Supporting Information for
Impacts of land-use change from primary forest to farmland on the storage of soil organic carbon

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SUPLEMENTARY MATERIAL

Table S1. List of studies included in this meta-analysis

Reference	**Land-use change**	**Depth (mm)**	***n***	**MAT (℃)**	**MAP (mm)**	**Site**
(Aweto & Ayuba, 1993)	Forest to farmland	300	15	27	800	North-eastern Nigeria
(Bonde et al., 1992)	Forest to farmland	0-60, 60-120 0-100		16-19	2000	In southeastern Brazil
(Breuer et al., 2006)	Cropland to grassland	220-300		7.5	750	North-eastern Nigeria
(Chiti et al., 2014)	Primary forest to tree plantations	100	25	26	1700	Jomoro district in Ghana
(Solomon et al., 2000)	Woodland to agricultural land	100		26	500-600	Northern Tanzania
(Deng et al., 2014)	Farmland to alfalfa fields	0-1000			200-750	Loess Plateau, China
(Elberling et al., 2003)	Forest to farmland					The semi-arid part of Senegal
(Xu et al., 2020)	Forest to farmland			23-26	1600-2000	Tarim Basin, China
(Yimer et al., 2007)	Primary forest to farmland	0–200, 200-400, 400-1000	3	13.5	1064	South-eastern highlands of Ethiopia
(Fonseca et al., 2011)	Young secondary forests			25-27	3420 - 6840	Caribbean of Costa Rican
(Fujisaka et al., 1998)	Forest to farmland	0-200, 200-400	10	24	2000-2250	Brazil
(Gamboa & Galicia, 2011)	Forest conversion to agricultural uses	0-100		12	750-1000	Northwest of Cofre de Perote volcano, Mexico

(Sheng et al., 2015)	Forest to farmland		10	17.7	1800-2000	China
(Celik, 2005)	Forest and gorest to farmland	0-100 100-200		16-22	200-400	Southern Mediterranean, Turkey
(Jolivet et al., 2003)	Forest to continuous maize cropping	0-50000	3	12.7	900	In southwest France
(Juo et al., 1995)	Long-term fallow	0-150		26-27	4000	Nigeria
(Fujisaki et al., 2017)	Forest to farmland	0-300		27.3	2770	French Guiana
(Lima et al., 2006)	Afforestation of degraded pastures	0-200	4	25-28	2000	In southeastern Brazil
(Lv & Liang, 2012)		200，400，600		8.8	549.1	The middle part of the Loess plateau in northern Shaanxi Province, China
(Fernández-Romero et al., 2014)	Natural forest to farmland	100	4	17	645.7	Mediterranean, Greece
(Liu et al., 2020)	Agricultural abandonment on soil aggregation	0-300		15.1	1400	Guizhou Province, China
(Mao & Zeng, 2010)	Agricultural lands to poplar plantations	0-150		6.5	467	Liaoning Province, China
(Maquere et al., 2008)	Shrubby savanna to pasture			19.2	1370	In southern Brazil
(Marinho et al., 2017)	Primary forest to farmland		6	23	1100	In the state of Sao Paulo, Brazil

(Marin-Spiotta et al., 2009)	Secondary forest regrowth	0-100				Tropical pastures
(Martinez-Mena et al., 2008)	Forest, bandoned agricultural field and non-irrigated olive grove	50	20	16.6	300	Southeast Spain
(Mudge et al., 2014)	Forest to farmland			10	1000-3000	In the Central North Island of New Zealand
(Neill et al., 1997)	Primary forest to farmland	250		22	2500-4000	The Hamakua Coast of Hawaii
(Yimer et al., 2007)	Secondary forest to farmland	700-800			950	Colombia
(Paul et al., 2008)	Pasture & Secondary forest	100				The humid tropics of Ecuador
(Resh et al., 2002)	Pasture to cereal cropping	0-100		21	516	Australia
(Rhoades et al., 2019)	Forest to farmland	400		26.6	12244	Hawaii, USA
(Strey et al., 2016)	Forest to farmland	1000	3	25	2450	Colombia
(Schedlbauer & Kavanagh, 2008)	Tropical forest conversion to pasture	300		26.8	4000	Northeastern Costa Rica
(Villarino et al., 2017)	Forest to farmland	0-300		24	1000	In the north-central part of Argentina
(Ayoubi et al., 2012)	Forest to farmland			15	600	Wastern Iran

(Van Noordwijk et al., 1997)	Secondary vegetation to farmland	6000	16	25-26	1700-2400	In the Eastern Amazon of Brazil
(Veldkamp et al., 2003)	Forest to farmland	300-3000				Costa Rican
(W. Li et al., 2012)	Arable land to forest or grasslands	0-200		14	200-750	The Loess Plateau, China
(Y. Li et al., 2019)	Natural forest, farmland, and rubber plantations	0-1000		20.2		In the southwest hydropower base of China.
(Yonekura et al., 2010)	Forests to farmland	0-1000	7	27.3	2022	Philippines

MAT：mean annual temperature (℃)

MAP：mean annual precipitation (mm)

Depth：the soil sampling depth (cm)

n：the number of repeats at each sampling point

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