

# ICESHEET

The British Antarctic Survey Internal Newsletter



Jan/Feb 14  
#70

## The Future Starts Now

Director's Office

As the summer starts we will prepare for the future of BAS. We will begin activities to refresh the BAS strategy, update the science programmes, look for new opportunities and take a fresh look at the structures of different groups. We need to align the BAS mission with NERC's new strategy called

'Business of the Environment' and we must understand how new

funding models will influence the way we work. As part of this exercise we need to think about what the future will bring for BAS and polar science so that we can plan ahead and be ready for it with the right skills, the right teams and the right structures in place.

What will be the important scientific questions that need addressing in future, not just in the next three or four years but ten or more years into the future? We can draw on

the horizon scanning event organized by SCAR in New Zealand over Easter. SCAR has collected thousands of ideas about future research topics from the international science community – you can see them all on the SCAR website. That meeting will provide some new insights into future science agendas, and we will be able to spot the areas in which BAS can lead the way with our unique expertise.

Operations, engineering, innovations – all areas need

to look to the future. Will emerging technologies change the way we do field work? Will support for fieldwork change so that we can work in more remote regions? Which partners will help us with new innovations?

There is an opportunity now for everyone to be involved in our horizon-scanning exercises so it's time to start thinking out-of-the-box and be ready with your ideas to take BAS forward.

*Professor Jane Francis*



## New BAS Directors Appointed

BAS leadership

Tim Stockings has been appointed as the new BAS Director of Operations and Dr Beatrix Schlarb-Ridley will be the new BAS Director of Innovation and Impact.

Tim was awarded a degree in Metallurgy and Materials Science from Imperial College and then joined the Royal Navy to fly helicopters. He has served on a wide variety of ships on operations around the world, including HM Royal Yacht *Britannia*. He has commanded three ships, taught an international Masters course, led the UK team that trained the Iraqi Navy in Umm Qasr, and worked as a senior officer in the Ministry of Defence. His service has taken him to most areas of the world, both hot and cold,

operating on land, at sea and in the air.

Since leaving the Navy Tim has worked in the NHS running 999 operations for an ambulance service and, until recently, was the Risk Director for Saga shipping. He also has a Masters Degree in Leadership & Management, is an Associate Fellow of the Nautical Institute and a Fellow of the Chartered Management Institute. Tim will start his new post in May.

Beatrix is an experienced biochemist and has expertise in technology transfer and commercialisation. She is currently based in the Department of Plant Sciences at the University of Cambridge, where she is an Enterprise Champion



▲ *Tim Stockings*

and works closely with the University's technology transfer office and the Judge Business School. She is Business Innovation Manager of the InCrops Enterprise Hub, Director of the Algal Innovation Centre Project and Co-ordinator of CambPlants, which brings together people



▲ *Beatrix Schlarb-Ridley*

working on food, energy and business in Cambridge.

Beatrix will be in charge of the Innovation Centre and will help to shape a new strategy for BAS during the summer. She will officially start her new post on 1st May.

– *Jamie Oliver*



**British Antarctic Survey**

NATURAL ENVIRONMENT RESEARCH COUNCIL

## New NERC Chairman Visit

The new NERC Chairman Sir Anthony Cleaver made his first visit to BAS Cambridge on Wednesday 26th February. Sir Anthony was shown around the aquarium and ice core cold room before talking to BAS staff in the conference room. He was very impressed with what he saw and very complimentary about BAS research and logistics. Many thanks to all involved. NERC will be holding one of their Council meetings here at BAS in early July.

– Jane Francis



▲ Examining a slice of ice core

## Halley Research Station Update



▲ It's unusual to see so many aircraft at Halley at the same time

The end of February saw Halley international airport fully open for business. It's rare enough to see two aircraft but due to the late season arrival of the wintering chef and generator mechanic, and the input of two new alternators for the generators, Halley had four aircraft arrive in two days, with three over-nighting at the same time.

The *Ernest Shackleton* left Halley (N9) on 23rd February, signalling the end of the summer season. Summer has seen the successful completion of the BARREL balloon project (nine large balloons were

launched with their payloads). Other summer works included a complete re-wire of the garage, relocation of the ski way, a successful depot laying campaign by air and the usual array of building raises, moves and maintenance. A huge thank you to everyone involved for your hard work. We are now looking forward to a successful winter 2014.

