

Interactive comment on “Climate and chemistry effects of a regional scale nuclear conflict” by A. Stenke et al.

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Professor Toon's short comment is one of the two referee reports invited for this paper, so the discussion phase will be closed as normal on 3rd July. I also have two comments on the paper from an editorial point of view.

First, adjectives without scientific meaning need to be removed. From the abstract: "tremendous self-lofting", "massive sea-ice formation", "chilling coldness"; section 4.2: "massive continental cooling"; section 4.5: "massively increased stratospheric temperatures". These might be found in a newspaper article but even there, such overly dramatic language might be counter-productive, causing people to take the article less seriously. A scientific paper needs to be precise and quantitative. For example, say "an

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N% increase in sea-ice cover", not "massive sea-ice formation"; say "continental cooling of up to 7 degrees", not "massive continental cooling". If emphasis is needed, set these points in a context that makes it clear how exceptional they are. For example, it might be possible to compare that N% increase in sea-ice cover to normal inter-year variability.

Second, the conclusion needs to be more careful to reflect the content of the paper itself (e.g. that it provides independent confirmation of the climate consequences of nuclear wars) and not to confuse that with results or speculation from previous studies (e.g. the downstream consequences of those climate changes). In the final paragraph of the conclusion, the sentence "The climatic consequences of a nuclear war ... would cause massive reductions in agricultural production ... resulting in mass starvation for most of the world's population ..." is particularly problematic. Given that no citation is attached, the implication is that these are the results of the current paper. The paper does show large changes in global temperature that quite possibly would cause these effects. However, it cannot quantitatively support the statement in the way that (perhaps) crop-yield model simulations would.

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