

Interactive comment on “Speedup and fracturing of George VI Ice Shelf, Antarctic Peninsula” by T. O. Holt et al.

Anonymous Referee #1

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This is an extremely well written, carefully presented manuscript that documents 40 years of the physical conditions and flow of one of the major, fiducial ice shelves on the Antarctic Peninsula. The work offers important insight into the decades long sequence of changes in the ice/ocean/atmosphere environment that have led to the collapse of surrounding ice shelves, and to significant changes on the ice shelf of study.

The manuscript is so carefully crafted that there is really little to be said in the way of suggesting improvements. In my view, the manuscript can be accepted for publication as it currently stands.

I did have two questions that arose during reading; but these are more expressions of what might be of interest in future study, not necessarily something for the authors to consider in the way of a minor revision:

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1. Can anything be said about the style of calving for the various periods of ice-front retreat discussed for both the North and South ice fronts? Is it possible to say whether any of these ice-front calving events were “Larsen B style”? Were there discrete tabular icebergs (e.g., named icebergs using the National Ice Center of the US naming scheme?) produced that were subsequently tracked, or were the calving events “quiet and unseen,” not bringing attention to themselves?

2. The increase in fracture density for the southern ice front region is very interesting. Is it possible to give a sense of what proportion of these fractures may be through cutting? . . . ditto for what kinds of dimensions these fractures would have in the way of length and separation? Were there similar increases elsewhere, or was the opportunity to study the fracture density elsewhere not possible?

Interactive comment on The Cryosphere Discuss., 7, 373, 2013.