

Comments to manuscript: Giant mid-Holocene landslide-generated tsunamis recorded in lake sediments from Saqqaq, West Greenland

This is a well-conducted study, a fairly well-written and very well-illustrated manuscript. I am convinced that the two layers interpreted as tsunami deposits are correctly identified. The manuscript is suitable for Natural Hazards and Earth System Sciences.

However, I have some comments and suggestions:

Line 21. Higher rather than larger

Line 22, suggest: While records of two giant tsunamis can be found in lake sediments,

Line 44. Rewrite

Line 50. I think the bottom of Vaigat is smooth because there is a thick succession of Early Holocene glaciomarine deposits

Line 60. Elevations

Line 63. Loon Lake

Line 69. Vaigat strait

Line 79. delete time

Line 80. Change: Weidick and Bennike; Table 2; Fig. 2). To: Weidick and Bennike (2007; Fig. 22).

Line 80. According to Weidick & Bennike (2007) an age of 10 cal. ka BP. provides a minimum age for the last deglaciation. This is in accordance with K-994 (see comment below to Table 1)

Line 82. sediment cover

Line 92. not previously been

Line 102. Did you hammer the piston corer into the sediment?

Line 106. Change: and the and to: and the

Line 116. described by rather than identified by

Line 118. inundated by

Line 120. rewrite, for example: The tsunami deposit is separated from existing lake sediments by an erosional unconformity. Erosion was caused by...

Line 131. we dated samples

Line 134. what about the marine sample? See Table 1

Line 138. Certainly more than one shell. In the 60s you needed a handful of shells, around 100 gram of shells for a C-14 age determination.

Line 139. Change: providing the minimum age of deglaciation to: providing a minimum age of the last deglaciation

Line 159. I am surprised to see that the coring tubes cracked. What material did you use? Polycarbonate?

Line 171. by high Ti and MS values.

174. Change: The gyttja facies is interpreted to as lacustrine sediments to: The gyttja facies is interpreted as lacustrine sediments

Line 216. coarse not corse

Line 226. Change: The lowest part of the T1 and T2 consists to: The lowest part of T1 and T2 consists

Line 236. Change: in the two, to: in the two lakes

Line 237-241. Rephrase

Line 247-251. Rephrase

Line 278. Change: minimal faulting to: earthquake activity

Line 308. Change: ice sheet to: Greenland ice sheet

Line 309. Qeqertarsuaq is the Greenland name of Disko, not Disko Bugt

Line 358. Change: Peninsula to: peninsula

Line 364. Change: who produced the T1 and T2 tsunamis we to: that produced the T1 and T2 tsunami deposits we

Line 491, 572, 642. The name of the journal was Geological Survey of Denmark and Greenland Bulletin

Fig. 2. Where is the triangle on the map?

Line 667. cal. not ca.

Line 681. red or black line?

Fig. 4. I am surprised to see that you did not retrieve minerogenic sediments at the base of most sediment cores. Minerogenic sediments are usually found below organic-rich gyttja in lakes in the region. I think there could be more (older) tsunami deposits in the lakes.

Line 701. Disko island not Disko Island

Line 702. Change: historical landslides in Vaigat in 1952 (Niiortuut, yellow), 2000 (Paatuut, blue), and 2021 (Assapaat, green) is also indicated. To: Historical landslides in Vaigat in 1952 (Niiortuut, yellow), 2000 (Paatuut, blue), and 2021 (Assapaat, green) are also indicated.

Table 1. *Saxicava arctica* is now named *Hiatella arctica*.

Table 1. Marine20 assumes that the age was normalised for isotopic fractionation to a $\delta^{13}\text{C}$ value of -25 permille. However, K-994 was not normalised for isotopic fractionation. This means that you must add 400 years to the age before you calibrate it, so you must enter 9340 years instead of 8940 years. Furthermore, Marine20 assumes a reservoir age of 550 years. If you want to use a reservoir age of 400 years, you need to subtract an extra 150 years. Using CALIB this resulted in a median probability age of 10178 cal. years BP (9582-10712 cal. years BP). The uncertainty is extremely large, maybe this age determination should be put on pension.

Line 707. delete: All macrofossil samples in this study are aquatic bryophytes.

Finally I note that the authors use a mixture of American and British spelling.