Business Plan 2014

British Antarctic Survey

NATURAL ENVIRONMENT RESEARCH COUNCIL

POLAR SCIENCE FOR PLANET EARTH

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

Purpose

As a scientific research institution we strive for excellence through:

- Delivering a world-class programme of scientific research
- Sustaining for the UK an active and influential Antarctic presence
- Delivering our science and expertise to make a positive impact on society and the economy

Stakeholders & partners

Our stakeholders – including our staff, research and commercial partners, funders, governmental policy makers, suppliers and the public, expect:

- Outstanding scientific research
- Staff development and opportunities
- Benefit to society
- An active Antarctic presence
- Commitment to safety
- Environmental stewardship
- Leadership in polar science and logistics

Key themes

Enhance our standing as a scientific research institution

- Deliver world-leading science
- Develop exceptional scientists
- Build strategic partnerships
- Grow and diversify our income

Achieve a world-leading infrastructure for polar operations

- Deliver innovative technical and engineering solutions
- Provide world-class polar infrastructure

Inspire our staff and students to develop their full potential

- Deliver an outstanding working environment
- Build a culture of co-operation
- Invest in our staff development

Increase our impact on a global scale

- Drive benefit through innovation
- Deliver impact from scientific and operational excellence
- Strive to meet societal needs

Strategic enablers

Sustainable and effective facilities

- Facilities and logistic infrastructure
- Safe and healthy workplace
- Environmental awareness
- Strategic scientific development
- Communication and engagement

Financial management

- Manage risk
- Ensure financial sustainability
- Diversify our income sources

Valuing and developing our staff

- Support and develop staff
- Enhancing leadership skills
- Engaging staff in our strategy

Values

Positive attitude | **BAS Culture** | Co-operation

Responsibility | Innovation | Excellence

Above: *BAS strategy summary.* **Cover:** *Rothera Research Station, Adelaide Island, Antarctic Peninsula.*

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

Executive summary

The British Antarctic Survey (BAS) Business Plan 2014 sets the agenda and priorities for the Survey to achieve its objectives during Financial Year 2014/15 and presents a firm budget for 2014/15 and 2015/16, with an indicative budget for 2016/17. Although the Government has protected the cash value of the science budget from significant cuts over the period 2010/11 to 2015/16, the impact of inflation is starting to significantly constrain BAS activities.

For the first time, this plan includes an indicative partition of the budget for 2014/15, 2015/16 and 2016/17 between BAS's Science Programme and Antarctic operations. Funding and expenditure will be formally partitioned from 2015/16 onwards.

BAS 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.

BAS 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

BAS provides a focus for national and international co-operation in polar science, and access for scientists to the polar regions. BAS delivers and co-ordinates major research programmes, including those requiring significant technology or infrastructure. It exploits research outcomes, engages with the public, provides expert independent advice to the British Government and other stakeholders, and helps to discharge the UK's responsibilities under the Antarctic Treaty System and to administer British Antarctic Territory.

BAS Priorities for Financial Year 2014/15

- Define and develop a refreshed strategic plan for BAS with the arrival in 2014 of three new Directors for Science, Operations, and Innovation and Impact
- Deliver excellent science of the highest quality
- Develop a closer relationship with the NERC community
- Implement more transparent processes for access to national assets
- Maintain the effectiveness of BAS and enhance the cost efficiency of how we operate across all areas of our activity
- Contribute to the development and implementation of the new NERC strategy and funding model
- Further enhance and diversify our science, operations and engineering, and services capability to win funds from a wider range of sources in an increasingly challenging financial environment
- Commence development work on the new polar research vessel to be commissioned in 2019/20, following its announcement by the Chancellor in April 2014
- Complete the second year (of three) of the Royal Research Ship *James Clark Ross* (JCR) life extension project
- Develop the vision and complete construction of the BAS Innovation Centre by March 2015
- Maintain expenditure within budget in 2014/15 and achieve a balanced budget thereafter for both our science programme and Antarctic operations, in the new partitioned format

Financial resources

This Business Plan provides a detailed financial plan for the three years 2014/15 to 2016/17. The budgets for 2014/15 and 2015/16 are based on relatively secure income, whereas 2016/17 is reliant on the Government continuing to protect the science budget, which will only be known after the forthcoming one-year spending review.

The budgets for 2015/16 and 2016/17 have been presented as balanced; however this assumes £1.4m and £2.4m respectively of aspirational income, which is yet to be secured. The BAS Board believes these income targets are achievable through diversification of our activities, improvements to the grant application process and commercial and academic partnerships developed through the new Innovation Centre. However, should these targets fail to be realised, BAS would need to scale-back its operational activities to maintain a balanced budget.

In addition, there is no contingency for unforeseen events or the impact of inflation and/or currency movements. This further emphasises the need for urgent action to secure robust funding from a variety of sources to avoid the risk of downsizing our activities.

Above: *The BAS Dash 7 aircraft landing on the blue-ice runway at Sky-Blu Field Station, Antarctica.*

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

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1. Director's foreword

This is my first introduction to the BAS Business Plan, having arrived in October 2013. It comes at a time of enormous change and opportunity for BAS. In May 2014 we welcomed two new Directors to BAS, Tim Stockings and Beatrix Schlarb-Ridley to lead our Operations and Innovation sectors. They will join David Vaughan, who was appointed as Director of Science in February 2014. I would like take this opportunity to welcome David, Beatrix and Tim into their new roles. These changes will lead to some re-organisation of the management structure within BAS and a refreshed strategic plan for the organisation that is currently being developed, to be announced in the latter part of 2014.

Professor Jane Francis
Director British Antarctic Survey

NERC's new strategy, The Business of the Environment, underscores the essential requirement to deliver excellent science but also places far greater emphasis on the impact of our science, and the utilisation of our skills and assets to contribute to the wider Government agenda and business needs. Our Business Plan has been developed within this context.

As a publicly-funded organisation, BAS has had the unique advantage of a cash-protected resource budget since 2010/11. This was further affirmed by NERC's public commitment to fund BAS at 'flat cash' levels for the period to 2015/16. In addition, the Government has been encouraging capital investment and this has benefitted BAS and will continue to do so for the next two years. In April 2014 the Government announced funding of over £200M for a new polar research vessel to operate from 2019/20, as the *James Clark Ross* and *Ernest Shackleton* near the end of their lives.

Nevertheless, BAS's real resource income is reducing year-on-year as we see the impact of price and modest wage inflation. Success in bidding for competitive NERC Research Programme (RP) and NERC Responsive Mode (RM) funding has partially helped to fill the gap, but more needs to be done to diversify our science income streams beyond NERC and the EU. We have been successful in bringing in income through charging for the use of our ships, aircraft, and research stations, but the variability of this income makes planning more difficult.

Planning work is continuing on the BAS Innovation Centre that is being developed jointly by BAS and Cambridge University. Building work will begin in mid-2014, to be completed by March 2015. This is an exciting opportunity that we will exploit to its maximum potential by creating an environment that will support new innovative collaborations with commercial and academic partners. We expect this to lead to a broadening of relationships with the global scientific community and a diversification of our income streams.

During 2013, NERC announced its new strategy and new funding model. BAS has contributed to both of these initiatives at various levels and reflected the changes in our Polar Science for Planet Earth (PSPE) strategy and business planning. The funding model changes are likely to have a significant impact on BAS in the coming years and their effect will need to be carefully reviewed.

