

Atmos. Chem. Phys. Discuss., referee comment RC1  
<https://doi.org/10.5194/acp-2021-456-RC1>, 2021  
© Author(s) 2021. This work is distributed under  
the Creative Commons Attribution 4.0 License.

## Comment on acp-2021-456

Anonymous Referee #1

---

Referee comment on "Impact of the COVID-19 pandemic related to lockdown measures on tropospheric NO<sub>2</sub> columns over Île-de-France" by Andrea Pazmiño et al., Atmos. Chem. Phys. Discuss., <https://doi.org/10.5194/acp-2021-456-RC1>, 2021

---

This study addresses the influence of physical distancing, due to the COVID-19 pandemic, in NO<sub>2</sub> concentration over Île-de-France. The manuscript has very interesting results and performs a good comparison with similar studies.

### Main questions:

- Line 117: Please, detail or add some reference about this quality assurance.
- Is there some previous validation of ERA-5 data over Île-de-France?
- Is it possible to add information about the variation of physical distancing rate observed during the four stages (P1, P2, P3, and P4)? Such information can help the discussion presented in sections 4.1 and 4.2.
- The variation of wind speed and direction is a relevant factor to demonstrate the pollutants dispersions. However, to provide a better discussion about the meteorological influence more parameters could be presented like temperature, rainfall rate, the occurrence of thermal inversions, atmospheric boundary layer height.
- How were the different characteristics of each season considered? Could they have been responsible for the variations in the values found?
- Line 142. As different seasons are considered, why the mid-altitude of the convective

boundary layer was considered always as 950hpa?

Technical questions:

- Figure 2: Please, add the units in the legend.
- Line 228: "11 and 14 UT"
- Figure 4: Please, use the same labels in the x-axis of the upper and lower panel.
- Line 248: "11 and 14 UT"