

ICESHEET

The British Antarctic Survey Internal Newsletter



Mar-Apr 18
#95

Flexibility Is The Key Word For Next Season

It's an exciting time in BAS at the moment – the new ship is nearly ready to launch into the water, the Bird Island building project is almost finished, and the business plan for a new aircraft to support the ageing



Dash 7 has been agreed by BEIS. The plans for modernisation of

Rothera station are shaping up too.

The next Antarctic season will be one of the busiest – a full programme on RRS *James Clark Ross*, the Rothera wharf extension on the go, the Beamish project on the Ronnie Ice Shelf and the start of the ambitious UK/US Thwaites Glacier project (see page 3). It's exciting but it is going to

require us all to be as flexible and helpful as possible to ensure that all the work gets done, especially if the weather has other plans for us. Many thanks to all who are involved in the massive amount of planning for the coming Antarctic season.

Mike Meredith has been busy too and is now celebrating the award of the SCAR Tinker-

Muse prize for his research on the Southern Ocean. This very prestigious prize is awarded for significant advances in Antarctic science and recognises Mike's international leadership in polar ocean research. There will be more about this in the next edition. Well done to Mike and to all those who support him in his work.

Professor Dame Jane Francis

BAS Open Day – A Huge Success

On Saturday 24th March BAS opened its doors to visitors as part of the Cambridge Science Festival – and they flocked in.

We had over 1,000 people visit the BAS Cambridge site to see exhibits that included fossils, marine creatures, a skidoo, archive films, the RRS *Sir David Attenborough* model and information, gliders, polar fashion, ice art, and much more. People didn't just nip in and out – they stayed for hours!

It was great to see so many families with young children here, hopefully the next generation of polar scientists being enthused, and even some parents of staff in Antarctica came to visit. Whilst many of our visitors were from the local area, we had some travel from Nottingham, Worcester and even Scotland to come and see us! I personally enjoyed seeing staff, their family and friends get the opportunity to visit BAS, so it



▲ Talking about marine biology



▲ Learning about the SDA

Public engagement



▲ BAS Cambridge had over 1,000 visitors in just a few hours

was extremely valuable as an internal engagement activity for us to show off our work.

A huge thank you to the 40+ BAS staff who came in on Saturday to help host our visitors, set up the exhibits and clear up afterwards. Your support and commitment is much appreciated. Feedback

was extremely positive on all our exhibits and there was a terrific atmosphere on the day. Many thanks also to the team who took part in the Scott Polar Museum's Family Open Day and talked about BAS research and operations, which had around 1,600 visitors.

– Athena Dinar



**British
Antarctic Survey**

NATIONAL ENVIRONMENT RESEARCH COUNCIL

Director Of Operations Update



▲ As winter approaches, thoughts turn to next season's challenges

Life south is transitioning into winter mode, part of our annual cycle dominated by the environment. For some it is a chance to reflect, for others eager anticipation of a unique experience that awaits. It provides an opportunity to celebrate achievements, often in the knowledge that they signal even greater challenges ahead. We have almost completed Bird Island refurbishment, just as the snow starts to fall. Rothera is next on our list, and for those who live and work there, life will never be the same again.

Next season sees the beginning of a comprehensive rebuild programme, starting with the wharf. We will be busier than ever, with more happening over a longer period. The numbers on station will increase dramatically, principally as a result of contractors operating on site. Our ability to deal with the unexpected will be reduced, which means that everyone involved in field and marine work must be flexible. How we integrate will be key to success. It is also more important than ever to stick

BAS operations

to our agreed processes and procedures that are a critical component of safe operations.

Our ability to accommodate last minute requests or make up for some oversight will be reduced, so please work with us and talk to the planning team early to allow your requests to be considered.

We are working towards a new operating dynamic that will allow us to make the most of the money being invested in BAS. We are looking at how we work, how we are organised and what support systems we need to ensure we are fit for the future. Amie Jackson is leading that work, so if you have any ideas about how we might do better please let her know. Thank you for your efforts last season – have a safe winter.

