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## Investigating the climate variability in the Totten area using NEMO-LIM regional model.

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The Totten ice shelf drains over 570 000 km<sup>2</sup> of East Antarctica. Most of the ice sheet that drains through the Totten ice-shelf is from Aurora Subglacial Basin and is marine based making the region potentially vulnerable to rapid ice sheet collapse.

Understanding how the changes in ocean circulation and properties are causing increased basal melt of Antarctic ice shelves is crucial for predicting future sea level rise.

In the context of the The PARAMOUR project (decadal predictability and variability of polar climate: the role of atmosphere-ocean-cryosphere multiscale interaction), we use a high resolution NEMO-LIM 3.6 regional model to investigate the variability and the predictability of the coupled climate system over the Totten area in East Antarctica.

In this poster, we will present our on-going work about the impact of landfast ice over the variability of the system. Landfast ice is sea ice that is fastened to the coastline, to the sea floor along shoals or to grounded icebergs. Current sea ice models are unable to represent very crudely the formation, maintenance and decay of coastal landfast ice. We applied several parameterization for modeling landfast ice over the Totten ice shelf area.