

Interactive comment on “Do biomass burning aerosols intensify drought in equatorial Asia during El Niño?” by M. G. Tosca et al.

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In our response to Reviewer #1 we noted the addition of a paragraph to the Methods section detailing the slab ocean model. This paragraph has been modified slightly since our initial response was posted last week. The paragraph now reads:

'The slab ocean model responded to the different aerosol loadings in the two simulations, causing changes in SSTs. Large scale ENSO-related conditions and circulations are not represented in the boundary conditions, which were all climatological except for the fire-induced aerosol emissions. Aerosol forcing changed the surface energy budgets of the two simulations but not the prescribed, climatological ocean mixed layer vertical heat fluxes. The resulting SST anomalies dynamically interacted with the atmosphere by means of radiative and turbulent energy fluxes. Thus, the climate responses

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described here should probably be interpreted primarily as the short-term response (over a time span of several months) of the atmosphere-surface ocean system in equatorial Asia to aerosols from El Niño fires. An important next step (as described below in the discussion) is to repeat this analysis with a prognostic fire emissions model and a fully coupled ocean-atmosphere general circulation model to examine longer term fire-ENSO feedbacks mediated by changes in ocean circulation.'

Interactive comment on Atmos. Chem. Phys. Discuss., 9, 23319, 2009.

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