

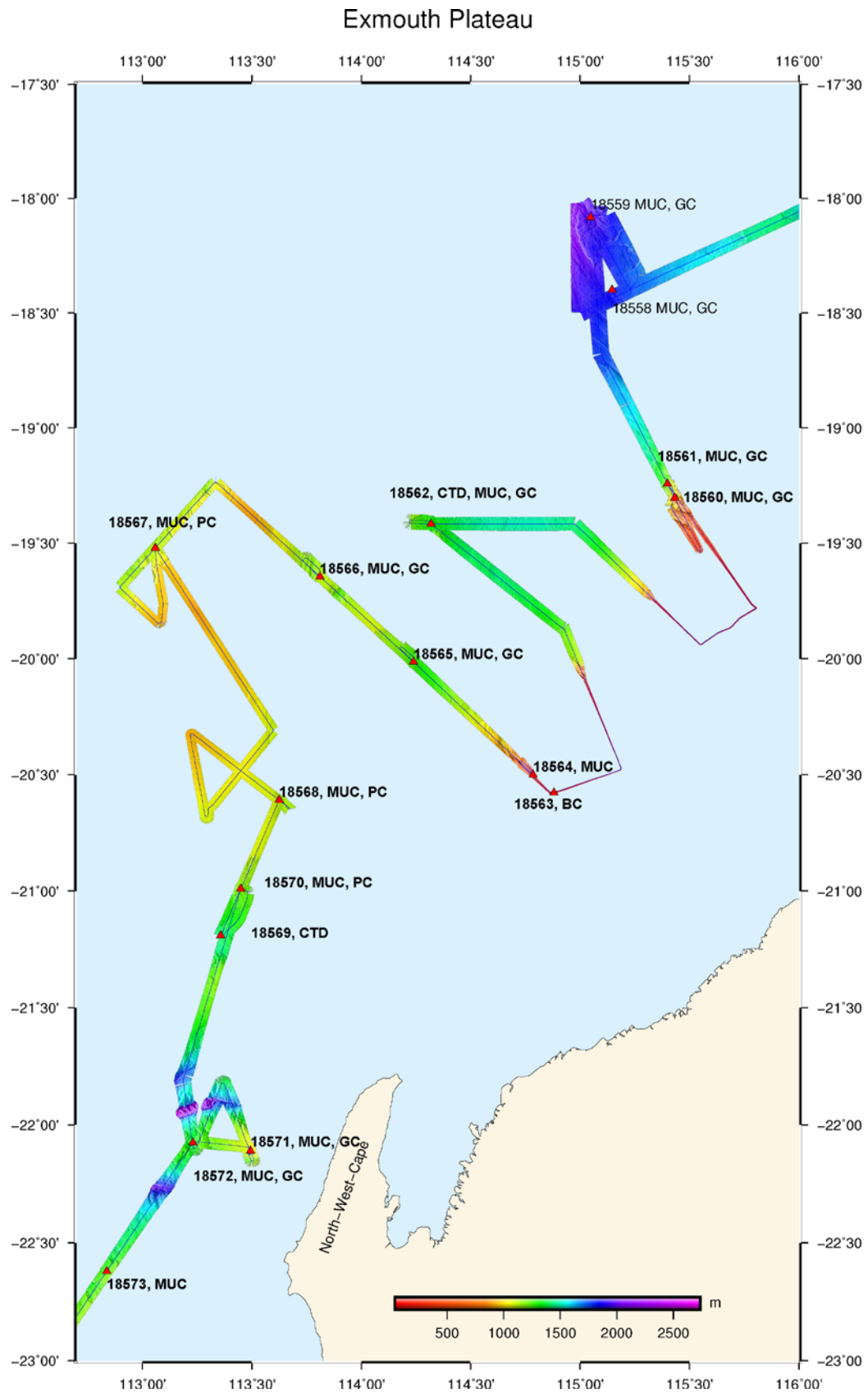
## Weekly Report of Expedition Sonne-257

May 22-28, 2017

### Western Australian Climate History from Eastern Indian Ocean Sediment Archives, WACHEIO

After finishing operations NW of Rowley Shoals and along the northeastern part of the Exmouth Plateau we focused our research in the second week on the central and southwestern part of the Exmouth Plateau. We occupied 14 stations in this area and sampled them with CTD, multicorer, giant box corer, gravity and piston corer following parasound and multibeam echosounder survey. In total we deployed three CTDs, one giant box core, 12 multicores and ten gravity and piston cores with a total core length of 164 m. Eight of the ten long cores are of excellent quality and only two cores exhibit short sections of imploded core liner in the upper part, which needed special attention during cutting and curation. As on the first part of the cruise we split all cores immediately after retrieval in archive and work halves and performed initial stratigraphic, micropaleontologic and sedimentologic analyses. Using the advanced positioning capabilities of R/V Sonne we were able to retrieve a multicorer directly from the central part of a pockmark, a crater-shaped fluid and gas escape structure at the margin of the giant Gordon submarine landslide. Another highlight of the second expedition week were high resolution seismic images of submarine sediment gravity deposits and their transition into undisturbed pelagic sedimentation, which were obtained during routine surveys carried out during the nights in order to find optimum positions for gravity and piston coring for the following days.

As in the first week all coring operations were successful during the second part of the cruise. During the second week we retrieved a total length of long piston and gravity cores of 164 m, which brings the total recovery of long cores during the first two weeks of the SO-257 expedition to 329 m. Additionally we were able to obtain six long lines of high-resolution multichannel seismic, including lines over the IODP Sites U1461 and 1462 on the Northwest Shelf. The stratigraphic records of these sites will thus allow a precise stratigraphic calibration of reflectors. The spirit of the international group of scientists remains enthusiastic, even though the wind conditions deteriorated after leaving the Northwest Shelf rendering operations more difficult.



**Figure 1.** Cruise track, coring stations and bathymetry during the second week of expedition SO-257.

Prof. Dr. Wolfgang Kuhnt