Supplementary Material

Mercury fluxes, budgets and pools in forest ecosystems of China: A critical review

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11 pages (including cover page)

5 Tables (S1, S2, S3, S4, S5)

5 figures (S1, S2, S3, S4, S5)

21 **Table S1.** THg concentrations (ng g^{-1}) and storage (mg m^{-2}) in soils of China.

Site	Forest type	Location Type	Horizon/Depth	THg concentrations	Total storage	Reference
Mt. Gongga, Sichuan	Subtropical evergreen broadleaf	Remote	2 cm	120~260		Fu et al., 2010a
Mt. Leigong, Guizhou	Subtropical deciduous broadleaf	Remote	0–90	259	152.3	Wang et al., 2009
Mt. Ailao, Yunnan	Subtropical evergreen broadleaf	Remote	0–80	118–279	191.3	Zhou et al., 2013a
Mt. Ailao, Yunnan	Subtropical evergreen broadleaf	Remote	O&A (20 cm)	248–257	81	Lu et al., 2016
Mt. Ailao, Yunnan	Mossy coppice	Remote	O&A (20 cm)	70–94	28	Lu et al., 2016
South China	Subtropical evergreen conifers/ broad-leaved	Remote	0–5	97.8±36.0		Luo et al., 2014
Northeast China	Temperate evergreen/deciduous coniferous and broadleaf	Remote	0–5	44.0±14.1		Luo et al., 2014
Mt. Changbai, Jilin	Temperate broadleaf and pine mixed	Remote	0–30	70–730	60.2	Wang et al. 2013
Mt. Dongling, Beijing	Temperate Chinese pine evergreen	Remote	0–40	8–85	7.5	Zhou et al., 2017a
Mt. Dongling, Beijing	Temperate larch deciduous	Remote	0–40	12–65	7.2	Zhou et al., 2017a
Mt. Dongling, Beijing	Temperate oak deciduous	Remote	0–40	104–20	10.6	Zhou et al., 2017a
Mt. Dongling, Beijing	Temperate mixed deciduous	Remote	0–40	10–87	7.4	Zhou et al., 2017a
Eastern of the Tibet Plateau	Timberline forests	Remote	A	85		Tang et al., 2015
Eastern of the Tibet Plateau	Timberline forests	Remote	C	25		Tang et al., 2015
Eastern of the Tibet Plateau	Timberline forests	Remote	B	50–110		Wang et al., 2009
Mt. Xiaoxing'an, Heilongjiang	Temperate deciduous coniferous	Remote	0–55	66–187		Liu et al., 2003
Linzhi, Tibetan Plateau	Subtropical evergreen coniferous	Remote	O–B	38.2–59.2	5.1–20.6	Gong et al. 2014
Minya Konka, Yunnan	Timberline forest	Remote	0–10	66–280		Falandysz et al., 2016
Eastern the Tibetan Plateau	Timberline forest	Remote	0–60	26–70	23 ±9	Wang et al. 2017
Mt. Simian, Chongqing	Subtropical evergreen broad-leaf	Rural	0–97	64.8–297.8	20.19	Ma et al., 2016
Qianyanzhou, Jiangxi	Subtropical evergreen coniferous	Rural	0–15	54	6.287	Luo et al., 2015
Huitong, Hunan	Subtropical evergreen coniferous	Rural	0–15	43.3	18.8	Luo et al., 2015
Dinghushan, Guangdong	Subtropical	Suburban	0–20	201		Wang et al., 2012
Xijiaoshan, Guangdong	Subtropical	Suburban	0–20	270		Wang et al., 2012
Nankunshan, Guangdong	Subtropical	Suburban	0–20	87		Wang et al., 2012
South China Botanical Garden, Guangdong	Subtropical	Suburban	0–20	139		Wang et al., 2012
Huangpu, Guangdong	Subtropical	Urban	0–20	224		Wang et al., 2012
Tieshanping, Chongqing	Subtropical evergreen coniferous	Suburban	0–90	239	164.7	Wang et al., 2009
Tieshanping, Chongqing	Subtropical evergreen coniferous	Suburban	O&A(4 cm)	80–191	14.2	Zhou et al., 2015a
Tieshanping, Chongqing	Subtropical evergreen coniferous	Suburban	0–40	58–332	103.5	Zhou et al., 2016a
Luchongguan, Guizhou	Subtropical broadleaved-coniferous	Suburban	0–90	167	93.8	Wang et al., 2009