– Tim Stockings

RMetS Climate Science Award

BAS Dynamical Oceanographer Emily Shuckburgh has been awarded the Climate Science Communications Award of the Royal Meteorological Society for 2017. The prize is awarded for making a significant contribution in the field of climate science, and to someone who has excelled in increasing the understanding among members of the general public. The award will be presented after the Society's AGM on 16th May. Congratulations!

– Linda Capper



▲ Dr Emily Shuckburgh

Melody Clark – First Female IMP

Congratulations to Melody Clark who has been promoted to IMP3, and is the first female IMP that BAS has ever had. She has not only broken through the science glass ceiling, but has also shown that you do not have to be in one of the traditional Antarctic science disciplines to do cutting-edge, globally-leading science, as she is a molecular biologist.

Melody joined BAS in 2003 having spent 10 years working on one fish! She was a leading scientist in the puffer-fish genome project (and co-author on the main paper that has over 1,000 citations). She was given the Senior Award for Outstanding Women in Marine

Biological Sciences by the EU FP6 Network of Excellence, Marine Genomics Europe in 2007 for her contributions to international molecular biology. Recent highlights include a DSc from Imperial College London in 2015 and a Visiting Professorship conferred by the University of the Highlands and Islands in 2017. Over the last five years Melody was the lead PI in a 3.7M Euro EU Marie-Curie ITN network. Her science interests are on the cellular and molecular (DNA) adaptations that animals living in polar regions have that make them different from other species. This is why Mel's work has great potential for innovation and value to society.

Melody has published over 140 papers and her impact factor (H) in the Web of Science is 33. Having established herself as a global leader in her field, the question is, what next?
– Lloyd Peck



▲ Melody in Antarctica

New Small Boats For Rothera



▲ Fitting the under-deck stainless steel fuel tanks

Following a fiercely-competitive tender process, Island RIBs (Isle of Wight) were awarded the contract to provide two new Rigid Inflatable Boats (RIBs) for Rothera. The new craft will replace two of the ageing boats and at 7.5m in length will provide more space and comfort for supporting marine operations at Rothera.

The unique hull design, attention to detail and innovative seating/storage system make these craft well-suited to meet the diverse range of requirements. I

signed off the hull and tube construction at Easter and progress is being made fitting under-deck stainless steel fuel tanks and installing electronics. The build should be complete by the end of June, with sea trials over the summer before shipping the boats south.

The tubes are 'Etna Red' and with a white hull, they will reflect the colours of the BAS ships. The craft are still to be named so any ideas are welcome. 'Ribby McRibFace' will not make the shortlist.
– Dave Wattam

Thwaites Glacier Collaboration



▲ The International Thwaites Glacier Collaboration launch team

A new UK-US Antarctic research programme to improve the prediction of future sea-level rise launched at its first meeting at BAS on 30th April. The £20M, five-year research collaboration, funded jointly by NERC and the US National Science Foundation, brings together over 100 polar scientists.

The International Thwaites Glacier Collaboration (ITGC) will deploy teams of researchers, using a suite of technologies, to investigate changes on the ice and in the ocean. Their goal is to reduce the uncertainty of future sea-

level rise. Thwaites Glacier is twice the size of the UK and accounts for around 4% of global sea-level rise. This contribution has doubled since the 1990s. The big unknowns are whether the glacier is likely to collapse in response to environmental change; when this might happen; and the potential impact of this on sea-level rise.

A live-streamed press conference led to global media coverage in 44 countries and was one of the top stories across the BBC news channels and website.

— Athena Dinar

BAS Helicopter Radar Tested

On 13th March, BAS AME engineers flew, for the first time, our in-house developed Underslung Helicopter Radar. This is a brand new, unique piece of BAS-developed engineering developed to take into account constraints like transportability, temperature, fieldwork, no metal and so on, making it a bigger challenge than you would initially expect.
— Peter Enderlein



▲ The new radar in action

Giant Petrel Weigh-In At KEP



▲ It has been a successful year for the giant petrel fledglings

As winter draws in, the wildlife that is so abundant at KEP during the summer starts to leave. With the fur seal pups and gentoo chicks already heading out to sea, the last of the young to move off are the giant petrels. In April ZFA Kieran Love led the final giant petrel weighing sessions, assisted by Fisheries Biologist Vicki Foster and station Doctor Cat Watt.