– John Eager



▲ Preparing a balloon launch

## David Vaughan Dir Of Science

On 1st February David Vaughan took up his new post as Director of Science for BAS. David has worked for BAS since 1985, and has undertaken many roles, both in BAS and in the wider community. He has led BAS science programmes on ice sheets since 1999.

The first challenge is to understand the strengths of BAS science and the current structures we have to support it, and how we fund our activities. Over the summer, David will lead a process that will involve all BAS scientists in making sure these structures and processes are fit-for-purpose and can deliver top-class science and allow us to develop diverse funding streams that will ensure a sustainable future.

– Jane Francis

## A Case Of Chicknapping At BI



▲ Excuse me, that's not yours!

The wandering albatross at Bird Island are currently incubating their eggs, which normally hatch between late February and the end of March. As part of a long-term monitoring study, all nests on the island are visited several times during egg incubation, and both parents are identified from their numbered metal rings. During a recent visit, one wanderer surprised the zoological field assistant when she was found brooding a chick, six weeks too early.

On closer inspection the chick was identified as a southern giant petrel. Southern giant petrel chicks hatch throughout January, and have recently begun to be left alone on their nests while their parents forage on the beaches.

It appears that after its own egg was broken or predated, the female wanderer moved to the giant petrel nest a few meters away, and 'adopted' her neighbour's chick. This behaviour has not previously been observed at Bird Island. In fact, cross-species adoption is rarely observed in birds in the wild.

The female albatross appeared very protective of her new ward, but it remains to be seen whether she and her partner will attempt to feed the chick, or whether the chick's rightful parents will return to the nest to claim it.

– Jess Walkup

## Saturday Science At The MOSI

Following on from the popularity of the 'Discovering Antarctica' workshop, the BAS field camp display returned to the Museum of Science and Industry (MOSI), Manchester on 8th February. Chris Hindley, Emily Ludow and Jenny Turton held a 'Saturday Science' interactive workshop, with informal chats themed around Antarctica and the work of British Antarctic Survey.

Emily Ludlow also gave two talks entitled 'Uncovering the Secrets of Antarctica', highlighting her work with the ice cores. Rolling images on a big screen media wall, featuring

BAS operations and Antarctic wildlife (see below), attracted people coming in through the main entrance, with around 700 visitors to the display. The day was a great success and a good time was had by all!

The Ice Lab exhibition at the MOSI – New Architecture and Science in Antarctica, featuring Halley VI, has been extremely successful with over 20,000 visitors while in Manchester. The exhibit's run has been extended to the end of February and it will then be taken around the world, finishing up in New Zealand.

– Kim Quince



▲ Big screens showed BAS imagery at the exhibit's main entrance

## European Funding At BAS



### ▲ EU-funded project success

January was an eventful month for everyone involved with European funding at BAS as a crop of new projects got going. **Polar Ice** (Andrew Fleming and Andreas Cziferszky) looks to develop a next-generation sea-ice information service by building on a wide range of European and national-funded activities and developing new information services, including sea-ice pressure and thickness products.

**MASE** (Mars Analogues for Space Exploration) seeks

to gain knowledge on Mars habitability and on adaptation of life to extremes; it will also present opportunities to optimise mission operations and life detection. Cynan Ellis-Evans and Kevin Newsham are the BAS team involved.

**ICE-ARC** is the biggest project to have started this January. BAS-led, with Jeremy Wilkinson as Co-ordinator, ICE-ARC aims to understand and quantify the multiple stresses involved in the change in the Arctic marine environment and to assess the climatic, economic and social impacts of these stresses on regional and global scales.

February saw **SPACECAST** come to an end after three very productive years. Co-ordinated from BAS by Richard Horne, the project has been highlighted by Europe's

## BAS science

Research Executive Agency as a success story in terms of its results and its implementation.

Building on the success of SPACECAST, Richard Horne, Sarah Glauert and Nigel Meredith will be starting a new project in April. **Spacestorm** will model space weather events and ease their effects on satellites through better mitigation guidelines, forecasting of events and experimental testing of new materials and methodologies to reduce satellite vulnerability.

Are you interested in European funding? Get in touch with the Programme Office – we can advise you on calls for proposals, finding partners, fellowships, networking event opportunities, and all the latest on Horizon 2020.

