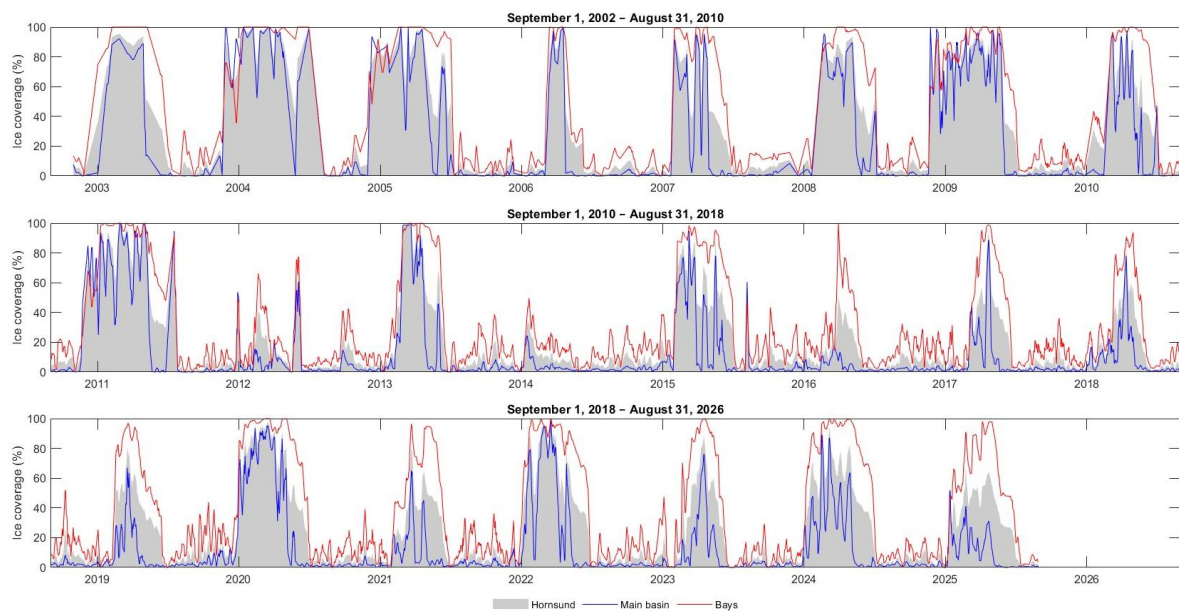


## **Supplementary Document S4**

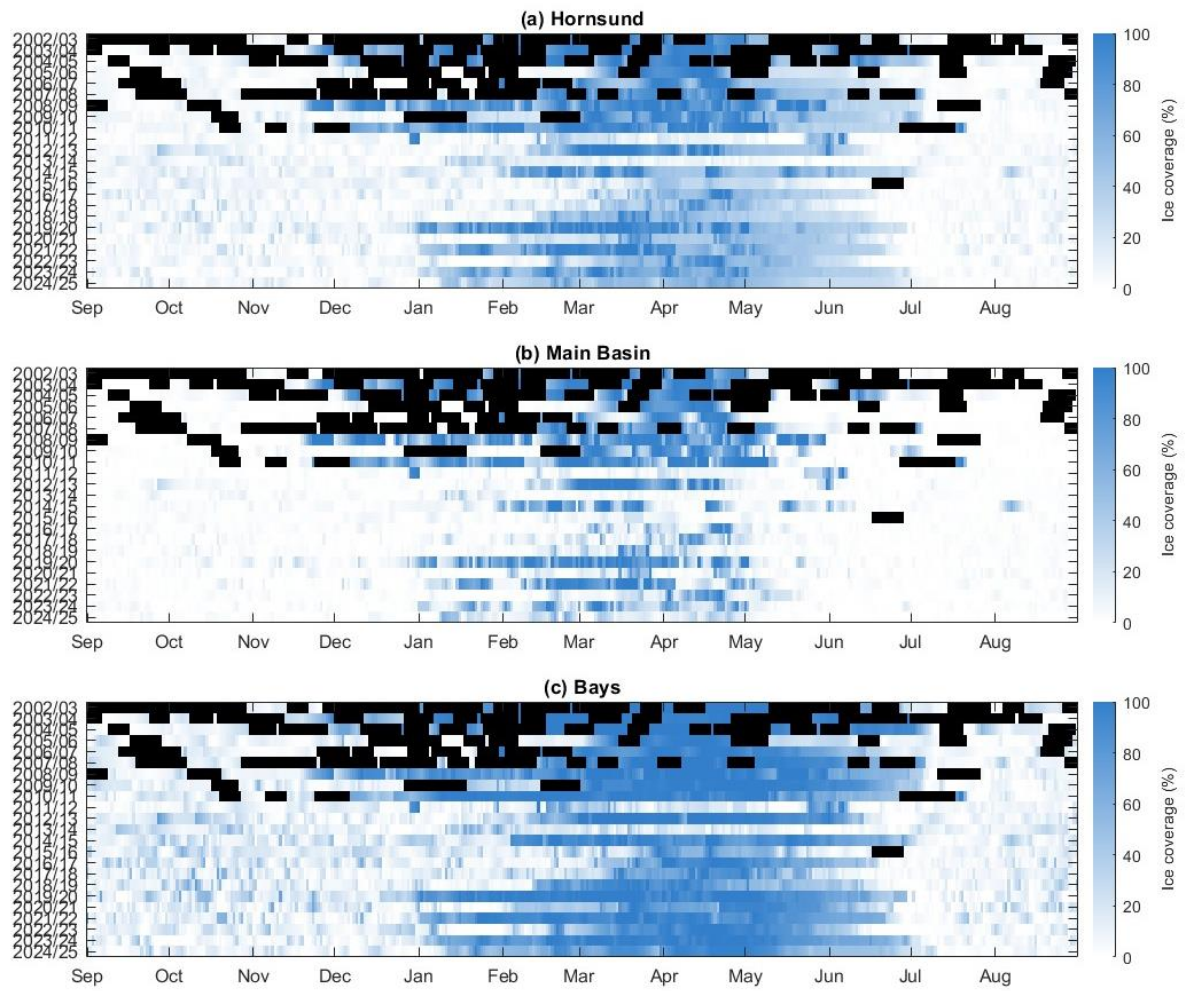
Supplement to:

**Papin et al. 2026. Impact of meteorological and oceanographic conditions on the state of sea ice in Hornsund over 23 years**

