

Supporting Information for ”Spaceborne evidence that ice-nucleating particles influence high-latitude cloud phase”

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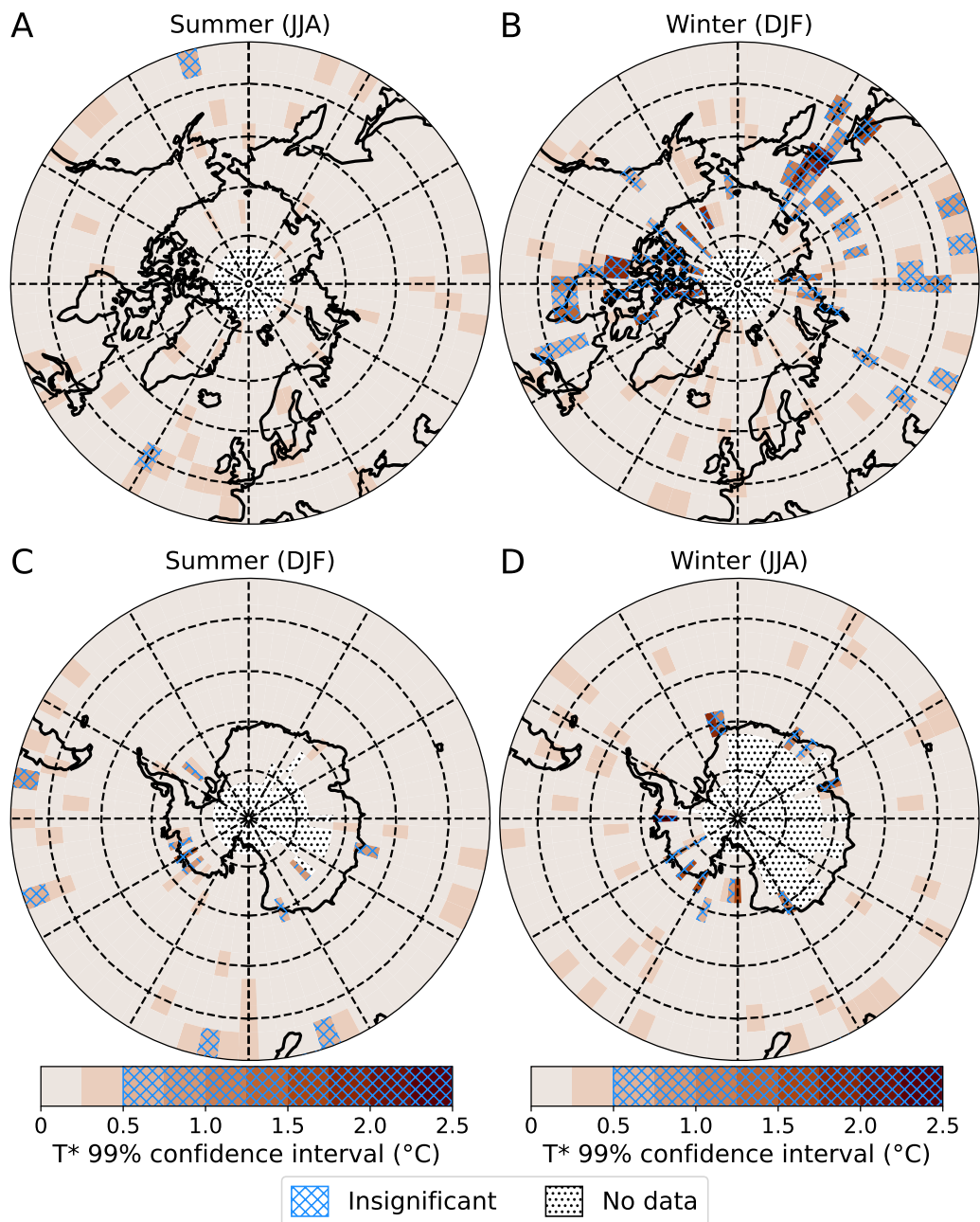


Figure S1. 99% confidence interval (CI) of T^* based on bootstrapping ($N = 100$) for the Arctic (Panel A: summer JJA, Panel B: winter DJF) and Antarctica (Panel C: summer DJF, Panel D: winter JJA). Grid cells with an insignificant T^* value are hatched in blue (CI > 0.5 °C). Grid cells with no data are marked with dots.