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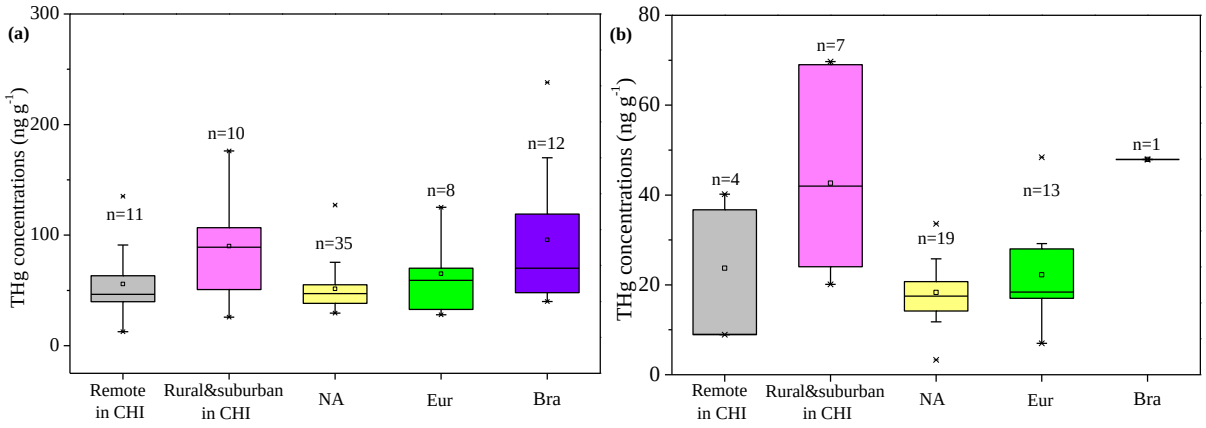

Fig. S1. Box chart for litterfall (a) and throughfall (b) THg concentrations in remote and rural & suburban forest ecosystems in China (CHI), North America (NA), Europe (Eur) and Brazil (Bra). Data for litterfall and throughfall at forest in China are from Fu et al. (2008b, 2010a, b, 2016); Gong et al. (2014); Luo et al. (2015a); Ma et al. (2015, 2016); Niu et al., 2011; Wan et al. (2009a); Wang et al. (2009); Zhou et al. (2013a, b, 2016c, 2017a); in North America are from Blackwell and Driscoll, 2015a; Bushey et al.,2008; Choi et al., 2008; Demers et al.,2007; Fisher and Wolfe, 2012; Friedli et al.,2007; Graydon et al., 2008; Grigal et al., 2000; Hall and St. Louis, 2004; Johnson et al., 2007, 2002; ; Juillerat et al., 2012; Kalicin et al., 2008; Kolka 1999; Lindberg et al., 1994, 1991; Nelson et al., 2007; Obrist et al., 2012; Rea et al., 1996, 2002; Risch et al., 2012; Selvendiran et al., 2008; Sheehan et al., 2006; St. Louis et al., 2001; Witt et al., 2009; for Europe are from Åkerblom et al., 2015; Hultberg et al., 1995; Iverfeldt, 1991; Jiskra et al., 2015; Larssen et al., 2008; Munthe et al., 1995; Schwesig and Matzner, 2000, 2001; Szopka et al., 2011; from Brazil are from da Silva et al., 2009; Fostier et al., 2000, 2003, 2015; Michelazzo et al., 2010; Roulet et al., 1999.

