

BIANNUAL ACHIEVEMENTS REPORT January 2015

Overturning in the Subpolar North Atlantic Programme (UK-OSNAP)

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Programme Status: Green

Programme's key achievements and overall progress over the last 6 months:

Key Achievements:

1. Deployment of the Observing Array

All elements of the OSNAP observing programme are now in place. The UK contributions include a deep western boundary moored instrument array off Greenland, and the eastern margin array (gliders and moorings). Both were deployed in August-September 2014 from *RV Knorr* on cruises led by Bob Pickart (WHOI) and Bill Johns (RSMAS, University of Miami). An additional mooring for the eastern margin array was deployed on *RRS Discovery* DY017 in October. The first OSNAP glider (Jura) was deployed in July and to date the glider has completed around 1500 dives. The second glider (Scapa) is now surveying the section. All OSNAP Seaglider missions are made possible through NERC investment in Marine Autonomous Systems technologies at SAMS and NOC.

Cruise Reports: (i) Cunningham, S. A. (2015), *R/V Knorr* Cruise KN221-02, Rep 288., 1-50pp, SAMS.

(ii) Pickart, R. (2014), *R/V Knorr* Cruise KN221-03, 1-64pp, WHOI

Glider missions at: <http://velocity.sams.ac.uk/gliders/>

2. Communicating Results

Invited and offered talks/posters have been given by OSNAP PIs at key meetings and conferences including the NERC "10 years of RAPID" meeting in Sept 14 (Williams) and the AGU Fall meeting (Williams, Marshall).

Research papers published: (i) Williams et al, 2014. Decadal evolution of ocean thermal anomalies in the North Atlantic: the effects of Ekman, overturning, and horizontal transport. *Journal of Climate*, 27, 2, 698-719. (ii) Marzocchi et al 2015, The North Atlantic subpolar circulation in an eddy-resolving global ocean model, *Journal of Marine Systems*, 142. 126-143.

We continue to communicate to a broad audience through the medium of blogs (ukosnap.wordpress.com, www.o-snap.org/news-events), animations on youtube (www.youtube.com/channel/UCWApV_3EUlgw4aEzfk76n0Q and www.youtube.com/channel/UCik7sI0TOu5EVEhJCK89JtQ) and through twitter (@uk_osnap).

3. Staff and Research activities

Postdocs have been recruited and started work at NOC (Mackay) and SAMS (Houpert). Uni Oxford named postdoc left the organisation but recruitment for new postdoc is underway. Postdoc at Liverpool will start later in the programme but supporting work by Williams is ongoing.

Overall progress:

Proceeding well. The focus of the programme in this reporting period was the deployment of moorings and gliders as part of the UK contribution to international OSNAP. All at sea operations were completed successfully as planned. Planning for mooring refurbishments in summer 2015 on *R/V Pelagia* (Cunningham and Holliday) are underway. The UK-OSNAP Programme meeting will take place at SAMS on 29th to 30th April 2015.

Issues encountered etc: n/a