

Treefall risk assessment in an urban green area for a hypothetical 30-year return period storm using damage data from Typhoons Faxai and Hagibis in 2019

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Supporting Material 3

Effects of maximum compressive stress and tree types on treefall probability. Standard deviation represents those of posterior distribution of parameters. “Conifer - Broad leaved” represents posterior distribution of subtracts of parameters for two tree types.

Variable	Estimate	Standard deviation	
Intercept	-9.52	0.86	**
Max compressive stress	1.58×10^{-7}	0.17×10^{-7}	**
Tree type			
Broadleaved	-1.15	0.74	+
Conifer	1.14	0.74	+
Test for difference of parameters			
Conifer - Broadleaved	2.08	0.50	**

** P<0.01, + P<0.10

Supporting Material 4

Predicted number of trees belonging to treefall probability classes in the strongest storm in next 30 years. Figures in parenthesis represent percentage. Please note that number includes trees fallen by Typhoons in 2019.

	Treefall probability				Sum
	0 - 10%	10 - 30%	30 - 50%	50 - 100%	
Conifers	361 (63.3)	147 (25.8)	36 (6.3)	26 (4.6)	570 (100)
<i>Cinnamomum camphora</i>	644 (71.3)	108 (12.0)	47 (5.2)	104 (11.5)	903 (100)
<i>Castanopsis sieboldii</i> subsp. <i>sieboldii</i>	1247 (95.6)	44 (3.4)	7 (0.5)	6 (0.5)	1304 (100)
Native sub-canopy trees	806 (99.6)	2 (0.2)	0 (0.0)	1 (0.1)	809 (100)
Others	9627 (93.3)	396 (3.8)	105 (1)	189 (1.8)	10317 (100)
Sum	12685 (91.2)	697 (5)	195 (1.4)	326 (2.3)	13903 (100)

Supporting Material 5

Expected number of trees belonging to treefall energy classes in the strongest storm in next 30 years. Figures in parenthesis represent percentage. Please note that number includes trees fallen by Typhoons in 2019.

	Expected treefall energy (kJ)			Sum
	0 - 31.6	31.6 - 100	100 - 316	
Conifers	539 (94.6)	23 (4.0)	8 (1.4)	570 (100)
<i>Cinnamomum camphora</i>	771 (85.4)	83 (9.2)	49 (5.4)	903 (100)
<i>Castanopsis sieboldii</i> subsp. <i>sieboldii</i>	1298 (99.5)	6 (0.5)	0 (0.0)	1304 (100)
Native sub-canopy trees	809 (100)	0 (0.0)	0 (0.0)	809 (100)
Others	10271 (99.6)	46 (0.4)	0 (0.0)	10317 (100)
Sum	13688 (98.5)	158 (1.1)	57 (0.4)	13903 (100)