

**Journal:** Atmospheric Chemistry and Physics

**Article title:** In-situ observation of warm atmospheric layer and the heat contribution of suspended dust over the Tarim Basin

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Dear Editors and Reviewers:

Thank you for your letter and for the reviewers' comments concerning our manuscript entitled "In-situ observation of warm atmospheric layer and the heat contribution of suspended dust over the Tarim Basin (acp-2021-892)". These comments are all valuable and very helpful for revising and improving our paper, as well as the important guiding significance to our researches. We have studied comments carefully and have made correction which we hope meet with approval. The responses to reviewer #1's comments are as follows.

**Reviewer #1:**

My main comments have been well addressed, but the caption of Figure 5 needs to be double-checked. The labels of subplots and the locations of meteorological stations are quite confusing.

**Response:** Thanks for your comments. As you said that the labels of subplots and the locations of meteorological stations are quite confusing, we have revised it as follows: Taking KS as the start point, we arranged the stations clockwise.

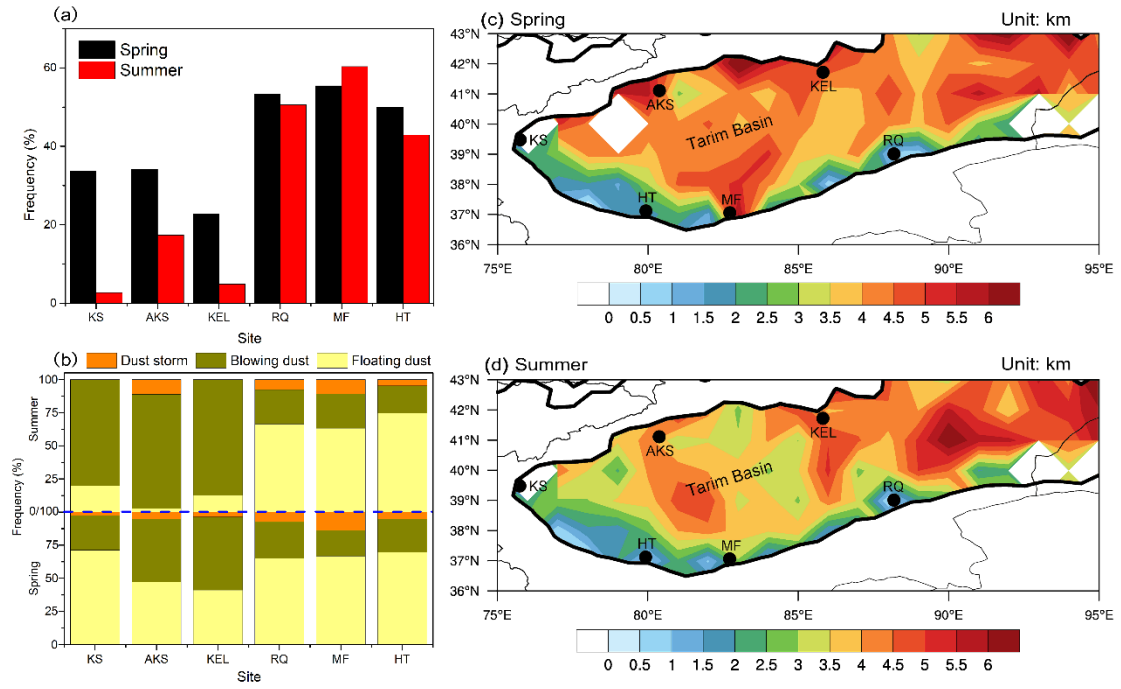


Figure 5-R2. Frequencies of (a) dust events and (b) dust events including dust storms and cases of blowing and floating dust at the Kashi (KS), Akesu (AKS), Kuerle (KEL), Hetian (HT), Minfeng (MF), and Ruoqiang (RQ) stations in the spring and summer of 2016–2017; the blue dashed line represents the boundary between spring and summer. Seasonal distribution of the dust-top height in km over the Tarim Basin in (c) spring and (d) summer, inferred from CALIPSO.