

Supplementary Information for
Contrast responses of strong and weak winter extreme cold events in the
Northern Hemisphere to global warming

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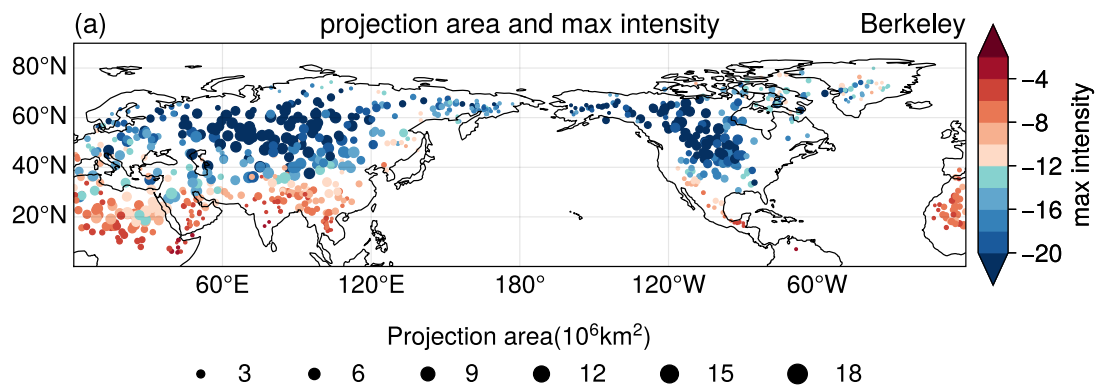


Figure S1. Same to Figure 2, but for Berkeley dataset.

