Electronic Supplementary Material (ESI) for Environmental Science: Processes & Impacts.

Supporting information for

Insights into the factors influencing mercury concentrations in tropical reservoir sediments

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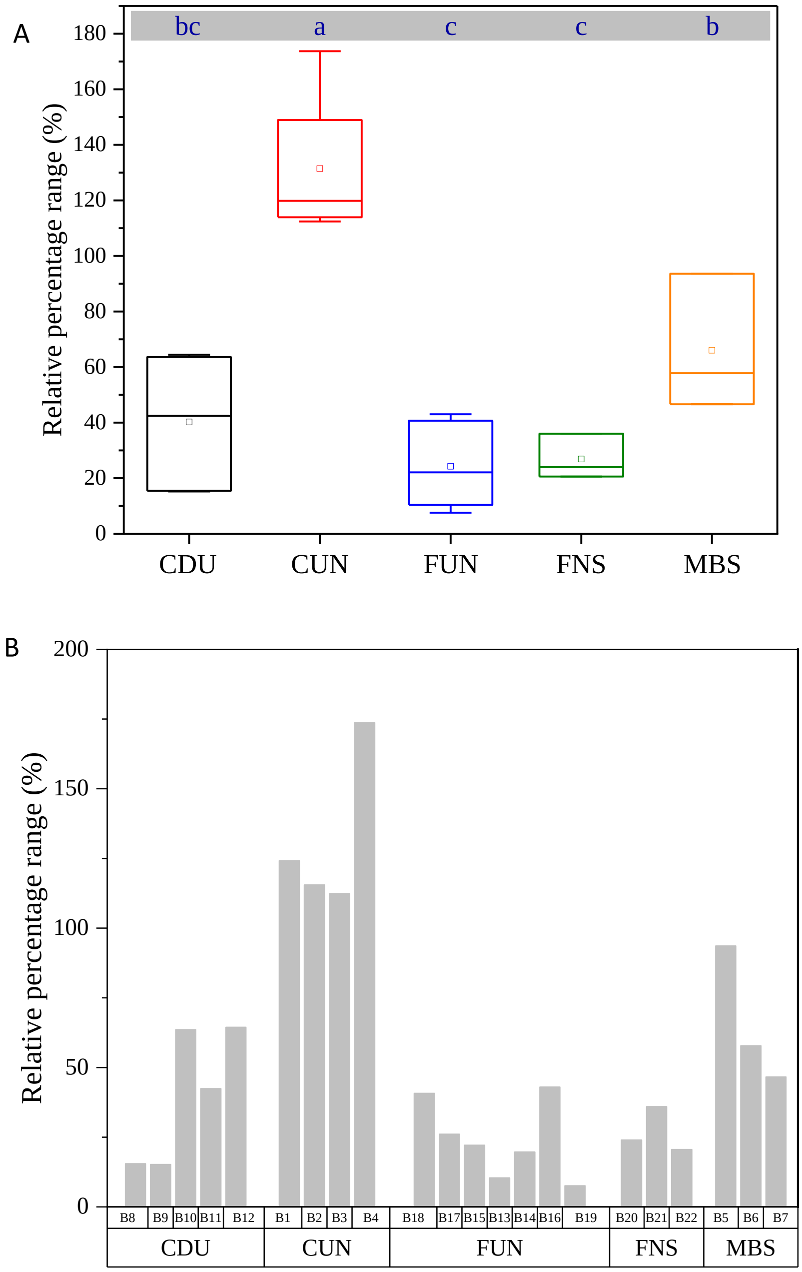

Figure S1. (A) Boxplots of relative percentage range (%) of THg concentration (dry weight, dw) of the reservoirs: Curuá-Una (CUN), Monte Serrat, Bonfante and Santa Fé (MBS), Chapéu D´Uvas (CDU), Furnas (FNS), and Funil (FUN). Letters represent results of pairwise comparisons using Tukey Kramer HSD, indicating significant differences in concentrations and content among the reservoir. Reservoirs with different letters are significantly different at the 0.05 significance level. (B): Relative percentage range (%) of THg concentration (dry weight, dw) per core in the reservoirs.

