

Temperaturen i det Atlantiske vatnet er på veg ned både i Framstredet og Barentshavet, etter varmerecorden året 2006. Heilt i sør i den norske Atlanterhavsstraumen, ved Svinøy-snittet, kom varmerecorden i 2003, mens temperaturen har halde seg stabilt rundt 8°C etter 2005. Mange virvler langs den norske Atlanterhavsstraumen gjer at det atlantiske vatnet får ei opphaldstid på fleire år i det Nordiske hav før det går inn i Polhavet.

The temperature of Atlantic water is decreasing in the Fram Strait and Barents Sea, after record high values in the year 2006. At the very southern part of the Norwegian Atlantic Current (NwAC), at the Svinøy section, the record high temperatures came in 2003. After 2005 the temperature there has been stable around 8°C. Many eddies along the NwAC results in a resident time for Atlantic water of several years in the Nordic Seas before it enters the Polar Ocean.

### **Highlights from the NwAC Workshop discussions:**

- The inflow of Atlantic water to the Nordic Seas, across the Iceland-Faroe ridge is equally large in magnitude as the inflow through the Faroe Shetland channel.
- Both inflows contribute to the main Atlantic water core (along 500m isobath) at the Svinøy section.
- Drifters and floats show water masses ‘jumping’ between the two branches (2000m isobath and 500m isobath) of the NwAC before reaching the Svinøy section.
- The speed of the main Atlantic water core at the Svinøy section strongly depend on the internal circulation within the Nordic Seas, and not so much on the Atlantic water inflow itself.
- A glider experiment along the Svinøy section has revealed deep currents that adds up to a substantial transport that is part of the internal circulation within the Nordic Seas.
- The Atlantic water core temperature at the Svinøy section has been stable around 8°C since 2005, after a peak of 8.3°C in 2003.
- Both surface drifters and subsurface floats reveal substantial eddy activity along the path of the NwAC, with the fastest and largest eddies in the Lofoten Basin. Some drifters and floats closely follow depth isobaths.
- On average over very long time scales surface drifters follow depth isobaths.
- The inner NwAC branch (500m isobath) bifurcates into one branch entering the Barents Sea and one branch entering the Arctic Ocean through the Fram Strait. The strength of these two branches oscillate in opposite phase, with the Barents Sea branch being most in phase with the Svinøy section.
- When estimating the Atlantic water flux into the Arctic Ocean through the Fram Strait, the internal circulation in the Nordic Seas has to be included in the estimations because a substantial part of the Atlantic Water inflow has been mixed into the internal circulation on its way through the Nordic Seas.
- Lateral mixing of Atlantic Water into adjacent water masses is shown to be substantial in the Fram Strait.