

Table S1. Total emissions (tons per year) for PM, SO₂, NO_x, CO and VOCs for the mobile and stationary sources.

Name	Lat	Long	Fuel type	Power Generation (MW)	Emissions (tons per year)				
					PM	SO ₂	NO _x	CO	VOCs
Anamã	-3.62	-61.45	Natural Gas	1.30	0.34	0.03	8.19	3.19	0.57
Anori	-3.74	-61.66	Natural Gas	2.74	0.72	0.07	17.29	6.73	1.20
Codajás	-3.84	-62.06	Natural Gas	3.66	0.96	0.09	23.06	8.97	1.60
Jaraqui	-3.12	-59.97	Natural Gas	156.65	41.17	3.84	988.00	384.22	68.61
Manauara	-3.05	-60.02	Natural Gas	85.38	22.44	2.09	538.51	209.42	37.40
Gás Caapiranga	-3.32	-61.21	Natural Gas	2.20	0.58	0.05	13.88	5.40	0.96
Gás Anori	-4.26	-61.84	Natural Gas	3.30	0.87	0.08	20.81	8.09	1.45
Gás Anamã	-3.58	-61.46	Natural Gas	3.30	0.87	0.08	20.81	8.09	1.45
Aparecida Parte I	-3.13	-60.03	Fuel Oil	240.74	379.60	10839.66	2361.95	358.51	105.44
Cristiano Rocha	-2.89	-60.03	Fuel Oil	85.38	134.63	3844.35	837.68	127.15	37.40
Mauá	-3.12	-59.93	Fuel Oil	552.56	871.28	24879.97	5421.32	822.88	242.02
Ponta Negra	-3.10	-60.02	Fuel Oil	85.38	134.63	3844.35	837.68	127.15	37.40
Reman	-3.15	-59.95	Fuel Oil	6.40	10.09	288.17	62.79	9.53	2.80
Tambaqui	-3.11	-59.94	Fuel Oil	93.05	146.71	4189.53	912.89	138.56	40.75
Aeroporto Internacional Eduardo Gomes	-3.03	-60.05	Diesel	1.01	2.56	28.26	84.77	2.32	1.77
Anamã	-3.58	-61.41	Diesel	1.57	3.98	43.90	131.69	3.60	2.74
Anori	-3.75	-61.66	Diesel	4.33	11.00	121.38	364.14	9.96	7.59
Aparecida Parte II	-3.13	-60.03	Diesel	8.40	21.34	235.47	706.41	19.32	14.72
Aparecida Parte III	-3.13	-60.03	Diesel	2.40	6.10	67.28	201.83	5.52	4.20
Arara	-3.42	-61.37	Diesel	0.32	0.82	9.08	27.25	0.75	0.57
Arixí	-3.58	-61.41	Diesel	0.09	0.22	2.38	7.15	0.20	0.15
Autazes	-3.58	-59.13	Diesel	6.04	15.35	169.37	508.11	13.90	10.59
Axinim	-4.05	-59.37	Diesel	0.46	1.16	12.75	38.26	1.05	0.80
Axinim	-4.58	-61.88	Diesel	0.10	0.25	2.80	8.41	0.23	0.18
Beruri	-3.90	-61.38	Diesel	3.10	7.87	86.79	260.36	7.12	5.42
Boa Vista do Ramos	-2.97	-57.59	Diesel	2.06	5.24	57.80	173.41	4.74	3.61
Borba	-4.39	-59.60	Diesel	6.39	16.23	179.12	537.37	14.70	11.20
Caapiranga	-3.33	-61.21	Diesel	1.79	4.54	50.07	150.20	4.11	3.13
Campinas	-3.31	-61.11	Diesel	0.28	0.71	7.85	23.55	0.64	0.49
Carauari	-1.82	-61.12	Diesel	5.46	13.86	152.94	458.83	12.55	9.56
Careiro da Várzea	-3.20	-59.77	Diesel	2.50	6.35	70.08	210.24	5.75	4.38