Four other NERC research centres are currently undergoing an exercise to evaluate their strategy, capabilities and funding. This is expected to result in a revised ownership and governance model for these centres, the form of which will be announced in October 2014. The results will undoubtedly have an impact on BAS in future, particularly our relationship to NERC, to the other centres, and in many kinds of support that we have received from them in the past.

At a strategic level, the pressing issue facing BAS is determining the impact of the partitioning of our budget between Antarctic and non-Antarctic activities. An indicative partition has been prepared for 2014/15 with full implementation planned for 2015/16. During the course of the coming year the focus will be on determining what the partition will mean in practice and how it will affect the management and governance of BAS.

One of the key tools available to us for success in a changing world is this, our Business Plan. It sets out our top level objectives for the medium and longer-term and in detail our intentions for the forthcoming years. These, in turn, are backed up by detailed financial forecasts.

In 2011 we introduced the BAS Management Tool and, after a period of learning how best to use it, we now have a tool that provides enhanced capability for managing BAS. We do recognise that the web interface requires improvement and this will be addressed. We continue to focus on our three sectors of activity: Science; Expertise; and Impact *(see page 9)*. Importantly, these radiate outwards from our core Vision and Mission to specific team and group targets and activities, which in turn inform all individual Forward Job Plans. In this way, each one of us can see our role and contribution to making BAS a successful organisation. The content and format of the BMT will be updated during 2014 to reflect the new strategy for BAS once it has been announced in the autumn of 2014.

For external readers, this Business Plan will, I hope, prove useful in providing you with information about our activities and intentions. For BAS staff this is a very important source of information.

2. NERC's strategy – The Business of the Environment

The fundamental objectives of the new NERC strategy are:

- To understand and predict how our planet works
- To manage the environment responsibly as we innovate in new ways of living, doing business, escaping poverty and growing economies

Key actions of the strategy are:

- To foster UK and international partnerships so that business, Government, civil society and scientists can work together
- To address the great environmental management opportunities and challenges
- To utilise existing knowledge
- To drive UK innovation, economic growth and societal wellbeing

BAS's Business Plan has been developed to deliver these objectives and support these actions.

3. Scope and purpose of the Plan

BAS Business Plan 2014 marks the sixth full year of the BAS science programme, PSPE. It contributes to NERC's existing Science Strategy established in 2013, The Business of the Environment, through a programme of world-class polar research and by the delivery of National Capability to provide survey, long-term observations and interdependent research. The BAS science programme also helps sustain for the UK an active and influential regional presence and leadership in Antarctic affairs. The Plan reflects the financial agreement reached with NERC and sets the agenda and priorities for the Survey to achieve its Mission during Financial Year 2014/15. The Plan was approved by the BAS Board and is used to shape the work, direction, and management of BAS during 2014/15. It is published on the BAS Intranet *(http://basweb.nerc-bas.ac.uk)* and website *(www.antarctica.ac.uk)*.

4. BAS strategic priorities

4.1 **Short-term overview.** Polar Science for Planet Earth is now established as the science centrepiece of the BAS Vision and is producing strong scientific outputs. Clearly these need to be maintained, and the quality of the science enhanced further. BAS has been increasing science activity in the Arctic, usually in partnership with others; this trend needs to continue. However, PSPE will be revisited and updated to reflect changes in the external and internal environment since 2009, in consultation with the NERC community.

BAS is committed to ongoing support and delivery of the UK's polar science in an excellent, effective and efficient way. A formal decision is due on whether to extend the Royal Research Ship *Ernest Shackleton* (ES) lease contract beyond 2015. In the coming year BAS, jointly with Cambridge University, will start building work on the newly funded Innovation Centre that is planned to open in April 2015. From 2015/16 onwards BAS will partition its budget in recognition of the need to ring-fence the Antarctic element of its activities.

4.2 **Medium-term overview (2-5 years).** In this medium-term time frame, BAS expects to diversify its science funding and commercial income, with special emphasis on exploiting the newly created Innovation Centre. A life extension refit (to 2019) of the JCR is planned to be completed by summer 2015. Other infrastructure work that should commence during this period includes the next phases of Rothera Research Station refurbishment. Also BAS may need to operate in new ways, if the ownership model for the other NERC Research Centres alters. The budget partition will be fully established and working effectively.

One of the major infrastructure issues in this time frame will be the design and procuring of a new polar research vessel. Development work will begin this year with a view to commissioning the new ship in 2019/20.

The NERC Research Aircraft Service has been integrated with BAS air operations. A decision will be made on the continued use of the Dornier 228 aircraft beyond the end of 2014/15.

4.3 **The longer-term (5-10 years).** BAS will continue to increase its activities in the Arctic, deliver NERC and EU science, and meet the requirements of HMG in the Antarctic and sub-Antarctic regions. It is likely that BAS scientific polar expertise will be applied to questions away from the poles where this is possible and effective. The refurbishment of Rothera Research Station should be completed and options for the upgrade of offices and laboratories at Cambridge will have been considered.

4.4 **Supporting NERC's Strategic Actions.** In addition to the wide-ranging engagement with and contribution to NERC's corporate activities, BAS will:

- Contribute proactively to the development and delivery of NERC's new strategy 'The Business of the Environment'
- Strengthen collaboration with other NERC Centres, the wider NERC community in HEIs, international partners, and commercial business interests and the impact agenda
- Actively support the establishment of a partition in the BAS budget from 2015/16
- Fully participate in the NERC Centre evaluation process and consequent activities emerging from it
- Continue to develop support mechanisms with NERC to meet the evolving needs of the wider UK science community wanting to use NC infrastructure and facilities
- Manage the NERC Arctic Research Programme and the West Antarctic Ice Sheet Stability Programme (iSTAR)
- Continue to develop the role of the NERC Arctic Office at BAS Cambridge
- Continue to support Science into Policy, including informing and advising senior Ministers and officials across UK Government (BIS, FCO, DEFRA, DECC, DfT and MoD)
- Deliver long-term workforce planning by utilising NERC's people policy guidelines

5. BAS Management Tool

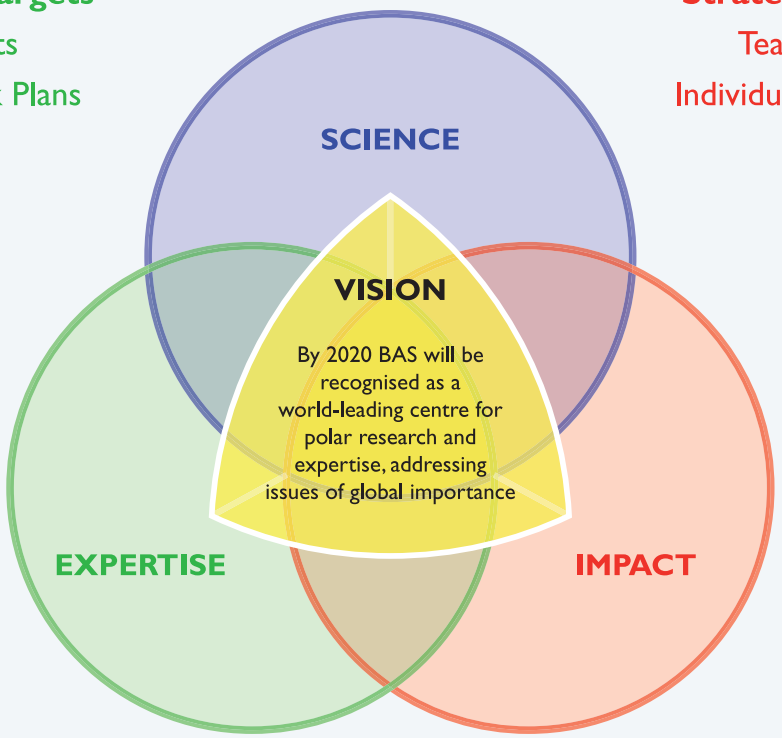
BAS ensures linkage between its strategic objectives and its operational activities through use of the BAS Management Tool (BMT). A schematic of how the tool aids the directing of the work of all employees of BAS is provided on the following page. By linking the Vision and Mission to strategic targets, to group targets and finally to individual work plans, we aim for aligned, efficient and effective delivery of organisational objectives.

