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Interactive comment on “Brief communication “The 2013 Erebus Glacier tongue calving event” by C. L. Stevens et al.

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This paper describes a new calving event of Erebus Glacier tongue in western coast of Ross Island (Antarctica). The main tools used in this study are the satellite image and previous maps and records.

The manuscript subject is appropriate for the Cryosphere and data are interesting. Much uncertainty regarding iceberg calving and basal melting processes makes it difficult to determine the present ice-sheet mass balance. However there are some issues and the manuscript must be improved.

My main concerns are the following issues: Previous authors pointed out that the main driver of calving event were ocean waves coming from north and absence of fast ice,

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no data about the ocean situation is reported from the 2013 calving event, whereas the authors point out a maximum wind speed of 12 m-s, whereas weather forecasting point out strong wind on February 23. The authors suggest variability of glacier tongue velocity, but do not discussed this important issue. Authors point out a curious arrest in propagation in the 70s and 80s, but they do not use the Delisle record of 1985. Frezzotti 1977 pointed out small calving event between 1978 and 1985. The calving line of 1990 and 2013 is coincident with the most accentuated linear snow-filled depressions, these are interpreted as the surface expression of bottom crevasses and become accentuated from the generation point to the ice front and are the preferential line of major rift formation and subsequently of calving (Frezzotti et al., 1998), this is an important point for calving process and recurrence of calving should be more analysed.

Interactive comment on The Cryosphere Discuss., 7, 1749, 2013.

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