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# Validation of aerosol transport models using CALIPSO spaceborne lidar

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CALIPSO spaceborne lidar data are expected to help to evaluate the model simulated vertical distribution of aerosols. A first analysis based on the Calipso backscatter profiles over regions of high biomass burning activity during summer 2006 indicates that biomass burning aerosols are injected into the whole mixing layer, but rarely in the layers above. These observations reveal the possibility of a simple parameterization of the biomass burning aerosols injection height for the aerosol transport models. We also have run the global LMDzT-INCA aerosol transport model for the same period, nudged to analysed winds, and present an evaluation of simulated aerosol extinction along the transects of the CALIPSO satellite track. We have focused on the dispersion of aerosols over regions of high biomass burning activity, but our analysis also extends into regions where others aerosols such as desert and sea salt particles dominate. Our work explores the potential of these new observations to constrain vertical and long-range transport in global aerosol transport models.