

Interactive  
Comment

## ***Interactive comment on “Aerosol-precipitation interactions in the southern Appalachian Mountains” by G. M. Kelly et al.***

**G. M. Kelly et al.**

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We are grateful for the reviews, and we understand the positions of the reviewers. The major goals of this manuscript are to report on 1) the seasonal and synoptic variation of aerosols in association with the identified precipitation event classes and 2) the influence of air mass source region on observed aerosol properties. We offer speculation on the possible causes of the aerosol-precipitation associations that were observed, but the purpose of this manuscript is not to report on causation. We believe that the statistically significant relationships that were identified merit further research, and we therefore respectfully disagree with Reviewer #1's position that our data do not allow the analysis of the variation of aerosols related to the precipitation classes we have identified. We also believe that the statistically significant relationships that

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are reported demonstrate repeated significance for the time period of the study, and we therefore disagree with and reject Reviewer #2's suggestion that 5% of all random associations should be statistically significant. We are very appreciative of the feedback and intend to make substantial changes to the manuscript based on your reviews. Thank you very much for your time and consideration.

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Interactive comment on Atmos. Chem. Phys. Discuss., 12, 5487, 2012.

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