– Lucy Gonzalez

## Shuckburgh Science Award

BAS Oceanographer Emily Shuckburgh has been chosen as the 40th recipient of the Rosensteil Award in Oceanographic Science, presented by the University of Miami. The award is given to “individuals who have shown outstanding achievement and distinction in oceanographic science”. Emily will receive a plaque and \$10,000 at a special reception in the spring, and will give two lectures at the University. More information can be found at: [www.rsmas.miami.edu/rosensteil\\_award](http://www.rsmas.miami.edu/rosensteil_award) – Linda Capper



▲ Emily Shuckburgh

## BAS Stations Winter Photo Comp



▲ Rod Strachan's winning shot from inside a glacier near KEP

The 2013 unofficial BAS Antarctic stations photograph competition was a big success with some amazing pictures sent in from the stations to Competition Co-ordinator, Halley Doc James Townsend.

The same format as last year was used with pictures submitted under three categories – ‘light’, ‘dark’ and ‘portrait’. The overall winner was Rod Strachan's stunning glacier pic from KEP (also the ‘dark’ winner) and the ‘light’ category was won by

Christoph Larndorfer for his sunrise over a remote camp site at Halley. If you have great photos from your time south/north and would consider submitting them for the BAS image collection, please contact myself or Pete Bucktrout.

– Jamie Oliver



▲ Antarctic camping at its finest

## The ICESHEET Green Corner



### ▲ No more puncture misery

Have you ever left work in the dark and realised that you have forgotten your bike lights? Ever found a flat tyre on your bike when you haven't got a spare inner tube or puncture repair kit? Those frustrating moments will be a thing of the past as cyclists at BAS will soon benefit from a new emergency bike repair kit. The equipment has been purchased with money donated by the NERC Environmental Management Group minor resource fund and includes inner tubes, tools, puncture repair kits, lights, locks, and reflective jackets. The items can be borrowed for emergencies so people can

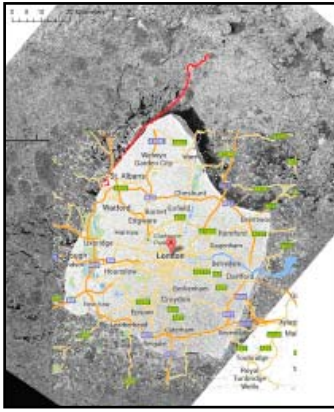
fix their bike on site or travel home safely. The kit will be stored in the Post Room and will be available for anyone working at BAS.

Items can be borrowed on a short-term basis on the understanding they are either returned or replaced so others can benefit from their use in the future. This is a one-off purchase so if items go walkabout they can't be replaced – so please think of others and return or replace anything that you do use!

Don't forget to check out the BAS travel plan which provides information about local commuting options and discount schemes at local bike shops and public transport. Details of the lift-share and BikeBUDi schemes are also included. See: [http://basweb/departments/environmental\\_management/guidance/travel.html](http://basweb/departments/environmental_management/guidance/travel.html) – Clare Fothergill

# Giant Icebergs In The Weddell Sea

BAS ships



▲ The enormous A23A iceberg

February 2014 saw RRS *Ernest Shackleton* heading down beyond Halley and into the Weddell Sea to attempt to reach the Ronne Ice Shelf with a depot of fuel, hot-water drilling equipment and all associated deep-field equipment. The going was hard and often resulted in progress being halted as she had to 'work the ice' to make a passage through the pack.

In support of the ship's efforts was Andreas Cziferszky, our expert ice-man. This was the second outing for Andreas on the *Shackleton* since he was involved in the iSTAR project in 2012. Andreas is able to download and resolve hi-resolution imagery from near-real-time satellite sources provided by Polar View, and then overlay the ship's position so that we get an aerial view of the progress of the ship through the ice.

It was during 5th February that the ship found its way into the lee of a mega-berg which had shown up on the satellite picture with a good area of 'open water' on its western side. Once inside the lee, the ship was able to proceed at speed down the side of the A23A iceberg, which is reputed to be one of the largest in the world.

Andreas was able to superimpose a similar scale picture on top of the satellite image to give some sort of perspective to the size of the thing (see left). You can see that the berg (66km x 74km) is the same size as London! You can also see that RRS *Ernest Shackleton* was approaching the M25 near Watford! The Ship's Master decided to follow the M25 towards Uxbridge and then turn off to make his way by Slough, then Windsor and head off towards Southampton.

