

FS MARIA S. MERIAN, Fahrt MSM04/4a  
27.2. – 16.3.2007  
Las Palmas – Las Palmas



### **Third Weekly Report, period 12.3.- 16.3.2007**

This is the final weekly report of MERIAN cruise MSM04/4a. The work program was comparable to the previous two weeks including mapping of the sea floor, the deployment of rosette water sampler and particle camera and the deployment of the sea floor drill rig MeBo. The highlight of the entire cruise was the result of the last MeBo deployment in 1720 m water depth that started in the afternoon of Tuesday (13<sup>th</sup> March) and was completed in the morning of Thursday (15<sup>th</sup> March). A drilling depth of 38.4 m was reached and all used core barrels were completely filled with sediments. Samples from the core catcher were taken immediately after recovery in order to establish a first nannofossil stratigraphy. The age of the recovered consolidated marls ranges from the middle to early Miocene (Nannozone 4, 18.2 – 15.6 million years) to the late Miocene (Nannozone 9, 10.5 – 9.4 Million years). This time period is of special interest for paleoclimate research because it comprises a period of large changes in carbon burial in deep-sea sediments as well as a major step on in the formation of the East Antarctic continental ice shield. Being able to recover such sediments from multi-purpose research vessels like RV Maria S. Merian with the mobile drill rig MeBo is a major progress for the marine geosciences.



Final launching phase during the last MeBo deployment at cruise MSM04/4a. Thanks to Roland Kerstein and Annika Meyer from the University of Arts in Bremen for the documentation of the cruise.

We are very happy with the success of the cruise. High quality bathymetric maps of the upper Agadir Canyon region and the of the slide off Cape Bojador were generated. Parasound profiles within both regions gave valuable insights into the structure of the upper sediments in both regions. More than 3500 pictures were shot with the particle camera ParCa during 27 deployments. Together with the CTD-data and filtrates of water samples from 24 CTD-casts a valuable data set for studying particle transport dynamics was collected. The MeBo was deployed 6 times with a total operation time of 174 hrs. During 126 drilling hours about 154 m sediments were drilled with a recovery of 80% all together.

A variety of factors were responsible for the success of the cruise. A very important factor is the vessel Maria S. Merian that provides – although designed as a multipurpose research vessel for various disciplines in Marine Research – nearly optimal conditions for the deployment of such a complex and heavy system like the MeBo. The excellent cooperation between scientists, technicians and the experienced crew of the Maria S. Merian was equally important. Thanks go therefore to all cruise participants as well as supporters ashore, that contributed to the success of this cruise.

Safely returned to the harbour of Las Palmas, 16<sup>th</sup> March 2007

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