

The Cryosphere Discuss., referee comment RC2
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Comment on tc-2021-65

Anonymous Referee #2

Referee comment on "Development of a subglacial lake monitored with radio-echo sounding: Case study from the Eastern Skaftá Cauldron in the Vatnajökull ice cap, Iceland" by Eyjólfur Magnússon et al., The Cryosphere Discuss.,
<https://doi.org/10.5194/tc-2021-65-RC2>, 2021

This is a nicely presented and well written paper, covering a topic suitable for publication in The Cryosphere. The approach is valid and clearly explained; conclusions are supported by results; and study limitations are considered in appropriate detail. I suggest publication subject to the very minor edits listed below.

Ln 44. 'a depression' is singular, 'ice cauldrons' is plural. I suggest 'an ice cauldron'.

Ln 52. Replace 'date at back' with 'date back'.

Line 77. Replace 'made it possible to map of the' with 'made it possible to map the'.

Line 78. Delete 'possible' (following the word 'observations').

Line 84. Replace 'not be a clear' with 'not a clear'.

Line 102. Replace 'as well as an annual estimate the area' with 'as well as annual estimates of the area'.

Line 110. Replace 'Eastern Skaftá Cauldron' with ESC.

Line 116. Replace 'were defect' with 'were defective' [or something similar].

Line 124. Replaces 'by towing with a snowmobile a low frequency transmitter' with 'by towing a low frequency transmitter with a snowmobile'.

Line 128-130. This sentence (starting 'The y-axis'...) is unclear. I suggest re-wording.

Line 134. Delete 'the' (before the word 'half').

Line 195. Delete 'now' (before the word 'split').

Line 197. Delete 'now' (before the word 'merged').

Line 216. Delete 'now' (before the word 'compared').

Line 217. The word lake 'thickness' is used here and throughout the manuscript. Though a subglacial lake, is 'depth' more appropriate than 'thickness'?

Line 277. Replace 'areas of' with 'area of'.

Line 287. Replace 'August same' with 'August the same'.

Line 294. Replace 'possible' with 'possibly'.

Line 296. Replace 'volume few' with 'volume a few'.

Line 321-21. Replace 'east of boreholes' with 'east of the boreholes'.

Line 354. Replace 'approximately same' with 'approximately the same'.

Line 390. 'observations on roof elevation there is also an observation on bedrock' with 'observations of roof elevation there is also an observation of bedrock'.

Line 584-585. Delete the second 'near' in the sentence: 'The ice surface geometry near the station near in the village'.

Line 634. Replace 'on the lake volume' with 'of the lake volume'. Also, this is the first point in the conclusions where 'the lake' is mentioned. It might be worth stating at this point that you are referring to a subglacial lake beneath an ice cauldron (rather than saving this to later in the conclusions).

Line 365. Replace 'a key knowledge' with 'key knowledge'.

Figure 1 caption. Replace 'inlet' with 'inset'.

Figure 2 caption. Replace 'inlet' with 'inset'.

Figure 6 caption. Replace 'ESK' with 'ESC'.