

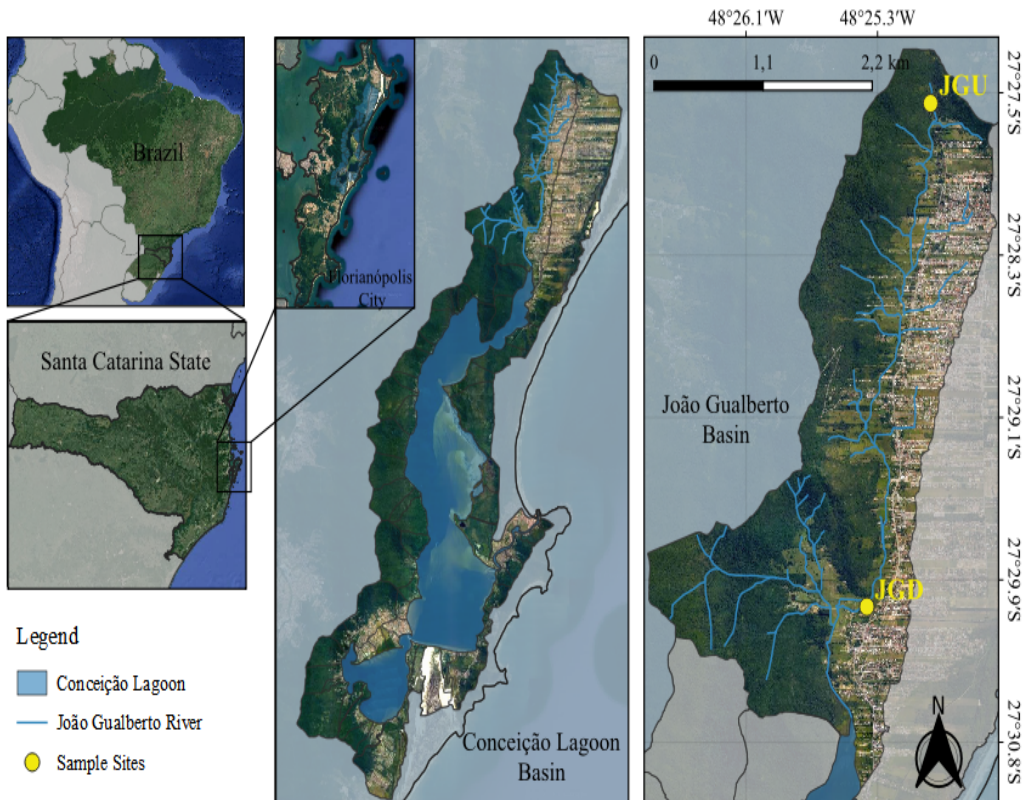
Urban Impact on water quality of a coastal catchment in Brazil

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Supplementary material:

★ Location of the study area



★ Link to Brazilian legislation, Conama 357: [CONAMA357.pdf](#)

★ Measurements in loco were made with the multiparameter probe AK88 from Akso:

