



Hindcast of the circulation in the Chukchi Sea and Bering Strait with a nested 4Dvar data assimilation system.

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Application of the 4D-var data assimilation technique to the system of the two one-way nested models is discussed. We consider preliminary result of the data assimilation experiments with the nested system involving the Bering Strait high resolution model and a coarser resolution model configured for the entire Chukchi Sea. The observations obtained both in the Chukchi Sea and the Bering Strait regions are assimilated using the “nested” adjoint models. The efficiency of several nesting schemes is analyzed. The nested variational data assimilation scheme allows us to obtain a dynamically consistent solution for the both nested models and provides an improved hindcast of the Bering Strait and Chukchi Sea circulations.