The vision and strategy for BAS will be refreshed during 2014 with the appointment of three new directors for Science, Operations, and Innovation and Impact. Detailed strategic plans will be announced in Autumn 2014, which will be incorporated into the BMT.

Strategic Science Targets
Team/Group Targets
Individual Targets/Work Plans

Strategic Expertise Targets
Team/Group Targets
Individual Targets/Work Plans

Strategic Impact Targets
Team/Group Targets
Individual Targets/Work Plans



~15 BAS Strategic Targets
~45 Team/Group Targets
Individual Targets/Forward Work Plans

The latest (March 2014) BAS Management Tool Strategic Aims, guiding activity in a one-to-three year time frame are as follows:

SCIENCE

Science	Areas	Strategic Aims
S1	Chemistry and Past Climate	To understand how the Earth and its climate will react to, mitigate, and amplify external changes, we can observe the past and study the present – only then can we predict the future. Important processes in regulating the Earth System take place in or near the polar regions, and the a range of records for understanding the way the Earth has worked in the past (ice , lake and marine cores, and terrestrial deposits) are found there. The Chemistry and Past Climate programme concentrates on the Quaternary period (the last 2.6 million years) and the period since the Last Glacial Maximum (the last 20,000 years). Ice-core and other palaeorecords can be analysed for that period. Although many aspects of the Earth were similar to the present, large climate changes, as well as periods warmer than today, can be observed. BAS scientists investigate how different parts of the Earth System interacted to produce the large climate changes that occurred naturally in the past, and complement this with investigations on how changing sea-ice and ocean conditions affect the present chemistry of the polar atmosphere.
S2	Climate	The polar regions exert controls on global sea level, the carbon cycle, and atmospheric and ocean circulation. The climate of the polar regions is controlled by complex interactions between the Sun, the atmosphere, ocean and sea ice, making accurate prediction of regional climate a formidable challenge. Predicting how polar climate may change is therefore an essential part of understanding the global climate system. The Climate programme uses observations from both polar regions to improve our understanding of how natural and human-induced factors contribute to climate change.
S3	Ecosystems	Polar ecosystems have global ecological and economic importance. They have unique biodiversity, play a major role in climate processes, and support indigenous communities and commercial fisheries. Polar ecosystems have adapted to cold and highly seasonal conditions, making them sensitive to climate and human impacts. Recent global, climate-driven changes, combined with expanding commercial fishing, threaten the balance of these unique marine and terrestrial ecosystems. By understanding their response, we can use them as a warning system for climate change across the planet. The Ecosystems programme undertakes integrated analyses of Antarctic ecosystems and develops understanding of the large-scale operation of Arctic ecosystems and the role of polar ecosystems in the Earth System.
S4	Environmental Change and Evolution	Earth's environment and life are an integrated system of many parts. These interactions show complex behaviour on all scales from minutes to millennia, rocks to continents and genomes to communities. We need to understand this behaviour in order to make better predictions of future environmental changes. The Environmental Change and Evolution programme addresses key aspects in the polar regions of geological and ice-sheet structure, marine and terrestrial biodiversity that influence the unique role of the polar regions in environmental change and evolution.
S5	IceSheets	The loss of ice from ice sheets in Antarctica and Greenland is a major source of current sea-level rise, and one that is accelerating rapidly. A report from the Intergovernmental Panel on Climate Change (2007) highlighted that the greatest uncertainty in projections of future sea-level rise is due to a lack of knowledge about ice sheets. Improved understanding of key ice-sheet processes is urgently required to allow reliable predictions of future sea-level change. The IceSheets programme examines the role of ice sheets in the Earth System, and the processes that control ice-sheet change. It monitors current change and sets this in context with the past. BAS scientists produce tools to predict how ice sheets will change over time, allowing more accurate projections for increases in global sea level.
S6	Polar Oceans	Global ocean circulation is one of the few mechanisms by which polar processes can directly influence the whole Earth System, including the UK, and possibly on timescales as short as decades. Its importance results from the enormous capacity of the ocean to store and redistribute heat, fresh water, carbon dioxide and other climatically-important substances. The polar regions are disproportionately important in determining the strength and shape of global ocean circulation. The Polar Oceans programme investigates the role of processes and changes both in the shelf sea and in open-ocean environments, and will further our understanding of polar control of the Earth System.
S7	Science Strategy, Facilities and Funding	The Science Board sets the overall science strategy for British Antarctic Survey through the development of Polar Science for Planet Earth, and evaluates the excellence and impact of BAS's science. Science Facilities provide effective support to the science programmes, and maintain and develop their infrastructure. The expertise of the science, technical and support staff is developed and utilised to generate external income both through the UK Research Councils, the EU, business and elsewhere.

EXPERTISE

Expertise	Areas	Strategic Aims
E1	People Skills & Culture	To attract, develop, motivate and retain world-class talent and to create an organisational structure and processes that are flexible, responsive and goal oriented.
E2	Operations, Logistics & Infrastructure	To optimise operations and logistics activities to ensure cost effective support to the approved science programmes in the polar regions. To manage infrastructure effectively and efficiently to ensure optimum utilisation of facilities.
E3	Safety, Health & Environment	To protect the safety and health of our staff, and minimise our negative effect on the environment. To maintain BAS's very influential role within the Antarctic Treaty System on all these issues.
E4	Engineering & Technology	To research, develop and provide innovative and cost-effective engineering and technology solutions for PSPE and the NERC Technology Theme and objectives.
E5	Business Sustainability	To support delivery through astute financial management, workforce planning, resource management and further development of our grant-winning capability.
E6	Knowledge	To be recognised as a world-leading centre of excellence, both externally and internally, through effective science communication and corporate communication activities. To further develop our information and knowledge management capability for the benefit of users.

6. BAS deliverables in the 2014 Business Plan

Utilising the combination of our science, organisational responsibilities, strategic objectives, operational activities, management tools and the culture of our organisation, BAS will aim to be recognised as one of the world's leading polar research institutes through:

- Delivering and co-ordinating major polar scientific research programmes aligned with UK and NERC's science strategy
- Providing a focus for national and international co-operation in polar science
- Providing access for scientists to the polar regions
- Exploiting research outcomes for maximum impact and benefit to society
- Engaging with the public to enhance their understanding of and engagement in the polar regions
- Broadening the range of its funding, including partnerships with both academic and commercial organisations
- Providing expert independent advice to the UK Government and other stakeholders
- Discharging part of the UK's responsibilities under the Antarctic Treaty System
- Assisting with the administration of British Antarctic Territory

7. Governance structure

In May 2014 two new directors joined BAS, Beatrix Schlarb-Ridley heading the Innovation and Impact sector and Tim Stockings as Director of Operations. They join David Vaughan, who was appointed as Director of Science in February 2014.

