The study is about “Mapping land degradation risk due to wind and water erosion”. Principles and methodology are well supported. However, I would like to consider some specific comments below as minor revision. In general, there are some grammar errors throughout the manuscript. Please check the spellchecking in addition to these minor issues.

Page 5: Only 23 dusty days are used ….. out of 500 dust days, I speculate…every year: 28 dusty days (2000-2020). I would like to see a histogram with MODIS AOD (500nm, 2000-2020) at least for one key dust station. I think all days with AOD>0.5 (500nm) are dusty days. Is the use of 23 days really a representative approach?

Why not showing a correlation with wind speed vs AOD for several selected observational sites? Your argumentation is not very much convincing without some demonstrations (visualizations). One could get the impression, the work is based, at the end, on a few 'beauty data' only, but does not allow solid conclusions and does not provide insight into the complex problematic.

Did you consider these days with visibility less than 2 km as non fog/haze days? How did you differentiate between fog and dust?

Once per day cannot be considered as high resolution?

Considering that the map of dust sources for Iran was prepared by the Geological Organization, why did you use satellite images to produce it? How accurate is your generated map compared to the ground map?

How to deal with the satellite data with different spatial resolutions in the study?

Line 26: The water and aeolian soil erosion maps
Line 32: the risk of land degradation in an inhabited region
Line 43: soil erosion in a short time
Line 49: has detrimental impacts on the Earth system
Line 52: therefore necessary for developing a better understanding
Line 85: to the increasing dust concentration in southwest Asia
Line 118: That information is extracted from data collected during an own field survey paired with a previous research (delete “a” before previous)
Line 141: in the ten-year period (add hyphen for “ten-year”)
Line 162-163: constants taken during the initial calibration
Line 168: we see dust aerosol in different colors and qualities in the MODIS images over 28 days
Line 177-178: the identification and selection of appropriate dust sources and soil erosion-effective factors are necessary.
Line 183: the Topographic Wetness Index (TWI), (Not Witness)
Line 199: Annual rainfall (Fig. 3e) was obtained from
Line 195: Mean annual rainfall was calculated using
The former is built while the RF model

three layers, namely, the input layer, the hidden layers

and the output layer is the maps of

and some indicators which were explained in section 2.1.2

similar results have been obtained in which RF with an accuracy of 45.8%

although the differences between FDA and ANN are in the statistical sense relatively small.

Distance from roads and rivers were recognized as the least important factors

human activity is a contributing factor to the water-induced soil erosion.

the study area are at risk of soil erosion

The findings of the present study are therefore

The areas that fall under the category of both kinds (“falls” should change into “fall”)

the adverse impacts of water-induced soil erosion are known