Supplementary Material for manuscript

Contribution of Atmospheric Advection to the Amplified Winter Warming in the Arctic North Atlantic Region

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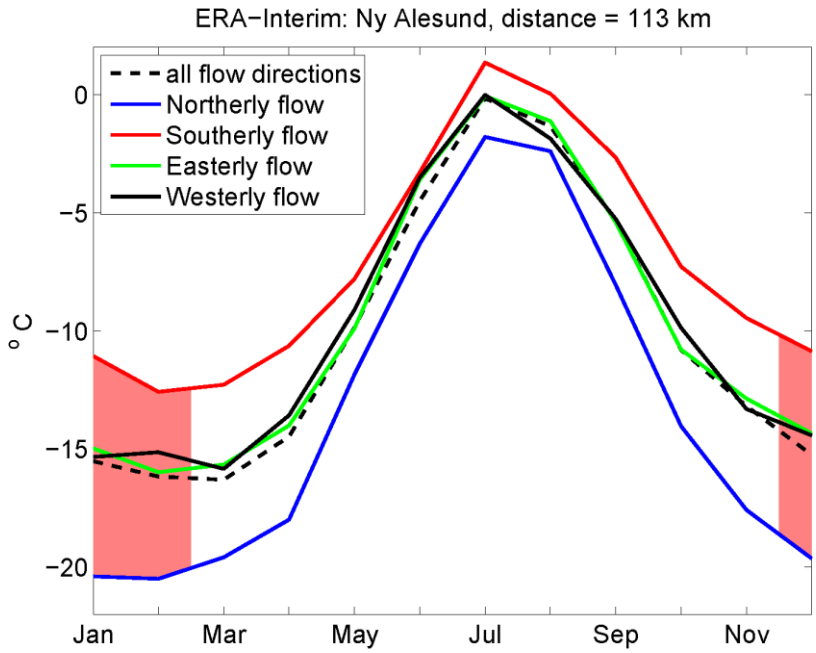

Figure S1: Ny-Ålesund temperature from ERA-Interim using the closest land grid point (distance = 113 km). Data are from 1993 to 2016 averaged between 800 and 850 hPa for different flow directions. Cardinal wind directions were defined as perfect ±45°and at least 75% of winds in the layer had to be within that range. The S – N difference during DJF is shaded.

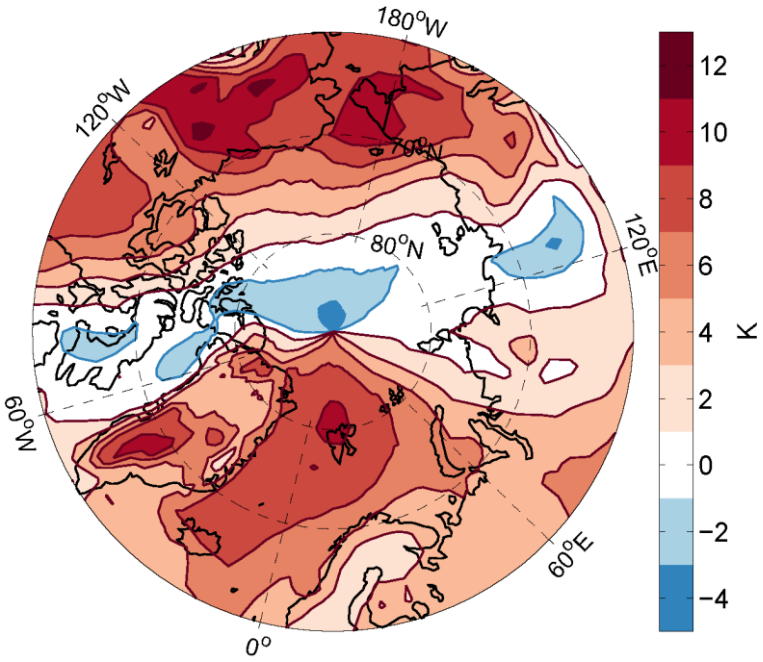

Figure S2: Difference in temperature for southerly minus northerly (S - N) conditions during the period 1996 – 2016 in DJF, averaged between 800 - 850 hPa from ERA-Interim.

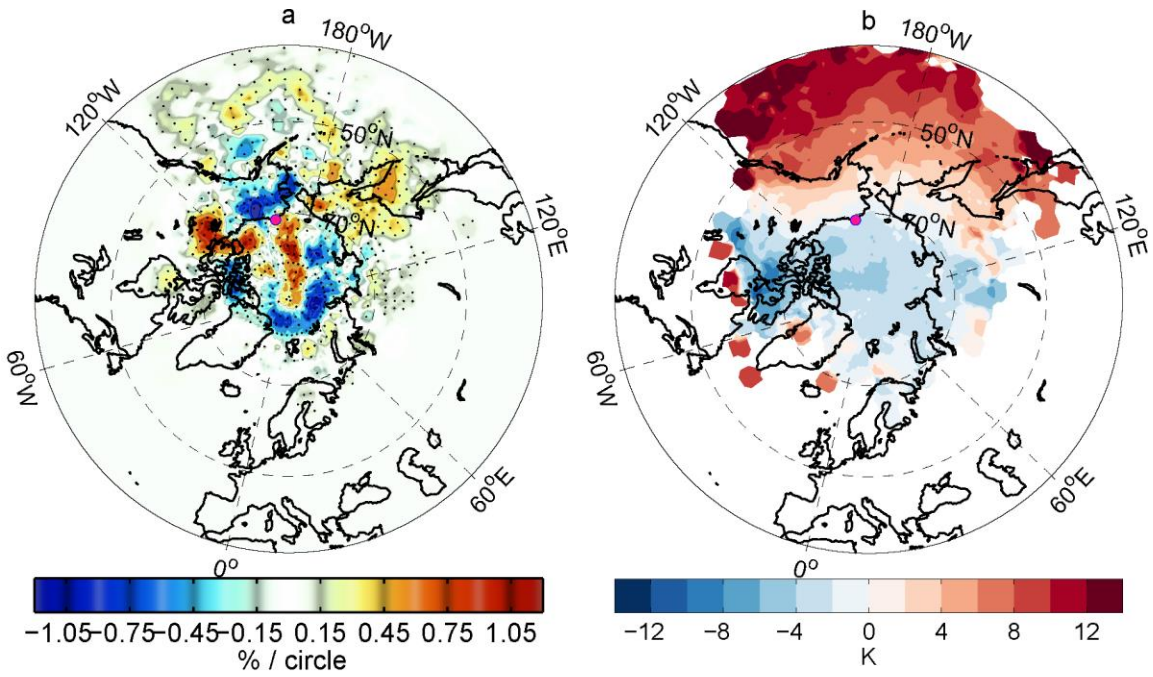

Figure S3: Same as Figure 3 b) and c), but for the Arctic Site Barrow. a) Change in the probability distribution map for Barrow's air source regions during DJF. The change is expressed as difference P2 (Dec. 2006–Feb. 2016) minus P1 (Dec. 1996–Feb. 2006). Statistical significance (99%) is indicated by dots and only shown for changes exceeding ±0.1%/circle (see text for details). b) Barrow DJF temperature anomaly as a function of source region.