These appointments will lead to a reorganisation of the operational structure at BAS, built around our three core sectors of Science, Innovation and Operations, supported by our corporate services team (including Finance, HR and Research Support).

Each new Director will be working with the Centre Director in consultation with BAS staff to define and shape the vision and strategic goals for these sectors, which will be communicated to the organisation in the latter part of 2014.

Following the new Directors' appointments the management structure at BAS will be renewed. 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.

8. Grant funding and submissions

8.1 **Preparing submissions for external funding.** Staff must discuss emerging ideas for external funding bids with the most appropriate Science Leaders, Science Programme Co-ordinators, or in the case of Operations and Engineering, Head of Department or Director. The BAS Programme Office (BPO) currently co-ordinates the submission of all external bids and can assist substantially in their preparation (see Science Co-ordination Office on the Intranet for further details). This office (in future called the Research Support Team) is being enhanced to provide support for more diverse funding sources. All external funding bids will be subject to scrutiny prior to submission by Director of Science to ensure they are of the highest quality and in line with BAS strategy.

8.2 **Improving grant success.** BAS aims to further improve grant award outcomes by focussing on submitting proposals that are of higher quality and, where possible, fully recoup the cost to the organisation. Improvement of quality in proposals requires close adherence to the deadlines published on the BAS Intranet.

8.3 **NERC Research Programme (RP).** RPs are a key mechanism for NERC to deliver its strategic science objectives. None of the recently-announced investment (£50M) in RPs has an explicit polar component but several could support polar science. It is essential for BAS scientists to engage with the UK community to develop programmes that provide opportunities to develop UK polar science. Information concerning the approved theme action plans is available via *www.nerc.ac.uk/research/themes/tap*. In the coming year, NERC will be changing the way it develops its RP portfolio and BAS science will need to be engaged in the emerging process. It is expect that in future some traditional RP programmes valued at approximately £10M will be developed, but that there will also be programmes fast-tracked through the NERC approval processes to provide a flexible response where opportunities for leverage arise.

8.4 **Responsive Mode (RM).** NERC's approach to RM research is currently unchanged as shown at *www.nerc.ac.uk/research/responsive*, but improvement in the peer review processes will be implemented in 2014/15. It will be critical for BAS to ensure that only the highest-quality proposals are submitted to avoid sanctions.

9. BAS National Capability

NERC is currently undertaking a review of NC funding and the outcomes from this review are not yet clear enough to be reflected in this Business Plan. Therefore for 2014/15, the main BAS elements of NC remain unchanged as:

- A programme of sustained observing systems, mapping and survey, to provide baseline measurements of polar environments, all in the context of international programmes
- A programme of long-term polar science addressing issues of global importance
- Maintaining a body of nationally and internationally recognised scientists to provide leadership in strategic and discipline-based polar science
- Maintaining the Antarctic infrastructure, providing the UK's Antarctic regional presence and developing the UK's access to both Antarctic and Arctic infrastructure
- Maintaining our excellent Safety, Health and Environment management systems
- A leadership role within the Antarctic Treaty System, especially management of collaborative international research projects in Antarctica
- Hosting and managing NERC's Arctic Office and the NERC Arctic Research Programme; managing NERC's Arctic research station at Ny Ålesund, Svalbard
- Managing NERC-funded collaborative programmes such as iSTAR *(www.istar.ac.uk)*
- Active programmes for knowledge exchange, commercialisation, stakeholder and public engagement
- Data and information management for the UK polar community
- Providing the British presence on South Georgia, funded in full by the FCO and the Government of South Georgia and the South Sandwich Islands (GSGSSI)
- Scientific leadership and advice to policy-makers in UK Government, (including BIS, FCO, DECC, DEFRA, MoD and DoT) and in the Overseas Territories (BAT, SGSSI, FI)
- Advice to UK Government on other polar issues as required
- Scientific leadership and advice to the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR), for sustainable fisheries in the Southern Ocean and the setting of the fishing licences that provide GSGSSI's main income
- A vibrant and excellent research studentship programme

Through 2014/15 BAS will have to develop processes that demonstrate greater ease and transparency in access.

10. Polar Science for Planet Earth (PSPE)

The BAS science strategy, PSPE, was established in 2009 and requires a re-fresh. This will be carried out in conjunction with the NERC community later in the year. Until then we will pursue the present strategy.

10.1 The key themes of PSPE are to unlock the past, understand the present, predict the future, and explore the unknown. PSPE addresses questions of global importance or of a fundamental nature about the Earth System through research in, or with relevance to, the polar regions: our premise being that the polar regions have key functional roles within the Earth System. The BAS Science Board provides advice on scientific priorities and ensures our delivery of PSPE.

Currently, PSPE comprises six interdependent science programmes:

- Chemistry and Past Climate
- Climate
- Ecosystems
- Environmental Change and Evolution
- IceSheets
- Polar Oceans

For details on the strategic objectives of these programmes refer to section five.

10.2 **Science quality assurance.** BAS fully endorses the NERC Ethics Policy and the RCUK Policy and Code of Conduct on the Governance of Good Research Conduct. All our staff have a responsibility to ensure that these high standards are maintained. In particular, countersigners have oversight of specific areas of science.

11. Collaboration and partnerships

11.1 **UK collaboration.** BAS continues to strengthen its scientific links and collaborations within the UK, across NERC, with Higher Education Institutes (HEIs) and with Government departments. The existing scientist-to-scientist collaborations within the NERC centres and with HEIs are an excellent foundation for the increased collaboration required by the NERC Strategy. The new Innovation Centre at BAS will initially act as a platform for increasing collaborations with Cambridge University in particular, and with industry. All arrangements involving exchange of resources are codified, normally in Letters or Memoranda of Understanding (see Programme Office Agreements).

11.2 **International leadership.** The leadership of international partnerships is a strategic BAS priority, in line with NERC's requirement for Research Centres to provide a focus for international co-operation and the co-ordination of major programmes solving complex scientific problems. Our aim is to grow BAS's reputation for a world-class science, wherever polar science can be applied, and the UK's leadership role in polar affairs. This includes maintaining a leading role within the Scientific Committee for Antarctic Research (SCAR), the Council of Managers of National Antarctic Programmes (COMNAP), and increasingly, in Arctic affairs. BAS has strong and active working agreements with Germany, the Netherlands, Norway, Canada, China, South Korea, Malaysia, and the USA. BAS is also leading several European polar science initiatives.

11.3 **NERC Arctic Office.** BAS hosts and manages the NERC Arctic Office to facilitate the development and delivery of NERC's scientific interests in the Arctic and to respond to the growing UK national requirement in this area. Its role is to initiate the co-ordination of Arctic science opportunities, and provides a source of advice for the safe execution of Arctic fieldwork. In addition, BAS is developing stronger links with Denmark and Norway, including new science and logistical opportunities in Greenland, Svalbard, and the wider Arctic.

12. Research studentships within BAS

BAS currently hosts a vibrant community of around 60 research students. Our students are seen as vital to the maintenance of strong research groups and project teams, and are thus key contributors to the BAS Vision and Mission.

All aspects of the admission and management of research students are included in the BAS Student Manual, which is published on the Intranet. This is currently being updated to accommodate new admission policies and procedures. BAS is a recognised University Partner Institute (UPI) with the University of Cambridge, an Open University Affiliated Research Centre (ARC), and a member of Vitae's East of England Hub supporting the development of world-class researchers.

