Supplement of Weather Clim. Dynam., 6, 1107–1117, 2025
https://doi.org/10.5194/wcd-6-1107-2025-supplement

Supplement of

Asymmetric response of Northern Hemisphere near-surface wind speed to CO_2 removal

Zhi-Bo Li et al.

Correspondence to: Cheng Shen (cheng.shen@gu.se)

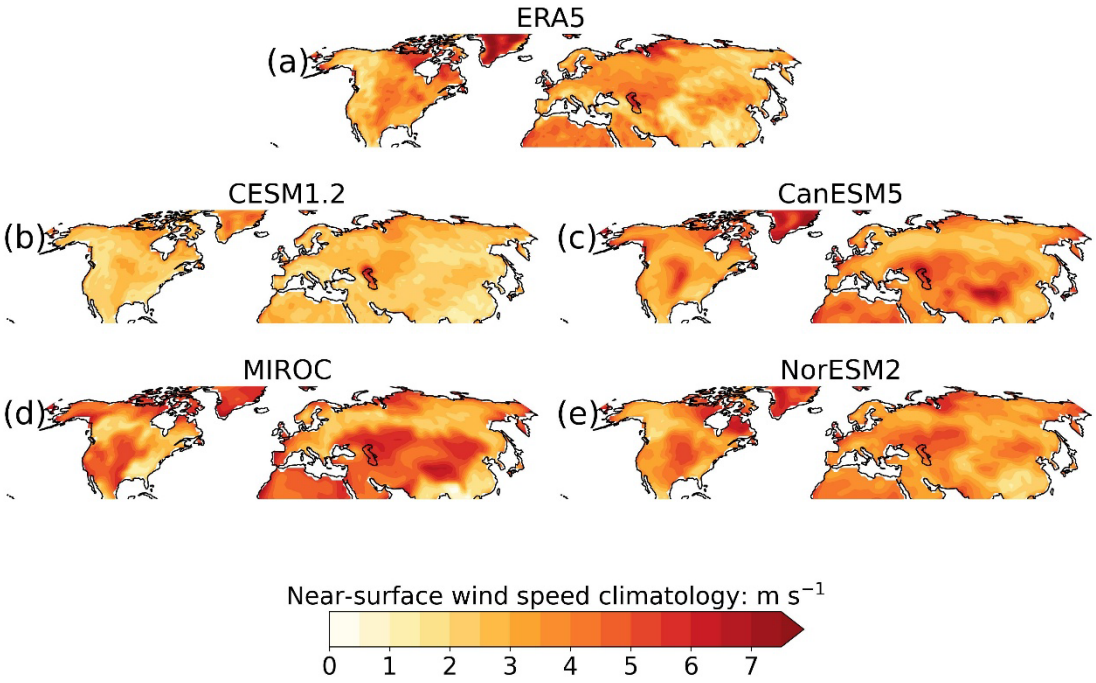

Fig. S1 (a) Climatology (1979–2018) annual-mean near-surface wind speed (unit: m s^{-1}) from the ERA5. (b) Climatology (the first 100 years of the present-day run) annual-mean near-surface wind speed from the CESM1.2. (c–e) Climatology (the first 100 years of the piControl experiment) annual-mean near-surface wind speed from the CanESM5, MIROC, and NorESM2, respectively.

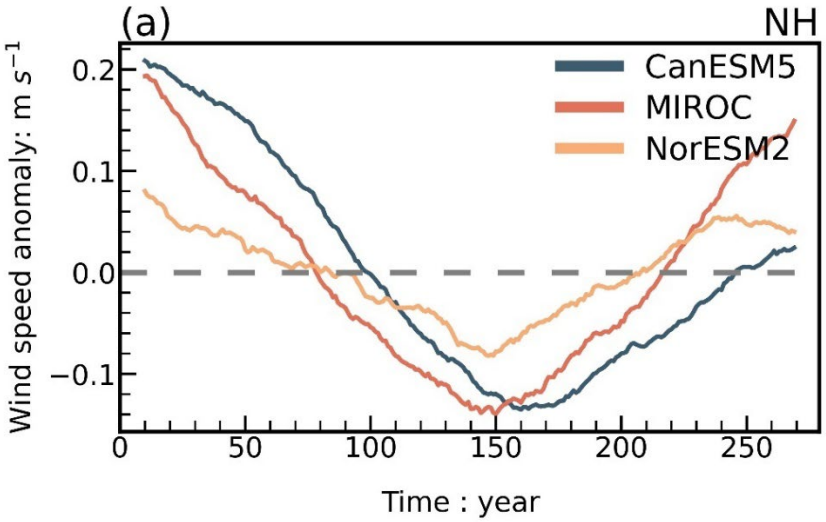

Fig. S2 Temporal changes of the anomalous annual-mean terrestrial near-surface wind speed (NSWS; unit: m s^{-1}) over Northern Hemisphere extratropics (20°N–70°N) relative to the average of whole period. Blue, orange, and yellow lines denote CanESM5, MIROC-ES2L, and NorESM2-LM, respectively. An 11-year running mean has been applied to smooth out inter-annual variability.

