

RV SONNE Expedition SO306
COWIO (Port Louis, 08.08.2024 – Durban, 09.09.2024)

5th Weekly Report (02.09. - 08.09.2024)

Off Limpopo Bay in southern Mozambique, there are a number of submarine volcanoes, which were our first target for the week. On Monday morning, the ROV SQUID went on its 99th dive to the base of one of these volcanoes at a depth of around 700 meters. There we saw black basalt that was barely colonised by any organisms, let alone cold-water corals. After some exploration, we decided to abort this dive and do another one that day at the top of this volcano in ~300 meters water depth.

This 100th dive was a very special one, and not just because of this number. This time we were exposed to pictures of beautiful and colourful coral gardens, which once again showed us how great biodiversity can be even in a small area and in the dark, deep ocean. A fascinating observation for us all! Interestingly, quite some members of the SO306 science team were also present during the maiden dive of the ROV SQUID on 1 January 2016 as part of the RV METEOR Expedition M122 off south-west Africa...

The next day, we had another similar view from the summit of the highest volcano in this region. We used the afternoon of this day to get two more gravity cores a little closer to the land, where we also deployed the epibenthos sledge called Ursula. We then set off in the direction of South Africa.

With speeds of up to 5 knots, the Agulhas Current became our biggest troublemaker for the next two days that we worked off South Africa. Drifting with the current, we were able to carry out sampling with CTD and multinet in the water column, but seabed sampling proved to be extremely difficult at first and impossible the next day. Then, increasing wind and swell from a different direction than the current, which was still travelling southwest at 5 knots, prevented us from working safely with heavy gear.



A web-logbook for this expedition can be found here
<https://www.marum.de/Logbuch-SO306.html>



Coral gardens on a submarine volcano off Mozambique
(© MARUM – Center for Marine Environmental Sciences, University of Bremen)



The 100th dive ROV SQUID (© MARUM – Center for Marine Environmental Sciences, University of Bremen)

We made the best of the situation and continued southeast out of the core of the Agulhas Current. There, at a water depth of slightly less than 2000 meters, we were able to take water and sediment samples before the station work was completed on Saturday afternoon.

We then got straight back to packing up the equipment, tidying up the labs, packing all the samples and writing the cruise report. Now, on Sunday evening, we almost have Durban in sight. We will berth there tomorrow morning, which will mark the end of the SO306 - CoWIO expedition.

The scientists will leave the ship with the certainty that they have taken part in a very successful expedition. That everything went so well would not have been possible without the fantastic support of Captain Tilo Birnbaum and the entire crew of the SONNE. We would like to take this opportunity to thank them once again!

And with that, I would like to send my best wishes for the last time for SO306 on behalf of everyone on board

Dierk Hebbeln



At the very last station, we finally obtained the obligatory „banana“ ... (© MARUM – Center for Marine Environmental Sciences, University of Bremen)



The humpback whale, who has provided some entertainment with his friends over the last few days, waves a goodbye (© MARUM – Center for Marine Environmental Sciences, University of Bremen)