BAS is a partner in four of the recently announced NERC Doctoral Training Partnerships and is fully committed to delivering high-quality learning experiences through these partnerships *(www.nerc.ac.uk/funding/available/postgrad/doctoral.asp)*. We may also agree to support CASE studentships with any university department in the UK, or exceptionally, to support students through a direct contribution to the student's stipend. In all circumstances the Programme Office must be consulted at the earliest opportunity.

13. People, culture and skills

13.1 **BAS culture.** BAS promotes the core expectations that NERC has defined for its staff through a culture that is:

- **Positive** – Positive attitude, energy, realism, enjoy the work
- **Responsible** – Safety conscious, environmentally friendly, accountable for one's actions, honourable, ethical, respectful towards one another, open and fair
- **Innovative** – Creative, entrepreneurial and outward looking, flexible, thinking of better ways, constructively challenging, learning from experience and problem solving
- **Co-operative** – Open, communicative, 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

These BAS cultural values are a fundamental element in the way we operate and are embedded in day-to-day business processes and reward mechanisms.

Images: Top: *The research community at Ny Ålesund, Svalbard, Arctic.* **Bottom:** *Royal Research Ship James Clark Ross in the Weddell Sea, Antarctica.*

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

13.2. **People and Skills Action Plan.** The NERC and BAS Strategy will be delivered through having a core resource of talented and engaged people with the right skills. BAS has a People and Skills Action Plan to address the four key challenges that underpin NERC's Strategy in this area:

- Attracting, developing and retaining the most capable people in delivering our organisational goals and objectives
- Promoting a positive culture of flexibility and adaptability throughout our community
- Delivering training priorities to meet identified skills gaps and development needs
- Promoting polar science to the wider community and assisting NERC in attracting young, talented people into environmental science

13.3 **Attracting and developing the best people.** BAS actively uses its world-renowned reputation to underpin the employment philosophy that 'excellence attracts excellence'. Fundamental to ensuring we attract and retain the best people is the need to maintain the Survey's national and international reputation for scientific, operational and engineering excellence. We have a culture of fairness and transparency and as well as providing promotional opportunities from within, encourage a wide variety of external applications from diverse backgrounds both nationally and internationally. The BAS recruitment website is the main source of external job vacancies.

13.4 **Training priorities.** BAS training priorities, within both the local and NERC context, are focused on nurturing our talent and in developing our organisational capability to meet future needs. Given our diverse workforce, such training extends to all our staff (including scientists, engineers, technicians, managers, support staff, mariners and pilots). Our underpinning philosophy is to maximise the capabilities of all of our staff for mutual benefit. Development and training are our priorities, using mechanisms such as Investor in People, Career Development Panels and Merit Promotion reviews. We believe a cornerstone to having the best people with the right skills is the development of tools such as workforce planning and succession planning in creating and supporting vibrant integrated research communities. BAS continues to increase its active participation in Leadership for NERC (L4N).

14. Supporting science – operations, logistics and infrastructure

14.1 The operation and maintenance of the polar research stations, ships, aircraft and well-found laboratories is funded mostly from BAS NC funding. The planning for field operations seeks to optimise the use of the logistic infrastructure for approved science and its support within the available capacity and funds. The Operations and Logistics Group will continue to modify the planning and co-ordination of field activity and the management of aircraft, ship and research stations as required by the NERC and BAS strategy.

14.2 **Project management.** NERC has adopted PRINCE 2 as its project management methodology. BAS has used this approach since 2001 and continues to apply it widely. All capital acquisitions are assessed to establish those that need to be managed as formal projects.

14.3 **Marine operations.** BAS marine operations are complex, highly cost-effective and delivered in a professional manner. The *James Clark Ross* is undergoing an extended refit, while remaining in full operation over the period 2013 to 2015. Feasibility and design work has started on a new polar research vessel to operate from 2019/20, with funding of over £200M announced in April 2014.

14.4 **Aircraft.** During 2014/15, BAS will continue to integrate its airborne survey capability with that carried out by the ARSF. Over the past year the Dornier 228 aircraft operated by the ARSF has attracted new funding, commercial users and airborne instruments, most notably an airborne synthetic aperture radar (AirSAR) owned by Airbus Defence. A business plan is being prepared to assess whether the Dornier 228 will continue to operate beyond 2014/15 through increased funding from commercial users. BAS Twin Otters are being modified so that ARSF instruments can be flown by them, increasing inter-operability and efficiency. Enhancements to the Dash 7, such as the creation of an instrument hatch, will expand the airborne survey capability currently offered by NERC to the science community. The wider utilisation of BAS aircraft will be managed through a transparent access mechanism similar to that operated for NERC ships.

14.5 **Rothera.** A long-term phased redevelopment programme has been established for Rothera. This is a major undertaking to be carried out over several of years, including the replacement of buildings, site services and the introduction of sustainable energy solutions. The first phase of redevelopment was completed in 2008. Further phases are currently unfunded and therefore targeted works are taking place annually. In 2012/13 the generators were replaced. In 2013/14 work started to upgrade the sewage treatment plant which will be replaced in 2014/15. A strategic outline business case for the full redevelopment of Rothera is being prepared. £8M of funding has been secured for the initial phase of work over four years starting in 2015/16.

14.6 **Halley.** The new Halley station (Halley VI) has been completed and was officially opened in February 2013. It is now in full operational use with a range of science programmes being undertaken. The previous station has been dismantled and removed from the ice shelf. A key requirement now is to develop new science projects with the NERC science community and international partners. This has already started with NASA using the station for major research projects.

14.7 **Science facilities.** The laboratories supporting science, both in Cambridge and on stations and ships, are kept under regular review. The reviews take account of demand by all science users and external developments in both technology and services. The Netherland's Dirck Gerritsz Laboratory at Rothera has been completed and is now in full use and producing excellent results.

15. Support to the Foreign and Commonwealth Office (FCO) and other Government departments

15.1 BAS provides a range of support to the FCO as part of its mission to sustain for the UK an active and influential regional presence and a leadership role in Antarctic affairs. BAS experts are key members of the UK Government delegation to Antarctic Treaty Consultative Meetings, CCAMLR and the Committee for Environmental Protection. BAS also helps administer British Antarctic Territory, and gives advice on the application of the UK Antarctic Act to FCO as required. BAS has determined, in consultation with NERC, BIS and the BAS Review Group, what constitutes the 'Shadow Partitioned Budget'. BAS increasingly is also being called upon to provide advice to the FCO on Arctic affairs.

15.2 BAS also has a responsibility to provide scientific advice to policy makers in other Government Departments, such as BIS, DECC and DEFRA, MOD, DofT and Non-Departmental Public Bodies, such as the Joint Nature Conservation Committee, the UK Hydrographic Office, the Environment Agency and the Marine and Coastguard Agency. BAS is continuing its efforts to transfer polar science results into these policy fora.

15.3 **Support for South Georgia.** BAS took over the UK's presence at King Edward Point (KEP) in South Georgia from the Ministry of Defence in March 2001. The arrangements that define this commitment are set out in an MOU between BAS and the FCO and the Government of South Georgia and the South Sandwich Islands (GSGSSI). The MOU codifies the BAS-directed fisheries research programme and the operation of the research station at KEP, South Georgia for the FCO and GSGSSI.

16. Safety, Health and Environment

16.1 BAS implements employment, safety, health and environment and other workplace legislation effectively and pragmatically. This includes maintaining a culture that is ethical, non-discriminatory and safety conscious.