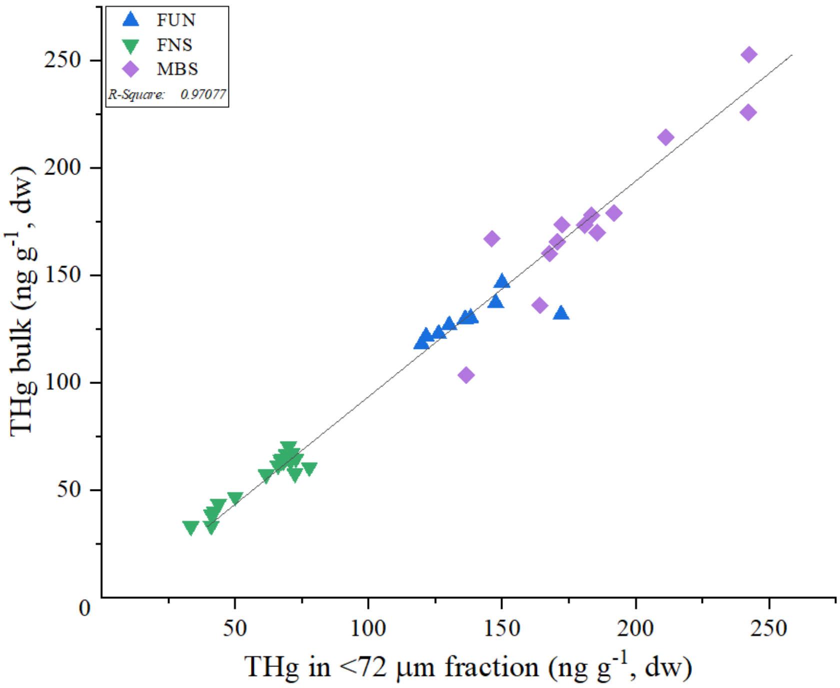

Figure S2. THg concentrations in bulk sample vs fine fraction (<72 µm). Concentrations are reported in ng g^{-1}, dry weight (dw)

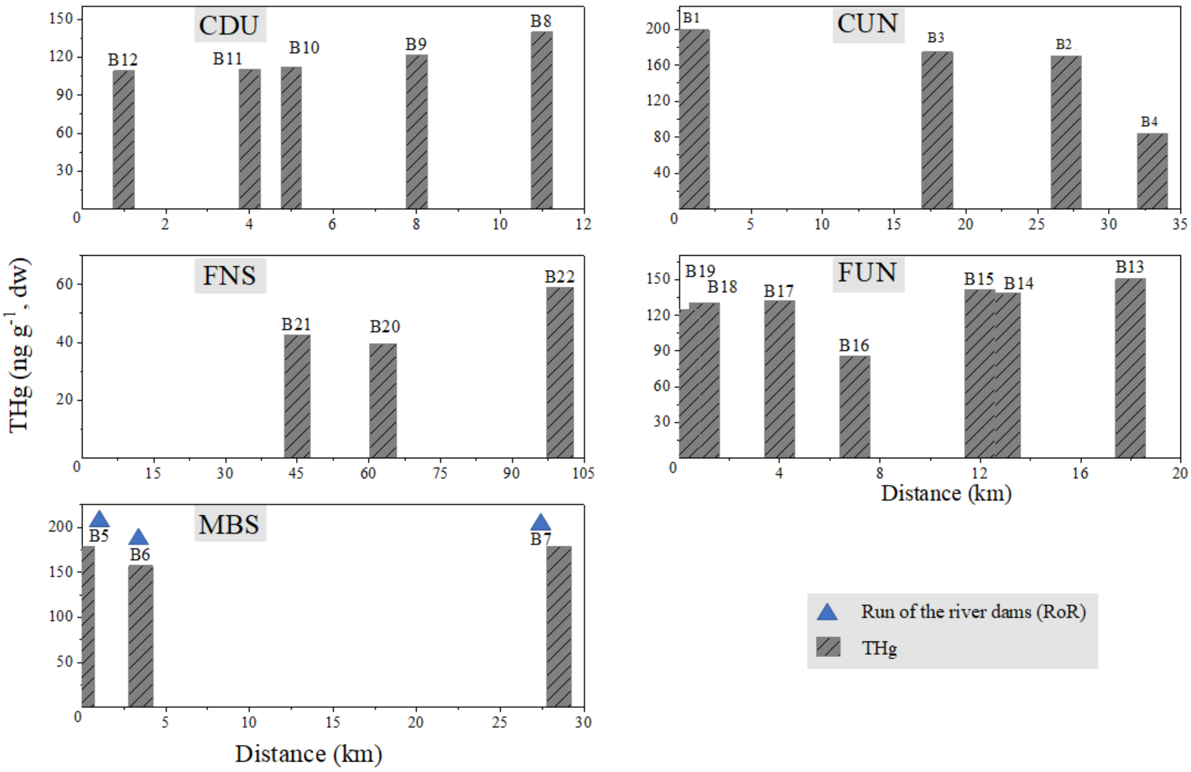

Figure S3. Depth weighted (~20 cm) THg (ng g^{-1}, dw) in bulk samples in the reservoirs: Curuá-Una (CUN), Monte Serrat, Bonfante and Santa Fé (MBS), Chapéu D´Uvas (CDU), Furnas (FNS), and Funil (FUN) in relation to the distance to dam (CDU, CUN, FNS and FUN), and first run of the river dams (RoR – consecutives dams) in MBS.

