

Interactive comment on “Black carbon (BC) in North Tibetan Mountain; Effect of Kuwait fires on glacier” by Jiamao Zhou et al.

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Reviewer 2:

We thank the reviewer for the careful reading of the manuscript and helpful comments. We have revised the manuscript following his/her suggestions as is described below.

Reviewer #2: This article investigate the large Kuwait fires on BC deposition on the ice core at Muztagh Ata Mountain, Northern Tibetan Plateau and the related radiative forcing. It has excellent scientific point and is meaningful for the current Tibetan Plateau experiments. I strongly suggest the acceptance and quick publication of the article. Following are some comments and suggestions for the paper:

(1) In Fig.1, the topography should be plotted to illustrate the plateau characteristics.

C1

Response: The topography of Fig.1 has been updated.

(2) In Fig.2, the BC measurements were much lower during Apr to May of 2004, and sharply increased on Jun, while the model results were very flat, the author should give some explanations.

Response: To address the reviewer's comment, we make explanation that the difference between the measured and the modeled BC concentrations during the spring of 2004 is due to the uncertainties of the emissions, simulated meteorological parameter and the low horizontal resolution, which lead to difference of topography between the model and actual situation. These explanations can be added from line 309 to 320.

(3) I suggest the author made more discussion on the possible impact of the change of ice on regional climate, such as the flood, the drought in China.

Response: Thanks for the constructive suggestion from reviewer. We've added discussion from the line 516-542.

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