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Geoscientific Model Development Discussions
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Interactive comment on "AtmoSwing: Analog Technique Model for Statistical Weather forecastING and downscalING" *by* Pascal Horton

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Thanks to the reviewer for his positive review and his constructive comments.

Comment 1:

P1 L1: I would not use the term "prediction" as, in my point of view, the AMs are not forecasting methods by themselves, but rather adaptation methods, which link predictand to predictors (as it is well explained by the author himself p.7, l6-25).

Reply: The first sentence has been changed, as well as other uses of the term "prediction".

Comment 2:

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P2. L7-8: "(. . .) one describing the situation (. . .)" you should specify that these are 'historical situations' that will be compared to the situation at hand.

Reply: Thanks for the suggestion; this was added.

Comment 3:

P3 L23-13 : I do not agree to the terms "partially independent forecast". As express before, the AMs are not forecasting methods. The forecasting capacity is due to the NWP. The AMs are adapatation methods that can enhance the forecasting skill of the NWP.

Reply: I do agree with reviewer 1, and this was the meaning of "partially". However, to avoid confusion, this has been changed to "statistical adaptation".

Comment 4:

P4 L20-21 : these results were obtained considering daily rainfall (for shorter time-step, we may assume that we could use shorter archives).

Reply: Thanks for the suggestion; it was added to the manuscript.

Comment 5:

P7 L31 : Indicate that the CRPSS score used in Fig. 1 is explained section 3.6.2. Indicate also what is the reference forecast used to compute the CRPSS

Reply: This has been added to the caption of Fig. 1.

Comment 6:

P15 equation (2) : I think the subscript i of H must be removed.

Reply: Correct, thanks for identifying this.

Comment 7:

P17. Section 4 : All this section is very interesting. Is it possible to add the computing

time requested by the Monte-Carlo simulation, the sequential calibration and the GAs calibration, for each case? The comparison of these computing times with the obtained skills might be quite interesting.

Reply: Thanks for your feedback. The following paragraph was added: "In terms of processing resources, all experiments were done under similar conditions, i.e. using 16 cpus on a Linux cluster. For 2Z, the sequential calibration took 7 min (time is expressed as wall clock time), Monte Carlo took 12.9 h (50,000 evaluations), and GAs took 11.6 h on average (41,000 evaluations on average). For 2Z-2MI, the sequential calibration took 12.5 min, Monte Carlo took 16.8 h, and GAs took 20.4 h on average (61,000 evaluations on average). The computation time should be taken into account in the choice of a calibration strategy."

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