



*Supplement of*

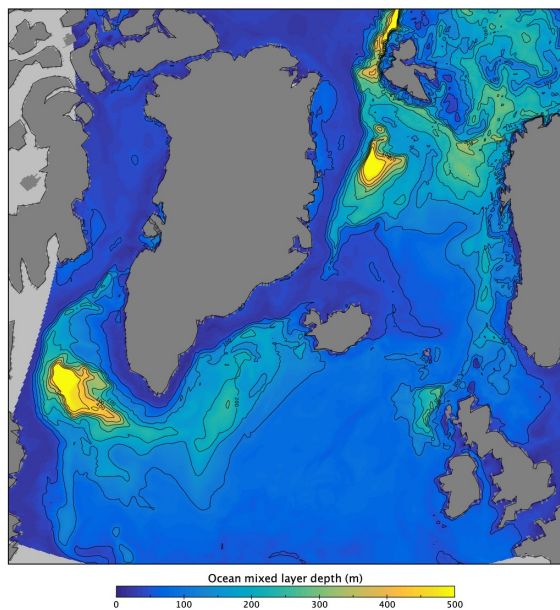
## **Tipping points in ocean and atmosphere circulations**

**Sina Loriani et al.**

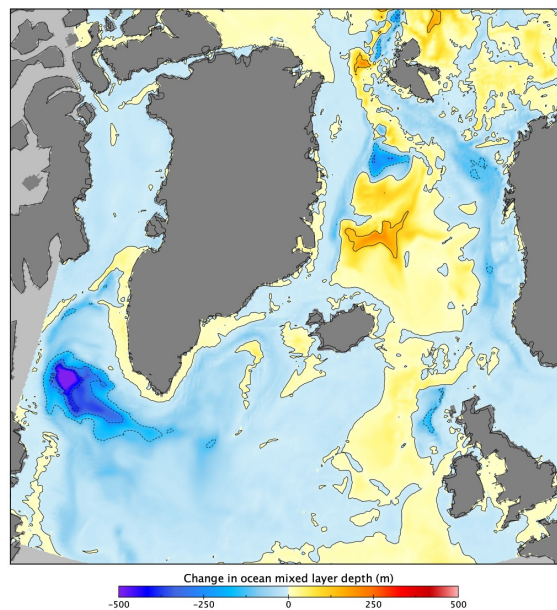
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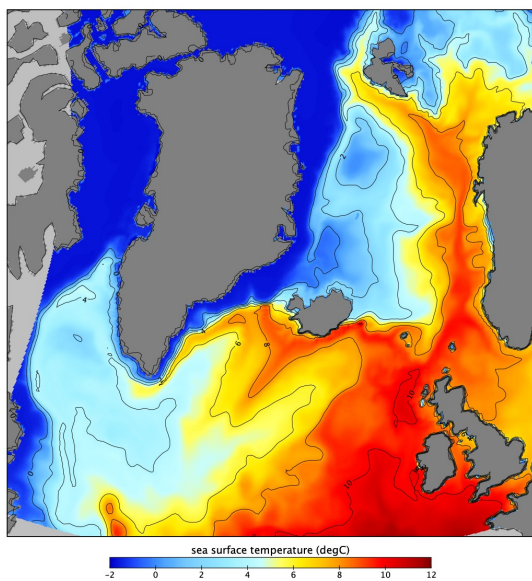
**A** MLD in Winter 2020-30



