Supplementary material

Table S1. Meteorological characteristics and isotopic composition of open rainfall and throughfall for the 21 events during the study period, May 2018 to July 2019.

Date	Rainfall class	Rainfall (mm)	Throughfall (mm)	Rainfall duration (h)	Max 30-min rainfall intensity (mm h^{-1})	Samples	Mean weighed rainfall δ^{18}O (‰) (mean ± SD)	Mean weighed throughfall δ^{18}O (‰) (mean ± SD)
12 May 2018	L-H	52.5	48.3	9.8	19.9	10	-4.95 ± 0.17	-4.67 ± 0.17
19 May 2018	S-L	12.5	10.7	6.6	7.8	3	-5.26 ± 0.59	-5.31 ± 0.88
28 May 2018	L-L	37.4	33.2	50.8	6.2	7	-6.18 ± 0.21	-6.08 ± 0.28
1 June 2018	L-H	26.9	20.3	9.8	25.4	5	-7.34 ± 0.72	-6.83 ± 0.47
6 June 2018	S-H	26.9	25.7	5.8	18.3	5	-8.55 ± 0.41	-8.34 ± 0.67
10 June 2018	S-L	7.8	5.4	3.0	5.9	2	-6.84 ± 3.82	-5.34 ± 1.66
23 June 2018	S-H	20.5	18.6	3.3	38.2	4	-3.67 ± 0.34	-3.51 ± 0.44
28 June 2018	L-H	34.3	33.6	9.2	21.8	7	-6.46 ± 0.28	-5.96 ± 0.32
11 July 2018	S-H	12.5	8.6	2.8	16.4	2	-6.37 ± 2.79	-6.41 ± 2.63
9 August 2018	L-H	39.4	37.6	20.6	11.7	7	-4.06 ± 0.20	-4.08 ± 0.29
12 August 2018	S-H	16.8	14.0	5.4	19.9	4	-4.76 ± 0.75	-4.71 ± 0.92
23 August 2018	S-L	6.0	3.8	3.3	8.2	2	-3.98 ± 1.01	-4.50 ± 0.81
3 September 2018	S-H	32.8	28.6	3.1	17.6	6	-4.19 ± 0.34	-4.07 ± 0.27
9 October 2018	L-L	34.3	31.1	13.2	8.6	7	-11.75 ± 0.29	-11.41 ± 0.47
2 April 2019	L-L	13.5	12.5	23.6	2.7	3	-5.98 ± 0.41	-5.60 ± 0.57
1 May 2019	L-L	27.9	23.8	43.8	5.1	6	-5.29 ± 0.37	-4.52 ± 0.34
20 May 2019	S-L	8.8	6.9	7.0	5.1	2	-6.43 ± 0.03	-6.16 ± 1.17
24 May 2019	L-L	18.7	16.9	12.7	5.1	4	-4.59 ± 0.41	-3.86 ± 0.42
11 June 2019	L-L	32.6	33.0	16.2	5.9	7	-7.61 ± 0.12	-7.11 ± 0.21
14 July 2019	S-L	7.6	5.6	1.8	9.4	2	-3.12 ± 0.68	-2.46 ± 0.29
17 July 2019	S-H	13.3	9.4	1.7	15.2	3	-5.86 ± 1.32	-4.83 ± 0.79

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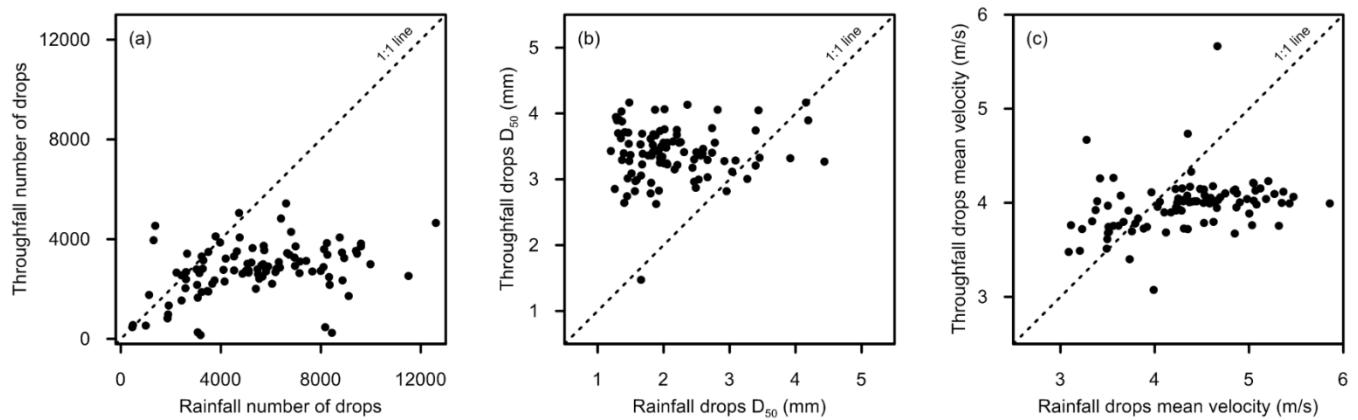


