The two referees have evaluated positively the paper, and recommend acceptance, subject to minor revisions.

Referee 1 (who has let his name known, and is Ian Grooms) has a major comment about Section 3 of the paper, which he finds a 'bit too vague', and for which he would like clearer explanations. He has in addition a number of minor, mostly editorial, comments.

Referee 2 has also a number of minor comments, which have to do with both scientific and editorial aspects.

I as Editor have also a number of comments (I mention that there seems to be a shift of a few units between the line numbers below and the ones mentioned by the referees).

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1. I wonder in particular what the virtues of the extended PESE-GC ensemble are. I am sure these virtues are described in the previous publications of the author (in particular Chan *et al*., 2020, and Chan, 2022), but it could be useful to say a little more in the present paper for readers who are new to that method. From what I understand, specific properties of the extended PESE-GC ensemble are that it has the same mean and covariance matrix as the forecast ensemble, that it preserves through PPI the marginal distributions of the forecast model variables, and that it is numerically very economical. Would any other ensemble expansion method that had the same properties (maybe there is not any) be as useful ? In particular does the CAC2020 algorithm (subsection 2.1) introduce additional properties of interest ? Additional explanations on those points, even succinct, could be useful (this aspect may have to do with Referee 1's major comment).

2. My understanding is that the CAC2020 algorithm is implemented between steps 3 and 4 of the PESE-GC procedure (ll. 122-126). Say it there. And, if I am mistaken, additional appropriate information will be useful.

3. Step 3 of PESE-GC and subsection 2.3. Is the need to adjust the mean and variance of each variable to 0 and 1 due only to the finiteness of the forecast ensemble ? If yes, say it explicitly. If no, explain more clearly.

And for a number of editing comments

4. Eq. (2), denominator on the rhs $N_E \rightarrow N_V$

5. Eq. (4). What does Chol(.) exactly mean here ? The Cholesky decomposition of a symmetric matrix $\boldsymbol{C}$ is defined by $\boldsymbol{C} = \boldsymbol{U}\,\boldsymbol{U}^{\mathrm{T}}$, where $\boldsymbol{U}$ is a triangular matrix. What is Chol($\boldsymbol{C}$) in Eq. (4) ? Either one of those two triangular matrices, or what ?

6. Ll. 81-82. I presume the $\omega_{i,j}$'s are mutually independent ? Say it explicitly.

7. L. 109. Since no particular meaning would apparently be given to $F_i(x_j)$ for $i \neq j$, one index i is sufficient (the double index may actually be confusing). I suggest to write $F_i(z)$, where z is a dummy real argument.

8. End of caption of Fig.5. *dashed … lines* → *dotted …*

9. L. 241, values of variance of the observation error σ^2 do not make much sense without some appropriate scale of reference (for instance, the climatological variance of the solutions of the L96 model).

10. L. 386 and further below. Gaussian variable $G(x_1; -1, 2)$. The argument x_1 is here useless. And why not use the established notation $\mathcal{N}(-1, 4)$ for gaussian variables ($\mathcal{N}$(expectation, variance)) ?

11. L. 79, I_N *is* ***the*** *... identity matrix*

12. L. 237, … *the model variable interpolated to location* … Which kind of interpolation ?

I cannot as Editor take a decision or even give a formal advice as long as the Interactive Discussion, to which any member of the scientific community can contribute, has not been closed. I nevertheless encourage the author, if he has not already done so, to start preparing a revised version of his paper, taking into account the comments and suggestions of the two referees, as well as my own. A revised version will have to come with a point-by-point response to all of these comments and suggestions. Should the author disagree with one particular comment, or decide not to follow one particular suggestion, he will have to state precisely his reasons for that.