

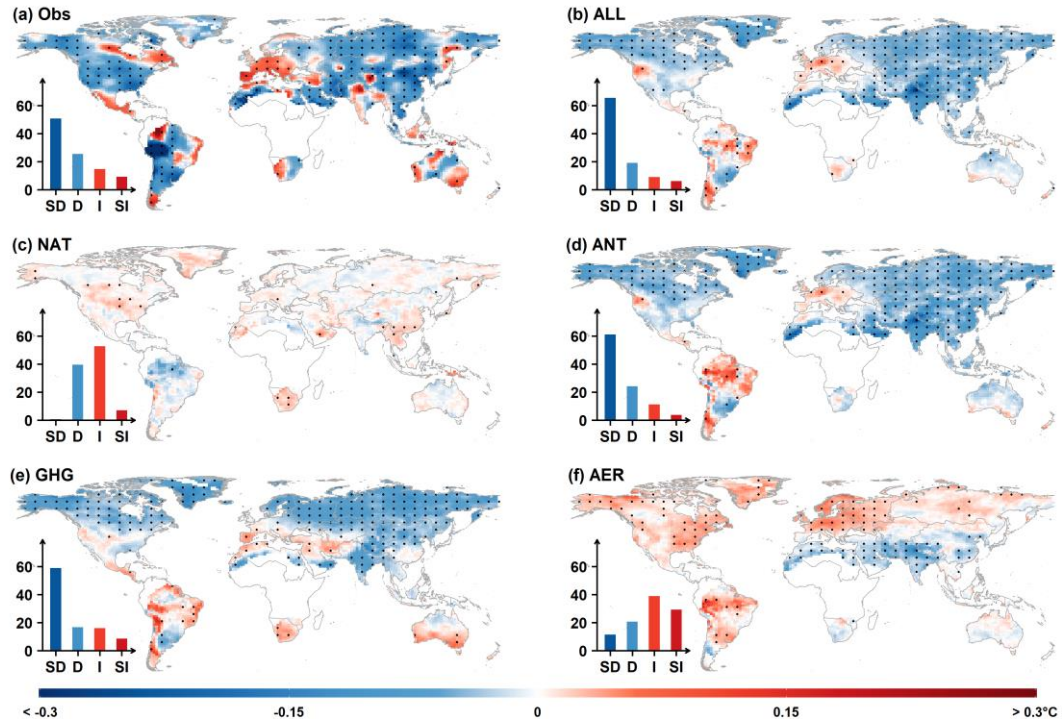


Figure 1. Spatial distribution of trends (°C/decade) in DTR during 1951-2018. Trends in (a) observed DTR (Obs); and trends in CMIP6 multimodel ensemble mean simulations with: (b) anthropogenic and natural forcing (ALL), (c) natural forcing only (NAT), (d) anthropogenic forcing (ANT), (e) greenhouse gas forcing only (GHG), and (f) anthropogenic aerosol forcing only (AER). Black points indicate that the trends are significant at the 95% confidence level. The inset histograms summarize the percentage of the land surface showing a significant decrease (SD), decrease (D), increase (I), and significant increase (SI) in DTR, respectively.