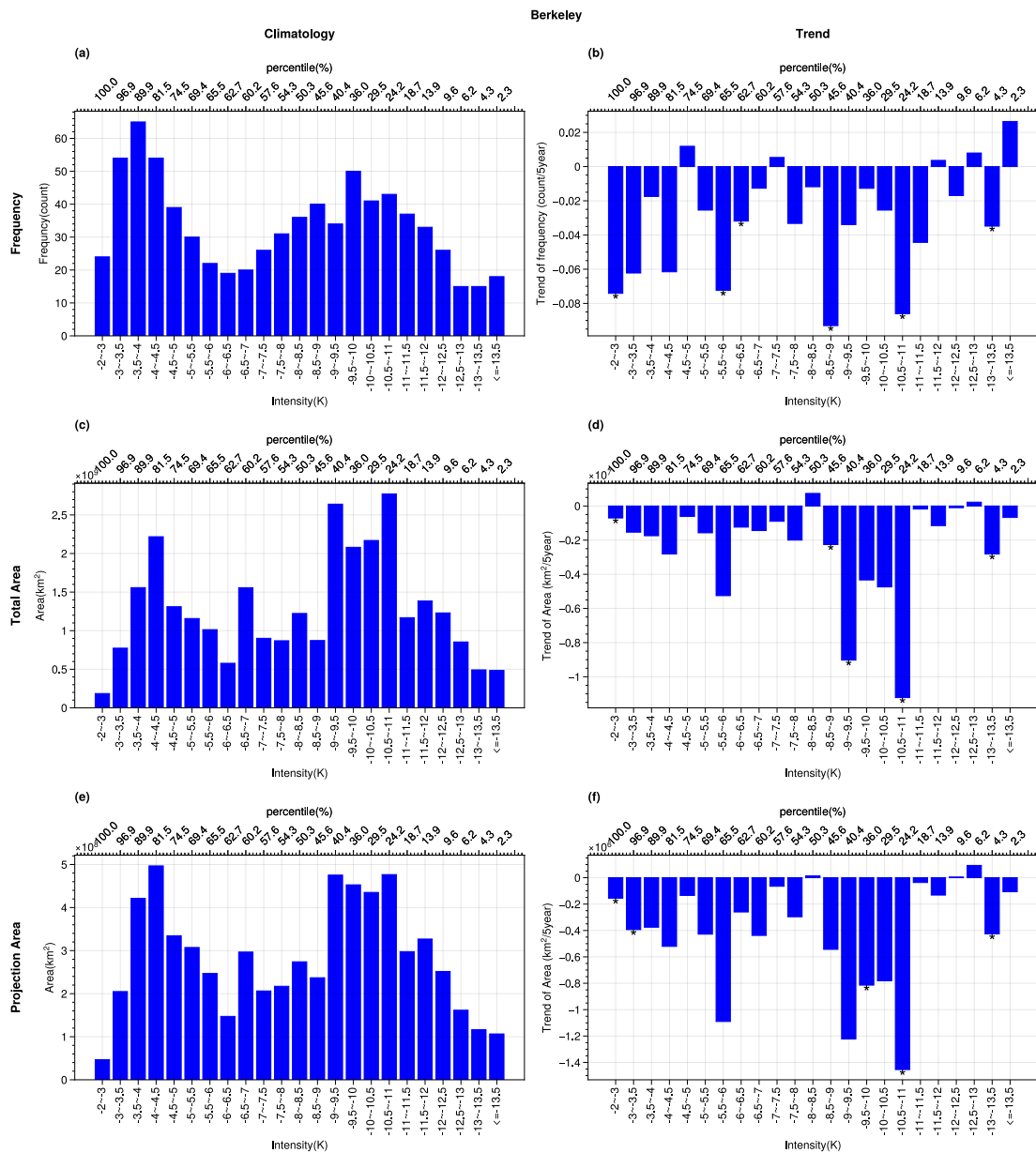


Figure S2. Same to Figure 5, but based on Berkeley dataset.

