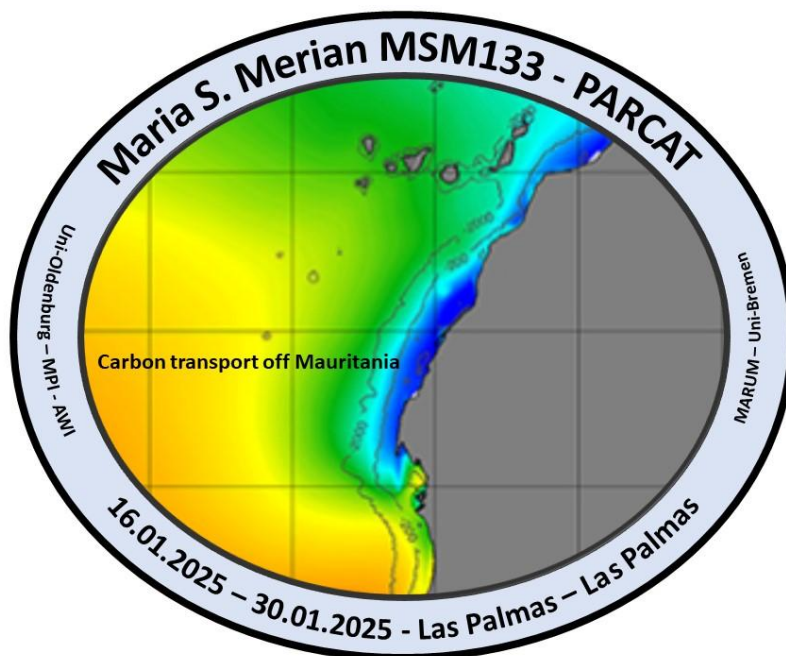


1. Weekly Report MSM133 - PARCAT

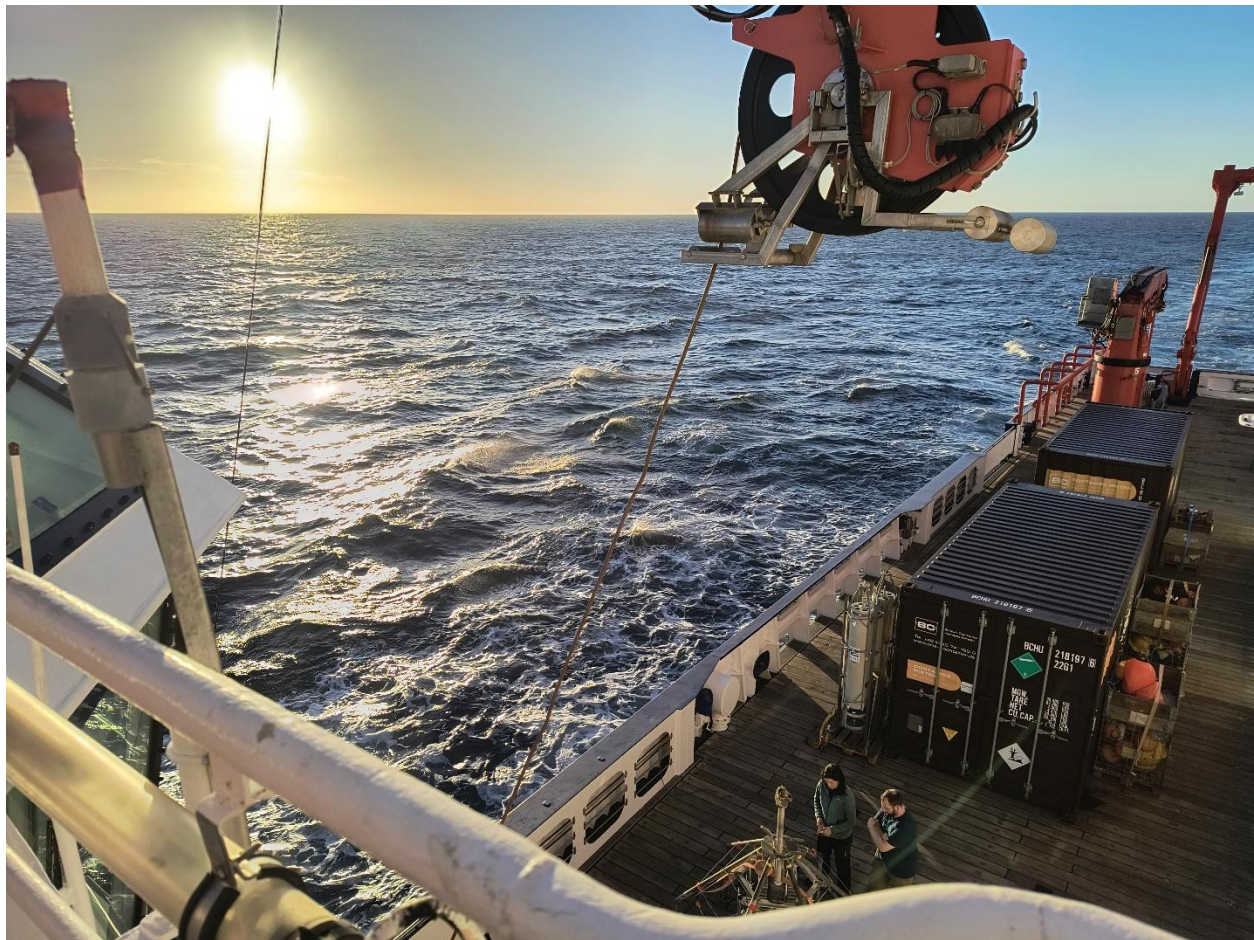


On Wednesday, January 15th, 19 scientists boarded RV *Maria S. Merian* in the harbor of Las Palmas, Gran Canaria, Spain, marking the start of the MSM133 research expedition. This is the first of three voyages under the MARUM Excellence Cluster unit RECEIVER, dedicated to studying the vertical and lateral transport of organic matter in the ocean. MSM133 and MSM134 focus on the Mauritanian shelf off northwest Africa, while MSM136 will investigate the Irish Shelf. These expeditions aim to deepen our understanding of organic matter dynamics, their role in carbon cycling, and their contributions to long-term CO₂ storage in deep-sea sediments.

The scientific team on board includes researchers from MARUM at the University of Bremen, the Alfred Wegener Institute in Bremerhaven, the University of Oldenburg, the Max Planck Institute for Marine Microbiology, and the University of Bayreuth. Together, these groups bring diverse expertise to investigate the formation, transport, and alteration of nutrients, organic matter, and (bio)minerals in the water column and surface sediments. Their work focuses on understanding the production of organic matter on the Mauritanian shelf and slope, its transformation in shelf and slope sediments, and its transfer to the deep ocean. Particular attention is given to the alteration of particulate organic matter (POM) and its relationship to dissolved organic matter (DOM) under varying environmental conditions.

