SONNE 305-2 E-POLIO & M2ARGO

Singapur- Port Louis, 16.07.-05.08.2024

3. Weekly report

29.07.-05.08.2024



In a few hours, the SO305-2 expedition in Port Louis on Mauritius will come to a successful end. Last week, we continued sampling the water surface and the air and carried out intensive sampling at selected positions in the entire water column using the CTD. Our nutrient measurements at the surface show an oligotrophic water body in which only silicate and phosphate can be detected, and only in the equatorial area. Further analyses (DOC/POC and DOM) will show whether this is a different water body or the result of equatorial upwelling. At depth, the chlorophyll a maximum between 90 and 130 m already indicates that the nutrients above are depleted and that the nutrient concentrations only increase below the chlorophyll a maximum.

On Wednesday afternoon we reached the working area for the geology/geophysics team from GEOMAR - the Argo Transform fault. Transform faults are offsets in the globe-encompassing mid-ocean ridge system and had, until recently, been thought to be purely conservative strike-slip faults. Recent work led by scientists from GEOMAR has shown that this assumption does not hold and that their workings are apparently much more complicated. We are here to gather further evidence to help in unravelling just how transforms work as part of an ERC project led by Ingo Grevemeyer from GEOMAR.

Our work at Argo consisted of thoroughly mapping the fault and its adjacent seafloor (including the regions where the Central Indian Ridge (CIR) abuts the transform) while at the same time collecting magnetic data to help with the dating of crustal creation. Following this we wanted to collect rocks from the seafloor to add some geological ground-truthing to the evidence from the mapping. All of this work proceeded without a hitch and after two days we had a complete map of the transform and its adjacent fracture zone areas and several magnetic profiles.



The expedition's regular station work was stopped in the night of 3 August just outside the territorial waters of Mauritius. The SONNE then headed for Port Louis to take a Sonardyne technician on board in the roadstead and to carry out the necessary tests and calibrations for the ship in the remaining time until it arrived on 5 August.

I would like to expressly thank the entire crew of the SONNE for their support during the entire time on board.

Warm greetings from board

To amin's

Joanna Waniek

At sea, 04.08.2024