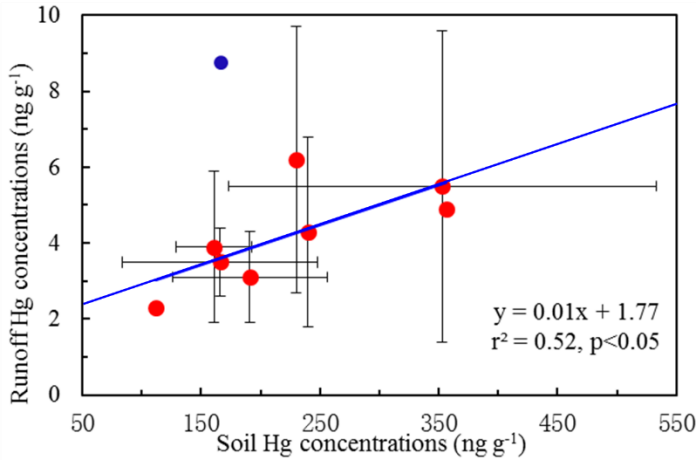

Fig. S2. Correlations between soil Hg concentrations in forest soils and THg concentration in stream water in China. The data of blue dot was from city forest (Luchongguan) by Wang et al. (2009) was not included in the regression analysis. The other data are from Wang et al., 2009, 2011, 2017; Zhou et al., 2015a; Fu et al., 2010a; Ma et al., 2016; Luo et al., 2015.

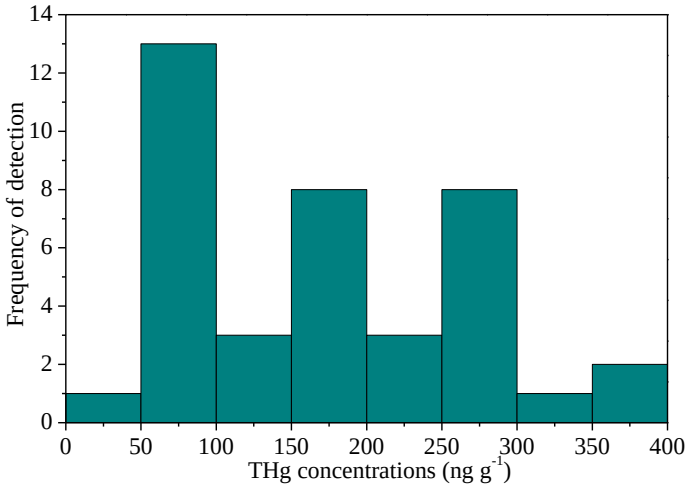

Fig. S3. Frequency distribution of Hg concentrations in top soils from Chinese forests (n=30).

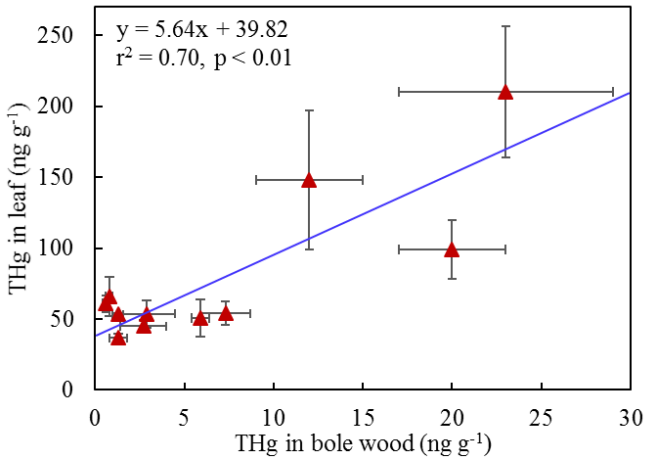

Fig. S4. Relationship analysis between the THg concentrations in bole wood verses the THg concentrations in leaf. Data were from Tieshanping forests (Zhou et al., 2016a) and Mt. Dongling (Zhou et al., 2017a).

