

Interactive comment on “The Tall Tower Dataset. A unique initiative to boost wind energy research” by Jaume Ramon et al.

Jaume Ramon et al.

jaume.ramon@bsc.es

Received and published: 25 November 2019

Authors want to thank the reviewer for his/her comments, suggestions and thoughts on the paper. Responses to the reviewer’s comments are described in detail below in blue colour. These reviews will be addressed accordingly when submitting the revised paper.

RC.1) The proposed manuscript is considered by this referee as an example of a paper that clearly explains the steps followed to compile a new dataset of wind data and, mainly, the quality control process applied. The authors have a special interest in explaining in detail the QC process, as well as its reliability. The documentation of the dataset and the quality control software is accurate and are another strong point. My

C1

recommendation is to accept the manuscript with some minor revisions.

AC.1) Authors would like to thank the referee for her/his positive comments on this work.

RC.2) Tall tower dataset description. In the text (or even in the supplementary material) there is no information about how the wind direction and speed data is treated, i.e. scalar or vector averaging. This could be interesting as it has an impact in those cases with greater wind direction variance. Some information could be added, even if no information is available from the provider.

AC.2) Temporal resolutions of the published data are those in which records have been provided. As the reviewer points out, information concerning the treatment of the raw data by the provider is scarce. However, and after an exhaustive review process of all towers’ metadata, we found out that 4 of the towers in Table S1 derive averaged values by averaging the wind components, whereas 2 take averages over the instantaneous modules and direction. The remaining 216 of the towers’ metadata does not provide any information on how wind speed and direction are treated.

It may be worth reviewing best practices, such as those provided by the World Meteorological Organisation, on how instantaneous records (usually high-frequency data) must be averaged into minutely/hourly values. Also, the impact the reviewer mentions, as well as the effects on the uncertainty of the averaged values, can also be discussed in the revised version of the manuscript.

RC.3) In the same point, information on the total temporal coverage of the dataset is not supplied (i.e., extreme years).

AC.3) This information will be added to the text.

RC.4) The Quality Control Software Suite for Tall Towers (QCSS4TT). As the QC runs on data at a specific height, somewhere in the text it should appear that it is an absolute quality control, just to clarify which kind of QC process is being applied.

C2

AC.4) Most of the QC tests (15 out of the 16 main QC tests) run on data at a specific height. The remainder test, i.e. the Vertical Ratios check, compares data measured at different tower levels, so it cannot be classified as an absolute test. However, all of the QC tests are intra-stational tests, which we think could be mentioned in the revised text for clarification.

RC.5) Results of the application of the QCSS4TT. Although the presence of missing data is cited in the text, no reference is made to the percentage of the gaps with respect to the total number of observations. It could be interesting to know this information, before and after the application of the method. This information could be added in figure 5 (just as a suggestion).

AC.5) We will compute this information which we also think is of interest. Thank you for suggesting an appropriate place to add it.

RC.6) Congratulations for the manuscript.

AC.6) Thank you very much for the positive appreciation of this manuscript.

Interactive comment on Earth Syst. Sci. Data Discuss., <https://doi.org/10.5194/essd-2019-129>, 2019.