

Supplement of Atmos. Chem. Phys., 16, 8571–8579, 2016
<http://www.atmos-chem-phys.net/16/8571/2016/>
doi:10.5194/acp-16-8571-2016-supplement
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Atmospheric
Chemistry
and Physics
Open Access
EGU

Supplement of

Imbalanced phosphorus and nitrogen deposition in China's forests

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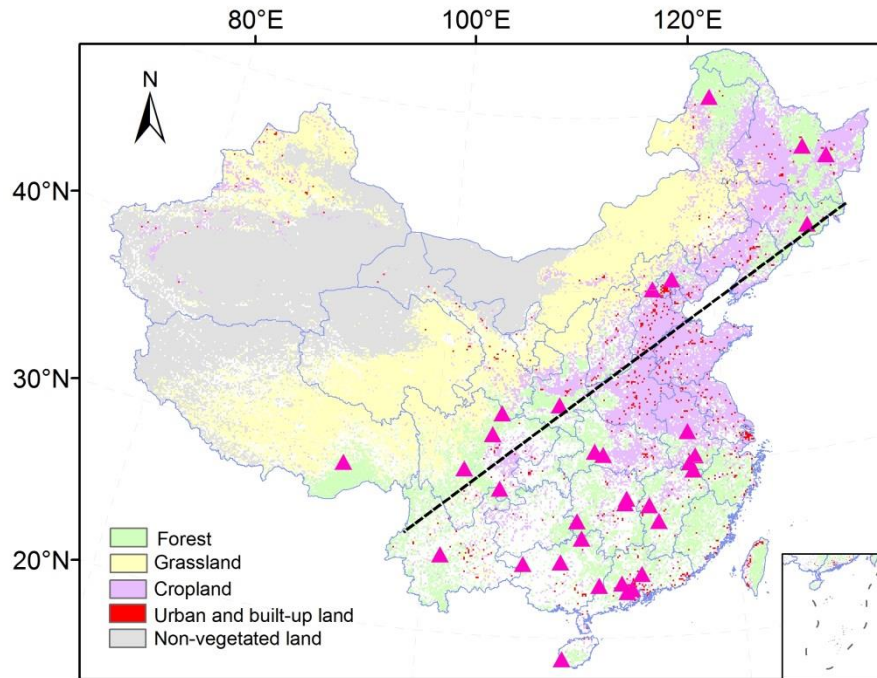


Figure S1. Locations of 33 forested sites with bulk precipitation and throughfall observations in this study. The 11 sites in the northwest of the dashed line have a distance less than 400 km to the nearest
5 semiarid regions (grassland), while the 22 sites in the southeast of the dashed line were far from the semiarid regions.

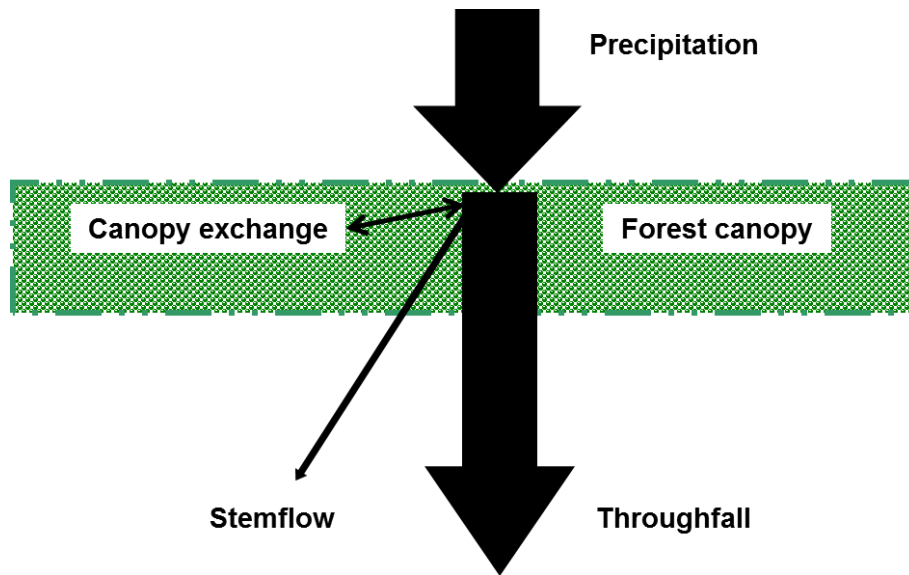


Figure S2. Partition of nitrogen or phosphorus flows when rainwater passes through forest canopy. Bulk precipitation is partitioned into throughfall and stemflow when passing through forest canopy and canopy exchange may also occur.

