RV MARIA S. MERIAN – MSM141 "CAMPOSEIS"
November 7 – December 7, 2025, Rio de Janeiro - Rio de Janeiro, Brazil

4th Weekly Report (24. - 30.11.2025)

This week the weather has been good throughout, with temperatures increasing towards the end of the week, from ~20 °C to ~24 °C. Concomitantly, winds have been diminishing throughout the week. On Tuesday and Wednesday wind speed reached 29 and 27 kt at the end of shooting of line 150. On Thursday to Sunday wind speed has diminished to 17-16 kt.

We spent the start of the week finishing the shooting of our Northern Line, Line 150. In total, shooting lasted for just under five days, from 9:38 on 22 November (-47.198, -27.376) to 8:01 on Wednesday 26 November (-42.031, -27.971). In total, we did 3,456 shots along 510 km. As in the previous week, shooting was frequently interrupted due to mammal observations within the 1 km exclusion area and the occasional problem with the airguns.

On 24 November, mammals were observed using the PAM system at 05:51, after which the airguns were shut down. As usual, we turned to a position located 1 nautical mile before the mammals were observed, and performed the pre-watch and soft start procedures while turning. Full power shooting resumed at 07:24. Unfortunately, at 07:56, we realized that a buoy was missing from the starboard side (airguns 1–4). Airguns 1–4 were shut down at 08:06 at coordinates (-27.604, -45.412), while airguns 5–8 continued to shoot. Airguns 1–4 were brought on deck to replace the buoy, after which they were deployed in the water again. Full power with both airgun arrays was resumed at 08:29 at coordinates (-45.389, -27.606).

At 11.25 of the same day at (-45.1918, -27.634425), airgun 4 on the starboard side stopped to function. We decided that because we were located on top of an area of thin oceanic crust, the Abimael ridge, 7 airguns would give us enough airgun power to penetrate into the mantle, and we continued shooting. However, at 13:37, air started to leak from airgun 3, and we decided to bring the 4 airguns on the starboard side on deck for repair instead to keep shooting with 6 airguns only. The airguns were on deck at 17:02 and subsequently repaired. We turned again and started pre-watch and soft-start at 19:14 and 19:45, respectively. We reached the position (-44.744, -27.682), with 8 airguns at full power at 20:09. Unfortunately, at 20:16 we had to shut down the airguns again due to mammal detection with PAM. We did a pre-watch at 20:33, which was aborted at 20.28 because of mammal detection again. Subsequently, we started pre-watch at 20:38, this was followed by soft-start and then full power with 8 airguns at 21:29 at (-44.745, -27.683).

On 25th of November, the sea conditions became rougher, and one seismic source, airgun 7, failed at 15:03 at (-43.353, -27.833). However, we choose to continue shooting with 7 airguns, as repeated retrieval of the source equipment was also putting the airgun equipment at risk of damage due to the rough sea conditions. Thus, we continued shooting with 7 airguns until the end of Line 150, which was reached on the 26th of November at 8:01 at (-42.031, -27.971). We then recovered the PAM cables and the airguns on deck. Recovery of both was finished at 08:46. Subsequently, we did an SVP at (-41.986, -27.976) to 2000 m depth from 09:37 to 10:13. The SVP probe that could go to 3000 m depth was malfunctioning and we could only use the one that reaches 2000 m depth.

We started recovery of the 61 OBS along Line 150 on the 26th of November at 12:40, and finished recovery yesterday the 29th of November at 23:00.

On Friday the 28th of November at 17:41, we officially received the notification that the Brazilian authorities would not allow us to deploy 3 and 5 additional instruments along Lines 150 and 140. Thus, after the end of OBS recovery on the 29th of November, we proceeded to the start of Line 140, where following the instructions of the navy officer on board we performed first an SVP measurement which finished at 1:55 on the 30th of November at (-47.183, -27.763), and then did a detailed bathymetric survey around the area where OBS#3 was lost. The bathymetric survey has lasted until 11:00 on the 30th of November.

We have then conducted 5 releaser tests: one on top of the lost OBS, and additional four tests at 0.3 nm distance from that location. The OBS#3 continues to be at the sea bottom it responds to the releaser signal perfectly, but it does not rise.

We are now proceeding to collect additional bathymetry along the 3 seismic lines until the end of the cruise. We have started by our southern line, Line 140. We will then proceed to Line 220, and finally 150.

Greetings in name of the cruise participants,

Prof. Dr. Marta Pérez-Gussinyé
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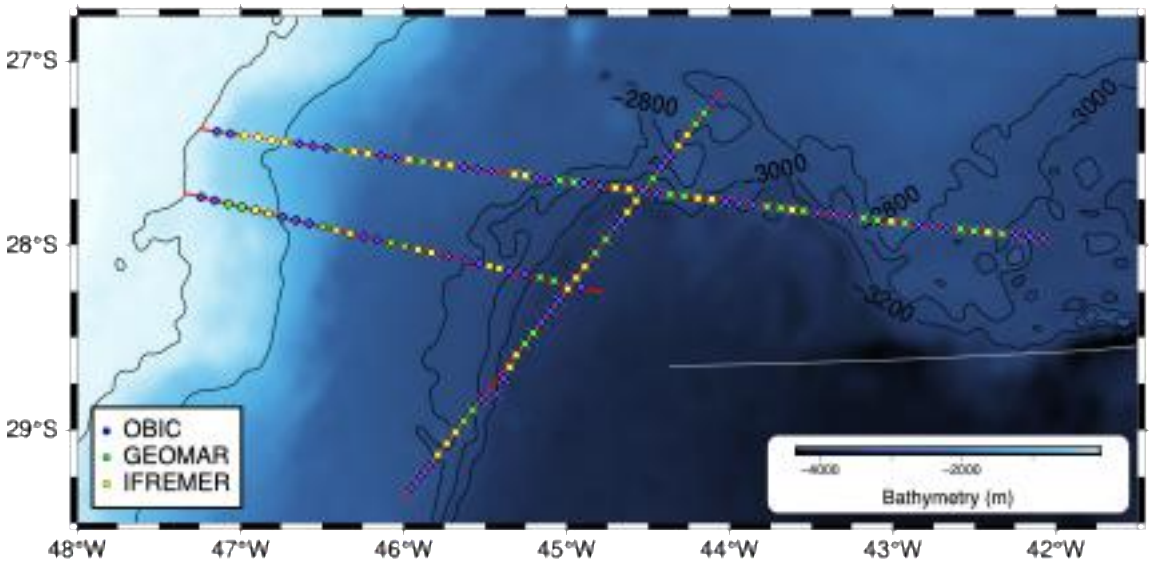

Figure 1: OBS stations deployed along line 140, 220 and 150 color coded by institution. All OBS along all lines have been recovered (marked with white cross). Only OBS#3 at the start of Line 140 has been lost. We are now proceeding to measure additional swath bathymetry along all lines, starting by Line 140.