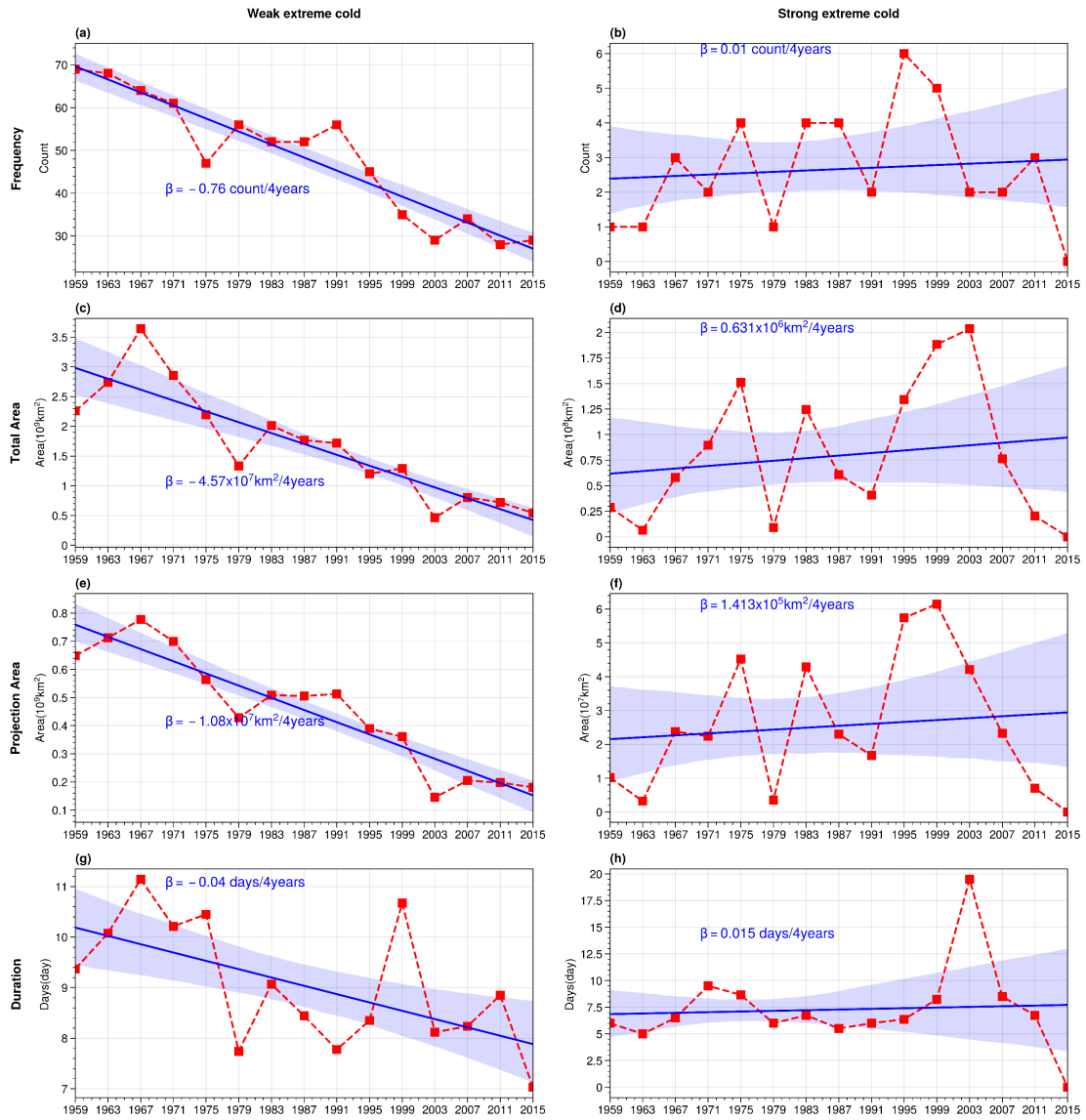


Figure S3. Same to Figure 6, but for every 4 years interval.

