

After revisions, this work is greatly improved, and of direct relevance to the broader ice core community. The paper significantly improves our understanding of extracting ice core climate signals in low accumulation areas, as well as how to think about climate signals in already drilled ice cores.

Suggested edits, but not required:

pg 4 line 3-16, It would be useful to the reader to include the mean accumulation rate with each of the studies listed. for example, a lack of correlation at decadal time scales cannot be put into context without accumulation rate.

pg 4, line 5-7, It would be useful to the reader to place the F-value in context. What does this number mean to the reader? How could this compare, for example, to a higher accumulation region? Placing context on this value would be beneficial in later section of the paper when this is discussed.

pg 4 line 23, it would be useful to clarify what you mean by low accumulation region. although you state earlier that this broadly means less than 10cm per year, I think the mean value deserves mentioning for comparison to the studies listed in the paragraphs above.

pg 9 line 12-14, interesting that this may be seasonality!

pg 12 line 4-5, this sentence nicely sets up your discussion points.

pg 13 line 14-23, well-written and provides good context

pg 17 line 24, I suggest to use just “model” or some other option rather than “toy model”

pg 19 line 14, I suggest to use just “model” or some other option rather than “toy model”