A lovely morning allowed a jet boat transfer round to Harpon, where the team weighed and

Arctic Station: New Lease Of Life

The UK's only Arctic Station, Haarland Huset in Ny-Ålesund, Svalbard, received a fantastic boost recently with the news that NERC have guaranteed the funding for the station for the next decade.

The station, which is operated by the BAS and managed by Nick Cox, is available to support all UKRI-funded research and beyond, including researchers in receipt of non-government or commercial funding. With the station's future secure following the successful completion of the NERC review process, we will be working hard to maximise its potential and further enhance the impact of this important asset.

The season has already got off to a good start with the Manchester University team, supported by Mike Rose

(BAS), field testing and refining their meteorite detecting equipment. Hamish Pritchard's (BAS) glacial remote sensing work is about to begin, with important links to subsequent work in the Himalayas; as well as teams from PML and Exeter beginning an exciting multi-year programme of microplastics and ocean acidification work, in close collaboration with the Digital Explorer team who will be live-streaming education sessions for schools across the UK and beyond.

— Henry Burgess



▲ The station at Ny-Ålesund

Rothera Winter Trips 2018

Winter trips at Rothera have been in full swing. In early April, Ash F and Jack P climbed the Myth, Liotard and Mt Barre on the west side of Adelaide Island; Tom S and Ben climbed 11 out of the 15 Stokes peaks on the east side, and Mark S and Aurelia R ate a lot of Camembert!

The teams have been subject to hurricane force winds while living in their pyramid tents, an adventure in its own right. The winds have settled but fresh snow made it tough for Tom L and Rich R who have been pulking to Sighing Peak.
— Ash Fusiarski



▲ A smiling summit selfie

Space Science Data Workshop

The workshop 'System-Scale Data Analysis to Resolve Thermospheric Joule Heating' was held at AURORA on 27th April, convened by Rob Shore. The event was sponsored by the Royal Astronomical Society, and brought together 40 national and international space physics researchers. It was a successful day of discussing the 'footprints' of solar-terrestrial electromagnetic interaction in the Earth's upper atmosphere.

Many thanks to co-conveners Anasuya Aruliah, John Coxon and Liz Tindale, and to Pilvi Muschitiello and Pete Bucktrout for their invaluable assistance. Lastly, we'd like to thank the BAS catering staff for doing an excellent job of looking after the visitors.
– Rob Shore

The Rebuild Of Rothera Begins



▲ The Doosan digger unloaded and ready for action at Rothera

As I climb down into the belly of HMS Protector, we enter the hold, and nestled between containers I first clasp eyes on the Doosan. A digger twice the size of any of the vehicles we have on station. It's 49 tonnes of metal and digging power and its vast bucket fills nearly half a shipping container. The realisation dawns on me that this is the start of it all.

Over the next few seasons Rothera will be home to several large machines, many that will dwarf even this one, as the wharf and station re-

development takes place. I feel protective over our little station, but remind myself that she has endured big changes before, allowing the station to move and progress and maintain such high standards of world-class science and remote logistics.

Walking back from the wharf as a Twin Otter prepares to depart, these 1980s aircraft are a beautiful reminder that despite necessary change, some things happily remain virtually irreplaceable.