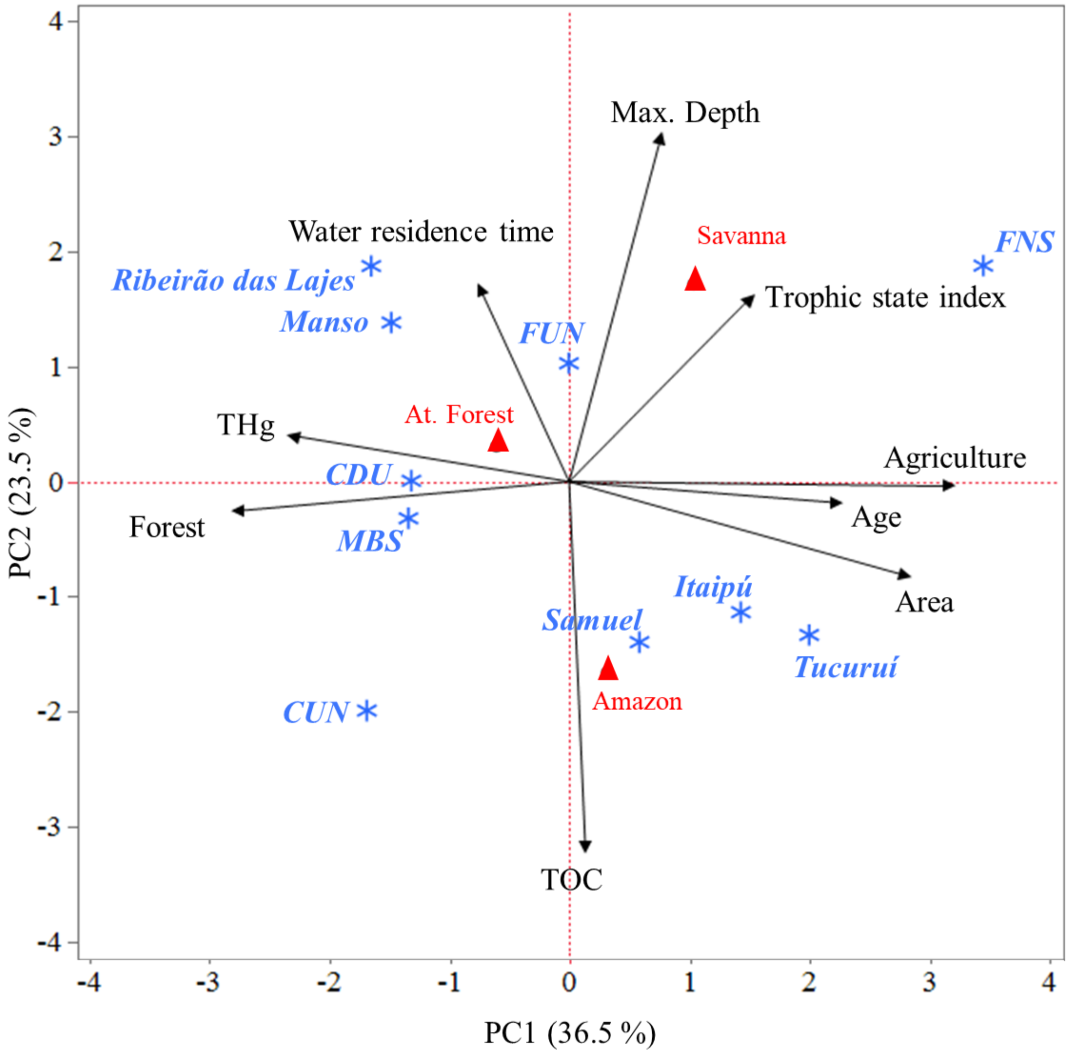

Figure S4. Principal component biplot showing PC scores of the reservoirs (blue asterisks), type of biome (red triangles), and loading of the variables (black arrows) for component 1 (PC1) and component 2 (PC2). Max. Depth: Maximum depth, Age: reservoir age, Area: reservoir area, Agriculture: cover of agriculture as land-use, Forest: cover of forest as land-use, TOC: total organic carbon, THg: mercury, At. Forest: Atlantic forest biome, Reservoirs: FNS – Furnas, FUN – Funil, CUN – Curuá Uná, CDU – Chapeú D´Uvas, and MBS – Monte Serrat, Bonfante, and Santa Fé, Tucuruí, Itaipú, Samuel, Manso and Ribeirão das Lajes in Brazil.

Table S1. Sample location (latitude and longitude), sediment depth (cm), water depth (m), sediment thickness (cm) and THg concentrations in bulk samples

