

Interactive comment on “Failure analysis of parameter-induced simulation crashes in climate models” by D. D. Lucas et al.

Anonymous Referee #2

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This paper is a very well written explanation of how a machine learning technique was applied to predict failures in a parameter sweep ensemble of a the POP model. However, major revisions are required before it could be accepted in GMD.

Its not clear how applicable this technique is for other models and thus if it could be a tool for model development. Most parameter sweep studies don't contain cases that cause the model to crash and the binary (succeed/fail) nature is crucial to their machine learning technique. If there are such other climate model parameter studies with failures, the authors should include a discussion of them. There is no discussion of any other parameter sweep studies with climate models (such as climateprediction.net).

GMD is very concerned with reproducibility. There are no pointers to where others could get either the original data for training and validating the model or the code for

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calculating the probabilities and other parts of the machine learning model. These must be added for publication to be considered.

Interactive comment on Geosci. Model Dev. Discuss., 6, 585, 2013.