RV MARIA S. MERIAN

MSM116 “RIOGRANDERISE”
03.04. - 07.05.2023

5. Weekly Report
01. - 07.05.2023

Here is the fifth and final weekly report of cruise MSM116. Since last week we have recovered the MeBo and retrieved cores from Station 20-1 (GeoB25320-1 at 12º 12.988'S, 032º 06.162'W). At this site, another set of cores of similar age to Station 18-1 were obtained, but this time the MeBo drilled a good 1 m into the underlying bedrock ("basalt") (which according to the literature is thought to be about 59 million years old), and sediments of Pliocene, Miocene, Late, Middle and Early Eocene age were found.

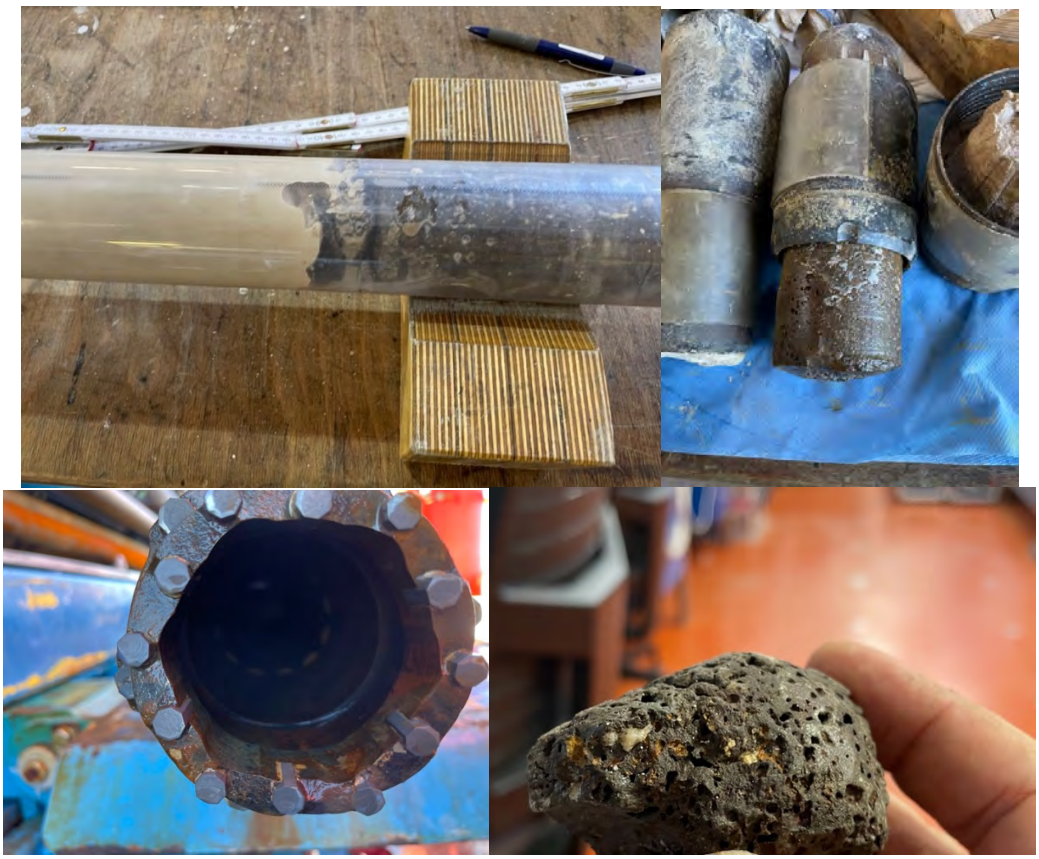

Fig. 1: Our inner cutting shoe after deployment in „Basalt“, Core with sediment overlying hard rock, weathered vesicular „basalt“ in core catcher and hand specimen. Photos: H. Pälike

Our last MeBo station (site GeoB 25322-1 at 12º 12.625'S, 032º 06.691'W) was moved about 1 km to the northeast as our parasound mapping had revealed an unrecovered sediment package at mid-depth. This drill site, approached on the morning of 2 May, was flushed through the upper 35m, cored to depth and after an offset of 20m and an attempt to core the coarser upper interval, the core barrel jammed after the first core was taken, terminating Station 22-2. Again, the biostratigraphic work shows that we found a similar but complementary succession to stations GeoB25318-1, and 20-1, and the enigmatic

sedimentary package we were targeting turned out to be Oligocene, revealing an age sequence of Pleistocene, Pliocene, Miocene, Oligocene, Eocene and Palaeocene, with the deepest sediment found at station 22-1 appearing to be very close over the boundary between the Palaeocene and Eocene (PETM). The last MeBo deployment ended in the morning of 4th May. In the meantime, we had used up the available drilling time, and after carrying out two final CTD / rosette casts on and off the plateau, we extended our mapping work and filled in final gaps. Finally, at around 2am shipboard time on 6 May, we ended scientific operations and began to head for our port in Recife, which was reached at 8am on 7 May, meaning that MSM116 was now successfully completed.

