

Expedition M149 with FS Meteor

5. Weekly report

After a pre-survey of the Carboneras fault, Gulf of Almeria off S Spain, by seafloor mapping, gravity coring and heat flow measurements, the seafloor drill rig MeBo was deployed for the last time during Expedition M149 and sampled the sediment down to 20 m below seafloor. The recovered core shows multiple high angle faults, evidence for the deformation of the sediment through strike-slip faulting. The borehole was closed with a long-term observatory to measure pressure and temperature variations in response to the sediment deformation in the next few years. Furthermore, the Al-Idrissi fault, a strike-slip fault offshore Morocco, was investigated by gravity coring and heat flow measurements. Preliminary analysis indicate a hydrogeological activity of the fault. At the end of the Expedition a buried mass transport deposit was discovered during a multibeam and parasound survey. Post-expedition analysis will show if the mass wasting caused a tsunami in the Mediterranean sea. Research vessel Meteor arrived in the morning of August 24 in the port of Cadiz. All participants of expedition M149 thank the captain and the crew of R/V Meteor for their support, which immensely contributed to the success of the expedition.

Andre Hüpers (Chief Scientist) on behalf of the M149 participants