

2 Figure S1. Frequency distribution of slope aspects of 10 m x 10 m grids in UTCBF.

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Supplementary figures S1 to S5 to the article "A model for longitudinal data sets relating winddamage probability to biotic and abiotic factors: a Bayesian approach", by Kiyoshi Umeki, Marc D. Abrams, Keisuke Toyama and Eri Nabeshima. Forest Systems Vol. 28 No. 3, December 2019 (https://doi.org/10.5424/fs/2019283-15200)







- 3 Katsuura weather station.
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3 Figure S3. Temporal change in the number of days with maximum wind speed exceeding 10 m s<sup>-</sup>

- 4 <sup>1</sup> based on a regularly recorded data in meteorological stations. Four meteorological stations
- 5 (Choshi, Osaka, Miyakejima, and Kobe) on Honshu (the biggest island in Japanese archipelago)

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2 stations on Boso peninsula (Choshi, Chiba, and Katsuura) are relatively near to UTCBF.



Figure S4. Predicted wind-damage probability for UTCBF related to (a) wind speed, (b) wind directions, (c) decades, and (d) seasons. Solid lines indicate posterior means, and dark and light grey colors indicate 80% and 95% credible intervals, respectively. Predictions were made by model 2.

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Figure S5. Temporal change in the observed (a) and expected (b) number of days with winddamage events in forests in UTCBF. Different shades of grey indicate the contribution of wind events with different levels of wind-damage probability. Expected number of days with winddamage events was calculated with model 2.

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