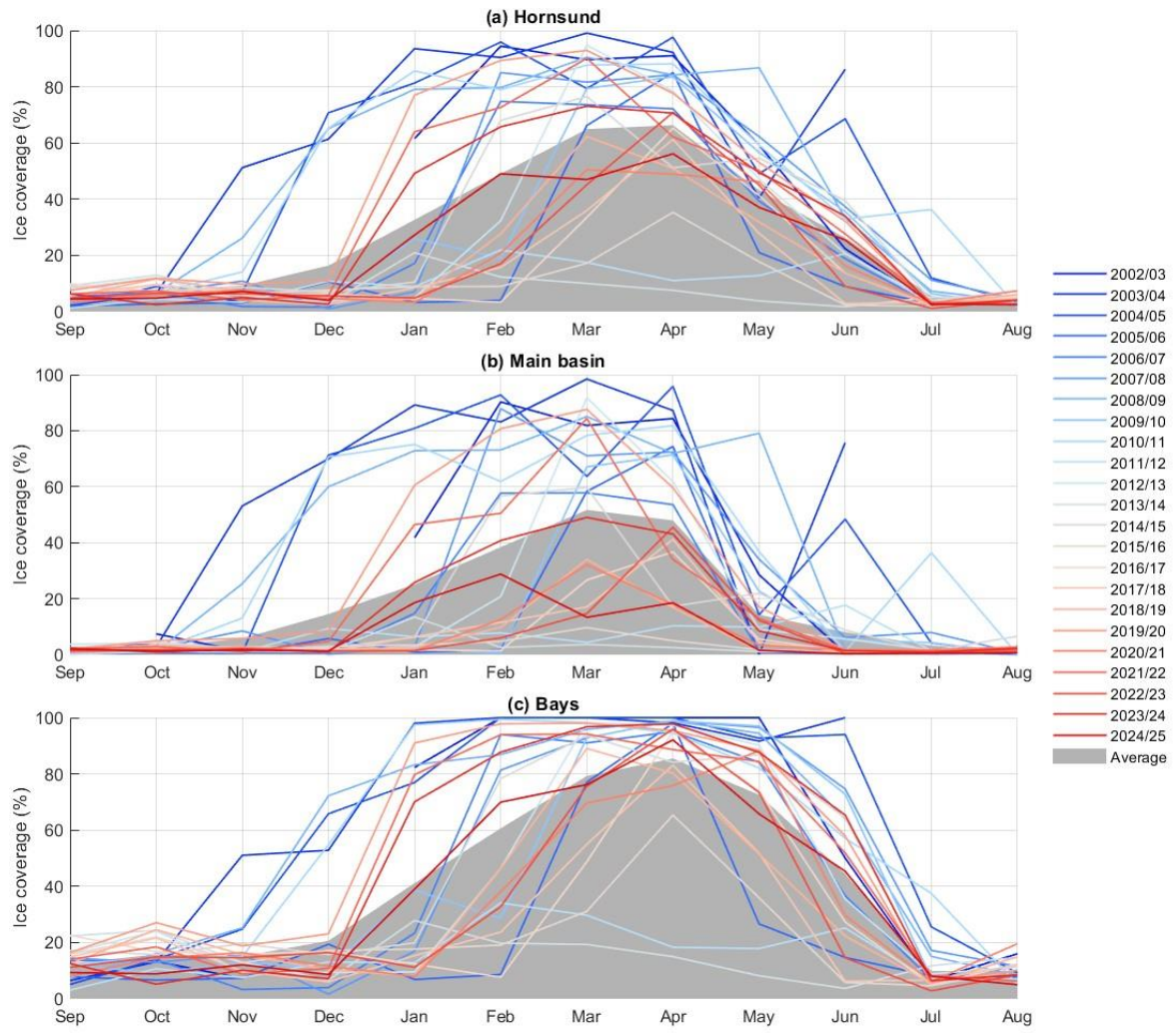
### **Supplementary figures**



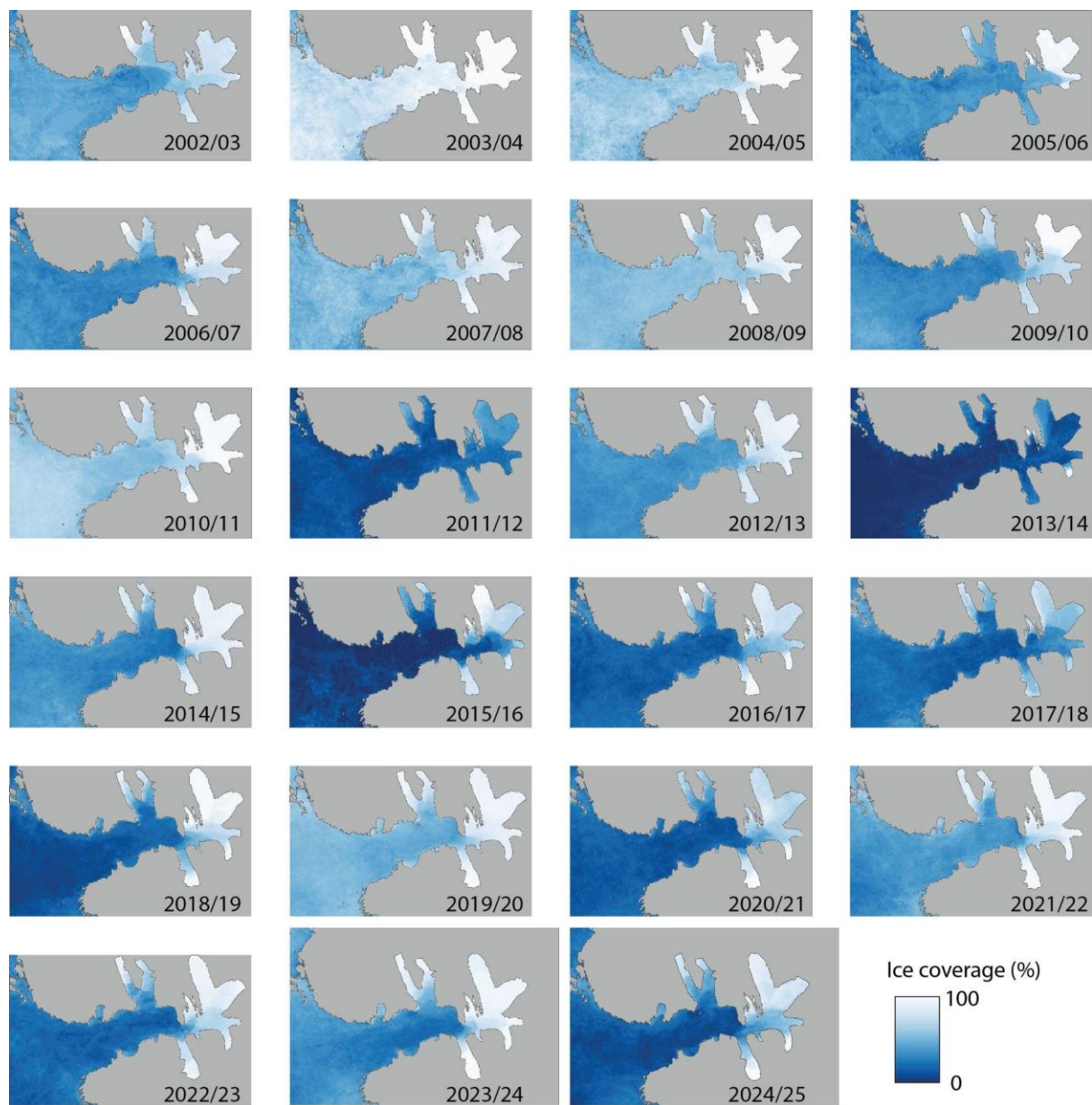
**Figure S1. Time series of ice coverage in Hornsund and its parts for 23 seasons in 2002-2025 with a running weekly average.**



**Figure S2.** Heatmap of the daily ice coverage in (a) Hornsund, (b) the main basin, and (c) the bays for 23 seasons in 2002-2025 (black indicates no data). Linear interpolation over a maximum of 7d was applied for visualisation.

