Table A1: Watershed characteristics with the number of flooding and "extreme" flooding days.

Sites	Lat.	Long.	Area	Elevation	Age of Bedrock[a]	Slopes[b]				Vegetation[c]				Days in flood (extreme floods)			
			km^2	m	Myrs	*0-24%*	*25-48%*	*49-99%*	*>99%*	*Thickets*	*Altimountain Forest*	*Rainforest*	*Evergreen Forest*	2007	2008	2009	2010
						%				%							
Bras David	N16°10'33.6''	W61°41'34.8''	11.270	228-1088	1.460	38	48	14	0		35	65		44 (2)	79 (2)	103 (15)	64 (3)
Capesterre	N16°04'18.0''	W61°36'34.1''	16.560	200-1342	0.554	18	32	45	5	33	39	29		83 (3)	125 (6)	141 (12)	99 (12)
Vieux Habitants	N16°05'11.8''	W61°43'31.3''	19.316	250-1354	0.435	13	32	51	4	9	34	53	4	57 (4)	97 (4)	50 (3)	

[a](Samper *et al.*, 2007)

[b](Plaisir *et al.*, 2003)

[c](Rousteau *et al.*, 1994; Rousteau, 1996)

Table A2: Range of particulate concentrations (TSM, POC, PN) and of dissolved concentrations (DIC, DOC) for the three studied watersheds and incidentally the average value balanced to the discharge. N represents the number of samples.

Sites	DOC (µmol.L^{-1})				DIC (µmol.L^{-1})				TSM (mg.L^{-1})[a]				POC (mg.L^{-1})				PN (mg.L^{-1})			
	2007	2008	2009	2010	2007	2008	2009	2010	2007	2008	2009	2010	2007	2008	2009	2010	2007	2008	2009	2010
Bras David	N = 26 38-172 (66)	N = 15 42-442 (177)	N = 5 44-101 (64)	N = 8 51-175 (92)	N = 24 243-698 (509)	N = 14 176-580 (429)	N = 5 309-464 (405)	N = 2 163-202	N = 2 7.5-30.9	N = 0	N = 0	N = 0	N = 2 0.26-2.36	N = 0	N = 0	N = 0	N = 1 0.11	N = 0	N = 0	N = 0
Capesterre	N = 194 40-338 (190)	N = 143 47-393 (187)	N = 10 39-189 (93)	N = 71 54-479 (158)	N = 155 65-634 (284)	N = 142 119-726 (302)	N = 10 126-448 (326)	N = 68 100-414 (213)	N = 33 5.8-153.6 (56.4)	N = 18 20.2-72.0 (43.7)	N = 1 21.5	N = 6 60.9-476 (191)	N = 33 0.40-19.65 (6.72)	N = 18 1.58-7.91 (4.04)	N = 1 1.58	N = 6 9.0-74.8 (26.0)	N = 33 0.02-1.37 (0.46)	N = 18 0.12-0.60 (0.28)	N = 1 0.13	N = 6 0.66-4.92 (1.82)
Vieux Habitants	N = 18 29-199 (79)	N = 4 76-166 (104)	N = 3 38-78	N = 2 60-107	N = 16 202-574 (431)	N = 4 345-515 (454)	N = 3 192-500	N = 2 393-401	N = 2 11.6-11.9	N = 1 45.3		N = 0	N = 2 0.41-1.54	N = 1 4.30	N = 0	N = 0	N = 1 0.10	N = 1 0.28	N = 0	N = 0

[a]TSM concentrations correspond to the difference between mass of filter before and after filtration normalized to the filtered water volume.

Table A3: α and β parameters from power law: concentration = αQ^{β}, for Capesterre River.

	α	β
DOC	1.44±0.05	0.19±0.02
DIC	4.58±0.09	-0.24±0.02
TSM	5.66±0.70	1.00±0.00
POC	0.68±0.10	1.00±0.00
PN	0.046±0.007	1.00±0.00

Table A4: α and β parameters from power law: concentration = αQ^{β}, for Bras-David and Vieux-Habitants Rivers.

		α	β
Bras-David	DOC	1.14±0.12	0.57±0.15
	DIC	4.77±0.20	-0.46±0.07
Vieux-Habitants	DOC	0.79±0.11	0.32±0.08
	DIC	5.53±0.29	-0.32±0.09

Figure A1: Relative contribution of particulate organic carbon (POC) to the total suspended matter (TSM) in the Capesterre River.

