

SHORT CRUISE REPORT

RV METEOR cruise 63/2, Eastern Atlantic Ocean

Dates:	February 25 – March 30, 2005
Ports of call	Cape Town (South Africa) – Mindelo (Cabo Verde)
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METEOR left Cape Town on February 25, 2005 at 17.36 UTC towards Walvis Baai in order to get bunker, because no fuel was available at Cape Town. Walvis Baai was reached on February 28, 2005 and the vessel was moored at 08.00 UTC. After bunkering, the port was left at 12.00 UTC and the vessel headed on a south-westerly course towards the first working area that was situated a distance of 490 nm in the northern Cape Basin. Winds around BFT 5 from SE directions prevailed during the travel, the swell from the same direction was moderate.

Operations in the first working area (North-eastern Cape Basin) started on the early afternoon of March 2, 2005 with box-corer sampling. The first deployment was successful and the two subsequent ones were as well. The mud was sieved through meshes with a minimum size of 0.3 mm and contained a good number of remarkable animal species. After the third corer a bathymetric profile was taken with hydrosweep in order to get a map of the sea bottom, indicating a depth between 5000 and 5100m. Parasound records showed that the sediment was clearly layered, sloping in some areas. Therefore it was decided to continue grabbing and trawling in this specific area. After the end of the mapping the box-corer sampling continued for the whole day. After the last box-corer was on deck, a sampling series with 7 deployments of the multicorer was started. Next, the epibenthic sledge was used twice. Both samples were rich in fauna and thus can be considered as successful. The operation ended at 02.14 UTC on March 5, 2005. After this, *METEOR* headed towards the deployment point of our next gear, the Agassiz-trawl that was reached at 04.40 UTC on the same day and where the operation started and was followed by a second deployment. During the deployments surface plankton-samples were taken with an open ("Bongo"-type) net. Both trawlings were successful and recovered a fauna that was dominated by deposit feeders. The Plankton recovered at night was much more diverse than that of the catch at daytime.

Because of the loss of time caused by the bunkering at Walvis Baai, it was decided that Area 2 (northern Angola Basin) would not receive the effort of a full station. As there is good information on the macrobenthos from our last cruise (Me 48/2000), we refrained at all from using box-corers. The number of multicorers was reduced to two and a single epibenthic sledge and Agassiz-trawl deployment were planned, respectively. After 1159 nm area 2 was reached on March 10, 2005 and operations started at 04.30 UTC, again by bathymetric profiling with hydrosweep, indicating a depth range around 5600m. As the first gear deployed, the Agassiz-trawl brought back a very poor sample, reflecting the low nutrient situation of this offshore area. During the trawling operation, three plankton samples were taken near the surface. The epibenthic sledge followed the trawl. This operation lasted for about 8 hours after which the gear was

safely recovered with a good sample. A series of 5 multicorer deployments were successful. A short surface sampling for plankton followed, and a Hydrosweep/Parasound profile concluded work in area 2.

After the end of profiling, *METEOR* headed towards working area 3 in the eastern Guinea Basin, which was reached after 611 nm on March 14, 2005 at 05.30 UTC. During the journey the wind had decreased steadily and in the working area southerly winds prevailed with forces of 1-4, mainly around 2-3 Bft. This and only slight swell made work very agreeable. Operations started with mapping. By the end of the Hydrosweep/Parasound-profile we began deploying the first box-corer. After several unsuccessful attempts to get a sample we deployed the first multicorer that was successful. The texture of the sediment confirmed our thoughts regarding the reason of failure of the box-corer. Under a few centimetres of soft mud, a densely packed layer of hard material (predominantly foraminiferans) must have hindered the penetration. Most of the following multicorer samples were fully successful. Next the epibenthic sledge was used twice. Both samples taken with the sledge proved quite rich and diverse. During the second deployment of the sledge, one surface plankton-sample was taken. After steaming to an appropriate position, which was about 20 nm away, lowering of the Agassiz-trawl began resulting in a good and rich sample. A second deployment followed, the catch of which was similar to the first one, but it included some more species. During the night two surface plankton-samples were also taken, which proved to be very rich and diverse. During these hauls Parasound was regularly observed and an area was selected for box coring in which the layering of the sediment looked less packed. In fact, the 7 samples taken at this location were successful. Sampling in Area 3 ended on March 18, 2005 at 04.22 UTC. A number of short Hydrosweep/Parasound profiles served to close gaps in the map of the area. At 06.05 UTC we headed towards working area 4 in the western Guinea Basin.

Area 4 was reached on March 18, 2005 at 20.34 UTC. Mapping with Hydrosweep/Parasound was started 23 nm before getting to the target point. We arrived at this last one at 23.17 UTC and started sampling operations with the multicorer. All 7 deployments were successful so that we could move on to the box-corer right after completing multicorer sampling. Further sampling went smoothly for 5 deployments. The sediment consisted of soft mud with less foraminiferans than had been the case in area 3. After coring we switched to towed gear, first to the epibenthic sledge. Both samplings were successful and particularly diverse in species. After a short Hydrosweep profile taken in order to see if the seabed was remaining flat, we deployed the Agassiz-trawl twice. Both samples were quite diverse. A large, approximately 70 cm long brotulid fish caught in the second of these trawls was particularly remarkable and points to the availability of large food falls in this region. Otherwise, the fish captured were predominantly bathypelagic.

