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Interactive comment on "Observations for Model Intercomparison Project (Obs4MIPs): Status for CMIP6" *by* Duane Waliser et al.

Anonymous Referee #2

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Obs4MIPs is a quite important tool for the climate modeling community to use to evaluate model output. It is really useful to pre-filter the vast amount of observational data to identify the subset directly comparable with fields output by models. This paper provides a straightforward update of the Obs4MIPs project to support CMIP6, and should be largely publishable in its current form with a few minor tweaks.

Minor Issues

The draft is currently a bit unclear as how to to effectively track which observational data is used for model parameterization and how to avoid (when appropriate) using it for model evaluation. This could be clarified.

A number of important observational datasets use fields that are not directly included

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in model outputs but can be created by combining different output fields. Examples include in-situ global surface temperature products –Âăwhich blend land SAT and ocean SSTs with specific behavior over regions with changing sea ice cover, and MSU/AMSU measurements which cover a wide range of pressure levels. The paper could more clearly discuss how such observational datasets can be used in the context of Obs4MIPs, and how the required combination of fields (e.g. pressure level weightings for MSU/AMSU) can be communicated to modelers as part of the dataset indicators or supplementary materials.

Suggestions/Corrections to the text:

Page 4 Lines 9-15: Might also be worth mentioning (here or later) the important systematic biases present in some observational datasets as well. There is an unfortunate tendency for some modelers to assume observations are necessarily unbiased and not account for structural uncertainties that is worth pushing back against.

Page 6 Line 4: I assume "(cite the COSP)" is included in error.

Page 8 Line 25: Can go ahead and define the CCI acronym here rather than on Page 9 Line 19.

Page 14 Line 1: Should that be "Data Specifications"?

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