When asked if we could stop at the M25 services outside Uxbridge for a burger, we were told that we were travelling too fast for the actual M25! Had the *Shackleton* been a submarine, we could have followed the Underground instead!  
– Steve Stiglic-Buxton

# A Wandering Wanderer

Remarkable news reached us regarding a ringed wandering albatross from Bird Island. Chick 4001481 fledged from the island on 17th November 2005, never to be seen again... until now. Henri Weimerskirch sent details of the bird, now a breeding female, from Possession Island in the Crozet archipelago! Possession has a population of around 350 breeding pairs, studied by Henri's team. This is the first recorded emigration from Bird Island to Crozet, but in 1980 a Crozet ringed wanderer was found at Bird Island. These birds are clearly very well named.  
– Andy Wood



▲ From Bird Island to Possession

# Research Outcomes For 2014



▲ <http://gtr.rcuk.ac.uk>

Every spring, NERC-funded research centres and grant holders are asked to provide information on what outcomes their funding has produced. Over the last few years BAS staff have been one of the best at writing brief, eye-catching pieces about their annual achievements and having them selected for annual reports and web articles.

In 2013 there was a big change to the process – thank you to those that met the NERC deadline and entered your data into NORA (NERC Open Research Archive). Thanks also for your comments which were discussed at the Sept NERC collection review meeting.

Your 'Research Outcomes' (previously called OPMs) are available online via NORA along with your publication outputs, and are also in a system called Gateways to Research (GtR). GtR is a new public-facing website for linking information about publicly-funded research. In future, if you fail to submit Research Outcomes it will look like your work hasn't produced anything. As well as publications, 'outcomes' include economic, technological, and policy impacts; awards and recognition; and other non-publication outputs such as websites. As the focus is on NERC funding rather than simply on grants, non-science teams are also encouraged to submit project outcomes.

The 2014 exercise is under way, so please report your outcomes to your team leader before 21st March.  
– Andrew Gray

# Update From Bird Island Station

Shorter days and violent storms signal the imminent end of another summer season at Bird Island. Already many of the adult fur seals have left the island, leaving only scores of pups and a lingering bad smell behind. The wandering albatrosses are patiently sitting on eggs, while the black-brows and grey-heads already have chicks that look like extremely fluffy skittles with beady black eyes. The macaroni and gentoo penguin chicks are now as big as the adults and are bravely starting swimming lessons, though currently display rather more enthusiasm than skill in the water.

For the human residents of Bird Island it's been a hectic season, with the Zoological Field Assistants working long days on the beaches and hills to gather another season's worth of data on the animals and birds. HMS *Protector* and the *Ernest Shackleton* dropped



▲ Aaargh! Zombie apocalypse!

by in January, bringing with them a team of technicians to continue work on the station's bulk-fuel installation. The *Shack* also made good use of fair weather to take away a large amount of waste cargo from the station.

The BBC 'Deadly 60' team have also visited the island to film all of the spectacular wildlife that lives on our doorstep (see page 6). Meanwhile, one Saturday evening the BC turned up for dinner, only to find that the station had been taken over by zombies. Now where's the risk assessment for that?  
– Adam Bradley

## KEP Ultra Half Marathon

We ran the KEP half marathon on 12th Jan with a bright start to the morning and a crack team of eight competitors. After many practice runs it was a nervous start in the knowledge of what was to come. The first kilometre is easy, nice and flat around the cove to Grytviken, the next 4km though are solidly uphill to the top of Brown mountain at 324m (most of this altitude is gained in the fifth kilometre so that's definitely a walking section!). From the summit it's a steep and sometimes hair-raising descent back to sea level on the return to KEP. And this isn't even halfway!



▲ *Martin and the trophy*

With a blistering pace of 1:53:24 Martin Collins OBE took the trophy this year. Micky Sutcliffe and Daniel Johnston raced neck and neck to the line with Micky taking second place in 2:06:10 and Daniel just two seconds behind. A great race and some very sore legs the next day.  
– Dickie Hall



▲ *The hardy few gather apprehensively on the start line*

## David Vaughan On ESA WebTV

BAS Director of Science David Vaughan featured on a special edition of the European Space Agency (ESA) WebTV Programme 'Earth From Space'. Host Kelsea Brennan-Wessels talked to David about how satellites observe the effects that climate change has on our planet. David was joined by Albert Klein Tank from the Royal Netherlands Meteorological Institute.