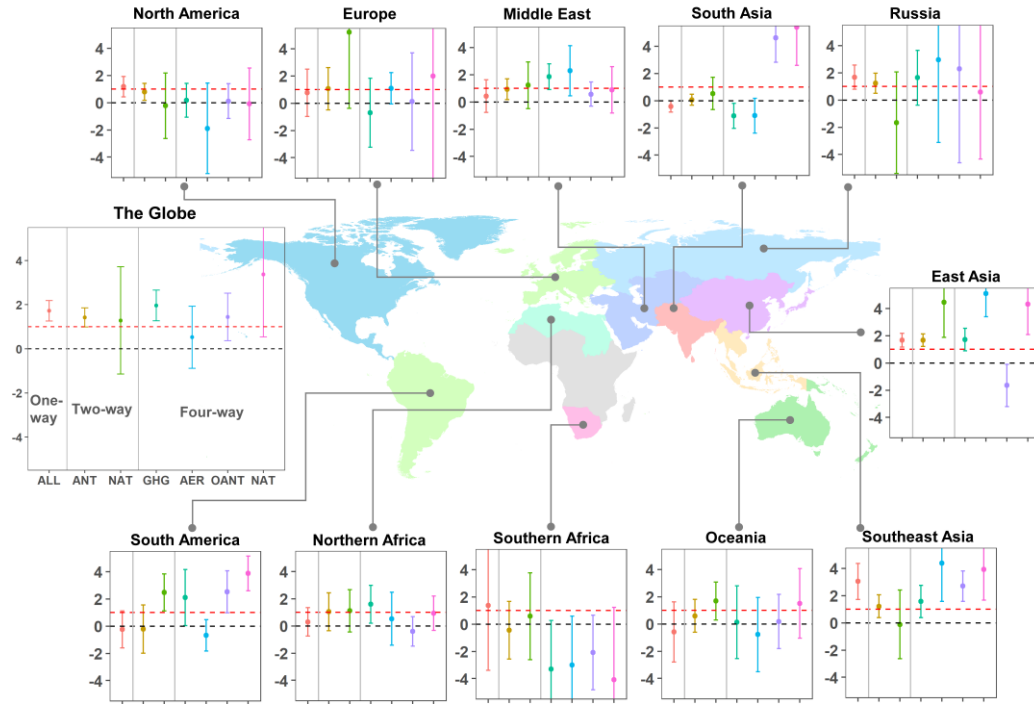


Figure 2. Optimized scaling factors and their 95% confidence intervals during 1951-2018. The observations are regressed onto ALL simulations by one-way detection, onto ANT and NAT by two-way detection, and onto GHG, AER, OANT, and NAT by four-way detection. The horizontal black and red dashed lines indicate zero and unity, respectively. When the 95% confidence interval of the scaling factor lies above zero this indicates the corresponding signal can be detected in the observed DTR, and a scaling factor larger than one suggests that the simulated trend underestimates the observed one.

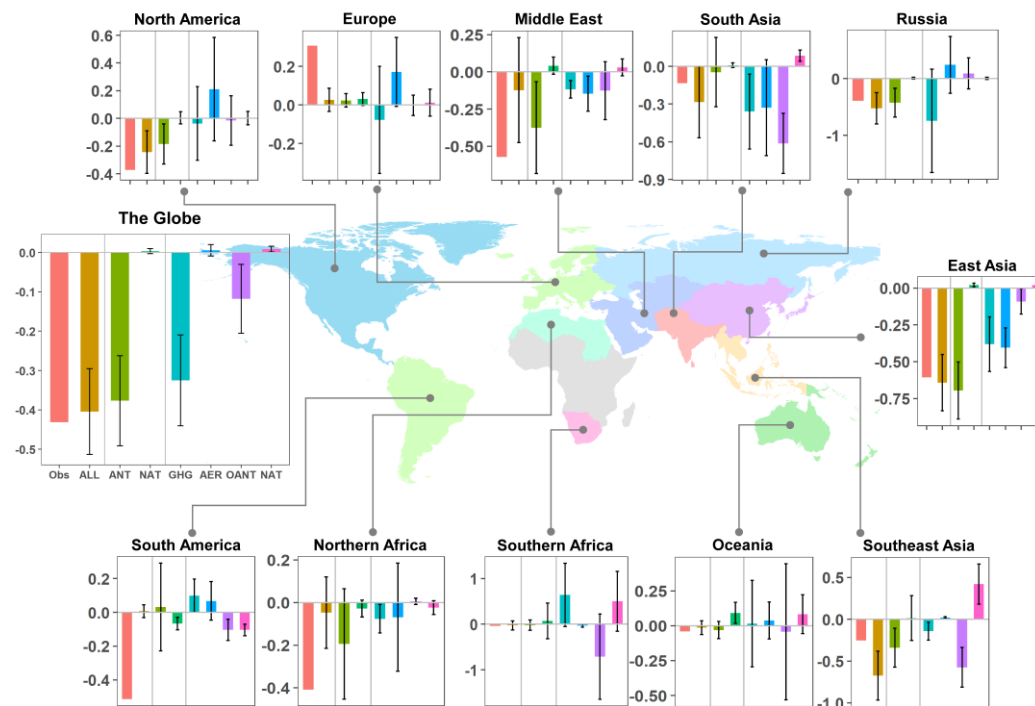


Figure 3. Observed annual DTR trends and their drivers during 1951-2018. Attributable change is calculated by multiplying the annual trends by the corresponding scaling factors. Error bars are the corresponding 95% confidence intervals.

