

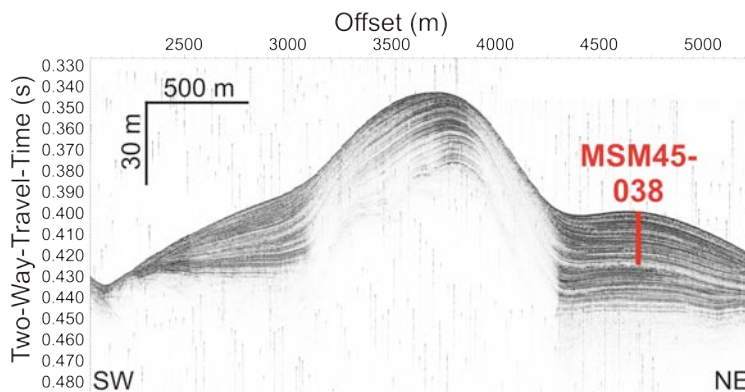


FS MARIA S. MERIAN Cruise 45
Nuuk, Greenland – Halifax, Canada
Weekly report Nr. 3, August 17, - August 23, 2015



For the last week of expedition MSM45, stations on the shelf of the Grand Banks and in Dowing Basin were planned. Following intensive survey of two small basins of 350 m water depth, we could identify two sites with contourites. At these sites, multi net, CTD with water sampling rosette, multi and gravity corers were deployed Tuesday morning. Two gravity cores of ca. 10 m length were recovered from the small-scale sediment drifts. Compared to the sediments of the Labrador shelf, the cores from Dowing basin contained a significantly higher proportion of fine silt, indicative of the much greater influence of bottom currents on sedimentation on the shelf of the Grand Banks.

Shelf offshore Newfoundland



Left: PARASOUND echosounder section across the small scale contourite found in Dowing Basin, with one of the coring positions indicated.

The surface waters here showed with up to 10°C at the surface significantly higher temperatures and a more pronounced chlorophyll maximum than before.

These higher temperatures and productivity are clear indications of an increased influence of NAC/Gulf Stream waters in this region. The confluence of cold waters of the Labrador Current and the warm water masses from the south also leads to the known prevalence of strong fog. Following the sunny days along the Labrador coast, the fog engulfed us completely on the Grand Banks, and prevented views of the ocean and any marine mammals that passed the vessel. The two sampling stations in the Dowing Basin brought the very successful scientific program to a close.

Wednesday noon, the final 400-mile transit to Halifax was interrupted by the last core station on the upper slope of the Laurentian Fan,. After brief survey of the pre-determined location, we took a giant box core and a gravity core for geotechnical analysis of slope stability and risk potential of future mass transport on the Scotian slope. We could thus honour the request of our colleagues at the Bedford Institute of Oceanography (BIO), who provided us with critical information on sedimentation patterns in Canadian waters during the preparation of our expedition. Following this

geotechnical station, the transit to Halifax continued. The same evening, we also terminated the hydro-acoustic survey upon approaching the French EEZ south of St. Pierre Island. The remainder of the transit was used pack samples and gear, and to clean the laboratories on board.

Right: Complete ship track of MSM45 with all sampling stations indicated by red dots

Immediately upon arrival in Halifax in thick fog on Friday morning, unloading of our own gear began, followed by uploading of equipment of our colleagues from Warnemünde, for MSM46. At the same time, several members of the scientific team and crew were interviewed by local and regional media on the successes of MSM45. These interviews also set the stage for the “open ship” event on Saturday, for which we prepared the main deck and the laboratories with small exhibits. Thanks, in part, to the strong media presence, the open ship on Saturday was a huge success with more than 1,000 interested and enthusiastic visitors.

Today, our voyage from Nuuk to Halifax culminated in the on-board reception in the evening, attended by more than 70 representatives of politics, businesses and science. Expedition MSM45 thus ended with happy chats and lively music at Pier 24 in Halifax. Now the scientific crew is awaiting their travels back to Kiel – healthy and in the best of spirits.

Best regards from FS MARIA S. MERIAN

Ralph Schneider

August 23, 2015