16.2 BAS aims to be positive, open, pragmatic and effective in its approach to health and safety. BAS safety policy is firmly embedded in the NERC Safety Management System, tailored in detail to meet the special needs of the BAS operation. Accident, incident, near miss, and environmental reporting allows safety performance to be improved through lessons learnt. BAS is accredited to the OHSAS 18001 standard for safety management for the Cambridge site and the ships, which is audited annually by the British Standards Institute.

16.3 Safety Management and Environmental Protection are integrated into a cross BAS Management Team led by the Board Member for Operations and Engineering. Regular discussions with the trade unions on these issues have proved efficient and beneficial. Health, safety, and environment are mandatory items on all BAS Committee agendas.

17. Environmental management

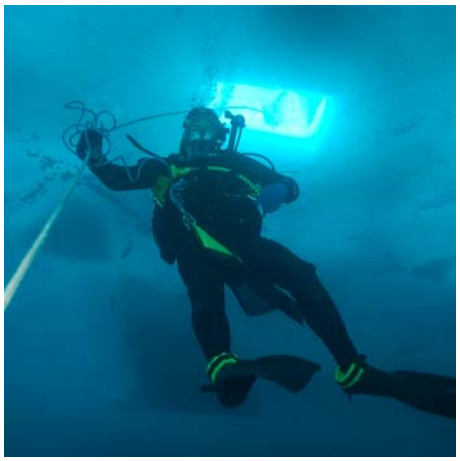
17.1 **Environment Office.** Environmental issues have significant prominence within the Antarctic Treaty System, and 'minimising our effects on the environment' is a strategic priority to achieve the BAS Vision. The BAS Environment Office acts as the focal point for environmental activity, with appropriate research and monitoring organised jointly with the science programmes. The BAS Environment Office is also a source of significant technical advice to the FCO in support of the work of the Antarctic Treaty Consultative Meeting, and Committee for Environmental Protection. BAS is registered to the ISO 14001 standard for environmental management for the Cambridge site and the ships.

17.2 **Environmental improvements within NERC.** BAS is fully involved with the NERC Environmental Management Group, the corporate group that is taking forward environmental initiatives.

18. Finance

18.1 **Income and expenditure.** This Business Plan marks a period of continuing financial austerity combined with uncertainty for BAS income due to a combination of the one-year spending review 2015/16, decisions on the budget, and the implementation of a new NC funding model. Despite the high level of uncertainty, BAS has produced a robust Plan for 2014/15 and 2015/16 and this is reflected in our updated Centre Activity and Resource Plan (CARP). This is partly due to the flat cash funding agreement in place between NERC and BAS, but also due to ambitious, but achievable, income targets and cost cutting measures in place across the Survey. Pay band increases are constrained to 1% by Government decree.

18.2 **Partitioned budget.** This Business Plan includes an indicative partition of the budget between Antarctic operations and infrastructure (ALI) and non-ALI activities. From 2015/16 onwards the partition will be fully implemented, resulting in a segregation of funding sources to match to the corresponding expenditure. This will place an additional constraint on the management of financial resources at BAS and careful planning will be required to ensure both our Science and Operational activities are fully funded.



18.3 **Sustainability of the BAS Programme.** With the actions that have been taken, and those planned, the BAS Board judge the resource budget for the 2014/15 financial year to be balanced. There is however no remaining flexibility to accommodate unexpected events whether externally derived, such as specific cost inflation pressure, or internally derived, such as inadvertent overspending. The cost pressure that BAS has been under in previous years will continue for the foreseeable future and as a result there is always the risk that mitigating actions will need to be taken within the financial year if events dictate.

The budgets for 2015/16 and 2016/17 have been presented as balanced. However this assumes £1.4M and £2.4M respectively of aspirational income, which is yet to be secured. The BAS Board believes these income targets are achievable through diversification of our activities, improvements to the grant application process and increased commercial and academic partnerships through the new Innovation Centre. However, should these targets fail to be realised BAS would need to scale back its operational activities to maintain a balanced budget.

Images: Top: *Halley VI Research Station on the Brunt Ice Shelf, Antarctica.* **Bottom:** *Diver beneath the ice near Rothera Research Station, Antarctica.*

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

18.4 **Managing BAS budgets.** BAS budget holders are held accountable for the effective management of their financial allocations. This requires budget owners to remain at or below budget unless specific agreement to do otherwise is forthcoming. Maintaining forecasting accuracy provides confidence in the overall financial management, and helps the BAS Board to judge the appropriate level of expenditure controls during a financial year when these are needed to avoid overspending. The last two years have been disappointing in this regard and renewed efforts will be put in place this year to improve the accuracy of financial budgeting and forecasting.

18.5 **Capital Investment Programme.** There is an ongoing need for capital investment in BAS science equipment and infrastructure and this is increasing as the assets age. For the coming financial year BAS has an extensive capital programme that will require close monitoring to ensure that projects are completed on time. A formal approval process is maintained for all capital investment activity and options.

Capital funding has become much more accessible to BAS over the last two years as the Government has reversed its initial decision to cut science capital expenditure by 50%. This has enabled BAS to maintain and enhance its asset base and there is a healthy capital plan in place for the next two years.

18.6 **Large facilities replacement.** The three-year life extension for the *James Clark Ross* is expected to be completed in 2015/16. Critical future projects for BAS include the new polar research vessel due for completion in 2019/20 and the refurbishment of Rothera.

18.7 **Pricing guidance.** Special arrangements continue to apply to certain funding schemes such as EU grants whilst others involve a judgement within the overall Treasury accounting guidelines. Advice should be sought from the Finance Department when required.

19. Information management

19.1 The BAS Information Strategy Committee sets the strategic direction for information in BAS and provides information governance, including risk, security and compliance. It ensures that all BAS data and information assets are managed effectively and fully exploited. BAS is committed to implementing the NERC Science Information Strategy and will continue to play a key role in the implementation team. BAS will continue to improve the security and accessibility of the data in line with the NERC Data Policy, developing innovative ways to collect, transfer, curate and visualise data.

19.2 BAS gives its full support to NERC-wide information management initiatives and will continue to encourage the uptake of iShare. In April 2014, the Resource Management System (RMS) upgrade was implemented in all NERC centres.

20. Innovation and Impact

BAS will continue to work with NERC and the HEI sector to undertake polar science that, in addition to building on the body of international scientific knowledge, helps Government and business sectors to use environmental science to shape policy decisions, accelerate economic growth and manage the natural environmental responsibly.

BAS will work towards the development of research and innovation partnerships and collaborations that meet the needs of Government departments, science communities, business sectors and wider society. The new Innovation Centre, a focal point for applied collaborative research, and the appointment of a new Director of Innovation, will be key to forging new relationships with universities, initiating an enterprise culture and skills that will boost the commercialisation of research products and services. BAS will continue to play an active role in the NERC Knowledge Exchange Network.

21. Communications and engagement – Science and Society

Explaining research outcomes and promoting the economic and societal benefits of BAS research are core components of BAS science communication and public engagement campaigns. Building public confidence in research and inspiring the next generation are key objectives for the Communications Team. Campaigns to deliver stakeholder and public engagement through media relations, events, partnership-working with museums, science centres and others sharing common goals are created, delivered and evaluated. Full details are available in the BAS Communications and Engagement Strategy 2011-2015 *(http://basweb.nerc-bas.ac.uk)*.

21.1 **Digital communication strategy.** BAS will use digital communications channels to engage with a wide range of stakeholders within Government departments, business organisations, members of the public, NGOs, staff, teachers and students.

