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## The roles of winds and waves in Arctic sea ice variability

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It is broadly accepted that variability and trends in Arctic sea ice remain poorly simulated even in the most state-of-the-art coupled climate and climate prediction models. Here, we show that a modern coupled climate model (CESM1) is in fact able to reproduce the observed variability and decline in summer sea ice when winds are nudged towards values from reanalysis. We argue that the nudged-winds framework provides a straightforward way of evaluating models by removing much of the contribution of internal variability, revealing model successes and biases. The results demonstrate the importance of atmospheric circulation in driving interannual variability in sea ice and near-surface air temperatures, particularly in the summer. Finally, we will discuss the potential role of ocean surface waves in driving variability in Arctic sea ice, based on observational analysis and new coupled modelling results.