FS Maria S. Merian MSM71

Las Palmas – Heraklion

07.02.2018 – 27.02.2018

1. Weekly Report

11. Feb. 2018

On Wednesday, February 7, 2018 we left the port of Las Palmas on Gran Canaria with a delay of about 8 hrs after the last provisions container was loaded. The previous day in port was used to prepare and partially assemble our scientific equipment. In addition, a first safety instruction was given on board. 21 scientists from Germany, France, and the Netherlands boarded R/V Maria S. Merian to acquire seismic and bathymetric profiles in the Ligurian Sea in the weeks to come. A total of 35 short-period ocean bottom seismometers and ocean bottom hydrophones will be laid out along two profiles, respectively, and will be complemented by onshore seismometers. In addition, we plan to recover 29 broadband seismometers, which were deployed in the Ligurian Sea in June 2017 in the framework of the European AlpArray – Initiative and the German priority programme SPP2017-4D-MB Mountain Building in 4 Dimensions.

Safety instructions and trying on of survival suit. Photos: H. Kopp, GEOMAR

Our working area in the Ligurian Sea is characterized by the alpine orogeny: The evolution of the Alps occurs in a tectonically complex region, which extends far beyond the Alps proper. To better understand the underlying deeply-rooted tectonic processes requires a multinational and multidisciplinary approach. 50 institutions from 18 European nations have teamed up to cover the Alpine region with a dense network of earthquake seismometers in order to detect signals coming from the deep at high resolution. The Ligurian Sea forms part of the Alpine region, where the Alpine front continues into the offshore domain in the Mediterranean. These processes shall be revealed using seismic tomography.

Assembling anchors for ocean bottom seismometers in the port of Las Palmas on Gran Canaria.

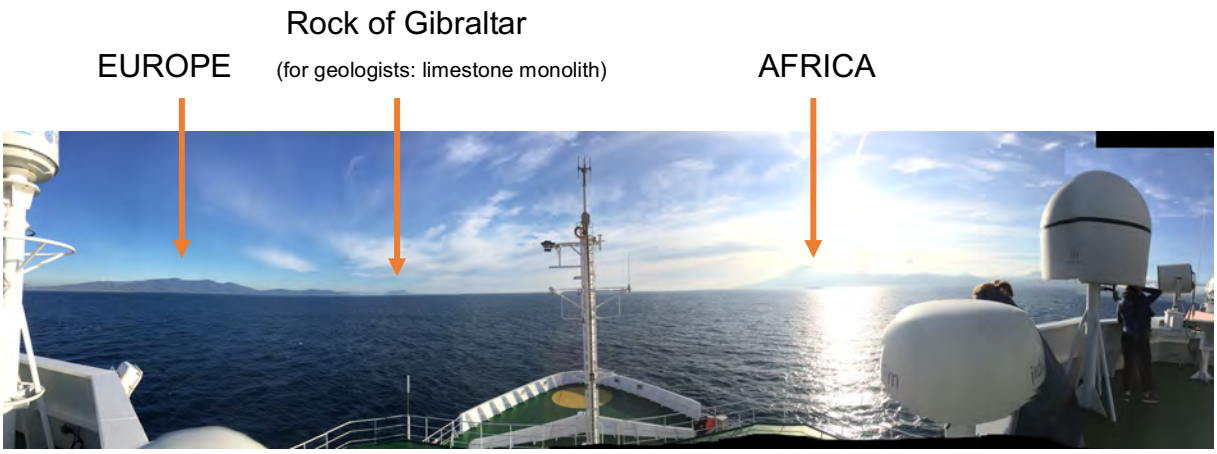
Photo: H. Kopp, GEOMAR

Transit to the Ligurian Sea will last five days, which we will use to test and mount our ocean bottom seismometers. At 08:00 on 09.02.2018 we started a first equipment test by lowering a total of 45 release units to a water depth of 1000 m. Afterwards, ocean bottom seismometers and ocean bottom hydrophones were assembled and mounted on their frames and the multichannel reflection seismic streamer was prepared for deployment. Our seismic air gun system was already on board from the previous cruise MSM-69.

CTD-Rosette with OBS releasers attached for a functionality test in 1000 m water depth off the African coast.

Photo: A. Beniest, IPGP

On 10.02.2018 we passed the Strait of Gibraltar at 08:00 and for some hours enjoyed the view of two continents. Further equipment preparation and instrument testing, in particular of the seismometers, comprised the tasks of the transit day.



View of the Strait of Gibraltar, coming in from the Atlantic. *Photo: H. Kopp, GEOMAR*

While the weather greeted us in the Atlantic with winds of 7 Bft and gales of 10 Bft with waves of 6 m, conditions have calmed since and we could continue our transit to the Ligurian Sea with calm seas. Everyone on board is doing fine and enjoying the Mediterranean swell with lots of sunshine. The mood on board is very good and the cooperation with the captain and the crew is excellent, as expected.

Kind greetings to everybody back home !

Heidrun Kopp

At sea, 36°13‘N / 03°28‘W