

Interactive comment on “Instability of Northeast Siberian ice sheet during glacials” by Zhongshi Zhang et al.

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Received and published: 11 August 2018

Thanks for reading and commenting our manuscripts. We will take your suggestions into account in the revised version. Here, we provide some quick replies to your questions.

In our experiments, the vegetation modification from taiga forests to tundra leads a strong cooling in NE Siberia. We show this in the supplementary figures. Forced by the change in orbital parameters and the decrease of atmosphere CO₂ level, a cooling leads to a vegetation degradation to tundra, which further causes albedo feedback and favours ice sheet growth on NE Siberia.

In the manuscript, we only show simulated results from two-group of experiments, the

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Pi group with the modern land-sea distribution, and the Pb group with the Barents Sea closed. All results from these two groups are illustrated in the supplementary materials. Moreover, we have tested many experiments with the land-sea distribution modified. For example, we once closed the Bering Strait, and exposed Arctic continental shelf in our experiments. However, the changes in land-sea distribution do not influence the major conclusion found in the paper.

In the revised the version, we will add the introduction for GRISLI, and the references needed.

Interactive comment on Clim. Past Discuss., <https://doi.org/10.5194/cp-2018-79>, 2018.

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