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Interactive comment on "Continuous atmospheric CO$_2$, CH$_4$ and CO measurements at the OPE station in France from 2011 to 2018" *by* Sébastien Conil et al.

Anonymous Referee #2

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General comments:

The authors presented 8 years of station data, from the Observatoire Perenne de l'Environnement (OPE), which is situated on the eastern edge of the Paris Basin in NE France. As such, this regional station represents continental rural background measurements to the ICOS network and contributes valuable data to link the existing oceanic and urban observation sites. With this study the authors also successfully showed how to interpolate and analyse composite merged data sets, obtained from various sampling analysers in order to comply with stringent ICOS data quality objectives. The paper as a whole is well written and presented and met the objectives set

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out in the introduction.

Specific comments:

Page 10, line10: Prior to this, the authors described differences (in afternoon) between instruments at the same intake height... this was then followed by a remark that "Schibig et al..." found some similar large deviations at their site. Perhaps a better explanation is needed here? Or a table listing the authors' observations in context with other literature reported differences? As it currently reads – it just seemed a bit out of context to me.

Page 12, Lines 15-20: Please put this info in a table format – it makes the inter-comparison of the different parameters much easier to read and compare.

Page17, Figure7: improve y-axis font (make larger); CO bias graph – improve scale to say ∼2 nmol.mol-1 intervals to show WMO compatibility;

Page 23, Lines6-8: I understand the point being made by the authors (i.e. a comparison of observed growth rate at OPC against other nearby sites...) but perhaps a better explanation is required when this is compared to Zugspitze? (the Zugspitze growth rate comparison is based on a 1981- 2016 determination...) and Cabauw on a 2005 – 2009 value for that matter. My question being – Can one draw any useful comparison across such large timescale differences?

Technical corrections/ comments:

Most of these corrections are as a result of the authors not being English first language speakers and are minor language issues...

Page 1, line28: rephrase sentence..."Remote and mountain atmospheric measurements..."

Page 5, line7: rather use singular for (1) "measurement" and not "measurements"; (2) "ambient air sample" and not "samples"

Page 5, line9: replace "station's " with "stations"... replace "on" with "in"

Page 6, line8: replace "went first" with either "first went" or "was subjected to..."

Page 6, line10: replace "informations" with "information"

Page8, line16: replace "lightnings" with "lightning"

Page 8, line 19: fan, ...) add "etc." {et cetera}

Page 9, line9: remove double space after "...efficiency)"

Page 10, line4: use plural "sources"

Page11, line29: use singular "measurement"

Page16, Line10: use singular "measurement"

Page18, Line1: replace "to" with "in"

Page 18, Line2: ditto - replace "to" with "in"

Page21, Line30: use plural "dynamics"

Page 21, Line31: add "it" to "...seasonal scale make difficult..."

Page26, Line10: Rephrase sentence "Interested on larger... data"

Page28, Line29: Please check and ensure that the references comply to the journal's requirements "Lowry, D. et al..." Full reference required?