Reply to editorial decision letter and reviewer comments

Dear Editor, dear Keely,

we are very grateful for your great editorial support and your positive editorial decision. Readily we follow your kind invitation to submit a revised version of our manuscript. Please find a point-by-point reply to your editorial decision letter below.

With best wishes,
Johannes & Michael & Co-authors

Reviewer #2

Some minor rough areas remain in the manuscript that the authors need to address. For one, the accepted symbol for deuterium is "D", not "d" as the authors seem to use throughout out the text and the figure legends.

→ In the current manuscript we use the common notion $\delta^{18}O$ for $^{18}O/^{16}O$, $\delta^{2}H$ for $^{2}H/^{1}H$ and d for the deuterium-excess, following the definition given by Dansgaard (1964).

For another, a contradiction seems to exist between lines 17-19 on page 18 that state that atmospheric circulation over Europe has not changed much over the past 35 ky and lines 7-12 on page 19 that invoke changes in the Westerlies during the Younger Dryas. This seeming contradiction needs clarification.

→ Thank you very much for pointing us to this discrepancy. We changed the sentence on page 18 to: "In addition, paleowater samples from Europe suggest that the d-excess of precipitation was rather constant throughout the past 35,000 years, which implies that the principle atmospheric circulation patterns over the European continent did not change substantially (Rozanski, 1985).". On page 18 we focus on long-term d-excess changes and argue that d-excess in precipitation was rather stable over the last 35,000 years (Rozanski, 1985), which implies that the principle water vapour transport patterns providing moisture for the European continent did not change much. However, shifts as well as strengthening or weakening of e.g. the Westerlies was still happening (see literature on page 19).

A third issue is that the TOC/N ratios cited on lines 19-23 are atomic ratios, not weight ratios. Atomic ratios are 1.15 times larger than weight ratios, which is not much but is enough to influence their interpretations as being aquatic vs land plant indicators.

→ Thank you very much for pointing us to this issue. Following your suggestion, we use TOC/N atomic ratios rather than TOC/N mass ratios throughout the revised manuscript. This is now also clearly stated in the text as well as in Fig. 3. Please note that our interpretation is not influenced by the change from mass to atomic TOC/N ratios.

In addition, a number of minor syntactical corrections should be considered:
Page 2, line 1 – change to read "Causes of the Late Glacial to"

→ Corrected.

Page 2, line 4 – replace "crucial" by "keys"

→ Corrected.

Page 3, line 7 – change to read "Explanation for the Younger Dryas"

→ Corrected.

Page 3, line 12 – change to read "reconstruction by providing"

→ Corrected.

Page 3, line 17 – replace "eaf" by "leaf"

→ Corrected.

Page 3, line 28 – change to read "during recent years"

→ Corrected.

Page 7, line 6 – replace "grinded" by "ground"

→ Corrected.

Page 11, line 3 – replace "nominator" by "numerator"

→ Corrected.

Page 11, line 28 – specify whether the TOC/N ratios are atomic or weight here and in Figure 3 legend

→ See reply above, we calculated and show now in the manuscript atomic ratios.

Page 12, line 10 – replace "more positive" by "less negative"

→ Corrected.

Page 12, line 17 – replace "autochthon" by "authochthonous" and "allochthon" by "allochthonous"

→ Corrected.

Page 13, line 25 – change "significant" to "significantly"

→ Corrected.

Page 14, line 12 – change "composition" to "compositions"

→ Corrected.

Page 15, line 3 – replace "requested" by "required"

→ Corrected.

Page 15, line 30 – change “imply” to “implies”

→ Corrected.

Page 21, line23 – The phrase “which triggered solar insolation” is confusing. Insolation is a fancy word for solar heating. Solar activity certainly is responsible for solar heating, but what does North Atlantic temperature have to do with causing it? Please clarify.

→ Changed to: “We propose that both the North Atlantic Ocean temperature and solar activity (the latter triggering solar insolation) were the two main drivers for the RHdv variability in Central Europe.”.