Castanho	-3.82	-60.37	Diesel	6.00	15.24	168.19	504.58	13.80	10.51
Caviana	-3.76	-61.16	Diesel	0.43	1.09	12.05	36.16	0.99	0.75
Cidade Nova	-3.04	-60.03	Diesel	15.60	39.63	437.30	1311.90	35.88	27.33
CINDACTA IV	-3.02	-60.05	Diesel	2.50	6.35	70.08	210.24	5.75	4.38
Codajás	-3.84	-62.06	Diesel	5.20	13.21	145.77	437.30	11.96	9.11
DTCEA-MN	-3.03	-60.05	Diesel	1.00	2.54	28.03	84.10	2.30	1.75
DTCEA-MN II	-3.09	-60.06	Diesel	0.40	1.02	11.21	33.64	0.92	0.70
DTCEA-SI	-3.04	-60.05	Diesel	0.41	1.04	11.44	34.31	0.94	0.71
Electron (TG)	-3.13	-59.93	Diesel	120.00	304.85	3363.84	10091.52	276.00	210.24
Flores	-3.08	-60.02	Diesel	99.55	252.90	2790.59	8371.76	228.97	174.41
Hermasa	-3.13	-58.48	Diesel	7.59	19.28	212.76	638.29	17.46	13.30
Itacoatiara	-3.13	-58.45	Diesel	21.09	53.58	591.25	1773.75	48.51	36.95
Itapeaçu	-2.95	-58.06	Diesel	0.79	2.00	22.12	66.35	1.81	1.38
Itapiranga	-2.75	-58.02	Diesel	3.07	7.81	86.14	258.43	7.07	5.38
Itapuru	-4.47	-61.89	Diesel	0.09	0.23	2.52	7.57	0.21	0.16
Itautinga	-3.09	-59.99	Diesel	6.56	16.67	183.89	551.67	15.09	11.49
Jacaré	-3.60	-60.82	Diesel	0.43	1.10	12.17	36.50	1.00	0.76
Lindóia	-3.14	-58.42	Diesel	0.32	0.81	8.97	26.91	0.74	0.56
Manacapuru	-3.30	-60.62	Diesel	23.69	60.19	664.13	1992.40	54.49	41.51
Manaquiri	-3.43	-60.46	Diesel	3.08	7.82	86.34	259.02	7.08	5.40
Mauá Parte II Bloco Distrito	-3.02	-60.05	Diesel	40.00	101.62	1121.28	3363.84	92.00	70.08
Mauá Parte III Bloco Iranduba	-3.12	-60.26	Diesel	50.00	127.02	1401.60	4204.80	115.00	87.60
Maués	-3.40	-57.72	Diesel	11.67	29.65	327.13	981.40	26.84	20.45
Murituba	-3.86	-62.48	Diesel	0.26	0.66	7.29	21.86	0.60	0.46
Nova Olinda do Norte	-3.89	-59.09	Diesel	4.91	12.47	137.64	412.91	11.29	8.60
Novo Airão	-2.62	-60.94	Diesel	4.08	10.37	114.43	343.28	9.39	7.15
Novo Céu	-3.39	-59.27	Diesel	0.85	2.16	23.83	71.48	1.96	1.49
Novo Remanso	-3.22	-59.02	Diesel	2.30	5.84	64.47	193.42	5.29	4.03
Rio Preto da Eva	-2.70	-59.70	Diesel	3.20	8.13	89.70	269.11	7.36	5.61
Santana do Uatumã	-2.55	-57.88	Diesel	0.08	0.20	2.24	6.73	0.18	0.14
São José	-3.12	-60.03	Diesel	34.80	88.41	975.51	2926.54	80.04	60.97
São Sebastião do Uatumã	-2.57	-57.87	Diesel	2.18	5.55	61.22	183.67	5.02	3.83
SIAT-MN	-3.03	-60.04	Diesel	0.26	0.67	7.40	22.20	0.61	0.46
Silves	-2.83	-58.33	Diesel	2.62	6.66	73.50	220.50	6.03	4.59
Terra Nova	-3.10	-59.73	Diesel	0.05	0.13	1.40	4.20	0.12	0.09
Tuiué	-3.69	-61.06	Diesel	0.57	1.44	15.92	47.77	1.31	1.00
Urucará	-2.53	-57.76	Diesel	3.75	9.53	105.12	315.36	8.63	6.57