Watch the programme here:  
[www.esa.int/spaceinvideos/Videos/2014/02/Earth\\_from\\_Space\\_Special\\_edition](http://www.esa.int/spaceinvideos/Videos/2014/02/Earth_from_Space_Special_edition)  
– Jamie Oliver



▲ *David talks climate change*

## Spotlight On Science – Dec 2013

### Strong Sensitivity of Pine Island Ice-Shelf Melting to Climatic Variability

Pine Island Glacier has thinned continuously during past decades, driven by acceleration in its flow caused by thinning of the floating ice shelf created as the glacier slides into the sea. This has also released the glacier from friction caused by contact with the ground. Understanding the processes driving ice-shelf thinning and the glacier's response is key to assessing how much it will contribute to rising sea levels.

It's known that much of the thinning is due to a deep oceanic inflow of Circumpolar Deep Water (CDW) on the continental shelf neighbouring the glacier. This warmer water then makes its way into a cavity beneath the ice shelf melting it from below.

The passage of this warmer water was made easier by the unpinning of the ice shelf from an underwater ridge. This ungrounding event was a major driving force behind the glacier's rapid change.

In 2009, a higher CDW volume and temperature in Pine Island Bay contributed to an increase in ice-shelf melting compared to the last time measurements were taken in 1994. But observations in January 2012, and reported now in *Science*, show that ocean melting of the glacier was the lowest ever recorded. The observations suggest that there is a complex interplay between geological, oceanographic and climatic processes. The study stresses the importance of both local geology and climate variability in ocean melting in this particular region.  
– Pierre Dutrieux

## MAGIC Image Of The Month

MAGIC Image #53

During the recent voyage in the southern Weddell Sea, RRS *Ernest Shackleton* was using all available resources to help navigation through heavy sea ice. This included regular satellite imagery delivered by Polar View, but we also took the opportunity to test Small Unmanned Aircraft (multi-

copters) as well as a tethered helium balloon/kite (helikite) to provide a longer range view than is available from the bridge.

In this image, taken from 140m altitude by a quadcopter, it was possible to see interconnecting leads

as well as more open water beyond the ice floes. On this deployment the flying time was five minutes, with an air temperature of -14°C and wind speed of ten knots. The whole operation, from request to analysing the footage, took about half an hour.  
– Andrew Fleming



Quadcopter recce flight; 140m; 2014-02-05 23:30

British Antarctic Survey  
NATURAL ENVIRONMENT RESEARCH COUNCIL

Polar View

▲ *View from a quad-copter hovering 140m above RRS Ernest Shackleton in the Weddell Sea*

## Captain John Marshall Globe

During our last leave in November 2013, Michael Quinn (Purser, ES) and myself visited John Marshall to present him with 'the globe', a retirement present made by members of the Ernest Shackleton's ships company. We found John in excellent form and as sharp as ever, he asked us to send on his best wishes to all who know him at BAS. He was very impressed and sent thanks to all involved.  
– John Harper



▲ John and his retirement gift

## Antarctic Media Visits 2014



▲ DOX filming the diving teams deploying heated settlement plates

BAS hosted two documentary teams at its stations during January and February. DOX Productions, who are making a one-hour film on how climate change is likely to affect marine ecosystems such as krill, visited Rothera from 15th to 23rd January. They filmed diving teams deploying heated settlement plates on the sea bed as part of a new project managed by Lloyd Peck. Their documentary will be broadcast on Channel 4 in the autumn. It will also be shown on the Arte Channel in France

and Germany and PBS in the United States.

In February a CBBC film crew arrived at Bird Island to make a programme on the wildlife there for the Deadly Pole to Pole series. This will also be broadcast in the autumn and will then be syndicated around the world. The team, fronted by presenter Steve Backshall, filmed BAS staff weighing seal pups and managed to get some footage of bird life at night with the use of a thermal imaging camera. The group

### BAS media

then went on to King Edward Point where they filmed elephant seals.

