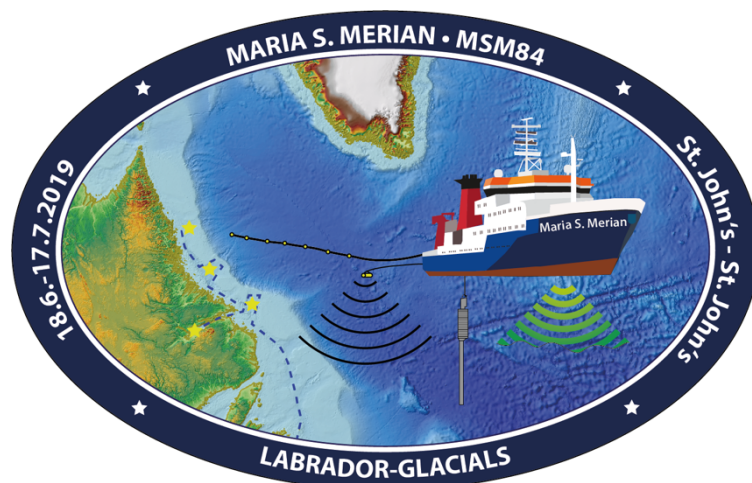


Expedition MSM84
St. John's – St. John's, Newfoundland

Weekly report no 1
June 17 to 23, 2019



After a rather adventurous journey from Germany to Newfoundland, a group of 19 cheerful scientists from Germany, France, and Canada, and two whale and bird watchers from Newfoundland and Labrador embarked Maria S. Merian on June 17. While the crew was still busy bunkering, the newbies were introduced to the ship's facilities and amenities. Those of us who already sailed Maria S. Merian before were happy to meet familiar faces amongst the crew. In the evening hours of June 17, we visited downtown St. John's, a nice small town located on one of Newfoundland's islands in the mouth of the St. Lawrence River.



Leaving St. John's, Newfoundland, in the morning hours of June 18.
(Foto: Felix Gross)

We left St. John's during the morning hours of June 18, heading north. After a short safety drill we started with the installation and set-up of our scientific equipment. The journey to our working area on the Labrador shelf is relatively short with only ca. 1.5 days duration, so everything has to be prepared and ready promptly. One group of scientists started

immediately to unload the containers box by box. They installed microscopes and other scientific equipment in the laboratories and set up their heavy, large-scale geological tools on deck. At the same time, a second group was busy installing geophysical equipment, laying more than 1000 m of cables and hoses. This also included a network of several computers and a total of 22 screens – as if we were on the bridge of a space ship!
But for what reason do we install all this equipment?

During the last ice age – and during the ice ages before – all Canada and Alaska was covered by a thick ice sheet, similar to the one that is currently covering Greenland. The ice sheet was not limited to the continent but extended onto the shallow part of the adjacent ocean. It is quite likely that the ice sheet was even grounded in this area.

At the end of the ice age, when temperatures started to rise, the ice sheet retreated into the interior of Canada and finally disappeared.

While retreating, large amounts of fresh water were released into the ocean, largely influencing and changing the ocean currents. We however still do not know how exactly the retreat of the ice sheet took place. Did the ice sheet melt continuously and fast? Did it retreat stepwise and slowly? Did it re-advance at some point? And when did this all happen? How exactly did the fresh-water release influence the ocean currents? These are all questions that we like to address during this expedition. How we intend to address them and what equipment we will use will be explained during the next few weeks.

All participants are cheerful and send home greetings.

Labrador shelf, June 23, 2019, 54°23.855'N / 55°41.156'W

Catalina Gebhardt & the expedition MSM84 team



Work meeting of the geology group in front of some of their heavy equipment. (Foto: Christian Ohlendorf)

<https://www.awi.de/forschung/geowissenschaften/geophysik/expeditionen.html>