

Geosci. Model Dev. Discuss., referee comment RC2
<https://doi.org/10.5194/gmd-2022-155-RC2>, 2022
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Comment on gmd-2022-155

Anonymous Referee #2

Referee comment on "The Mission Support System (MSS v7.0.4) and its use in planning for the SouthTRAC aircraft campaign" by Reimar Bauer et al., Geosci. Model Dev. Discuss., <https://doi.org/10.5194/gmd-2022-155-RC2>, 2022

Review on Bauer et al. 2022

Bauer et al. provide an overview of the recent developments of the Mission Support System (MSS) version 7.0 together with examples from the SouthTRAC aircraft campaign in 2022. The authors present this very impressive tool and its capabilities for sophisticated research flight planning. The paper gives an overview of the core features of the software and shows examples for typical use cases from the SouthTRAC campaign. The manuscript is well organized and written, but the quality of the figures can be somehow improved (see general point). Overall this work is well within the scope of GMD and should be published after addressing minor revisions as listed below.

General points:

- Font sizes of all figures are very small. In particular screen shots of MSUI windows or plots are so small that it is hard to read any of the text on buttons or axes. Sometimes I need to zoom up to 300% into the figure to read anything.
- At some points of the manuscript, it seems like this paper is aiming to be a documentation for MSS (e.g. when the names of certain python scripts are mentioned for certain settings). This may be helpful for MSS users, but is not very consistent throughout the paper. I would suggest to leave such details for the documentation and mention this documentation instead.

Specific points:

- Line 61: "Windy (win)" - is "win" the abbreviation of Windy?
- Figures 1&2: The text in this figure is hard to read without zooming in a lot.
- Figure 1 and/or line 86: Please define "WSGI"
- Line 89: "This configures the desired plotting layers": What is exactly meant by "plotting layers"? Are these the options of horizontal cuts through the atmosphere that are available for plotting?
- Line 105 and following: It would be nice to have examples of the side view and linear view plot. In later figures, side view plots are shown, so it would be good to mention these

figures as examples here. Linear view plots would be also nice to see as an example.

- Line 115: Same for the table view: An example figure would be great!

- Introduction of section 3: The campaign took place already almost three years ago. Are there some exemplary papers published for the aimed objectives apart from the overview paper by Rapp et al.?

- Line 159: Define "S3D"

- Figure 4c: It seems like this flight is planned to take several hours. Does MSS account for the flight time and potential changes in the forecast during that time? Or is this side view rather a snapshot for a single model time?

- Line 170: Define "JURASSIC"

- Line 175: "The forecast data product has proven to be largely reliable for forecasting gravity wave structures visible to AIRS.": What "forecast data product" is meant in this sentence?

- Figure 5: The title of panels a and b are almost the same except of the "valid" time. But it seems obvious that the figure caption is right here that panel a shows a measurement and panel b shows a simulation. So, I guess that the title of panel b is wrong, since it does not show AIRS data.

- Section 3.1.3 does only contain two sentences and could be either expanded or omitted.

- Section 3.2: It is great that examples are mentioned in such detail and that way points are given for certain figures. But unfortunately, it is very difficult to recognize these way points without zooming into the figure up to 300%.