Both broadcasters were selected to go south because they will be reaching out to very different audiences, and these audiences won't just be in the UK. BAS is now inviting media applications for next season and there have already been more expressions of interest than at this time last year. The Communications team would like to thank everyone who helped facilitate this year's media visits.

– Paul Seagrove



▲ Deadly Steve at Bird Island

## Place-Name Of The Month – #18

A new geological map of the South Sandwich Islands has recently been produced as a collaboration between BAS geologists and MAGIC. The individual maps of each of the islands use newly acquired WorldView2 satellite imagery,

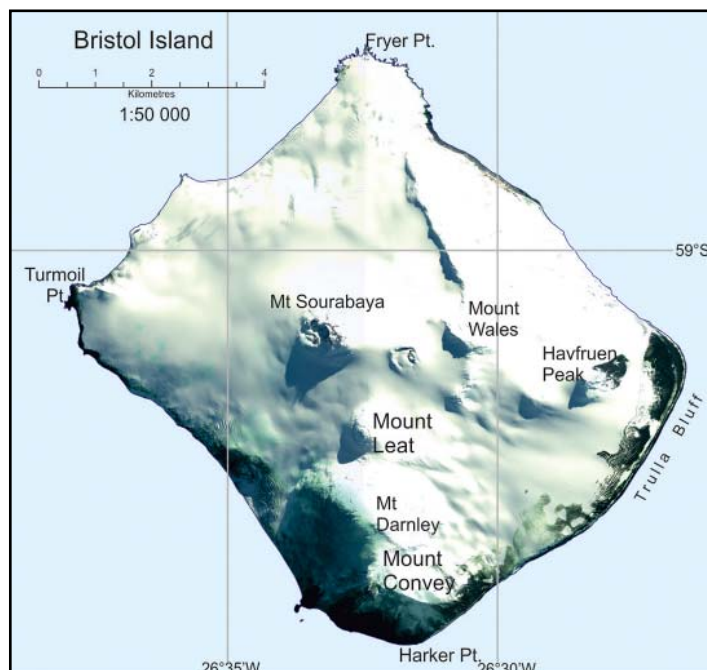
and include lots of information about the geology and tectonics of the region.

As part of the production of the map, there have been nine new place-names approved on the islands, due to the

observation that there were several significant geological features that were unnamed.

Two notable new place-names honour BAS/ex-BAS scientists Pete Convey and Phil Leat for their contribution to the scientific knowledge of the region; they both took part in biological and geological surveys of the islands in 1997, and Phil also led two subsequent marine expeditions to chart the adjacent sea floor. Their place-names, Mount Convey and Mount Leat, are situated on Bristol Island (see image).

If you would like more information on the other new South Sandwich Islands place-names, go to <http://new.antarctica.ac.uk/apc/news/latest-additions-to-the-sgssi-gazetteer> or you can view them on the online map at <http://add.antarctica.ac.uk/public/sgssigaz>.  
– Kate Bazeley



▲ Bristol Island, part of the South Sandwich Island chain

### Antarctica

## New BAS Ship Ops Manager

After 13 years as BAS Ship Operations Manager, Chris Hindley has handed over the reins to Randolph Sliester. Chris has taken up a new part-time role at BAS as Ships Chartering/Projects Manager.

Randolph has previously worked as Ship Operations Manager for the United States Antarctic Programme (USAP), and has lots of Antarctic experience. We wish them both well in their new BAS ship roles!

– Julia Fear



▲ Chris (left) and Randolph

## BAS Grant Proposal Successes

The following list of NERC-funded grants have been awarded recently to BAS staff/projects. For more information please contact [sjmc@bas.ac.uk](mailto:sjmc@bas.ac.uk).

### Propagation of ocean-driven ice-shelf thinning and consequences for the interior of Antarctica and global sea level

Type of grant: Standard

PI: Arthern, Robert J.

PI Institution: BAS

BAS Cols: Hindmarsh, Richard C.A; Pritchard, H.D; Williams, C.R.

