nature climate change

SUPPLEMENTARY INFORMATION
https://doi.org/10.1038/s41558-018-0339-y

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Polar amplification dominated by local forcing and feedbacks

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Supplementary Information:

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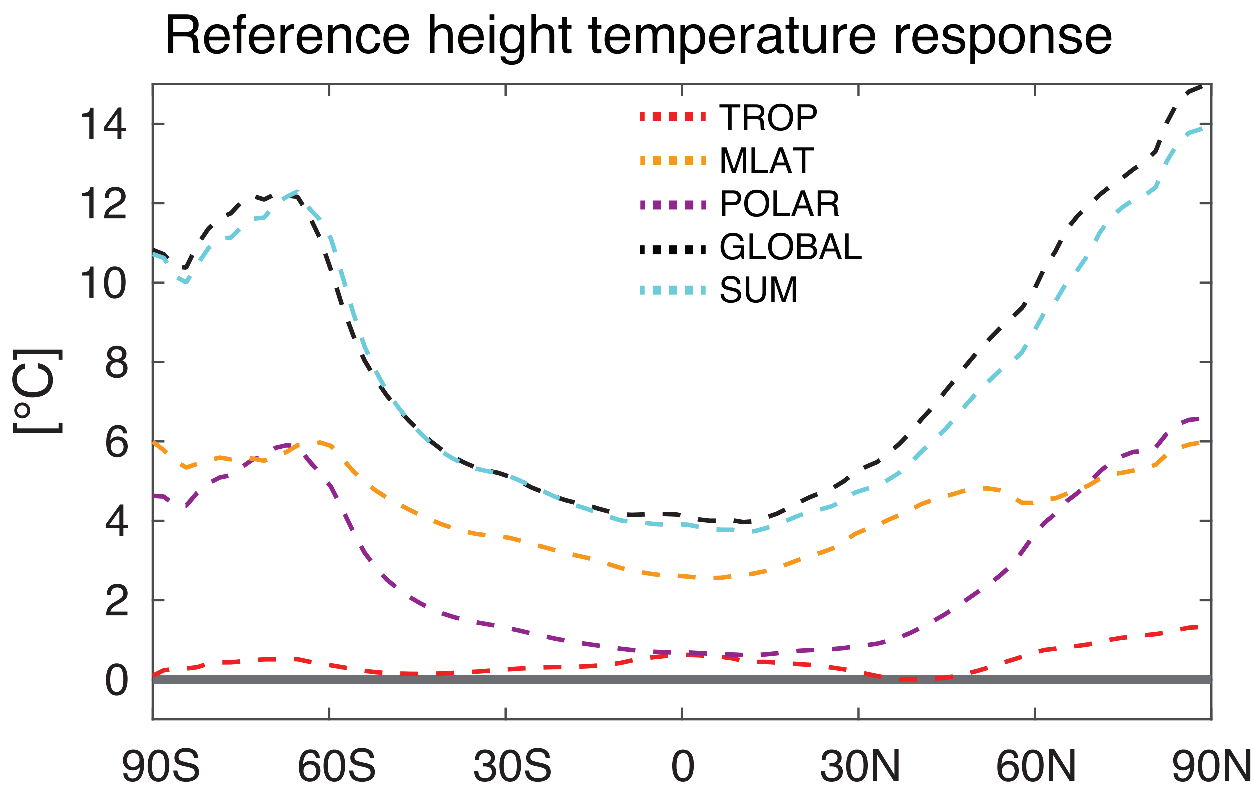

Figure S1: Zonal-mean TAS response [°C] for TROP-SOM (dashed red), MLAT-SOM (dashed orange), POLAR-SOM (dashed magenta),and GLOBAL-SOM (dashed black). The SUM for the regional experiments is indicated by dashed cyan.

