

Scientific Cruise SO315 with RV SONNE

CARNIVAL

08.10.2025 (Antofagasta/Chile) –

17.11.2025 (Balboa/Panama)



5. Weekly Report (03.11.–09.11.2025)

On 3 November 2025, work in the fifth working area west of Iquique was completed with a final station. Several sediment cores (multicores and gravity cores) were obtained at a water depth of 1,350 metres, and hydrographic data and water samples were collected using a CTD probe, rosette sampler, marine snow catcher, in-situ pumps and multi-net. The RV SONNE then moved on to the directly adjacent sixth work area. Here, sediment cores and water samples were to be collected from the coastal upwelling area south of Arica. Sediment cores (multicores and gravity cores) were successfully extracted at five stations on the shelf, including off the mouth of the Río Camarones. Similar to previous work areas, finding suitable stations on the continental slope proved challenging due to mass wasting deposits and submarine channels, despite intensive mapping of the seabed. Nevertheless, several sediment cores (multicores and gravity cores) were successfully taken from water depths between 170 and 1,440 m. Hydrographic data and samples from the water column were also collected at several stations using the CTD probe and the rosette sampler, and marine snow catchers, in-situ pumps and the multi-net were used at one coastal and one offshore station. On the evening of 8 November 2025, the station work and thus the work programme of Expedition SO315 was successfully completed. With calm seas, the RV SONNE is now en route to Panama.

An important part of Expedition SO315 is the sampling of the water column. For this purpose, a CTD probe with a rosette sampler is mainly used. As it passes through the water column, the probe measures key hydrographic parameters such as temperature, salinity and oxygen content of the seawater. At the same time, 10 litres of seawater are collected for further analysis in the 24 Niskin bottles of the rosette sampler at various water depths. A multi-closure net is used to collect plankton from up to five water depths. Marine snow catchers are used to collect organic particle aggregates in the water column. If larger quantities of filtered water samples are required, in-situ pumps are used, which can filter large quantities of seawater at specified water depths within a few hours. The water samples obtained in this way not only serve to improve our understanding of oceanography and biogeochemical cycles in the areas of operation.

After the expedition, they will also provide an important basis for the calibration of various proxy methods for palaeoceanographic and palaeoclimatic reconstructions.

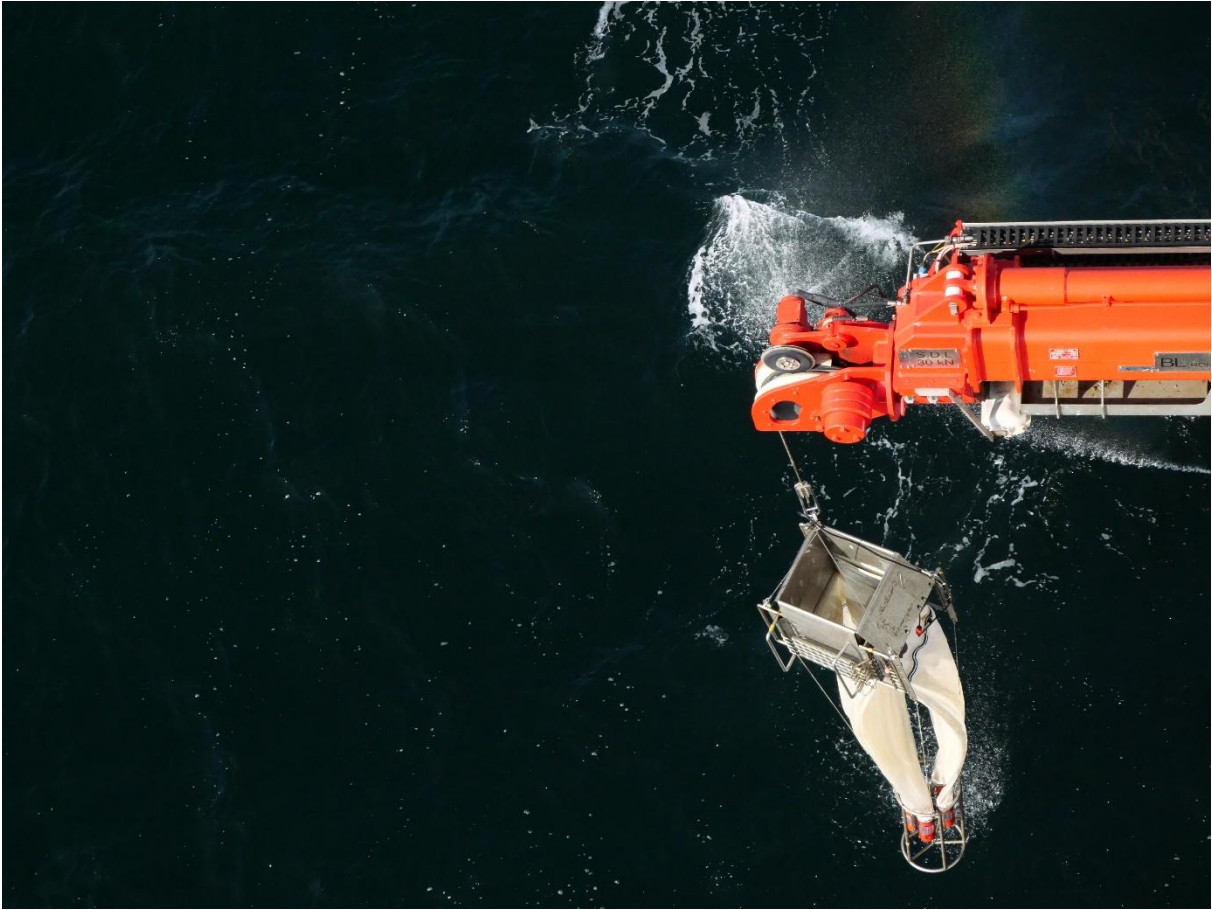
Best regards from the South Pacific,

Patrick Grunert (Chief Scientist)

Frank Lamy, Andrea Jaeschke (Co-Chief Scientists)



CTD probe with rosette sampler being heaved on deck after successful deployment (picture: V. Diekamp).



Multi-closure net with plankton samples from various water depths is being heaved on board (picture: N. Overbeck).