In addition to the below comments from the reviewer which have been modified. Further additional grammatical changes have been conducted and Figure6 and Figure 1 have been updated. Figure 6 as it was noted that the horizontal line colors had been swapped between acid and conductivity. Figure 1 to not contain a white bar as noted by the reviewer.

On behalf of the authors

Helle Kjær

General comments

The Authors accomplished a substantial work of revision of the manuscript upon the suggestions of the referees, amending ample parts of the texts and adding/improving many important figures and tables. The achieved results appear to be better supported now, by figures, tables, and references and the main objectives of the paper are much clearer.
I do appreciate the efforts of the Authors; my concerns and questions were addressed quite satisfactorily and to me the paper is now close to an acceptable version.

We are also very pleased with the how you and the other reviewers' great suggestions contributed to the current version of the paper

However, I find that a second careful revision would be useful to complete the work, especially concerning the English language (grammar, wording, orthography).
I acknowledge the work of the Authors in improving the English level, being myself a non-native English speaker as well, but I think that another round could be useful to fix some mistakes throughout the text.

The English co-authors have gone through the paper and additional modifications were implemented throughout. In addition to your specific comments, which were implemented as suggested.

Here below I am listing some specific comments about English language and a few other comments on the point-to-point reply and on the revised version.

Specific comments (pages and lines are referred to the version with tracked changes)

Line 25 page 1. I would add the verb, i.e., "conductivity is likely…" and would use the singular for "sea salt".

Rewritten in the following way "while peroxide (H_2O_2) and conductivity both have spatial variations. H_2O_2 driven by the accumulation pattern and conductivity is likely influenced by sea salt"

ine 21 page 2. The sentence does not flow smoothly, I feel. Maybe it is better to make it explicit? For instance, "…in the ice, which are important…"
Changed accordingly

Line 11 page 3. I cannot understand what "has limited prior analysis". Do the Authors refer to the investigated area? It is not perfectly clear; subject appears to be missing.
The sentence know reads "The sites chosen represent cover the lower accumulation area in the 10 central North Greenland, both east and west of the divide, and has only limited prior analysis of this kind

"

Figure 1 page 3. In both the versions of the paper (with and without tracked changes) a white rectangular spot appears in the figure.

Figure has been modified

Line 14 page 7. Just a comma would be fine after "resolved"

Changed accordingly.
Line 24 page 7. "That" should be removed.

Changed accordingly
Lines 15-17 page 12. Check grammar in this sentence.

Line 23 page 12. I would use "sea salt" instead of "sea salts", as written earlier. Please, change it throughout the text.

Changed throughout
Line 26 page 12. "anthropogenic changes…are", not "is".

Changed accordingly
Line 11 page 22. I doubt that "very influenced" is correct in English.

Changed to significantly

Supplement material, Table S1 page 2. A typo is present in "Multi-function…"

Changed accordingly

Please, check punctuation after the changes.

My comment for lines 2-4 page 8 (first version). My concern was exactly about the description of different variability between Western and Eastern sites, mainly. Now, thanks also to the correlation study and whiskers plot the analysis of variability is much clearer.

We are happy that it is now clear

My comment for line 20 page 7 (first version). I gather here that the Authors mean #particles/mL, which is fine but through the text it is referred to as dust flux or concentration and it would be clearer by using one of the two expressions only.

In Figure 3 we still use counts/mL as that is the original measurement. The fluxes are subject to larger uncertainty as they depend also on the accumulation and the uncertainty within. Thus we stick with both expressions.