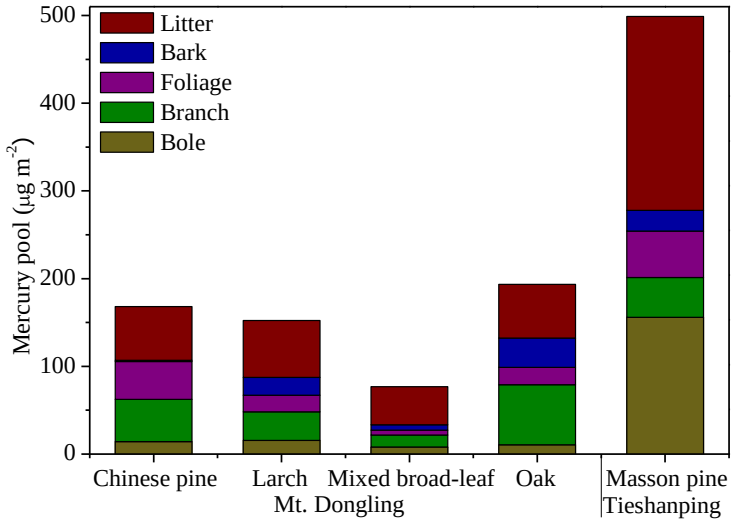

Fig. S5. THg pools in aboveground biomass at the subtropical forest of Tieshanping and the different stands of the temperate forest of Mt. Dongling (Zhou et al., 2016a, 2017a).

References:

Åkerblom, S., Meili, M., and Bishop, K.: Organic matter in rain: an overlooked influence on mercury deposition. Environ. Sci. Technol. Lett., 2, 128–132, 2015.

Blackwell, B. D., and Driscoll, C. T.: Deposition of mercury in forests along a montane elevation gradient. Environ. Sci. Technol., 49, 5363–5370, 2015b.

Bushey, J. T., Nallana, A. G., Montesdeoca, M. R., and Driscoll, C. T.: Mercury dynamic of a northern hardwood canopy, Atmos. Environ., 42, 6905–6914, 2008.

Choi, H. -D., Sharac, T. J., and Holsen, T. M.: Mercury deposition in the Adirondacks: A comparison between precipitation and throughfall, Atmos. Environ., 42, 1818−1827, 2008.

da Silva, G. S., Bisinoti, M. C., Fadini, P. S., Magarelli, G., Jardim, W. F., and Fostier, A. H. : Major Aspects of the Mercury Cycle in the Negro River Basin, Amazon, J. Brazil. Chem. Soc., 20, 1127–1134, 2009.

Demers, J. D., Driscoll, C. T., Fahey, T. J., and Yavitt, J. B.: Mercury cycling in litter and soil in different forest types in the Adirondack Region, New York, USA. Ecol. Appl., 17, 1341–1351, 2007.

Falandysz, J., Saba, M., Liu, H. G., Li, T., Wang, J. P., Wiejak, A., Zhang, J., Wang, Y. Z., and Zhang, D.: Mercury in forest mushrooms and topsoil from the Yunnan highlands and the subalpine region of the Minya Konka summit in the eastern Tibetan plateau. Environ. Sci. Pollut. Res., 23(23), 1–12, 2016.

Fisher, L. S., and Wolfe, M. H.: Examination of mercury inputs by throughfall and litterfall in the Great Smoky Mountains National Park. Atmos. Environ., 47, 554−559, 2012.

Fostier, A. H., Cecon, K., and Forti, M. C.: Urban influence on litterfall trace metals fluxes in the Atlantic forest of São Paulo (Brazil), J. Physique IV France, 107, 491–494, 2003.

Fostier, A. H., Melendez-Perez, J. J., and Richter, L.: Litter mercury deposition in the Amazonian rainforest, Environ. Pollut., 206, 605–610, 2015.

Fostier, A.-H., Forti, M. C., Guimarães, J. R. D., Merlfi, A. J., Boulet, R., Espirito Santo, C. M., and Krug, F. J.: Mercury fluxes in a natural forested Amazonian catchment (Serra do Navio, Amapá State, Brazil), Sci. Total Environ., 260, 201–211, 2000.

Friedli, H. R., Radke, L. F., Payne, N. J., Mcrae, D. J., Lynham, T. J., and Blake, T. W.: Mercury in vegetation and organic soil at an upland boreal forest site in Prince Albert National Park, Saskatchewan, Canada. J. Geophys. Res., 112, G01004. http://dx.doi.org/10.1029/2005JG000061, 2007.