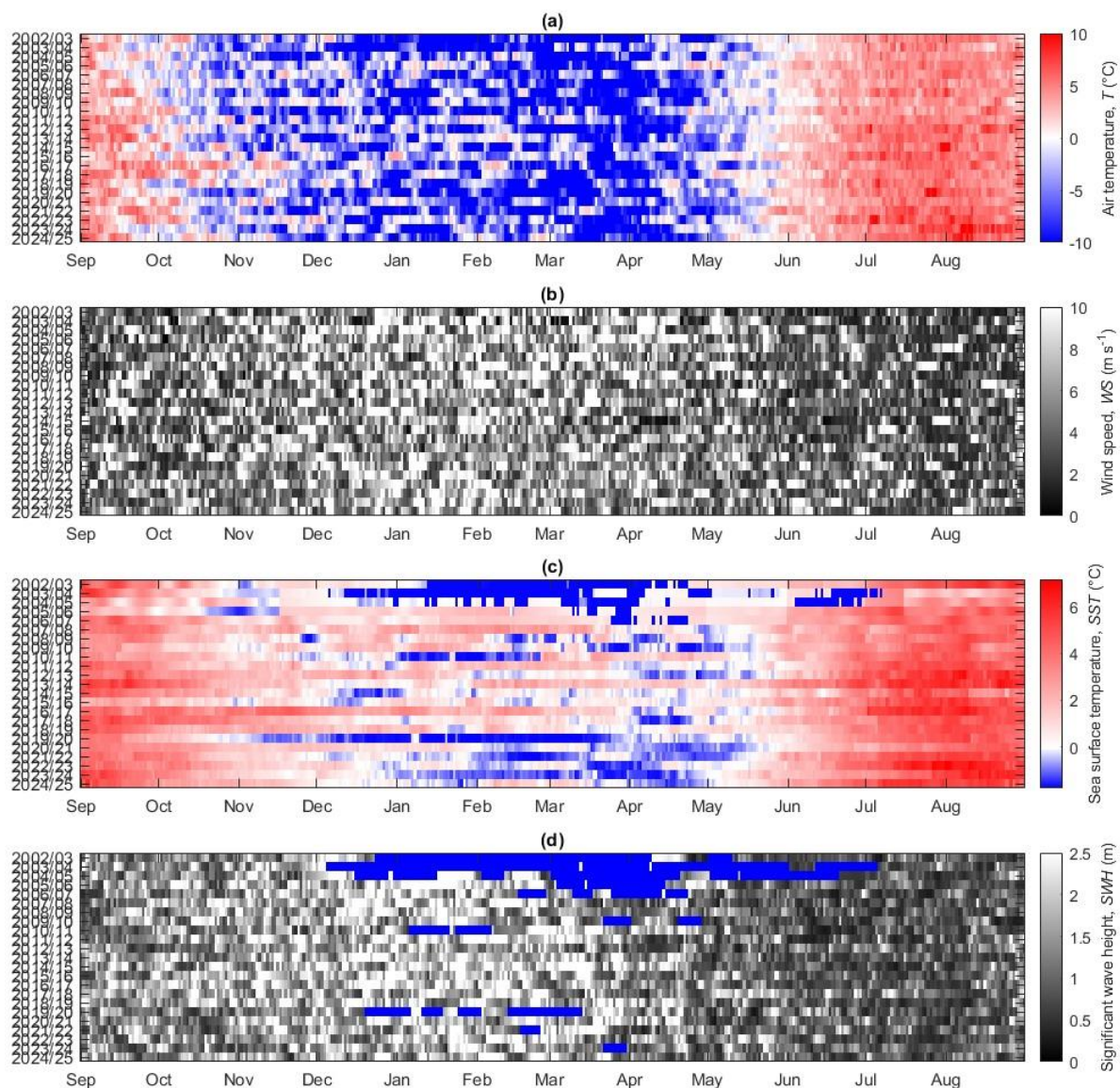


**Figure S3. Mean monthly ice coverage in (a) Hornsund, (b) the main basin, and (c) the bays for 23 seasons in 2002-2025.**



**Figure S4. Average ice coverage during the landfast ice season in Hornsund for 23 seasons in 2002-2025 (for dates see Table 2 in the manuscript). Note the increase of the area of interest for the last two seasons.**





**Figure S5.** Heatmap of the daily (a) air temperature,  $T$ , (b) wind speed,  $WS$ , (c) sea surface temperature,  $SST$ , and (d) significant wave height,  $SWH$ , for 23 seasons in 2002-2025 (blue indicates no data for  $SWH$ , and overlaps with >30% ice concentration). Linear interpolation over a maximum of 7d was applied.