

Supplementary 1

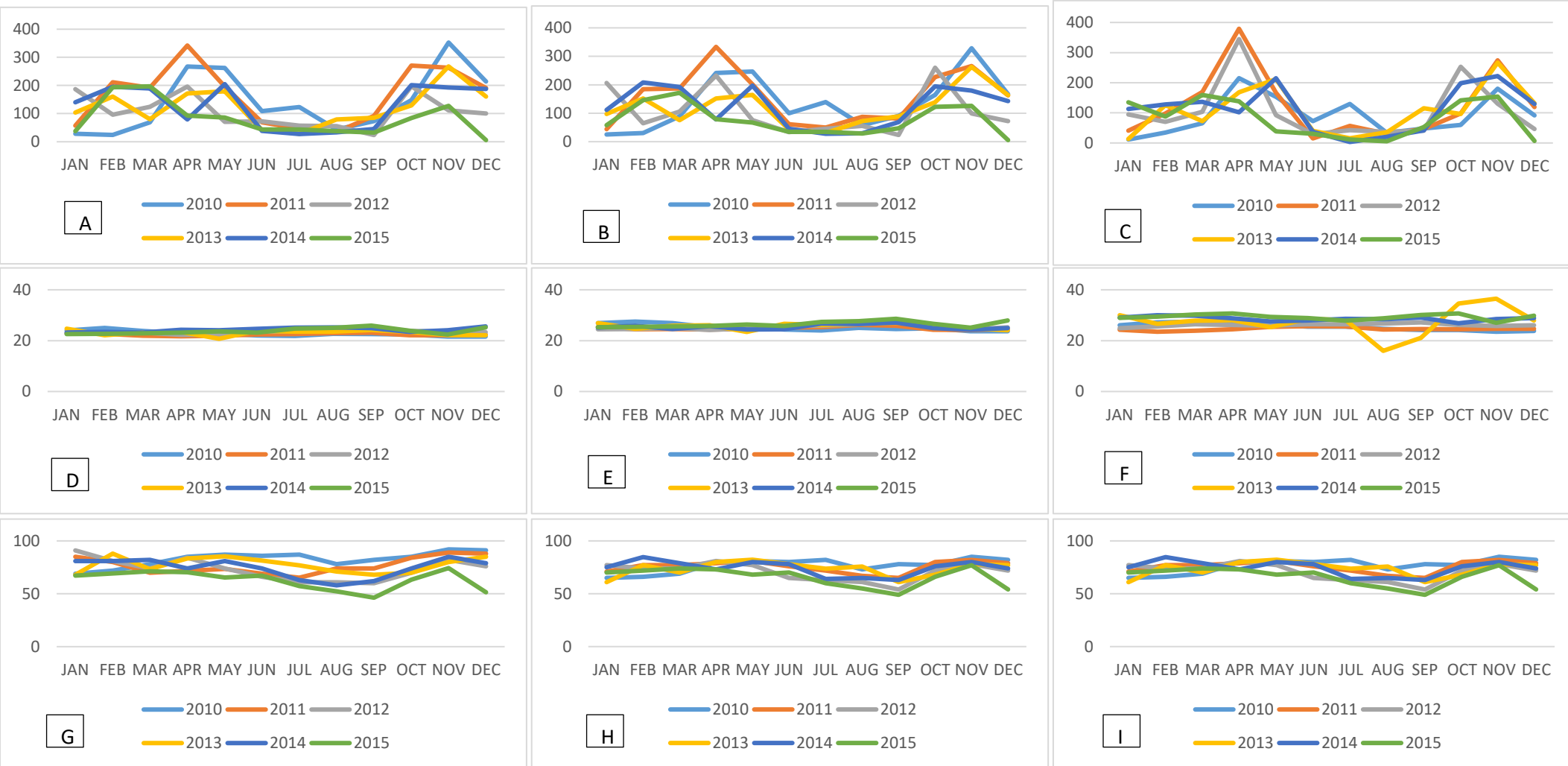


Figure 2. Behavior of climate variables. Rainfall in La Mesa (A), Anapoima (B) and Apulo (C). Temperature in La Mesa (D), Anapoima (E) and Apulo (F). Relative humidity in La Mesa (G), Anapoima (H) and Apulo (I)

Supplementary 2

	Precipitation (mm)	Temperature (°C)	Relative humidity (%)
Low	<=128	<=24	<=64.8
Medium	129 – 253	24 – 27.3	64.8 – 83.3
High	>=254	>=27.4	> 83.3

Table 4. Cut-off points of the categories of each climatic variable of the climate combinations.

