

Dear Authors

Thank you for making the requested changes to the manuscript. I feel it is much improved and am happy to accept it for publication.

I appreciate the additional explanation for the annual averages. The previous method may be suitable for a publication focused on a single site, however, to maintain your objective of presenting a consistent history across sites it is important that the method is also consistent. Now that you have applied a uniform averaging method, I feel more confident that this objective has been met.

Please make the suggested amendments and upload a revised version of the manuscript.

Kind regards

Liz

Dear Liz, thanks again for your valuable comments and the time to review and edit our manuscript! We implemented all your recommended changes into the new version of the manuscript. Line numbers refer to the manuscript version with marked changes.

I have some minor recommendations and corrections.

In your explanation of the winter to summer ratio, I don't think this number should be 1. A ratio is a comparison of two things, so you must include both numbers for it to be expressed as a ratio. If you mean that summer and winter accumulation is equal, then the ratio is 1:1. Please update this with the two numbers relative to each other.

We added the ratios accordingly (line 174).

In the final version, please check the use of the word "allowing". I'd recommend removing in line 119 and 125. e.g line 119 ...changes, to test how ...

We removed "allowing" in line 119 and 125.

Line 170 update "rather regular" to just regular.

We deleted "rather" in line 172.

Line 208 – starting a sentence with a number and needs restructuring – change the use of they showed to be most...

We combined the two sentences: *"Then, based on these annual means, 10-year arithmetic concentration averages were calculated, which are representative of pollutant emissions, smoothing out inter-annual (short-term) fluctuations related to temperature dependent vertical transport to the high-alpine sites (see S1 and Fig. S1)."* (lines 211-213)

Line 212 - remove i.e age.

We removed "i.e. age" (line 214).

Line 307 – replace like with such as? Or in brackets e.g. wind erosion.

We replaced "like" with "such as" (line 314).

Line 394 – rephrase – “..., the concentration of all three major inorganic”

We rephrased it to “..., the concentrations of all three major inorganic aerosol species...” (line 402) and replaced “major ions” by major inorganic aerosol species” in line 486.

Line 395 & 396 - start sentence with The

We start the sentence now with “The lowest correlation...”

Line 4756 – remove also

We removed “also”.

In addition, we added the proper DOI citation to all references.