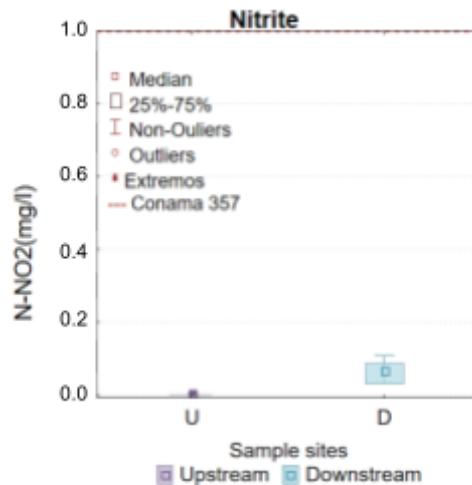
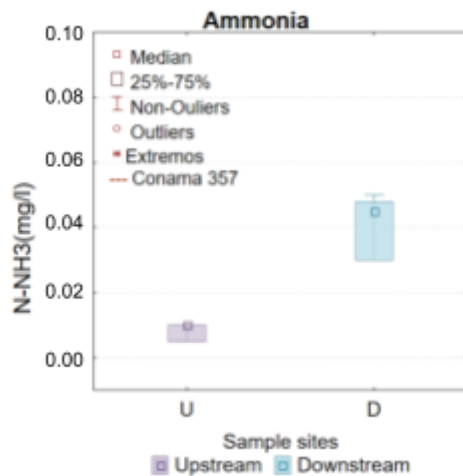
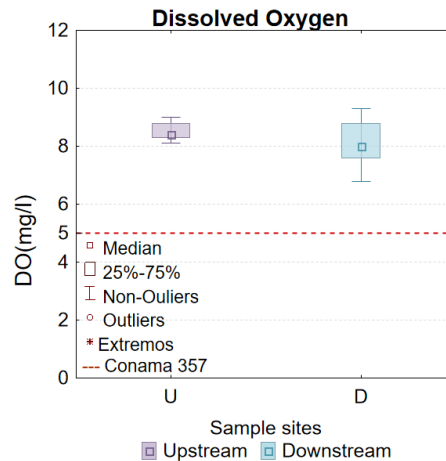
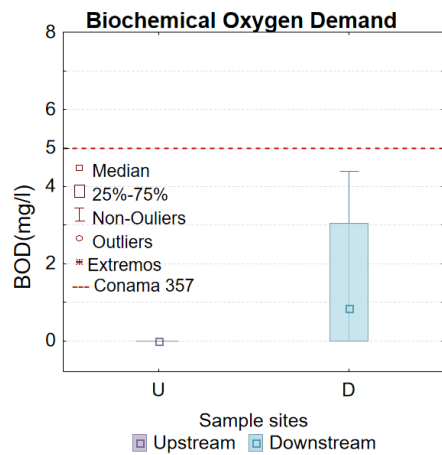


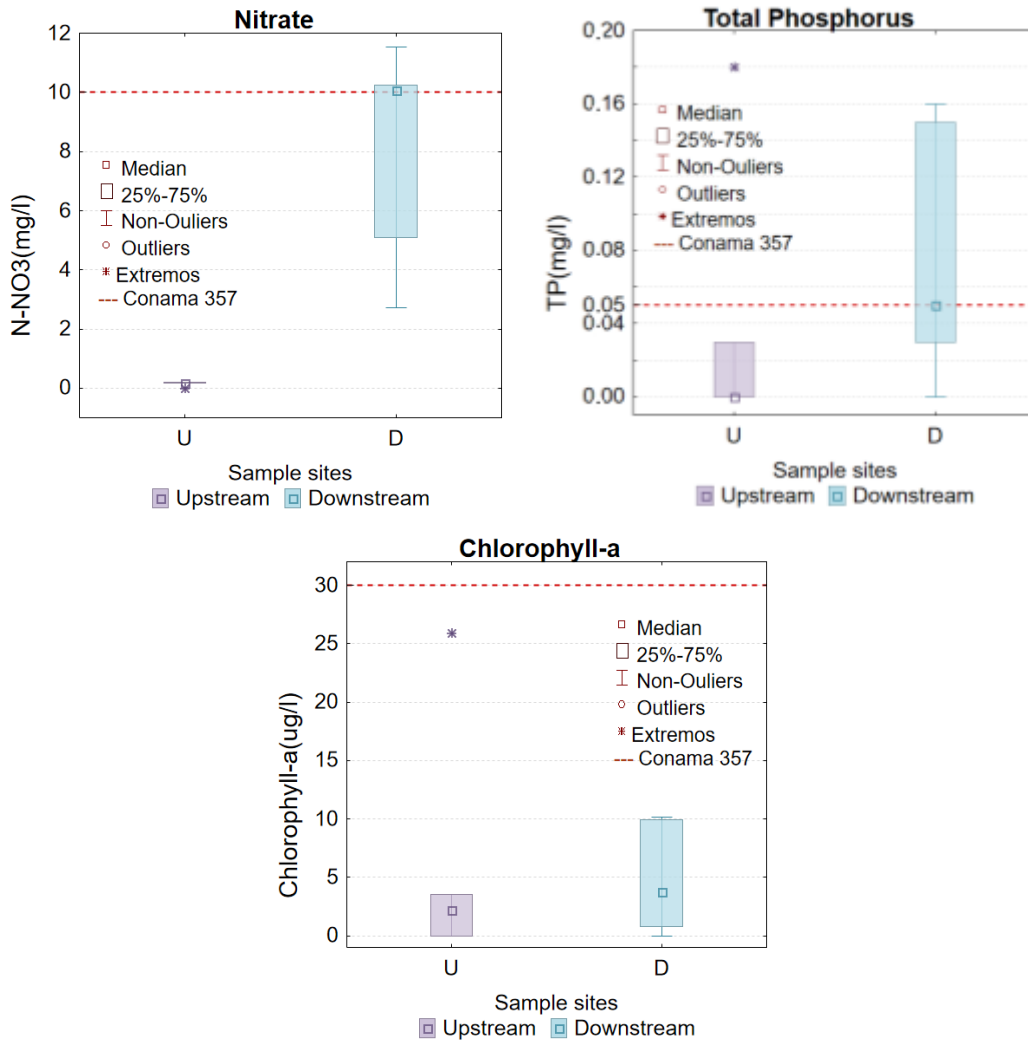
★ Table 1 - Results water quality parameters obtained in this study.