– Ali Massey

Shackleton Is Ready To Sail

As the season comes to a close for Capt John Harper on the Shackleton, Martin, the Bosun (ably assisted by a plethora of supporters) put together a presentation as John prepares to move over to RRS Sir David Attenborough. At dinner, the result of many hours chopping, painting and fabricating was unveiled as a very passable copy of the ship, which has been home to Capt Harper since it first sailed with BAS back in 1999. There may now be the problem of how to get the new vessel back home!
– Steve Stiglic-Buxton



▲ The front of the model

Methane Emissions Study Success

April saw the successful completion of Phase 1 of a UN-funded project to study methane emissions over the North Sea. Scientists and engineers from the Atmosphere, Ice, and Climate Team were involved in five days of atmospheric composition and meteorology measurements made from BAS's MASIN Twin Otter.

Offshore gas fields worldwide are major sources of methane emissions to the atmosphere. Some emissions arise from routine operations or minor engineering failures, others from large unexpected leaks. In

less-regulated fields, methane is simply flared (e.g. Angola offshore) or even vented. There is a critical need to develop reliable methodologies to locate emissions, and pinpoint sources.

This project was designed to identify and quantify emissions from the North Sea gas fields, and develop methodologies that can then be applied to gas fields elsewhere to assess emissions at local scales. The project is led by Royal Holloway University of London and involves a number of HEIs as well as BAS. All involved were extremely impressed by the professionalism with which the MASIN aircraft was deployed. The success of the flights has resulted in a rich dataset as well as air samples for isotopic analysis. Lessons learned this year will guide experimental design in Phase 2, with further flying in 2019.
– Anna Jones



▲ The flight team at Cranfield

BAS Science Funding Successes

Congratulations to those with the following successful grants:

- Ingrid Cnossen – NERC Independent Research Fellowship (five years); the effects of past and expected climate change in the lower and middle atmosphere on the upper atmosphere
 - Jen Jackson – Darwin Plus Round 6 (three years), led by Falklands Conservation; to address data deficiencies of Falklands' whale populations for informed management
 - Anna Jones and Tom Lachlan-Cope – commissioned UN work (18 months), led by Dave Lowry (RHUL); use BAS's MASIN aircraft to characterise methane emission point sources within the gas production area of southern North Sea
 - Henry Burgess, Nick Cox, Nicola Munro (NERC Arctic Office) – NERC funding (10 years) following a review under the Large Research Infrastructure process; for Harland Huset in Ny-Ålesund, (UK Arctic station)
 - Dave Munday – Australian Research Council Partner Investigator on a Discovery Project grant. The project, led by Dr Joanne Whittaker (University of Tasmania), looking at how the movement and breakup of continents controls the ocean circulation
 - Katherine Short (PhD Student) – Antarctic Science International Bursary Fund; process Antarctic tardigrade samples in Australia
- Are you considering applying or supporting a fellowship at BAS? Most have an autumn deadline, including: MSCA Individual Fellowship, NERC Independent Research Fellowship, Royal Society, ERC Grants, and UKRI Future Leaders Fellowship (second round). Any queries or ideas, contact funding@bas.ac.uk.
– Ana Pereira-O'Callaghan

2018 ANGWIN Workshop

In April I attended the fourth international ANtarctic Gravity Wave Instrument Network (ANGWIN) workshop, hosted by the Brazilian National Institute for Space Research (INPE). In addition to giving an invited talk about my work on atmospheric gravity waves above South Georgia, I also gave a comprehensive overview of current ANGWIN activities (as part of my role on the ANGWIN science committee).

The discussion session at the end yielded a plan to

initiate a co-ordinated study of atmospheric gravity waves across Antarctica and present a paper on the first such study of its kind. The workshop was attended by scientists from 10 countries and was a fantastic opportunity to see the work of our South American colleagues, especially the early-career scientists. We hope to meet again in two years at the Korean Polar Research Institute (KOPRI). You can follow ANGWIN activities at www.bas.ac.uk/project/angwin and @ANGWIN_2.

– Tracy Moffat-Griffin



▲ The international workshop was hosted by INPE in Brazil

UK-Russia Research Event

AURORA Cambridge hosted British and Russian early-career Arctic researchers at the end of March. The event brought together 30 researchers to build new partnerships, address practical problems of working in and accessing the Russian Arctic, and develop potential research proposals. A joint initiative between the NERC Arctic Office, UK Polar Network, APECS Russia and the British Embassy in Moscow, this was an important opportunity for British early-career researchers to work with their Russian counterparts.