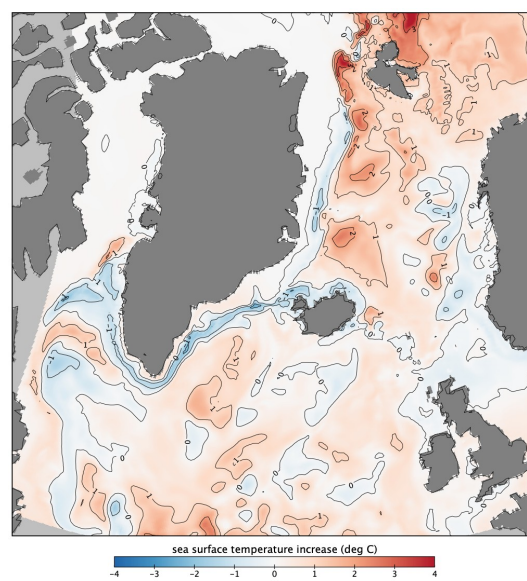
**B** Projected MLD change by winter 2040-50



**C** SST in winter 2020-30

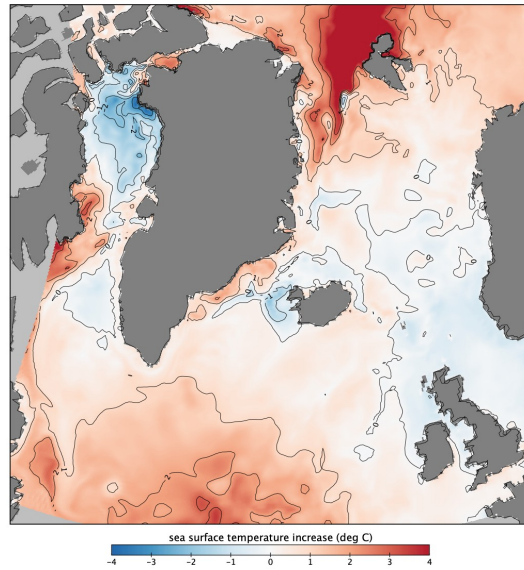
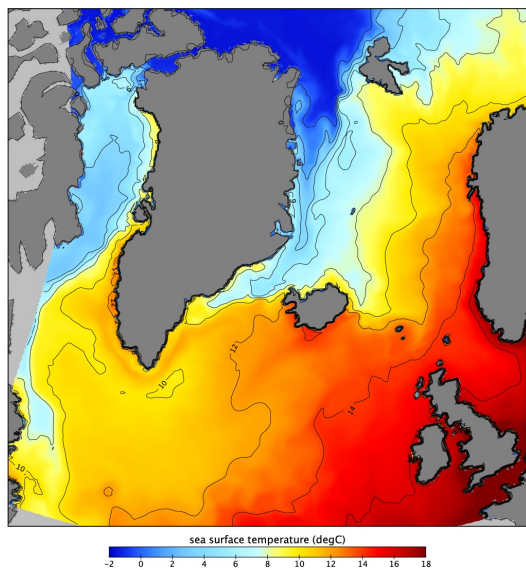