RESERVOIR	ACRONYMS	CORE SITE	SEDIMENT DEPTH (cm)	LATITUDE	LONGITUDE	WATER DEPTH (m)	SEDIMENT TICKNESS (cm)	THg (ng/g)
CHAPÉU D'UVAS	CDU	B8	0 - 3	-21.528750°	-43.588028°	11.7	46	137
			3 - 6			11.7	46	144
			6 - 9			11.7	46	139
			9 - 12			11.7	46	135
			12 - 15			11.7	46	139
			15 - 18			11.7	46	143
			18 - 21			11.7	46	142
			21 - 24			11.7	46	147
			24 - 27			11.7	46	133
			27 - 30			11.7	46	138
			30 - 33			11.7	46	143
			33 - 36			11.7	46	137
			36 - 39			11.7	46	138
			39 - 42			11.7	46	126
			42 - 45			11.7	46	131
			45 - 48			11.7	46	135
		B9	0 - 3	-21.549942°	-43.571133°	17	18	113
			3 - 6			17	18	117
			6 - 9			17	18	129
			9 - 12			17	18	118
			12 - 15			17	18	115
			15 - 18			17	18	115
			18 - 21			17	18	111
			21 - 24			17	18	112
		B10	0 - 3	-21.573426°	-43.566673°	21	18	104
			3 - 6			21	18	122
			6 - 9			21	18	111
			9 - 12			21	18	97
			12 - 15			21	18	128
			15 - 18			21	18	64
			18 - 21			21	18	71
		B11	0 - 3			21.7	21	115
			3 - 6			21.7	21	111
			6 - 9			21.7	21	107
			9 - 12			21.7	21	111
			12 - 15			21.7	21	110
			15 - 18			21.7	21	125

cont. Table S1. Sample location (latitude and longitude), sediment depth (cm), water depth (m), sediment thickness (cm) and THg concentrations in bulk samples

RESERVOIR	ACRONYMS	CORE SITE	SEDIMENT DEPTH (cm)	LATITUDE	LONGITUDE	WATER DEPTH (m)	SEDIMENT TICKNESS (cm)	THg (ng/g)
CHAPÉU D'UVAS	CDU	B11	18 - 21			21.7	21	152
			21 - 24			21.7	21	160
		B12	0 - 3	-21.587861°	-43.531889°	27.5	18	120
			3 - 6			27.5	18	107
			6 - 9			27.5	18	105
			9 - 12			27.5	18	56
			12 - 15			27.5	18	116
			15 - 18			27.5	18	90
CURUÁ-UNA	CUN	B1	0 - 3	-2.822444°	-54.307472°	9	43	192
			3 - 6			9	43	190
			6 - 9			9	43	207
			9 - 12			9	43	213
			12 - 15			9	43	214
			15 - 18			9	43	219
			18 - 21			9	43	216
			21 - 24			9	43	216
			24 - 27			9	43	206
			27 - 30			9	43	140
			30 - 33			9	43	107
			33 - 36			9	43	32
			36 - 39			9	43	33
			39 - 42			9	43	40
			42 - 45			9	43	38
		B2	0 - 3	-2.936917°	-54.491694°	12.7	46	168
			3 - 6			12.7	46	172
			6 - 9			12.7	46	169
			9 - 12			12.7	46	178
			12 - 15			12.7	46	189
			15 - 18			12.7	46	194
			18 - 21			12.7	46	155
			21 - 24			12.7	46	135
			24 - 27			12.7	46	55
			27 - 30			12.7	46	43
			30 - 33			12.7	46	54
			33 - 36			12.7	46	63
		B3	0 - 3	-2.898611°	-54.429333°	7.2	39	172
			3 - 6			7.2	39	165

cont. Table S1. Sample location (latitude and longitude), sediment depth (cm), water depth (m), sediment thickness (cm) and THg concentrations in bulk samples

RESERVOIR	ACRONYMS	CORE SITE	SEDIMENT DEPTH (cm)	LATITUDE	LONGITUDE	WATER DEPTH (m)	SEDIMENT TICKNESS (cm)	THg (ng/g)
CURUÁ-UNA	CUN	B3	6 - 9			7.2	39	180
			9 - 12			7.2	39	183
			12 - 15			7.2	39	189
			15 - 18			7.2	39	190
			18 - 21			7.2	39	193
			21 - 24			7.2	39	215
			24 - 27			7.2	39	209
			27 - 30			7.2	39	135
			30 - 33			7.2	39	74
			33 - 36			7.2	39	33
		B4	0 - 3	-2.955917°	-54.537556°	7.9	39	98
			3 - 6			7.9	39	110
			6 - 9			7.9	39	65
			9 - 12			7.9	39	32
			12 - 15			7.9	39	28
			15 - 18			7.9	39	30
			18 - 21			7.9	39	16
FUNIL	FUN	B18	0 - 6	-22.537548°	-44.571692°	42	89	132
			6 - 12			42	89	129
			12 - 18			42	89	123
			18 - 24			42	89	133
			24 - 27			42	89	159
			27 - 33			42	89	143
			33 - 39			42	89	153
			39 - 45			42	89	150
			45 - 51			42	89	182
			51 - 54			42	89	141
			54 - 60			42	89	143
		B17	0 - 6	-22.555303°	-44.583620°	37.2	88	137
			6 - 12			37.2	88	127
			12 - 18			37.2	88	127
			18 - 24			37.2	88	151
			24 - 27			37.2	88	161
			27 - 33			37.2	88	164
			33 - 39			37.2	88	147
			39 - 45			37.2	88	136
			45 - 51			37.2	88	140

cont. Table S1. Sample location (latitude and longitude), sediment depth (cm), water depth (m), sediment thickness (cm) and THg concentrations in bulk samples

