



Research vessel Maria S. Merian

Expedition MSM-56; 02.07. - 25.07.2016

Longyearbyen – Reykjavík



## 1. Weekly report

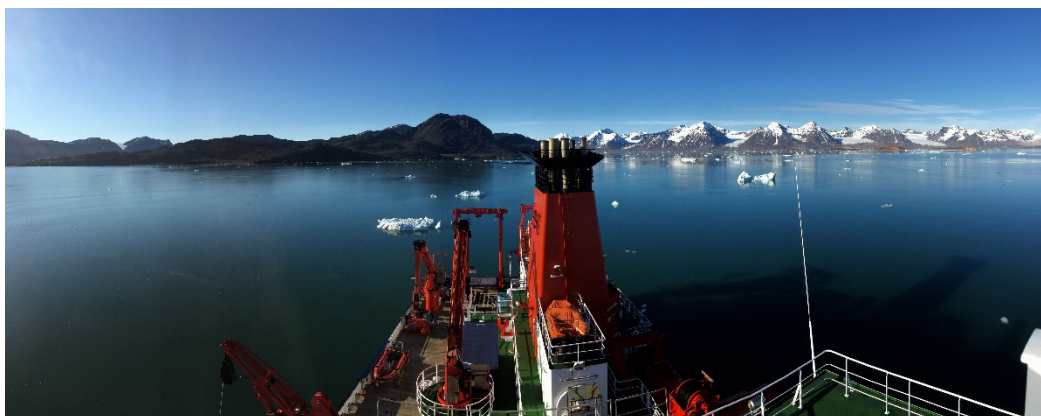
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### **What is the impact of global warming on the chemistry and ecology of Arctic fjords and coasts?**

Expedition 56 of research vessel Maria S. Merian aims to contribute an answer to this important question. Climate records and future scenarios show that atmospheric warming is most pronounced in the arctic, leading to increased melt of glaciers and the Greenland ice sheet. This in turn results in changes in water budgets, salt content, material transport and ecology in arctic fjords and coasts. 22 chemists, biologists, and physical oceanographers will study these changes in three arctic fjords: Kongsfjord (Svalbard), Scoresby Sund (East Greenland), and the ice-free Arnarfjörður (Iceland).

The participating scientists are from Germany, The Netherlands, Denmark, Sweden, Finland and the United States. After three years of preparation, everyone was looking forward to the beginning of the expedition. A change in the harbour schedule in Longyearbyen/Svalbard allowed an early departure in the early morning of July 2<sup>nd</sup>. During the transit to Kongsfjord, our first sampling area, we installed countless instruments in the ships' laboratories. In the morning, the first test station started at the mouth of the fjord. Such a trial station is always reasonable and helpful to align sampling strategies and the working procedures on board.



*Mouth of Kongsfjorden during midnight (Foto: B. Koch).*

The weather could not have been better: at this time of the year – just after summer solstice - the sun was still high up in the sky during night. During the entry into the Kongsfjord, deep in the night, the



*Kongsbreen (Foto: B. Koch)*

sun illuminated the snow and ice-covered mountains of Spitzbergen – a breath-taking scenery. The first whale and some seals were also spotted. At this point, it was clear to everyone that sampling in this part of the world is not only hard work but also a great privilege. After our arrival in the inner part of the fjord, directly in front of the Kongsfjord glacier (Kongsbreen), we started our intense work program, which particularly involves a lot of lab work. With the great support by the Merian crew, our fieldwork is already fully operational. All participants on board are healthy and highly motivated to contribute to the scientific success of the cruise. We will report about the details of our research in the next weekly report.

We all send our best wishes from Kongsfjorden,

Boris Koch