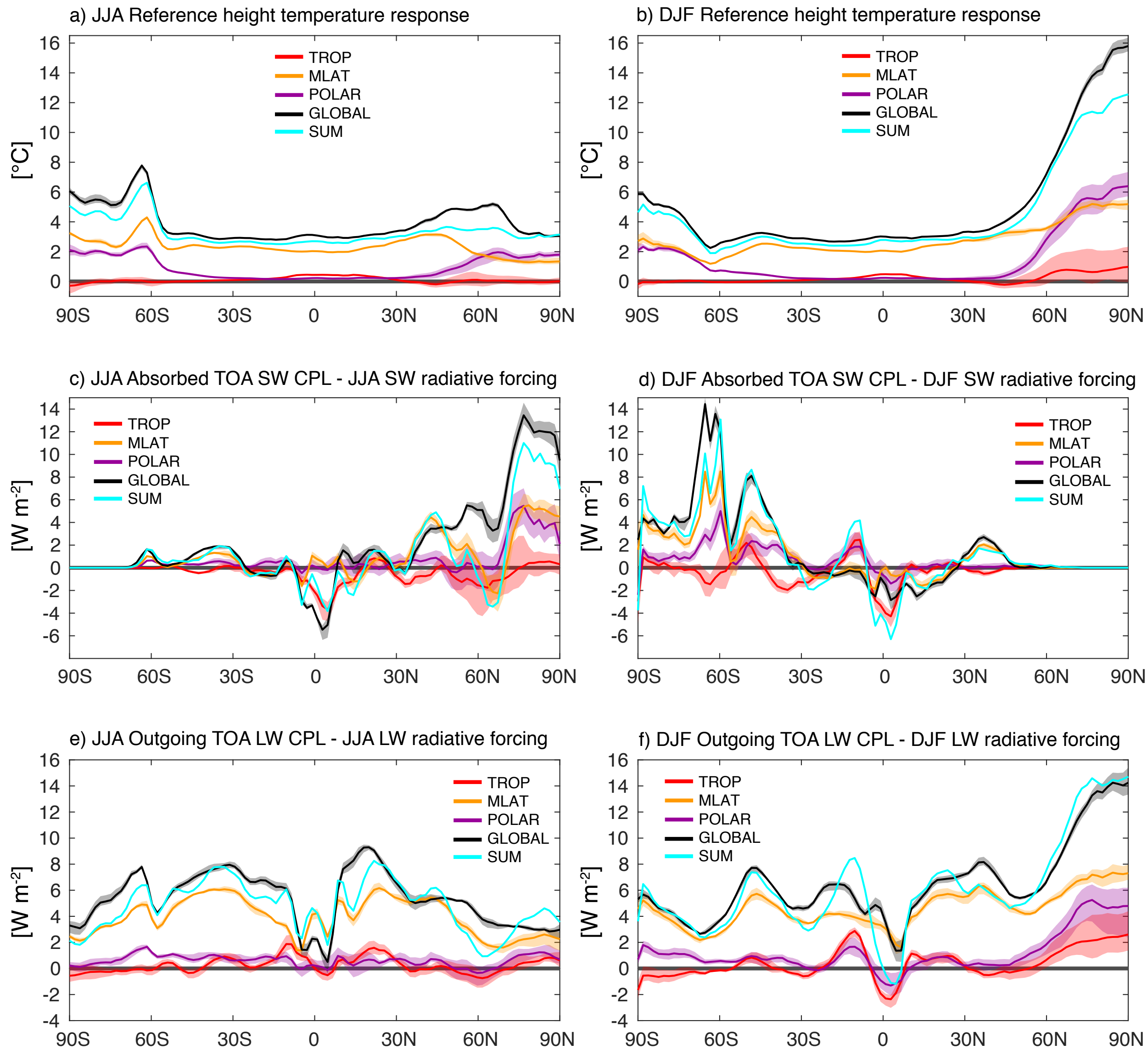

Figure S2: Zonal-mean climate response for TROP-CPL (solid red), MLAT-CPL (solid orange), POLAR-CPL (solid magenta), and GLOBAL-CPL (solid black) separated into boreal summer (JJA; left column) and boreal winter (DJF; right column) season. Shading indicates the ensemble range. The SUM for the regional experiments is indicated by solid cyan. **(a-b)** TAS response [°C]. **(c-d)** SW feedback: Absorbed TOA SW CPL response - SW radiative forcing [W m^{-2}]. **(e-f)** LW feedback: Outgoing TOA LW CPL response - LW radiative forcing [W m^{-2}].

