

Table S1 - Classification of intensity rain to Boa Esperança city to period study of
December 2021, 31 to January 2022, 2.

City - Boa Esperança					
Date	Observed Rain		Experiments	Simulated Rain	
	Rate (mm/day)	Class		Rate (mm/day)	Class
2021/12/31	50.6	Very Heavy Rain	BMJ	34.47	Heavy Rain
			GD	0.62	Light Rain
			GF	12.36	Moderate Rain
			KF	0.25	Light Rain
			NT	13.35	Moderate Rain
2022/01/01	21.2	Moderate Rain	BMJ	1.75	Light Rain
			GD	1.92	Light Rain
			GF	2.38	Light Rain
			KF	2.53	Light Rain
			NT	6.86	Light Rain
2022/01/02	23	Moderate Rain	BMJ	34.28	Heavy Rain
			GD	39.44	Heavy Rain
			GF	34.71	Heavy Rain
			KF	48.24	Heavy Rain
			NT	75.72	Very Heavy Rain

Table S2 - Classification of intensity rain to Camanducaia city to period study of
December 2021, 31 to January 2022, 2.

City - Camanducaia					
Date	Observed Rain		Experiments	Simulated Rain	
	Rate (mm/day)	Class		Rate (mm/day)	Class
2021/12/31	39.6	Heavy Rain	BMJ	11.23	Moderate Rain
			GD	3.33	Light Rain
			GF	0.66	Light Rain
			KF	0.19	Light Rain
			NT	1.87	Light Rain
2022/01/01	10.2	Light Rain	BMJ	3.76	Light Rain
			GD	2.79	Light Rain
			GF	15.05	Moderate Rain
			KF	7.31	Light Rain
			NT	13.54	Moderate Rain
2022/01/02	8.7	Light Rain	BMJ	40.04	Heavy Rain
			GD	21.97	Moderate Rain
			GF	28.94	Moderate Rain
			KF	12.12	Moderate Rain
			NT	17.37	Moderate Rain

Table S3 - Classification of intensity rain to Campos do Jordão city to period study of December 2021, 31 to January 2022, 2.

City - Campos do Jordão					
Date	Observed Rain		Experiments	Simulated Rain	
	Rate (mm/day)	Class		Rate (mm/day)	Class
2021/12/31	32.4	Heavy Rain	BMJ	9.6	Light Rain
			GD	4.98	Light Rain
			GF	5.43	Light Rain
			KF	0.73	Light Rain
			NT	1.73	Light Rain
2022/01/01	21.2	Moderate Rain	BMJ	31.55	Heavy Rain
			GD	24.33	Moderate Rain
			GF	17.54	Moderate Rain
			KF	35.24	Heavy Rain
			NT	24.09	Moderate Rain
2022/01/02	15.4	Moderate Rain	BMJ	46.56	Heavy Rain
			GD	39.35	Heavy Rain
			GF	55.9	Very Heavy Rain
			KF	12.33	Moderate Rain
			NT	26.24	Moderate Rain

Table S4 - Classification of intensity rain to Ipuíuna city to period study of December 2021, 31 to January 2022, 2.

City - Ipuíuna					
Date	Observed Rain		Experiments	Simulated Rain	
	Rate (mm/day)	Class		Rate (mm/day)	Class
2021/12/31	30.8	Moderate Rain	BMJ	1.25	Light Rain
			GD	4.41	Light Rain
			GF	7.29	Light Rain
			KF	0.94	Light Rain
			NT	9.43	Light Rain
2022/01/01	1.6	Light Rain	BMJ	17.66	Moderate Rain
			GD	11.75	Moderate Rain
			GF	16.4	Moderate Rain
			KF	19.01	Moderate Rain
			NT	3.37	Light Rain
2022/01/02	28	Moderate Rain	BMJ	51.69	Heavy Rain
			GD	23.72	Moderate Rain
			GF	35.85	Heavy Rain
			KF	27.31	Moderate Rain
			NT	58.97	Very Heavy Rain

Table S5 - Classification of intensity rain to Guaxupé city to period study of December 2021, 31 to January 2022, 2.

City - Guaxupé					
Date	Observed Rain		Experiments	Simulated Rain	
	Rate (mm/day)	Class		Rate (mm/day)	Class
2021/12/31	44.2	Heavy Rain	BMJ	14.07	Moderate Rain
			GD	2.46	Light Rain
			GF	1.57	Light Rain
			KF	0.05	Light Rain
			NT	3.85	Light Rain
2022/01/01	4.8	Light Rain	BMJ	9.17	Light Rain
			GD	18.65	Moderate Rain
			GF	28.71	Moderate Rain
			KF	4.48	Light Rain
			NT	8.35	Light Rain
2022/01/02	30.2	Moderate Rain	BMJ	92.7	Very Heavy Rain
			GD	17.03	Moderate Rain
			GF	14.02	Moderate Rain
			KF	15.02	Moderate Rain
			NT	20.89	Moderate Rain

Table S6 - Classification of intensity rain to Itajubá city to period study of December 2021, 31 to January 2022, 2.

