## Hello Dear Simon Jung

Thanks to the respected referee who patiently and carefully examined the article and improved the quality of the article with his constructive comments. The present changes with the initial version are very many and have improved and improved the article, for which we should express our gratitude to the honorable referee.

Respectfully, the corrections requested by the honorable referees are sent to the presence.

There should be some information regarding the interpretation of the results. What does it mean for climate change? This applies to the discussion too. In there you do touch on climate change on occasion, but not in a coherent chapter. Adding such a chapter, discussing the timing of changes as recorded in your records, compared with other records from the wider region would benefit the paper.

This issue was corrected in the abstract and discussion.

Here you would need a statement outlining the reproducibility of the measurements

The desired statement was added to the text of the article according to the experiments.

It is unclear what has been done here. When first sieving over a 325  $\mu$ m screen, which fraction did you collect (small). The combination of using a smaller mesh size first followed by a larger one does not seem to make much sense? Are these the correct mesh sizes reported 325 and 400  $\mu$ m?

The size of the meshes was written in a different way, which was corrected.

Is this the entire chemical procedure? Also, please add a statement regarding reproducibility and uncertainties of the ICP analyses.

Yes, it is. The desired statement was added to the text of the article according to the experiments.

There needs to be a section dealing with the age model. Even if taken from literature the paper would need to address how the ages were determined and how accurate they are.

This item was also added in the text of the article.

Not quite sure that I can follow this. I see large maxima centred at 20.20-20.30m, 19-19.20m and around 18.20m.

This item was also corrected in the text of the article.

Should this not be figure 3. Please check/correct.

It was corrected.

This should be described with time moving forward, not backwards.

## It was corrected.

You need to be more specific here. Some element records do indeed show an increase, but not all in the same way.

This item was also corrected.

Which figure is meant here???

The figure number has been modified.

What kind of change is this...long-term change. Around 8.5 m (roughly 48.8 kaBP) the Mn/Sr, Zr/Ti and the Mn/TI record show a pronounced maximum spike.

# This item was also corrected.

Where can you/we see that. Please provide reference to specific depths/time periods, records and figures that show this.

# This item was also corrected.

First, there should be no new paragraph here. Second, the statement itself is unclear. What have both publications said (please be more specific) and how is this reflected in your results.

This item was also corrected.

Please correct font type change.

## This item was also corrected.

At this stage of the discussion you have not yet established any relationship with interstadial/glacial time periods. This would need be done first before this paragraph can be understood by the reader.

According to the opinion of the honorable judge, we tried to do the requested thing as much as possible.

Please be consistent with the use the dimension for time (kaBP would be best). Your figure 6 could help to make this connection earlier in the text (see earlier remark).

This item was also corrected.

This would need to be climate change

This item was also corrected.

References missing

Reference added

The use of "commonly" does not make sense. How can a specific section be common?

#### This item was also corrected.

Without a references showing this comparison the reader cannot follow the logic. Please refer to figure 6 here.

## This item was also corrected.

This immediately follows/continues from the previous sentence - therefore no new paragraph needed.

## This item was also corrected.

With regard to any of the statements related to time periods, there needs to be chapter earlier that explains what the age model is based on and how accurate it is a and how the individual age estimates that do not reflect a radiocarbon age were established (linear interpolation?). Please see earlier comment.

This case was fully explained in the first part of the article.

Would your ICP measurements not contain supporting data for such a statement. If so, it could be used in other places (further up in the manuscript) as well.

You are reconstructing climate and not weather conditions. Please change weather to the climate across the manuscript.

This item was also corrected.

These sites would need to be specified here again (either by referencing figures or naming them again).

This item was also corrected.

I guess that this would need to be "our" instead of "your"

This item was also corrected.

Should this not be 2012?

This item was also corrected.

Please use either a) the delta notation or b) stable oxygen isotope values

This item was also corrected.

See earlier comment on the use of "weather". Maybe add a map showing the different areas that show comparable changes in climate conditions?

This item was also corrected.

Should be Be

This item was also corrected.

You have not really discussed the age model (stratigraphy). Please see earlier comments on this.

This was discussed in detail in the methodology section

Would your ICP measurements not contain supporting data for such a statement. If so, it could be used in other places (further up in the manuscript) as well.

By adding Figure 7, this case was investigated.

With regard to any of the statements related to time periods, there needs to be chapter earlier that explains what the age model is based on and how accurate it is a and how the individual age estimates that do not reflect a radiocarbon age were established (linear interpolation?). Please see earlier comment.

This was discussed in detail in the methodology section