

## Author's reply to Referee #1

The authors greatly appreciate the time and effort the reviewer put into the review and further would like to acknowledge the recommendation for publication.

*Pfister et al. present a characterisation of airmasses entering the United States of America from the west, with a specific focus on June 22, 2008, when measurements from the ARCTAS campaign are available. These, and other available measurements are compared with global CTM simulations, and the model is found not to reproduce the amplitude of the observed variability of pollution in inflowing airmasses. The global CTM output nevertheless leads to reasonably large differences in surface ozone simulated in a regional air quality model when used as lateral boundary conditions, compared with time-constant boundary conditions. I do not find the results particularly remarkable, but the manuscript does make a contribution to the literature; it reinforces the importance of adequately representing the inflowing airmasses in regional air quality simulations in general, and specifically helps to characterise the US West Coast in particular. The manuscript is clearly written, and could be published as-is in ACP.*