

Cruise MSM88/2

Bathymetric mapping of the seafloor - a German contribution to completing the map by 2030

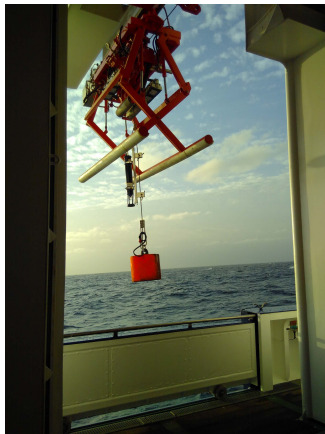
19.12.2019 - 14.01.2020

From Mindelo (Cabo Verde) - to Bridgetown (Barbados)



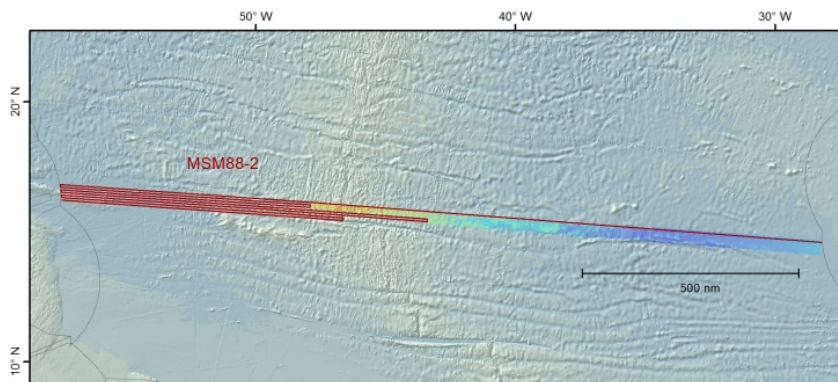
1. Weekly Report, 19.12.2019 - 22.12.2019

When looking at world maps, one can get the impression that the ocean floor is completely mapped, but this is only part of the truth. Satellite altimeters have indirectly measured the depths of the oceans and provide a rough idea of how the topography of the ocean floor looks like. This method only detects features that are a few kilometres large. For a more detailed investigation of the ocean floor, we need platform-based multibeam echosounder systems that are able to detect features larger than 100 m or even less. So far, only 15% of the ocean floor has been mapped by these systems, which means that we lack detailed knowledge of 85% of the ocean floor.



This device measures the sound velocity in the water column.

The aim of this cruise is to continue the bathymetric mapping efforts of the previous cruise MSM88/1. We left Mindelo harbour on December 19th, 2019 and arrived at our first working station in international waters early on Friday morning. We started by measuring a sound velocity profile. This is crucial in order to correct the incoming signals from the multibeam echosounder. Then we started the mapping of our first 1700 nm (approximately 3150 km) long profile towards the West Atlantic. In addition to the “Underway” bathymetry data, we are also collecting subsidiary data during transit such as, magnetic field characteristics of the oceanic crust using a magnetometer, sub-bottom characteristics using a sediment sub-bottom profiler and current velocities using an Acoustic Doppler Current Profiler (ADCP).



Planned profiles of this cruise (in red) and already mapped ocean floor of the cruise MSM88/1.

Today we are going to celebrate the 4th and final week of advent and we are looking forward to spend Christmas on board of MARIA S. MERIAN. We wish you all a Merry Christmas!

*Anne-Cathrin Wölfel, Fahrtleiter, MSM88/2
GEOMAR Helmholtz Centre for Ocean Research Kiel*



Photo: Jürgen Sauer