



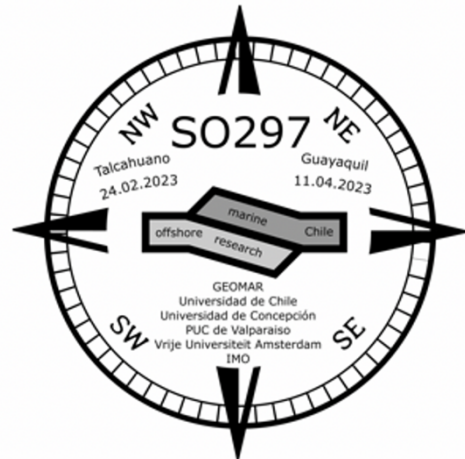
FS SONNE - SO297 "PISAGUA"

24.02.2023 – 11.04.2023
Talcahuano (Chile) – Guayaquil (Ecuador)

3rd Weekly Report

06. - 12.03.2023

At sea, 24°55'S/71°11"W, 12 March 2023



The entire week (06. - 12.03.2023) was characterized by the deployment of ocean bottom seismometers and subsequent seismic data acquisition. After a transit of 10 hours, we reached the southernmost station of the 3D refraction experiment.

The deployment of the instruments started on 05 March at 23:30 and ended on 07 March at 17:00. For the three-dimensional refraction experiment, a total of 42 ocean bottom seismometers (OBS) and ocean bottom hydrophones (OBH) were deployed over an area of 85 x 50 nautical miles (Figure 1). In the center, the station spacing is seven nautical miles.

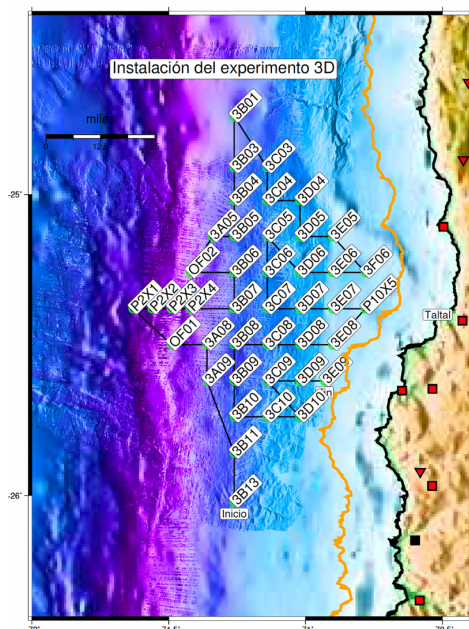


Figure 1: Installation path of the 3D refraction experiment consisting of 42 OBS/OBH stations. Figure from D. Lange.

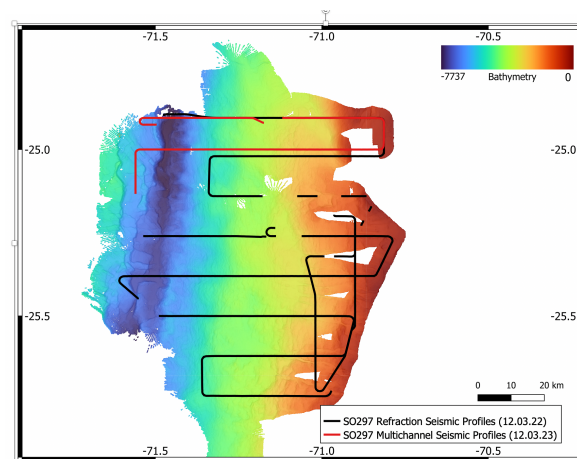


Figure 2: Path during data acquisition of the three-dimensional refraction experiment (black lines) and MCS profiles (red lines) overlaid with the newly acquired multibeam bathymetry in the area of the 3D experiment. Status 12 March 12:00. Figure M. Kühn.



On 6 March and in the central area of the 3D experiment, a CTD with a releaser test and a float test for the frames of the drift-free pressure sensors to be installed later during SO297 were carried out. Immediately after deploying the last OBH, the air pulsers were launched starboard and port side, and the acquisition of 3D refraction data started. Figure 2 shows the path collected so far during the data acquisition of the three-dimensional refraction experiment and the MCS profiles. We expect to complete the data acquisition of the 3D experiment in the coming week and start recovering the deployed instruments.

First inspections of OBS and OBH records of the P2 profile offshore Copiapó at 27.5°S show good to very good data quality. The seismic phases can be identified well, even at greater distances. Figure 3 shows a data example of a station from the oceanic plate at 27.5°S.

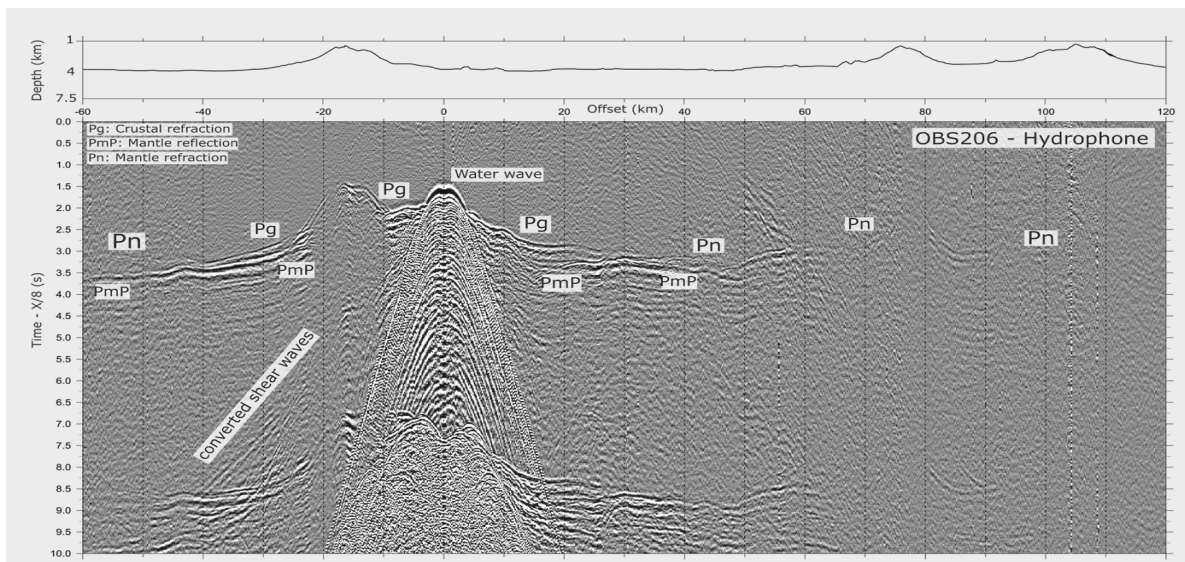


Figure 3: Record section based on the hydrophone channel of OBS206 on profile P2 offshore Copiapó (27.5°S). Reduction velocity of the y-axis is 8 km/s. The seismic phases are marked. Figure from A. Dannowski.

All on board are well. With best regards on behalf of all participants on board of the RV SONNE,

Dietrich Lange

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