

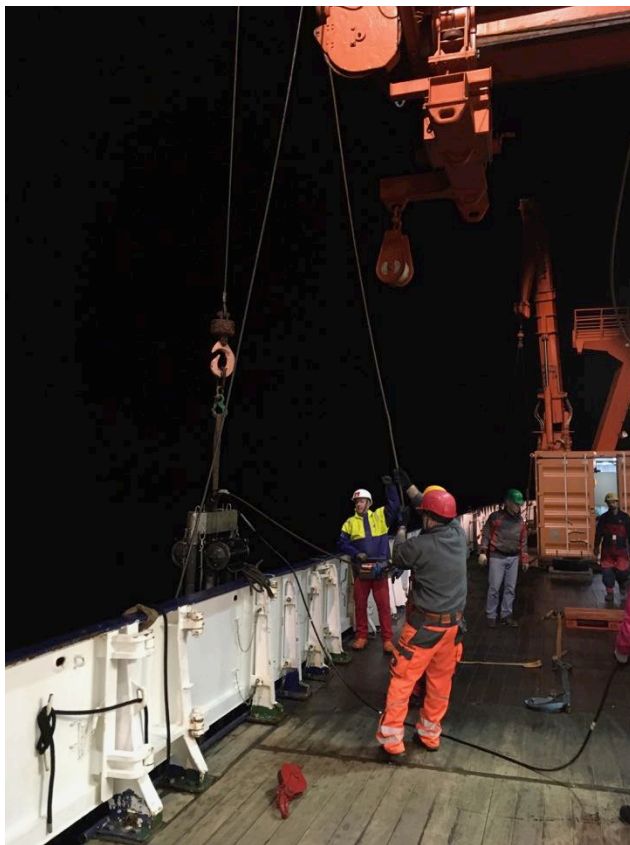
FS METEOR Expedition M152 LISBON 1755



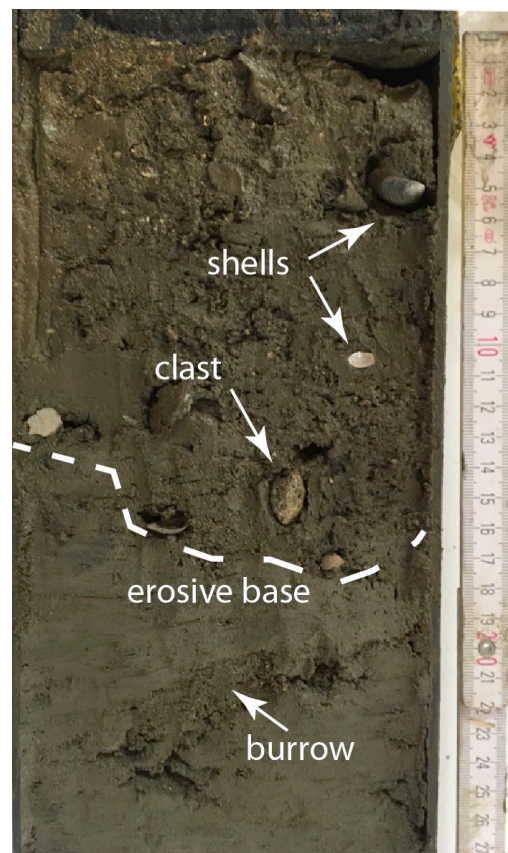
Funchal 02.11. – Hamburg 14.11.2018

2. Weekly Report (05.11. – 11.11.2018)

On November 4th, the German research vessel METEOR reached the target area off and along the western Algarve coast. We started bathymetric and Parasound mapping in water depths of 800 to 60 meters. The special focus was on the eastern Portimão and the western Sagres/Martinhal transects, close to the famous Boca do Rio outcrops.



After sampling of the sea floor the vibracorer returns on board RV METEOR



Gravity core with event layer

After a gravity coring campaign in water depths of 200 and 500 m, we started our vibracoring program on the shelf platform in water depths shallower than 100 m. On Nov 6th, when we had accomplished our drilling program, we had retrieved ca. 80 m of core material. Additionally, we had the chance to obtain seafloor sediments by grab sampling. The micro-plastic collecting catamaran worked fine at speeds of 4 kn, and collected many samples during station transit. In the evening of Nov 6th, we dismantled and stored the vibracorer and the other equipment. A big “Thank you” goes to Andreas and Holger of the METEOR on board weather service of the DWD; their exact weather forecasting helped us to successfully plan the expedition.

After midnight we took course to Lisbon harbor, where we arrived during late afternoon of Nov 7th. After a little bumpy cruise off western Portugal, we entered the Tejo and reached the harbor of the beautiful city of Lisbon in sunny weather around 04:30 pm.

In contrast to the plans, the Portuguese containers could not be discharged, due to custom problems. They are now on board METEOR, and will be shipped to Hamburg harbor. In Lisbon, we thankfully bid farewell to 14 of our Expedition M152 team members, including most of the Portuguese colleagues. Their work and enthusiasm during only three working days were most impressive.



Participants of the METEOR Expedition M152 "Lisbon 1755"

We were, of course, all very curious about the sedimentological secrets of the cores. Therefore, we opened some of them on board, measured magnetic susceptibility, hand-held XRF, and sampled some layers for dating (¹⁴C, OSL) and organic geochemistry. We found a high-energy layer at a depth of approx. 16-20 cm depth in many cores (photo), characterized by an erosive base, shell debris and well-rounded extra-clasts of fluvial origin. A much bigger surprise was the finding of a second layer at depths of around 150-180 cm with indications of a high-energy depositional environment. To avoid any speculation, we will await the results of age determinations and further investigations. Both of the layers are found within cores of the two transects; they are preliminarily interpreted as two events. Our expedition was very successful, our hopes and expectations were by far exceeded. Since we got duplicates of many cores, it will be possible to apply many research tools from different disciplines on these valuable sediments from the shelf and the continental rise.

We have enjoyed the service and friendliness of the entire crew while cruising homeward through the British Channel. In the evening of Nov. 11th, we will celebrate our farewell and "Thank you" party in the bar of the METEOR.

We send best greetings to all, especially our families. We are expecting to enter the Elbe estuary on Nov 13th and land in Hamburg later that day in the evening.

Klaus Reicherter, chief scientist