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Natural Hazards and Earth System Sciences
Discussions

Interactive comment on "Estimation of Tropical Cyclone Wind Hazards in Coastal Regions of China" *by* Genshen Fang et al.

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This manuscript estimates the tropical cyclone wind hazards in southeastern coastal region of China. Two typhoon wind field parameters, i.e. radius to maximum winds R_(max,s) and shape parameter of radial pressure profile B_s are identified using JMA best track dataset coupled with a boundary layer wind field model. TC wind hazard curves in terms of design wind speed versus return periods for major coastal cities of China are developed. The topic of this study is in-line with the journal of "Natural Hazards and Earth System Sciences (NHESS)". Generally, the paper is a well-organized study and worth to be published. The obtained results will be valuable to the researchers and engineers in this field.

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Discussion paper

This reviewer has minor comments about this study as follows: (1) The major concern is the use of the wind-driven R_(max,s) and B_s. The results in Figs. 11 and 13 show that B_s and R_(max,s) have a positive correlation which is inconsistent with the findings by Vickery et al. (2008). And few values of B_s are higher than 2.5 which fall outside the range of 0.5∼2.5 suggested by Vickery et al. (2000). Please explain. Vickery, P. J., Skerlj, P. F., Steckley, A. C., and Twisdale, L. A.: Hurricane Wind Field Model for Use in Hurricane Simulations, Journal of Structural Engineering, 126, 1203-1221, 2000. Vickery, P. J. and Wadhera, D.: Statistical Models of Holland Pressure Profile Parameter and Radius to Maximum Winds of Hurricanes from Flight-Level Pressure and H*Wind Data, Journal of Applied Meteorology and Climatology, 47, 2497-2517, 2008.

(2) The titles of section 2.1 and 2.2 are identical. Please check.

(3) Line 409, "...show satisfactory agreement with...", consider use "...show a satisfactory agreement with..." or "...are in satisfactory agreement with...".

(4) A similar study performed by Wu and Huang (2019) is suggested to be compared and discussed. Wu F., and Huang G.: Refined Empirical Model of Typhoon Wind Field and Its Application in China, Journal of Structural Engineering, 145(11): 04019122, 2019.

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