Figure S1. Relationship between open rainfall and throughfall for: (a) number of drops, (b) median volume drop diameter (D_{50}) and (c) drops' mean velocity.

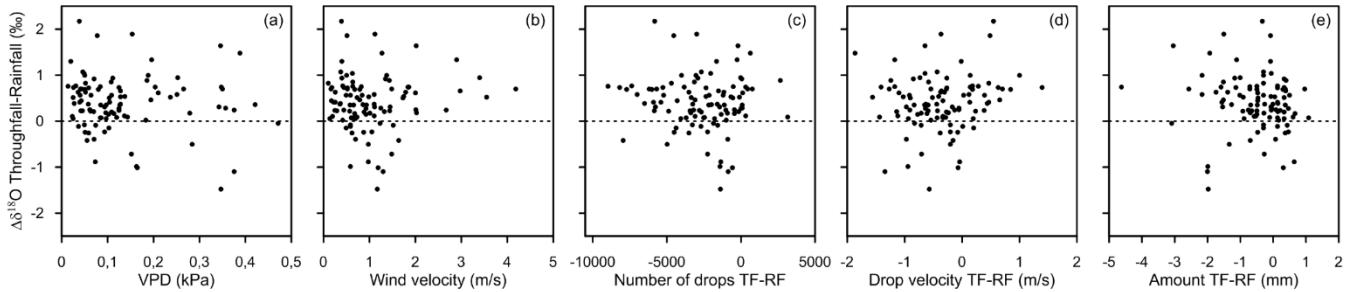
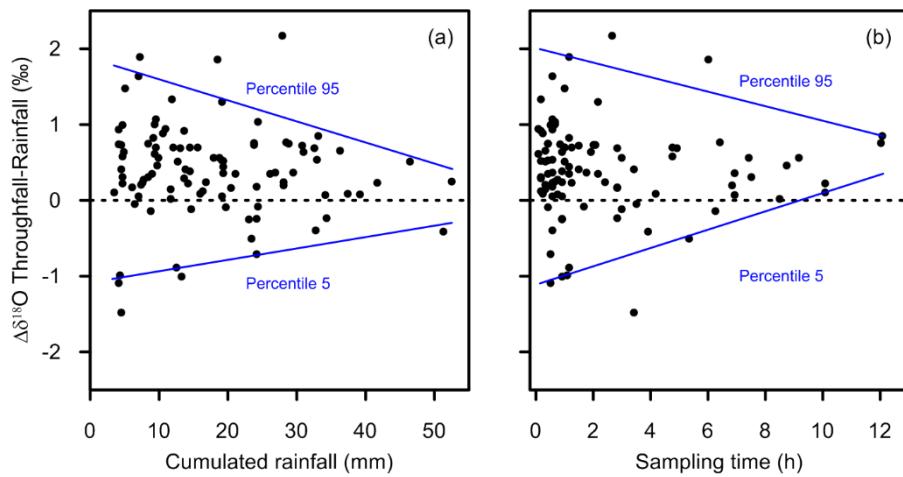



Figure S2. Isotopic shift variability ($\delta^{18}O_{TF-RF}$) *versus*: (a) vapor pressure deficit, (b) mean wind velocity, (c) differences in number of drops, (d) differences in mean drop velocity and (e) differences in amount per sample.

50 **Figure S3.** Isotopic shift variability ($\delta^{18}O_{TF-RF}$) *versus*: (a) cumulative rainfall throughout the rainfall event and (b) sampling time (i.e. time each 5 mm sample took to be filled).

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