Fu, X. W., Feng, X. B., Zhu, W. Z., Zheng, W., Wang, S. F., and Lu, J. Y.: Total particulate and reactive gaseous mercury in ambient air on the eastern slope of the Mt. Gongga area, China. Appl. Geochem., 23, 408–418, doi:10.1016/j.apgeochem.2007.12.018, 2008b.

Fu, X. W., Feng, X., Dong, Z. Q., Yin, R. S., Wang, J. X., Yang, Z. R., and Zhang, H.: Atmospheric gaseous elemental mercury (GEM) concentrations and mercury depositions at a high-altitude mountain peak in south China, Atmos. Chem. Phys., 10, 2425–2437, doi:10.5194/acp-10-2425-2010, 2010a.

Fu, X. W., Feng, X., Dong, Z. Q., Yin, R. S., Wang, J. X., Yang, Z. R., and Zhang, H.: Atmospheric gaseous elemental mercury (GEM) concentrations and mercury depositions at a high-altitude mountain peak in south China, Atmos. Chem. Phys., 10, 2425–2437, doi:10.5194/acp-10-2425-2010, 2010a.

Fu, X. W., Feng, X., Zhu, W., Rothenberg, S., Yao, H., and Zhang, H.: Elevated atmospheric deposition and dynamics of mercury in a remote upland forest of southwestern China, Environ. Pollut., 158, 2324–2333, doi:10.1016/j.envpol.2010.01.032, 2010a.

Fu, X., Xu, Y., Lang, X., Zhu, J., Zhang, H., Yu, B., Yan, H., Lin, C. -J., and Feng, X. B.: Atmospheric wet and litterfall mercury deposition in typical rural and urban areas in china. Atmos. Chem. Phys., 16(18), 11547–11562, 2016.

Gong, P., Wang, X. P., Xue, Y. G., Xu, B. Q., Yao, T. D.: Mercury distribution in the foliage and soil profiles of the Tibetan forest: processes and implications for regional cycling. Environ. Pollut., 188, 94–101, 2014.

Graydon, J. A., St. Louis, V. L., Hintelmann, H., Lindberg, S. E., Sandilands, K. A., Rudd, J. W. M., Kelly, C. A., Hall, B. D., and Mowat, L. D.: Long-term wet and dry deposition of total and methyl mercury in the remote boreal ecoregion of Canada, Environ. Sci. Technol., 42, 8345–8351, 2008.

Grigal, D.F., Kolk, R. K., Fleck, J. A., and Nater, E. A.: Mercury budget of an upland-peatland watershed, Biogeochemistry, 50, 95–109, 2000.

Hall, B. D. and St. Louis, V. L.: Methylmercury and total mercury in plant litter decomposing in upland forests and flooded landscapes, Environ. Sci. Technol., 38, 5010–5021, 2004.

Hultberg, H., Munthe, J., and Iverfeldt, Å.: Cycling of methylmercury and mercury – Responses in the forest roof catchment to three years of decreased atmospheric deposition, Water Air Soil Poll., 80, 415–424, 1995.

Iverfeldt, Å.: Mercury in forest canopy throughfall water and its relation to atmospheric deposition, Water Air Soil Poll., 56, 553–564, 1991.

Jiskra, M., Wiederhold, J. G., Skyllberg U., Kronberg, R.-M., Hadjas, I., and Kretzschmar, R.: Mercury deposition and re-emission pathways in boreal forest soils investigated with Hg isotope signatures, Environ. Sci. Technol., 49, 7188–7196, 2015.

Johnson, K. B,: Fire and its effects on mercury and methylmercury dynamics for two watersheds in Acadia National Park, Maine, MSc. Thesis, the University of Maine, Maine, 73 pp., 2002.

Johnson, K. B., Haines, T. A., Kahl, J. S., Norton, S. A., Amirbahman, A., and Sheehan, K. D.: Controls on mercury and methylmercury deposition for two watersheds in Acadia National Park, Maine, Environ. Monit. Assess., 126, 55–67, 2007.

