA	Risk Assessment
Relief	resupply of a station
SCAR	Scientific Committee on Antarctic Research
Sched	a programmed radio contact, fax or email transfer
SISB	Science and Innovation Strategy Board
Smoko	tea break
South	the Antarctic
SSSI	Site of Special Scientific Interest
T&S	Travel and Subsistence
TOR	Terms of Reference
WBC	Winter Base Commander
X	Stanley
Z	Halley. Also used in time as reference to GMT (Zulu)

Index

Feedback and further information

We welcome your feedback and comments on this document. These should be addressed to:

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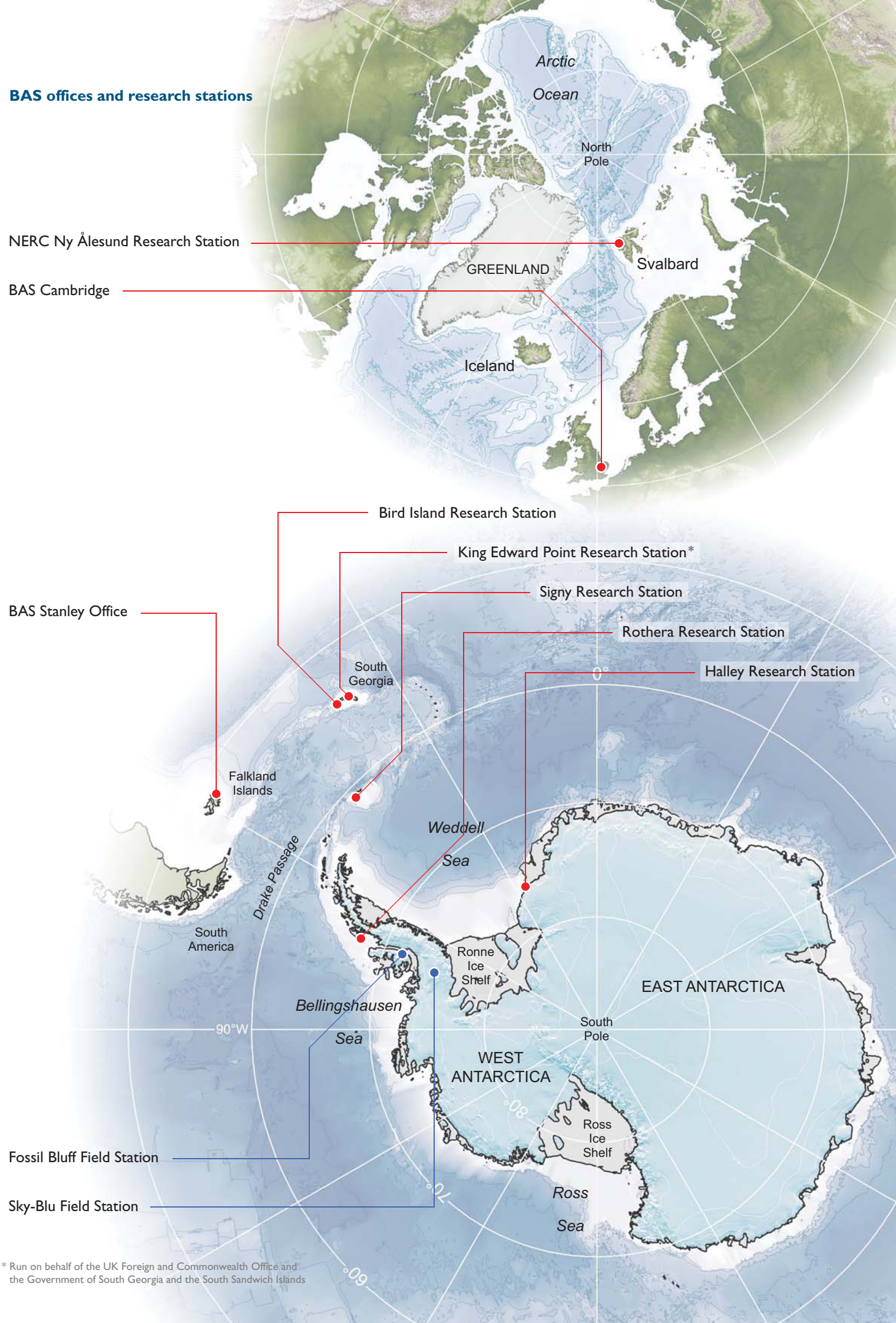
British Antarctic Survey
High Cross, Madingley Road
Cambridge, CB3 0ET, UK

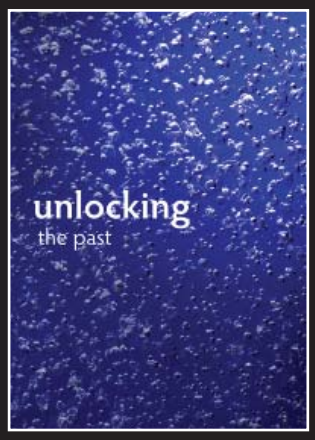
For further information about BAS, please visit our website: **www.antarctica.ac.uk**

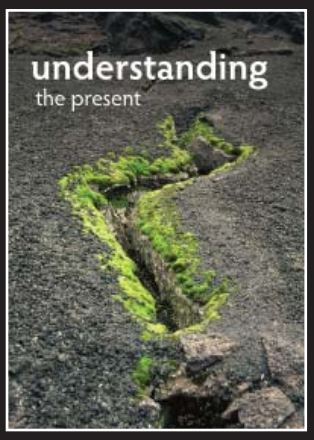
Published by British Antarctic Survey

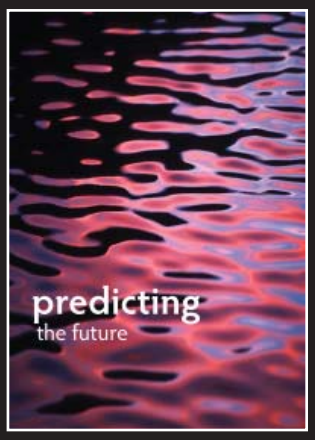
BAS offices and research stations

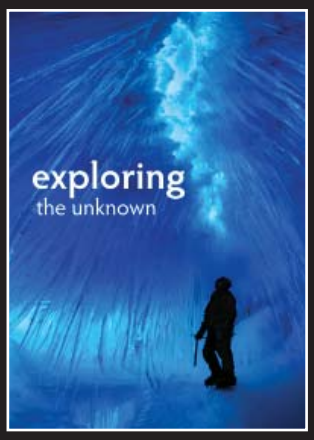


* Run on behalf of the UK Foreign and Commonwealth Office and the Government of South Georgia and the South Sandwich Islands









British Antarctic Survey (BAS), a component of the Natural Environment Research Council, delivers world-leading, interdisciplinary research in the Polar Regions. Its skilled science and support staff based in Cambridge, Antarctica and the Arctic, work together to deliver research that underpins a productive economy and contributes to a sustainable world. Its numerous national and international collaborations, leadership role in Antarctic affairs and excellent infrastructure help ensure that the UK maintains a world-leading position. BAS has over 450 staff and operates five research stations, two Royal Research Ships and five aircraft in and around Antarctica.

www.antarctica.ac.uk

British Antarctic Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

NERC
SCIENCE OF THE ENVIRONMENT