

The manuscript on the coupling of the widely used atmosphere model ICON and the ocean model NEMO using OASYS3-MCT in a regional setup for the Baltic Sea, North Sea and parts of the Northeast Atlantic by Ho-Hagemann and co-workers is well-written and interesting. Although parts of the method section are very technical (code specific), a non-specialized reader can easily follow the presented text and analysis. The results, a comparison of two 10-year simulations driven by ERA5 at the lateral boundaries (coupled and uncoupled) with various datasets and ERA5 itself, are acceptable and in the quality range of other regional climate models. The authors analyzed sea surface temperature (SST), 2m air temperature, short-wave downward radiation, wind speed, precipitation and mean sea level pressure. I suggest to publish this article in GMD after minor to moderate revision.

General comments:

- 1) The analysis is too simple because you show only SST from the ocean and no results from the land model. As the freshwater input from land is very important for coastal seas like the Baltic Sea and North Sea, you should evaluate the results of the simulated river discharge from the HD model into the coastal seas. I understood, that the river discharge in the presented coupled simulation is from the HD model and not from observations. If you do not reproduce the integrated freshwater input (precipitation minus evaporation over land and over the ocean), the added value of the regional coupled model for the coastal ocean is rather limited. If the results are not sufficiently good, you may refer to further model development. However, please show these results because they would be interesting for the model performance in the ocean, e.g. for salinity.
- 2) I would like to see also an analysis of sea ice in the Baltic Sea, because the sea ice cover is very sensitive to biases in the surface heat and momentum fluxes over the coupling domain.
- 3) Furthermore, the integrated heat content changes could be evaluated by temperature profiles. Please use temperature and salinity data from the national monitoring programs for the North Sea and Baltic Sea to evaluate the ocean model performance and surface fluxes in the coupled model.
- 4) It would be good to present a list of scientific and technical arguments for your modeling strategy using OASYS3-MCT instead of YAC. For me the advantages of OASYS3-MCT compared to YAC are not completely clear.

Minor comments:

Line 303 Northern Africa

Figure 11: "Climatological monthly mean ..." instead of "Annual variability ...". Please add error bars or shaded areas to your curves denoting the interannual variability. This information is important to judge about the model-data differences.