Juillerat, J. I., Ross, D. S., and Bank, M. S.: Mercury in litterfall and upper soil horizons in forested ecosystems in Vermont, USA, Environ. Toxicol. Chem., 31, 1720–1729, 2012.

Kalicin, M. H., Driscoll, C. T., Yavitt, J., Newton, R., and Munson, R.: The Dynamics of Mercury in Upland Forests of the Adirondack Region of New York, in: Mercury in Adirondack wetlands, lakes and terrestrial systems (MAWLTS), New York State Energy Research and Development Authority, New York, 8-1-8-15, 2008.

Kolka, R. K., Nater, E. A., Grigal, D. F., and Verry, E. S.: Atmospheric inputs of mercury and organic carbon into a forested upland/bogwatershed, Water Air Soil Poll., 113, 273–294, 1999.

Larssen, T., de Wit, H., Wiker, M., and Halse, K.: Mercury budget of a small forested boreal catchment in southeast Norway. Sci. Total Environ., 404, 290–296, doi:10.1016/j.scitotenv.2008.03.013, 2008.

Lindberg, S. E., Owens, J. G., and Stratton, W. J., Application of throughfall methods to estimate dry deposition of mercury, in: Mercury as a global pollutant, Huckabee, J. and Watras, C. (Eds.), Lewis Publications, 261–272, 1994.

Lindberg, S. E., Turner, R. R., Meyers, T. P., Taylor, G. E., and Schroeder, W. H.: Atmospheric concentrations and deposition of Hg to a deciduous forest atwalker branch watershed, Tennessee, USA. Water Air Soil Poll., 56(1), 577–594, 1991.

Liu, R., Wang, Q., Lu, X., Fang, F., Wang, Y.: Distribution and speciation of mercury in the peat bog of xiaoxing'an mountain, northeastern china. Environ. Pollut., 124(1), 39-46, 2003.

Lu, Z., Wang, X., Zhang, Y., Zhang, Y. J., Luo, K., Sha, L.: High mercury accumulation in two subtropical evergreen forests in south china and potential determinants. Journal of Environmental Management, 183(Pt 3), 488, 2016.

Luo Y.: Mercury input, output and transport in forest ecosystems in southern China, Doctor's dissertation, Tsinghua Universit, Beijing, China, 1–112, 2015 (in Chinese).

Luo, Y., Duan, L., Wang, L., Xu, G., Wang, S., and Hao, J.: Mercury concentrations in forest soils and stream waters in northeast and south china. Sci. Total Environ., 496, 714–720, 2014.

Ma M.: Mercury inputs, outputs, and sources under the forest canopy in typical subtropical forest ecosystem of southwest China. PhD Dissertation, Southwest University, Chongqing, China, 1–116, 2015 (in Chinese).

Ma, M., Wang, D., Du, H., Sun, T., Zhao, Z., Wang, Y., Wei, S.: Mercury dynamics and mass balance in a subtropical forest, southwestern china. Atmos. Chem. Phys., 16, 4529–4537, 2016

Michelazzo, P. A. M., Fostier A. H., Magarelli, G., Santos, J. C., and Andrade de Carvalho Jr., A. : Mercury emission from forest burning in soutern Amazon, J. Geophys. Res. Lett., 37, L09809, doi:10.1029/2009GL042220, 2010.

Munthe, J. Hultberg, H., and Iverfeldt, A.: Mechanisms of deposition of methylmercury and mercury to coniferous forests, Water Air Soil Poll., 80, 363–371, 1995.

Nelson, S. J., Johnson, K. B., Kahl, J. S., Haines, T. A., and Fernandez, I. J.: Mass balances of mercury and nitrogen in burned and unburned forested watersheds at Acadia National Park, Maine, USA, Environ. Monit. Assess, 126, 69–80, 2007.

Niu Z, Zhang X, Wang Z, and Ci Z.: Field controlled experiments of mercury accumulation in crops from air and soil. Environ. Pollut., 159(10), 2684–2689, 2011.

