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Seamless Sea Ice Prediction

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Dynamical sea-ice prediction systems are starting to find their way into operations, but research on potential predictability suggests they could be much more skillful than they currently are. One impediment that hampers progress is a gap between short-term (days) and longer-term (months and longer) sea-ice prediction systems. The new BMBF Young Investigator Group Seamless Sea Ice Prediction (SSIP), hosted at the Alfred Wegener Institute, works towards advancing sea-ice prediction capacity on timescales from days to seasons and beyond. To achieve this, SSIP develops and conducts research with a seamless sea-ice prediction system based on the recently developed AWI Climate Model. The unstructured grid of the ocean/sea-ice component allows to use high resolution in the polar regions (plus other key regions) in a global setup, enabling a seamless application of the prediction system on a wide range of timescales. The group conducts research on data assimilation techniques to initialise the fully coupled model using remote-sensing and in-situ observations; it optimises and further develops the sea-ice component of the prediction model; and it applies the prediction system to address research questions related to sea-ice predictability, verification, and the impact of different observations on sea-ice prediction. Our poster outlines the SSIP research plans and presents some early results.