

Interactive comment on “Dust record in an ice core from tropical Andes (Nevado Illimani – Bolivia), potential for climate variability analyses in the Amazon basin” by Filipe Gaudie Ley Lindau et al.

Anonymous Referee #1

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This paper provides a nicely balanced combination of ice core, reanalysis data, remote sensing data and reference to previous work. Some suggestions follow: (1) The dust record comparison (Quelccaya vs Illimani) in Figure 3 is not entirely consistent with the text in the conclusion section. The conclusions refer to coincident dust increases in the 1930s-1940s and mid-1980s-2016. The more recent increase is not apparent in the Illimani record. More explanation is required in the text to address this issue. (2) The spatial correlation depicted in Figure 4 is based on a 3-year moving-average for the overlap period (Quelccaya and Illimani) of 1980-2002. The correlation is moderately

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significant for this sampling resolution. What is it for an annual match realizing there is a 1-2 year dating error? If only the 3 year correlation is shown and it only covers 1980-2002 this is a match based only on 14 data points. (3) For Figure 5 the 10 year smoothed correlation looks similar but the correlation for the annual data looks inverse? Please explain more in the text.

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