

Supplementary

Code	Season	Site Name	Watershed	Land use (classification)	Latitude (N)	Longitude (E)	Area (Ha)	Land use (%)						
								Cropland	Oil palm plantation	Forest	Pastureland	Urban	Vegetation	Others
1	D & R	Sequixpur/San Simón	Sebol	Forest	15.832	-90.321	6,509	33	0	50	3	0	13	0
2	D & R	Chiquibul	Icbolay	Forest	15.935	-90.527	3,183	7	0	64	4	1	25	1
3	D & R	Lechugal	San Román	Cropland	16.004	-90.496	845	32	0	11	5	0	17	35
4	D & R	Shuco/La Chapina	San Román	Oil palm plantation	16.016	-90.489	2,837	31	14	19	11	1	23	1
5	D & R	Limon.2	San Román	Forest	15.991	-90.473	7,731	24	1	48	5	0	21	1
6	D & R	El Jute	San Román	Oil palm plantation	16.014	-90.452	756	7	21	30	9	3	13	18
7	D & R	Cancuen	Cancuén	Pastureland	16.010	-90.591	72,701	6	0	31	39	0	21	2
8	D	Tuilá	Cancuén	Forest	15.925	-89.730	17,703	17	0	35	15	0	30	2
9	D & R	San.Román	San Román	Oil palm plantation	16.129	-90.316	29,390	16	24	10	26	0	23	1
10	D	Canijá	Tzejá	Cropland	15.800	-90.907	2,996	28	0	42	0	0	30	0
11	D	Tzeja.Sta.Ma.Dolores	Tzejá	Forest	15.844	-90.892	2,924	26	0	50	3	1	20	0
12	D & R	Chactela	Tzejá	Cropland	15.763	-90.839	3,928	54	0	33	0	0	13	0
13	D & R	Lo.Veremos	San Román	Oil palm plantation	16.410	-90.387	13,838	1	42	10	32	1	15	0
14	D & R	Subín	Subín	Pastureland	16.636	-90.182	120,207	2	0	20	46	1	30	2
15	D & R	El.Mico	Las Pozas	Oil palm plantation	16.266	-90.109	10,470	2	41	10	23	1	22	2
16	D	San.Juan	San Juan	Pastureland	16.632	-89.604	8,105	0	0	17	46	1	30	6
17	D	Machaquilá.Poptún	San Juan	Forest/Pastureland	16.394	-89.445	27,612	1	0	41	31	0	21	5
18	D & R	Boca.Nueva	Polochic	Cropland	16.376	-89.664	17,299	66	0	22	0	1	11	0
19	D & R	La Bomba	Cancuén	Pastureland	16.004	-89.578	72,702	6	6	0	21	39	31	0

D = dry season, R = rainy season

Table S 1. Details of the sampling points and the percentage land use cover.