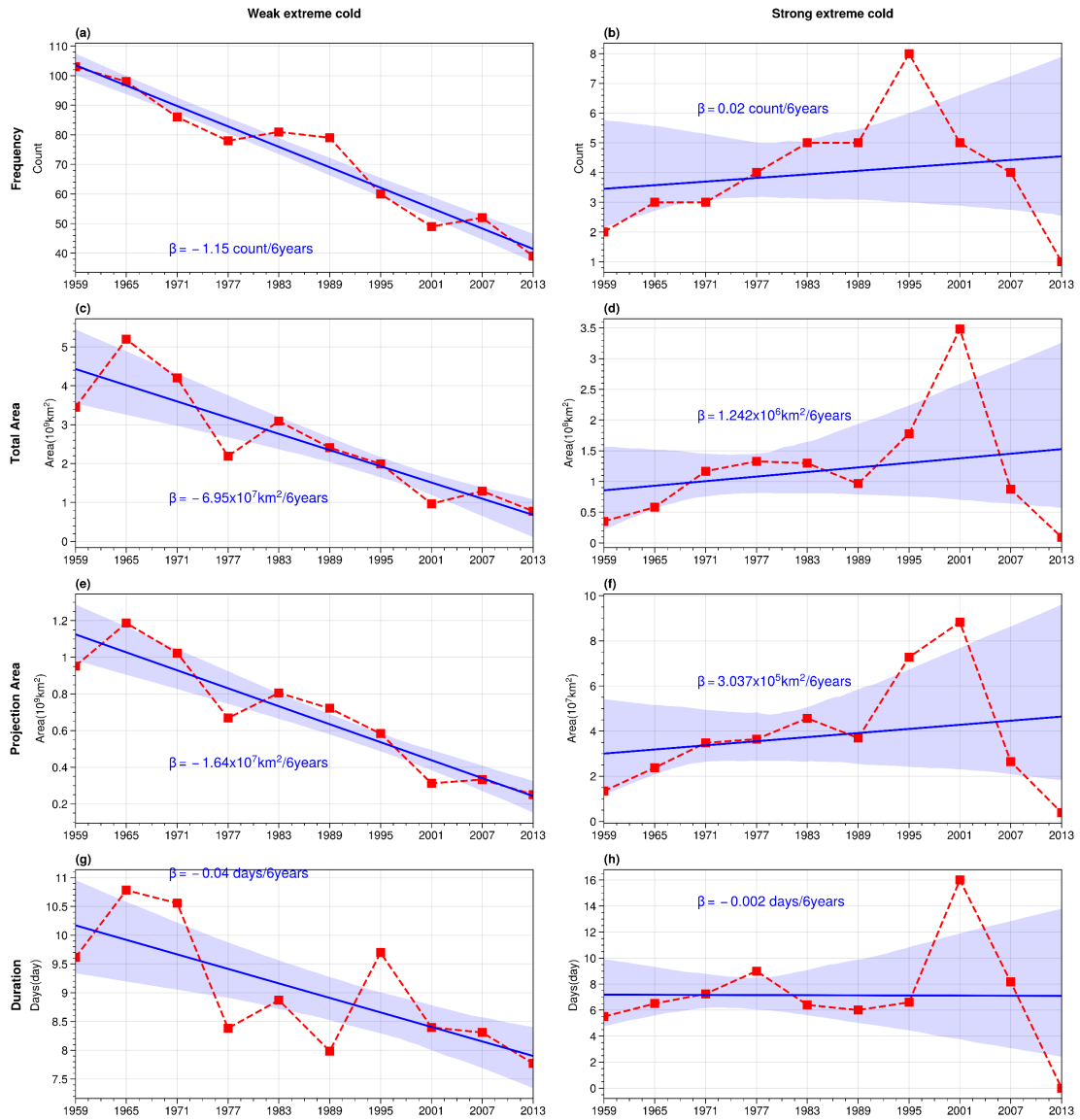


Figure S4. Same to Figure 6, but for every 6 years interval.