**D** projected SST change by winter 2040-50

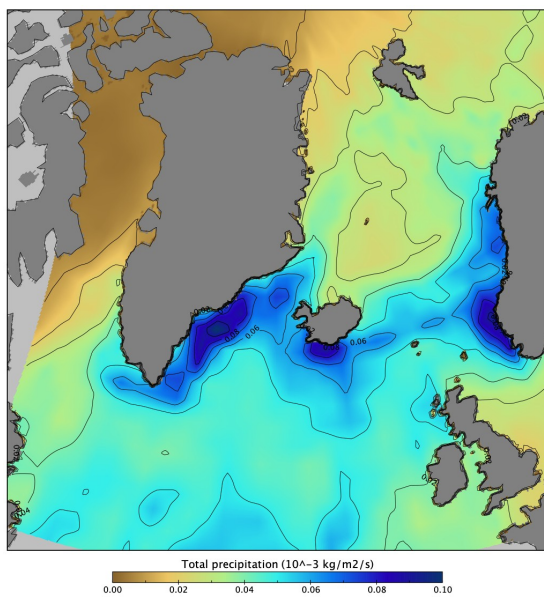


**E** SST in summer 2020-30

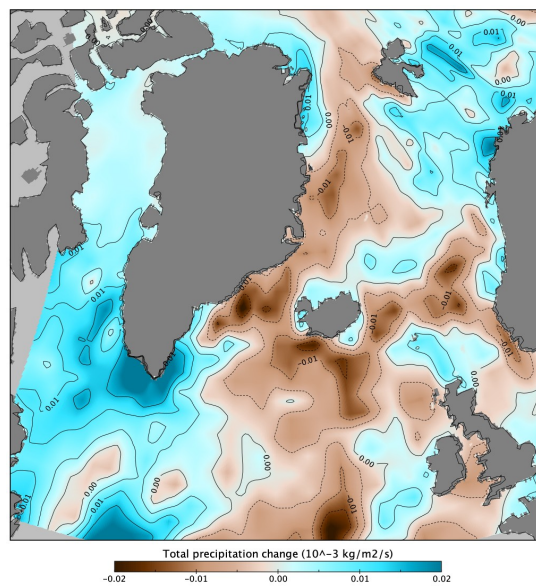
**F** Projected SST change by summer 2040-50



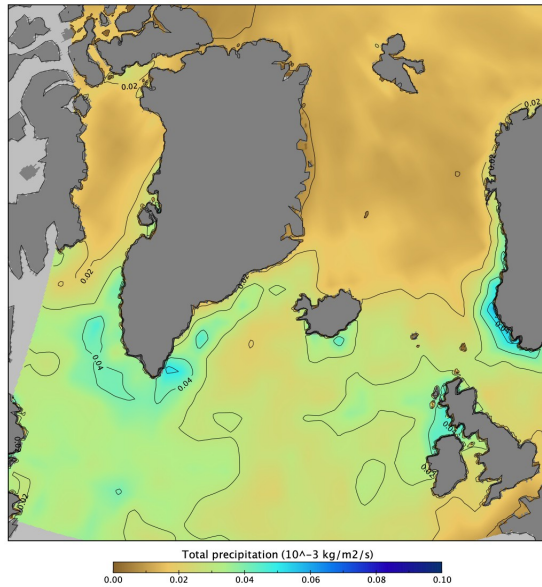
**G** Precipitation in winter 2020-30



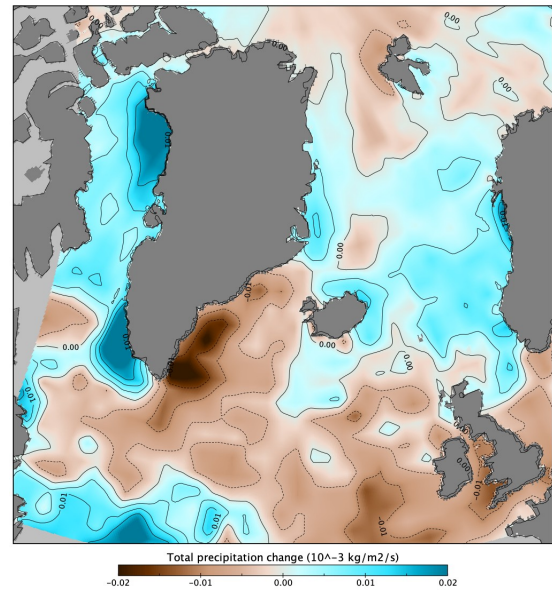
**H** Projected precipitation change by winter 2040-50



**I** Precipitation in summer 2020-30



**J** Projected precipitation change by summer 2040-50



**Figure S1. Additional analysis of SPG. A** in winter 2020-30 (January-March) and **B** changes in the projected ocean mixed layer depth (MLD) by winter 2040-50. **C** and **D** - the same as above but for sea surface temperature (SST) and **E** and **F** for SST in summer (June-August); **G-I** are the same as above but for total atmospheric precipitation. NEMO-MEDUSA 1/4 degree high resolution model results using ssp370 CMIP6 scenario 2015-2099. High-resolution simulations are courtesy of Drs Andrew Coward, Andrew Yool, Katya Popova and Stephen Kelly, NOC.