

Interactive comment on “Tracking B-31 iceberg with two aircraft deployed sensors” by D. H. Jones and G. H. Gudmundsson

Anonymous Referee #1

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General comments

This paper addresses a relevant question within the scope of NHESS, i.e. the tracking of icebergs that are potential hazards to shipping especially given the increasing amount of ocean traffic in polar areas. The paper discusses existing monitoring strategies and their limitations and describes how the new method presented here is a useful addition to these. Technical details of the design of the ADIOS system are described sufficiently clearly for a non-expert to understand them. A case study is then given for the B31 iceberg from Pine Island glacier, Antarctica.

Specific comments

I have one main comment that I believe does need to be addressed. The others are all
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minor but I believe could improve the paper if the authors have the relevant details.

Main comment

The case study is for B31 which is a very large iceberg. Presumably the larger an iceberg is the easier it is to deploy ADIOS. Most icebergs are much smaller than B31. Therefore a brief discussion is needed on the effectiveness of deploying ADIOS on smaller icebergs. I assume this has not yet been attempted, but any potential problems in deploying on much smaller icebergs could be discussed as well as an estimate of the smallest size of iceberg that could realistically have ADIOS successfully deployed on it. This would strengthen the paper as otherwise a reader may feel the ADIOS units are only of use on very large icebergs like B31.

Other comments

Section 1 Introduction. Figure1 shows the number of tourists visiting Antarctica. If the data is available then also plotting the number of ships this corresponds to on the same figure would be interesting.

Section 2 Existing Monitoring Strategies. Page 4162 lines 9 and 13. Could values for the typical ranges of helicopters and fixed wing aircraft be added here, to help clarify how much greater range the latter have?

Section 4 Case Study: tracking B-31. Page 416, line 25-26 and Figure 6. Is it known which of the larger fragments of B31, that can be clearly seen on figure 6, has an ADIOS on it? Could the locations of both ADIOS be shown on figure 6?

Technical corrections

Section 1 Introduction, page 4610 line 17. A word must be missing (such as dropped, reduced etc.) after “and” in the sentence ending “, and since the global economic crisis in 2007”.