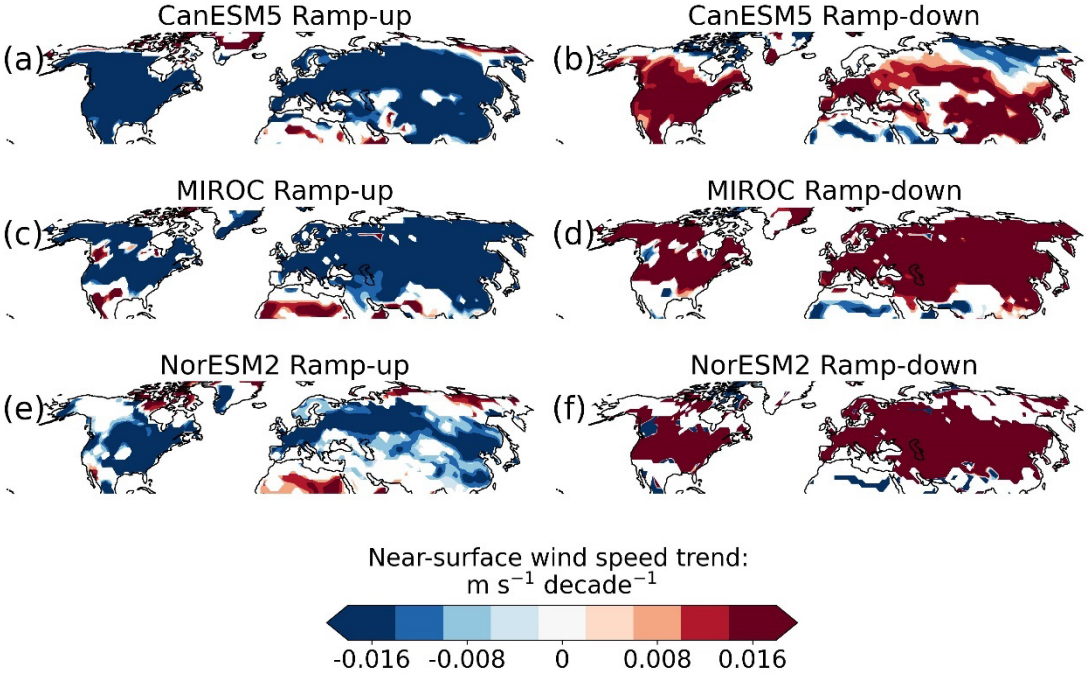

Fig. S3 (a) Tendencies of terrestrial annual-mean near-surface wind speed (unit: m s^{-1} $decade^{-1}$) during the CO_2 ramp-up period from the CasESM5. Grid points with shadings denote the tendencies are significant at the 0.05 level. (b) Same as (a), but for tendencies during the CO_2 ramp-down period. (c–d) Same as (a–b), but for the MIROC-ES2L. (e–f) Same as (a–b), but for the NorESM2-LM.

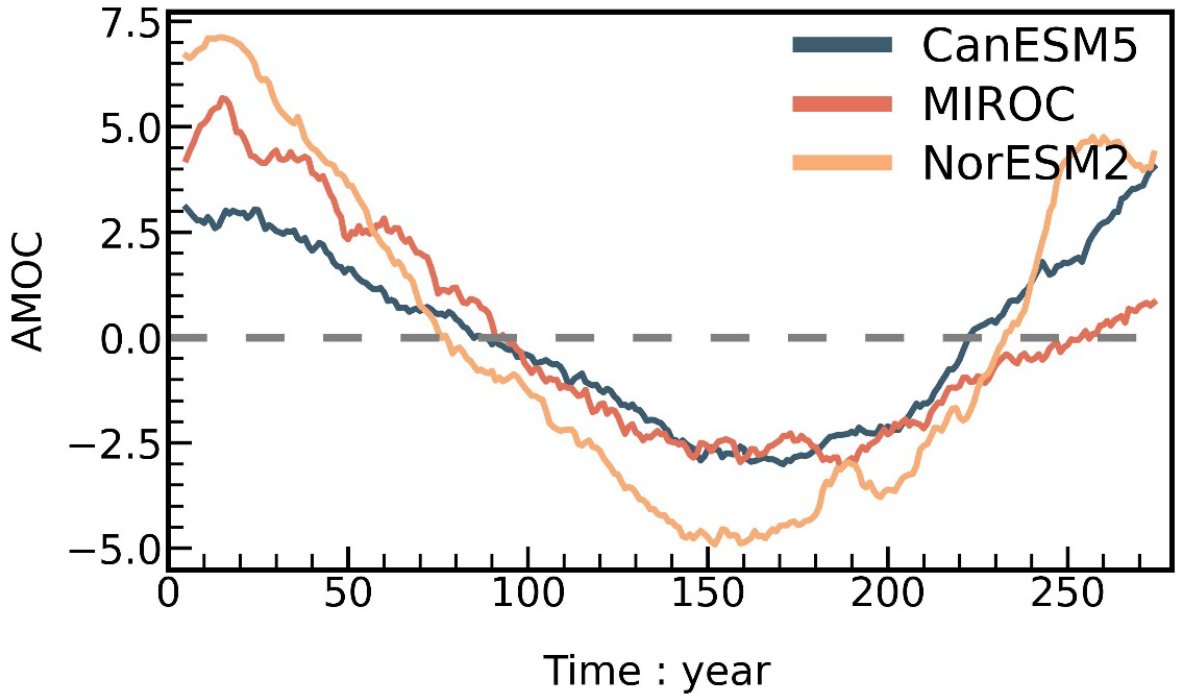

Fig. S4 Temporal changes of the Atlantic Meridional Overturning Circulation index (maximum value at 26.7°N of North Atlantic; unit: Sv) relative to the average of whole period. Darkblue, orange, and yellow lines denote CanESM5, MIROC-ES2L, and NorESM2-LM, respectively. An 11-year running mean has been applied to smooth out inter-annual variability.