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Simulations of variability in the Icelandic waters

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The Icelandic waters are simulated using the MOM4 ocean model and atmospheric forcing from the ERA40 reanalysis from the ECMWF. A 20 years simulation based on a composite of cold years from the ERA40 dataset (1966-1971) is compared to a control simulation based on the entire ERA40 dataset. The control simulation reproduces most features of the observed currents and temperature field, but underestimates the advection of warm water at the SW-coast of Iceland. The simulation based on the cold period reproduces convincingly an increase in the E-Greenland current and low temperature and salinity to the north of Iceland.