

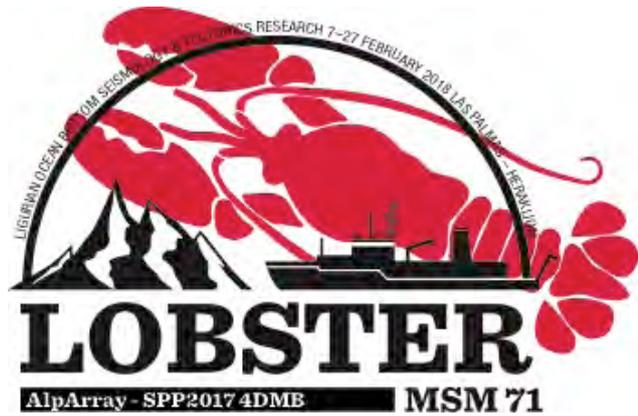
FS Maria S. Merian MSM71

Las Palmas – Heraklion

07.02.2018 – 27.02.2018

2. Weekly Report

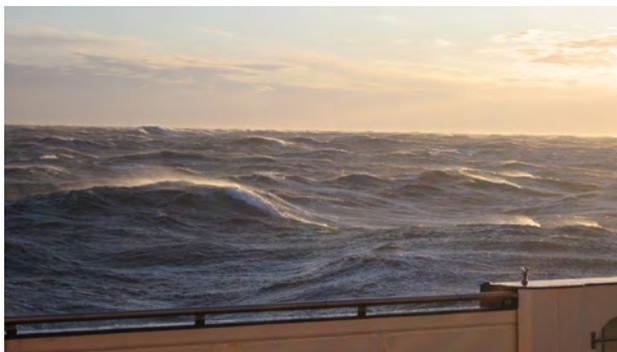
18. Feb. 2018



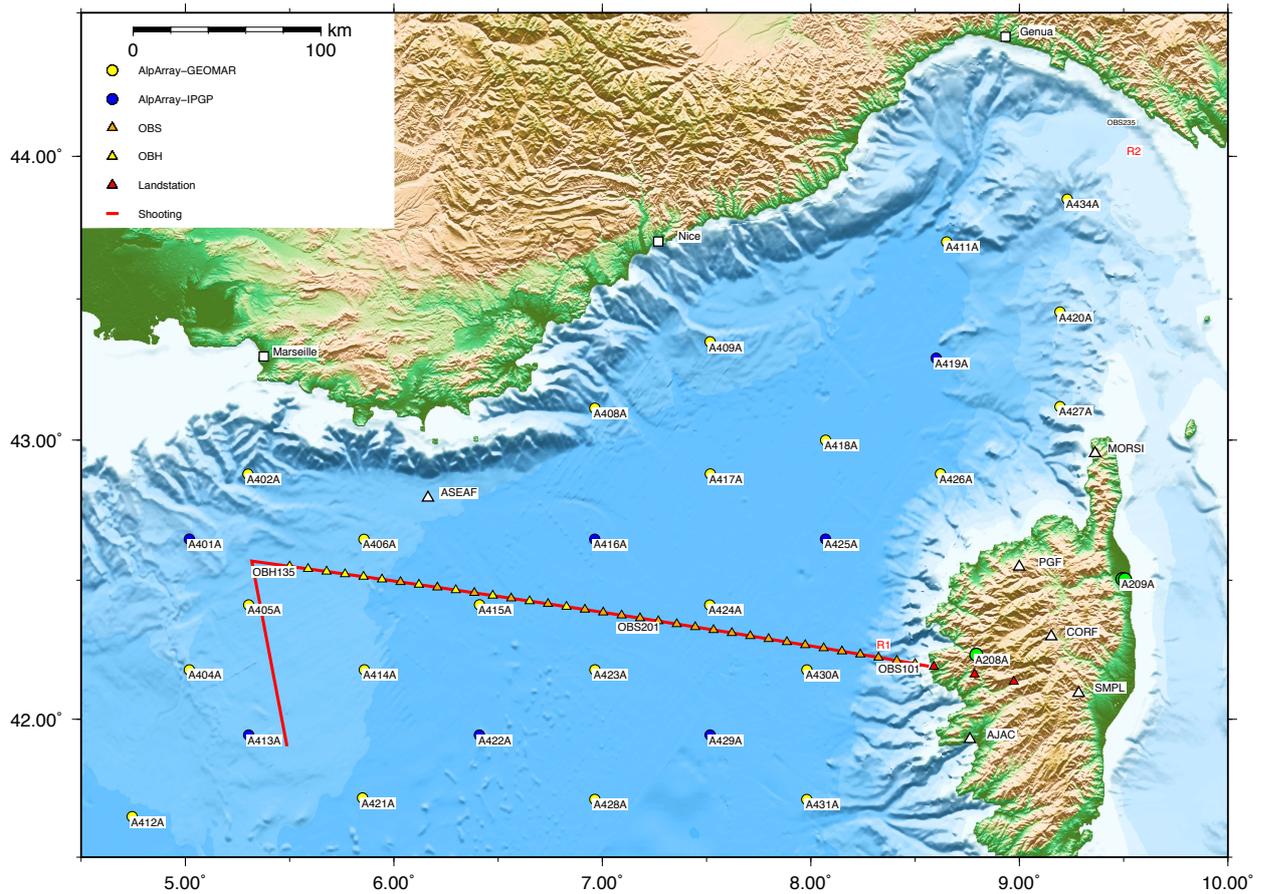
Our second week on board RV Maria S Merian started with the successful recovery of the first of the long-term stations of the AlpArray ocean bottom seismometer network: OBS A412A was deployed in June 2017 at the southwestern rim of our study region and has recorded the seismic activity of the area ever since.