– Henry Burgess



▲ Attendees outside AURORA

Bird Island Beck House Update



▲ The new building takes shape

Over the last three months approximately 8,200 man-hours have been spent constructing the new Beck House at Bird Island. We have demolished the old structure, completed groundworks and sub-frame, constructed the new building and started internal fit out. A new 15,000 litre fuel tank has been installed and commissioned, three birthdays, an Olympics, a Commonwealth Games and a Royal birth have all happened since we arrived on site! There is still a month to go but the

end is in sight and Bird Island will have a new building for the next 30 years or more.

Many hours of thought have been put in to make the building as sustainable as possible and we are aiming for a BREEAM Excellent rating. Rainwater harvesting, triple-glazed windows, heat recovery and improved station energy monitoring have all been included. The cladding colour has been chosen to blend in with its Tussock surroundings.

To acknowledge the hard work of the team and for dealing with the challenges of the construction in an exemplary manner, the AIM Project Steering Group (BAS, NERC, BAM and Ramboll) have awarded the team the 'Seal of Excellence Award' so a big well done to everyone on site.

– Joe Corner

MAGIC Image Of The Month

MAGIC Image #76

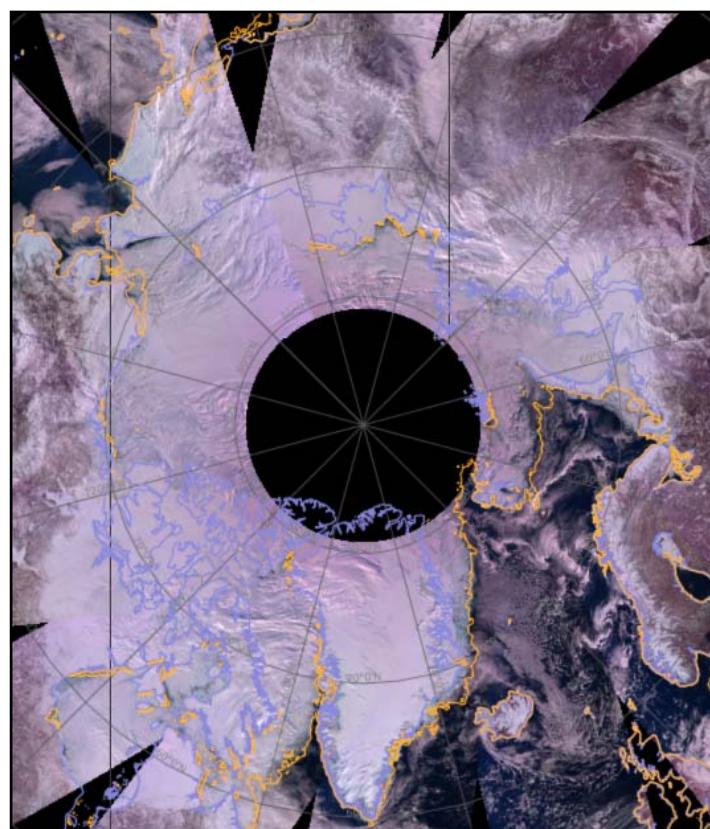
The seventh and latest in the series of European Copernicus satellites launched successfully on 25th April this year. Sentinel-3B has joined its identical twin Sentinel-3A in orbit and so increases the volume of data and coverage available.

Sentinel-3 satellites carry instruments to measure global sea- and land-surface temperatures, ocean colour, vegetation, height of the sea surface, waves and surface wind speed over the oceans. We have already added mosaics of the OLCI imagery to the Polar View service – as shown for the Arctic in this image. The coverage of the Polar Regions is updated regularly to produce these daily mosaics of the entire areas.