RESERVOIR	ACRONYMS	CORE SITE	SEDIMENT DEPTH (cm)	LATITUDE	LONGITUDE	WATER DEPTH (m)	SEDIMENT TICKNESS (cm)	THg (ng/g)
FUNIL	FUN	B17	51 - 54			37.2	88	149
			54 - 60			37.2	88	154
		B15	0 - 6	-22.520104°	-44.626500°	32	55	147
			6 - 12			32	55	137
			12 - 18			32	55	130
			18 - 24			32	55	130
			24 - 30			32	55	132
			30 - 36			32	55	127
			36 - 42			32	55	122
			42 - 48			32	55	123
			48 - 54			32	55	118
		B13	0 - 10	-22.538611°	-44.659222°	6.5	93	151
			10 - 20			6.5	93	136
			20 - 30			6.5	93	139
		B14	0 - 10	-22.510389°	-44.629861°	29.4	69	138
			10 - 20			29.4	69	133
			20 - 30			29.4	69	161
		B16	0 - 10	-22.557250°	-44.613694°	44	70	86
			10 - 20			44	70	60
			20 - 30			44	70	57
		B19	0 - 10	-22.528833°	-44.565833°	56.5	102	125
			10 - 20			56.5	102	135
			20 - 30			56.5	102	125
FURNAS	FNS	B20	0 - 6	-20.981085°	-45.522739°	8.3	95	39
			6 - 9			8.3	95	41
			9 - 12			8.3	95	37
			12 - 15			8.3	95	42
			15 - 18			8.3	95	40
			18 - 21			8.3	95	39
			21 - 24			8.3	95	40
			24 - 27			8.3	95	39
			27 - 30			8.3	95	39
			30 - 33			8.3	95	39
			33 - 36			8.3	95	38
			36 - 39			8.3	95	35
			39 - 42			8.3	95	33
			42 - 45			8.3	95	33

cont. Table S1. Sample location (latitude and longitude), sediment depth (cm), water depth (m), sediment thickness (cm) and THg concentrations in bulk samples

RESERVOIR	ACRONYMS	CORE SITE	SEDIMENT DEPTH (cm)	LATITUDE	LONGITUDE	WATER DEPTH (m)	SEDIMENT TICKNESS (cm)	THg (ng/g)
FURNAS	FNS	B20	45 - 51			8.3	95	33
			51 - 54			8.3	95	35
			54 -57			8.3	95	36
			57 - 60			8.3	95	37
			60 - 63			8.3	95	39
			63 - 66			8.3	95	38
			66 - 69			8.3	95	39
			69 - 72			8.3	95	39
			72 - 75			8.3	95	41
			75 - 78			8.3	95	42
			78 - 81			8.3	95	39
			81 - 84			8.3	95	37
			84 - 87			8.3	95	36
			78 - 90			8.3	95	37
			90 - 96			8.3	95	40
		B21	0 - 6	-20.735139°	-45.958817°	37	36	43
			6 - 9			37	36	41
			9 - 12			37	36	42
			12 - 15			37	36	45
			15 - 21			37	36	47
			21 - 24			37	36	49
			24 - 27			37	36	49
			27 - 30			37	36	48
			30 - 36			37	36	33
		B22	0 - 6	-21.231907°	-45.955257°	15.9	96	61
			6 - 12			15.9	96	58
			12 - 18			15.9	96	57
			18 - 24			15.9	96	64
			24 - 30			15.9	96	70
			30 - 36			15.9	96	67
			36 - 42			15.9	96	64
			42 - 48			15.9	96	62
			48 - 54			15.9	96	63
			54 - 60			15.9	96	67
			60 - 66			15.9	96	63
			66 - 72			15.9	96	65
			72 - 78			15.9	96	67

cont. Table S1. Sample location (latitude and longitude), sediment depth (cm), water depth (m), sediment thickness (cm) and THg concentrations in bulk samples

RESERVOIR	ACRONYMS	CORE SITE	SEDIMENT DEPTH (cm)	LATITUDE	LONGITUDE	WATER DEPTH (m)	SEDIMENT TICKNESS (cm)	THg (ng/g)
FURNAS	FNS	B22	78 - 84			15.9	96	64
			84 - 90			15.9	96	61
			90 - 95			15.9	96	65
BONFANTE	MBS	B5	0 - 6	-22.021176°	-43.298363°	5.7	36	170
			6 - 9			5.7	36	187
			9 - 12			5.7	36	307
			12 - 15			5.7	36	313
			15 - 21			5.7	36	167
			21 - 24			5.7	36	159
			24 - 27			5.7	36	126
			27 - 30			5.7	36	160
			30 - 36			5.7	36	214
MONTE SERRAT		B6	0 - 6	-22.012172°	-43.269075°	8.2	36	136
			6 - 9			8.2	36	178
			9 - 12			8.2	36	206
			15 - 21			8.2	36	253
			21 - 24			8.2	36	177
			24 - 27			8.2	36	220
			27 - 30			8.2	36	220
			30 - 36			8.2	36	226
SANTA FÉ		B7	0 - 6	-22.069060°	-43.162140°	15.4	42	179
			6 - 12			15.4	42	178
			12 - 18			15.4	42	173
			18 - 24			15.4	42	173
			24 - 30			15.4	42	166
			30 - 36			15.4	42	160
			36 - 42			15.4	42	104

Table S2. Concentrations in surface sediments <12 cm of THg, content of TOC and TN, isotopic compositions of $\delta^{15}N$ and $\delta^{13}C$, and TOC: TN ratios in the reservoirs: Curuá-Una (CUN), Monte Serrat, Bonfante and Santa Fé (MBS), Chapéu D´Uvas (CDU), Furnas (FNS), and Funil (FUN).