Recovery of station OBS A412A from the working deck of RV Maria S merian after its eight month deployment in the Ligurian Sa, which greeted us with stormy conditions.

Photos: A. Paul, ISTerre



During our short transit to the starting point of the refraction profile wind speeds increased to 10-11 Bft so that we could initially only deploy two stations before we had to wait a few hours for the wind to calm down. When wind speeds decreased to around 8 Bft later during the evening we continued the deployment and all 35 OBS/OBH were installed along the profile until 13:45h on Feb. 13, 2018. We would like to take this opportunity to extend our gratitude to the deck's crew for the familiar effective cooperation even during stormy conditions which allowed for a timely deployment and start of mammal and turtle mitigation procedures for airgun shooting during daylight hours.



Map of the station and profile distribution in our working area (as of Feb. 15, 2018). Map: A. Dannowski, GEOMAR

While we deployed stations on the refraction line our Italian colleagues from the Italian National Research Council CNR / Istituto per la Dinamica dei Processi Ambientali di Milano installed 3 land stations on the western side of the island of Corsica, which will record our seismic signals to cover the shoreline transition. For optimal signal coverage we commenced shooting very close to the Corsican shore on Feb. 13, 2018 before heading back along the profile track.



Relief of the island of Corsica, seen from the bridge of RV Merian S Merian. Photo: H. Kopp, GEOMAR

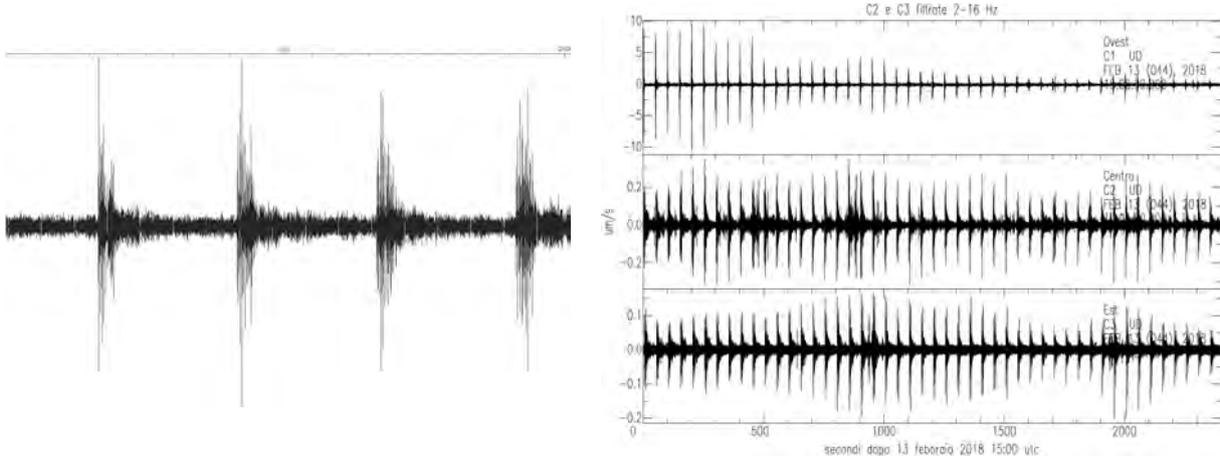


Begin of seismic profile off Corsica.

Photo: H. Kopp, GEOMAR

We continued our seismic line beyond the termination of the OBS deployment heading towards the south in order to achieve an optimal ray coverage into the AlpArray network.

The change of course south offered the opportunity for airgun maintenance of both gun arrays (starboard and portside) without having to interrupt shooting. This was possible because the engineers on board RV Maria S Merian consistently provided ample air pressure so that we could terminate shooting on Feb. 15, 2018. The broadband stations of the AlpArray network have registered our airgun shots over distances of more than 290 km (155 nm). These data will later provide important information to reconstruct the exact positioning and orientation of the stations on the sea floor.



Left panel: Recording of air gun shots offshore Corsica on station A404A in a distance of ~300 km. Right panel: Air gun shots recorded on a land station installed on Corsica (G. Caielli, INRC).

The remaining days of the week were dedicated to the recovery of the broadband stations and the seafloor sensor deployed along the profile. Due to closer of certain maritime areas we repeatedly had to adjust our working plan. An additional obstacle came from malfunctioning flash lights and radio beacons on some of the broadband stations during recovery. The flash and the radio signal of the beacon are commonly used at night to locate the instrument after it ascends to the sea surface. We now had to perform a visual search using the search lights of RV Maria S Merian, complemented by the ship's ice radar system.



Ice flood light of RV Maria S Merian (left) and OBS in the light beam about to be recovered (right).

Photos: H. Kopp, GEOMAR

Despite our efforts, one station could not be recovered (A406A) and another one did not respond to the emitted release signal (A408A). After finishing our track to all 18 stations of the western AlpArray network we headed south during the night of Feb. 17, 2018 to recover the westernmost 22 stations along the refraction line. Military operations in the area forced us to leave the region until Monday, Feb. 18, 2018 at 07:00h.

In defiance of the difficult conditions for instrument recovery everyone of board is doing well and enjoying the calming seas during the latter half of the week.

Kind greetings to everyone back home !

Heidrun Kopp

Auf See, 36°13'N / 03°28'W