For now you can access the Arctic imagery from www.polarview.aq and Antarctic

mosaics will be back once the Sun comes up again. If you have any questions, please

contact Andrew Fleming or Andreas Cziferszky.
– Andrew Fleming



▲ Mosaic of the Arctic region from OLCI imagery (Sentinel-3)

Rob Shore Poster Prize

Congratulations to Rob Shore (BAS Space Weather and Atmosphere Team) who has been awarded the Rishbeth Prize for best poster at the UK's annual spring meeting of Magnetosphere, Ionosphere and Solar-Terrestrial (MIST) researchers. Rob's research evaluates the extent to which the polar magnetic field variations are predictable, given knowledge of solar disturbances measured between the Sun and Earth. A general forecast model of the polar magnetic fields will be published shortly.

– Mervyn Freeman



▲ Rob Shore – poster pro

Biodiversity@BAS: Signs of Spring

Spring is a time of change between winter and summer and as the two battle it out there are often large shifts in the weather. The cold of March and early April gave way to the heat before switching back to cooler conditions.

Around BAS, the East Meadow has been stirring, with the cowslips the most obvious plant in flower. A careful look will show others: small white flowers of bitter-cress, golden brushes of field wood-rush or tiny blue flowers of wall speedwell (which mostly grows in meadows!). The buttercups are coming into



▲ Cowslips in the East Meadow

Australian Radar Team At BAS



▲ Radar talk is thirsty work

During April, BAS hosted three expert radar engineers from La Trobe University in Melbourne, Australia to help develop world-leading capabilities for the BAS SuperDARN radar. They were part of the design team of the TIGER3 electronics used in the radar, which is temporarily located at Goose Green in the Falkland Islands as part of the Halley science mitigation.

The radar is part of an international network of 35 radars in the Polar Regions. The radars combine to

make global measurements of winds, waves and tides in the upper atmosphere and ionosphere, and play a key role in measuring electrical heating of the upper atmosphere and its effect on satellite orbits – a major science aim of the BAS Space Weather and Atmosphere team.

During their three-week visit, the Australian engineers worked closely with Neil Cobbett and others to finish the commissioning of the TIGER3 system. The radar can now measure with much higher spatial and temporal resolution, and can image the ionosphere and upper atmosphere from the Falklands to beyond Halley. The new control systems will help us fully automate the radar, crucial for when it returns to the Antarctic.

– Gareth Chisham

New Arctic Office Website

The new Arctic Office website (www.arctic.ac.uk) is up and running, with the fantastic support of Felix Fennel and Luke McDonald at BAS, and Helpful Technology, the designers and developers.

The aim is to provide a much more visually cohesive, easier to navigate and impressive site, and a more up-to-date source of information for the whole UK Arctic community. Access and application information on the UK's Arctic Station, new opportunities, as well as a blog feature are all included. We hope the site will also host a projects database to provide valuable information on UK Arctic projects. If you would like to contribute (blog/news item etc.) then please let us know, email arctic@bas.ac.uk.

– Henry Burgess

Spotlight On Science – Dec 2017



▲ Studying the Antarctic sea-ice minimum 128,000 years ago

The spatial structure of the 128ka Antarctic sea-ice minimum

The paper reconstructs the magnitude and spatial pattern of an Antarctic sea-ice minimum event that occurred during the peak of the last interglacial, roughly 128,000 years ago. A multi-ice and ocean-core data model evaluation indicates a major sea-ice retreat that was greatest in the Atlantic and Indian sectors of the Southern Ocean and less in the Pacific sector. Understanding the

details of this major sea-ice retreat is crucial in order to understand the sensitivity of the southern hemisphere sea-ice system and to evaluate the performance of climate model simulations in response to ocean warming.

A retreat of sea ice of this magnitude may also have serious implications for the stability of marine terminating glaciers around the Antarctic Ice Sheet and their contribution to the last interglacial sea-level rise.

– Max Holloway

flower too – those in the meadow are mostly bulbous buttercup (look for the turned-down sepals).

