

Interactive comment on “A spatially-explicit database of wind disturbances in European forests over the period 2000–2018” by Giovanni Forzieri et al.

Anonymous Referee #2

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General Comment: This study integrated the windthrow observations from aerial photo-interpretation and field survey and compared the results with remote sensing indexes and total damaged wood reported in the FORESTORMS database. Their work provides a specially-explicated storm-affected area which is helpful to improve the modeling framework on simulating storm damage in the Earth system model. The damage rate within a storm-affected area can be also found in this data synthesis. However, I could not access any further information about this information. I found that it is very important to reveal the relationship between the degree of damage and affected area among various tree species, such as needle-leaved forests or broadleaf forests, from the model development point of view. I thus recommended that the authors report the

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relationship between the damage rate and storm-affected area in this dataset. Along with this discussion, the authors may/can introduce the section of data comparison by analyzing their dataset and other remote sensing indexes by using different thresholds for accessing, justifying, or distinguishing the windthrow damage.

The work made by the authors is not trivial and I support the publication of this study in ESSD. Before publishing this work, I have a few specific comments listed below:

1. P5L435L: Please explain the reason for using a 500 m² clear cut area to identify the wind damage due to Gudrun in 2005. Besides, the storm Gudrun caused a super huge damage area which required several years to clean the damaged forests.
2. P8L248: The authors argue that a possible reason for underestimating the damaged wood volume/biomass may due to the uncertainty of initial biomass within the FORWIND identified the storm-affected area. The authors should provide the number of mean biomass for the FORWIND identified storm-affected area. Otherwise, I think the uncertainty for estimating the damaged wood volume/biomass due to windthrow might originate from missing interpretation of aerial photos.
3. P10L299: Please check the citation of the study made by Bonan and Doney (2018) for the implementation of a windstorm effect in land surface models.
4. Please add a space between texts and parentheses.

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