

## ***Interactive comment on “The CMIP6 Data Request (version 01.00.31)” by Martin Juckes et al.***

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I enjoyed reading this paper, it is clearly written and provides an in depth description of the complex infrastructure that has been developed to support the model output requirements of CMIP6. It has been fascinating to read about the methods that have been developed to tackle the deceptively simple objective to “define all the quantities from CMIP6 simulations that should be archived”. The data request infrastructure described in this paper will be of clear benefit to the climate modelling community. It allows informed decisions to be made that balance the data implications of model inter-comparison project design with the downstream capacity to manage the data. Furthermore it facilitates clear identification of the data requirements of the MIPs on each other. The production of the data request required detailed attention over a long period. I was pleased to see that the long-term sustainability of such efforts was also addressed in this paper.

C1

Some technical suggestions and corrections

P2 L22: This should be “is significantly more complicated than”

P2 L27: What do you mean by “In section 3 the DREQ is motivated”?

P3 L56: Add “the” before design

P5 L92: This makes more sense if you change “While the headlines reports” to “The headline reports”.

P9 Fig 2 Caption: It would help if you begin by saying what this is e.g. “The schematic structure of the DREQ.”

P10 Fig 2 Caption F1: I would add “appendix” before B2 so it is clear to readers that B2 isn’t an item in Figure 2.

P10 Fig 2 Caption F4: change “build in” to “built in”.

P10 L173: Add “DREQ” before “structure that has emerged”. You’ve just been talking about the DRIM so it would be good to make it really clear to readers that you’re talking about the DREQ again.

P12 L214: Should this be “Each MIP determines which CMOR variables. . .”?

P12 L220: You say “The Standard Name may be re-used up to 33 times;”. Why 33? I’m intrigued about how you arrive at this number.

P12 L227: Add “of” between “factor” and “4”.

P12 L236: typo “aas”.

P13 Fig 3: The style choice to use different box shapes and border styles in this figure will ensure that it can be interpreted by readers with impaired colour vision (and those working from grey-scale print outs).

P14 L240-L245: You capitalise some things that are objects in figure 3 but not others

C2

e.g. “Request Variables” is capitalised but “variable groups” is not. Is there a reason for that?

P14 L260: typo “formulation if units”

P14 L269: typo “and is use in the specification”

P15 L292: typo “information information”

P16 Fig 4: What are the nodes in the centre circle? (I assume they are the DREQ triples you talk about at the beginning of section 4.3) It would help to interpret this figure to know what these nodes are.

P18 L358: Add “are” between “views” and “provided”

P18 L368: Add text to say that in this instance the data type is a floating point.

P20 Table 4 Caption: typo “which is occurs”

P20 Table 4 Caption: typo “theInternational”

P21 L403: Add “of” between “definitions” and “experiments”

P21 L409: Remove the “s” from “communications”

P21 Footnote 15: At first this reads as if modelling groups aren’t able to predict when the process starts. It would be clearer if that phrase came earlier e.g. “compounded by the fact that, at the start of the process, the modelling groups. . .”

P23 L464: Add “as” between “provided” and “a”.

P23 L467: typo “KT has developed main of the. . .” should probably be “KT has developed many of the. . .”.

P23 L475-478: Remove this text, it refers to a different paper.

P28 L657: typo “COnventions”

### C3

P29 Table B1: This would be clearer if the third heading was “Experiments defined (Experiments used)”.

P29 Table B1 Caption: Add some text to explain the significance of whether or not numbers appear in brackets in the Tier columns.

P31 Table B2 uid Usage: typo “an a”

P32 Table B3: What are the significance of the numbers in the “Title” column?

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Interactive comment on Geosci. Model Dev. Discuss., <https://doi.org/10.5194/gmd-2019-219>, 2019.

### C4