In the Memorial Orchard the fruit trees are coming into blossom, and for the first time a bee orchid rosette was found there. In the central courtyard there are 12 rosettes marked out, one more than last year. Insects are responding too, with many queen bumblebees on the wing looking for nest sites. You may see seven-spot ladybirds, and the much smaller 24-spots, which if you look closely have slightly hairy wing-cases.

The Biodiversity@BAS nest boxes are still hot property. The nest-box-cam has shown a pair of blue tits first gathering building material (moss, dead grass, feathers etc) and then laying a clutch of eggs. Keep an eye on them at bas.ac.uk/live.
– Jonathan Shanklin

South Georgia Half Marathon

A staggered start saw 16 walkers, runklers and runners leave KEP station at 9:00, 10:00 and 11:00 for the 19km of scree, bog and 837m ascent that is the South Georgia extreme half marathon.

Vegetation Monitoring

Assistant Zac triumphed in just over 2hrs, beating the Station Leader who had led most of the way. Builder Dale crossed the line in third while boatie Bob and yachtsman Thies rolled back the years, leading home the chasing pack.

– Jerry Gillham



▲ That's cheating, surely!

AIM Partnership Industry Day

The aim of the AIM Partnership Industry Day programme was to find strategically-aligned companies to work with BAM from the early design phases, into the offsite prefabrication and construction at Rothera Research Station. The day concentrated on two of the largest sectors for the Rothera modernisation, notably the building structure and the mechanical, electrical and plumbing systems. Industry representation from across the UK came to the event including established BAS/BAM partners, new entries from partner recommendations and through the Cambridge Cleantech initiative.

Positive knowledge was shared and several innovative ideas put forward, looking towards enhancing the quality of the delivered scheme. Feedback highlighted the openness and collaboration between all partnership partners.

Place-Name Of The Month – #42

Antarctica

The International Thwaites Glacier Collaboration launched on 30th April to study the glacier and its adjacent ocean region. Whilst it is outside British Antarctic Territory, local place-names and their origins can be found in the SCAR Composite Gazetteer of Antarctica

(<https://data.aad.gov.au/aadc/gaz/scar>).

The Thwaites Glacier is located in the West Antarctic and flows into the Amundsen Sea. It was named by the US-ACAN for Frederik T

Thwaites, glacial geologist and geomorphologist at the University of Wisconsin (1883-1961). The nearby Pine Island Glacier was named for the USS *Pine Island*, a seaplane tender and flagship of the task group of the US Navy Operation High Jump, which explored the area in 1946-47.



▲ Place-names located around the Thwaites Glacier have US origins

In the same vein, Bear Peninsula was named after the ship USS *Bear*. Reconnaissance flights were made from this ship in February 1940, leading to the discovery of the Walgreen Coast. This expedition was led by Rear Admiral Byrd, in relation to whom many places have been named such as Marie Byrd Land (after his wife), the Byrd Subglacial Basin, and associated Byrd surface camp, which will play a key role in the Thwaites project logistics.

– Elena Field

Settling Into BAS And AURORA

Within the next few months the project delivery team will develop relationships with the companies who have demonstrated the right product and culture. We wish to grow this early engagement into several long-term partnerships for both BAM and BAS, beyond the scope of the Rothera modernisation.

BAM considers organising more industry days as we look for partners for building cladding systems and offsite production. Thank you to all the personnel from BAS, Ramboll, SWEKO and BAM who took time out from their busy schedules to ensure the day was a great success.

– David Seaton



▲ The day was held at BAS

After quite the baptism of fire, the first months at BAS have been as inspiring as they have been busy. I'm surprised overall by the diversity of expertise and experience there is within the organisation. When I think of BAS I first think of the science, but at a closer look you quickly see all the talent you need to make the science come to life and really shine. I'm happy to be one small building block in that construction.

Personally I also enjoy the different atmosphere a scientific organisation has compared to my private sector experiences. I look forward to bringing some of those past learnings to my new position, but also challenging my (and others') way of thinking. Working in the innovation team alongside Bea and Matt, I hope to get my fingers into different projects and expand my knowledge and

interests within sustainability, leadership and organisational management. I would love to offer a fresh pair of eyes if you think I could be helpful.

