

***Interactive comment on* “Evaluation of Global Fire Weather Database re-analysis and short-term forecast products” by Robert D. Field**

Anonymous Referee #1

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The manuscript entitled “Evaluation of Global Fire Weather Database reanalysis and short-term forecast products” compares the FWI computed from MERRA2 reanalysis to global weather stations and evaluates the skill of FWI forecasts from NASA GEOS-5 weather forecasts up to 8 days lead time. The assessment of FWI bias concerning weather stations follows upon previous works at a regional scale and a recent global comparison with another reanalysis (ERA-Interim). The evaluation of FWI short-term forecast skill is the first at a global level, providing new insights. The manuscript read well and the overall presentation quality (structure, figures, tables, etc) is good, while the results are well described and discussed in some depth regarding several related works. As such, I believe the manuscript can be accepted with relatively minor changes as it presents a relevant contribution that is of interest to the wider fire community.

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While the processing of the weather station data is thoughtfully described, the description of the datasets should be made more straightforward. The title of the manuscript refers to the evaluation of GFWED but, through the text, the GFWED is sporadically mentioned, being the FWI data referred to as MERRA2 FWI or GEOS-5 FWI. I am afraid this may lead to some confusion, and I suggest starting the Data and Methods section with a brief description of MERRA2, GEOS-5 and GFWED. Also, in the Data and Methods section, it is not clear what reference data is used to evaluate FWI forecast skill. Additionally, there are several references in the Introduction that are missing in the references section (e.g., references at P1 L37/38). Finally, I believe the manuscript would benefit from a conclusion section summarizing the main results. In the current form, the ending feels unexpected as if something is missing.

Specific comments P1 L21 – it should be made clear that FWI consists of three moisture codes and three fire behavior indices before describing the two groups individually; I suggest moving the description FWI inputs (P1 L40-41) to before the description of each FWI component; P8 L277 - section 4 “GEOS-5 FWI forecast evaluation for 2018” should be a subsection of results (section 3).

Technical corrections P1 L9: “NASA he Modern-Era” should read “NASA Modern-Era”; P1 L24: “from” should precede “temperature”; P1 L31: “mm” is missing after “2.8”. P6 L200: “FIRESEASON” should read “FIRESEASON” (the same typo appears several times throughout the text).

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