Atmospheric Chemistry and Physics Discussions

Atmos. Chem. Phys. Discuss., referee comment RC2
https://doi.org/10.5194/acp-2022-287-RC2, 2022

Comment on acp-2022-287

Anonymous Referee #2

Referee comment on "Parameterizing the aerodynamic effect of trees in street canyons for the street network model MUNICH using the CFD model Code_Saturne" by Alice Maison et al., Atmos. Chem. Phys. Discuss., https://doi.org/10.5194/acp-2022-287-RC2, 2022

Maison et al have proposed a simple parametrization to account for the effect of trees in street canyons for the MUNICH model. The authors made a comparison between the MUNICH parametrization and the Code Saturn as shown in figure 4 and table 2. Hence, the proposed parametrizations seem reasonable. Evaluating the effect of the ecosystemic services that urban trees provide is essential for climate change, air pollution, and well-being. Actually, in the introduction Maison et al it is shown contradictory results about the positive or negative effects of urban trees. The abstract shows that the tree clown slowed down the flow and reduced the average horizontal velocity up to 68%.

Main issues:

Then, my main question, is why the authors are not providing a comparison of air pollution of MUNICH with and without this new parametrization? Please, include this comparison for a real case. This type of comparison will be beneficial for policymaking.

Minor issues:
In general, the article is well written. However, it is not clear if MUNICH includes deposition. If not, any plans?

I believe the authors need to explore more the benefits of urban trees and attempt to close the discussion started in the introduction.

Please, considering discuss these articles:
https://link.springer.com/chapter/10.1007/978-3-319-97013-4_8
https://www.sciencedirect.com/science/article/pii/S1618866706000173?casa_token=HwWC_pLGhWcAAAAA:pGyo5L5EjxJ4eOz9TOifebygB70OtepGHXbEVVLtMo5g7dM-

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