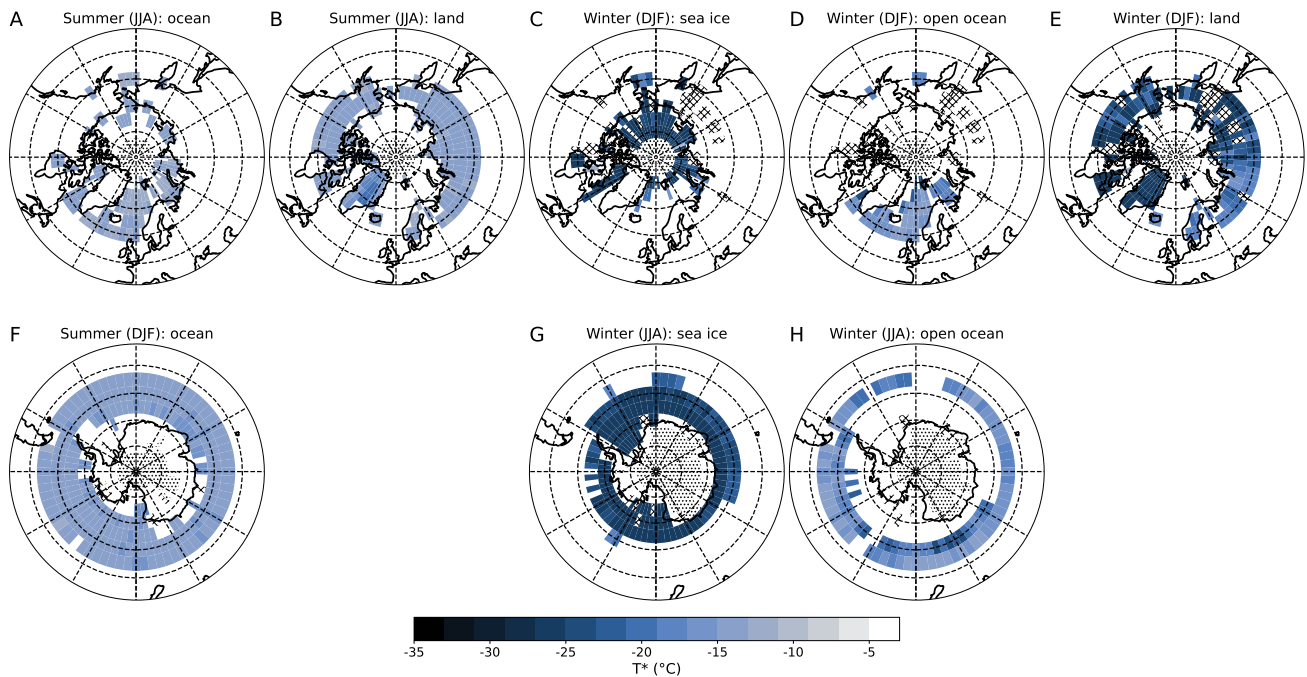


Figure S2. Masks for the area-weighted averaging of significant T^* values for different regions and seasons. These masks are used in the calculation of the values in Table 1. For Arctic: (A) summer (JJA) ocean, (B) summer (JJA) land, (C) winter (DJF) sea ice, (D) winter (DJF) open ocean, (E) winter (DJF) land. For Antarctica: (F) summer (DJF) ocean, (G) winter (JJA) sea ice, (H) winter (JJA) open ocean.

