

Arctic Field Research Season Poses Challenges

The British Antarctic Survey (BAS) 2015/16 field season has got underway with dozens of scientists and support staff – together with plane-loads and tonnes of equipment and fresh supplies – arriving at BAS's five Antarctic research stations. This year's science and operational campaigns involve over 250 scientists from BAS, the UK and international research institutions.

Major international collaborations utilise specially equipped Twin Otter aircraft to capture new data that will advance understanding about the future stability of a key Antarctic ice shelf and to generate new knowledge about the Earth's gravitational field from an area that cannot be surveyed by satellites.

Biological research campaigns on board the RRS *James Clark Ross* and at Rothera Research Station focus on biodiversity and how plants and animals adapt to a changing polar environment. Preparation work on the relocation of Halley Research Station begins this year.

The year's projects

- [Investigating the Filchner Ice Shelf System](#). This is the season's biggest and most complex science project and includes over 25 scientists, engineers and polar guides who are using a range of geophysical techniques to investigate the ice shelf as part of Earth's system and how it interacts with the atmosphere and ocean. Five field parties will live under canvas, supported by a team on the German research vessel *Polarstern* to understand better how this ice shelf might contribute to future sea level rise.
- Major flying campaigns using BAS Twin Otters. A campaign of 100 hours of collecting data out of Halley Research Station will explore the relationship between clouds and radiation to create more robust climate models. In addition, a collaboration with the European Space Agency, will involve researchers flying over the South Pole to fill in the polar hole in satellite gravity coverage and shed light on the ice sheet, geology and geophysics of the region.
- [Relocation of Halley Research Station](#) – 'Earth's window into space'. Plans are underway to move the station upstream on the Brunt Ice Shelf - the first time the station has been moved since opening in 2012. The delivery of heavy duty vehicles, major equipment and temporary accommodation units will enable a support team to relocate the station during the 2016/17 season. The RRS Ernest Shackleton will deliver essential cargo to Halley, travelling nearly 20,000 nautical miles, throughout the short season.
- Major science cruises on RRS *James Clark Ross*. The [SO-AntEco cruise](#), involving scientists from 16 research institutes and nine countries, will investigate the diversity of the marine ecosystem both inside and outside of a Marine Protected Area near the South Orkney Islands. In addition, oceanographers will deploy robotic underwater gliders from the ship to capture information about how the ocean circulation is changing around West Antarctica.