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Interactive comment on "Rapid marine deglaciation: asynchronous retreat dynamics between the Irish Sea Ice Stream and terrestrial outlet glaciers" *by* H. Patton et al.

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Review of 'Rapid marine deglaciation: asynchronous retreat dynamics between the Irish Sea Ice Stream and terrestrial outlet glaciers' by Patton et al.

This is an interesting paper. It uses newly obtained echo-sounder data to map the a large basin and interpret the surface in the context of glacial dynamics. It then uses a combination of interpretation of the echo-sounder data and model results to understand glacial dynamics. It places glacial dynamics in context of the landscape and climate history very well. Overall the paper is very well written and easy to follow.

Interestingly the authors describe the complexity of what first appears to be a simple

issue well. Importantly, for those who are not familiar with the glacial history of the region and its interpretation, the paper is very accessible.

The Abstract is clear and summarises the paper well, the Introduction sets the paper up well, the mapping and interpretation appears logical and complete while the sequence of events and conclusion pull the paper together nicely. The Figures are all relevant and display the necessary information with a minimum of fuss.

There are no significant issues with this paper and it is recommended that the paper be published. Both Reviewers have very positive reviews but offer some very good suggestions to improve the paper.

I also have a few suggestions that would improve readability and overall access to the paper.

1. The first paragraph in Section 1.1 could be broken into smaller paragraphs. The section is very long and the reader gets a little lost in a section this big. 2. It would be good to understand a little more about the study site. Why is this site important, why was it selected? How does it fit within the overall context glaciation and climate history? For those with little understanding of the topic and those not familiar with the location with would greatly help. 3. Section 3. For those not familiar with the modelling and its findings, a description of the model itself would help here. This would greatly improve access to those again not familiar with the area.

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