

# **Impact of the recent oceanic anomalies around the Greenland ice sheet on its surface mass balance.**

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Since the end of the 1990s, we have observed a significant acceleration of the melt of the Greenland ice sheet which has been becoming the largest contributor of the recent observed sea level rise. However, this acceleration of melt increase has been stopped from a few years, notably because of the collapse of sea ice extent around Greenland in winter. The abnormal presence of open water this last winters around Greenland has enhanced evaporation and allowed to storms (including tropical cyclones) to go more northward by discharging huge snowfall accumulation along the east coast, compensating the melt in summer. The impact of these recent oceanic anomalies in the neighbourhood of the Greenland ice sheet are studied here with the help of the regional climate model MAR (developed at Uliège) forced by the ERA-Interim reanalysis and future scenarios from CMIP5 and CMIP6 data base.