The first phases of the intranet development project will be completed in 2014, with the objectives of stimulating employee engagement, enhancing internal communication and creating a single definitive source for accurate and useful information for BAS staff, and facilitating information exchange between BAS and NERC communities.

The public-facing website will undergo a major re-development in 2014/15 to optimise latest web technologies for effective content management and site structure. Our ambition is to enable clear and concise communication and translation of BAS research and operations in a way that will achieve greater impact with specific target audiences.

22. Management of externally-funded projects

BAS manages a number of externally funded activities, the main ones of which are the NERC Arctic Station, KEP Station on South Georgia, the management of the Arctic Research Programme (ARP), and the West Antarctic Ice Sheet programme (iSTAR). A fundamental principle is that all external arrangements with a call on BAS resources are codified through a Service Level Agreement, Memorandum of Understanding or Letter of Understanding.

23. Additional mandatory requirements

23.1 **International Safety Management (ISM).** ISM is an international maritime safety standard that all ship operators must meet. BAS Cambridge, the JCR and the ES have achieved continuous accreditation since 2002. The Maritime and Coastguard Agency (MCA) audits BAS Cambridge annually and the ships every two-and-a-half years. These audits also cover the International Ships and Ports Security Code (ISPS). BAS is assisting the MCA and FCO with expert technical advice regarding the international discussions on the proposed Polar Shipping Code.

23.2 **Aircraft regulation.** BAS fully meets the requirements of Air Safety Support International (ASSI), which assumed regulatory authority for the airworthiness of the Survey's aircraft in September 2006.

23.3 **Antarctic permits.** All UK activities in Antarctica are regulated by FCO permits under the Antarctic Act 1994. This requires the approval of all UK science activities, including permission for significant changes such as major new science projects and logistical activities. All planning for science projects and programmes and their support must satisfy the permitting regulations. The BAS Director is an authorised signatory under the Act on behalf of the Secretary of State and one of BAS's roles is to provide advice to all UK science projects regulated by the Act.

23.4 **South Georgia permits.** The Government of South Georgia and the South Sandwich Islands (GSGSSI) has a permitting regime similar to that used for Antarctica.

23.5 **Risk management.** NERC has a risk management policy and a risk strategy to meet HMG Treasury corporate governance requirements. The purpose is to ensure that organisations identify, evaluate and manage their key risks. The Board member for Corporate Services is the BAS Risk Manager, and the risk register is on the BAS Intranet *(http://basweb.nerc-bas.ac.uk/busplan/risk-register.pdf)*. All BAS Board papers include a mandatory assessment of the risk implications. BAS also inputs into the NERC risk assessment process.

23.6 **Business Continuity Management.** The BAS Incident Plan is the Survey's primary Business Continuity Management (BCM) mechanism to meet NERC-wide corporate governance requirements. The Plan provides a flexible response to unexpected events that are not covered by standard management practices for business interruption, such as system redundancy and the off-site back up of data. The Board reviews its BCM position annually.

23.7 **Research Councils' Shared Services.** Responsibility for BAS Finance and Human Resource administrative transactions transferred to the UK Shared Business Services (SBS) on 1st April 2010; formal responsibility for strategic procurement transferred to the SBS on 1st April 2008. The SBS was originally established (and owned) by the seven Research Councils with the vision of providing shared administrative services to the Councils. Ownership has now transferred to the Government department for Business, Innovation, and Skills (BIS) and the customer base has expanded to take in some BIS departments. Further expansion plans are in place and the ability of BAS to drive business critical changes within the SBS are now negligible. However, care has been taken throughout to retain within BAS the resources and expertise necessary to maintain Antarctic-specific administrative functions, such as support of the Antarctic Employment Pool and Personal Accounts. During 2013/14 BAS raised a number of concerns with the management of SBS about poor delivery in some business areas. The SBS is investigating these matters in order to identify potential improvements.

24. Planning assumptions

24.1 BAS planning reflects NERC's emerging strategy for 2014 and its Delivery Plan 2011-2015.

24.2 **NERC Strategy.** Planning is based on the defining characteristics of NERC Research Centres, which are to provide within NERC's mission and science strategy:

- Excellent scientific research, monitoring and survey not obtainable elsewhere within the UK at competitive quality, timeliness and cost
- An integrated, well-managed national capability to provide reliable and independent advice to Government and other interested organisations
- A focus for international co-operation; for technology expensive projects; and for co-ordinating distributed major programmes solving complex scientific problems

The term 'national capability' covers the development and maintenance of trained staff, enabling infrastructure, data gathering, and management and delivery.

24.3 **Costing principle.** Costings are based on approved requirements and levels of service. New requirements are not to be funded without appropriate prior approval. Unplanned non-pay inflation has to be managed in year except where there is unavoidable cost growth.

24.4 **Staff numbers.** The Plan takes into account the previous redundancy exercises and any other known changes to staffing levels consequential of assumptions regarding income and expenditure. Future actual staff level changes will be dependent upon the actual future financial position. Costings in the financial tables reflect salary projections.

24.5 **Science.** Costings reflect the approved Polar Science for Planet Earth programmes, long-term monitoring and survey and well-found laboratory support for delivering Polar Science for Planet Earth.

24.6 **Cambridge facilities.** Maintenance (and associated expenditure) from 2014 onwards has been costed on the long-term assumption that the BAS Cambridge site will be maintained in accordance with NERC Estate Management standards, the recommendations of periodic condition surveys and in conformity with existing and anticipated safety, fire and security regulations.

24.7 **Research stations.** Support for Bird Island, Halley VI, KEP, Rothera and Signy is planned on the assumption of a long-term presence. The KEP station is governed by the MOU with the FCO and GSGSSI. Expenditure on field stations, such as Sky-Blu and Fossil Bluff is planned on a year-to-year basis.

Images: Top: *Releasing a meteorological balloon from Rothera Research Station, Antarctica.* **Bottom:** *A remote field camp near the Ellsworth Mountains, Antarctica.*

24.8 **South Georgia.** GSGSSI and BAS have agreed that scientific fieldwork can be undertaken across South Georgia, not just at KEP and Bird Island.

24.9 **Ships.** Expenditure plans for the JCR and ES are based on maintenance 'in class' with the respective Classification Societies (Lloyds Register and DNV). Maintenance and refit assumes an annual average of 315 operational days for each ship. The life extension of the JCR is not expected to take the vessel out of service for an extended period as the work is to be completed in stages over the next two years, following the first successful phase in 2013.

- RRS *James Clark Ross* – owned by NERC with circa 160 science days/year in the Antarctic and 60 science days/year in the Arctic
- RRS *Ernest Shackleton* – bare boat charter from the owners, GC Rieber, until 2014 with an extension of up to 2019, with circa 130 days/year in the Antarctic. GC Rieber have exercised their option to time charter the ES for 2014. The ES is typically available for charter for up to 180 days/year

24.10 **Aircraft.** Plans for the maintenance of the Survey's aircraft are in accordance with the schedules laid down by Air Safety Support International (ASSI) to the standards required for a Corporate Operator's Category Certificate of Airworthiness. The operational hours of the aircraft are assumed to be:

- Twin Otters until 2016, with an overall potential of 1660hrs/yr for field operations per season
- DHC-7 until 2016, with an average of 450hrs/yr for field operations and 19 international flights to/from Antarctica per year
- Dornier 228 until 2015, with an overall potential of 350hrs/yr for international field operations per year, outside of Antarctica

Note that the assumptions above exclude mobilisation/demobilisation flying time between Canada and Punta Arenas. Where BAS aircraft are required for survey work outside of Antarctica it must costed at full cost and charged to the relevant project.