Urucurituba (Tabocal)	-3.13	-58.16	Diesel	2.37	6.02	66.44	199.31	5.45	4.15
Vila Augusto Monte Negro	-3.13	-58.15	Diesel	0.45	1.14	12.61	37.84	1.04	0.79
Vila Sacambu	-3.28	-60.93	Diesel	0.36	0.92	10.15	30.44	0.83	0.63
Vila Urucurituba	-3.55	-58.93	Diesel	0.28	0.71	7.85	23.55	0.64	0.49
VOR-Tarumã	-3.04	-60.02	Diesel	0.04	0.10	1.12	3.36	0.09	0.07
Total					3089.2	62726.3	56566.7	3435	1506.2
Name	Lat	Long	Average production (million liters per day)	Emissions (tons per year)					
				PM	SO ₂	NO _x	CO	VOCs	
Issac Sabbá refinery (REMAN).	-3.15	-59.95	40.8	452.09	8891.01	4219.46	1356.26	512.4	
Vehicle type				Emissions (tons per year)					
	PM	SO ₂	NO _x	CO	VOCs				
Light-duty	662.89	110.28	1615.80	51259.30	18301.22				
Heavy-duty	1100.35	1525.49	24532.84	12378.96	6201.98				

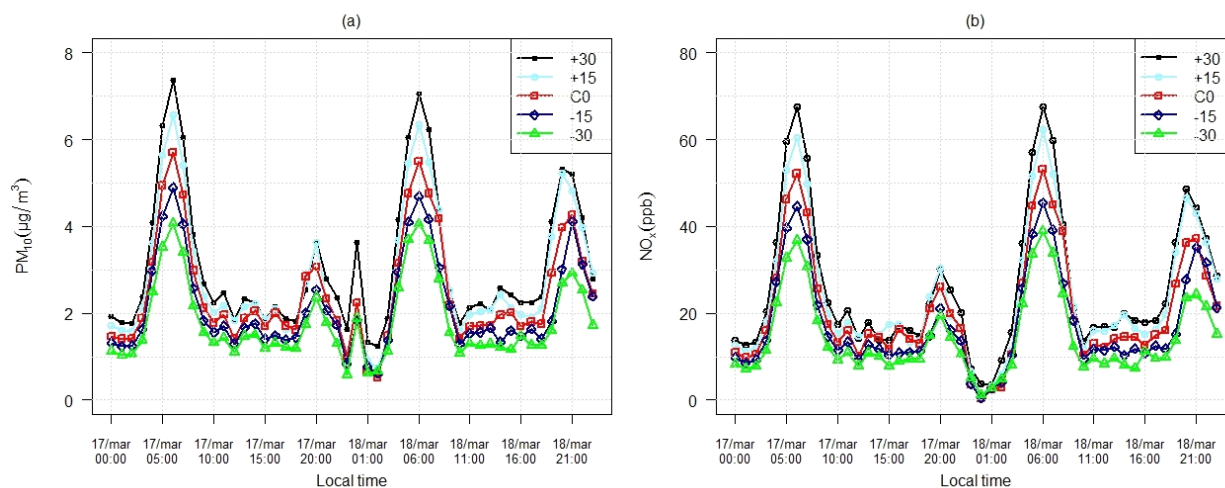


Figure S1. Temporal evolution of concentration (a) PM₁₀ and (b) NO_x, for simulated of variations in emission of ± 15% and ± 30%.