ACRONYMS	CORE SITE	SEDIMENT DEPTH (cm)	THg (ng/g)	$\delta^{13}C$ (‰)	TOC (%)	$\delta^{15}N$ (‰)	TN (%)	TOC:TN
CDU	B8	0 - 3	137	-23.94	5.50	4.85	0.57	9.6
		3 - 6	144	-23.96	5.34	4.88	0.53	10.0
		6 - 9	139	-24.14	4.60	5.40	0.45	10.3
	B9	0 - 3	113	-24.72	5.36	4.87	0.53	10.2
		3 - 6	117	-24.52	5.18	5.10	0.49	10.5
		6 - 9	129	-24.52	4.89	5.48	0.45	11.0
	B10	0 - 3	104	-25.82	6.08	4.61	0.60	10.1
		3 - 6	122	-24.85	6.05	5.26	0.53	11.5
		6 - 9	111	-24.51	5.55	5.31	0.47	11.8
	B11	0 - 3	115	-26.15	6.37	4.70	0.62	10.3
		3 - 6	111	-26.18	6.79	5.03	0.64	10.6
		6 - 9	107	-25.67	5.99	5.10	0.54	11.0
	B12	0 - 3	120	-27.31	6.71	4.60	0.64	10.5
		3 - 6	107	-26.08	5.66	5.03	0.49	11.7
		6 - 9	105	-26.66	7.62	4.69	0.70	10.9
CUN	B1	0 - 3	192	-31.88	10.84	5.66	0.91	11.9
		3 - 6	190	-31.72	9.97	5.58	0.79	12.7
		6 - 9	207	-31.13	13.10	5.52	0.99	13.2
	B2	0 - 3	168	-31.38	7.98	5.58	0.71	11.2
		3 - 6	172	-30.97	6.49	5.79	0.55	11.9
		6 - 9	169	-30.77	4.92	5.93	0.39	12.5
	B3	0 - 3	172	-31.70	10.82	5.49	0.94	11.5
		3 - 6	165	-31.73	9.97	5.54	0.89	11.2
		6 - 9	180	-31.30	8.04	5.60	0.68	11.8
	B4	0 - 3	98	-30.56	6.74	5.23	0.45	15.0

con. Table S2. Concentrations in surface sediments <12 cm of THg, content of TOC and TN, isotopic compositions of $\delta^{15}N$ and $\delta^{13}C$, and TOC: TN ratios in the reservoirs: Curuá-Una (CUN), Monte Serrat, Bonfante and Santa Fé (MBS), Chapéu D´Uvas (CDU), Furnas (FNS), and Funil (FUN).

ACRONYMS	CORE SITE	SEDIMENT DEPTH (cm)	THg (ng/g)	$\delta^{13}C$ (‰)	TOC (%)	$\delta^{15}N$ (‰)	TN (%)	TOC:TN
CUN	B4	3 - 6	110	-30.48	8.04	5.40	0.53	15.1
		6 - 9	65	-30.29	3.08	5.77	0.21	14.5
FUN	B18	0 - 6	132	-23.14	3.46	7.97	0.39	8.8
		6 - 12	129	-23.30	3.17	7.64	0.34	9.3
	B17	0 - 6	137	-23.15	3.88	8.22	0.44	8.9
		6 - 12	127	-23.25	2.91	7.79	0.31	9.5
	B15	0 - 6	147	-23.39	3.62	7.03	0.39	9.2
		6 - 12	137	-23.37	3.36	6.81	0.37	9.0
	B13	0 - 10	151	-23.28	3.85	6.62	0.45	8.5
	B14	0 - 10	138	-22.99	3.46	7.04	0.43	8.0
	B16	0 - 10	86	-22.60	1.84	7.98	0.18	10.0
	B19	0 - 10	125	-22.86	3.91	8.31	0.45	8.6
FNS	B20	0 - 6	39	-22.91	2.26	7.46	0.20	11.1
		6 - 9	41	-22.47	2.66	7.04	0.22	12.1
	B21	0 - 6	43	-23.99	2.82	7.71	0.27	10.6
		6 - 9	41	-23.80	4.73	7.57	0.50	9.4
	B22	0 - 6	61	-24.06	2.91	7.65	0.26	11.2
		6 - 12	58	-24.50	4.17	7.94	0.40	10.5
MBS	B5	0 - 6	170	-24.18	4.25	6.93	0.39	10.8
		6 - 9	187	-24.18	3.46	4.95	0.32	10.7
	B6	0 - 6	136	-23.63	2.56	5.27	0.25	10.4
		6 - 9	178	-24.36	3.55	5.40	0.33	10.7
	B7	0 - 6	179	-23.62	3.68	6.63	0.36	10.2
		6 - 9	178	-24.00	3.77	6.30	0.34	11.0

Table S3. Depth-weighted concentrations in surface sediments <12 cm of THg, content of TOC and TN, isotopic compositions of $\delta^{15}N$ and $\delta^{13}C$, and TOC: TN ratios in the reservoirs: Curuá-Una (CUN), Monte Serrat, Bonfante and Santa Fé (MBS), Chapéu D´Uvas (CDU), Furnas (FNS), and Funil (FUN).

