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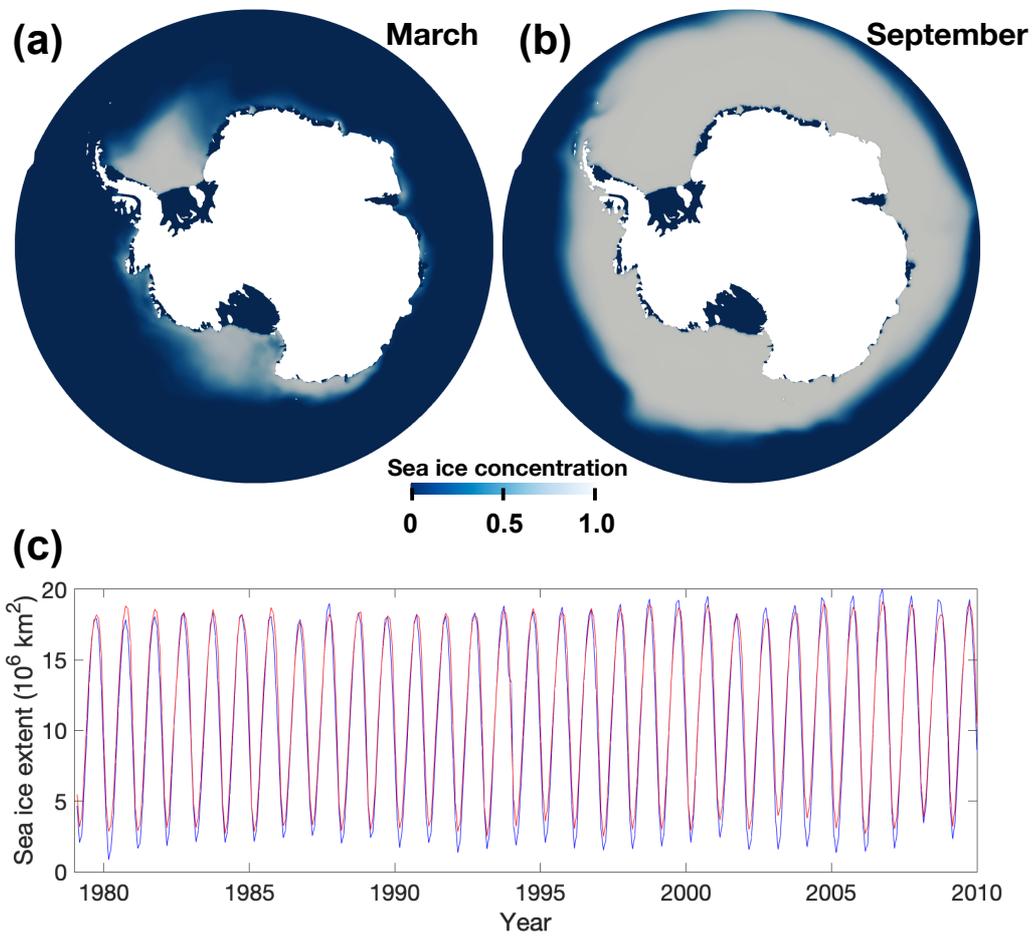
*Supplement of*

## **Impact of West Antarctic ice shelf melting on Southern Ocean hydrography**

**Yoshihiro Nakayama et al.**

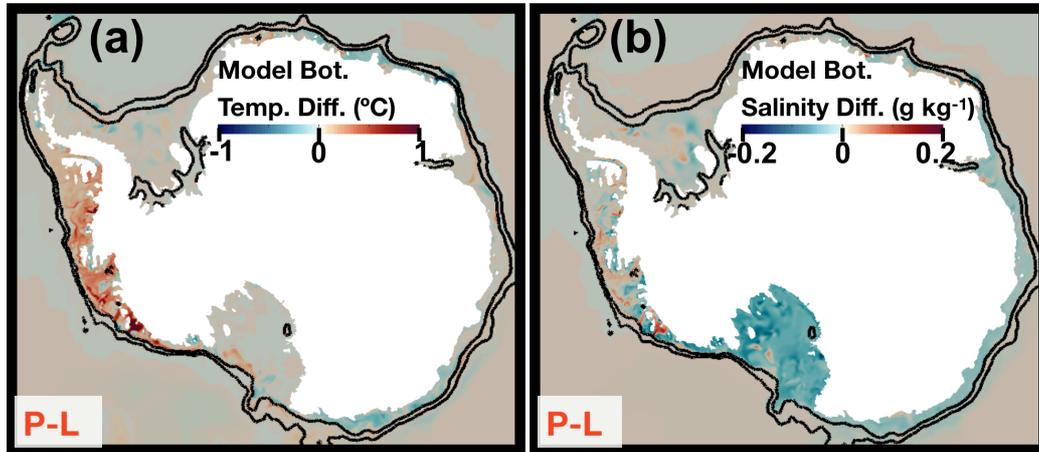
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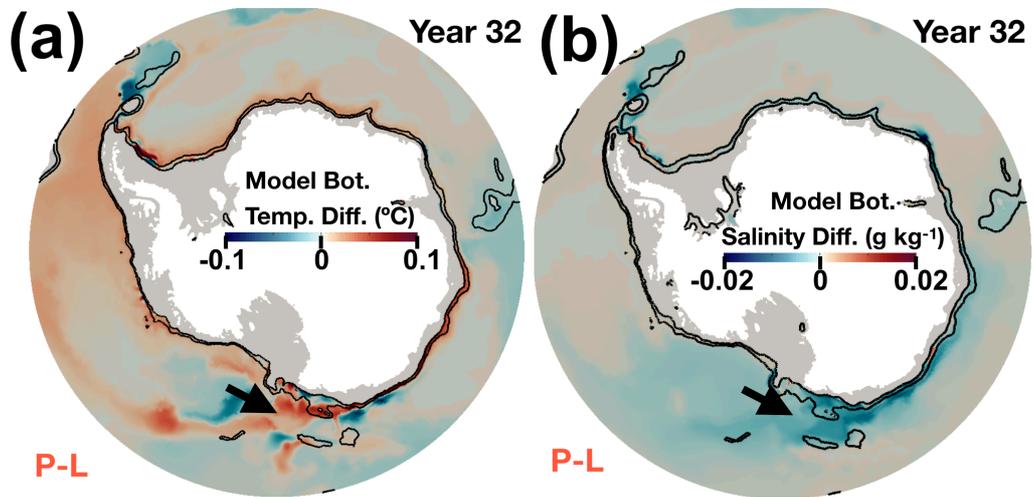
**Figure S1**

Simulated mean sea ice cover between 1979-2010 for (a) March and (b) September for LMELT. (c) Simulated time series of sea ice extent (blue) for LMELT and observed sea ice extent (red).



**Figure S2**

Simulated bottom (a) potential temperature and (b) absolute salinity differences between PRS and LMELT for year 32.



**Figure S3**

Mean bottom (a) temperature and (b) absolute salinity differences between PRS and LMELT (P-L) for year 32. Only the region deeper than 1500m is shown. The bathymetry contours of 1000 m and 2500 m are shown as black lines. The black arrow indicates locations of intensified warming and freshening.