RC contribution: £353,878.81

### Ocean Forcing of Ice Sheet Evolution in the Marine Basins of East Antarctica

Type of grant: Standard

PI: Jenkins, Adrian

PI Institution: BAS

BAS Cols: Dutrieux, Pierre

RC contribution: £949,565.75

### Determining and understanding substorm energy loss and partitioning

Type of grant: Standard

PI: Rae, I

PI Institution: UCL

BAS Cols: Freeman, Mervyn

RC contribution: £66,547.68

### Submesoscale currents from buoyant seismic streamers (SCR-BAS)

Type of grant: BP&I

streamers (SCR-BAS)

PI: Shuckburgh, Emily

PI Institution: BAS

BAS Cols: Grant, Tim

RC contribution: £33,316.32

### Bedmap Himalayas – Reconnaissance

Type of grant: IOP

PI: Pritchard, Hamish

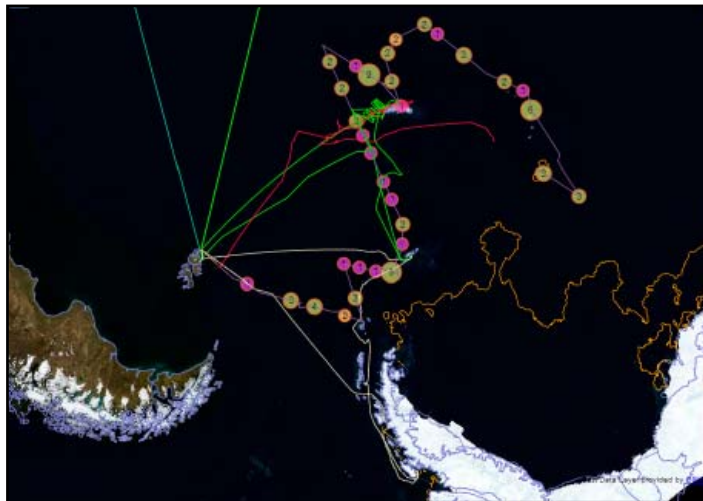
PI Institution: BAS

BAS Cols: King, Ed

RC contribution: £39,718.57

– Sandra McInnes

## New Cruise Data Web Interface



▲ Preview of the web-based interface showing JCR cruise data

The Polar Data Centre has made significant developments on the 'Marine Metadata Project', since our introductory article in the Sept/Oct 13 ICESHEET. During the last four months nearly all available BAS cruise metadata (the when, who and where) has been compiled. The next phase focuses on cruise events (the what and how), initially

for RRS *James Clark Ross* (JCR) legs. Marine scientific activities (e.g. deployments) are described and information on the type, time and location of these events are entered.

In addition, great progress has been made in the processing of the JCR's navigation data. The resulting cruise tracks will enable the visualisation

## David Blake's Tech Update



▲ David joined BAS in 1991

This is David's 53rd and final ICESHEET Tech Update, an unbroken run since issue #17 in Apr/May05. Many thanks!

As this is my last technical update, I want to look forward to the future rather than focus on the past. Inevitably however, the future is often related to the past. The concept of utopia is of a society possessing highly desirable or perfect qualities. Although the achievement of a utopian society is now often closely allied to technology. In the 1950s and '60s, the idea that computers and robots would make the world a place with material wealth and

human happiness was prevalent. Few people now would think a world ruled by computers is the route to utopia.

Despite a scepticism of technology, there is still much interest in finding the perfect world. An entrepreneur called Ray Kurzweil is working on Google Brain to actually understand search queries rather than sniffing-out key words. By 2030 it is envisaged IT intelligence will merge with biotechnology to produce a human-machine mind which will be free to roam a utopian universe of its own creation.

Will this happen or will the Antarctic be the only part of the world still a credible place to live? Maybe utopia will never be achieved but remain an objective for the human-machine mind... Best wishes to all for the future.

### BAS data

of every cruise leg and its associated marine metadata and events.

A new open-source, web-based interface is being developed with the initial mock-up in progress. The system will enable users to search for marine data by cruise number, person and instrument, along with time. This will support the breadth of queries from marine scientists wishing to obtain polar marine data. The first step of data integration has also commenced with the preparation of bioacoustics and bathymetric data. The processed data will be linked to cruises and events, to be presented in the web interface.

The project has been extended until the end of July and will be presented at the SCAR Open Science meeting held in Auckland in August. – *Jana Doemel*

## Mark Simmonds Cambridge Visit

On Monday 6th January, Mark Simmonds MP, Parliamentary Under Secretary of State at the Foreign & Commonwealth Office, visited BAS Cambridge. Mark enjoyed a tour of the aquarium, ice core cold room, and the MAGIC map room before heading to the Conference Room where a set of displays and BAS staff provided an insight into some of our latest engineering and science projects. The visit was a great success and many thanks to all involved.

