



## **Oceanography of the Bellingshausen Sea and implications for west Antarctic Peninsula ice shelves**

**D. R. Shoosmith** (1), A. Jenkins (1) and M. A. Brandon (2)

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

(2) The Open University, Milton Keynes, MK7 6AA, UK. (d.shoosmith@bas.ac.uk)

The Bellingshausen Sea, located in the eastern Pacific sector of the Southern Ocean, is a region of declining sea ice and land ice cover, partly driven by the warming regional climate. This region also differs from much of the rest of the continent as warm Circumpolar Deep Water (CDW), normally found only in the Antarctic Circumpolar Current, floods the continental shelf. CDW is around 3°C warmer than the surface freezing point and when it has access to the base of an ice shelf, high melt rates result. In early 2007, we undertook an intensive observational program to investigate the oceanographic regime of the Bellingshausen Sea. A large number of CTD sections were occupied, including across troughs that are thought to act as conduits for CDW on-shelf transport, and across the fronts of the floating ice shelves. Results will be presented and discussed in the context of CDW transport from the shelf break to the ice shelves, and the impact of this circulation on the ice shelves.