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Geoscientific Model Development Discussions

Interactive comment on "Weather and climate forecasting with neural networks: using GCMs with different complexity as study-ground" *by* Sebastian Scher and Gabriele Messori

Anonymous Referee #2

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This paper is a substantial contribution to modelling science within the scope of this journal, containing new concept of producing statistical model for weather forecast by emulating a simplified GCM model, using neural networks. I recommend this paper for publication after minor revision.

Two major points have to be clarifide, otherwise it is difficult to understand the method and results presented in the paper. 1. Naming models. In the paper the same name is used for the GCM and NN emulation of this GCM (e.g., PLASIMT21). This kind of naming create confusion and makes understanding the method and results difficult. 2. What is used as "truth" in Section 2.4 and in Section 3. Are statistics shown in Section

3 represent the accuracy of NN emulations of different models (e.g., NN emulating PLASIMT21 vs. PLASIMT21) or the accuracy of NN emulations vs. reanalysis (e.g., NN emulating PLASIMT21 vs. ERA or NCEP/NCAR reanalysis)?

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