

A16N leg 2. Week 3 update

Ahoy from the Ron Brown!

Chugging along station after station, we made it to station 127! We have had better weather than anticipated, a most welcome surprise. And on top of that, we were able to switch back to the aft winch (which does not have vibration issues and can be used at regular speeds) and pump up the engine a bit to have better transit speeds. We immediately added more bio casts back in the plan.

This means daily resolution for our bio team just as we hit the productive North Atlantic waters. See in the figure below a pictorial representation of the small-sized phytoplankton community. Each dot represents one phytoplankton cell. April 27 (left) is a great example of oligotrophic water conditions, with relatively low abundance and a dense *Prochlorococcus* population (points in blue). April 29 (right) shows a shift into more nutrient dense North Atlantic waters, as represented by an increase in *Synechococcus* populations (in red), and a less dense *Prochlorococcus* population. The picture on the right shows a filter after filtering 2.18L of water for HPLC analysis.

We may just be here at the right time to sample the Spring bloom.

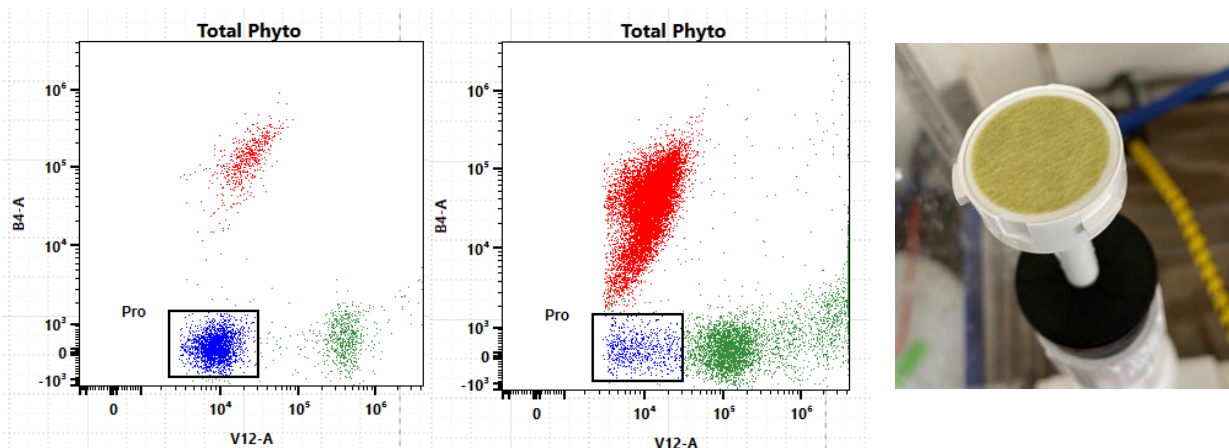


Figure 1. Flow cytometer data showing small-sized phytoplankton community on April 27 (left) and April 29 (center). Figure courtesy of Star Dressler. Filter for HPLC analysis (right) after filtering 2.19L of seawater (photo by Rachel Cohn).

What else have we seen this past week?

Well, we have left the Mediterranean waters behind (Figure 2, see the more saline waters showing up around 1000m). Surface temperatures are now only around 11°C, about a 10°C drop from our first station. Gloves have started to appear in the sampling area along with beanie hats, and the sunrises and sunsets are not as bright anymore as we enter a much gloomier North Atlantic weather.

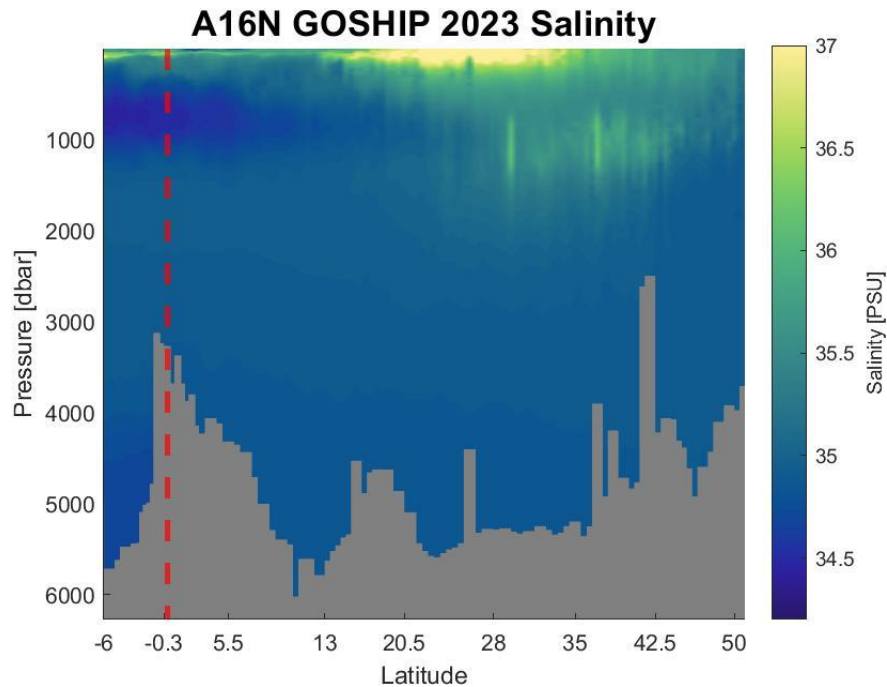


Figure 2. Salinity profile from A16N courtesy of Michael Cappola.

We have now deployed all of our drifters and one more BGC float, the *MCHS Warriors*. Only one BGC float to go!

What is coming next? Shallow stations! We have completed all the stations >3000 m. We are ready to pick up the pace as we march through the shallower ones and on to our final destination, Reykjavik, Iceland.

Onwards!

The crew from the A16N leg 2 cruise.

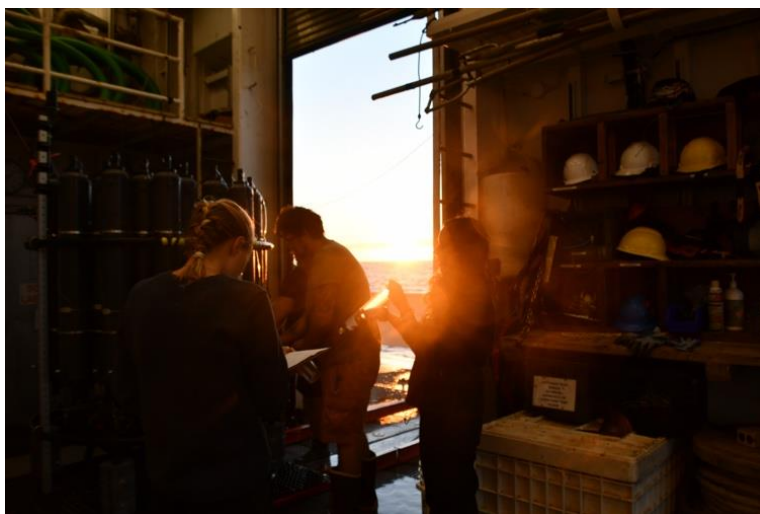


Figure 3. Sampling at sunrise. From left to right: Shannon McClish (sample cop), Patrick Mears (sampling pCO_2) and Isabel Schaal (sampling CFCs).
Photo by Laura Cimoli