

The Cryosphere Discuss., author comment AC6
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Reply on RC6

Jinlei Chen et al.

Author comment on "Perspectives on future sea ice and navigability in the Arctic" by Jinlei Chen et al., The Cryosphere Discuss., <https://doi.org/10.5194/tc-2021-35-AC6>, 2021

Thanks for your review and constructive comments. Indeed, there are considerable difference between model computations and real ship navigation for the uncertainties of model simulations and the influences of other complicating factors in terms of hydrology, meteorology, facilities, geography, political restrictions, but this research might still has some implications for the navigation in the future. Ship navigation may be well made under model certainty and high resolution, but the ensemble mean reduces uncertainty at the expense of resolution. Therefore, the possible navigable time rather than specific shipping routes planning was mainly investigated in this research. We did not do correlation between model results and historical ship navigability because the real ship navigability is influenced by many other subjective and objective factors in addition to the sea ice thickness and concentration which just taken into account in this paper. The uncertainty was discussed in the revised manuscript.