**The MIRROR cruise (2011): Bathymetric and shallow seismic structure of the Moroccan Atlantic Margin**

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During the Mirror cruise conducted in May and June 2011 on the Atlantic Moroccan margin combined deep frequency and wide-angle seismic data were conducted to image the deep crustal structure of the continental margin off Safi. On all deep seismic profiles bathymetric and very high resolution seismic (chirp) data were collected. Additional data were acquired to constrain the bathymetry between profiles and image the continental slope in detail. Together about 20 000 km2 were covered by the multibeam survey. Along all profiles magnetic data were collected either by a magnetometer at the tail buoy of the seismic streamer or by a magnetometer towed behind the ship. Additionally 10 interface cores were taken along a 230 km long profile from in water depth between 150 and 2500 m water depth. These cores will be used to model the basin developement in this area.

Preliminary results reveal a numerous deeply incised canyons on the continental slope, mostly with a NW-SE direction. Many debris slides with scars can be observed on the slope. Salt tectonics is imaged on the high resolution data and can reach the seafloor. The deeper part of our survey area are characterised by a shows several ten of kilometers wide bulge, which is probably related to the Miocene event. On the continental platform itself, the chirp profiles show clearly a recent tectonic activity, which can also be recognised in the reflection seismic sections.

Further work will include a compilation of all existing bathymetric data in order to be able to correctly interprete the high resolution seismic data. Together with the deep frequency seismic and the magnetic data this might allow to constrain the origin of the high magnetude West African Magnetic Anomaly (WACM or S1). The results from this work will help to constrain basin modelling which will be undertaken using the sedimentary cores.