

## ***Interactive comment on “The Cloud Feedback Model Intercomparison Project (CFMIP) Diagnostic Codes Catalogue – metrics, diagnostics and methodologies to evaluate, understand and improve the representation of clouds and cloud feedbacks in climate models” by Yoko Tsushima et al.***

### **Anonymous Referee #1**

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The manuscript organizes and briefly describes various diagnostics, together with programming codes, which are currently available in the CFMIP diagnostic code catalogue. The diagnostics can be applied to climate model output to evaluate model performance, to understand representation of key physical processes that contribute to model differences, and improve the representation of clouds and cloud feedbacks in

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climate models. Having various diagnostics approaches catalogued and maintained in a single repository is extremely helpful and is a valuable contribution to the research community. Thus, I recommend acceptance with a few minor revisions listed below.

\*It would be helpful if the authors provided sample input data and output results so that if the code needed to be re-written in another programming language it would be easier to reproduce the original output results.

\*It would be helpful if the authors included a table in the beginning of Section 3, which would display some details of each diagnostics approach described in the article (i.e. Why that diagnostic was useful, what input data it required, etc).

\*For one of the diagnostics included in the article, I found that, in the original paper (Sherwood et al., 2014) the authors restricted measurements to tropical ocean regions from 160 W to 30 E to compute the D parameter. However, in the code provided in GitHub repository in support of the article, the authors use area between 160 W and 45 E to compute the D. I would recommend keeping the method used in the code consistent with the original research.

\*Figure 3: I think this Figure is unnecessary and I suggest removing it.

\*Figure 8: I have difficulty reading the text associated with the colorbars.

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Interactive comment on Geosci. Model Dev. Discuss., https://doi.org/10.5194/gmd-2017-69, 2017.

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