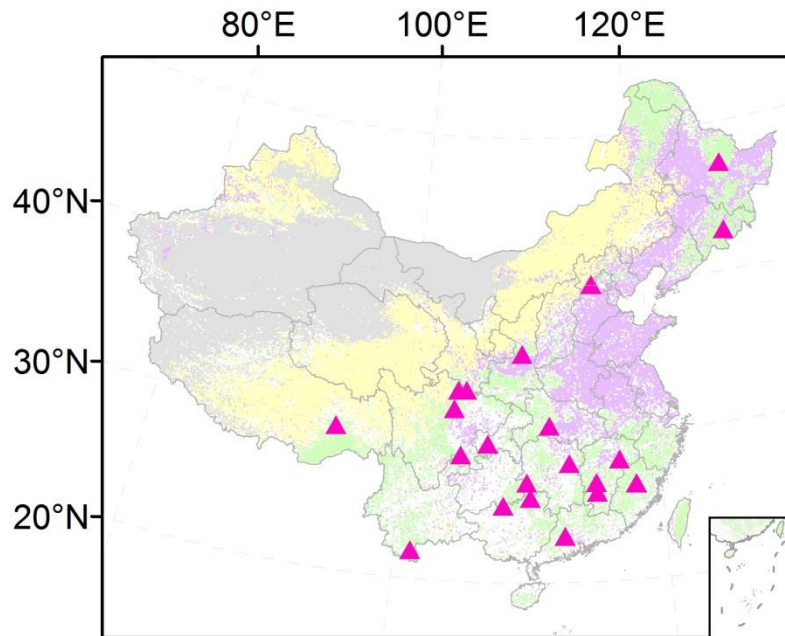


Figure S3. Distribution of 26 forested sites with measured water fluxes of throughfall and stemflow.

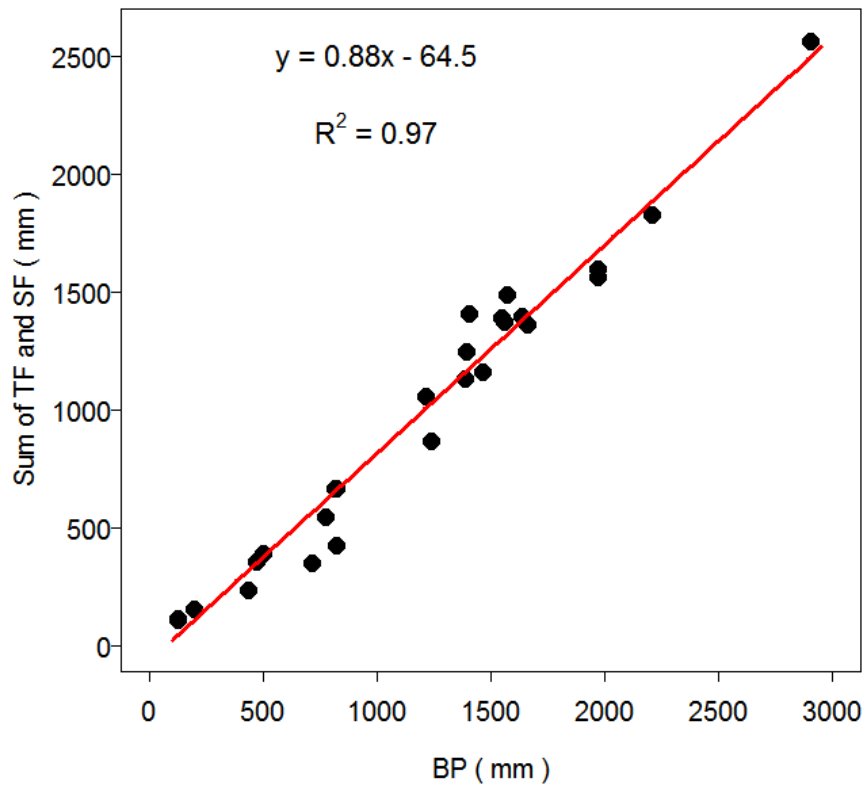


Figure S4. Empirical relationship between bulk precipitation (BP) and the sum water flux of throughfall (TF) and stemflow (SF) in China's forests.

