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Ocean data assimilation for ICON-ESM for climate predictions

The newly developed coupled climate model "Icosahedral Nonhydrostatic Earth System Model" (ICON-ESM) has recently become available. The pre-industrial control run has a stable climate with closed energy and water budgets. The global mean temperature is 13.73℃ and the Atlantic meridional overturning circulation at 26°N has a strength of 16 Sv. The ICON-ESM will serve for seasonal to decadal climate predictions produced at the "Deutscher Wetterdienst" (DWD) in Germany. As a first step for a weakly coupled data assimilation, observed ocean 3-d temperature and salinity fields are assimilated with the method of the "Ensemble Kalman filter" (EnKF). An EnKF assimilation run over the period 1960-2014 is produced and analyzed in terms of the degree of realism of its climate variability.

Which theme does your abstract refer to?

Coupled data assimilation (ocean, atmosphere, sea-ice, waves, biogeochemistry, etc)

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