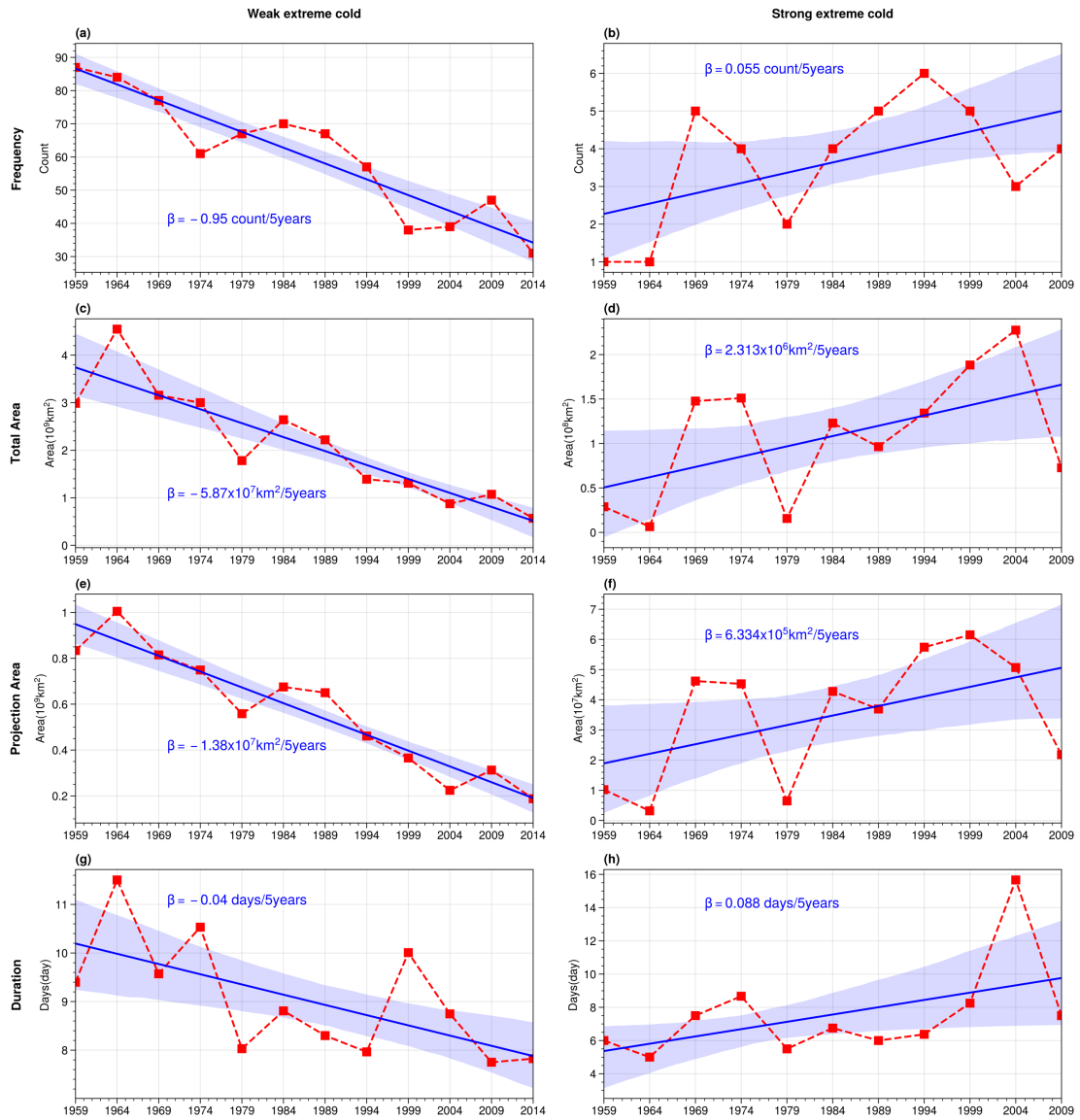


Figure S5. Same to Figure 6, but for the trend after excluding the period of 2014-2019.

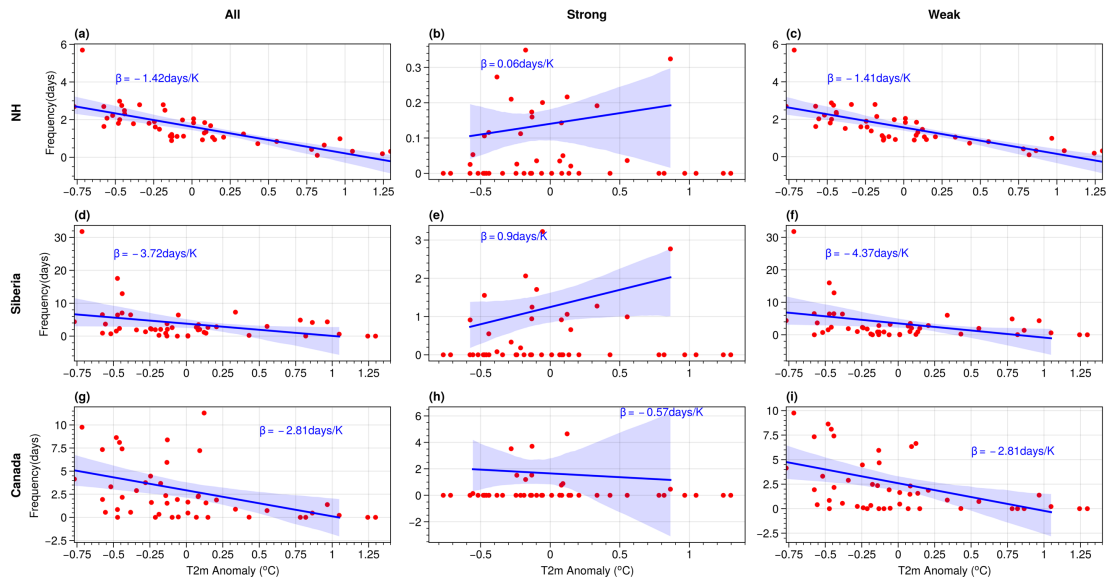


Figure S6. Same to Figure 9 but exclude the warming hiatus period (1998-2012).

