

I thought that it would be useful to carry out this review in 3 stages:

- (1) Independent thoughts on the topic based on the title of the paper alone, before reading the paper.
- (2) A review of the paper itself before reading any online comments.
- (3) Any additional thoughts after reading all online comments.

I should also declare an “interest” in that I was an IPCC AR6 Lead Author (on Chapter 7, The Earth’s Energy Budget, Climate Feedbacks and Climate Sensitivity).

### **(1) Independent thoughts**

My personal experience being involved in AR6 was that “embedding” paleoclimate science in individual chapters, rather than having a separate paleoclimate chapter, had a number of effects:

- (a) My belief is that the non-paleo Lead Authors (on the Chapter that I was involved in) were likely more aware of the paleo content of the report than they would have been if paleo was a separate chapter. As such, I expect that the paleoclimate information was better integrated into the non-paleo science of my chapter, and fed in more to overall assessment statements. A similar effect likely occurred in other Chapters.
- (b) A result of (a) was, I believe, that paleoclimate information ended up being more prominent in the Summary for Policymakers than it would have been otherwise. For example, there is a paleo figure in the SPM of AR6 but not in AR5. There are 8 specific mentions of paleoclimate information or time periods in the AR6 SPM (A.2, A.2.1, A.2.2, A.2.3, A.2.4, A.4, B.1.1, C.1.4), and 4 in the AR5 APM (B.1.4, B.4.4, B.5.2, E.7.1).
- (c) The lack of a paleoclimate chapter in AR6 makes it less useful as a “textbook” for paleoclimate information than AR5.
- (d) Although there were paleoclimate scientists as Lead Authors in several AR6 chapters, there was not one in Chapter 3, in which much model evaluation was carried out. In my view, this was a loss compared to AR5, when there was a paleoclimate scientists as Lead Author on the model evaluation chapter (Chapter 9). My impression is that, as a result of this, the use of paleoclimate data in model evaluation in AR6 was under-used (this is, in fact, an argument for distributing the paleo information across Chapters, but ensuring that is supported with paleo Lead Authors in the key Chapters).

Overall, it is my belief that paleoclimate information was better integrated into the AR6 report than into the AR5 report (although see (d) above), and as a result was more prominent in the SPM, and as a result likely better informed policymakers (which is, of course, the ultimate aim of IPCC).

### **(2) Review of the paper**

Overall, I think that this paper gives a good summary of some of the arguments in favour of distributing the paleoclimate information across chapters in AR7, as was done in AR6. However, I think that some more space could be dedicated to the opposing viewpoint, and summaries given of the main arguments in favour of the AR5 approach. In addition, some of the statements could be better evidenced.

The evidence presented focuses on the inclusion of paleoclimate information in the SPM and Technical Summary. The main purpose of IPCC is to inform policymakers, so I was wondering if this aspect can also be assessed? For example, is there evidence that there were more governmental review comments on the draft report on paleo sections in AR6 compared with AR5? Or more time spent on paleo aspects in the government approval plenary?

I'd also be interested to know how the amount of paleo information across the whole report differed in AR6 compared with AR5. This would be easy to calculate for AR5, but would require a bit of work for AR6, to add up the content across multiple chapters, although the "paleo contents page" in Chapter 2, and/or the PAGES (2021) article would be helpful for this. On this note, line 32-34: PAGES (2021) is given as a reference for "paleoscience information was covered more comprehensively in AR6-WGI than in previous IPCC reports", but that statement is not evidenced in that PAGES article, which is just a series of links to the AR6 paleo sections.

Line 35-36: It is an interesting claim that having a separate chapter stimulated more paleo research – is there any evidence for this?

Lines 59-62: Link to the Appendix which evidences this.

Line 85: Link to the Appendix which gives the exact numbers of FAQs.

### **(3) Overview of online comments (as of 19/7/2024)**

The online comments and review provide a range of views and many interesting and important points, and I would encourage the authors to incorporate these into their revised paper.

CC2: It is an interesting suggestion to include BOTH a paleoclimate chapter and integration into individual chapters. However, I feel that the integration requires paleo Lead Authors in individual chapters, and if you add to this the paleo chapter Lead Authors, this will be unfeasible in terms of the number of paleo scientists in the report compared to other disciplines.

CC6: I fully agree with all aspects of this comment, which I think supports my own independent review above.

RC1: I also fully agree with the comments in this review. However, seeing that it was another paleo scientist involved directly in AR6, and also a modeler like me, I am slightly uncomfortable with the potential biases of the reviewers; however, I think that the wide engagement of the community in commenting on the article does go some way to counter that bias.