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Interactive comment on "C-Coupler2: a flexible and user-friendly community coupler for model coupling and nesting" *by* Li Liu et al.

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We thank Reviewer #2 for the comments and suggestions. We will modify the manuscript according to them in the revision stage. In the following, we will reply them one by one.

1. Page 1, line 23: Have couplers (as described here) been used in disciplines other than environmental prediction? If not, combine these two sentences into one shorter sentence.

Response: We will improve the manuscript accordingly in the revision.

2. Page 1, line 29 to Page 2, line 15: There are two representative applications of CCoupler1. What does representative mean in this context? How about just say the

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CCoupler1 was built to support Chinese global and regional coupled modeling efforts? And then brieïňĆy mention limitations of C-Coupler1, which led to C-Coupler2. If the components models are mentioned, WRF, POM, MASNUM, and other abbreviations should be deïňĄned. Also, I am not sure FGOALS-g2 is a common known model and should be introduced.

Response: We will improve the manuscript accordingly in the revision.

3. Page 2 and 3, the list: Details of these features are disused elsewhere in this paper. They do not have to be discussed in the amount of detail here.

Response: We will try to shrink the content in this part in the revision.

4. Page 3, line 25: This description of Figure 1 is not clear. Figure 1 may not be needed.

Response: We will try to improve the description of Figure 1.

5. Page 4 through 8: I feel that section 3 can be summarized in a table similar to Table 10 (or use Table 10). The motivations are repeated in the Design section. Removing this section will increase readability for this paper.

Response: We will try to shrink the description of the motivations in the revision.

6. Page 8, Line 20: The items in 1) have been mentioned before. SpeciïňĄcally, the text talking about the C-Coupler should be in the motivation and this section should be more about description.

Response: We will improve the manuscript accordingly.

7. Page11, line 19ish: Throughout section 4.1, I was curious if there are defaults for each option.

Response: We will try to introduce more clearly about default options.

8. Page 15, line19: coupling ïňĄeld instances from itself. I'm not exactly sure why

a component would want ïňĄeld instances from itself? I may be missing something. Could you provide an example?

Response: We will add an example about this aspect.

9. Page 15, line 35: How is a source fraction calculated? What are the multiple sources that would be used?

Response: The source fraction used by C-Coupler2 is given by the component model via the input parameter of the corresponding API. We will introduce this aspect more clearly.

10. Page 15, line 40: Coupling procedures. Could you list some of these procedures at this point.

Response: We will introduce this aspect more clearly.

11. Page 17, line 4: CESM needs to be deïňĄned. Also, CESM has a lot of components, and I'm not sure what the model CESM means in this context.

Response: We will improve the manuscript accordingly.

12. Page 22, line 6: OASIS-MCT_3.0 needs an introduction.

Response: We will improve the manuscript accordingly.

13. Page 33, line 13: 960 cores seems small to stop the diagnostics. Many high resolution models require more than 960 cores.

Response: We only used moderately high resolution and pecounts in this paper mainly due to limited computing resource. Currently we are afraid of that we may not be able to successfully apply more computing resource although we will try.

14. Page 34, line 24: Guarantee is a strong word and you may not want backwards compatibility for all applications.

Response: We will improve the manuscript accordingly.

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