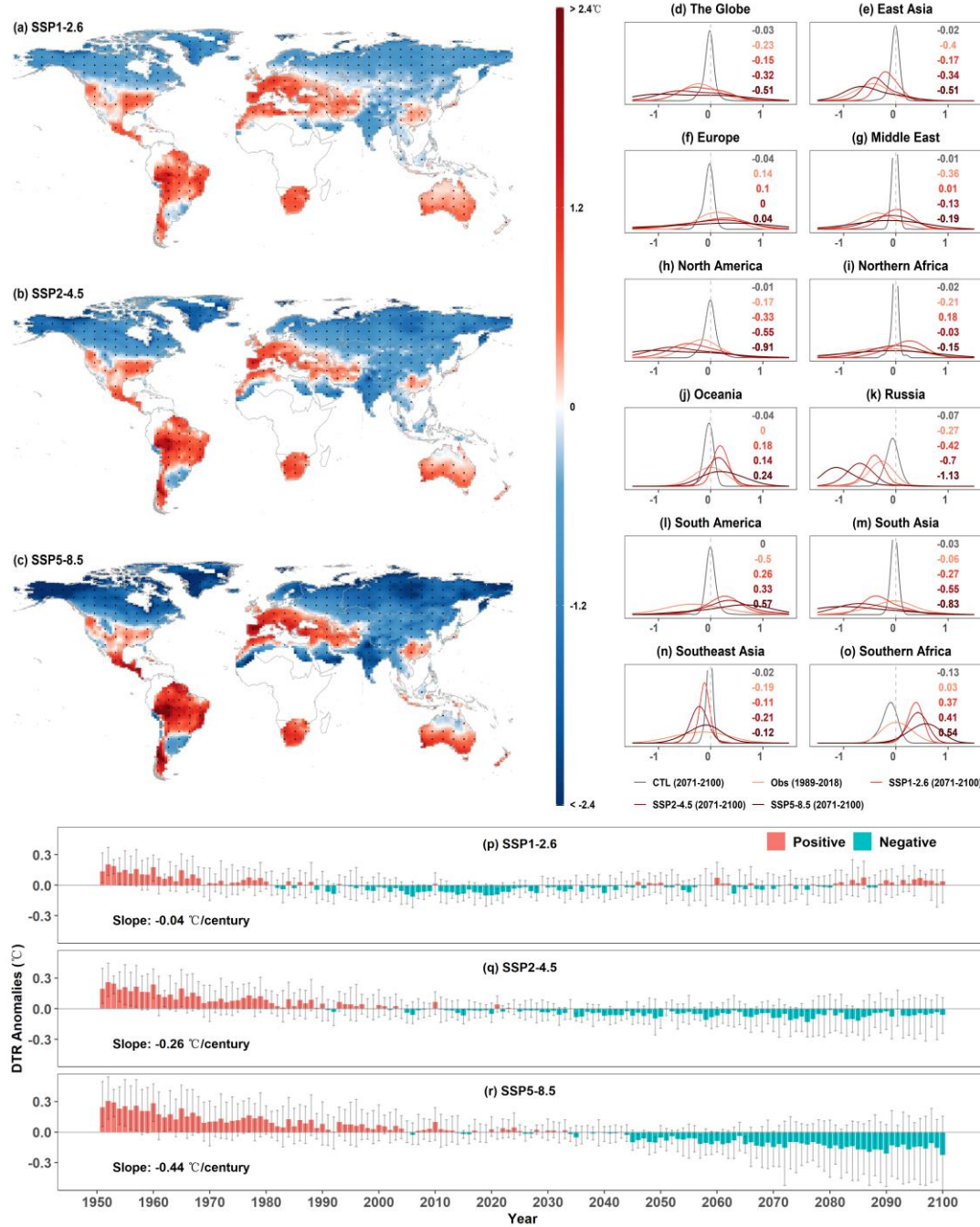


Figure 4. Projected changes in DTR under different scenarios. (a-c) Spatial distribution of trends during 1951-2100 (°C/century) for SSP1-2.6, SSP2-4.5 and SSP5-8.5, respectively. (d-o) Probability density function (PDF) of mean DTR changes (°C) for the late twenty-first century (2071-2100) compared with the period of 1951-1980. (p-r) Anomalies of annual time series of global DTR during 1951-2100. The data for the period of 1951-2014 is derived from the ALL experiments, and the data for 2015-2100

are derived from (p) SSP1-2.6, (q) SSP2-4.5 and (r) SSP5-8.5 scenarios. The trend values are calculated as the linear trend coefficient of the projections multiplied by the corresponding scaling factor of ALL experiments shown in Figure 2.