

***Interactive comment on “Aviation 2006
NO_x-induced effects on atmospheric ozone and
HO_x in Community Earth System Model (CESM)”
by A. Khodayari et al.***

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We thank the reviewer for the comment.

We did revise the last sentence in the abstract to the following sentence to specify that we are referring to short-term O₃ changes.

"Aviation NO_x emissions are associated with an instantaneous change in global mean short-term O₃ radiative forcing (RF) of 40.3 and 36.5 mWm⁻² in CAM5 and CAM4, respectively."

We also added the following paragraph to page 6175 line 25 to elaborate on the short-C4249

term change in ozone.

"The NO_x-induced changes in tropospheric ozone are complicated by two stages, a short-term increase in O₃ concentrations associated with a positive forcing, and a long-term reduction of O₃ concentrations tied to the aviation induced methane decrease. This long term-reduction is associated with negative forcing (Wild et al., 2001; Stevenson et al., 2004). Since our simulations were performed with fixed CH₄ mixing ratios at the boundary layer, the calculated changes in O₃ concentration are the short-term changes."

Interactive comment on Atmos. Chem. Phys. Discuss., 14, 6163, 2014.