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Biogeosciences Discussions

Interactive comment on "Integration of remote sensing data and surface observations to estimate the impact of the russian wildfires over Europe and Asia during August 2010" *by* L. Mei et al.

Anonymous Referee #2

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This paper integrates different satellite and ground measurement data to analyze the effect of a critical fire event in Russian in year 2010. The most indicative atmospheric parameters such as aerosol optical depth, particulate matter (PM2.5), concentration of CO2, NO2, and SO2 are chosen for analysis. The transportation of these atmospheric parameters is linked by the HYSPLIT model and the synoptic condition, which shows a powerful method for characterizing predicting plume transport. In addition, the paper attempt to get more reliable atmospheric parameters using Optimal Smoothing scheme and GEOS-Chem model. The paper gives a believable result of effect area of Russian fire in both local and other countries, which is useful to assess the effect of health crisis.

I like to see the paper to be published in the BG after some minor corrections. Followings are my suggestions. 1) Are there any relationships between aerosol (e.g. ice particles) and other gas concentrations particularly Ozone? 2) Figure 11b shows the vertical profile of aerosol. It is better to give more explanations. 3) Some pictures could be black/white such as Figures 7, 9 and 10. 4) Figure 2 is not really useful.

Interactive comment on Biogeosciences Discuss., 8, 7741, 2011.