



FS MARIA S. MERIAN
Cruise MSM118, Ponta Delgada – St. John's
Weekly Report Nr. 1, 17.06. - 18.06.2021



NOVA SCOTIA MARGIN (NOVAMAR 2)

The warm Gulf Stream and the cold Labrador Current meet in the Northwest Atlantic off Nova Scotia, which leads to the formation of nutrient rich slope waters. Expedition MSM118 **NOVAMAR 2** aims to collect sediment samples to provide important data for the reconstruction of changes of surface and deeper water masses at the convergence of the cold and warm spheres. The sampling of water column, water-sediment interface and subsurface sediments will provide new information on climate variability of the past 10.000 years, related biogeochemical cycling and changes in the nutrient budget. In this context, element fluxes between the water-column and underlying sediments and fluid and/or gas leakages are of interest. Suitable locations for geological sampling of Holocene sediment sequences will be identified by detailed sediment acoustic surveys along the shelf and upper slope of south-eastern Canada. The cruise is part of a bilateral collaboration in marine science between Dalhousie and Kiel Universities and GEOMAR Helmholtz Centre for Ocean Research Kiel.

Expedition MSM118 started in the morning of Sunday, June 18th by leaving the port of Ponta Delgada on the island of San Miguel belonging to the Azores. The day before, the scientific crew embarked the vessel after all the scientific equipment was taken onboard. The first day on the North Atlantic was spent preparing the laboratories for the hydroacoustic surveys, for the shipboard geochemical analytical program, and for geological sampling. On Tuesday, June 20th, after leaving the Exclusive Economic Zone (EEZ) of Portugal, we will begin profiling "en route data" surveys using the shipboard ADCP (Acoustic Doppler Current Profiler), seafloor multibeam swath bathymetry, and sediment echosounder systems. These survey data will be transferred and stored directly into the data archive of the German Alliance for Marine Research (DAM) on the PANGAEA platform at the Alfred Wegener Institute for Polar and Marine Research in Bremerhaven. The first sampling station will then start Wednesday, June 21st after having reached the former GEOSECS station at 41°N / 41°W, where CTD casts and water column sampling are planned in the western deep Atlantic Basin.



Fig.: Maria S. Merian leaving the the port of Ponta Delgada, Azores (Foto R. Schneider).

After having successfully performed the required safety drill and met for discussing the scientific program during the day the scientific and ship's crew, are looking forward to the exiting results we expect to achieve during the coming three weeks of cruise MSM118.

With best regards from FS MARIA S. MERIAN

Ralph Schneider

June 18th, 2023