

Weekly Report of Expedition Sonne-257

May 29 to June 5, 2017

Western Australian Climate History from Eastern Indian Ocean Sediment Archives (WACHEIO)

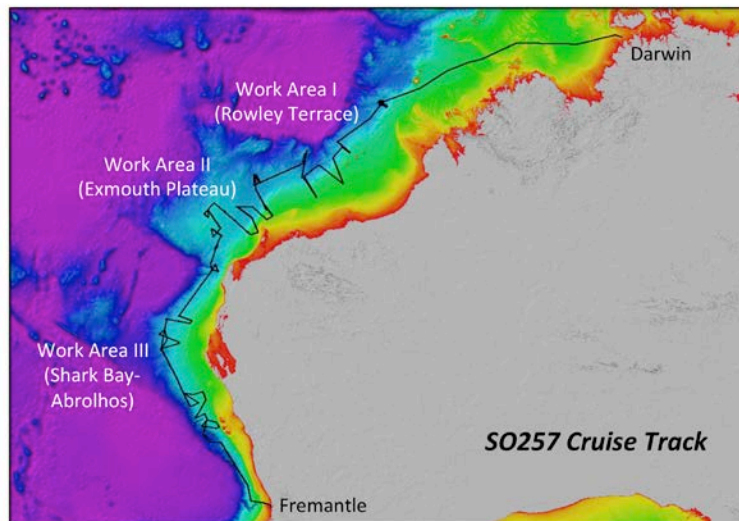
After the successful operations in the Exmouth Plateau area, we embarked on the last phase of the expedition in the southern work areas, offshore Shark Bay and the Houtman-Abrolhos Islands. As anticipated, it proved more difficult to find expanded sediment archives in this region and the maximum core lengths considerably decreased within the last week of the expedition. Sediments were characterized by high carbonate content due to reduced river discharge of terrigenous clastics offshore and deploying the long gravity corer was less effective than in previous areas. However, the 10 m piston corer, proved very successful to recover excellent quality cores, even in stiff carbonate-rich sediments. In total we occupied 17 stations, which were sampled with CTD, multicorer, gravity and piston corer after surveys with multibeam-echosounder and parasound. In addition to four CTD deployments, we obtained 13 multicorer samples, two gravity and five piston cores. The piston cores achieved an average length of 7 m, while two gravity cores achieved insufficient penetration with low core recovery of only 2.5 and 4.5 m. As in the previous work areas, all cores were immediately split after retrieval, curated and the sedimentology and stratigraphy were analyzed and documented. High resolution parasound and seismic surveys concentrated on the seaward extend of reef structures along transects in the vicinity of IODP Sites U1458/U1459 and U1460, which had been cored during IODP Expedition 356. These surveys obtained excellent records of the transition between shallow water reef-carbonate systems that were drilled during IODP Expedition 356 and the hemipelagic deep-water sediments, which we cored during SO-257.

After the successful coring during the third phase of the expedition the total recovery of long cores during expedition SO-257 was 369 m in addition to 39 multicores and boxcores and nine CDT deployments. The survey and coring operations were terminated at 6:00 on June 3rd, when we started the transit to Fremantle, which we reached in the morning of June 4th. On the same day we were able to transfer the sediment cores and multicorer samples into a pre-cooled reefer, which was waiting for us on the pier in Fremantle. On June 5th we had an open ship event, organized by the

German Embassy in Canberra and the consulate in Perth, which attracted more than 3200 interested visitors.

The international science party of the SO257 Expedition wants to express its warm gratitude to Captain Meyer and his crew, who made the extraordinary success of this expedition possible.

With best regards from the crew and scientific party of Expedition SO-257,
Wolfgang Kuhnt



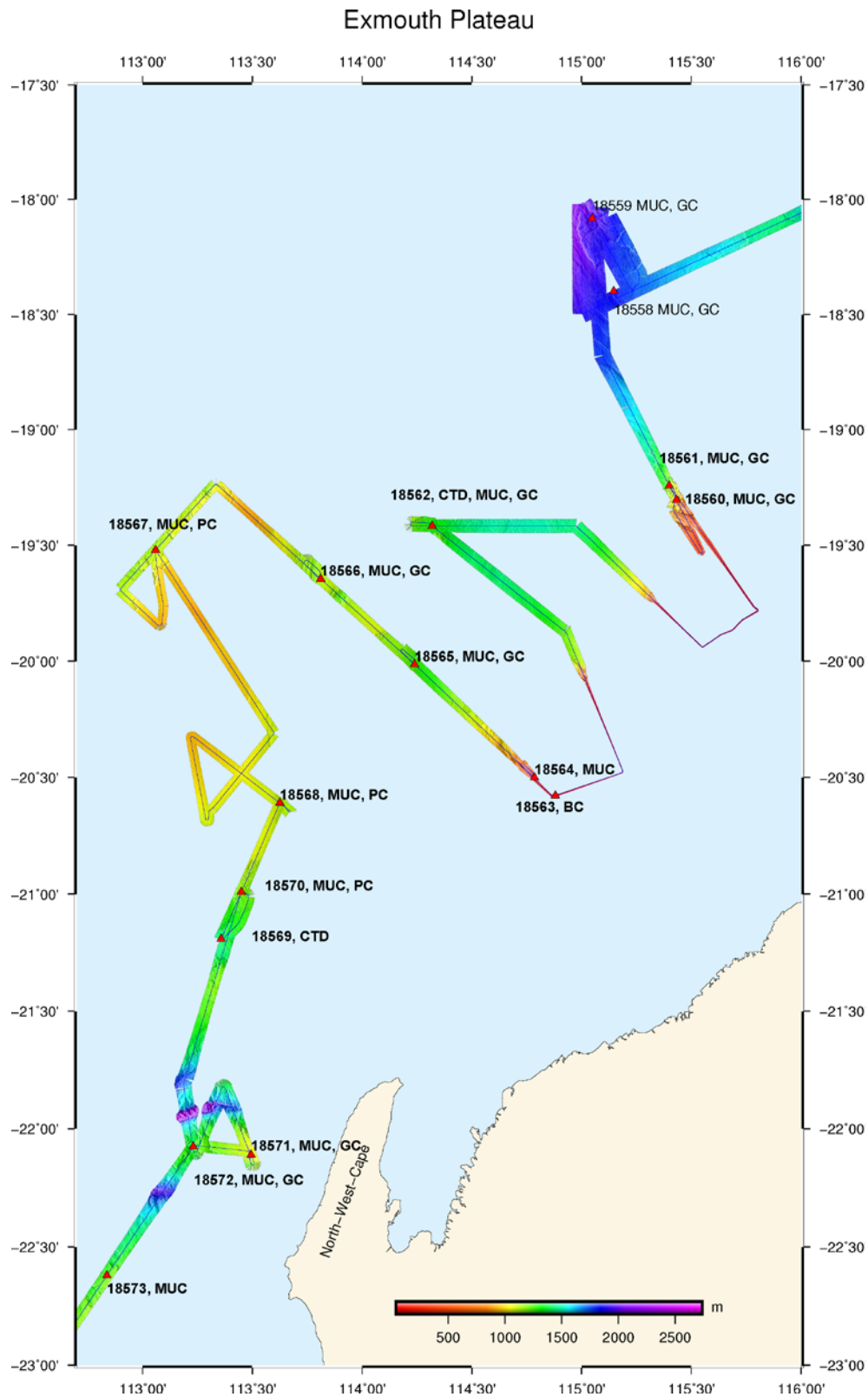


Abb. 1. Fahrtverlauf, Kernstationen und Bathymetrie während der zweiten Woche der SO-257 Expedition.