Figure A2: DOC and DIC concentrations plotted as a function of the discharge (Q) for the Bras-David (a) and Vieux-Habitants (b) Rivers. Long dashes represent the minimum discharge for the flood level. Lines correspond to the best fit of the data by a power law: concentration = αQ^{β} (Table A4).

Figure A1

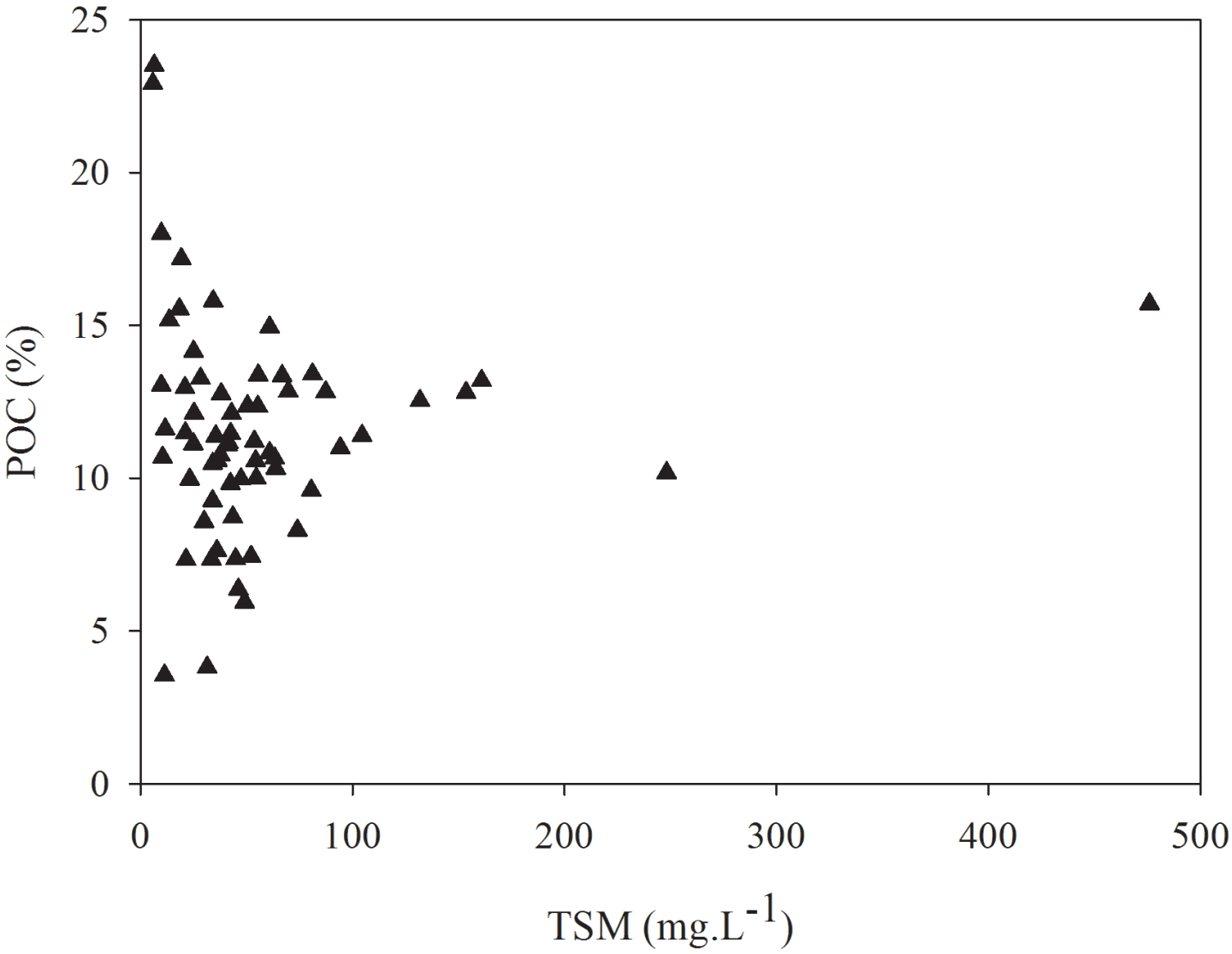
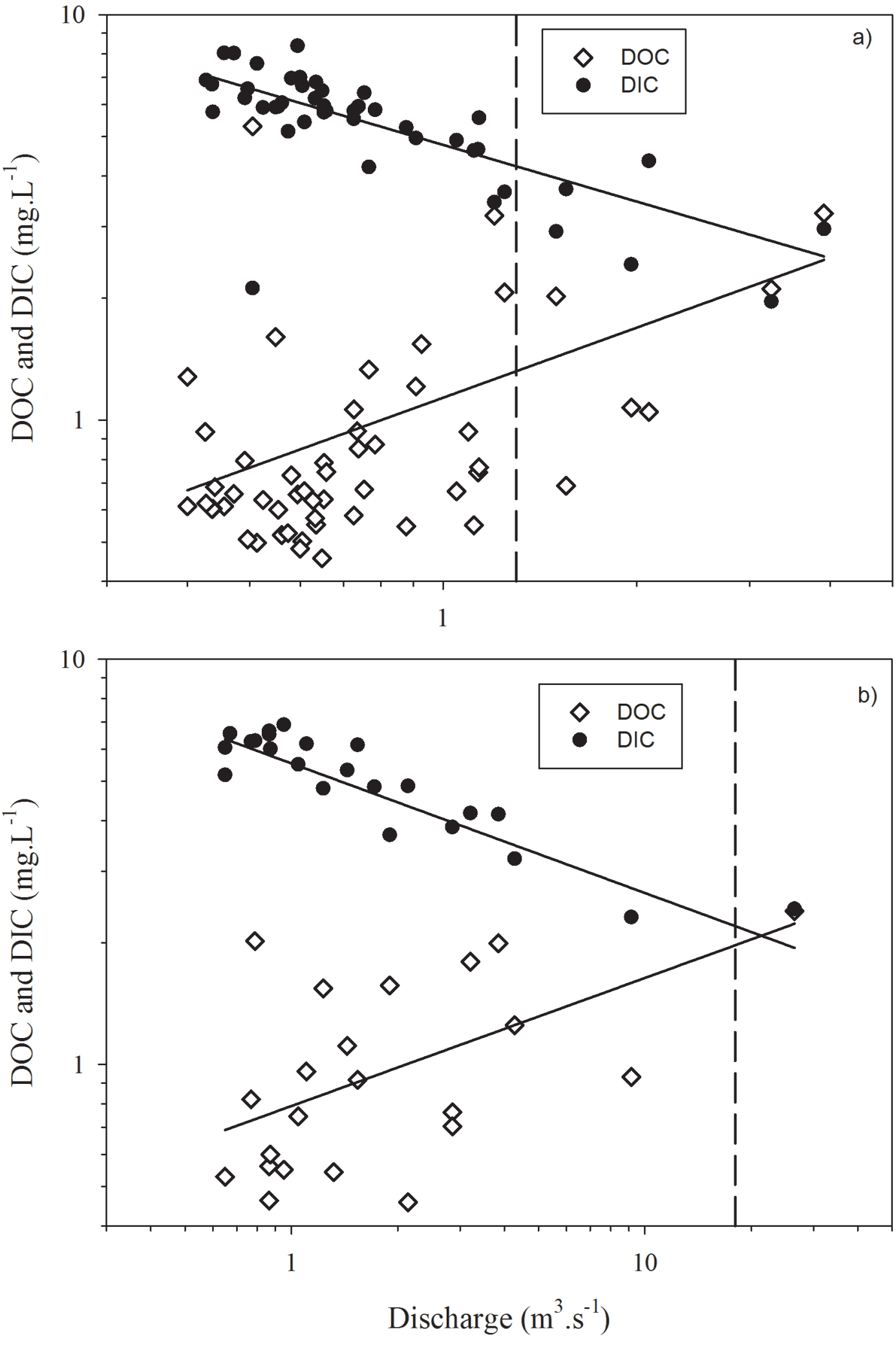


Figure A2


a)
DOC
DIC
10
1
1
DOC and DIC (mg.L-1)
b)
DOC
DIC
10
1
1
10
DOC and DIC (mg.L-1)
Discharge (m3.s-1)