

## ***Interactive comment on “Numerical modelling of thermodynamics and dynamics of sea ice in the Baltic Sea” by A. Herman et al.***

**Anonymous Referee #1**

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The manuscript introduces a new dynamic-thermodynamic sea-ice model for the Baltic Sea. The model is carefully described in very detail, validated and analyzed for three subsequent winters. The authors analyzed the statistical relationships between the meteorological forcing and the sea-ice concentration and studied the role of ice dynamics.

The manuscript is very well written. I like very much the numerous references to earlier studies. However I think the scientific value of the manuscript is rather small. The sea-ice model has an elastic-viscous rheology based upon earlier work. Nothing of the model setup is really new. Also the idea to study the role of ice dynamics has been done before. Only the statistical analysis of simulated sea-ice and meteorological forcing is novel.

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I leave it to the topic editor to decide whether the manuscript is suitable for publication in Ocean Science or as an institute report.

Detailed comments:

- 1) Snow on top of sea-ice is very important due to the high snow albedo value. Snow should be added to the model.
- 2) Figure 5: (a) too small legend etc., (c) ice concentration is not visible due to the velocity arrows

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Interactive comment on Ocean Sci. Discuss., 8, 113, 2011.

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