Obrist, D.: Mercury distribution across 14 U.S. Forests. Part II: Patterns of methyl mercury concentrations and areal mass of total and methyl mercury, Environ. Sci. Technol., 46, 5921–5930, 2012.

Rea, A. W., Keeler, G. J., and Scherbatskoy, T.: The deposition of mercury in throughfall and litterfall in the lake champlain watershed: A short-term study. Atmos. Environ., 30 (19), 3257−3263, 1996.

Rea, A. W., Lindberg, S. E., Scherbatskoy, T., and Keeler, G. J.: Mercury accumulation in foliage over time in two northern mixed-hardwood forests, Water Air Soil Poll., 133, 49–67, 2002.

Risch, M. R., DeWild, J. F., Krabbenoft, D. P., Kolka, R. K., and Zhang, L.: Litterfall mercury dry deposition in the eastern USA, Environ. Pollut., 161, 284–290, 2012.

Roulet, M., Lucotte, M., Farella, N., Serique, G., Coelho, H., Sousa Passos, C. J., de Jesus Dasilva, E., Scavone de Andrade, P., Mergler, D., Guimarãwa, J.-R., D., and Amorim, M. : Effects of recent human colonization on the presence of mercury in Amazonian ecosystems, Water Air Soil Poll., 112, 297–313, 1999.

Schwesig, D. and Matzner, E.: Dynamics of mercury and methylmercury in forest floor and runoff of a forested watershed in Central Europe, Biogeochemistry, 53, 181–200, 2001.

Schwesig, D. and Matzner, E.: Pools and fluxes of mercury and methylmercury in two forested catchments in Germany, Sci. Total Environ., 260, 213–223, 2000.

Selvendiran, P., Driscoll, C. T., Montesdeoca, M. R., and Bushey, J. T.: Inputs, storage, and transport of total and methyl mercury in two temperate forest wetlands. J. Geophys. Res., 113, G00C01. http://dx.doi.org/10.1029/2008JG000739, 2008.

Sheehan, K. D., Fernandez, I. J., Kahl, J. S., and Amirbahman, A.: Litterfall mercury in two forested watersheds at Acadia National Park, Maine, USA, Water Air Soil Poll., 170, 249–265, 2006.

St. Louis, V. L., Rudd, J. W. M., Kelly, C. A., Hall, B. D., Rolfhus, K. R., Scott, K. J., Lindberg, S. E., and Dong, W.: Importance of the forest canopy to fluxes of methylmercury and total mercury to boreal ecosystems, Environ. Sci. Technol., 35, 3089–3098, 2001.

Szopka, K., Karczewska, A., and Kabała, C.: Mercury accumulation in the surface layers of mountain soils: A case study from the Karkonosze Mountains, Poland, Chemosphere, 83, 1507–1512, 2011.

Tang, R., Wang, H., Luo, J., Sun, S., Gong, Y., She, J., Cheng, Y., Dandan, Y., Zhou, J.: Spatial distribution and temporal trends of mercury and arsenic in remote timberline coniferous forests, eastern of the Tibet plateau, china. Environ Sci. Pollut. Res., 22(15), 11658-11668, 2015.

Wan, Q., Feng, X. B., Lu, J., Zheng, W., Song, X. J., Li, P., Han, S. J., and Xu, H.: Atmospheric mercury in Changbai Mountain area, northeastern China II. The distribution of reactive gaseous mercury and particulate mercury and mercury deposition fluxes, Environ. Res., 109, 721–727, doi:10.1016/j.envres.2009.05.006, 2009a.

Wang, S., Xing, D., Wei, Z., and Jia, Y.: Spatial and seasonal variations in soil and river water mercury in a boreal forest, Changbai Mountain, Northeastern China. Geoderma, 206(206), 123−132, 2013.

Wang, X., Luo, J., Yin, R., Yuan, W., Lin, C. J., & Sommar, J., Feng, X., Wang, H., Lin, C.: Using mercury isotopes to understand mercury accumulation in the montane forest floor of the eastern tibetan plateau. Environmental Science & Technology, 51(2), 801-809, 2017.

