

## ***Interactive comment on “Community Intercomparison Suite (CIS) v1.3.2: A tool for intercomparing models and observations” by D. Watson-Parris et al.***

**Anonymous Referee #2**

Received and published: 22 July 2016

This study describes the development and use of the Community Intercomparison Suite (CIS). CIS represents a novel and significant model development, allowing intercomparison of diverse climate model output and observations in both gridded and ungridded formats. In general the paper is well written with methods described clearly and thoroughly. In particular section 5 (Example scientific workflow) stands out as a very useful ‘how to’ guide to using the CIS.

Given the above I therefore recommend publication after the authors address the (pre-dominantly) minor points outline below:

Page 5 Line 25: ‘These arrays make take on any shape, though they must all be the same’. This line took me some time to understand. I presume what the authors mean

C1

is that the structure of the arrays can be any shape but all the data values (lon,lat etc) need to conform to that structure? Please could the authors clarify and amend. I would also reference Figure 2b here.

Formula 1 (page 6): Please could the authors explain this formula more fully. I understand the inequality but what is  $x \times y$  (Likewise in algorithm 1). I understand the need to adopt a consistent notation but this notation needs to be more clearly described (particularly if its not standard vector or set but a mixture)

Page 6 Line 4: change ‘Øto’ to ‘∅ to’

Algorithm 1 (page 8) change ‘iff’ to ‘if’

Page 8 Line 13: change font on ‘5°’

Page 11 Line 17: Could the authors define  $h_{sep}$  and  $a_{sep}$  to aid the reader in understanding this example.

Table 4 (page 12): Equations for the arithmetic mean and standard deviation are not formatted correctly.

Page 12 Lines 17-18 to Page 13 Lines 1-2: ‘... , those dimensions are ignored for the purposes of the collocation, and will be present in the output’ Could the authors please clarify this (important) point perhaps using a example. It’s my understanding that if (for example) you want to collocate a 2D array (data) onto a 3D sample array you will end up with a 2D result but if you collocate a 3D data array onto a 2D sample array you get a 3D array (i.e. your resulting array will always have the same dimensions as your data array). Could the authors also discuss the consequences of mis-matching the sample and data array dimensions.

Page 17 Line 27-28: ‘, but the total number of variables declared in all the datagroups must be exactly two’. The number of variables is integer so ‘exactly two’ is redundant.

Page 19 Line 13: Based on the filename, the authors use AERONET data from

C2

Agoufou I would suggest here referring to 'AERONET data from the Agoufou station' to aid readers unfamiliar with the AERONET stations.

Page 19 Line 25: 'Note that the model data can't be plotted. . . .' Throughout the paper you note when the CIS commands will not work. It would be useful to would-be users to include likely error messages when these mistakes are made.

Page 20 Line 10: Please could the authors add some description of what the results look like when you use the stats command.

Figure 11 (Page 21): Could the authors also include the commands to plot this map. This last step (plotting) seems to be missing from section 5. If possible it would also be useful to add a few more examples of the plotting capabilities of the system.

Appendix A: I feel that table 5 could be expanded to include (among others), collocation. I would also suggest adding a table defining the common inputs in CIS commands (i.e. datagroup, samplegroup etc )

---

Interactive comment on Geosci. Model Dev. Discuss., doi:10.5194/gmd-2016-27, 2016.