

„Alter course“



3rd Weekly Report, 19.10.–25.10., 017° 22.920'W – 38° 14.340'N
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The North Atlantic has shown us its power and beauty this week. It reminded us, that we have to follow his rules and can be grateful for the opportunities to study whenever the wind and waves allow us to do so. This week, we experienced why few research cruises head here at this time of the year. We knew the risk of losing hours and days planned for monitoring and sampling and now we had to act upon it.

The week began with a rapid succession of successful Multicorer deployments. The liners were piling up and the Hydroacoustics and Camera teams joined to support the Geochemistry team in processing the samples. We managed to sample our three target topographies – hills, plains and valleys – with several deployments, giving us confidence, that we surveyed the natural variability at a local to regional scale (100m – 20km) within this first working area Porcupine Abyssal Plain (PAP).

In the evening of Tuesday, the 20th, we began our first “risk mitigation station” by stopping all Multicorer or OFOS deployments and switching to an extended hydroacoustics program. This was due to the incoming waves and strong winds of one typical autumn storm which are frequent in the North Atlantic and which had finally reached us. This was not a surprise and we had already selected uncharted areas of the seafloor to be mapped in high resolution as a mitigation plan, contributing to international mapping efforts. We continued this mapping until it was clear that we would not be able to resort to coring or imaging in this working area soon and decided to leave towards the next working area, far out in the Atlantic.



Figure 1 The drastic course change we had to take to avoid severe weather and still be able to conduct the science plan. Cruise track in black, current position in red.



Figure 2 View of the turmoiled sea: whitecaps, breaking waves, 8 Beaufort and more

During the transit we continued to experience strong weather and continued to closely monitor the European and American weather forecasts and finally had to come to a drastic decision. We had to alter course and abandon our initial plan to survey north of the Azores. The weather in the planned working area was predicted to bring 10+ meter waves and winds of 10 Beaufort for much of the remaining time we have at sea. Impossible to work under these circumstances. Instead, we took a 90° turn portside and headed far south towards 38°N where the wind is predicted to be much calmer around 3 Beaufort and the waves to be around 2-5 meters. We chose this backup area as we can expect similar topographic features as at the MAR and CWEB sites which will also allow us to study the local, regional and cross-Atlantic variabilities we are here to assess. We have already reached this southern working area, which will mark the deepest point of our cruise, and are currently continuing to map the region in high detail. Based on these new maps we will then again select sampling and surveying sites for the days to come.

What staggers me during these days of severe weather controlling our work is how different the autumn storms look like here at sea, compared to what we expected them to be and how we experienced severe weather in the Pacific Ocean. Here, the sky is clear, the sun is shining, the air temperature is 15+ degrees, the water temperature reaches 20 degrees and there is no rain. It feels exciting to be out here, especially with the constant waves and the dancing of the vessel – despite this demanding constant attention – and the endless view of the steel blue ocean has its captivating beauty without whitecaps and drifting spray as well as now decorated by them.



Figure 3 One calm moment after days of rough seas. Close to the deepest point of our expedition (5585m, see depth meter).

Greetings on behalf of the cruise participants,

Dr. Timm Schoening
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