

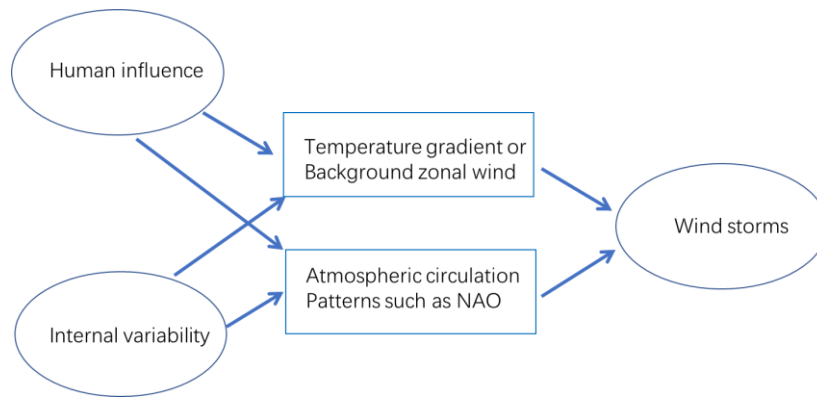
Review result of “Human influence on European winter wind storms such as those of January 2018” by Vautard et al.

Overall recommendation: Major revision

Although this manuscript is interesting, I recommend a major revision because there are many some clarity and logic issues. Below I have three major issues about this manuscript. This needs a further clarification by the authors even though solving the issues is difficult.

Major comments:

- (1) I don't know whether these models and which one can better simulate strong wind events or storms over Europe. If ok, these models can used to examine how Human activity affects the European winter wind storms. If no, these results are not real.
- (2) It is well known that the storm changes are modulated by the basic air temperature gradient and atmospheric circulation patterns. The authors should tell the reader how changes in storms are linked to basic air temperature gradient and atmospheric circulation pattern changes. Thus, I think that some changes of European wind storms are induced by atmospheric internal variability such as NAO and North Atlantic jet variability. I don't see any information about the internal variability of European winter wind storms from this manuscript.
- (3) I think that it is important to differentiate the human influence and internal variability of wind storms over Europe. In fact, the human activity does not only affect the background atmospheric temperature gradient, but also on the atmospheric circulation patterns. Because the human influence and internal variability are coupled together, it is difficult to say the human activity can have a significant influence on European wind storms even though the authors presented many model results.



Minor comments:

- (1) Page 1, line 20: “covering The Netherlands” should be “covering the Netherlands”.
- (2) Page 2, line 5: “By contrast, A more zonal flow” should be “By contrast, a more zonal flow”.
- (3) The circulation patterns in Fig.1 are different from those in Fig. 2. In fact, the circulation patterns in Fig. 1 are wave trains that are comprised of European blocking and NAO+ patterns (Luo et al. 2015, JC, 6398-6418). Thus, it may be difficult to use the circulation patterns in Fig. 2 to account for the winter wind storms over Europe.