

Interactive comment on “Modifying emission scenario projections to account for the effects of COVID-19: protocol for Covid-MIP” by Robin D. Lamboll et al.

Anonymous Referee #2

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This paper includes the documentation of the use of the Forster et al. data and a new analysis of flight data pertinent to the current conditions in the SSP2.45 data. This includes emissions and concentrations, including ozone and aerosols. The paper is rather straightforward, and serves mostly as a documentation of the COVID-mip protocol. I only have minor comments.

- 1) There are too many typos in the document (line 138, line 209, lines 281-284, line 299 (2 typos), line 310, ...) which give me the sense that this paper was hastily put together and that the primary authors did not bother re-reading before submitting.
- 2) Line 32-34: When I read that I was actually quite excited to review this paper. I feel

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this paper is far from such a demonstration. It uses the Forster paper for the most part (which IS such a demonstration) and does very little to bring new data for nowcasting analysis. I would reduce the enthusiasm stated here.

- 3) Line 46: this list of species also include ozone precursors, not just "aerosols and precursors"
- 4) Lines 87-88: what is the justification for that choice?
- 5) Line 102: where is the information necessary for interpolation at the daily data? To which sectors does this apply? Is there a consideration of the weekend effect? Who are "certain groups"?
- 6) Lines 114-115 "We will assume that no changes occurred to these sectors" What is the rationale for this assumption? Clearly that is not going to be representative of the real world since I am expecting that solvent industries were affected by COVID.
- 7) Line 139-140: "This is assumed to be globally uniform and the same across all altitudes". Why? Don't you have all the necessary information from the flight tracking?
- 8) Line 142: which "one project"?
- 9) Line 147: word missing "This produces a rather than actual daily factor". What is "everything" in "hence weekly averages are taken of everything"?
- 10) Line 155: Is it COVID-MIP or Covid-MIP? Be consistent.
- 11) Line 206: correct spelling of COVID
- 12) Line 199-201: what is the reason for this sentence. It seems relatively uninformative (why do we need to learn about nudging here?).
- 13) Sections 7.1 and 7.2 might be more useful presented in a table.
- 14) Line 237: what is the rationale for picking "strong green" as the highest priority?
- 15) Line 257: CO is not an aerosol precursor, but it is an ozone precursor. So there is

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an inconsistency in the protocol if ozone is kept as in SSP2.45.

16) Line 284: Do you mean the diagnostics as in the ScenarioMIP SSP245 simulations?

17) Section 7.4 is rather un-informative. What is the purpose of listing a few variables of interest? This could be replaced by a list of interesting angles that the authors feel justify the need for a COVID-mip.

Interactive comment on Geosci. Model Dev. Discuss., <https://doi.org/10.5194/gmd-2020-373>, 2020.