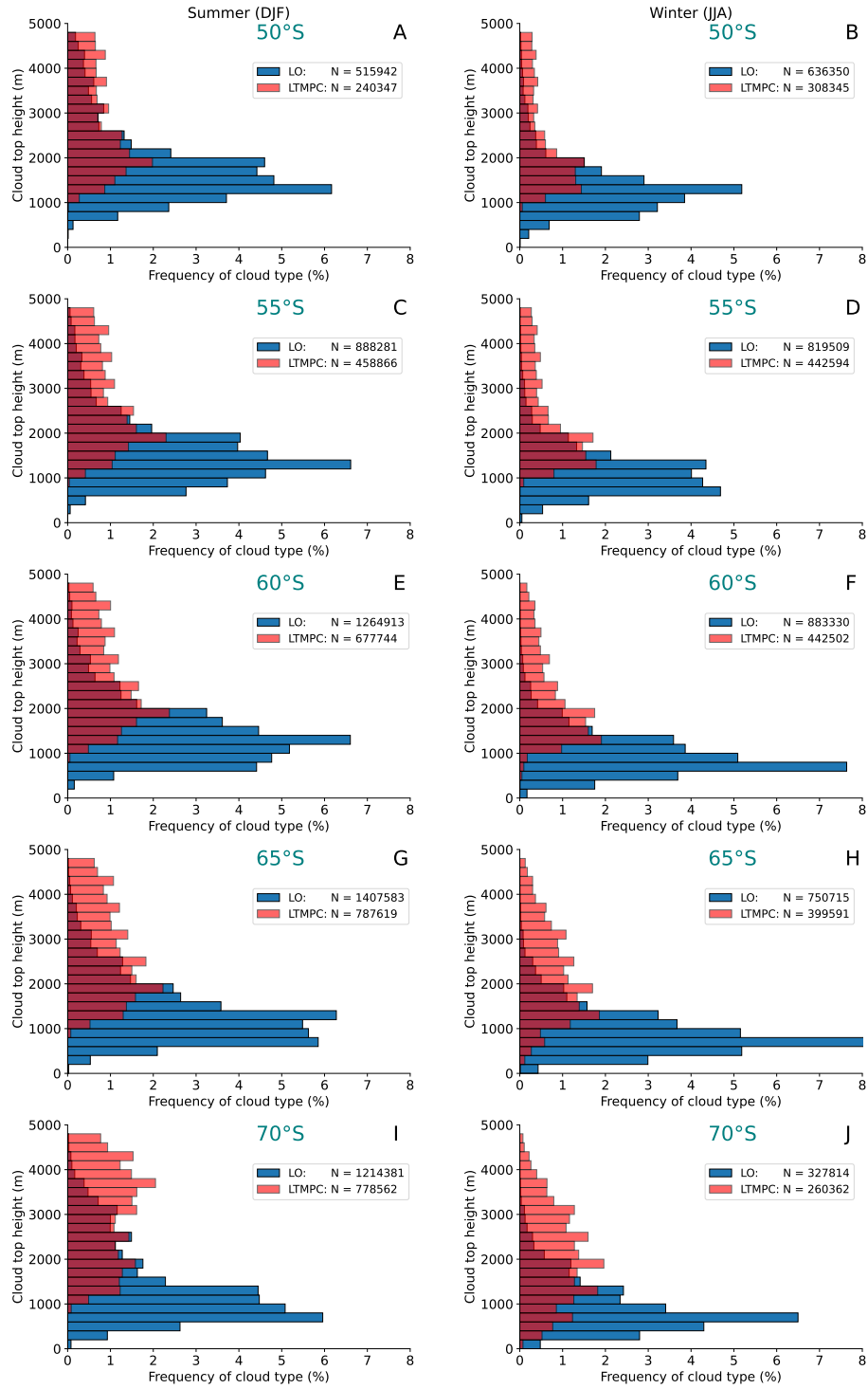


Figure S3. Frequency of occurrence of LO (blue) and LTMPCs (red) as a function of cloud top height summed over 5°-latitudinal bands with a midpoint at 50°S, 55°S, 60°S, 65°S, and 70°S for Austral Summer (DJF, panels: A, C, E, G, I) and winter (JJA, panels: B, D, F, H, J) normalized to all measured single-layer clouds in the given season.

