

**Response to the editor for manuscript :**

**S. Remy and J.W. Kaiser, Daily global fire radiative power fields estimation from one or two MODIS instruments, Atmos. Chem. Phys. Discuss., acp-2014-327.**

Dear Editor,

Please find below the answer to the remarks you raised. The manuscript has been modified accordingly.

Best regards,

*Why is your data set only necessary in global models?*

Good point! It is also necessary for local models; this sentence was corrected

*This sentence sounds a little bit strange. You do not use Meteosat-8 because it gives different results. What makes you sure that the results of MODIS are the correct ones?*

Assimilating observations that are biased one from another is problematic, especially as in this case the error covariances of MODIS and SEVIRI for FRP are not well-known. So a choice had to be made between low-orbit and geostationary observations, and the former was preferred, mostly because of its better detection threshold and spatial coverage (though geostationary observations have better time coverage). It is hoped in the future to find a way to debias geostationary observations relatively to MODIS so that they could be used in GFAS, maybe using work presented in this paper. The sentence was corrected adding a "currently" before "not used".

*What happens when X equals zero?*

Well this formula was applied only to non-negative daily FRP so this didn't happen. For very small values though, this kind of non-linear regression gave unrealistically high values, which was the reason for its instability, as explained in section 3.2. In the end, an approach combining non-linear and linear regressions was preferred.

*Tables: Please use the same data format for all numbers presented. This makes it easier to assess RMSE and Bias.*

Corrected, thank you.

Best regards,

The authors