

Reply to Editor comments of “Simulating record-shattering cold winters of the beginning of the 21st century in France”

We thank the editor for their evaluation of the manuscript and their additional comments. Our replies are in **red**.

- in the first round of reviews, reviewer 1 said “the conclusion of the study is missing in the abstract. I suggest to add 1-2 sentences at the end, that resume the importance of the work.” This has not been sufficiently addressed, the last sentence still does not describe what you find, where an outlook would be more fitting.

The abstract was modified to make the conclusions of the study clearer. (L14-17)

Reviewer 1 also suggested to go over the manuscript to do language corrections. I’m adding my suggestions here, but please note that these are not comprehensive, and you may want to go over the manuscript again to improve readability.

We thank the editor for the suggested corrections. Additional language improvements have been made along the manuscript to improve readability.

abstract: use “allow” + object

Ok, correction made. (L4)

reviewer 1 comment: “L102-109: it would be helpful if you could highlight in the figure the strongest cold spells mentioned.”

The figure in the revised version looks unchanged without the highlights, please check.

Black vertical dashed lines were added to the figure to outline the events mentioned in the text.

line 67: “during which climate has been warmer”

Ok, the sentence was rephrased.

line 68: “simulating an ensemble”

Ok.

line 71: 50 ensemble members or 50 ensembles?

The sentence has been clarified to “50 ensemble members”.

line 105, 111: change “time scales” to “event durations”?

Ok, we reformulated (L106-115)

line 106: minimum value of temperature for each event?

We modified the sentence for clarification. The formula refers to an even value of the duration r . (L108)

line 107: might want to explain what t is before using it, e.g. say “over all time steps t ”

Ok. (L108)

line 117: "This Gaussian interpretation" -> could you explain a bit more? e.g. sth like "the assumption of ... to be Gaussian"

We clarified accordingly. (L119)

line 141: "analog years"

Ok.

line 169: "avoids discussions": might want to change to sth like "allows for an interpretation independent of the scaling..."&

The sentence has been rephrased. (L172-174)

line 171: correct: "at each time step"

Ok.

line 219: "we simulated" would suggest to stay in present tense, see reviewer suggestions for abstract.

We modified the text to keep the present tense.

385: "analog quality"

Ok.

Figure C1 caption: "plain lines" -> "solid lines" also, if you write "(dashed lines)" then should also say what the dotted lines are.

Ok. We modified the caption accordingly. The meaning of dotted lines has been added.

Figure D1: "as in Fig. 6 for" ?

The caption of figure D1 has been corrected by adding instead "The color scales have a wider range compared to Fig. 6 as they are fitted for individual events".