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Pathways of Intermediate Water in the Norwegian Sea

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In September 2004, 28 acoustically tracked subsurface RAFOS floats were deployed in the southern Norwegian Sea at intermediate depth (\sim 800m). The floats were programmed for 18 months missions and surfaced in April 2006. The experiment yielded 24 subsurface tracks.

7 of the floats surfaced in the North Atlantic. All these floats were deployed in a narrow band on the slope north of Faroes, in positions with bottom depth less than 1500m. Initially the floats followed the isobaths eastward along the slope, and then they were pulled into the Faroe Shetland Channel and they escaped through the Faro Bank Channel (sill depth 850m) into the Iceland Basin.

The rest of the RAFOS floats stayed north of the Iceland Faroe Ridge, 12 of them surfaced in the Norwegian Basin and 5 were transported north into the Lofoten Basin. The tracks showed that in the eastern Norwegian Basin the low mean speed (1-5 cms⁻¹) toward the northeast, and the tracks showed high small scale (10-30km) eddy activity. The advection speed in the Lofoten Basin was substantially higher than in the Norwegian Basin, which is accordance with ARGO floats at 1500m depth.