

Interactive comment on “Variability of sulfate signal in ice-core records based on five replicate cores” by E. Gautier et al.

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Received and published: 27 October 2015

I will be asked to give a formal editorial comment after you post your replies to reviewers. However meanwhile it is obvious that both reviewers are generally favourable to your paper, and I will therefore be encouraging you to submit a revised version for CP, taking account of their comments. I also have a few comments of my own.

There are a few typos which you already have from me.

Page 3980, line 6. If a peak has to pass the threshold in 3 consecutive points that means it has to be most probably 6 cm wide. At the bottom (of the studied section) this would mean the peak must span more than 2 years. Such a threshold is likely to exclude some genuine peaks. Please comment on this. I wonder also if some of the

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cases where you see a peak in only 2,3, or 4 of the cores are ones where a peak is present but not across 3 samples. While this is technically a "no peak detected" it is probably not what the reader imagines when they read this. Please comment.

Page 3981. The reviewers did not comment but while I think I know what you did, I found the mathematical description from lines 3-12 very hard to follow. Could you also explain it in simpler terms.

Fig 3. These are both examples where the peak is seen in all cores. I would like also to see some examples where the peak is only seen in fewer cores. I know there is one in Fig 8 but I suggest to expand Fig 3 to include 2 such events.

Fig 4 and elsewhere. I am not sure I know how you made the average when the peak is, for example, seen only in 3 cores. Is the value shown for sulfate the sum of peak heights divided by 3 or by 5? Or is it something different?

Interactive comment on Clim. Past Discuss., 11, 3973, 2015.

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