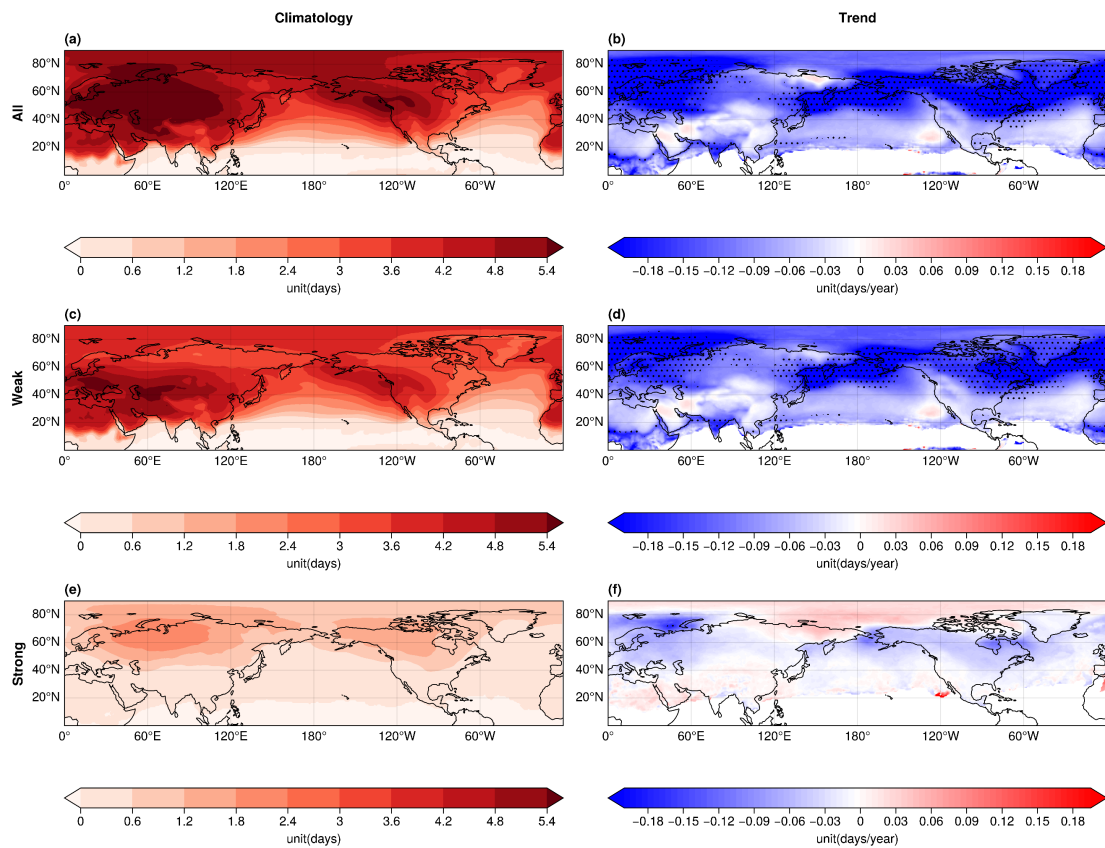


Figure S7. The distribution of climatology (left column) and trend (right column) of frequency for all (a, b), strong (c, d) and weak (e, f) ECEs based on the ensemble mean result of 1pctCO2 simulations. The dotted area indicates the region where the number of models with significant trend is greater than 11.