Because sampling had proceeded without any serious problems and since the ships speed during transit was fairly fast (13 knots), about two days time were saved compared to our original plans. It was decided to use this extra time for sampling in a supplementary area to the west of area 4 and at the western margin of the Guinea Basin which was reached on March 22, 2005 at 13.34 UTC. On our way, mapping with Hy-

drosweep began at a distance of 20 nm before we reached the station target point. First the Agassiz-trawl was deployed immediately after reaching the target point. The gear was safely recovered the next day. The catch brought back on board was small and without any clearly dominant organisms. The epibenthic sledge was operated directly after the trawl. After this, coring started with 6 multicorer samplings, all of which were successful. Following this, 6 deployments of the box corer were performed, which were also successfully completed. After the end of gear operations about 2.5 hours were used for a Hydrosweep profile aimed at closing gaps in the map of area 5 recorded so far. After this the vessel headed towards the port of Mindelo (Cape Verde Islands). On March 30, 2005 at 07.00 UTC *METEOR* was moored at Mindelo port where the cruise ended.

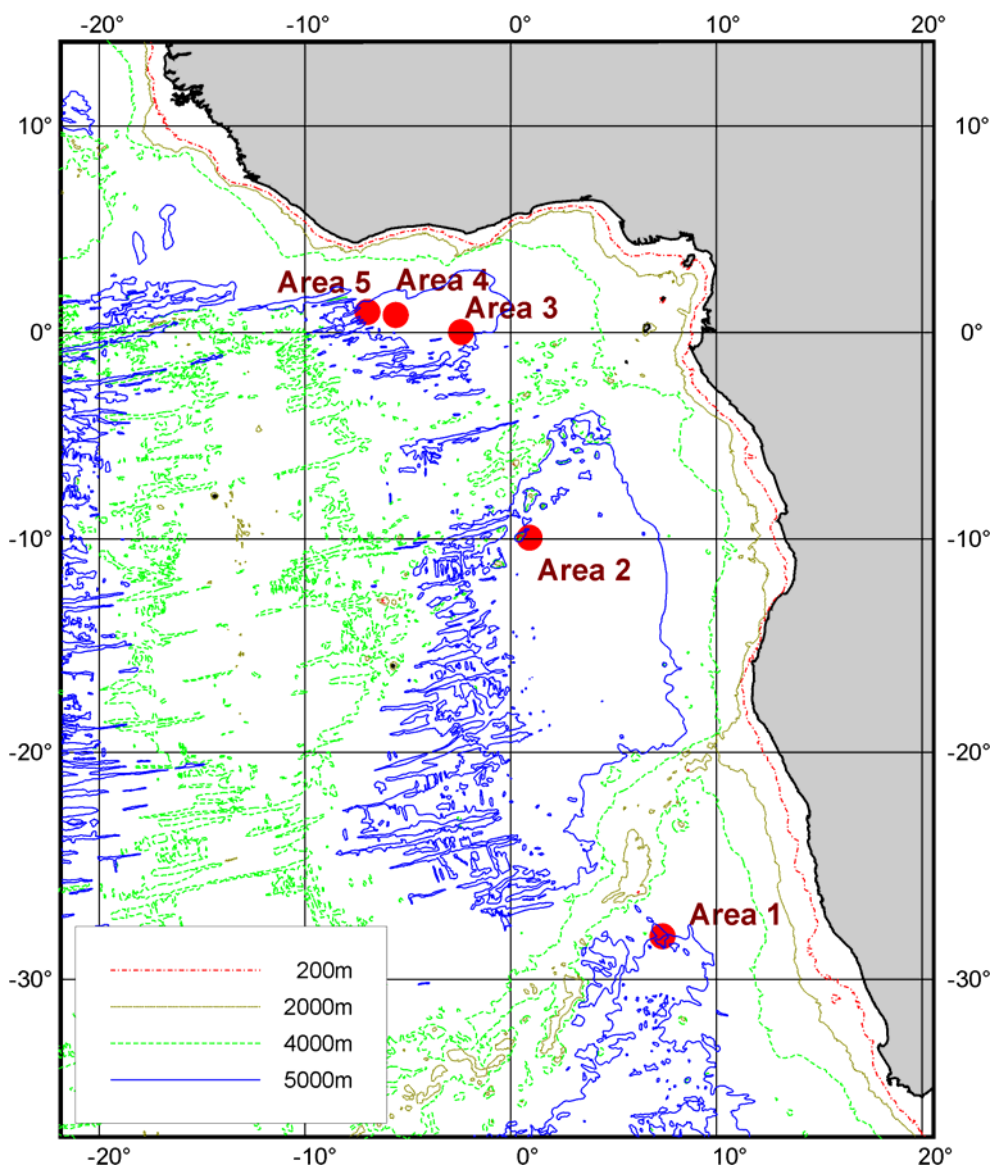


Fig. 1. Research areas during *METEOR* 63 Leg 2