Sea ice and atmosphere interactions and predictability: preliminary results from CMIP6

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Arctic sea ice extent has steadily declined in the past 30 years. Aside from the global impact on climate change, regional information on sea ice presence and its impact on oceanic and atmospheric patterns has witnessed a growing interest. There is a growing need for seasonal-to-decadal timescale climate forecasts to help inform local communities and industry stakeholders. The APPLICATE project seeks to better understand the role of natural climate fluctuations in producing recent Arctic sea ice changes on these timescales, and whether they are predictable.

Here we present preliminary results from a CMIP6 control run to investigate relationships between sea ice state variables and atmospheric patterns to understand their reciprocal influences. The understanding of these relationships will help constrain sea ice projections and inform stakeholders.