Precipitation	Temperature	Relative humidity	Dengue cases (1)	Month (2)	Average number of cases per month (3)
High	High	High	40	2	20,00
High	Medium	High	179	10	17,90
High	Medium	Medium	231	15	15,40
High	Low	High	208	15	13,87
High	Low	Medium	330	26	12,69
Medium	High	High	20	2	10,00
Medium	High	Medium	59	6	9,83
Medium	Medium	High	65	7	9,29
Medium	Medium	Medium	241	26	9,27
Medium	Low	High	64	7	9,14
Medium	Low	Medium	32	4	8,00
Low	High	High	338	47	7,19
Low	High	Medium	25	4	6,25
Low	High	Low	5	1	5,00
Low	Medium	High	43	9	4,78
Low	Medium	Medium	65	16	4,06
Low	Medium	Low	21	11	1,91
Low	Low	High	6	4	1,50
Low	Low	Medium	4	3	1,33
Low	Low	Low	1	1	1,00
High	High	Medium	0	0	0,00
High	High	Low	0	0	0,00
High	Medium	Low	0	0	0,00
High	Low	Low	0	0	0,00
Medium	High	Low	0	0	0,00
Medium	Medium	Low	0	0	0,00
Medium	Medium	Low	0	0	0,00

(1) Total number of dengue (with or without warning signs) and severe dengue cases in these municipalities

between 2010 and 2015 = 1977 cases

(2) Number of months where the three categories of climatic variables are repeated within the 6 analyzed years

(3) N/A = Not applicable

Table 5. All climate combinations with dengue cases

	Estimate	Std. Error	Z value	Pr(> z)*
Intercept	1.327e-13	1.463e+00	0.000	1.0000
Combination High-Medium-Low	2.996e+00	1.653e+00	1.812	0.0700
Combination Medium-Low-High	2.885e+00	1.503e+00	1.919	0.0549
Combination Medium-Low-Medium	2.734e+00	1.490e+00	1.835	0.0664
Combination Low-Medium-Low	2.629e+00	1.490e+00	1.765	0.0776
Combination Low-Low-Medium	2.541e+00	1.479e+00	1.719	0.0857
Combination Medium-High-High	2.877e-01	1.664e+00	0.173	0.8627
Combination Medium-High-Medium	2.213e+00	1.522e+00	1.454	0.1460
Combination Medium-Medium-High	2.228e+00	1.522e+00	1.464	0.1432
Combination Medium-Medium-Medium	2.227e+00	1.479e+00	1.506	0.1322

* p – value <0,1

Table 6. Some Coeficiente of fit of the Negative binomial generalized linear model of the climatic combinations of table 2.

Supplementary 3

Wald chi2(6) = 1353.89

Log likelihood = -650.12926

Prob > chi2 = 0.0000

Dengue cases	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
Precipitation	.0004517	.0003821	1.18	0.237	-0.0002972	0.0012006
Temperature	.0765703	.0196039	3.91	0.000	0.0381474	0.1149932
Relative humidity	.0001109	.0037483	0.03	0.976	-0.0072358	0.0074575
Childhood	.0013265	.0117191	0.11	0.910	-0.0216425	0.0242955
Urban area	.0690348	.0091077	7.58	0.000	0.0511841	0.0868855
Contributive healthcare	.0073421	.0064658	1.14	0.256	-0.0053305	0.0200148
_cons	-.6330169	.7028784	-0.90	0.368	-2.010633	0.7445994
Municipality						
var(_cons)	.1260117	.1091608			.0230694	.6883124

LR test vs. Poisson model: chibar2(01) = 48.50 Prob >= chibar2 = .0000

Table 7. The best model of the Poisson Multilevel analysis

Wald chi2(6) = 1396.97

Log likelihood = -640.51314

Prob > chi2 = 0.0000

Dengue cases	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
Precipitation	.0003657	.0003845	0.95	0.342	-.000388	.0011193
Temperature	.0848804	.0195347	4.35	0.000	.0465931	.1231677
Relative humidity	-.0011595	.0037368	-0.31	0.756	-.0084836	.0061646
Adulthood	.0340282	.007683	4.43	0.000	.0189697	.0490867
Urban area	.0540998	.0094121	5.75	0.000	.0356524	.0725473
Contributive healthcare	.0057352	.0064246	0.89	0.372	-.0068567	.0183272
_cons	-.7463442	.7005043	-1.07	0.287	-2.119307	.6266191
Municipality						
var(_cons)	.1278992	.1109175			.0233714	.6999255

LR test vs. Poisson model: chibar2(01) = 44.05 Prob >= chibar2 = 0.0000

Table 8. An alternative model of Poisson Multilevel analysis.