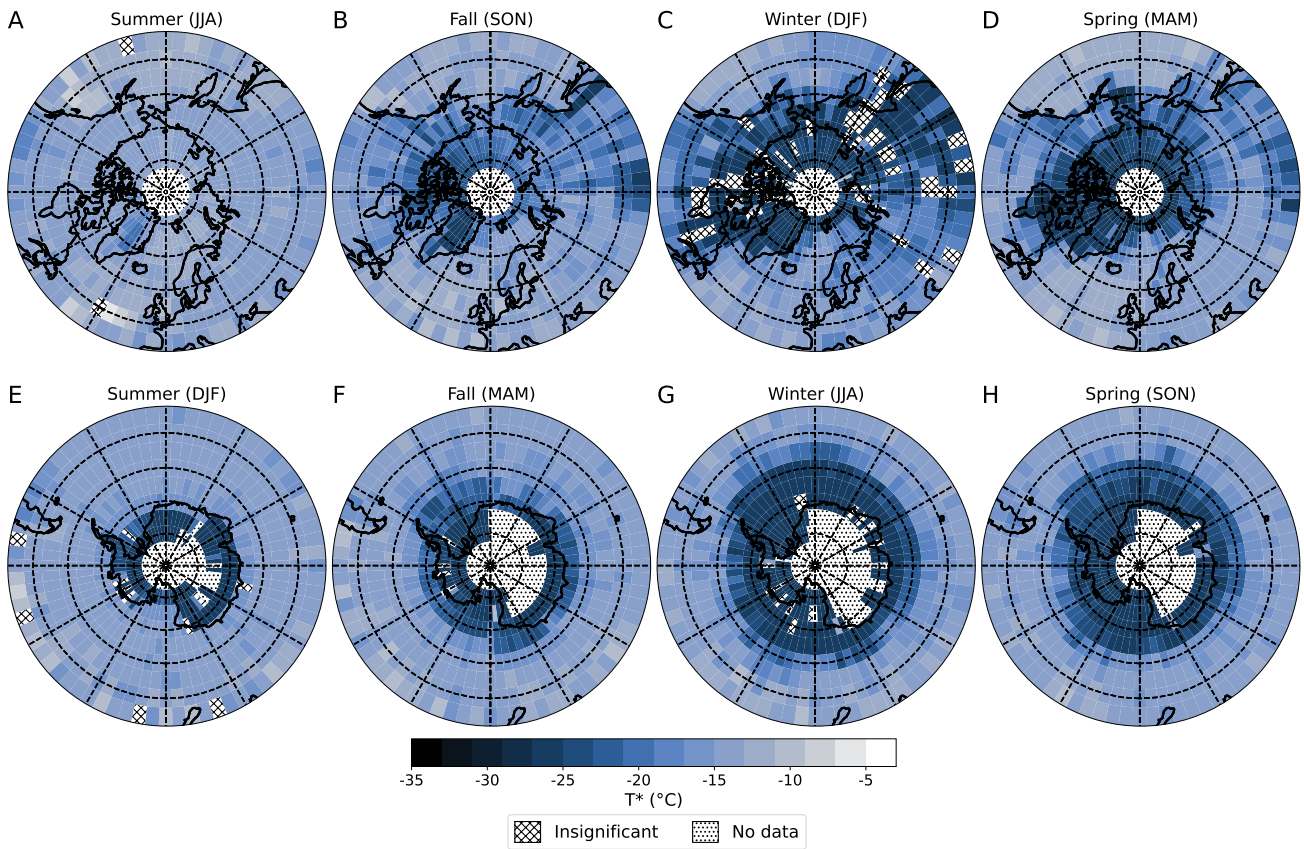


Figure S4. Seasonal T^* over the Arctic and the Southern Ocean based on observations between 2006-2017. Grid cells where T^* calculations are insignificant (on a 99% confidence level) are hatched, while dotted areas have no data (as in Fig. 2). (A) Arctic Summer (JJA), (B) Arctic Fall (SON), (C) Arctic Winter (DJF), (D) Arctic Spring (MAM), (E) Antarctic Summer (DJF), (F) Antarctic Fall (MAM), (G) Antarctic Winter (JJA), (H) Antarctic Spring (SON).