City - Itajubá					
Date	Observed Rain		Experiments	Simulated Rain	
	Rate (mm/day)	Class		Rate (mm/day)	Class
2021/12/31	42.8	Heavy Rain	BMJ	7.28	Light Rain
			GD	8.34	Light Rain
			GF	2.03	Light Rain
			KF	6.55	Light Rain
			NT	8.25	Light Rain
2022/01/01	39.4	Heavy Rain	BMJ	3.48	Light Rain
			GD	1.88	Light Rain
			GF	20.06	Moderate Rain
			KF	0.38	Light Rain
			NT	4.45	Light Rain
2022/01/02	66	Heavy Rain	BMJ	59.7	Very Heavy Rain
			GD	49.45	Heavy Rain
			GF	52.12	Very Heavy Rain
			KF	24.34	Moderate Rain
			NT	55.91	Very Heavy Rain

Table S7 - Classification of intensity rain to Passa Vinte city to period study of
December 2021, 31 to January 2022, 2.

City - Passa Vinte					
Date	Observed Rain		Experiments	Simulated Rain	
	Rate (mm/day)	Class		Rate (mm/day)	Class
2021/12/31	13.4	Moderate Rain	BMJ	43.7	Heavy Rain
			GD	2.2	Light Rain
			GF	23.46	Moderate Rain
			KF	15.27	Moderate Rain
			NT	20.13	Moderate Rain
2022/01/01	56	Very Heavy Rain	BMJ	40.73	Heavy Rain
			GD	43.68	Heavy Rain
			GF	35.95	Heavy Rain
			KF	45.39	Heavy Rain
			NT	36.48	Heavy Rain
2022/01/02	11.4	Moderate Rain	BMJ	14.97	Moderate Rain
			GD	35.96	Heavy Rain
			GF	18.1	Moderate Rain
			KF	16.16	Moderate Rain
			NT	18.43	Moderate Rain

Table S8 - Classification of intensity rain to Passos city to period study of December 2021, 31 to January 2022, 2.

City - Passos					
Date	Observed Rain		Experiments	Simulated Rain	
	Rate (mm/day)	Class		Rate (mm/day)	Class
2021/12/31	24.6	Moderate Rain	BMJ	9.35	Light Rain
			GD	0.14	Light Rain
			GF	3.43	Light Rain
			KF	4.75	Light Rain
			NT	9.43	Light Rain
2022/01/01	25.8	Moderate Rain	BMJ	1.6	Light Rain
			GD	1.77	Light Rain
			GF	3.47	Light Rain
			KF	1	Light Rain
			NT	5.13	Light Rain
2022/01/02	0.4	Light Rain	BMJ	45.71	Heavy Rain
			GD	13.91	Moderate Rain
			GF	32.73	Heavy Rain
			KF	39.81	Heavy Rain
			NT	18.08	Moderate Rain

Table S9 - Classification of intensity rain to Perdões city to period study of December 2021, 31 to January 2022, 2.

City - Perdões					
Date	Observed Rain		Experiments	Simulated Rain	
	Rate (mm/day)	Class		Rate (mm/day)	Class
2021/12/31	22.4	Moderate Rain	BMJ	63.11	Very Heavy Rain
			GD	2.99	Light Rain
			GF	16.64	Moderate Rain
			KF	0.47	Light Rain
			NT	35.69	Heavy Rain
2022/01/01	15.6	Moderate Rain	BMJ	7.14	Light Rain
			GD	3.34	Light Rain
			GF	6.8	Light Rain
			KF	5.42	Light Rain
			NT	22.76	Moderate Rain
2022/01/02	17.0	Moderate Rain	BMJ	18.97	Moderate Rain
			GD	6.98	Light Rain
			GF	17.26	Moderate Rain
			KF	58.09	Very Heavy Rain
			NT	22.47	Moderate Rain

Table S10 - Classification of intensity rain to Piquete city to period study of December 2021, 31 to January 2022, 2.

City - Piquete

Date	Observed Rain		Experiments	Simulated Rain	
	Rate (mm/day)	Class		Rate (mm/day)	Class
2021/12/31	17.8	Moderate Rain	BMJ	8.7	Light Rain
			GD	11.67	Moderate Rain
			GF	4.13	Light Rain
			KF	0.36	Light Rain
			NT	6.69	Light Rain
2022/01/01	21.2	Moderate Rain	BMJ	7.92	Light Rain
			GD	3.94	Light Rain
			GF	29.98	Moderate Rain
			KF	10.18	Light Rain
			NT	11.46	Moderate Rain
2022/01/02	17.2	Moderate Rain	BMJ	38.95	Heavy Rain
			GD	53.3	Very Heavy Rain
			GF	38.56	Heavy Rain
			KF	10.87	Light Rain
			NT	51.39	Very Heavy Rain

Table S11 - Classification of intensity rain to Queluz city to period study of December 2021, 31 to January 2022, 2.

City - Queluz					
Date	Observed Rain		Experiments	Simulated Rain	
	Rate (mm/day)	Class		Rate (mm/day)	Class
2021/12/31	10.4	Light Rain	BMJ	14.75	Moderate Rain
			GD	13.58	Moderate Rain
			GF	1.44	Light Rain
			KF	0.01	Light Rain
			NT	3.66	Light Rain
2022/01/01	16.0	Moderate Rain	BMJ	5.91	Light Rain
			GD	2.27	Light Rain
			GF	14.63	Moderate Rain
			KF	3.01	Light Rain
			NT	7.99	Light Rain
2022/01/02	7.0	Light Rain	BMJ	11.26	Moderate Rain
			GD	22.28	Moderate Rain
			GF	25.78	Moderate Rain
			KF	8.69	Light Rain
			NT	39.11	Heavy Rain