

METEOR M150 Weeklyreport No. 3 (10.–16.09.2018)

During the third week we did quite successful sampling at transects T8 and T9 at the island of Terceira. But then, the tropical storm “Helene” got in our way. Against the common direction of such storms, “Helene” did not move north-westerly towards the U.S. coast, passing south of the Azores but turned into north-eastern direction. The storm reached Flores Island last midnight, with wind velocities of about 50 knots, and rainfalls reaching 60 litres/m². The relatively short distance to Terceira Island prompted us to postpone the sampling at transect T10 and, instead, to steam to the south-east, to Sta. Maria Island, where the impact of “Helena” is much lower. At Sta. Maria, we will be able to work at all originally scheduled transects T11–T14, and subsequently we will return to Terceira to sample at T10. Then, we will go to the Formigas Bank to undertake the last sampling of the cruise in the Azorean Archipelago.

From the sedimentary point of view the M150 BIODIAZ cruise will give answer to the question how the sedimentary signal changes in the evolutionary trend from volcanic islands to seamounts (Fig. 1).



Figure 1: Fine gravel of basaltic material (northern shelf of Terceira Island, 50m water depth). Photo: A. Wehrmann

Our investigations around the Azores will contribute to previous studies in the Northern Atlantic as the oceanography of this region differs significantly from others. We are focusing on the onset of biogenic sedimentation (Fig. 2), its principle processes and controls. This finally will lead to defined regional carbonate factories. Additionally, the volcanoclastic and bioclastic sediments are an important habitat for (meio-) benthic organisms. As a standard routine we analyze grain size distribution, mineral composition and the amount of total organic carbon. For the reconstruction of the geological history the marine sediments function as palaeoenvironmental archives.



Figure 2: Bioclastic sand composed of fragments from Bryozoa, Mollusca and Foraminifera (northern slope of Terceira Island, 300m water depth). Photo: A. Wehrmann

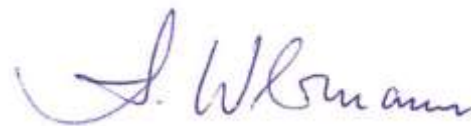
Apart of the slight disturbance caused by “Helene”, we enjoy excellent weather conditions, even allowing a nice interruption of the scientific work some days ago, when in the frame of the training of some METEOR crew members with the rubber dinghy also excited scientists were allowed to participate on short dinghy tours surrounding METEOR, in the middle of the Atlantic Ocean – marvellous!

On board all are in good health. Past Thursday we enjoyed a nice “Bergfest”, i.e. the traditional party celebrating the achievement of the midway of the cruise, and now, we all are ready to use the remaining two weeks for intensive sampling!

On behalf of all participants we remain with kind regards



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