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## **Expedition investigates the effects of climate change off Greenland**

**MERIAN expedition MSM130 investigates meltwater runoff from Greenland glaciers, the loss of Arctic sea ice and the interfaces of ice, ocean and atmosphere off the east coast of Greenland**

**16.07.2024/Kiel/Reykjavik.** Greenland is surrounded by the North Atlantic and Arctic Oceans - both oceans are significantly affected by climate change. The consequences are warmer, less salty and more acidic waters, an increased input of melt and river water and a rapid decline in sea ice. The international team of the MSM130 expedition, led by GEOMAR, is investigating these effects off the east coast of Greenland with the research vessel MARIA S. MERIAN. The focus is on research and modelling on the role of Arctic sea ice loss as a driving force of global climate change, as well as chemical and physical processes at the interface of ice, ocean and atmosphere.

discharge of European and Asian rivers into the Arctic Ocean. The East Greenland Current therefore leads to a freshening of the North Atlantic with possible consequences for the climate through changes in the AMOC and increases in sea surface temperatures. The freshwater inputs may also affect the primary productivity in the North Atlantic and consequently the uptake of carbon dioxide (CO<sub>2</sub>) by the ocean.

The international research team is therefore also measuring carbon dioxide (CO<sub>2</sub>), pH, alkalinity, nitrate, phosphate, methane and primary productivity at the sea surface. These surveys complement data from surveys and moo