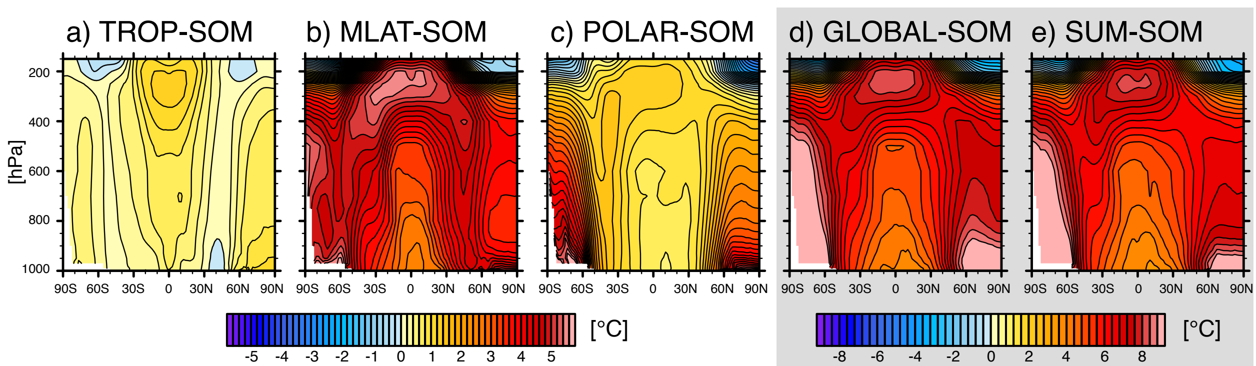

Figure S3: Tropospheric zonal-mean temperature response [°C] for **(a)** TROP-SOM, **(b)** MLAT-SOM, **(c)** POLAR-SOM, and **(d)** GLOBAL-SOM. **e)** Sum of the response of TROP-SOM, MLAT-SOM, and POLAR-SOM.

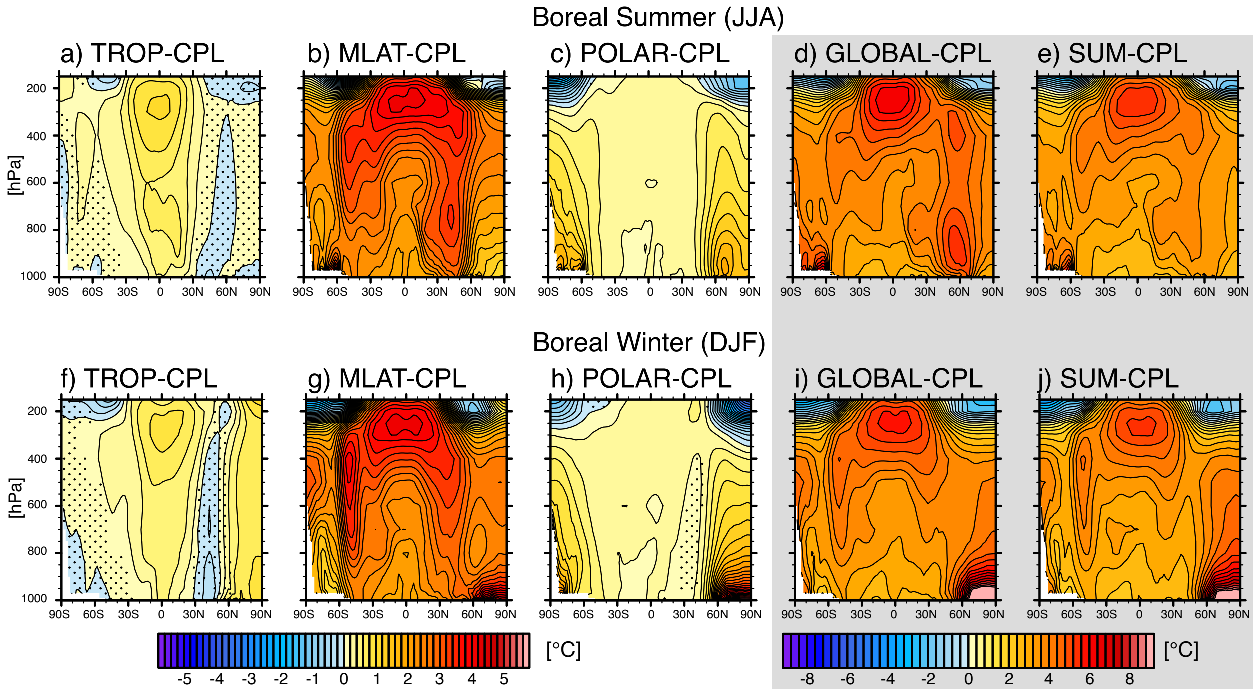

Figure S4: Tropospheric zonal-mean ensemble-mean temperature response [°C] in boreal summer **(a-e)** and boreal winter **(f-j)** for **(a,f)** TROP-CPL, **(b,g)** MLAT-CPL, **(c,h)** POLAR-CPL, and **(d,i)** GLOBAL-CPL. Ensemble mean values that are significantly different from zero at the 95% confidence level (using a two-tailed t-test) are non-stippled. **(e,j)** Sum of the response of TROP-CPL, MLAT-CPL, and POLAR-CPL.

