

## **AUTHOR'S RESPONSE**

**Spolaor and colleagues have significantly improved their manuscript. Most of my comments and suggestions have been adequately addressed. However, the introduction still suffers from major structural issues:**

**The last two paragraphs have been changed, but not necessarily for the better. Although several previous studies are now cited from the same region (118-123), only the age range of the ice cores are mentioned. Although an interesting variable, this has not much relation with the current study. The idea behind the state-of-the-art paragraph is to give a short overview of previous results that can be compared to the present study. In this context, the state-of-the-art should summarize previous results and discussions relating to major ion mobility, trace element mobility, etc. Similarly, previous results in other regions of the globe should be summarized. For example, the authors state that “many other drilling sites have been investigated, including the Alps, the Himalayas, the Andes, Canada, and Svalbard” (106-110). This is great, but the authors should summarize here the results and discussions of the cited papers in relationship with the main subject of this manuscript. This will help identify the research gap, which is still not clearly defined in the introduction. Finally, the lines 128-139 read more like a discussion and this text should be merged with the discussion section. Instead, a final introduction paragraph (Here we ...) should be written.**

**Here are some guides with information about each section:**

**<https://www.scidev.net/global/practical-guides/how-do-i-write-a-scientific-paper/>**

**<https://researcheracademy.elsevier.com/writing-research/fundamentals-manuscript-preparation/structuring-article-correctly>**

**The introduction is a very important section of any manuscript and needs to be improved. At this stage, I recommend minor revisions. Once the introduction has been improved, the manuscript will be ready for publication.**

We appreciate the thorough review of the manuscript. We have taken into careful consideration the comments and suggestions provided by the referee, and we have made revisions accordingly. In the new version of the manuscript, specific changes have been implemented in the introduction, now between lines 119 to 159. Notably, the text between lines 128-139 of the previous version has been modified, and lines 135 to 139 have been removed. We believe these revisions enhance the clarity and coherence of the introduction in response to the valuable input from the reviewer.