ACRONYMS	CORE SITE	THg (ng/g)	$\delta^{13}C$ (‰)	TOC (%)	$\delta^{15}N$ (‰)	TN (%)	TOC:TN
CDU	B8	140	-24.0	5.0	5.1	0.5	10.0
	B9	122	-24.6	5.1	5.2	0.5	10.6
	B10	112	-24.9	5.8	5.1	0.5	11.3
	B11	110	-25.9	6.3	5.0	0.6	10.7
	B12	109	-26.7	6.9	4.8	0.6	11.0
CUN	B4	84	-30.4	5.2	5.5	0.4	14.9
	B2	170	-31.0	6.1	5.8	0.5	11.9
	B3	174	-31.5	9.2	5.6	0.8	11.6
	B1	199	-31.5	11.8	5.6	0.9	12.8
FUN	B13	151	-23.3	3.8	6.6	0.5	8.5
	B14	138	-23.0	3.5	7.0	0.4	8.0
	B15	142	-23.4	3.5	6.9	0.4	9.1
	B16	86	-22.6	1.8	8.0	0.2	10.0
	B17	132	-23.2	3.4	8.0	0.4	9.1
	B18	130	-23.2	3.3	7.8	0.4	9.0
	B19	125	-22.9	3.9	8.3	0.5	8.6
FNS	B20	59	-24.3	3.5	7.8	0.3	10.8
	B21	40	-22.7	2.5	7.2	0.2	11.6
	B22	42	-23.9	3.8	7.6	0.4	9.8
MBS	B5	179	-23.8	3.7	6.5	0.4	10.6
	B6	157	-24.4	3.6	5.3	0.3	12.3
	B7	179	-23.8	3.7	5.9	0.4	10.4

Table S4. Spearman´s rank correlation coefficient (ρ) highlighting significant correlations between THg, TOC, $\delta^{13}C$, $\delta^{15}N$, TN, TOC:TN ($p<0.05$, grey cells) in surface sediments <12 cm, n=49 from the reservoirs: Curuá-Una, Monte Serrat-Bonfante-Santa Fé, Chapéu D´Uvas, Furnas and Funil in Brazil.

	Statistic value	**THg (ng/g)**	**$\delta^{13}C$ (‰)**	**TOC (%)**	**$\delta^{15}N$ (‰)**	**TN (%)**	**TOC:TN**
THg (ng/g)	ρ	1	-0.272	0.306	-0.060	0.306	0.039
	p-value	--	*0.058*	*0.033*	*0.684*	*0.033*	*0.792*
$\delta^{13}C$ (‰)	ρ	-0.272	1	-0.841	0.541	-0.710	-0.711
	p-value	*0.058*	--	*3.98E-14*	*6.10E-05*	*1.12E-08*	*1.03E-08*
TOC (%)	ρ	0.306	-0.841	1	-0.562	0.951	0.456
	p-value	*0.033*	*3.98E-14*	--	*2.69E-05*	*1.43E-25*	*9.80E-04*
$\delta^{15}N$ (‰)	ρ	-0.060	0.541	-0.562	1	-0.533	-0.249
	p-value	*0.684*	*6.10E-05*	*2.69E-05*	--	*8.05E-05*	*0.084*
TN (%)	ρ	0.306	-0.710	0.951	-0.533	1	0.231
	p-value	*0.033*	*1.12E-08*	*1.43E-25*	*8.05E-05*	--	*0.110*
TOC:TN	ρ	0.039	-0.711	0.456	-0.249	0.231	1
	p-value	*0.792*	*1.03E-08*	*9.80E-04*	*0.084*	*0.110*	--

Table S5. Concentrations in surface sediments of THg, content of TOC and other physical features in the reservoirs: Tucuruí, Samuel, Manso, Itaipú, and Ribeirão das Lajes in Brazil.

