

***Interactive comment on “Technical Note:
Sensitivity of 1-D smoke plume rise models to the
inclusion of environmental wind drag” by
S. R. Freitas et al.***

Anonymous Referee #1

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The problem of fire and plume dispersion over a tropical forest like Amazon's is a topic of scientific interest that demands research and development of models of the atmospheric circulation since its effect has a local and a remote response as well. The authors intended to improve an 1-D model for fire plume with the inclusion of the entrainment due to the ambient wind. They compare the results of the simple 1-D model with the results of a comprehensive non-hydrostatic 3-D model. The results show that the inclusion of the lateral entrainment effect improves the results and point to the possibility of the module being implemented in a coarser resolution model. In my opinion, the results are robust enough to deserve being published. Before being accepted the article needs a substantial grammar revision.

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Interactive comment on Atmos. Chem. Phys. Discuss., 9, 14713, 2009.