

Reply to referee #1 (in blue)

I am pleased to see that the authors responded to my suggestion to test whether the SWG applied to a single ensemble member can somehow replace the other ensemble members, and find that it cannot. (It seems a bit like bootstrap with replacement, which is widely used to produce confidence intervals in our community, yet is fundamentally limited since it has to work with the events that have occurred, and cannot create new events. Thus it will inevitably underestimate uncertainty.) This is an important caveat, and hopefully will encourage those analysing CMIP ensembles to include more than one ensemble member from each model in their analysis. Appendix A is a useful way to manage this issue within the context of the existing paper.

Again, we thank the referee for this suggestion.

I just spotted a couple of technical issues with Appendix A. On line 453, I believe that "r10" should be "r11".

This is corrected.

And on line 457, I believe that "r14" should be "r11".

No. This is actually r14, as explained slightly later in the text. We chose not to use the coldest event of r11, which is much colder than the coldest TG15d of all the other simulations, but a more typical cold TG15d (i.e. r14). This is explained around line 445. We do not reach as cold temperatures as in r11 with the SWG starting with r14 conditions (Figure A1).