



## **Hindcast of the circulation in the Chukchi and East Siberian seas**

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In order to reconstruct the circulation in the Arctic Ocean from available observations we are developing an efficient data assimilation system involving application of several data assimilation approaches. In a preliminary effort, the data assimilation system was used to reconstruct circulation in the Chukchi Sea during 1990-1991 and circulation in the East Siberian Sea during the fall of 1994. The reconstructed circulation in the Chukchi Sea is in good agreement with observations. The obtained velocity, temperature and salinity fields are used to estimate volume, heat, and salt transports and to analyze some specific features of the Chukchi Sea circulation. The estimates of the circulation in the East Siberian Sea are used to quantify the flow through the Long Strait and to derive the non-stationary reference sea surface height for the Chukchi and East Siberian seas.