Wang, X., Sun, F., Li, J., Zuo, W., Wen, D.: Characteristics and pollution assessment of arsenic, selenium and mercury of forest soils in and around Guangzhou region, Ecol. Environ. Sci., 21(3), 569-576, 2012.

Wang, Z. W., Zhang, X. S., Xiao, J. S., Zhijia, C., and Yu, P. Z.: Mercury fluxes and pools in three subtropical forested catchments, southwest China, Environ. Pollut., 157, 801–808, doi:10.1016/j.envpol.2008.11.018, 2009.

Witt, E. L., Kolka, R. K., Nater, E. A., and Wickman, T. R.: Influence of the Forest Canopy on Total and Methyl Mercury Deposition in the Boreal Forest, Water Air Soil Poll., 199, 3–11, 2009.

Zhou, J., Feng, X., Liu, H., Zhang, H., Fu, X., Bao, Z., Wang, X., and Zhang, Y.: Examination of total mercury inputs by precipitation and litterfall in a remote upland forest of southwestern China, Atmos. Environ., 81, 364–372, doi:10.1016/j.atmosenv.2013.09.010, 2013a.

Zhou, J., Lang, X., Du, B., Zhang, H., Liu, H., Zhang, Y., and Shang L.: Litterfall and nutrient return in moist evergreen broad-leaved primary forest and mixed subtropical secondary deciduous broad-leaved forest in china. Eur. J. Forest Res., 135(1), 77–86, 2016b.

Zhou, J., Liu, H., Du, B., Shang, L., Yang, J., and Wang, Y.: Influence of soil mercury concentration and fraction on bioaccumulation process of inorganic mercury and methylmercury in rice (Oryza sativa L.), Environ. Sci. Pollut. Res., 22, 6144–6154, doi:10.1007/s11356-014-3823-6, 2015b.

Zhou, J., Wang, Z., Sun, T., Zhang, H., and Zhang, X.: Mercury in terrestrial forested systems with highly elevated mercury deposition in southwestern China: The risk to insects and potential release from wildfires, Environ. Pollut., 212, 188–196, doi:10.1016/j.envpol.2016.01.003, 2016a.

Zhou, J., Wang, Z., Sun, T., Zhang, H., and Zhang, X.: Mercury in terrestrial forested systems with highly elevated mercury deposition in southwestern China: The risk to insects and potential release from wildfires, Environ. Pollut., 212, 188–196, doi:10.1016/j.envpol.2016.01.003, 2016a.

Zhou, J., Wang, Z., Zhang, X., and Chen, J.: Distribution and elevated soil pools of mercury in an acidic subtropical forest of southwestern China, Environ. Pollut., 202, 187–195, doi:10.1016/j.envpol.2015.03.021, 2015a.

Zhou, J., Wang, Z., Zhang, X., and Chen, J.: Distribution and elevated soil pools of mercury in an acidic subtropical forest of southwestern China, Environ. Pollut., 202, 187–195, doi:10.1016/j.envpol.2015.03.021, 2015a.

Zhou, J., Wang, Z., Zhang, X., and Gao, Y.: Mercury concentrations and pools in four adjacent coniferous and deciduous upland forests in Beijing, china. J. Geophys. Res.–Biogeo., 2017a.

Zhou, J., Wang, Z., Zhang, X., and Gao, Y.: Mercury concentrations and pools in four adjacent coniferous and deciduous upland forests in Beijing, china. J. Geophys. Res.–Biogeo., 2017a.

Zhou, J., Wang, Z., Zhang, X., and Sun, T.: Investigation of factors affecting mercury emission from subtropical forest soil: a field controlled study in southwestern China. J. Geochem. Explor., 176, 128–135, 2017b.

Zhou, J.: Atmospheric mercury deposition disciplines and its influencing factors in background area of Mt. Ailao in Yunnan. Master's dissertation, Guizhou University, 2013b (in Chinese).

Zhou, J.: Soil–atmosphere mercury fluxes and mercury pools in typical forest of China. Doctor's dissertation, University of Chinese Academy of Sciences, 2016c (in Chinese).