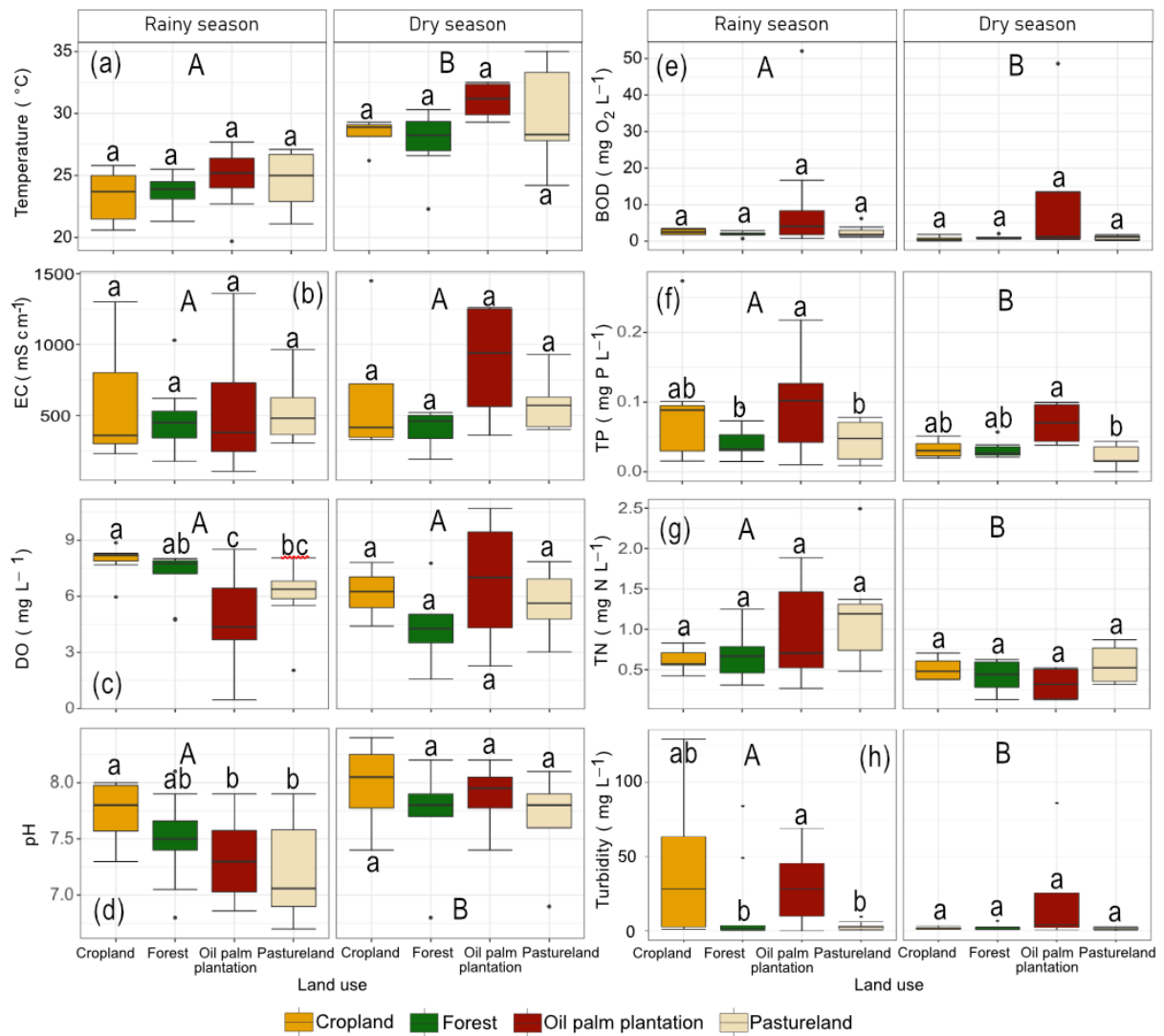


Figure S 1. Box plots for the water quality parameters among forest-, cropland, oil palm plantation- and pastureland-dominated catchments. The variance results (Kruskal-Wallis test) of the post hoc tests among the four land use groups are indicated in lower case letters and significant differences ($p < 0.05$) are indicated by different letters. Different uppercase letters represent significant difference among seasons. Solid line in box plots is the median value, box extents are the interquartile range (IQR), black dots are outliers and colors are the different land uses.

Table S 2. Component loadings on the first two RDA axis

	Dry Season		Rainy Season	
	RDA1	RDA2	RDA1	RDA2
Eigenvalues	2.13	0.99	2.76	0.71
Variance explained by componenet	0.20	0.09	0.25	0.06
Percent of total variance explained	0.20	0.29	0.25	0.32
EC	0.25	-0.14	-0.33	-0.09
BOD₅	0.78	0.11	0.72	-0.09
NO₃	-0.22	0.44	-0.19	0.08
DO	0.07	-0.24	-0.58	0.12
pH	0.21	-0.86	-0.78	0.10
TDS	0.24	-0.14	-0.34	-0.06
Temp	-0.06	-0.15	0.55	-0.26
TN	-0.37	0.26	0.82	0.01
TP	0.84	0.20	0.28	0.54
TSS	0.64	0.23	-0.01	0.31
Turb	0.75	0.06	0.34	0.49
Pastureland	-0.27	-0.58	-0.60	0.64
Oil palm plantation	0.96	0.23	0.88	0.09
Forest	-0.34	0.07	-0.67	-0.55
Pastureland	0.32	-0.17	0.64	-0.54

Bold figures indicate absolute values ($p < 0.05$).