



Impact of the errors in the representation of the sea ice marginal ice zone on atmospheric and ocean boundary layers during cold-air outbreaks East of Greenland.

The Canadian Arctic Prediction System (CAPS) was developed at Environment and Climate Change Canada during the Year of Polar Prediction (YOPP). Coincidentally, a major wintertime observing project took place along the eastern coast of Greenland in February and March 2018, the Iceland-Greenland Seas Project (IGSP). The IGSP combined multiple observing platforms from a meteorological buoy, ship-based and airborne measurements of the atmospheric boundary layer alongside measurements of vertical profiles in the ocean. Five important cold air outbreak events occurred during the observing period, allowing for a rare simultaneous evaluation of the atmospheric, ocean and ice conditions a prediction system in those extreme conditions. In this presentation, we evaluate CAPS using this unique dataset with a focus on the impacts the representation of the sea ice on the near-surface atmospheric variables and turbulent heat fluxes. The impact of the cold-air outbreaks on the ocean variables are also evaluated.

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