

## ***Interactive comment on “European emissions of isoprene and monoterpenes from the Last Glacial Maximum to present” by G. Schurgers et al.***

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We thank the reviewer for the accurate summary of our work and the recommendations on improvement of the manuscript. A short reply to the remarks is provided below.

*Could you add a sentence or two either in the introduction or both the abstract and introduction commenting on the impact of increasing surface ozone levels and the consequent damage to leafs and the photosynthetic processes.*

The interrelation between biosphere and atmospheric chemistry will be described in more detail in the revised version of the manuscript: “Apart from that, O<sub>3</sub> affects plant physiology because of its toxic nature, thereby causing local feedbacks to photosynthesis (e.g. Sitch et al., 2007) and thus emissions, as well as to fluxes of BVOC by reactions within the plant and the canopy (e.g. Loreto et al., 2001).”

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*In the description of the simulations on pages 8811 and 8812 I would like to have a bit more detail on the time slice experiments. It is not clear, at least to me, how these were conducted. [...] Please add a few sentences explaining the time slice experiments in more detail.*

The description of both the transient experiments and the time slice experiments was somewhat confusing. We will change the order of the sentences in the revised manuscript, and will add a sentence on spinup and integration times: “Changes in physiology and species composition were studied by applying data from climate simulations for the current interglacial as well as for the last glacial-to-interglacial transition. Two sets of simulations were performed: a transient simulation for the current interglacial (the Holocene, 9 ka before present (B.P.)-present), and a set of disjunct time periods or time slices covering the glacial-to-interglacial transition (21 ka B.P.-present, with slices covering most of the 1000-year intervals). In both cases, a detrended set of CRU data for 1901-2000 was used repetitively as forcing. Superimposed on this 100-year data set were anomalies from paleoclimate simulations with general circulation models. The transient simulations were integrated for 9000 years, preceded by a 300 year long spinup. The time slice simulations were integrated for 100 years, again with a spinup of 300 years.”

The technical remarks from the reviewer will be taken into account when revising the manuscript.

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