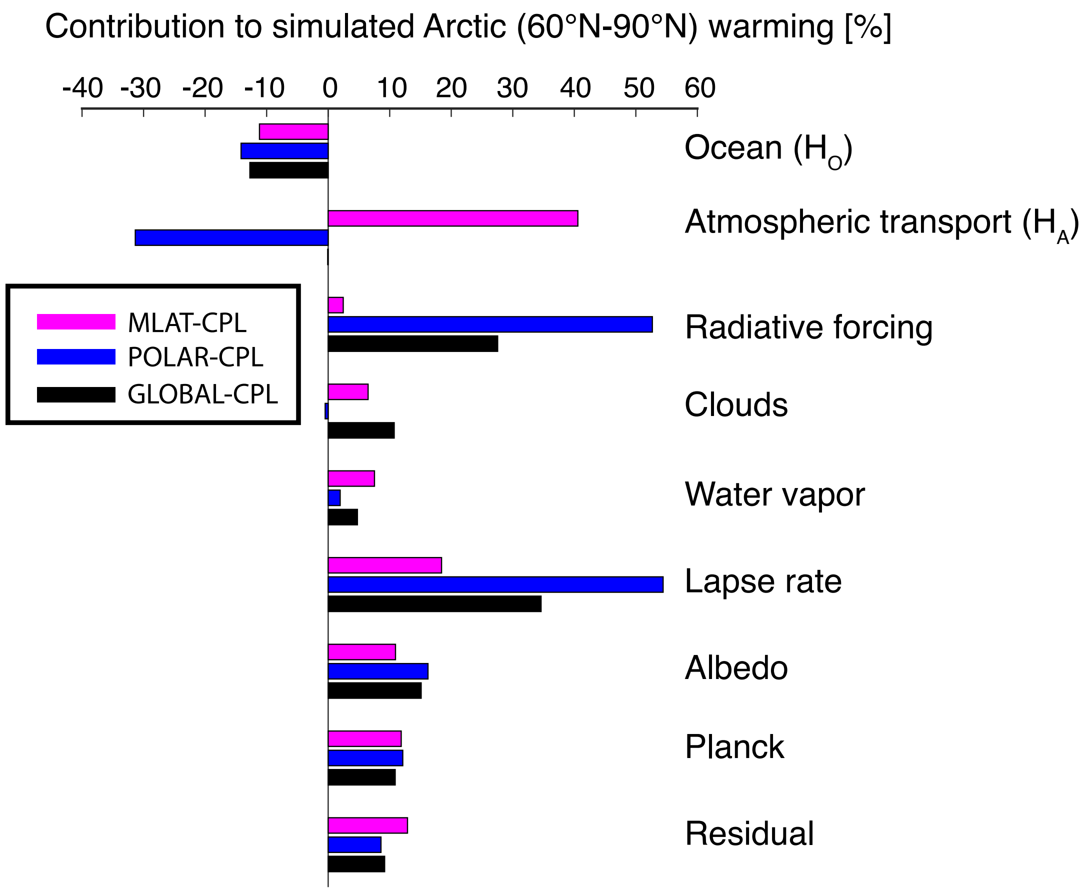

Figure S5: Percentage contributions of the individual physical processes to the simulated Arctic warming for MLAT-CPL, POLAR-CPL, and GLOBAL-CPL.

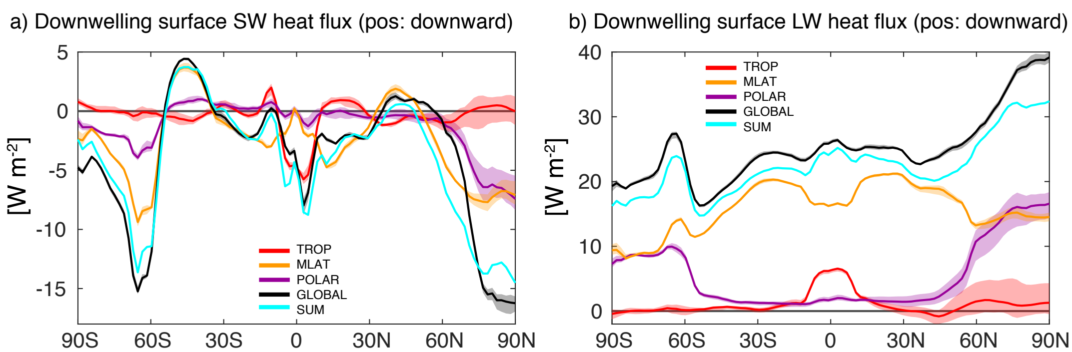

Figure S6: Zonal-mean surface heat flux response for TROP-CPL (solid red), MLAT-CPL (solid orange), POLAR-CPL (solid magenta), and GLOBAL-CPL (solid black). Shading indicates the ensemble range. The SUM for the regional experiments is displayed in solid cyan. **(a)** Downwelling surface SW heat flux [W m^{-2}]. **(b)** Downwelling surface LW heat flux [W m^{-2}].