– *Mike Pinnock*



▲ In the BAS conference room

## Innovation Centre Update

As plans progress to develop the BAS Innovation Centre at the Cambridge site, a display has been set up in the library with the latest information. This will be updated over the next few months as milestones are reached and details finalised. There have been a number of enquiries about the availability of conference facilities – these are on the programme but will not be completed until March 2015 (work scheduled October 2014 to March 2015).

– Jill Thompson



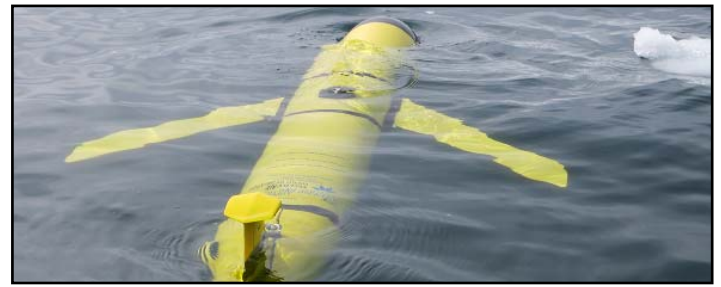
▲ Display in the BAS library

## Swallow & Amazon At Rothera

BAS science

Two BAS ocean gliders, *Swallow* and *Amazon*, returned to Rothera for their second season to study the spatial structure of surface water processes in Marguerite Bay, as an enhancement to our time series in Ryder Bay. They also investigated controls on the intrusion of deep water in the system of trenches and canyons that dissect the shelf. *Swallow's* deployment was for 48 days (battery about half used) whereas *Amazon* didn't make it to 48 hours due to technical problems.

Following development work with Teledyne Webb, the glider manufacturers, a software update was implemented this season to allow the gliders to cope with becoming stuck beneath icebergs. This worked well in testing (with a weight and a rope) but was not needed for real.



▲ *Swallow* preparing for deployment in Marguerite Bay

Wide-scale, near-surface sampling is important to expand our understanding of the intense biogeochemical sampling done from small boats close to station. This includes the RaTS time series run by BAS (now in its 17th year) and more detailed but shorter-term sampling by UK and Dutch collaborators. The high spatial resolution of the glider profiles proved extremely useful in studying the effects of bathymetric obstructions in controlling the water mass modifications

observed from wide-scale large-ship CTD surveys. This will help in quantifying the ocean's role in melting ice along the Antarctic Peninsula, guide interpretation of the heat flux to the atmosphere and provide new target locations for detailed studies of the mixing events.

The gliders will return from Rothera in the coming months, the data will be analysed, and preparations made for more deployments next season.

– Hugh Venables

## Pictures From The BAS Archives

Archive Image #44

On 22nd Feb 1994 the last BAS huskies were flown out of Rothera, in compliance with the Antarctic Treaty's Environmental Protocol. It marked the end of 50 years working with dogs, beginning in 1945 with the arrival of 25 huskies from Labrador. Until the mid-1970s sledging with dogs was the primary means

for scientists and surveyors to get to their field sites, with increasing support from aircraft. After 1976 a few teams were kept at Rothera for recreational purposes.

A team of nine dogs could pull a load of 600-800lbs and on average each dog travelled 3,000 miles in its lifetime. The

greatest distance covered by one animal was estimated at 14,440 miles! As well as photographs, the Archives hold a wealth of records about the dogs – films, genealogical charts, breeding, vet records etc. It is hard to over-estimate the affection and respect drivers had for their teams.

– Jo Rae



▲ Dog at Signy Island, 1959, taken by Charles Le Feuvre (Archive ref AD6/19/3/Td46)

## And Finally...



▲ A polar wedding perhaps?

The ice core display (provided by BAS) in the atmosphere gallery of the Science Museum in London provided some amorous inspiration to one visitor over the festive season. Touched by the beauty of the ice core, he proposed to his long-standing girlfriend in front of the display. He told the gallery warder that he just couldn't help himself. As his girlfriend had been waiting for said proposal for well over a decade she was thrilled! The power of Antarctic ice...

– Jamie Oliver

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