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Interactive comment on “Black carbon concentrations from a Tibetan Plateau ice core spanning 1843–1982: recent increases due to emissions and glacier melt” by M. Jenkins et al.

M. Jenkins et al.

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We will modify the figures as the reviewer suggests when we revise the manuscript.

For now we have created a normalized version of the annual BC data that more clearly demonstrates the increase in BC post 1940 (Fig. 1)

We are also including a figure that shows in better detail the point we made that BC and Fe peaks ‘display a close relationship’ that the reviewer commented on (Fig. 2). While in general we observe that when BC is relatively low or high, the same is true of Fe (see attached figure), the Fe and BC data resampled to 3 samples/yr are not significantly correlated ($n=420$, $r^2=.08$). Seasonally it is well documented in this region

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that dust and BC concentrations are higher during the dry winter-spring in comparison to the summer monsoon season, but because the sources differ we don't expect to see a strong correlation between the records. The main point that we sought to make is that BC and Fe are both important light absorbing impurities, and that while BC concentrations were higher post 1940, the same is not true for Fe. The interpretation of the record is not based on the assertion that there is a close relationship between the records. We'll revise the manuscript accordingly.

Interactive comment on The Cryosphere Discuss., 7, 4855, 2013.

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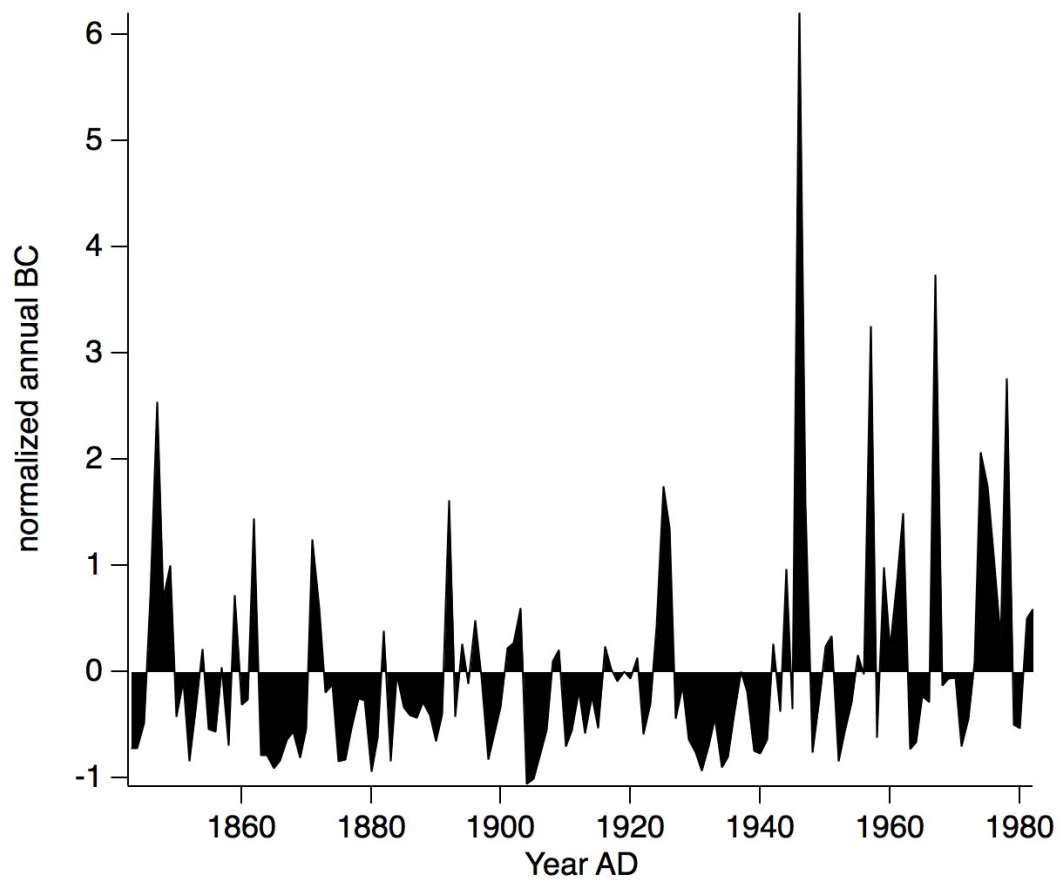


Fig. 1. Normalized annual black carbon

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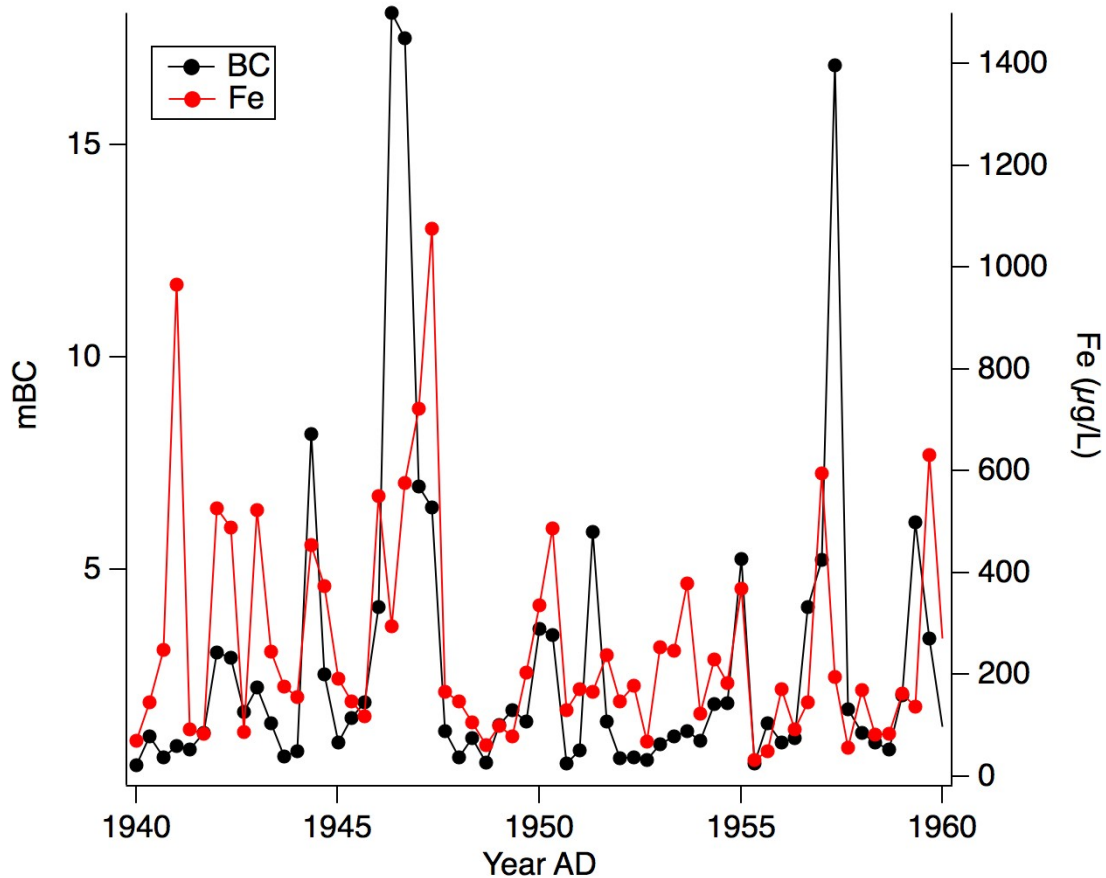
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Fig. 2. BC and Fe resampled to 3 samples/yr 1940–1960

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