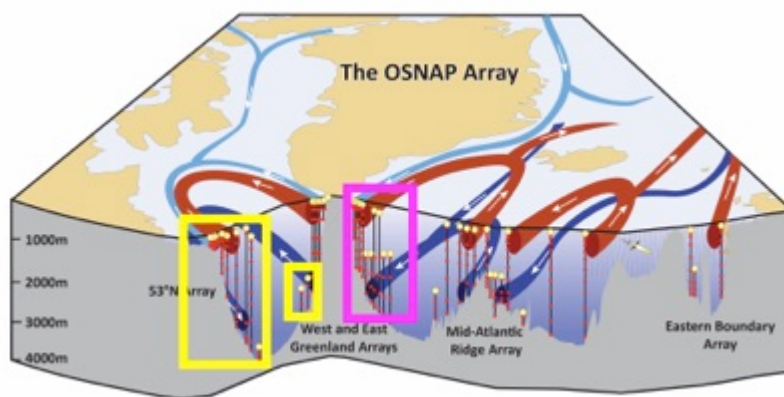


### 3. Weekly Report - cruise MSM74

Again, a busy but also interesting week is behind us. In addition to an intensive program with the CTD, we have recovered 6 more moorings and 4 of them have been redeployed. The two that stayed on board have recovered for our OSNAP project partner Woods Hole Oceanographic Institution, USA. OSNAP ([www.osnap.org](http://www.osnap.org)) is an international project with partners from 6 countries, joining forces and resources to carry out the first survey of the overturning circulation in the Subpolar North Atlantic. The installation of the array was completed in mid 2014 and just a few weeks ago, the first analysis was completed (period 2014 to 2016), which provides very exciting results that will change our view on the subpolar gyre. The German contribution to the observing array has its own justification, which means that while we are part of the observation system, we are also working on our own research topics. For us, the focus is on the boundary current off the coast of Labrador.

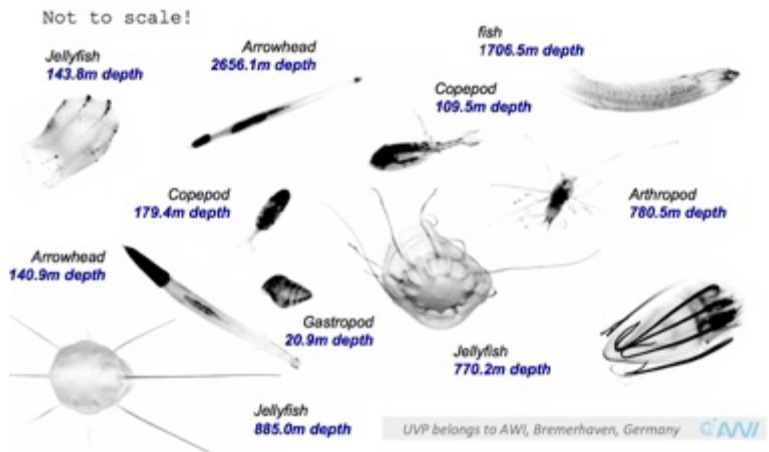


*The OSNAP Array for Measuring Circulation Circulation between Canada (left) and Scotland (right). Warm currents (red) are transformed into cold / dense currents (blue) in the region. The German (yellow) and parts of the British (magenta) posts the MSM74 is waiting for are highlighted.*

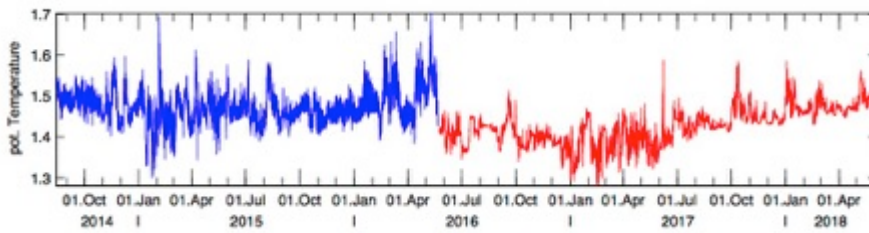
In addition to the joint scientific work on the data, the cooperation in OSNAP is also about logistical aspects related to the observations. These are, and easy to imagine, not insignificant. The preparation for the cruise MSM74 started just over 2 years ago, with an application for ship time. The cruise planning started about 8 months ago. It began with applications for our operations in territorial waters of the respective countries and which are handled via the Foreign Office. Many people are involved in the preparations. In particular, the amazing work of the "control center German research vessels" ([www.lfd.uni-hamburg.de](http://www.lfd.uni-hamburg.de)) at the University of Hamburg keeps all strands together in orderly paths.

Not only at national (Germany) but also at international level the use of research ships is coordinated. In order to avoid unnecessarily long transit times and thus costs for research vessels, the so-called BARTER Agreement of the OFEG group was launched some years ago ([www.ofeg.org](http://www.ofeg.org)). OFEG stands for "Ocean Facilities Group", which coordinates the use of large equipment for ocean research. For the research vessel segment (BARTER) Germany, France, Spain, the UK and Norway are "swapping" ship time. Swapping means that no money is paid, but a "points" system is applied. Over several years, a balance is sought. Our two colleagues from the National Oceanography Center in Southampton, UK, which are on board Merian are here because of BARTER. Likewise, we benefited from the system when in 2014 we were able to make a similar expedition as MSM74 with a French ship.

At 1.00 pm the science meeting on Maria S. Merian is scheduled every day. Having acquired a significant amount of data we now start discussions and interpretations about what we observe in May 2018.



Because of a lack of expertise on board, our scientific interpretation of the beautiful photography of smallest sea creatures, which we recorded with "Underwater Vision Profiler" (UVP) of the Alfred Wegener Institute, Bremerhaven, is minimal. However, the diversity in the water column appears large and even at depths of over 2500m (where there is a pressure of 250bar), there is a variety of well-recognizable creatures.



As part of an international effort to better observed the deep ocean we installed in August 2014 a temperature and salinity sensor in

the centre of the Labrador Sea, at about 3.5 km deep. The sensor measures 50 to 70m above the seabed. The time series we obtained just now is amazingly variable and the question of the "why?" will certainly keep us busy in the future. The status of the global network will be discussed at the international meeting on time-series stations that will take place at the GEOMAR in Kiel from the 2. to 6. July, 2018 – the OceanSITES Meeting ([conferences.geomar.de/event/OceanSITES](http://conferences.geomar.de/event/OceanSITES)).

We have now reached the west coast of Greenland.

Unfortunately the weather was too hazy to see the gigantic panorama of mountains and glaciers.



A few icebergs and whales, however, could be seen already to the delight of all. Mood and food are excellent and the table tennis and table football tournaments are currently being prepared.

Greetings from the Labrador Sea,  
Johannes Karstensen for the cruise participants of the MSM74

Also note: <http://www.o-snap.org/news-events/blog/>