

Dr. Stenni

Thank you for the opportunity to revise our manuscript, “Trends in South Pole Particle Concentration Imply Holocene Westerly Wind Strengthening” and provide minor revisions. We appreciate your comments, time, and effort as it allowed us to improve the paper into its current state. The following responses address each comment and/or question based on the previous submission. Our responses are given below with your comments in italics. Our responses as the authors are given in regular font, and **revised text from the paper is provided in blue font**. Please note that our Line Numbers listed below are based on the edited document rather than the cleaned version.

The following sentence page 3-4, line 85-88 should be revised: “We build upon instrumental-era South Pole particle research to investigate Holocene particle variability on centennial to millennial scales throughout the Holocene using microparticle concentration and CPP data from the new SPC14 intermediate-depth ice core to better constrain Holocene SHWW dynamics within the context of early Holocene to modern climate dynamics.”

In this sentence the word “Holocene” is repeated 4 times! And it should be simplified. Perhaps something like the following? “We build upon instrumental-era South Pole particle research to investigate particle variability on centennial to millennial scales throughout the Holocene using dust records data from the new SPC14 intermediate-depth ice core to better constrain SHWW dynamics within the context of early Holocene to modern climate dynamics.”

Line 85: We remove our original sentence and use the editors suggested sentence. The new sentence now reads, “**We build upon instrumental-era South Pole particle research to investigate particle variability on centennial to millennial scales throughout the Holocene using dust records from the new SPC14 intermediate-depth ice core to better constrain SHWW dynamics within the context of early Holocene to modern climate dynamics.**”

Page 7, line 149: before ~50, there should be a “-“. Isn’t it?

Line 152: We correct the slope by adding a “-...” before the 50 so it now reads, “**~-50...**”.

Then, regarding the paragraph 3.1 “3.1 Holocene trends in dust deposited at the South Pole” (page 7), I found still some differences between what you are stating in the text and what you are showing in the figures 1a and 1b. In the text there is: (~50 particles mL⁻¹ kyr⁻¹) until the Late Holocene, OK and in the figure there is the same number, but then few lines below we found: (total dust concentration slope = ~ -20 # particles mL⁻¹ kyr⁻¹ compared to coarse particle decrease ~ -2 # particles mL⁻¹ kyr⁻¹. BUT in the figure 1 b I found ~ -4.0. Please, have a careful look at this! And clarify where these numbers come from and why there are these differences. And in case change also the figure 1.

Line 157: The ~20 # particles mL⁻¹ kyr⁻¹ is the average slope value for the entire Holocene particles. We remove this sentence for clarity. We correct our coarse particle concentration decrease value to -4 so that the text and the figure match (which was originally correct). We amend our statement so that it is clearer and now reads, “**The number concentration of coarse particles (Figure 1b) has a decrease similar to the total particle concentration (Figure 1a), but the**

coarse particle decrease is an order of magnitude smaller ($\sim 4 \text{ \# particles mL}^{-1} \text{ kyr}^{-1}$) during the mid-Holocene.”

Page 13, line 228. The sentence is finishing ... “... the early Holocene may not be a climatically comparable period.”, comparable to what? Please, rephrase.

Line 233: We amend our original statement so that it now reads, “Based on our interpretations, our data suggests that the early Holocene may not be a climatically comparable period to modern climate, and that Southern Hemisphere temperatures have increased throughout the Holocene.”