Supporting Information

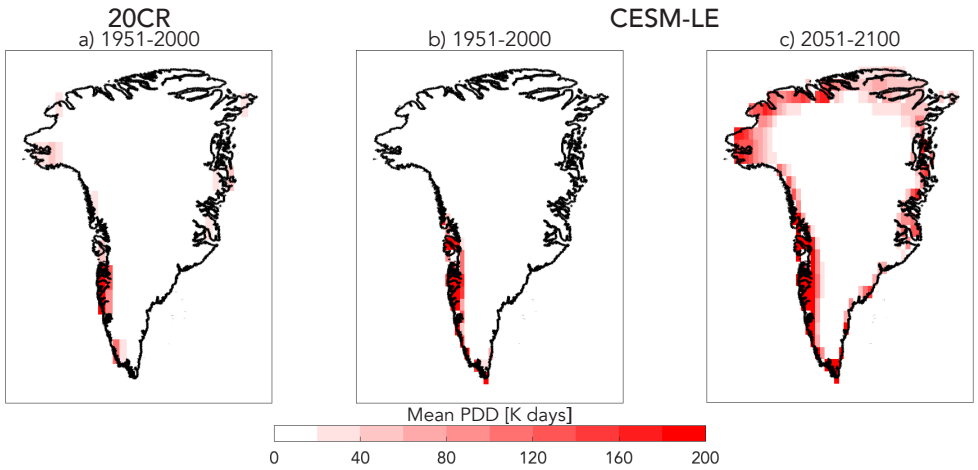

Figure S1. Spatial distribution of the mean summer PDD climatology [K days] for (a) 1951-2000 and (b) 2051-2100 in CESM-LE.

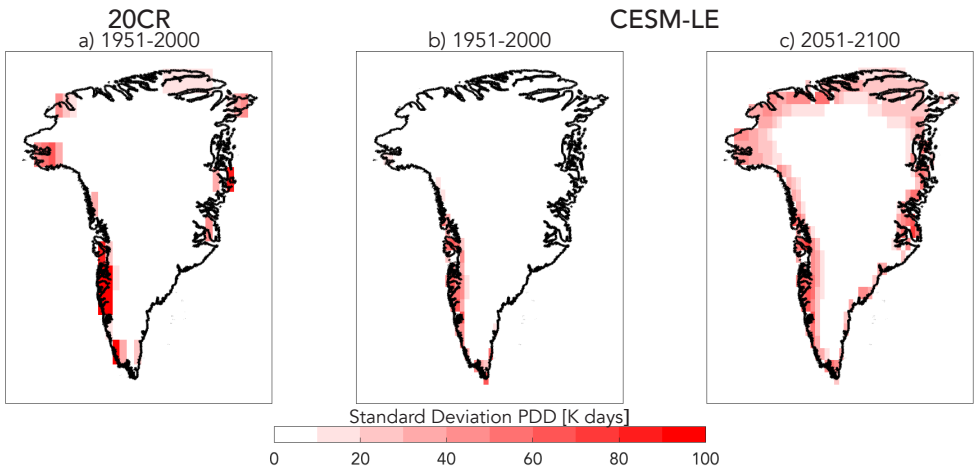

Figure S2. Spatial distribution of the standard deviation of summer PDD [K days] for (a) 1951-2000 and (b) 2051-2100 in CESM-LE.