24.11 **King Edward Point.** Funding of KEP is through an MOU with the FCO and GSGSSI and is ring-fenced. Core science money is not used to fund the project (nor vice versa). The BAS presence is assumed to be long term.

24.12 **Vehicles.** Expenditure plans are based on maintaining a vehicle fleet to meet the needs of the approved field programme and specific station requirements.

24.13 **Health and Safety.** General infrastructure and project expenditure plans take into account the health and safety of the Survey's staff and known and anticipated UK and EU legislation, qualified only by the practicalities of implementation in Antarctica.

24.14 **Environment and waste management.** Capital and recurrent expenditure plans are based on the UK's obligations under the Protocol on Environmental Protection to the Antarctic Treaty and 1994 Antarctic Act (conditions attaching to permits issued by FCO).

24.15 **Information and technology support.** Plans are based on the requirements of approved projects, scientific cruises, the maintenance and support of the Antarctic and ship-based networks and Cambridge computing.

Income and expenditure summary (Resource)

	£Ms		
	2014/15	**2015/16**	**2016/17**
NERC Income	44.617	41.973	41.511
External Science Income	2.226	1.624	1.594
External Sundry Income	3.525	3.463	3.410
Unsecured Income	0.000	1.358	2.375
Total Income	**50.367**	**48.418**	**48.890**
Science: Pay	9.145	8.775	8.860
Science: Non-Pay	3.239	3.274	2.710
Support Services: Pay	1.573	1.521	1.541
Support Services: Non-Pay	2.109	1.861	1.895
Operations and Engineering: Pay	11.471	11.338	11.455
Operations and Engineering: Non-Pay	21.694	20.687	20.799
KEP-South Georgia: Pay	0.368	0.379	0.383
KEP-South Georgia: Non-Pay	0.556	0.520	1.184
Arctic Station: Pay	0.060	0.063	0.064
Arctic Station: Non-Pay	0.152	0.000	0.000
Total Expenditure	**50.367**	**48.418**	**48.890**
Surplus/(Deficit)	**0.000**	**0.000**	**0.000**

BAS images and maps

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The British Antarctic Survey also has a selection of maps available to purchase at:
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Feedback and further information

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

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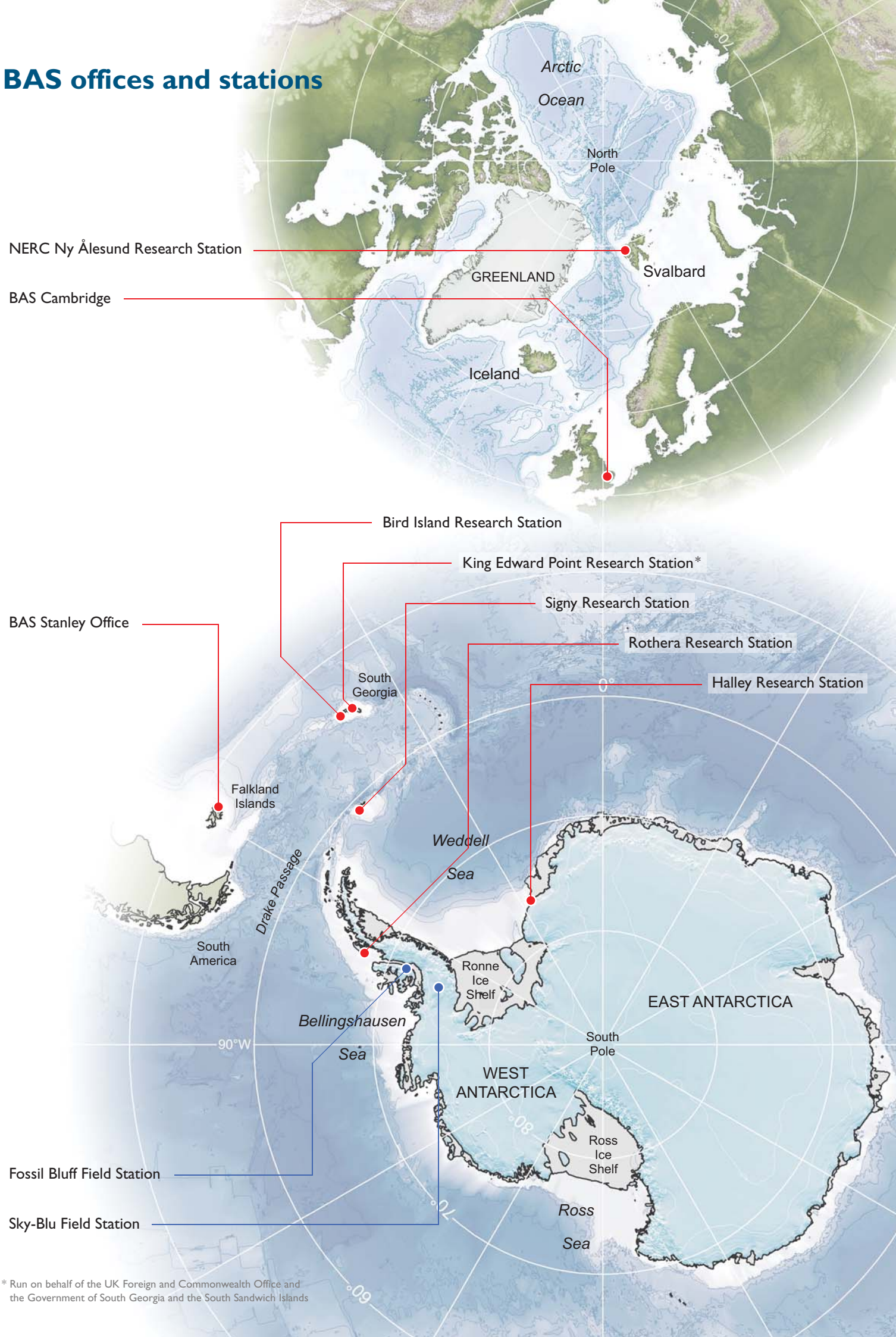
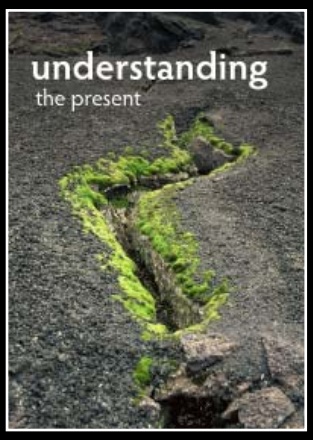
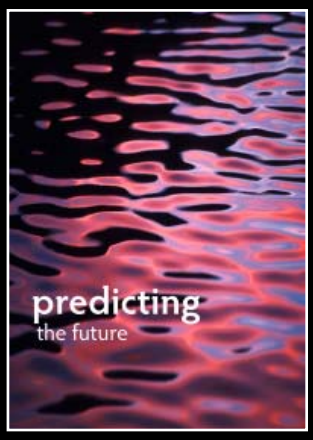
BAS offices and stations



* 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 and enables 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 uses the polar regions to advance our understanding of Earth as a sustainable planet. Through its extensive logistic capability and know-how BAS facilitates access for the British and international science community to the UK polar research operation. Numerous national and international collaborations, combined with an excellent infrastructure help sustain a world-leading position for the UK in Antarctic affairs.

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