



Pathway and mixing of Greenland Sea water to the Faroe area and the Iceland Basin

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The spreading of intermediate water from the Greenland Sea through the Norwegian Sea, the Faroese Channels and the Iceland Basin is studied with means of the released tracer sulphur hexafluoride (SF_6). The released tracer tagged the intermediate water in the Greenland Sea (GSAIW), which subsequently could be traced as it spread to the adjacent seas. A main flow of GSAIW was through the Jan Mayen Channel into the Norwegian Sea, where it was transported southward in a boundary current at 1000 m. In the southern Norwegian Sea this tracer path meets another path of the tracer, from the Iceland Sea. Part of the tracer entered the Faroese Channels while some re-circulated northward along the eastern side of the Norwegian Basin.

The transport of the released tracer through the Faroe Bank Channel was estimated to approximately 3 kg yr^{-1} , which is less than reported earlier. An excess of the released tracer could also be detected in the Iceland Basin, south of the Greenland-Scotland Ridge.