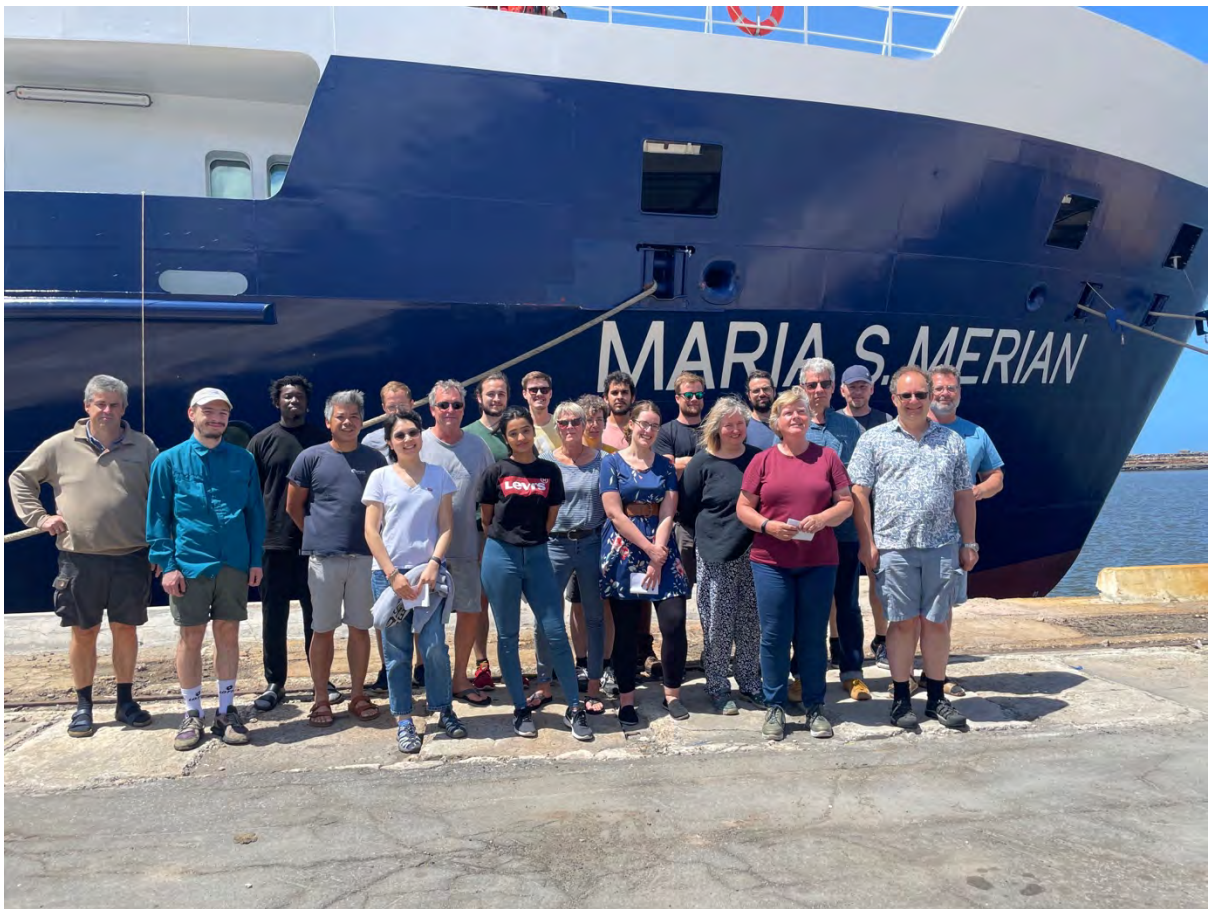

Fig. 2: Final Group Photo of the MSM116 Team Recife, Brazil, on 7. Mai 2023. Photo: N. Jawadi

Everyone is doing well, and after good teamwork from the whole ship, we are looking forward to seeing our colleagues and families back home soon. Rebecca Hummels from GEOMAR and team are now taking over for the MSM117 "WB Circ Brazil" and we wish her and team every success and a good journey.

Heiko Pälike
(University of Bremen / MARUM)

Our Logbook is here: https://www.marum.de/en/Discover/Ship-s-Log-MSM116.html