Table S1 Information on the sites of the datasets.

Site ID	Lon (E)	Lat (N)	BP		TF		Precipitation (mm)	Year(s)	Reference
			N	P	N	P			
1	121.51	50.83	A	A	A	A	500	2008	Su, 2009
2	128.10	42.70	A	A	A	A	515	2001	Xiao et al., 2002
3	130.71	46.42	A	A	A	A	550	2008	Liang et al., 2010
4	117.02	40.51	A	A	A	A	636	1999,2005	Liu et al., 2001; Tian, 2007
5	128.87	47.18	A	A	A	A	676	2006,2008	Wu et al., 2008; Wu, 2009
6	94.02	29.16	A	A	A	A	716	2006-2007	Jin, 2008
7	115.47	40.02	A	A	A	A	717	1994	Chen, 1997
8	104.50	32.91	A	A	A	A	825	2002-2003	Gong et al., 2005
9	103.89	31.69	U	A	U	A	945	2005-2006	Chang, 2007
10	117.34	31.80	A	A	A	A	1011	2008-2011	Zhang, 2010; Zeng, 2012
11	108.50	33.50	A	A	A	A	1130	2013	Liu et al., 2014
12	110.93	30.83	A	A	A	A	1150	2006	Wan et al., 2010
13	111.51	30.65	A	A	A	A	1200	1997	Wang et al., 2000
14	104.57	28.60	A	A	A	A	1214	2012-2013	Zhang et al., 2014
15	108.69	24.42	A	A	A	A	1248	1990-1991	Huang and Liang, 1994
16	115.07	26.75	A	A	A	A	1389	1999-2002	Cai et al.,2003;Chen et al.,2003
17	114.5	27.67	A	A	A	A	1400	1985-1987	Ma, 1989
18	109.75	26.83	A	A	A	A	1407	1995-2002	Tian, 2002; Kang et al., 2006
19	113.03	28.11	A	A	A	A	1411	2007-2008	Luo and Wen, 2010
20	110.05	25.83	A	A	A	A	1538	1990-1991	Huang and Liang, 1994
21	112.90	27.83	A	A	A	A	1549	2003-2004	Chen et al., 2006
22	111.15	23.07	A	A	A	A	1582	1990-1991	Huang and Liang, 1994
23	117.75	30.38	A	A	A	A	1609	2008-2009	Zhang, 2010
24	117.35	30.02	A	A	A	A	1626	2010-2011	Zeng, 2012
25	113.20	22.85	A	A	A	A	1629	2002-2003	Chen et al., 2004
26	117.55	29.58	A	A	A	A	1750	2010-2011	Zeng, 2012
27	106.32	24.28	A	A	A	A	1778	1990-1991	Huang and Liang, 1994
28	112.88	22.67	A	A	A	A	1801	1996	Liu et al., 2000
29	101.02	24.53	A	A	A	A	1931	1991-1993 1997-1999 1998-1999	Gan et al., 1997; Mo et al., 2002 Liu et al., 2002
30	102.12	29.63	A	A	A	A	1947	2006	Sun and Wang, 2009
31	112.57	23.17	A	A	A	A	1968	1999-2000 2009-2010	Liu et al., 2003; Zhang et al., 2011
32	113.83	23.70	A	A	A	A	2084	2006-2008	Zhou et al., 2009
33	108.83	18.73	A	A	A	A	2905	1989-1992 1990-1993	Chen et al., 1998 Zeng et al., 1997

Note: BP and TF indicates bulk precipitation and throughfall, respectively. A and U indicate the availability and unavailability of the targeted data on total N or P concentrations, respectively.

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