



Corrigendum to **“The Detection and Attribution Model Intercomparison Project (DAMIP v2.0) contribution to CMIP7” published in *Geosci. Model Dev.*, 18, 4399–4416, 2025**

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Since the publication of this paper we became aware that despite our intention to include a complete set of forcings across the DAMIP v2.0 main historical simulations, time-varying fertilizer application rates, population density and nitrogen deposition were not explicitly included in any DAMIP v2.0 simulations. In LUMIP for CMIP6, Lawrence et al. (2016) recommended that fertilizer application should be held fixed in experiments in which land use was held fixed. Further, given that in some models population density drives fire ignition and suppression probabilities, Lawrence et al. (2016) also recommended that population density should be held fixed in such fixed land use experiments. Therefore, we request that modelling groups include time-varying fertilizer applications rates and population density from the historical (1850–2021) and Medium scenario (2022–2035) simulations in their land use and land cover change only hist-lu and esm-hist-lu simulations. Further, since nitrogen deposition is driven in part by ammonia from agriculture, and since it impacts carbon uptake by

the land biosphere, we also request that modelling groups include time-varying nitrogen deposition from the historical and Medium scenario simulations in their hist-lu and esm-hist-lu simulations. We note that nitrogen deposition is also driven by emissions of nitrogen oxides from fossil fuel burning, but we elect to keep these two components of nitrogen deposition together to simplify the experimental design and avoid any need to develop new driving datasets for DAMIP v2.0. Note that while we do not expect these forcings to have a large direct climate effect, we do expect that by fertilizing the land biosphere, fertilizer application and nitrogen deposition will tend to increase land carbon uptake, while increasing population density will also tend to increase land carbon uptake due to increased wildfire suppression. These factors will tend to compensate for part of the carbon emissions directly associated with land use and land cover changes over the historical period. Fertilizer application, population density and nitrogen deposition should remain fixed at piControl levels in all DAMIP v2.0 experi-

ments except hist-lu, esm-hist-lu and historical-CMIP6. Finally, we noticed that the description of hist-lu and esm-hist-lu only erroneously indicated that other forcings should be held fixed at 1850 levels, whereas they should be held fixed at piControl levels, which differ in the case of stratospheric aerosol.

Based on this discussion the first sentence of the description of hist-lu in Sect. 3.1.2 should be revised to read “hist-lu: these simulations parallel the historical and Medium simulations but are forced with prescribed land use and land cover, fertilizer application, population density and nitrogen deposition changes only from the historical and Medium scenario simulations, with all other forcings held constant at piControl values”. The description of esm-hist-lu in Sect. 3.3 should be revised to read “esm-hist-lu: these interactive-CO₂ simulations parallel the esm-hist simulations but are forced with prescribed land use and land cover, fertilizer application, population density and nitrogen deposition changes only, with all other forcings held constant at piControl values”. The description of the forcing agents perturbed in hist-lu in Table 1 should be amended to read “land use, fertilizer application, population density and nitrogen deposition” and the description of the forcing agents perturbed in the historical and Medium scenario, and historical-CMIP6, should be amended to add fertilizer application and population density (nitrogen deposition is already listed). Finally we have learnt that LUMIP is no longer proposing hist-noLu simulations for CMIP7, therefore this sentence in Sect. 3.1.2 should be disregarded: “Note that hist-noLu is also a proposed LUMIP experiment for CMIP7, and hence hist-lu and hist-noLu could be used together to evaluate the additivity of the land use change response and the response to other forcings.”