Reservoir	Tucuruí (1,2,3,4)	Samuel (1,5,6,7)	Manso (1,8,9,10)	Itaipú (1,11,12)	Ribeirão das Lajes (1,13,14,15,16)
THg (ng/g)	56	39	37	13	167
TOC (%)*	7.2	7.2	2.9	5.9	3.79**
Area reservoir (km^2)	2430	579	427	1350	40
Year of damming	1985	1989	2000	1983	2004
Trophic status	Eutrophic	Oligo-mesotrophic	Oligo-mesotrophic	Mesotrophic	Eutrophic
Water residence time (days)	97	105	1511	40	297
Max depth (m)	18	29	60	22	110
Biome	Amazon	Amazon	Savannah-type	Atlantic Forest	Atlantic Forest
Agriculture cover* **	0.5	0.5	0	0.5	0
Forest cover* **	0.5	0.5	1	0.5	1

* TOC was estimated from organic matter content according with the factors described in Pribyl (2010)
Pribyl, D.W., 2010. A critical review of the conventional SOC to SOM conversion factor. Geoderma 156, 75–83. https://doi.org/10.1016/j.geoderma.2010.02.003

** TOC in surface sediments from Rio Guandu basin. Riberao das Lajes flows directly to Rio Guandu

*** Visual inspection of satellite images was performed to identify major land use patterns around each reservoir. From this inspection, the density of agriculture and forest was assessed and scored 0 (minor land use), 0.5 (ca 50 % of the land use) and 1 (dominant land use).

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Table S6. Spearman´s rank correlation coefficient (ρ) highlighting significant correlations (p-value<0.05, grey cells) of THg, TOC, age and area of reservoir, maximum depth (Max. depth), trophic state index, water residence time, and agriculture and forest cover in the reservoirs (n=10): Curuá-Una, Monte Serrat-Bonfante-Santa Fé, Chapéu D´Uvas, Furnas, Funil, Tucuruí, Itaipú, Samuel, Manso and Riberao das lajes in Brazil

		THg (ng/g)	TOC (%)	Age reservoir	Area reservoir	Max depth	Trophic state index	Water residence time	Agriculture	Forest
THg (ng/g)	ρ	1	0.067	-0.309	-0.721	-0.182	-0.112	-0.467	-0.452	0.229
	p-value	--	*0.855*	*0.385*	0.019	*0.614*	*0.758*	*0.174*	*0.189*	*0.525*
TOC (%)	ρ	0.067	1	0.103	0.285	-0.626	-0.162	-0.321	0.111	0.139
	p-value	*0.855*	--	*0.777*	*0.425*	*0.053*	*0.655*	*0.365*	*0.759*	*0.702*
Age reservoir	ρ	-0.309	0.103	1	0.455	0.237	0.305	-0.139	0.334	-0.437
	p-value	*0.385*	*0.777*	--	*0.187*	*0.510*	*0.391*	*0.701*	*0.345*	*0.207*
Area reservoir	ρ	-0.721	0.285	0.455	1	0.000	0.436	0.212	0.675	-0.215
	p-value	*0.019*	*0.425*	*0.187*	--	*1.000*	*0.207*	*0.556*	*0.032*	*0.551*
Max depth	ρ	-0.182	-0.626	0.237	0.000	1	0.428	0.614	-0.125	-0.031
	p-value	*0.614*	*0.053*	*0.510*	*1.000*	--	*0.217*	*0.059*	*0.731*	*0.932*
Trophic state index	ρ	-0.112	-0.162	0.305	0.436	0.428	1	0.019	0.202	-0.139
	p-value	*0.758*	*0.655*	*0.391*	*0.207*	*0.217*	--	*0.959*	*0.575*	*0.702*
Water residence time	ρ	-0.467	-0.321	-0.139	0.212	0.614	0.019	1	-0.046	0.097
	p-value	*0.174*	*0.365*	*0.701*	*0.556*	*0.059*	*0.959*	--	*0.900*	*0.790*
Agriculture	ρ	-0.452	0.111	0.334	0.675	-0.125	0.202	-0.046	1	-0.743
	p-value	*0.189*	*0.759*	*0.345*	*0.032*	*0.731*	*0.575*	*0.900*	--	*0.014*
Forest	ρ	0.229	0.139	-0.437	-0.215	-0.031	-0.139	0.097	-0.743	1
	p-value	*0.525*	*0.702*	*0.207*	*0.551*	*0.932*	*0.702*	*0.790*	*0.014*	--

Table S7. Loss of ignition at 550°C (LOI_{550}%) in core samples (surface and deeper layers) from the reservoir Curuá-Una

RESERVOIR	ACRONYMS	CORE SITE	SEDIMENT DEPTH (cm)	LOI_{550} (%)
CURUÁ-UNA	CUN	B1	0 - 3	22.7
			3 - 6	22.2
			6 - 9	22.6
			30 - 33	15.9
			33 - 36	7.0
			36 - 39	5.9
			42 - 45	4.6
		B2	0 - 3	18.5
			3 - 6	18.1
			6 - 9	18.2
			21 - 24	23.1
			24 - 27	12.3
			27 - 30	5.8
			33 - 36	10.8
		B3	0 - 3	20.8
			3 - 6	20.7
			6 - 9	20.5
			27 - 30	27.6
			30 - 33	23.7
			33 - 36	8.2
		B4	0 - 3	15.9
			3 - 6	16.4
			6 - 9	10.9
			9 - 12	5.3
			12 - 15	5.7
			18 - 21	3.5