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Evaluation of the LMDzINCA chemistry transport model during the West African monsoon 2006

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West Africa is a large source of anthropogenic and natural emissions which are important for the production of tropospheric ozone, and other oxidants, such as OH, in the atmosphere. Understanding the processes that govern chemical composition and budgets of this region is a major goal of the AMMA project. Here, we present results from the global chemistry climate model LMDz-INCA. The model simulations were performed at a resolution of 2.5 x 3.75 degrees and 19 pressure levels, and included detailed VOC chemistry with global anthropogenic emissions prescribed from EDGAR 3.0 inventory (Olivier et al., 2001), and biomass burning emissions from Van der Werf et al. (2003). Biogenic and NO soil emissions are based on the Yienger and Levy (1995) parameterization and, lightning NO_x emissions parameterized according to Price and Rind (1992). The model is compared to available observations (e.g. O3, CO, NOx), collected during the AMMA special observation period (SOP2) in July and August 2006 by five aircraft (DLR Falcon-20, French F20 and ATR-42, Geophysica-M55 and the UK BAe-146). During this period vertical profiles were collected up to 20km allowing an evaluation of the performance of the model convection (and lightning) schemes. The sensitivity of results to convective transport and emission sources will also be discussed. The transport of pollution into West Africa from biomass burn-

ing regions further south will also be examined.