On January 15th, the scientific team spent the day unpacking containers, preparing laboratories, and setting up the extensive technical equipment required for the cruise. This included sediment traps for vertical flux studies, in situ pumps, marine snow catchers, camera systems, and plankton and water samplers for pelagic analyses. The preparation also involved testing hydroacoustic systems such as ADCP, parasound, and multibeam bathymetry, along with sediment sampling

using multi-corers and grabs for benthic studies. During the transit, the crew and scientists worked closely together, ensuring all systems were fully operational and ready for the sampling program. This collaboration was crucial for ensuring a smooth start to the expedition.



Preparation of scientific equipment on the deck of RV Maria S. Merian.

On the morning of January 16th, RV *Maria S. Merian* departed Las Palmas at 08:00, guided by the harbor pilot. The transit south was accompanied by excellent weather and calm seas, allowing us to finalize technical setups and prepare for the first station. After two days of transit, we arrived at our initial sampling site on January 18th at 22:00. Located in international waters at 19°14.34'N and 020°19.98'W, the water column depth was 3390 m. Here, we completed the first comprehensive sampling for biogeochemical analyses of particulate and dissolved organic matter and nutrients, as well as a vertical particle size distribution profile using in situ imaging systems. All operations proceeded smoothly as planned.

We are now en route to our next grid station at a depth of 2500 m, where we will repeat the sampling program from the international station. This will be followed by a hydroacoustic survey towards the shelf (80 m depth) to begin the next phase of pelagic and benthic sampling.

All onboard are well, and the mood remains positive, with a strong sense of collaboration and enthusiasm among the crew and scientific team.

Best regards,

Prof. Dr. Morten Iversen, Chief Scientist