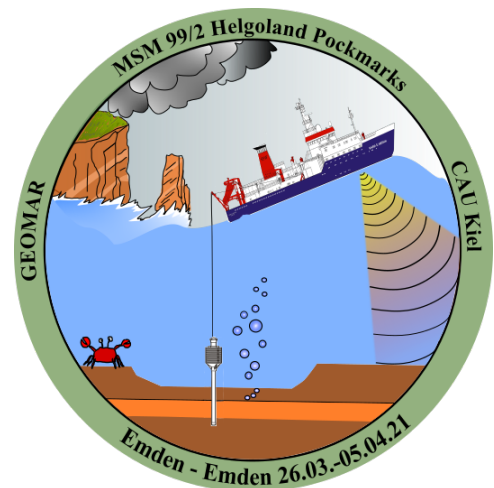


FS Maria S. Merian

MSM 99/2 (GPF21-1_013)

26.03.2021 – 05.04.2021

Emden – Emden



2. Weekly Report 04.04.2021

On Monday 29.03.2021 we successfully sampled a transect with the Mini MUC from an area with many pockmarks over an area without pockmarks back to an area with many pockmarks. The goal of the transect was to record differences in sediment characteristics and pore water geochemistry to draw possible conclusions about the origin of the pockmarks and the controlling parameters.

We used the following night to travel to our second working area (WA2) south of Helgoland. There two gravity cores and two mini MUCs could be run on Tuesday. After mapping the working area we went back to our first working area (WA1).

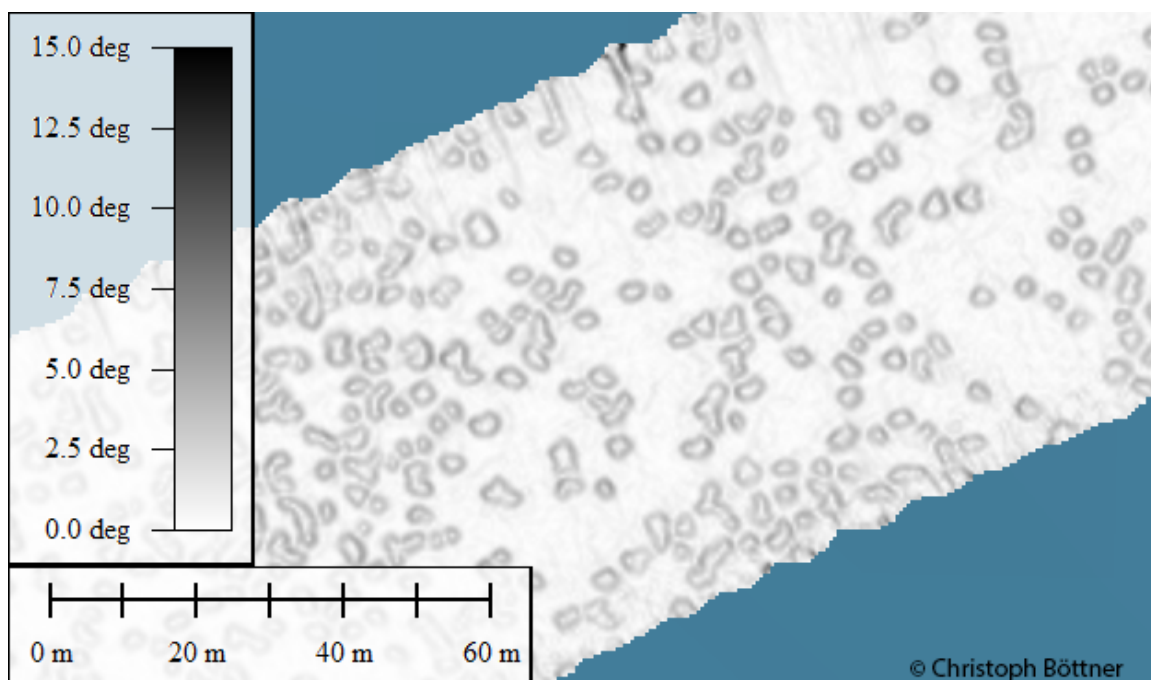


Figure 1: Hydroacoustic image of pockmarks in the North Sea. The pockmarks mostly have a diameter of about 10 m and a depth of about 20 cm.

On the following day several gravity soundings were successfully made north of Helgoland. The core locations were located in a paleo-valley filled by finer sediments and overlain only by a thin sand layer. The cores were sampled at high resolution for pore water geochemistry and sedimentology. Following this success, we prefaced the next 18 hours with parasound mapping of the northern part of the working area, where some pockmarks were found.

Also on Good Friday the work on board continued unabated. Sediment samples were taken east of the wind farm Amrum Bank West and the gravity sounder was used to obtain sediments from a clay-rich Paelo valley.

On Saturday morning, gravity sounder cores were taken back in WA2. After a short transit back to WA1 at noon, three successful mini-MUC deployments were carried out in a pockmark area. With this we finished the station work of this trip. The following night was used for further seafloor mapping. Sunday morning we decided to return to port in Emden in the evening due to an approaching storm. Easter Sunday was used to repack all equipment and to clean the laboratories.

We would like to take this opportunity to thank Captain Ralf Schmidt and his crew. Thanks to their great support we return home after the 10-day voyage with more samples than expected.

With best regards in the name of all cruise participants

Christopher Schmidt

(GEOMAR Helmholtz Centre for Ocean Research Kiel)