Thus, the NO uptake that we ~~saw~~ observed may have been driven by both chemical (Pape et al. 2009) and microbiological ~~reactions~~ processes (as NO is an intermediate product of nitrification and denitrification; Davidson et al. 2000). The dominance of a chemical reaction of NO uptake at our sites was supported by the fact that we observed a negative correlation of soil NO fluxes with ambient air NO concentrations (i.e. net NO uptake increased as ambient air NO concentration increased; Fig. 5). The reaction time of NO with O_3, which is then subsequently removed from the enclosed chamber air and deposited onto the soil, is ~~driven~~ controlled by the ambient air NO concentrations (Pape et al. 2009). This can occur in under a minute (which we observed on days with low ambient air NO concentrations when we measured net soil NO emissions; e.g. at P8 during the dry season, Fig. 2b) or can take up to the same order of magnitude as the turnover time of the chamber air (which we observed on days with high ambient air NO concentrations when we measured net NO uptake; e.g. at the Met site on most of the sampling days, Fig. 2b). It is notable, that an earlier study in Gigante, which is also part of the Panama Canal watershed, did not show net NO uptake but instead small net NO emissions (Koehler et al., 2009b; Corre et al. 2014). However, as mentioned above, the Gigante site had higher soil N-cycling rates (Corre et al. 2010) and lower ambient air NO concentrations than our sites, such that NO production in the soil overrides the chemical reaction of NO uptake and thus resulted in net soil NO emissions.

Comment [IT1]: I have some doubt about that. This may also indicate soil uptake of NO.

Comment [IT2]: How did you determine this without any O3 measurements? How long is the turnover time of the chamber air?

As long as the chemical reaction is faster than the residence time in the chamber, there will be significant removal of NO by reaction with O3.

Comment [IT3]: I do not agree that the chemical reaction should be considered as part of the NO flux. To my opinion it is a measurement artefact that should be avoided.