Date	Places	Ph	DO (mg/L)	N-NH3 (mg/L)	N-NO3 (mg/L)	N-NO2 (mg/L)	Chlorophyll-a (ug/l)	TC (mmp/100ml)	FC (nmp/100ml)	DBO (mg/L)	TF (mg/L)
05/09	U	7.30	8.8	0.01	0.196	0.000	3.56	>2419,6	21.3	0.0	0.00
	D	7.20	8.8	0.05	5.100	0.029	10.16	>2419,6	126.7	0.0	0.03
26/09	U	6.55	8.1	0.01	0.182	0.005	2.18	>2419,6	9.6	#	0.18
	D	6.78	8.7	0.04	11.522	0.065	3.76	>2419,6	1119.9	#	0.15
17/10	U	6.36	8.3	0.01	0.000	0.000	0.00	#	#	0.0	0.00
	D	6.33	6.8	0.03	2.714	0.030	0.79	#	#	0.0	0.00
07/11	U	6.39	8.4	0.005	0.208	0.000	0.00	648.8	12.2	0.0	0.00
	D	6.41	9.3	0.03	10.074	0.085	9.90	>2419,6	178.9	1.7	0.05
12/12	U	5.29	9.0	0.005	0.182	0.000	#	>2419,6	21.8	0.0	0.03
	D	5.67	7.6	0.05	10.236	0.107	0.00	>2419,6	1046.2	4.4	0.16

- # - laboratory inconsistencies
 In red and bold - Samples exceeding Brazilian legislation

★ BoxPlot of the values obtained





★ For the TRIX:

The value of the K coefficient used was 1.5 calculated for the João Gualberto River and the m was used the coefficient equal to 1 adopted by VOLLENWEIDER (1998).

$$TRIX = \frac{[LOG(chlorophyll-a \times DO\%abs \times DIN \times TP)] + 1,5}{1}$$

Table 2 - Classification of trophic state by TRIX of waters.

TRIX	Conditions	Trophic state
<2	Primary productivity and very low concentrations of nutrients	Excellent (ultra oligotrophic)
2 - 4	Primary productivity and low concentrations of nutrients	High (oligotrophic)
4-5	Primary productivity and moderate concentrations of nutrients	Good (mesotrophic)

5 - 6	Primary productivity and high concentrations of nutrients	Moderate (mesotrophic to eutrophic)
6-10	Primary productivity and very high concentrations of nutrients	Poor (eutrophic)

★ Table 3 - Nutrient loads estimated for the downstream point.

Date	DIN(kg/day)	P(kg/day)
05/09	23.11	0.21
26/09	45.81	0.60
17/10	71.33	0.00
07/11	52.9	0.25
12/12	73.33	1.13

References:

BIER, F. B. Caracterização morfométrica e hidrológica da bacia hidrográfica da Lagoa da Conceição, Florianópolis – SC. 115 p., Trabalho de Conclusão de Curso (Graduação). Departamento de Engenharia Sanitária e Ambiental, Universidade Federal de Santa Catarina. Florianópolis, 2013.

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VOLLENWEIDER, R.A. et al. Characterization of the conditions of marine coastal water with special reference to the NW Adriatic Sea: proposal for a trophic scale, turbidity and generalized water quality index. *Environmetrics: The official journal of the International Environmetrics Society*, v.9, n.3, p.329-357, 1998.