

Geosci. Model Dev. Discuss., referee comment RC3
<https://doi.org/10.5194/gmd-2022-133-RC3>, 2022
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Comment on gmd-2022-133

Anonymous Referee #3

Referee comment on "Data assimilation for the Model for Prediction Across Scales – Atmosphere with the Joint Effort for Data assimilation Integration (JEDI-MPAS 1.0.0): EnVar implementation and evaluation" by Zhiquan Liu et al., Geosci. Model Dev. Discuss., <https://doi.org/10.5194/gmd-2022-133-RC3>, 2022

This manuscript introduces the JEDI implementation with MPAS of an EnVar system on a coarse scale. The manuscript is well written but does need a few tweaks to finish it. My specific comments are below

- 1) The abstract is too long, it needs to be a concise summary of the manuscript, not read like the introduction.
- 2) Please use standard notation from Ide et al 1997 where it should be $\mathbf{h}(\mathbf{x})$ for nonlinear observation operators and $H\mathbf{x}$ for linear.
- 3) The caption for figure 1 is unacceptable and needs to concisely explain what is in the figure