On a different note, I feel like I've recently had an experience that has prepared me for one day hopefully going south; I raced the Boston marathon a few weeks ago in pretty gruelling weather – 3-4°C, pouring rain and 35mph headwinds. It basically felt like running upstream in a freezing river. I'm ready for casual lunch runs now if anyone wants company!

– Pilvi Muschitiello



▲ Pilvi looking decidedly polar

RRS SDA Model In Parliament

The scale model of RRS Sir David Attenborough recently spent a week in the Palace of Westminster, alongside material from the Royal Navy, as part of a display celebrating the Year of Engineering.

It was in a prominent position accessed via the stairs directly between The House of Commons and The House of Lords, where all senior members of Parliament pass through to access their offices and meeting rooms.

– Pete Bucktrout



▲ The display was high-profile

BAS Twin Otter Survey In Iceland

BAS aircraft



▲ Some of the scenery in the survey area was particularly stunning

At the end of February the Air Unit deployed BAS Twin Otter VP-FAZ from Calgary to Akureyri in Iceland for an international collaborative project IGP or 'Iceland Greenland Seas Project'. Involving scientists from BAS, Woods Hole Oceanographic Institute, the UK and Icelandic meteorological offices, and the Universities of East Anglia, Bergen, Toronto, Boulder and British Columbia, the aim was to investigate the forcing of

deep ocean currents by the atmosphere in the Iceland and Greenland Seas.

Twin Otter 'Alpha Zulu', fitted with the MASIN suite of atmospheric instruments, undertook 70 hours of flying from Akureyri, primarily at low-level (as low as 50 feet) over the sea ice along the south-east coast of Greenland. The northerly winds, which provided ideal survey conditions, usually generated

heavy snowfall in northern Iceland, requiring meticulous flight planning using bespoke weather forecasts from UK and Icelandic meteorological offices. A number of flights involved an at-sea rendezvous with research ship RV *Alliance* allowing simultaneous data collection by the aircraft and ship in the same area.

The project hosted a team from France making a documentary film on weather forecasting, and also a visit to the aircraft by Michael Nevin, the UK Ambassador to Iceland.
– Dan Beeden



▲ BAS Twin Otter VP-FAZ

Pictures From The BAS Archives

Archive Image #69

This photograph, taken by FIDS engineer Eric W Kevin Walton on the 8th September 1946, depicts a more unusual form of manhauling; using a block and tackle pulley system to transport a load up a steep slope. Walton was part of a team of six from Base E (Stonington) sent by Surgeon-Commander Edward W Bingham to lay a depot on

the plateau above Northeast Glacier (named for its position relative to the base).

Setting out on 3rd September, they succeeded in transporting the supplies up the first of two steep rises up to the plateau, but bad weather and the resulting deep snow slowed their progress. After counterproductively having to

resort to raiding the depot supplies for food, the decision was made to return to base. They arrived back on 16th September, having been out for 13 days, during which record low temperatures were measured at Stonington. Record high winds and low pressures were recorded the following week as the hapless team were out trying to finish the job.

This photo is one of many coming to light as part of a project funded by UKAHT to catalogue the historic photographic collections relating to the stations they manage. Cataloguing and digitising these records will not only assist UKAHT's ongoing programme of conservation but will also make a larger proportion of archival material available to the public when the catalogue goes online in the coming year.
– Alysa Hulbert



▲ Hauling downhill with the sledge passing in the opposite direction

And Finally...



▲ Gavin working on RRS SDA

A recent milestone on the SDA project was the alignment of the two stern tubes. This requires skill, precision and attention to detail. One of the key people involved was Gavin Baty from UK Marine Resins. Gavin mentioned this would be the last ship he worked on before he retired, then revealed a long-term association with BAS, as the first job he ever worked on was a similar process on RRS *John Biscoe* during a refit in Liverpool back in the 1960s!
– Steve Bremner

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