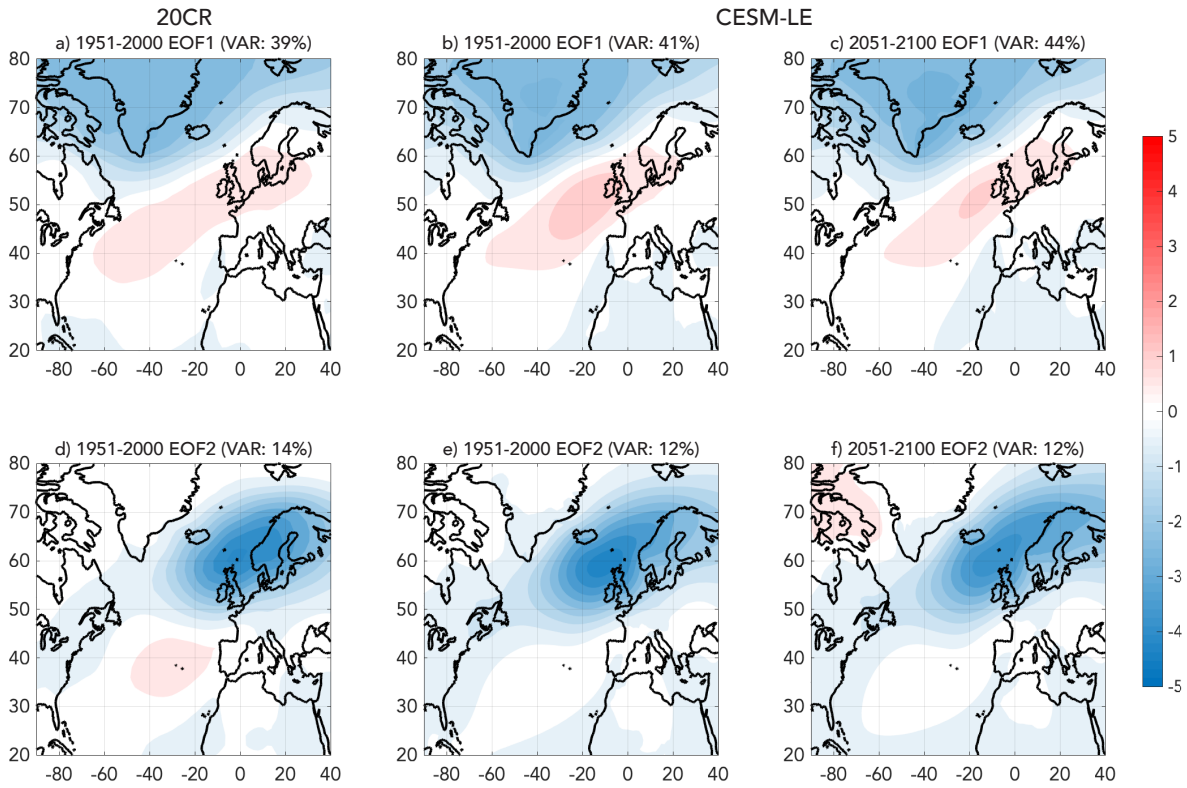

Figure S3. The first EOF of JJA SLP [hPa] during (a) 1951-2000 for 20CR, (b) 1951-2000 for CESM-LE and (c) 2051-2100 for CESM-LE. This component represents the North Atlantic Oscillation (NAO; Hurrell, 1995). (d-f) The second EOF of SLP [hPa] for the corresponding datasets, often termed the East Atlantic (EA) pattern (Barnston and Livezey, 1981).

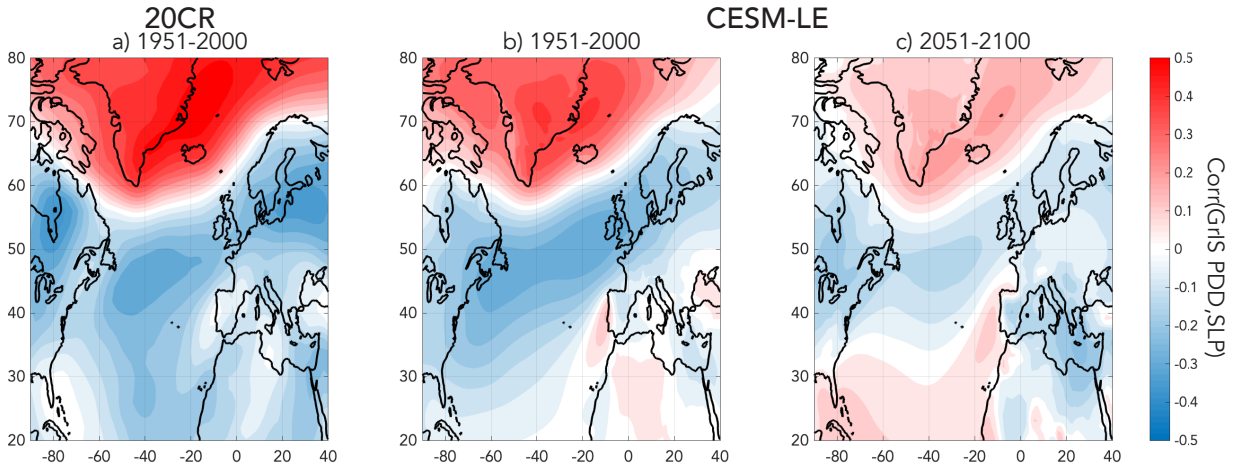

Figure S4. Spatial distribution of the Pearson correlation coefficient between the PDD over the GrIS and PSL during (a) 1951-2000 for 20CR, (b) 1951-2000 for CESM-LE and (c) 2051-2100 for CESM-LE.

References

Barnston, A., and Livezey, R.E., 1987: Classification, seasonality, and persistence of low-frequency circulation patterns. *Mon. Wea. Rev.*, **115**, 1083–1126, https://doi.org/10.1175/1520-0493(1987)115<1083:CSAPOL>2.0.CO;2.

Hurrell, J. W., 1995: Decadal trends in the North Atlantic Oscillation: Regional temperatures and precipitation. *Science*, **269**, 676–679, https://doi.org/10.1126/science.269.5224.676.