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Interactive comment on "European atmosphere in 2050, a regional air quality and climate perspective under CMIP5 scenarios" by A. Colette et al.

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An issue in the climate mode of the Chemistry Transport Model CHIMERE was unveiled on 14/03/2013, just after the publication of manuscript acp-2013-64 in ACPD. The problem regards handling of precipitations that were overestimated, especially when using the climate model. This overestimation has mainly an impact on particulate matter although wet scavenging also bears upon some ozone precursors.

All the simulations were repeated in the course of March 2013 and the revised results confirm that scavenging of particulate matter was indeed highly overestimated while the impact on O3 is limited. However, none of the main findings of the paper are changed since our focus was on a sensitivity analysis investigating the relative changes brought about by various scenarios. The only noteworthy change regards the

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discrepancy between the results obtained with the meteorological reanalysis and with the climate model. While in the previous version we pointed out differences for both O3 and PM2.5, in this revised version only the differences for O3 are maintained while the underestimation of PM2.5 when using the climate model vanishes.

The pdf in supplement of this note contains the revised manuscript with all changes in the text highlighted and some of the figures updated.

We thank in advance the readers for their understanding.

Augustin Colette, on behalf of the co-authors.

Please also note the supplement to this comment:
http://www.atmos-chem-phys-discuss.net/13/C1098/2013/acpd-13-C1098-2013-supplement.pdf

Interactive comment on Atmos. Chem. Phys. Discuss., 13, 6455, 2013.